

# EXPERIMENTAL INVESTIGATION OF SHOCK-CELL NOISE REDUCTION FOR SINGLE-STREAM NOZZLES IN SIMULATED FLIGHT

## Contract NAS3-22514

(NASA-CR-168234-Vol-1) EXPERIMENTAL INVESTIGATION OF SHOCK-CELL NOISE REDUCTION FOR SINGLE-STREAM NOZZLES IN SIMULATED FLIGHT, COMPREHENSIVE DATA REPORT. VOLUME 1: TEST NOZZLES AND ACOUSTIC DATA (General 63/71)

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## Comprehensive Data Report

### Volume I

### Test Nozzles And Acoustic Data

by

- K. Yamamoto
- J.F. Brausch
- B.A. Janardan
- D.J. Hoerst
- A.O. Price
- P.R. Knott



## GENERAL ELECTRIC

For

National Aeronautics and Space Administration  
 Lewis Research Center  
 21000 Brookpark Road  
 Cleveland, Ohio 44135







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SHOCK-CELL NOISE REDUCTION FOR  
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16. Abstract This Comprehensive Data Report, composing three volumes, includes the basic test description and test results which are analyzed and documented in the companion Final Report. Volume I contains a description of the model nozzle configurations, acoustic test conditions, and detailed test results from the hot static and simulated flight acoustic tests at the General Electric Anechoic Chamber. Volume II presents the diagnostic laser velocimeter test results. Volume III contains the diagnostic flow visualization test results obtained by shadowgraph along with a description of test facilities and data acquisition and reduction techniques. Design drawings of scale model nozzles are also included in Volume III.			
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VOLUME I

TEST NOZZLES AND ACOUSTIC DATA

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## 1.0 INTRODUCTION

This and two companion volumes constitute the Comprehensive Data Report (CDR) for the research program conducted under NASA Contract NAS3-22514. Detailed schematics of the scale model nozzle configurations, tabulations of aerodynamic test conditions, and computer listings of the measured acoustic data are presented in Volume I. Volume II contains tabulations of the aerodynamic test conditions of the laser velocimeter tests and the LV-measured flow field data. Diagnostic shadowgraph photo test results and static pressure data are presented in Volume III along with a brief description of the General Electric Anechoic Free-Jet Facility, details of the data acquisition and reduction procedures, and the design drawings of the nozzles fabricated during this program.



## 2.0 SCALE MODEL NOZZLE CONFIGURATIONS

A total of seven nozzle configurations were tested during the course of this program; all of single flow geometry. They were grouped in sets in order to study the impact of convergent-divergent flowpaths on acoustic and aerodynamic properties relative to baseline convergent flowpaths. Three sets were structured around systems of a) circular non-plug (Models 1 and 2), b) annular plug, non-mechanically suppressed (Models 3 and 4), and c) annular plug, mechanically suppressed (Models 5 and 6). The seventh configuration (Model 3 w/tabs) was a modification of the convergent annular plug, non-mechanically suppressed system, to evaluate a potential method for shock screech elimination. The configurations are briefly described as follows:

- Model 1 - Baseline Conical-Convergent Nozzle
- Model 2 - Circular Convergent-Divergent Nozzle, Design Point at  $M = 1.4$
- Model 3 - Baseline Contoured Convergent Annular Plug Nozzle (Non-Mechanically Suppressed)
- Model 3 w/Tabs - Baseline Contoured Convergent Annular Plug Nozzle with Shock Screech Tabs (Non-Mechanically Suppressed)
- Model 4 - Convergent-Divergent Annular Plug Nozzle (Non-Mechanically Suppressed)
- Model 5 - 20 Chute Annular Plug Suppressor, Convergent Flow Element Terminations
- Model 6 - 20 Chute Annular Plug Suppressor, Convergent-Divergent Flow Element Terminations

Within this section the basic model geometries will be described in schematic and photo form. Model aerodynamic instrumentation will be defined in a similar manner, where applicable. Table 2-1 summarizes the seven configurations with their applicable geometric schematics. For further detailed definition of model hardware components, Appendix VI is included and presents geometric details and photos plus instrumentation details and photos of each configuration. For ease of reference, Table 2-1 also lists each configuration's

applicable figures which are presented in Appendix VI.

#### 2.1 MODEL 1: BASELINE CONICAL-CONVERGENT NOZZLE

The geometric dimensions of this configuration are presented in Figure 2-1 and it is shown installed in the Anechoic Free-Jet Facility in Figure 2-2. The nozzle was designed, fabricated and tested within Contract DOT-OS-30034, Reference 2-1, as a coannular coplanar nozzle system of  $A^0/A^1 = 2.0$ . The nozzle external flow lines were designed to be compatible with free-jet operation, and contoured to eliminate any flow separation prior to the nozzle exit plane. Within Contracts NAS3-20619 and NAS3-21608, the outer nozzle of the dual flow system was utilized as a single flow convergent nozzle, per Figure 2-1; the inner conic plug being added to cap off the inner flow stream. (See References 2-2 and 2-3 for previous data.) The outer surface of this cap plug was designed to aid in flow acceleration along the plug surface and eliminate the possibility of flow separation until the very tip of the plug is reached. The nozzle internal flow passage near the 5.094" dia. exit plane ( $A_8 = 20.38 \text{ in}^2$ ) has a mild convergence angle of 5.3 for a distance of 1.7 throat diameters upstream of the exit plane. The nozzle has a thin trailing lip of thickness equivalent to 1% of the throat diameter. Installed within the 48" dia. free-jet nozzle, it sets a system area ratio of approximately 89 (area free-jet nozzle/area primary nozzle). A detailed manufacturing drawing of the basic conical nozzle (see Table 2-1) is included in Appendix VI as Figure VI-1.

#### 2.2 MODEL 2: CIRCULAR CONVERGENT-DIVERGENT NOZZLE

The circular C-D nozzle is shown schematically in Figure 2-3. Its throat diameter of 5.1 inch closely matches that of Model 1, the conical convergent nozzle and, therefore, also has a free jet system area ratio of approximately 89. The exit plane diameter of 5.395 inch, at a distance of 5.525 inch from the throat plane, sets the area ratio,  $A_{\text{exit}}/A_{\text{throat}}$ , at 1.119. The objective of the aerodynamic design for the C-D flowpath (design methodology documented in Reference 2-4) was to obtain isentropic, uniform, and parallel flow at the nozzle exit for the design Mach No. of 1.4; thereby pre-empting, to a large degree, any shock cell induced noise.

The C-D nozzle is shown uninstalled in Figure 2-4a and installed within the Anechoic Free-Jet Facility in Figure 2-4b. Nozzle internal flowpath static pressure taps were applied per Figures 2-5 and 2-6. The internal flowpath

pressure distributions were measured as an aid in diagnosing sensitivity of shock-free operation around the basic design point. Detailed manufacturing drawings and individual part photos (see Table 2-1) are included in Appendix VI as Figures VI-2 through VI-5.

### 2.3 MODEL 3: BASELINE CONTOURED CONVERGENT ANNULAR PLUG NOZZLE

The contoured convergent annular plug nozzle (non-mechanically suppressed) is shown schematically in Figure 2-7. Basic design parameters are:

- $A_8 = 25.27 \text{ in}^2$
- $D_{8\text{eq}} = 5.67 \text{ in}$
- $R_{r8} = .854$
- Throat Plane on  $15^\circ$  Angle
- $15^\circ$  plug angle

The majority of hardware items were designed and fabricated within Contract NAS3-22137 "Free Jet Feasibility Study of a Thermal Acoustic Shield Concept for AST/VCE Application" which is documented within Reference 2-5. Within this program the contoured convergent annular sleeve, Figure 2-8 (Part JNT030981-1 P01), was designed and fabricated.

Detailed manufacturing drawings and individual part photos (see Table 2-1) are included in Appendix VI, Figures VI-6 through VI-21.

### 2.4 MODEL 3 WITH TABS: BASELINE CONTOURED CONVERGENT ANNULAR PLUG NOZZLE WITH SHOCK SCREECH TABS

This model utilized the same hardware items as Model 3 (Reference Figures 2-7, 2-8 and Appendix VI, Figures VI-6 through VI-21), however, 8 shock screech tabs were applied to the annular sleeve, part JNT 030981-1 P01, at the exit plane lip. The tabs were configured as shown in Figure 2-9. The design was initiated and scaled from Reference 2-6. The tabs were equally spaced around the annular sleeve utilizing nichrome straps. Photos of the application are per Figures 2-10 and 2-11.



## 2.5 MODEL 4: CONVERGENT-DIVERGENT ANNULAR PLUG NOZZLE

The C-D annular plug nozzle (non-mechanically suppressed) is shown schematically in Figure 2-12. Figure 2-13 shows the model installed within the Anechoic Free Jet Facility. Individual configuration items are the same as those of Model 3, Figure 2-7, with the exception of Item 8, the C-D annular sleeve. This hardware was designed and fabricated under Contract NAS3-22137 (Reference 2-5). However, within that program it was tested with a 180° thermal acoustic shield. The nozzle system, with a free stream closure, Item 14, replacing the 180° shield, was utilized within this program for shock noise evaluation. A detailed manufacturing drawing and an individual photo of Item B, the C-D annular sleeve, are included in Appendix VI as Figures VI-22 and VI-23. Other items are included in Appendix VI, Figures VI-6 through VI-20.

Design parameters for the  $M = 1.4$  selected case are:

- $A_{th} = 25.3 \text{ in}^2$       •  $P_T/P_S = 3.120$
- $A_e = 28.3 \text{ in}^2$       •  $T_T = 1760^\circ \text{ R}$
- $A_e/A_{th} = 1.119$       •  $T_S = 1309^\circ \text{ R}$
- $(R)_{r_{th}} = 0.854$       •  $V_j = 2439 \text{ ft/sec}$
- $(R)_{r_e} = 0.791$       •  $\gamma = 1.351$
- $M = 1.4$

The internal flowpath of Model 4 is identical to that of Model 3 up to the throat plane. The throat plane for the C-D nozzle is at the tangency point of 15° plug angle to the crown radius. The supersonic flow is expanded to the appropriate area ratio (i.e., exit plane area/throat plane area) of 1.119 as calculated by one-dimensional isentropic formula for the design Mach number of 1.4.

To aid in evaluating the sensitivity of shock free operation around the design point, static pressure taps were applied to the plug surface and divergent flowpath surface. See Figures 2-14 and 2-15.

Details of the instrumentation application are included as manufacturing drawings in Appendix VI, Figures VI-24 through VI-26, and as individual part photos in Figures VI-9, VI-11, and VI-23 for part Items 4, 7 and 8, respectively.

#### 2.6 MODEL 5: 20 CHUTE ANNULAR PLUG SUPPRESSOR, CONVERGENT FLOW SEGMENT TERMINATIONS

The annular plug suppressor system with convergent flow element terminations, Figures 2-16 and 2-17, utilizes the 20-chute mechanical suppressor which was developed and fabricated under Contract NAS3-21608, "Free Jet Investigation of Mechanically Suppressed, High Radius Ratio Coannular Plug Model Nozzles", Reference 2-3. Within that program it was tested as a dual-flow system with an annular convergent inner flowpath. This nozzle is a scaled model of the YJ101 Test-Bed Engine suppressor configuration scheduled for evaluation on the YJ101 Test-Bed Engine under Contract NAS3-20582. For use within this program as a single flow nozzle, only the basic suppressor items and mounting hardware were needed from Contract NAS3-21608. The plug closure 4013266-525 P06 was utilized from Contract NAS3-22137 (Reference 2-5) and new spacer rings, JNT040681 P04 and P05 were designed and manufactured. Further details of these hardware items are included per Appendix VI, Figures VI-27 and VI-30 through VI-32 and in Reference 2-3.

Specifics of the nozzle system are:

- Number of suppressor elements	20
- Elemental Planform Shape	Radial
- Suppressor Area Ratio	1.75
- Suppressor Radius Ratio	0.764
- Angle Subtended by Each Chute, $\theta_{\text{chute}}$ , degrees	7.714
- Angle Subtended by Each Flow Element, $\theta_{\text{flow}}$ , degrees	10.286
- Chute Depth-to-Width Ratio	1.0
- Chute Entrance Design Mach Number	0.7
- Throat Plane Area, in. <sup>2</sup> (Design)	20.358
- Equivalent Throat Diameter, in.	5.091

2.7 MODEL 6: 20 CHUTE ANNULAR PLUG SUPPRESSOR, CONVERGENT-DIVERGENT FLOW  
ELEMENT TERMINATIONS

The annular plug suppressor system with convergent-divergent flow element terminations is schematically shown in Figure 2-18 with photos presented in Figures 2-19 and 2-20, uninstalled and installed within the Anechoic Free Jet Facility, respectively. Design methodology for the C-D elemental flowpaths is documented in Reference 2-4, the Model Design Report for this contract. Specific design values are summarized as follows:

-	Mach No.	1.425		
-	$P_T/P_O$	3.238		
-	$T_T, ^\circ R$	1730		
-	$T_S, ^\circ R$	1271		
-	$\gamma$	1.354		
-	$V_j$ , ft/sec	2448		
-	Number of Suppressor Elements	20		
-	Elemental Planform Shape	Radial		
-	$A_{flow}$ at exit/ $A_{flow}$ at throat	1.133		
			<u>At Throat</u>	<u>At Exit Plane</u>
•	Suppressor Area Ratio	1.752	1.56	
•	Suppressor Radius Ratio	.764	.743	
•	Angle Subtended by each chute, $\theta$ chute, degrees	7.72	6.44	
•	Angle Subtended by each flow element, $\theta$ flow, degrees	10.28	11.56	
•	Flow Area, in. <sup>2</sup>	20.227	22.924	
•	Equivalent Flow Dia, in.	5.075	5.403	
•	Chute Blockage Area, in. <sup>2</sup>	15.20	12.77	

Further details of the hardware items are included in Appendix VI, Figures VI-28 through VI-33.

Static pressure instrumentation has been applied to the C-D chutes of this configuration as follows:

- (24)  $P_s$  taps within the C-D flow passage to aid in determining the shock-free operating point.
- (15)  $P_s$  taps in the base region of the C-D chutes for determining base pressures. These pressures, when integrated over the base area, will allow estimation of base drag impact on the nozzles' aerodynamic performance in terms of thrust coefficient.

Drawings for the C-D flow passage instrumentation and base pressure instrumentation are shown in Figures VI-34 and VI-35 of Appendix VI, respectively. Photographs in Figures 2-21, 2-22 and 2-23 show details of the instrumentation application. Figure 2-21 is an overview of the nozzle showing representative base pressure taps and the general tubing routing over the nozzle outer skin. Figure 2-22 shows details of the C-D flow passage pressure tap locations at mid-span on the chute and on the divergent flap of the outer shroud. Figure 2-23 also shows the pressure tap locations on the divergent flap of the outer shroud plus the chute hub taps in the throat plane and on the divergent chute flap.

Table 2-1. Summarization of Scale Model Nozzles with Applicable Text and Appendix Figures.

Configuration No.	Description	Figure Numbers Within Text			Figure Numbers Within Appendix VI		
		Geom. Schem.	Photos	Instr. Schem.	Instr. Photos	Geom. Details	Photos
1	Baseline Conical-Convergent Nozzle	2-1	2-2	N/A	N/A	-	N/A
2	Circular Convergent-Divergent Nozzle	2-3	2-4	2-5	2-6	VI-2 & -3	VI-4 and -5
3	Baseline Contoured-Convergent Annular Plug Nozzle	2-7	2-8	N/A	N/A	VI-6,-8,-10,-12,-14,-17,-19, & -21	VI-7,-9,-11,-13,-15,-16,-18, & -20
3	Baseline Contoured-Convergent Annular Plug Nozzle with Shock Screech Tabs	2-9	2-10 & 2-11	N/A	N/A	Same as 3 & Ref. Fig. 2-9	Same as 3 & Ref. Fig. 2-10 & 2-11
4	Convergent-Divergent Annular Plug Nozzle	2-12	2-13	2-14	2-15	VI-6,-8,-10,-12,-14,-17,-19, & -22	VI-7,-9,-11,-13,-15,-16,-18, & -20, & -23
5	20-Chute Annular Plug Suppressor; Convergent Flow Element Termination	2-16	2-17	N/A	N/A	VI-28,-30,&-31	VI-32
6	20-Chute Annular Plug Suppressor; Convergent-Divergent Flow Element Termination	2-18	2-19 & 2-20	-	2-21 & 2-23	VI-27,-29,-30, & -31	VI-33

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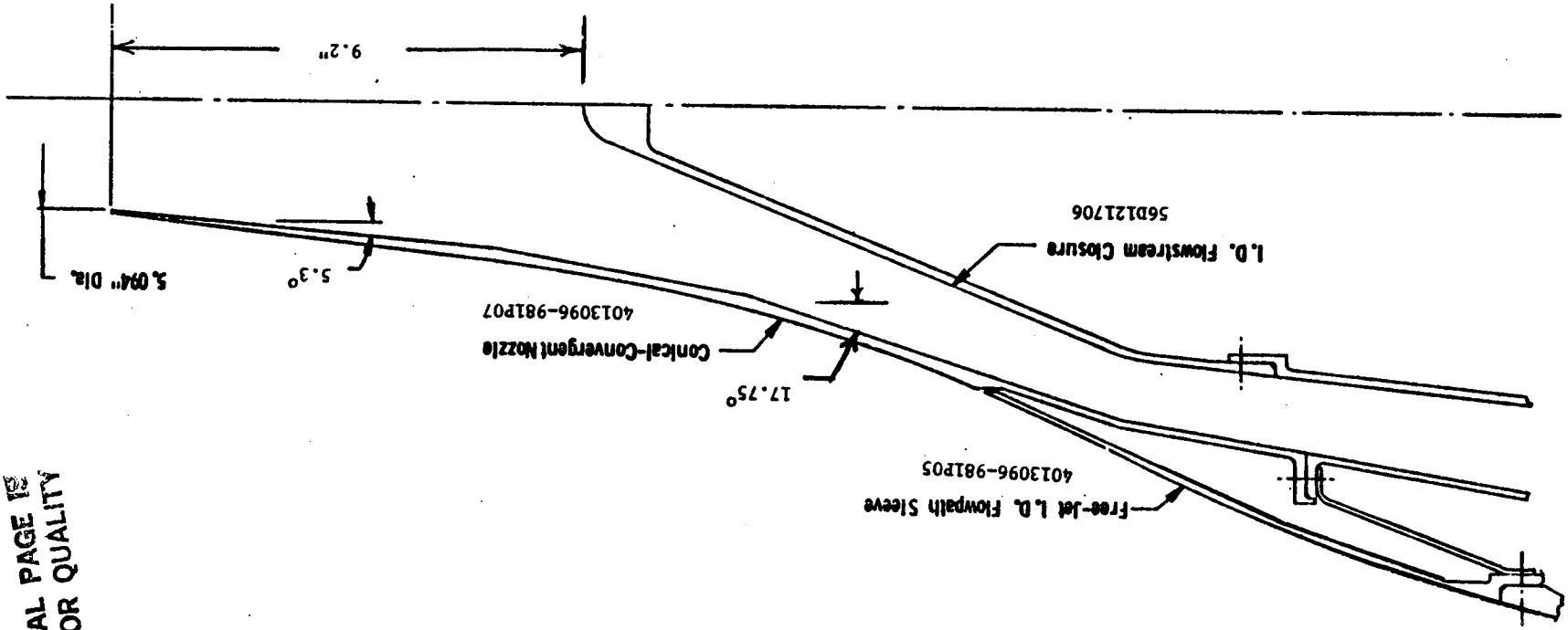


Figure 2-1. Model 1; Baseline Conical-Convergent Nozzle

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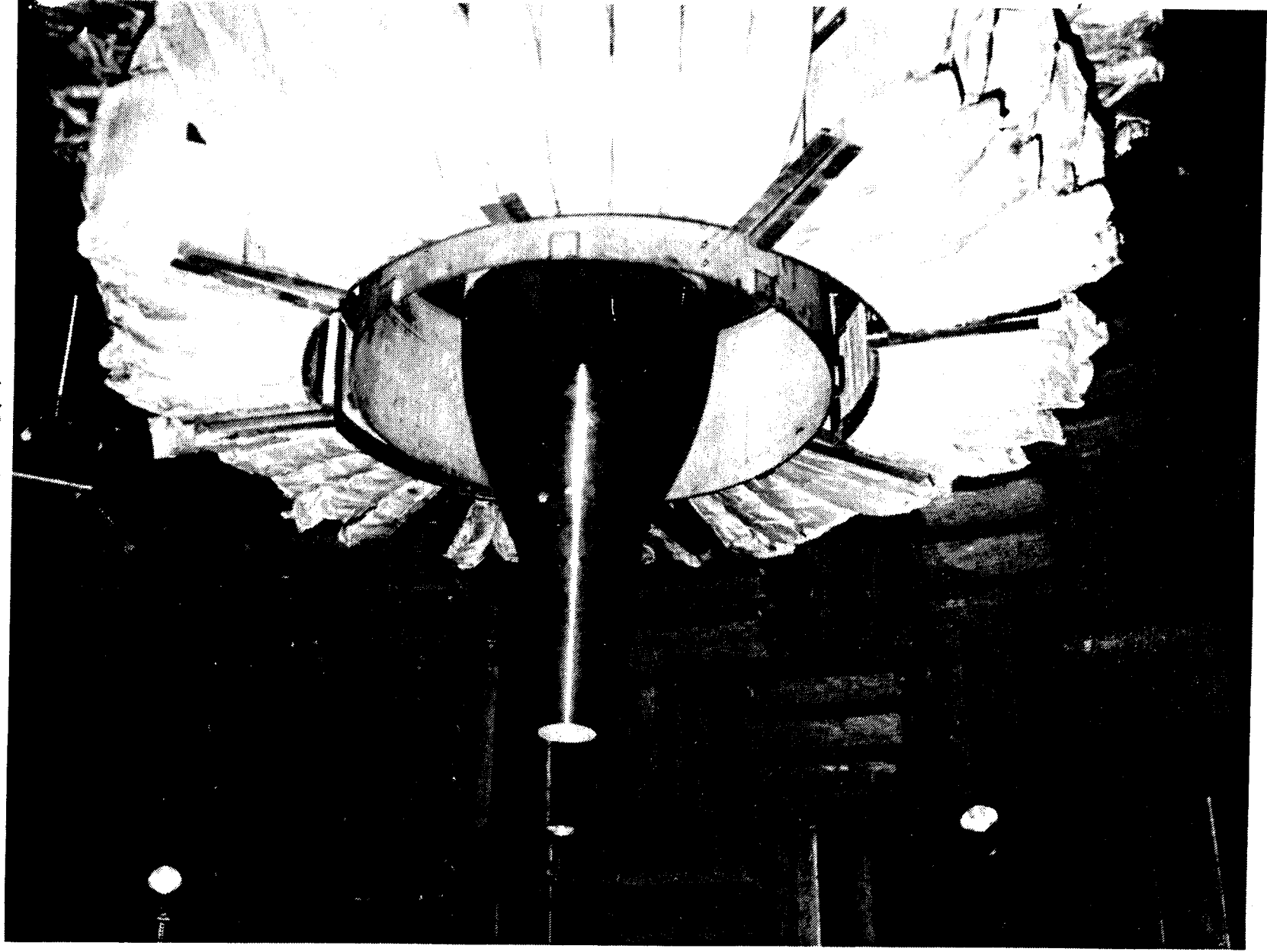


Figure 2-2. Model 1; Baseline Circular-Convergent Nozzle Installed in the Anechoic Free-Jet Facility.

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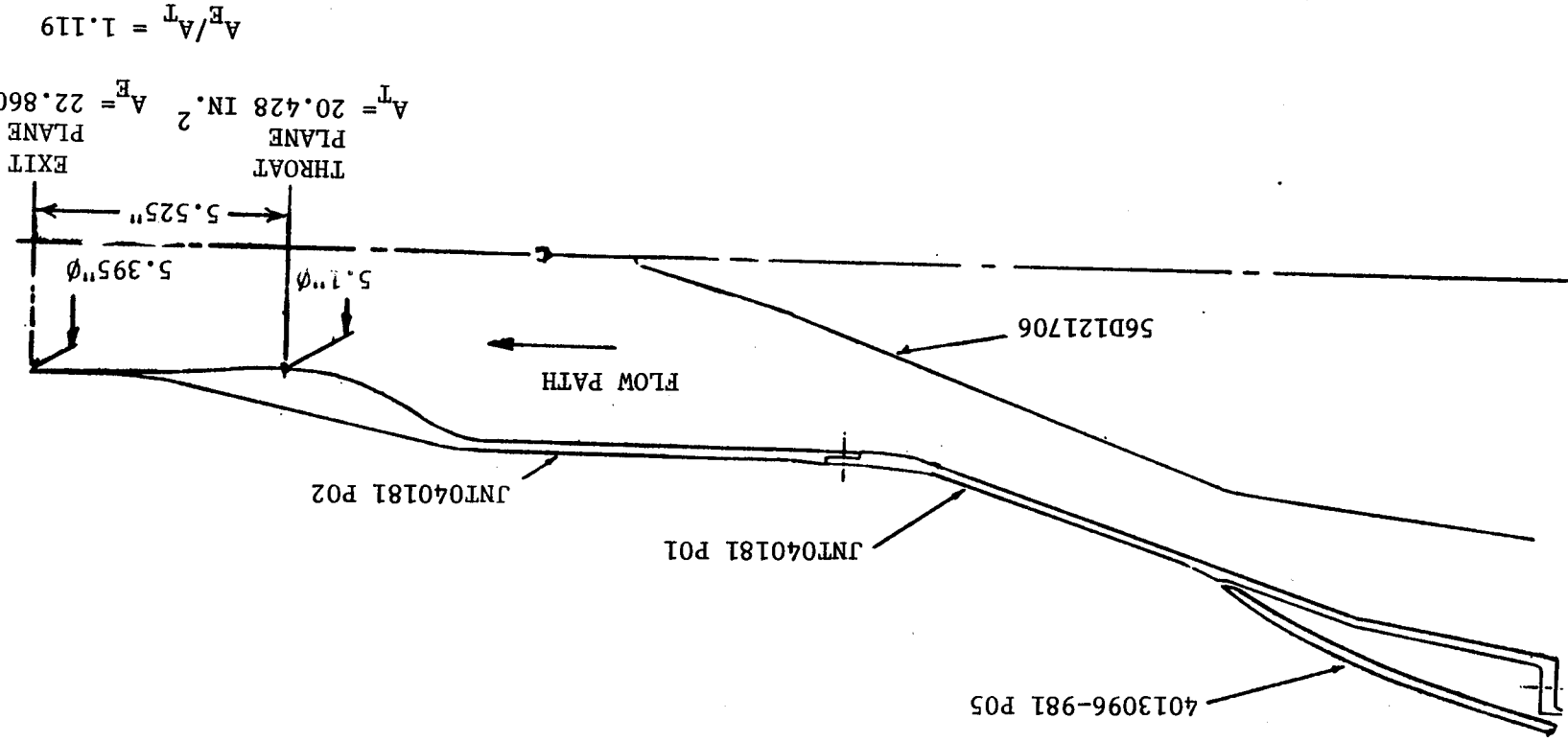
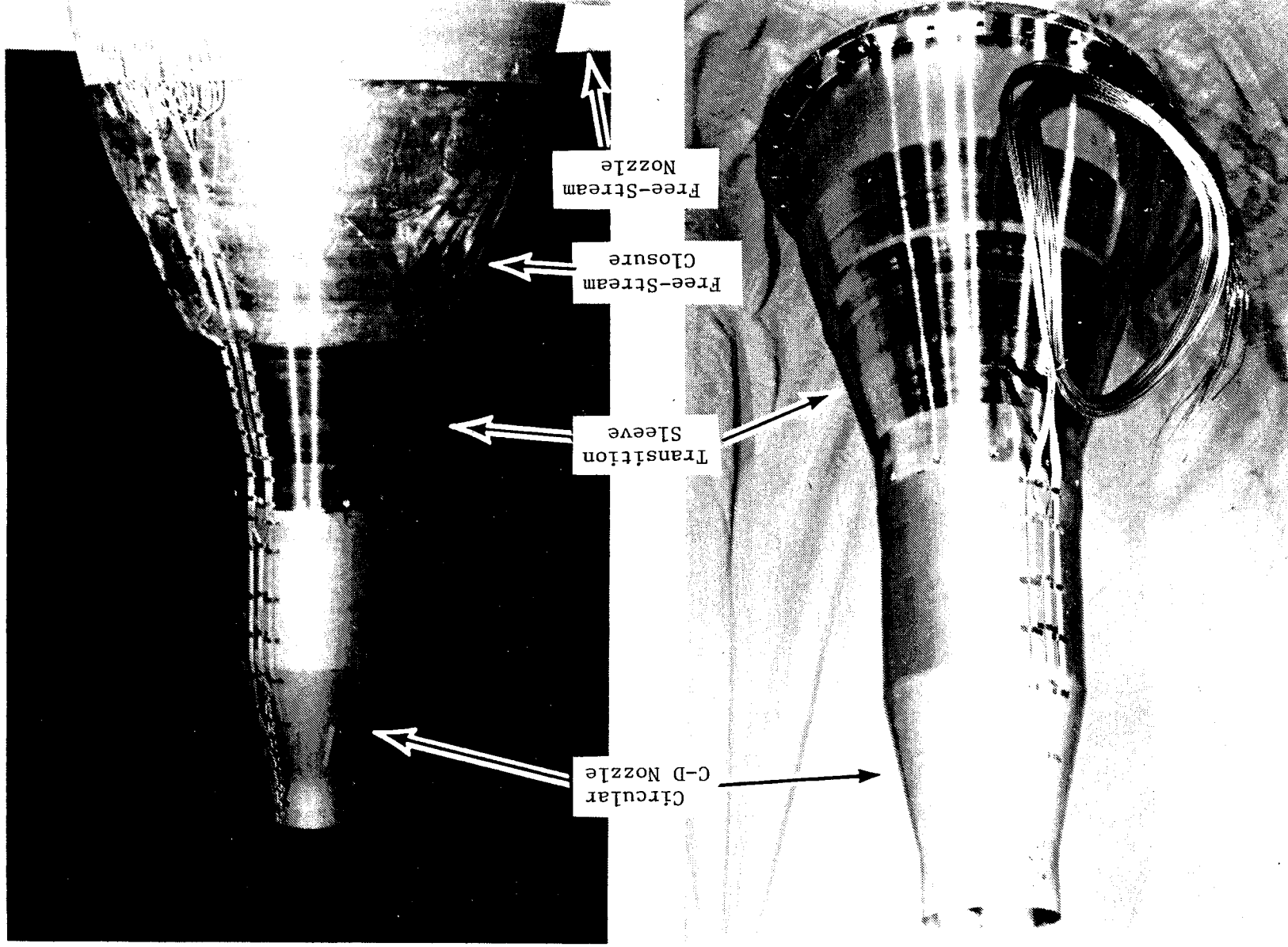


Figure 2-3. Model 2: Circular Convergent-Divergent Nozzle.



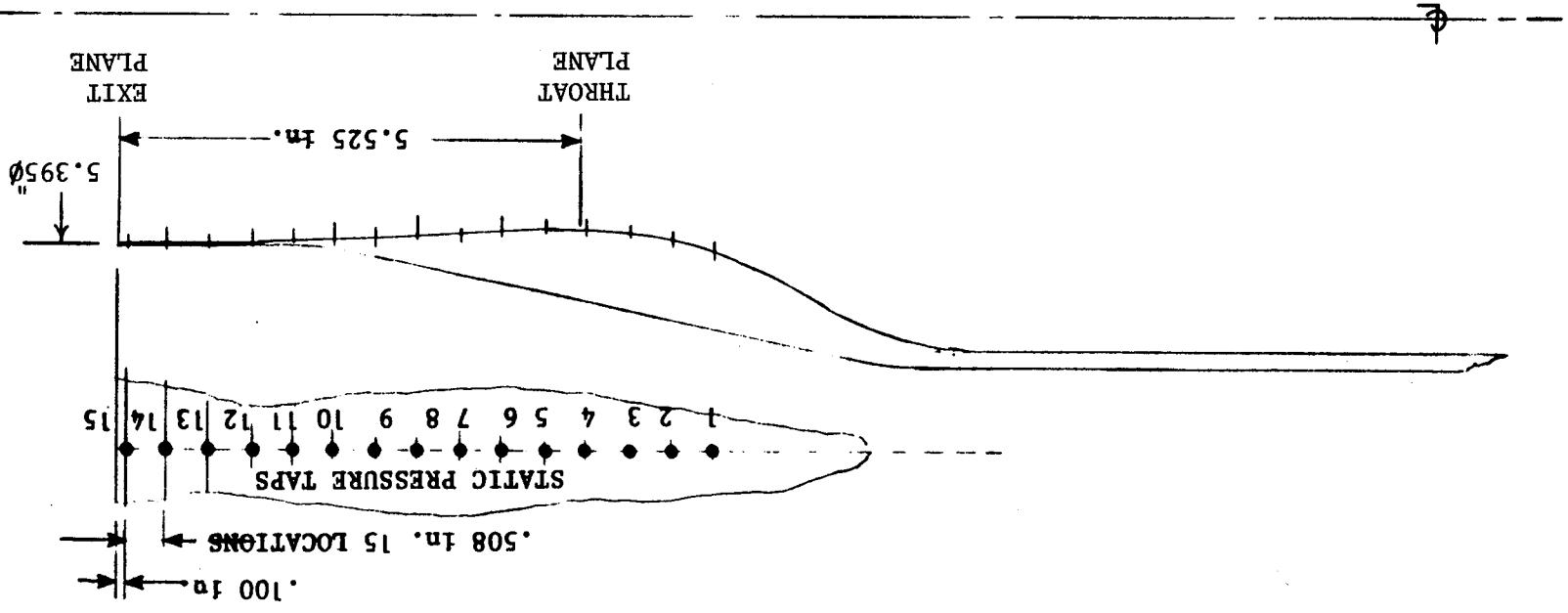


a) Convergent-Divergent Nozzle,  
Uninstalled.

b) Convergent-Divergent Nozzle  
Installed in Anechoic Free Jet  
Facility.

Figure 2-4. Model 2: Convergent-Divergent Circular Nozzle, Uninstalled and Installed.

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TYPICAL INSTALLATION  
SENSING PORT PERPENDICULAR  
TO FLOW SURFACE

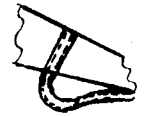


Figure 2-5. Application of Static Pressure Instrumentation to Internal  
Flowpath of Model 2.

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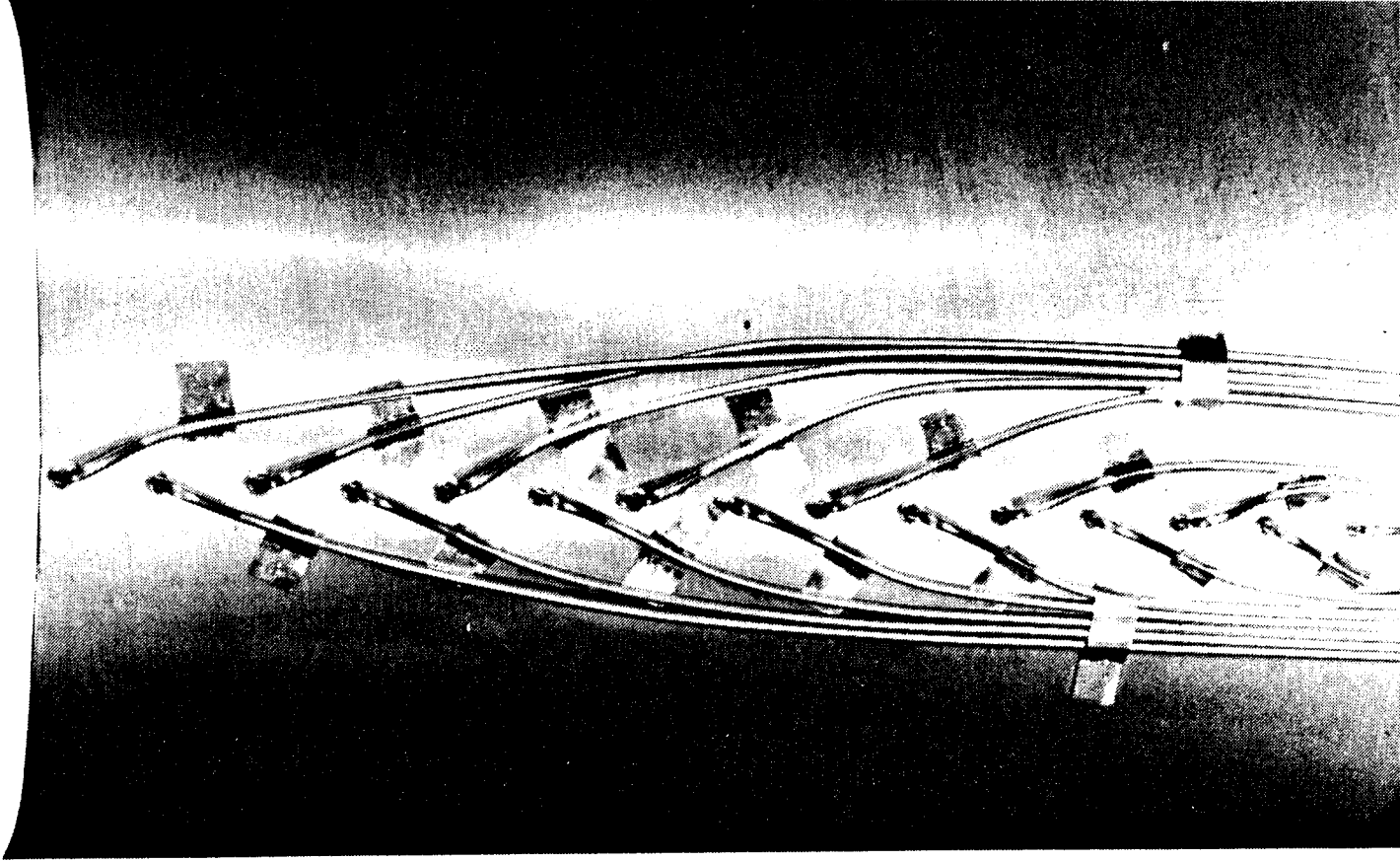
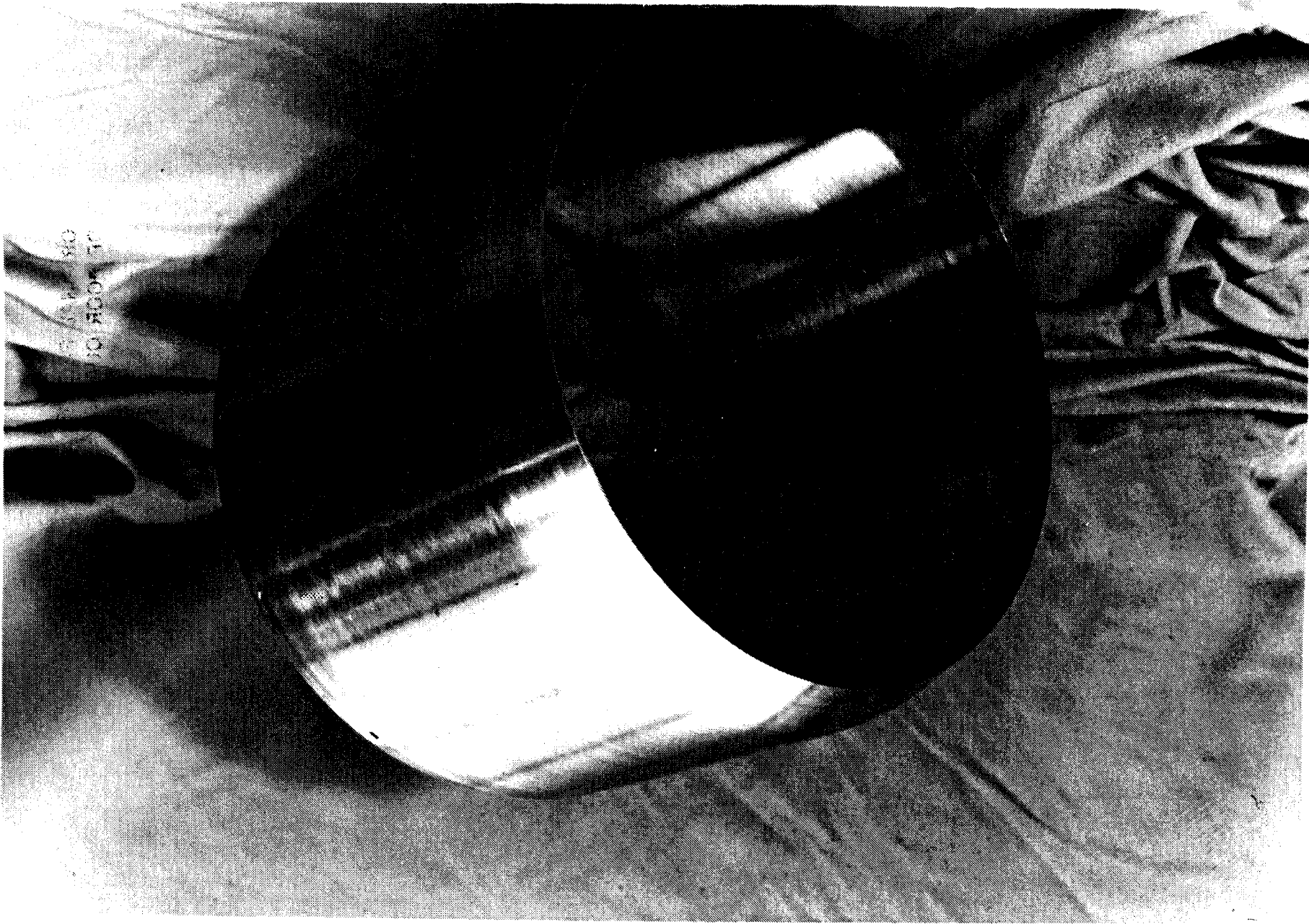


Figure 2-6. Flowpath Static Pressure Sensing Tubing as Applied to Model 2's  
Circular C-D Nozzle (JMT040181P02).



Figure 2-8. Photo of Contoured Convergent Annular Sleeve for Model 3 (JNT030981-1P01)



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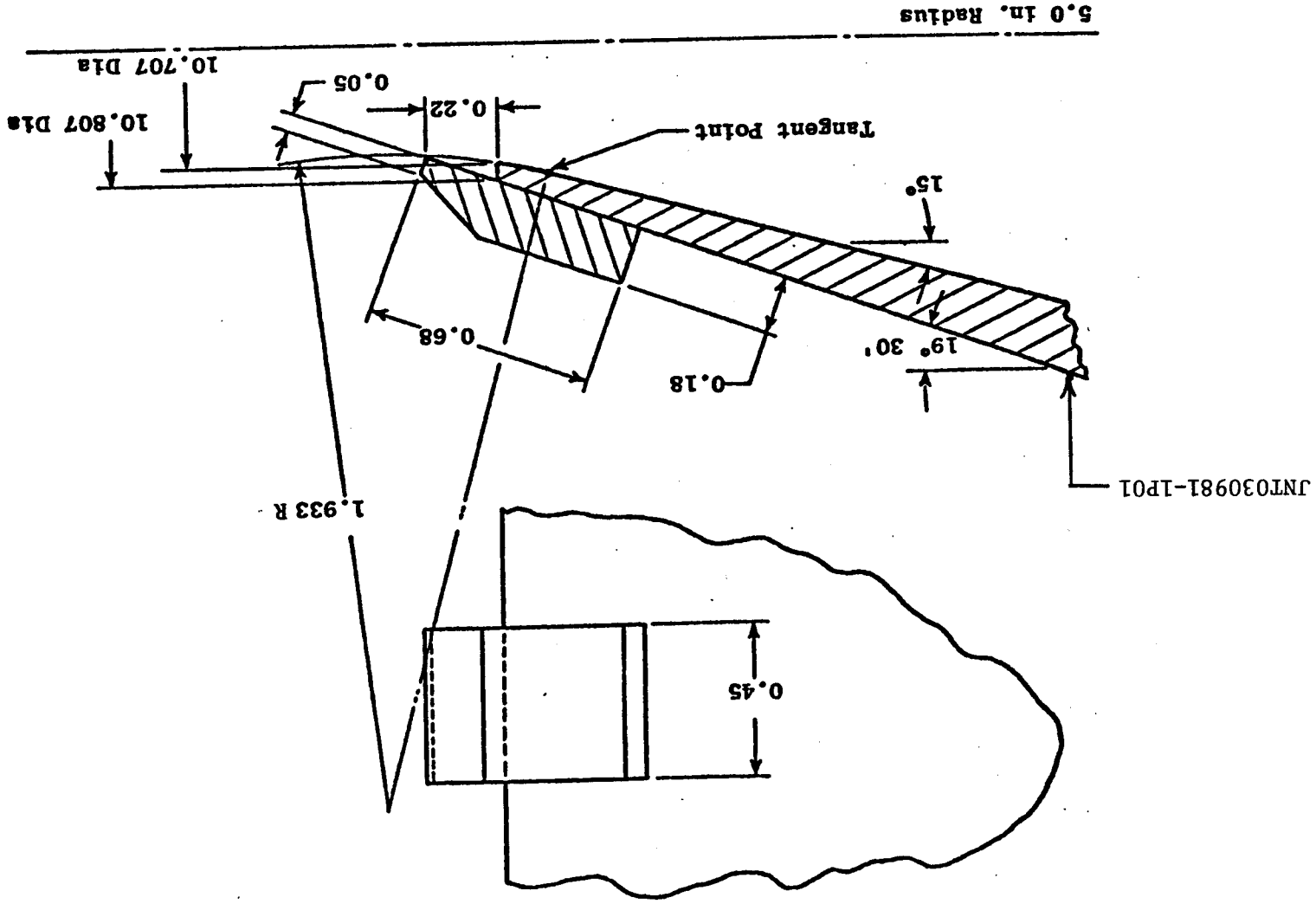


Figure 2.9. Schematic of Sereech Tab Application to Model 3, Contoured Convergent Annular Plug Nozzle.

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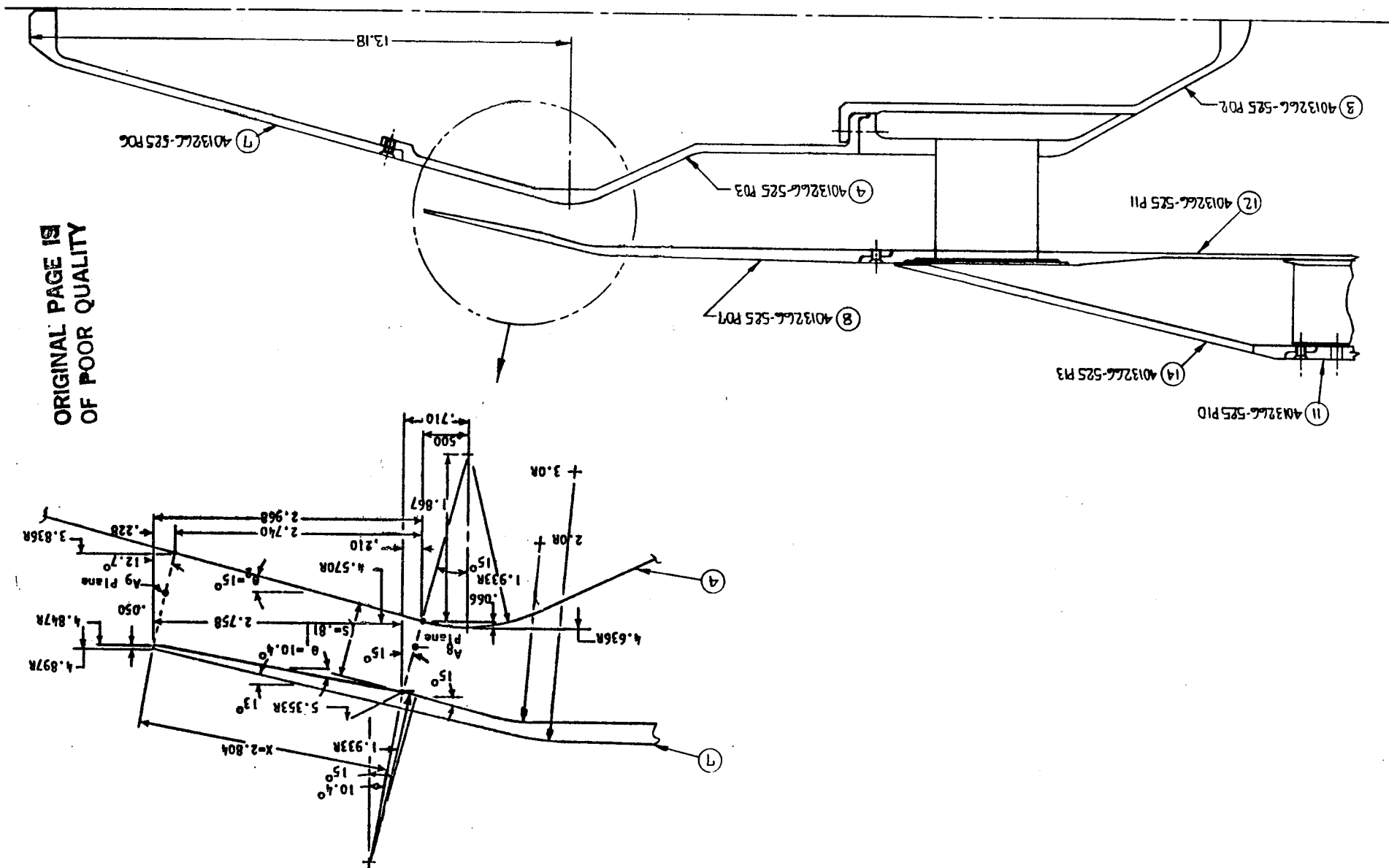
Figure 2-10. Photo of Screech Tab Application to Model 3, Contoured  
Convergent Annular Plug Nozzle.

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Figure 2-12. Schematic of Model 4; Convergent-Divergent Annular Plug Nozzle.



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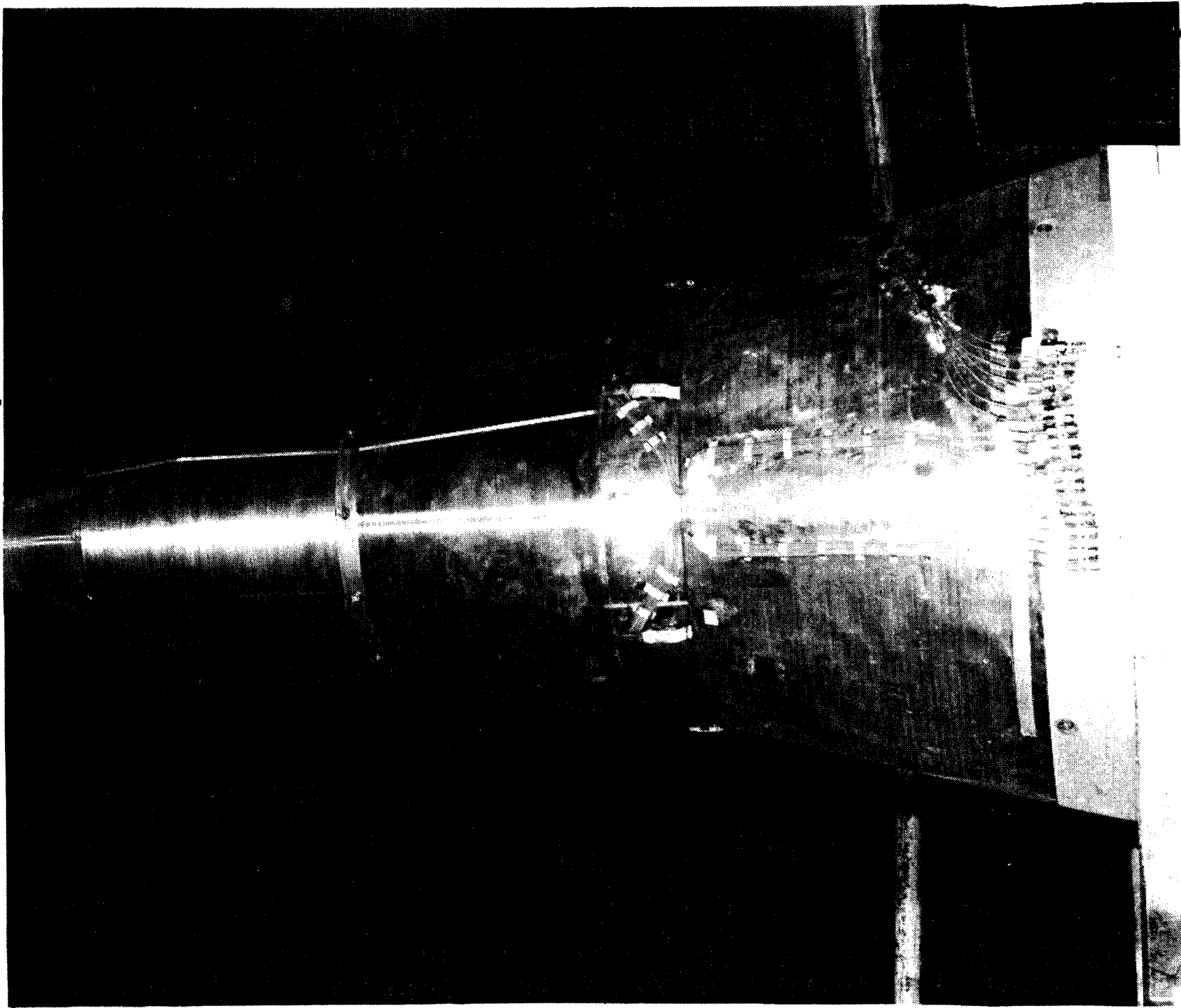


Figure 2-13. Photo of Model 4; Convergent-Divergent Annular Plug Nozzle, As Installed Within the Anechoic Free-Jet Facility.

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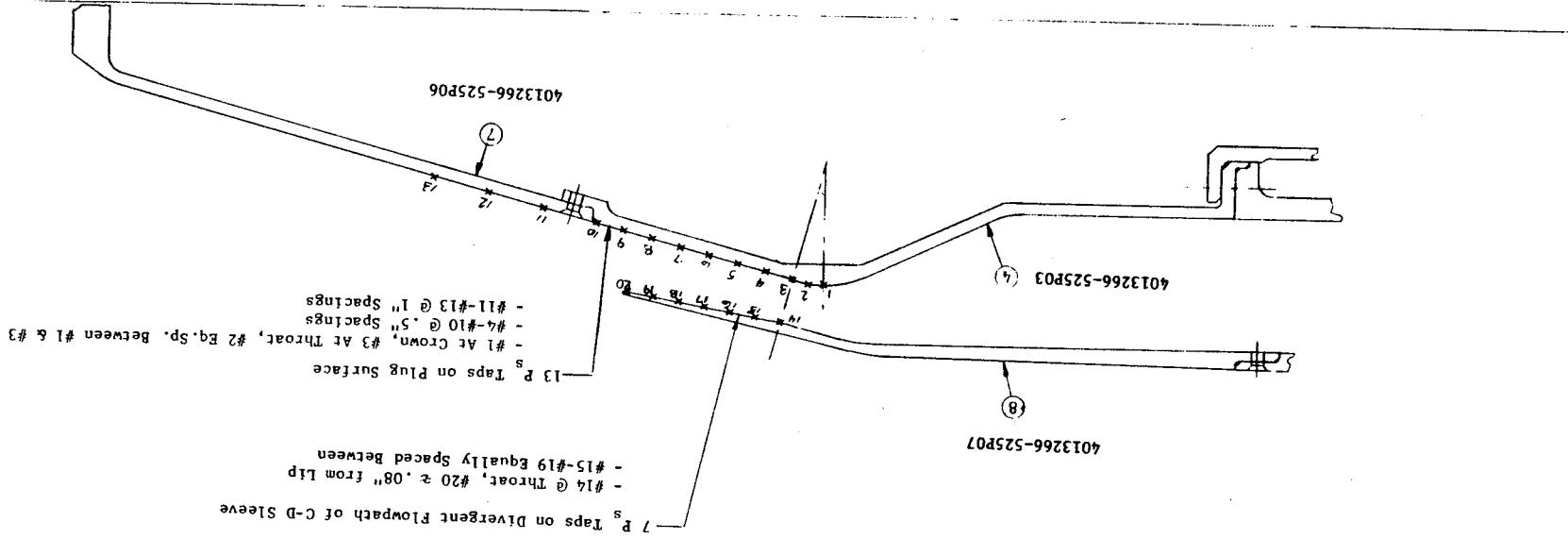


Figure 2-14. Schematic of Static Pressure Instrumentation Application to Plug Surface and Divergent Flowpath Surface of Model 4; C-D Annular Plug Nozzle.

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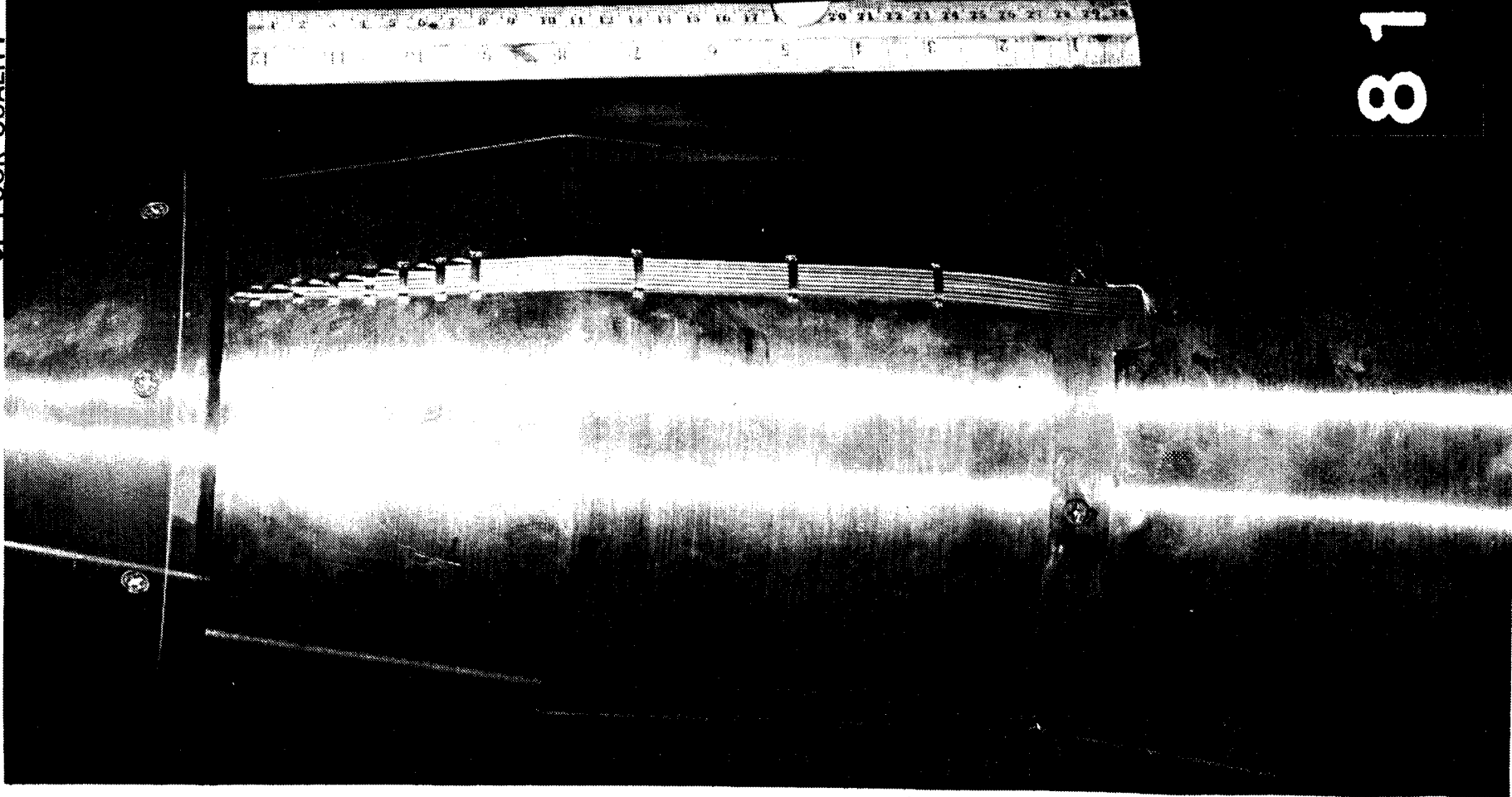
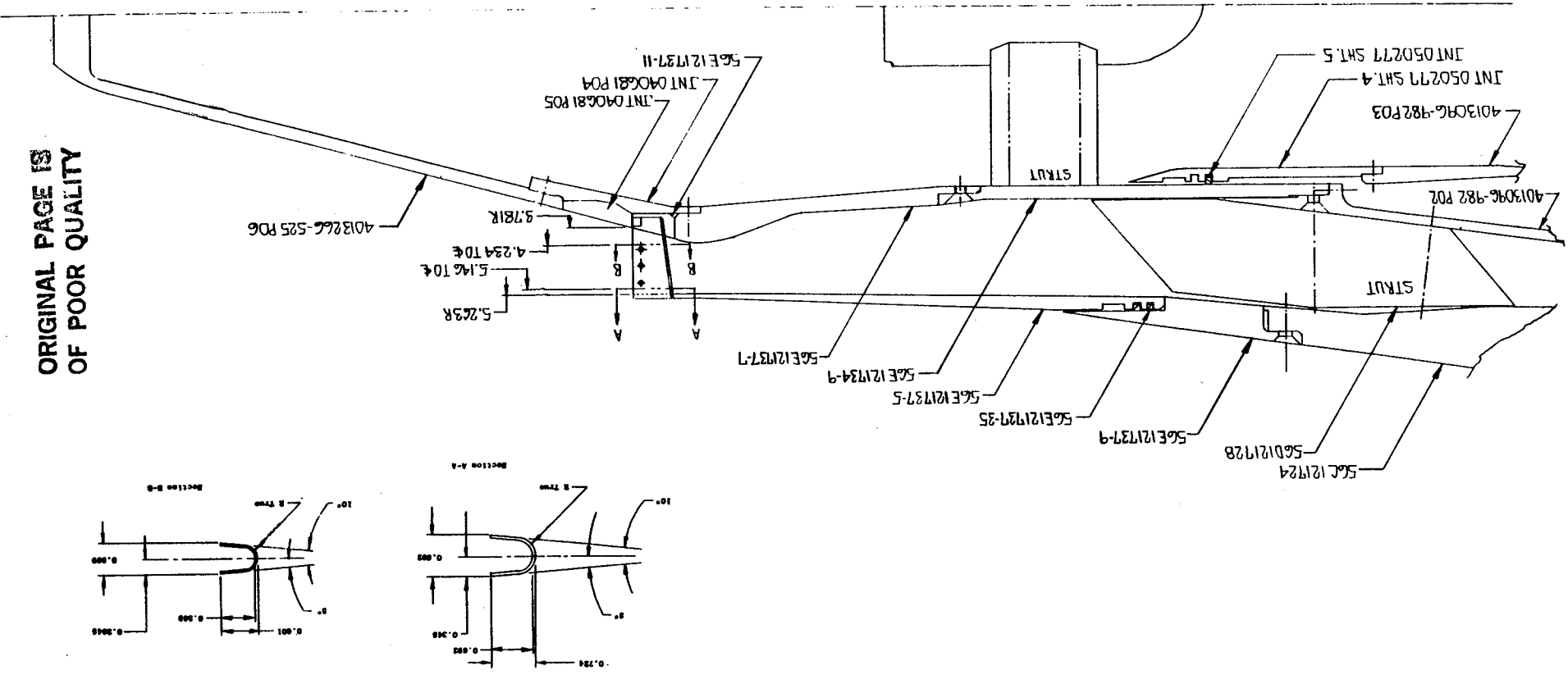


Figure 2-15. Photo of Static Pressure Instrumentation Application to C-D  
Flowpath of Model 4; Convergent-Divergent Annular Plug Nozzle.

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Figure 2-16. Schematic of Model 5; 20 Chute Annular Plug Suppressor, Convergent Flow Element Terminations.



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Figure 2-17. Photo of Model 5: 20 Chute Annular Plug Suppressor, Convergent Flow Element Terminations.



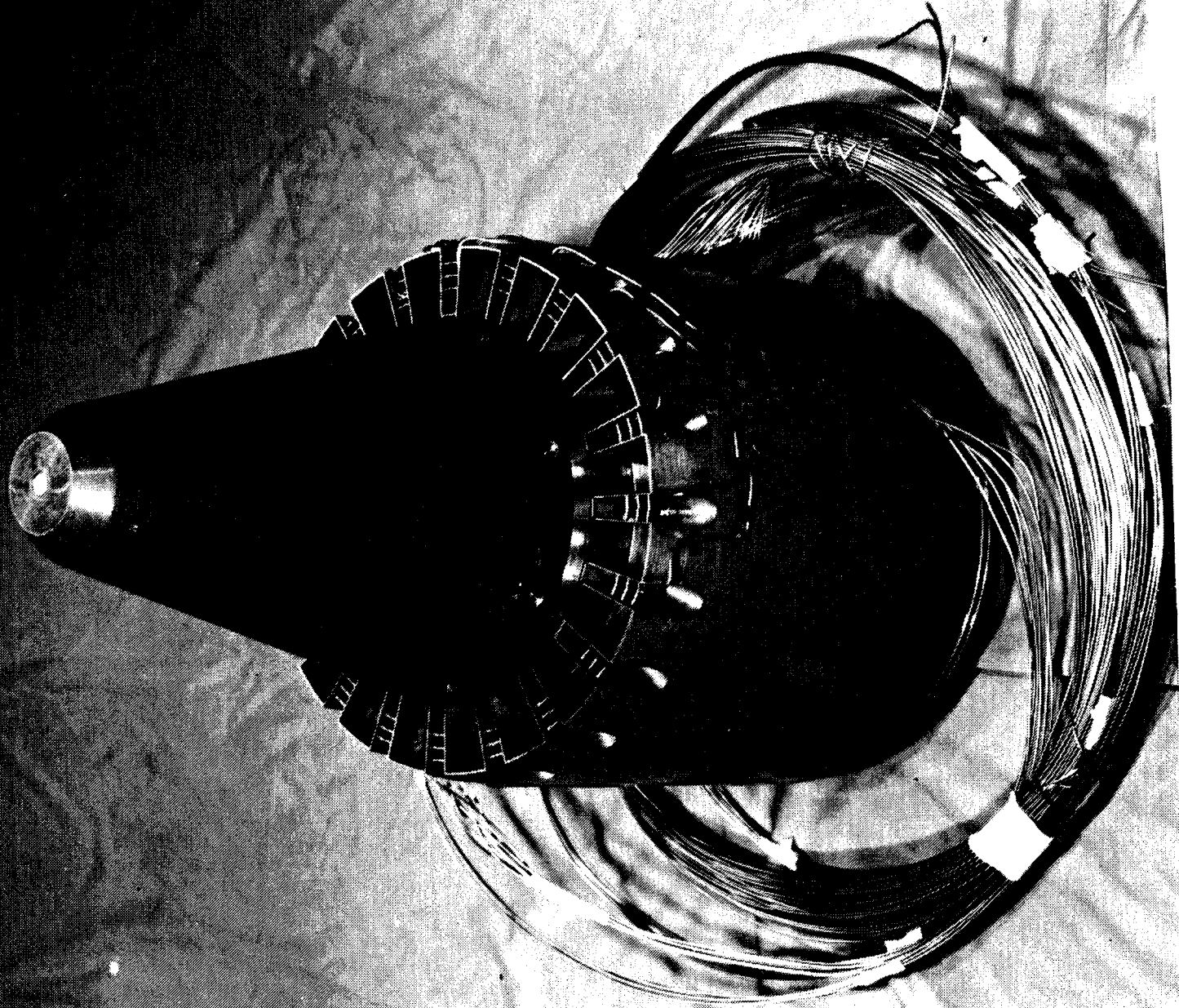


Figure 2-19. Photo of Model 6: 20 Chute Annular Plug Suppressor, Convergent-Divergent Flow Element Terminations, Uninstalled.



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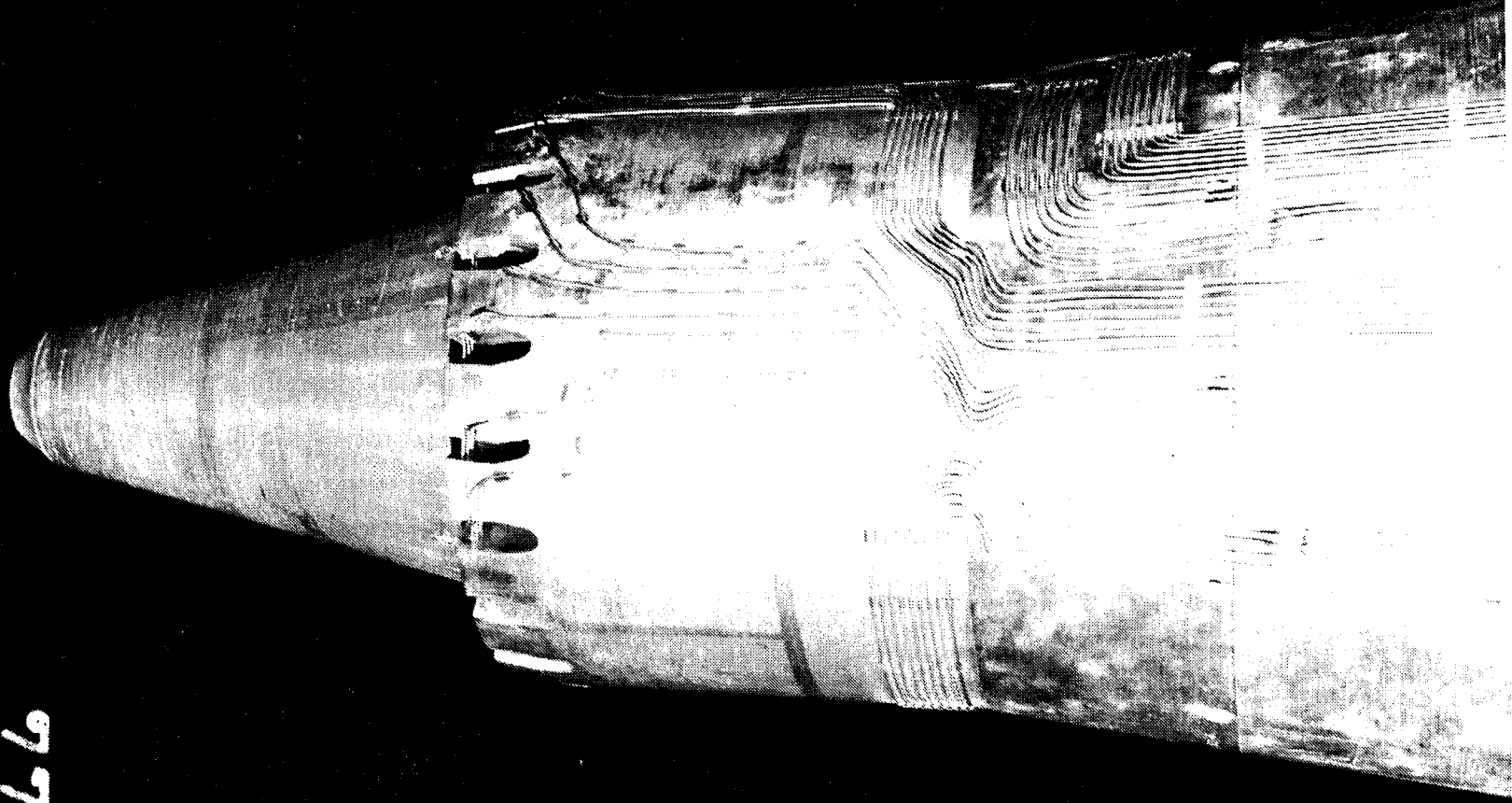


Figure 2-20. Photo of Model 6; 20 Chute Annular Plug Suppressor, Convergent-Divergent Flow Element Terminations, As Installed Within the Anechoic Free-Jet Facility.

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C-D Flow-Path P<sub>s</sub> Taps

Base Pressure P<sub>s</sub> Taps

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20 CHUTE  
C-D  
JMT640681601

Figure 2-21. Overview of Model 6, 20 C-D Chute Suppressor, Showing Base Pressure and C-D Flow Path Instrumentation Application.

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Divergent Flap  $P_s$  Taps (8 Total)

Chute Mid-Span  $P_s$  Taps (8 Total)

Within Divergent Flow-Path (5)

At Throat (1)

Within Convergent Flow-Path (2)

Figure 2-22. C-D Flow Passage Static Pressure Instrumentation Application to 20 C-D Chute Suppressor, Model 6; Chute Mid-Span and Divergent Flap Taps

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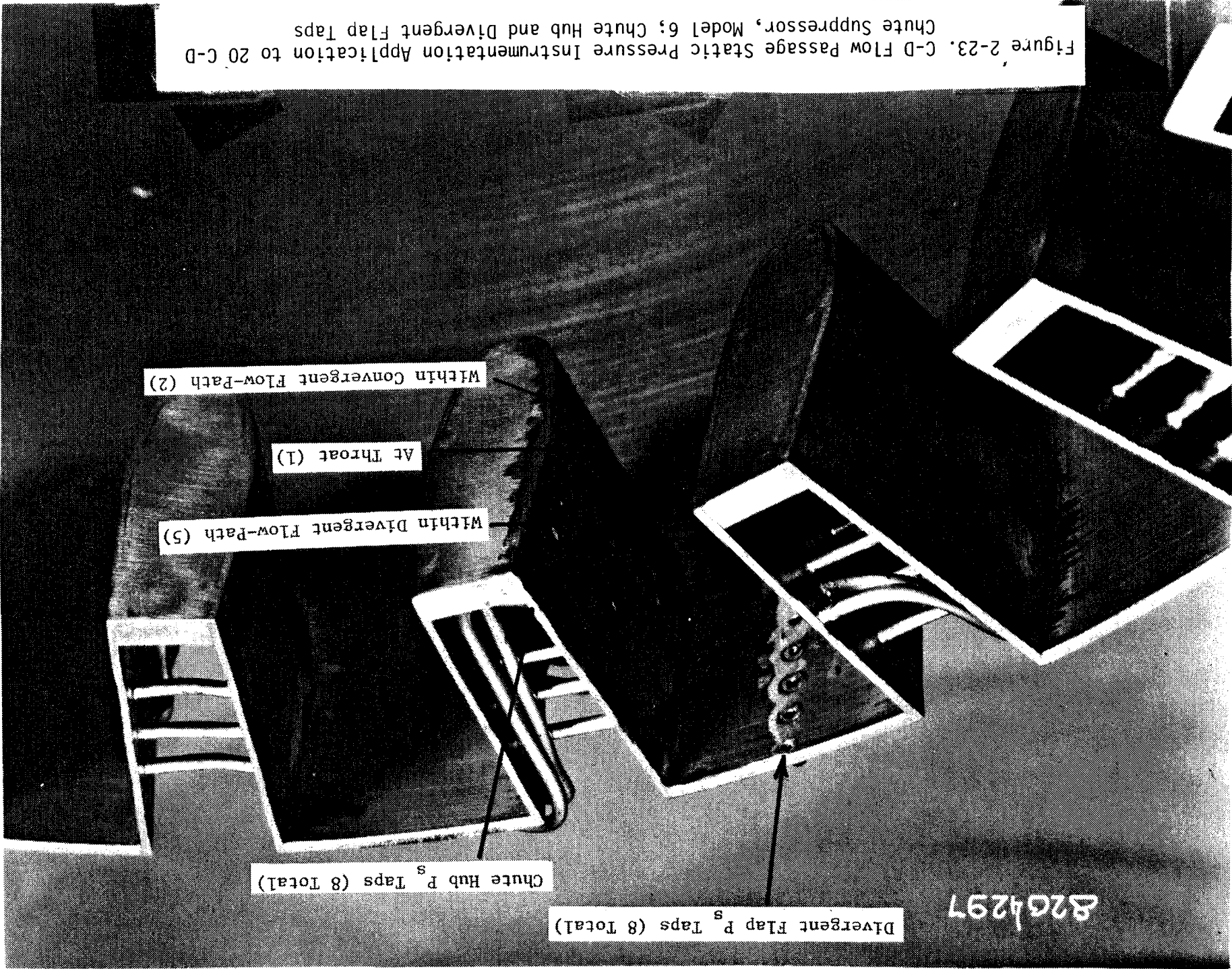


Figure 2-23. C-D Flow Passage Static Pressure Instrumentation Application to 20 C-D Chute Suppressor, Model 6; Chute Hub and Divergent Flap Taps

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3.0 TEST POINT DEFINITION

The aerodynamic flow conditions corresponding to the acoustic test points taken on each of the test configurations are tabulated in this Section. The data are tabulated in both the International System of Units and in English Units.

3.1 DEFINITION OF VARIABLES

The symbols and variables used in test point data lists are defined in Section 8.0, Nomenclature (Volume III). Sample sheets specifying the variables listed in the tables that summarize the aerodynamic flow conditions are presented in Table 3-1. From the known stream velocity and total temperature, other ~~flow~~ flow parameters have been calculated by using standard isentropic relations. The ambient pressure and temperature, along with the relative humidity in the GE Anechoic Facility at the time of the test, are presented in these tables.

In addition, the measured far-field PNL data extrapolated to a 731.5 m (2400 ft) sideline and scaled to an AST product size of  $0.903 \text{ m}^2$  ( $1400 \text{ in.}^2$ ) also are presented in the tables that are in English Units. The selected data correspond to microphone locations of  $\theta_1 = 50^\circ, 60^\circ, 70^\circ, 90^\circ, 120^\circ, 130^\circ$ , and  $140^\circ$ .

The normalization factor (NF) found in these tables can be employed to normalize the measured perceived noise level (PNL) to a reference thrust as follows:

$$\text{PNLN} = \text{Normalized PNL} = \text{PNL} + \text{NF}$$

$$\text{where NF is given by } -10 \log \left( \frac{F}{F_{\text{ref}}} \right) \left( \frac{\rho}{\rho_{\text{amb}}} \right)^{\omega-1}$$

Where the reference thrust,  $F_{ref} = 22,820 \text{ N}$  (5130 lb).

The normalized data are used to determine the dependence of aft angle jet noise on the acoustic Mach number by plotting PNLN against  $10 \log (V_j/a_{amb})$ .

The aerodynamic flow conditions and the selected PNL data corresponding to the acoustic test points are presented in Subsection 3.2 through 3.7.

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Throat Area of Scaled Nozzle (AST Size)

Model Number  
 Throat Area (Model Size)  
 AREA (MODEL SIZE = 20.38; FULL SIZE = 1400.00) SQ. IN.  
 NOZZLE - MODEL 5

(English Units)

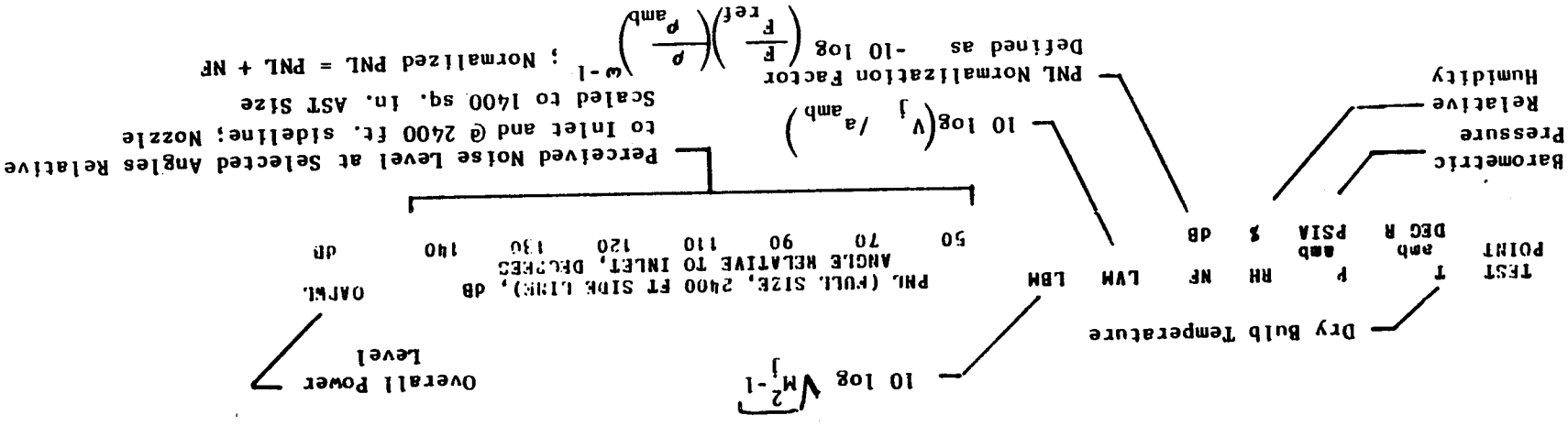
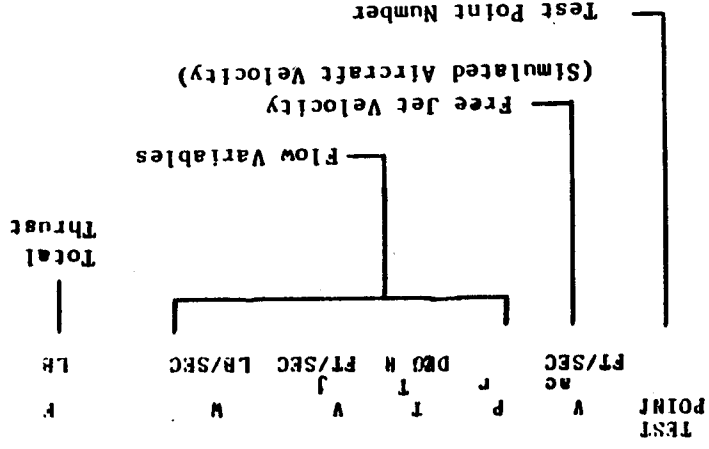


Table 3-2. Description of Aerodynamic Data Sheet.

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(International Units)

Model Number

NOZZLE - MODEL 8

Throat Area (Model Size) ; Throat Area of Scaled Nozzle (AST Size)  
AREA (MODEL SIZE = 0.0163 ; FULL SIZE = 0.9031 ) sq.m.

TEST V T T T V ac J  
POINT ac J T T T P W F

m/s m/s m/s K K kg/s N

Outer Stream

Flow Variables

Free Jet Velocity (Simulated Aircraft Velocity)

Test Point Number

Dry Bulb Temperature

TEST POINT

T amb

P

RH

NF

LVM

LBM

PNL (FULL SIZE, 2400 FT SIDE VIEW), DB ANGLE RELATIVE TO INLET, DEGREES

OARML

Overall Power Level

$$10 \log \sqrt{M_j^2 - 1}$$

DEG K Pascals % DB

Barometric Pressure  
Relative Humidity

$$10 \log (V_j / a_{amb})$$

Perceived Noise Level at Selected Angles Relative to Inlet and @ 2400 ft. sideline; Nozzle Scaled to 1400 sq. in. AST Size

PNL Normalization Factor Defined as  $-10 \log \left( \frac{F}{F_{ref}} \right) \left( \frac{\rho}{\rho_{amb}} \right)^{w-1}$ ; Normalized PNL = PNL + NF

Description of Aerodynamic Data Sheet (Concluded).

Table 3-1

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### 3.2 Test Matrix of Model 1

Aerodynamic and Acoustic Test Data - Model 1.

NOZZLE - MODEL 01 AREA [MODEL SIZE - ~~1.75 IN DIA~~ = 20.38 ; FULL SIZE = 1400.00] SQ. IN.

TEST POINT	V	P	T	T	V	W	F
	FT/SEC	FT/SEC	DEG R	FT/SEC	LB/SEC	LB/SEC	LB
103	0	2.87	1718	2333	733.1	53164	
104	400	2.88	1708	2327	736.3	53258	
105	0	2.96	1708	2354	758.2	55475	
106	400	2.96	1714	2358	756.9	55485	
107	0	3.02	1718	2381	772.2	57147	
108	400	3.03	1711	2378	775.1	57282	
111	0	3.08	1708	2392	789.3	58672	
112	400	3.08	1715	2396	787.0	58609	
113	0	3.12	1707	2403	800.5	59787	
114	400	3.13	1715	2410	799.7	59894	
119	0	3.23	1709	2434	827.6	62616	
120	400	3.23	1707	2431	826.7	62466	
121	0	3.32	1700	2452	852.8	64982	
122	400	3.32	1710	2459	851.0	65039	
103	499.9	14.43	92	-6.0	3.28	101.6	101.0
104	500.0	14.42	92	-6.0	3.27	106.7	104.9
105	500.5	14.43	92	-6.2	3.32	102.5	101.6
106	500.9	14.43	92	-6.2	3.32	107.1	105.8
107	500.6	14.42	92	-6.4	3.36	109.3	101.7
108	500.6	14.42	92	-6.4	3.36	109.3	107.2
111	500.3	14.43	92	-6.5	3.39	103.4	102.1
112	500.6	14.42	92	-6.5	3.39	109.6	108.0
113	500.6	14.43	92	-6.6	3.41	103.5	102.6
114	502.1	14.43	92	-6.6	3.41	104.6	108.3
119	500.7	14.43	92	-6.9	3.46	104.6	103.7
120	502.4	14.43	92	-6.9	3.45	110.8	109.0
121	500.6	14.43	92	-7.1	3.49	104.8	104.0
122	502.6	14.43	92	-7.1	3.50	111.4	109.7
103	112.2	115.3	111.6	105.2	104.8	107.9	111.5
104	109.8	112.6	110.5	106.0	107.9	107.9	111.5
105	109.8	112.3	110.5	106.0	107.9	107.9	111.5
106	109.7	112.7	111.0	106.3	106.8	108.2	104.8
107	109.7	113.4	111.0	106.3	106.8	108.2	104.8
108	109.7	113.4	111.0	106.3	106.8	108.2	104.8
111	110.2	114.5	111.5	106.9	106.9	109.8	111.5
112	110.2	114.5	111.5	106.9	106.9	109.8	111.5
113	113.2	115.6	112.5	106.6	112.5	106.6	106.6
114	113.2	115.6	112.5	106.6	112.5	106.6	106.6
119	113.1	114.3	112.2	109.2	112.2	109.2	110.9
120	113.1	114.3	112.2	109.2	112.2	109.2	110.9
121	117.0	117.0	113.6	108.8	108.8	108.8	108.8
122	117.0	117.0	113.6	108.8	108.8	108.8	108.8

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### 3.3 Test Matrix of Model 2

Aerodynamic and Acoustic Test Data - Model 2.

NOZZLE - MODEL 02 AREA [MODEL SIZE = 20.43 ; FULL SIZE = 1400.00] SQ.IN.

TEST POINT	V	P	T	V	H	F
	FT/SEC	PSIA	DEG R	FT/SEC	LB/SEC	LB
201	0	2.72	1723	2282	693.3	49162
202	400	2.72	1747	2301	682.4	48794
203	0	2.87	1722	2334	730.5	52978
204	400	2.89	1725	2343	728.8	53074
205	0	2.95	1728	2365	751.3	55233
206	400	2.97	1732	2373	746.7	55072
207	0	3.02	1716	2378	770.8	56968
208	400	3.04	1730	2395	765.9	57000
211	0	3.07	1721	2398	783.7	58411
212	400	3.08	1736	2410	774.5	58013
213	0	3.12	1728	2417	794.2	59655
214	400	3.13	1736	2425	787.2	59323
215	0	3.18	1717	2426	812.3	61262
216	400	3.19	1722	2432	805.6	60890
219	0	3.22	1729	2446	819.6	62303
220	400	3.23	1734	2453	813.7	62033
221	0	3.31	1712	2458	847.1	64714
222	400	3.33	1713	2462	842.9	64508
223	0	3.51	1715	2508	896.1	69852
224	400	3.52	1737	2528	884.5	69498
201	510.1	14.45	70	-5.6	3.14	96.6
202	535.3	14.30	39	-5.8	3.07	99.5
203	512.0	14.43	70	-6.1	3.23	98.9
204	534.8	14.29	39	-6.3	3.15	97.6
205	510.6	14.43	70	-6.3	3.29	95.5
206	525.4	14.29	39	-6.4	3.25	97.4
207	510.3	14.43	70	-6.4	3.32	95.2
208	524.8	14.29	66	-6.5	3.29	97.7
211	511.0	14.43	70	-6.6	3.35	95.4
212	534.2	14.30	66	-6.7	3.28	98.3
213	512.0	14.43	70	-6.7	3.38	95.6
214	532.4	14.30	66	-6.8	3.31	97.7
215	511.0	14.43	70	-6.8	3.40	96.5
216	532.7	14.30	66	-7.0	3.32	99.3
219	510.6	14.43	70	-6.9	3.44	96.9
220	533.1	14.30	66	-7.0	3.36	99.8
221	510.2	14.43	70	-7.1	3.46	98.1
222	531.5	14.30	66	-7.3	3.38	100.9
223	511.2	14.43	70	-7.5	3.55	100.2
224	531.7	14.29	66	-7.6	3.50	102.8
201	101.6	100.2	70	96.6	100.2	101.6
202	101.4	101.1	90	98.4	101.4	101.1
203	99.4	101.8	101.6	99.4	101.8	101.6
204	99.0	101.9	101.9	99.0	101.9	101.9
205	95.5	101.4	101.4	95.5	101.4	101.4
206	97.4	100.6	101.4	97.4	100.6	101.4
207	95.2	99.1	101.9	95.2	99.1	101.9
208	97.2	100.5	100.7	97.2	100.5	100.7
211	95.4	99.2	102.4	95.4	99.2	102.4
212	98.3	101.0	101.4	98.3	101.0	101.4
213	95.6	99.6	102.4	95.6	99.6	102.4
214	97.7	100.8	101.8	97.7	100.8	101.8
215	96.5	100.1	102.8	96.5	100.1	102.8
216	99.3	101.7	102.6	99.3	101.7	102.6
219	96.9	100.8	103.1	96.9	100.8	103.1
220	99.8	102.0	103.8	99.8	102.0	103.8
221	100.9	102.9	103.0	100.9	102.9	103.0
222	100.7	101.7	103.8	100.7	101.7	103.8
223	105.8	103.8	105.8	105.8	103.8	105.8
224	102.8	105.0	105.0	102.8	105.0	105.0
201	110.7	114.6	110.3	110.7	114.6	110.7
202	109.7	111.1	110.8	109.7	111.1	110.8
203	110.2	111.7	110.6	110.2	111.7	110.6
204	110.3	111.5	110.9	110.3	111.5	110.9
205	110.3	112.3	110.3	110.3	112.3	110.3
206	110.3	112.3	110.3	110.3	112.3	110.3
207	111.9	111.9	111.9	111.9	111.9	111.9
208	111.0	111.0	111.0	111.0	111.0	111.0
211	111.2	112.1	112.1	111.2	112.1	112.1
212	111.2	111.2	111.2	111.2	111.2	111.2
213	110.9	113.1	113.1	110.9	113.1	113.1
214	115.7	113.4	113.4	115.7	113.4	113.4
215	111.5	113.4	113.4	111.5	113.4	113.4
216	112.2	112.2	112.2	112.2	112.2	112.2
219	113.4	113.4	113.4	113.4	113.4	113.4
220	112.0	112.0	112.0	112.0	112.0	112.0
221	114.0	114.0	114.0	114.0	114.0	114.0
222	111.6	111.6	111.6	111.6	111.6	111.6
223	112.5	112.5	112.5	112.5	112.5	112.5
224	112.2	112.2	112.2	112.2	112.2	112.2
201	184.7	182.8	185.3	184.7	182.8	185.3
202	182.8	185.3	185.3	182.8	185.3	185.3
203	183.8	185.8	185.8	183.8	185.8	185.8
204	185.4	184.2	185.9	185.4	184.2	185.9
205	186.1	186.1	186.1	186.1	186.1	186.1
206	186.0	186.0	186.0	186.0	186.0	186.0
207	186.2	186.2	186.2	186.2	186.2	186.2
208	185.9	185.9	185.9	185.9	185.9	185.9
211	186.3	186.3	186.3	186.3	186.3	186.3
212	187.6	187.6	187.6	187.6	187.6	187.6
213	187.6	187.6	187.6	187.6	187.6	187.6
214	187.6	187.6	187.6	187.6	187.6	187.6
215	187.6	187.6	187.6	187.6	187.6	187.6
216	187.6	187.6	187.6	187.6	187.6	187.6
219	187.6	187.6	187.6	187.6	187.6	187.6
220	187.6	187.6	187.6	187.6	187.6	187.6
221	187.6	187.6	187.6	187.6	187.6	187.6
222	187.6	187.6	187.6	187.6	187.6	187.6
223	187.6	187.6	187.6	187.6	187.6	187.6
224	187.6	187.6	187.6	187.6	187.6	187.6

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TEST POINT	V	P	T	V	J	M	F
	FT/SEC	FT/SEC	DEG R	FT/SEC	FT/SEC	LB/SEC	LB
226	400	2.62	1708	2235	664.1	46125	
253	0	3.87	1705	2580	992.0	79554	
1206	400	3.07	886	1709	1099.1	58389	
1207	0	3.12	874	1708	1124.6	59709	
1208	400	3.13	879	1714	1124.4	59895	
1211	0	3.18	870	1714	1146.0	61055	
1212	400	3.18	880	1725	1141.5	61189	
1213	0	3.23	869	1723	1164.9	62387	
1214	400	3.22	873	1726	1162.1	62354	
1215	0	3.28	870	1734	1182.2	63715	
1216	400	3.28	870	1735	1183.4	63801	
1219	0	3.32	866	1738	1202.1	64953	
1220	400	3.33	871	1744	1199.7	65032	
1221	0	3.37	875	1756	1214.1	66265	
1222	400	3.37	874	1755	1213.6	66208	
TEST POINT	V	P	T	V	J	M	F
	FT/SEC	FT/SEC	DEG R	FT/SEC	FT/SEC	LB/SEC	LB
226	534.5	14.30	39	-5.6	2.95	99.6	98.7
253	511.9	14.42	70	-8.2	3.67	104.0	104.3
1206	530.0	14.30	77	-9.8	1.80	99.1	96.5
1207	524.6	14.29	77	-10.0	1.82	94.5	94.0
1208	529.6	14.30	77	-10.0	1.82	97.0	96.1
1211	525.4	14.29	77	-10.1	1.83	94.5	93.9
1212	529.6	14.30	77	-10.1	1.84	96.4	95.7
1213	532.1	14.30	77	-10.3	1.83	95.3	94.5
1214	528.7	14.30	77	-10.2	1.85	96.5	96.1
1215	526.0	14.29	77	-10.3	1.88	96.5	95.6
1216	528.9	14.30	77	-10.3	1.87	97.7	97.0
1219	525.5	14.30	77	-10.4	1.89	97.3	96.6
1220	528.8	14.28	77	-10.4	1.90	99.0	98.1
1221	526.0	14.30	77	-10.5	1.94	98.2	97.6
1222	527.9	14.29	77	-10.5	1.93	100.7	99.2
TEST POINT	T	P	RH	NF	LVM	LBM	
	amb	amb	%	DB	50	60	
226	109.0	103.5	107.0	101.2	101.2	101.2	101.2
253	113.3	117.4	108.5	107.0	104.3	104.3	102.1
1206	106.5	103.2	99.2	97.7	94.0	94.0	92.1
1207	99.2	99.1	99.1	97.9	96.5	96.5	94.5
1208	107.0	103.5	99.2	97.6	96.1	96.1	94.5
1211	99.5	99.6	99.6	97.7	95.7	95.7	94.5
1212	107.1	103.5	99.8	97.6	94.5	94.5	93.9
1213	99.9	99.9	99.8	97.7	94.5	94.5	93.9
1214	108.0	104.0	100.3	99.3	99.3	99.3	98.1
1215	100.0	99.8	101.0	99.8	98.8	98.8	98.8
1216	107.5	104.1	103.7	101.0	101.0	101.0	101.0
1219	176.9	100.6	104.3	101.5	99.7	99.7	98.1
1220	182.3	108.3	104.5	101.5	101.6	101.6	101.1
1221	177.8	101.7	101.2	101.2	101.1	101.1	101.1
1222	181.5	108.8	109.0	106.3	101.2	101.2	101.1
OAPWL	DB	DB	DB	DB	DB	DB	DB
	140	130	90	70	60	50	50
	PNL (FULL SIZE, 2400 FT SIDE LINE), DB						
	ANGLE RELATIVE TO INLET, DEGREES						

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NOZZLE - MODEL 02 AREA [MODEL SIZE ~~INCHES~~ ~~INCHES~~ ~~INCHES~~ = 0.0132 , FULL SIZE ~~FORM~~ = 0.9031] sq.m.

\*\*\*\*\* S.I. UNITS \*\*\*\*\*

TEST	V	ac	J	T	V	T	P	F	M	F
201	0.	695.6	957.2	738.8	2.7162	314.5	13667	N		
202	122.	701.3	970.6	749.6	2.7221	309.5	13565			
203	0	711.4	956.7	727.8	2.8658	331.3	14728			
204	122.	714.1	958.3	727.6	2.8882	330.6	14755			
205	0.	720.9	960.0	724.3	2.9519	340.8	15355			
206	122.	723.3	962.2	725.2	2.9662	338.7	15310			
207	0.	724.8	953.3	715.0	3.0176	349.6	15837			
208	122.	730.0	961.1	719.7	3.0400	347.4	15846			
211	0.	730.9	956.1	713.5	3.0734	355.5	16239			
212	122.	734.6	964.4	719.7	3.0784	351.3	16128			
213	0	736.7	960.0	713.3	3.1212	360.2	16584			
214	122.	739.1	964.4	716.3	3.1290	357.1	16492			
215	0.	739.4	953.9	704.9	3.1820	368.5	17031			
216	122.	741.3	956.7	706.7	3.1885	365.4	16928			
219	0.	745.5	960.6	707.5	3.2214	371.8	17321			
220	122.	747.7	963.3	709.2	3.2329	369.1	17246			
221	0.	749.2	951.1	694.8	3.3133	384.2	17991			
222	122.	750.4	951.7	694.4	3.3271	382.3	17934			
223	0.	764.4	952.8	685.0	3.5067	406.5	19419			
224	122.	770.5	965.0	693.9	3.5190	401.2	19321			

TEST	T	P	RH	MF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE)	ANGLE RELATIVE TO INLET DEGREES	DB	OAPWL
201	283.4	99613.	70	-5.6	3.14	96.6	100.2	110.6	114.6	184.7
202	297.4	98573.	39	-5.8	3.07	99.5	101.4	107.8	111.1	182.8
203	284.4	99465.	70	-6.1	3.23	95.8	99.4	101.8	115.5	185.8
204	297.1	98556.	39	-6.3	3.15	98.9	100.9	101.6	111.7	183.8
205	283.7	99482.	70	-6.3	3.29	95.3	99.0	101.9	115.7	185.4
206	291.9	98526.	39	-6.4	3.25	97.4	100.6	101.4	112.3	184.2
207	283.5	99506.	70	-6.4	3.32	95.4	99.1	101.9	115.6	185.9
208	291.5	98556.	66	-6.5	3.29	97.2	100.5	100.7	110.3	185.1
211	283.9	99475.	70	-6.6	3.35	95.4	99.2	102.4	116.2	186.1
212	296.8	98587.	66	-6.7	3.28	97.4	101.0	101.4	111.0	186.0
213	284.4	99462.	70	-6.7	3.38	95.6	99.6	102.4	115.7	186.2
214	295.8	98576.	66	-6.8	3.31	98.4	97.7	100.8	113.1	185.9
215	283.9	99472.	70	-6.8	3.40	96.5	96.4	100.1	115.8	186.6
216	295.9	98597.	66	-7.0	3.32	98.7	101.7	101.7	110.6	186.8
219	283.7	99486.	70	-6.9	3.44	96.9	100.8	103.1	116.9	186.9
220	296.2	98576.	66	-7.0	3.36	99.1	102.0	102.8	110.5	187.2
221	283.4	99459.	70	-7.1	3.46	98.1	101.7	103.8	113.3	187.0
222	295.3	98587.	66	-7.3	3.38	100.9	102.9	103.0	110.9	187.6
223	284.0	99489.	70	-7.5	3.55	100.2	103.8	105.8	113.9	187.6
224	295.4	98536.	66	-7.6	3.50	103.7	105.8	105.8	115.1	188.6

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#### 3.4 Test Matrix of Model 3

Aerodynamic and Acoustic Test Data - Model 3.

NOZZLE - MODEL 03 AREA [MODEL SIZE = 25.28 ; FULL SIZE = 1400.00] SQ.IN.

TEST POINT	V	T	P	ac	FT/SEC	F	M	V	J	FT/SEC	LB/SEC	LB
303	0	2.89	1736	2352	732.1	53510						
304	400	2.90	1731	2350	732.3	53495						
305	0	2.96	1737	2376	748.4	55258						
306	400	2.99	1749	2392	751.2	55845						
309	0	3.07	1733	2407	777.0	58120						
310	400	3.06	1748	2413	769.1	57692						
313	0	3.16	1741	2436	796.0	60280						
314	400	3.16	1744	2439	794.6	60231						
315	0	3.21	1743	2452	806.7	61479						
316	400	3.22	1735	2449	812.0	61804						
321	0	3.34	1740	2487	841.7	65049						
322	400	3.38	1727	2485	854.7	66015						
349	0	2.38	1601	2064	625.8	40145						
1301	0	2.98	863	1666	1083.1	56092						
1302	400	2.98	873	1677	1079.1	56248						
1303	0	3.24	867	1723	1173.9	62864						
1314	400	3.24	870	1728	1174.7	63087						
1323	0	3.44	871	1763	1242.2	68072						
1324	400	3.45	873	1767	1245.4	68395						
4303	0	2.89	1734	2349	731.2	53396						
303	T	amb	P	RH	NF	LVM	LBM					
538.0	14.38	69	-6.3	3.16	3.16	-0.56	96.1					
533.6	14.35	64	-6.3	3.17	3.17	-0.55	101.2					
539.4	14.36	69	-6.5	3.19	3.19	-0.39	101.3					
539.5	14.34	64	-6.9	3.30	3.30	-0.13	100.5					
535.1	14.33	64	-6.9	3.33	3.33	-0.06	98.3					
539.5	14.33	69	-6.5	3.24	3.24	-0.43	95.8					
540.4	14.36	89	-6.8	3.25	3.25	-0.25	97.4					
535.0	14.33	64	-6.6	3.28	3.28	-0.27	99.3					
539.5	14.35	89	-6.9	3.30	3.30	-0.13	96.9					
539.4	14.35	89	-6.9	3.33	3.33	-0.12	100.5					
535.6	14.34	64	-7.0	3.34	3.34	-0.04	103.0					
539.4	14.32	89	-7.3	3.39	3.39	0.16	103.8					
539.1	14.35	64	-7.4	3.39	3.39	-1.97	92.3					
540.4	14.34	89	-5.2	2.58	2.58	-1.97	93.6					
539.7	14.35	89	-9.8	1.65	1.65	-0.41	99.4					
542.5	14.35	64	-9.8	1.67	1.67	-0.40	103.8					
540.2	14.34	89	-10.4	1.80	1.80	-0.01	104.8					
542.4	14.35	64	-10.4	1.89	1.89	0.23	102.2					
540.7	14.33	66	-10.7	1.80	1.80	0.25	105.1					
1324	14.34	66	-10.8	1.90	1.90	-0.57	94.7					
1313	14.34	89	-10.4	1.80	1.80	-0.01	104.8					
1302	14.35	64	-9.8	1.67	1.67	-0.40	103.8					
1301	14.35	89	-9.8	1.65	1.65	-0.41	99.4					
1314	14.34	89	-5.2	2.58	2.58	-1.97	92.3					
1313	14.34	89	-10.4	1.80	1.80	-0.01	104.8					
1323	14.35	64	-10.7	1.89	1.89	0.23	102.2					
1324	14.33	66	-10.8	1.90	1.90	-0.57	94.7					
4303	14.38	68	-6.3	3.16	3.16	-0.56	96.1					
303	amb	DEC R										
538.0	110.6	112.6	108.7	102.4	99.3	102.4	108.7	112.6	110.6	110.6	110.6	110.6
533.6	111.0	109.2	104.3	102.6	101.1	102.6	104.3	109.2	111.0	111.0	111.0	111.0
539.4	109.0	110.4	107.3	103.1	103.0	103.1	107.3	110.4	109.0	109.0	109.0	109.0
539.5	111.5	111.5	113.7	109.5	109.3	109.5	113.7	111.5	111.5	111.5	111.5	111.5
535.0	110.3	110.3	110.1	103.6	103.6	103.6	110.1	110.3	110.3	110.3	110.3	110.3
539.5	111.6	111.6	114.0	108.0	108.0	108.0	111.1	111.6	111.6	111.6	111.6	111.6
535.6	115.2	115.2	114.5	104.4	104.4	104.4	111.7	115.2	115.2	115.2	115.2	115.2
539.4	110.6	110.6	109.4	106.6	106.6	106.6	109.4	110.6	110.6	110.6	110.6	110.6
539.1	103.0	103.0	103.3	103.3	103.3	103.3	101.1	103.0	103.0	103.0	103.0	103.0
540.4	106.6	106.6	106.4	105.2	105.2	105.2	104.8	106.6	106.6	106.6	106.6	106.6
539.7	101.6	101.6	101.6	104.8	104.8	104.8	101.6	101.6	101.6	101.6	101.6	101.6
542.5	98.0	98.0	98.0	103.5	103.5	103.5	103.5	98.0	98.0	98.0	98.0	98.0
540.2	103.0	103.0	103.6	103.6	103.6	103.6	101.7	103.0	103.0	103.0	103.0	103.0
542.4	105.2	105.2	105.2	106.6	106.6	106.6	105.2	105.2	105.2	105.2	105.2	105.2
540.7	103.0	103.0	103.6	103.6	103.6	103.6	101.7	103.0	103.0	103.0	103.0	103.0
1324	103.6	103.6	103.6	104.8	104.8	104.8	101.6	103.6	103.6	103.6	103.6	103.6
1313	104.9	104.9	104.9	106.6	106.6	106.6	101.6	104.9	104.9	104.9	104.9	104.9
1302	101.1	101.1	101.1	103.6	103.6	103.6	101.1	101.1	101.1	101.1	101.1	101.1
1301	103.0	103.0	103.3	103.3	103.3	103.3	101.1	103.0	103.0	103.0	103.0	103.0
1314	110.3	110.3	110.1	103.6	103.6	103.6	101.1	110.3	110.3	110.3	110.3	110.3
1323	111.5	111.5	111.5	104.4	104.4	104.4	101.6	111.5	111.5	111.5	111.5	111.5
1324	110.6	110.6	110.6	106.6	106.6	106.6	101.6	110.6	110.6	110.6	110.6	110.6
4303	110.6	110.6	108.7	102.4	99.3	102.4	108.7	110.6	110.6	110.6	110.6	110.6
303	DB	140										
185.4	185.4	182.7	182.7	185.8	183.7	185.0	186.0	183.7	185.4	185.4	185.4	185.4
186.0	186.0	183.7	183.7	186.6	184.6	186.0	187.0	183.7	186.0	186.0	186.0	186.0
184.0	184.0	181.1	181.1	186.6	184.6	186.0	187.0	181.1	184.0	184.0	184.0	184.0
186.6	186.6	183.7	183.7	186.6	184.6	186.0	187.0	183.7	186.6	186.6	186.6	186.6
185.5	185.5	182.7	182.7	185.8	183.7	185.0	186.0	182.7	185.5	185.5	185.5	185.5
187.8	187.8	184.7	184.7	188.6	186.6	188.0	189.0	184.7	187.8	187.8	187.8	187.8
188.6	188.6	185.4	185.4	188.6	186.6	188.0	189.0	185.4	188.6	188.6	188.6	188.6
180.5	180.5	180.9	180.9	180.5	180.5	180.5	180.9	180.5	180.5	180.5	180.5	180.5
181.4	181.4	182.8	182.8	181.4	181.4	181.4	182.8	181.4	181.4	181.4	181.4	181.4
182.8	182.8	180.0	180.0	182.8	180.9	182.8	183.0	180.0	182.8	182.8	182.8	182.8
185.8	185.8	187.9	187.9	185.8	185.3	185.8	186.6	185.8	185.8	185.8	185.8	185.8
187.9	187.9	185.3	185.3	187.9	185.3	187.9	188.6	185.3	187.9	187.9	187.9	187.9
185.3	185.3	184.5	184.5	185.3	184.5	185.3	185.4	184.5	185.3	185.3	185.3	185.3
184.5	184.5	183.0	183.0	184.5	183.0	184.5	184.5	183.0	184.5	184.5	184.5	184.5
184.5	184.5	182.7	182.7	184.5	182.7	184.5	184.5	182.7	184.5	184.5	184.5	184.5

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NOZZLE - MODEL 03 AREA [MODEL SIZE - INNER = 0.0000 , OUTER = 0.0163 FULL SIZE - TOTAL = 0.9031] sq m.

TEST V V J T T P F

POINT ac J T T J F

m/s K m/s K

303 0 716.9 964.4 732.0 2.8923 332.1 14876

304 122. 716.3 961.7 729.7 2.8973 332.2 14872

305 0 724.2 965.0 727.6 2.9637 339.5 15362

306 122. 729.1 971.7 731.4 2.9885 340.7 15525

309 0. 733.7 962.8 718.7 3.0733 352.4 16158

310 122. 735.5 971.1 726.1 3.0611 348.9 16039

313 0. 742.5 967.2 716.8 3.1568 361.1 16758

314 122. 743.4 968.9 717.9 3.1585 360.4 16745

315 0. 747.4 968.3 714.8 3.2061 365.9 17092

316 122. 746.5 963.9 710.3 3.2174 368.3 17182

321 0. 758.0 966.7 705.1 3.3438 381.8 18084

322 122. 757.4 959.4 697.4 3.3767 387.7 18353

349 0 629.1 889.4 709.7 2.3770 283.9 11160

1301 0 507.8 479.4 350.8 2.9785 491.3 15594

1302 122. 511.1 485.0 354.7 2.9843 489.5 15637

1313 0 525.2 481.7 344.2 3.2368 532.5 17477

1314 122. 526.7 483.3 345.5 3.2437 532.8 17539

1324 0 537.4 483.9 339.9 3.4461 564.9 19014

4303 0. 716.0 963.3 731.6 2.8885 331.7 14844

TEST POINT T P RH NP LWM LBM PNL (FULL SIZE 2400 FT SIDE LINE), ANGLE RELATIVE TO INLET DEGREES, DB

DEG K Pascal % DB 50 60 70 90 120 130 140 CAPWL DB

303	298.9	99179	69	-6.3	3.16	-0.56	96.1	97.5	99.3	102.4	108.7	112.6	110.6	185.4
304	296.4	98910.	64	-6.3	3.17	-0.55	101.2	100.4	101.1	102.6	104.3	109.2	108.2	182.7
305	297.7	98987.	69	-6.5	3.19	-0.43	96.9	98.3	98.3	100.0	103.1	109.0	113.0	185.8
306	297.3	98889.	64	-6.5	3.24	-0.39	101.3	101.1	101.9	103.1	107.3	109.0	111.1	183.7
309	300.2	98994.	89	-6.8	3.25	-0.25	95.8	97.4	99.3	103.0	109.5	111.1	109.0	186.0
310	297.2	98816.	64	-6.6	3.28	-0.27	99.3	100.5	101.1	103.3	108.0	109.3	109.3	184.0
313	299.7	98964	89	-6.9	3.30	-0.13	96.9	98.3	98.3	100.0	103.6	110.1	114.0	186.6
314	299.7	98964	89	-6.9	3.30	-0.13	96.9	98.3	98.3	100.0	103.6	110.1	114.0	186.6
315	297.7	98812.	64	-6.9	3.33	-0.12	100.5	101.6	101.6	102.3	108.1	110.8	110.1	184.6
315	299.7	98819.	89	-7.0	3.33	-0.06	103.0	104.0	99.7	104.8	110.0	114.5	111.5	186.8
316	297.5	98863.	64	-7.0	3.34	-0.04	103.0	104.0	104.4	105.2	109.2	111.6	110.3	185.5
321	299.7	98765.	89	-7.3	3.39	0.12	100.2	101.3	103.3	106.4	110.6	115.2	111.7	187.8
322	299.5	98910.	64	-7.4	3.39	0.16	103.8	104.1	104.8	106.6	109.4	112.8	110.7	188.6
349	300.2	98889.	89	-5.2	2.58	-1.97	92.3	93.6	95.0	98.0	103.7	106.6	107.7	180.5
1301	299.8	98913.	89	-9.8	1.65	-0.41	99.4	100.2	101.6	103.0	101.4	101.3	101.2	180.9
1302	301.4	98920.	64	-9.8	1.67	-0.40	103.8	103.9	103.8	103.5	102.0	99.9	97.3	181.4
1313	300.1	98886	89	-10.4	1.80	-0.01	99.2	100.1	101.7	103.6	97.3	103.0	103.0	182.8
1314	301.3	98950.	64	-10.4	1.80	-0.00	104.8	105.6	106.1	104.8	102.2	102.8	98.9	185.8
1323	300.4	98802	66	-10.7	1.89	0.23	102.2	103.5	104.9	106.6	105.2	104.7	104.7	187.9
1324	300.8	98876	66	-10.8	1.90	0.25	105.1	106.1	107.9	105.7	103.6	103.0	100.8	185.3
4303	298.3	99152	68	-6.3	3.16	-0.57	94.7	97.0	98.7	102.3	107.7	111.0	109.7	184.5

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NOZZLE - MODEL 03 CONTINUED

TEST POINT	V	T	J	F	M	F
4313	0.7385	962.2	714.2	3.1330	360.0	16616
4321	0.7522	953.3	694.9	3.3414	385.8	18140
5301	0.5078	480.6	352.0	2.9675	490.2	15555
5313	0.5236	480.0	343.6	3.2257	532.9	17442
5323	0.5346	481.1	338.9	3.4081	561.8	18764
4313	298.6	99145.	68	-6.9	3.29	-0.16
4321	298.3	99152.	68	-7.4	3.37	0.12
5301	299.4	99179.	69	-9.8	1.65	-0.42
5313	298.9	99152.	69	-10.4	1.79	-0.03
5323	298.9	99038.	68	-10.7	1.88	0.20
PNL (FULL SIZE 2400 FT SIDE LINE)						
ANGLE RELATIVE TO INLET, DEGREES						
DB	140	130	120	90	70	50
OAPWL	186.1	187.3	178.4	180.7	182.0	

### 3.5 Test Matrix of Model 4

Aerodynamic and Acoustic Test Data - Model 4.

= 1400.00] SQ. IN.

= 25.28 ; FULL SIZE

AREA [MODEL SIZE

NOZZLE - MODEL 04

TEST POINT	V	P	T	V	M	F	TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), DB	ANGLE RELATIVE TO INLET, DEGREES	DB	OAPWL
	ac							amb	amb	%	DB	DB	DB	DB	DB	DB	DB
FT/SEC	FT/SEC	DEG R	FT/SEC	LB/SEC	LB/SEC	LB	FT/SEC	DEG R	PSIA	%	DB	DB	DB	DB	DB	DB	DB
401	0	2.72	1725	2284	693.5	49232	401	527.3	14.46	58	-5.8	3.07	95.0	97.8	102.0	108.5	111.3
402	400	2.72	1730	2289	693.5	49348	402	537.7	14.45	47	-5.9	3.04	97.3	97.4	100.3	108.3	108.3
403	0	2.84	1736	2335	722.9	52469	403	538.1	14.45	47	-6.3	3.14	97.1	97.6	100.8	109.1	109.5
404	400	2.87	1737	2345	728.7	53107	404	529.7	14.46	58	-6.4	3.24	96.1	97.0	102.5	109.8	109.8
405	0	2.97	1739	2379	755.0	55822	405	537.1	14.45	47	-6.5	3.21	96.3	97.2	103.4	110.1	110.2
406	400	2.97	1736	2377	755.2	55790	406	530.2	14.45	58	-6.6	3.25	96.3	99.1	103.4	110.4	110.4
407	0	3.02	1728	2387	770.0	57133	407	539.7	14.45	47	-6.7	3.23	100.0	101.2	102.8	110.3	111.1
408	400	3.04	1735	2397	772.1	58474	408	537.7	14.45	47	-6.7	3.29	100.0	101.0	103.6	110.7	110.7
411	0	3.07	1734	2407	781.7	58448	411	530.4	14.45	58	-6.9	3.34	96.8	99.9	104.1	110.9	110.9
412	400	3.09	1732	2410	785.6	58848	412	539.7	14.46	44	-6.8	3.26	100.5	101.4	103.3	110.9	110.9
413	0	3.12	1731	2418	793.6	59643	413	530.5	14.46	44	-6.9	3.29	100.5	101.4	103.3	110.9	110.9
414	400	3.11	1741	2423	795.5	59911	414	537.6	14.46	44	-6.8	3.31	96.5	97.6	103.6	110.4	111.6
415	0	3.16	1737	2435	803.5	60806	415	530.4	14.45	58	-6.9	3.34	96.8	98.0	104.1	110.6	111.0
416	400	3.18	1742	2443	806.4	61236	416	537.7	14.45	58	-7.0	3.32	100.8	101.0	104.9	110.4	111.0
419	0	3.23	1729	2447	821.9	62514	419	531.7	14.45	55	-7.1	3.35	102.0	102.3	104.2	108.9	111.1
420	400	3.23	1750	2463	817.6	62597	420	538.6	14.45	45	-7.1	3.35	102.0	102.3	104.2	108.9	111.1
421	0	3.33	1738	2481	846.0	65233	421	532.7	14.45	45	-7.3	3.41	100.6	102.0	104.0	106.3	109.6
422	400	3.34	1739	2484	846.6	65357	422	538.5	14.43	45	-7.3	3.39	103.5	104.0	105.8	109.6	111.1
423	0	3.53	1739	2533	897.5	70652	423	533.1	14.45	55	-7.7	3.50	100.1	101.1	107.1	107.1	112.7
424	400	3.54	1744	2537	895.8	70644	424	539.5	14.46	45	-7.7	3.48	104.8	104.8	106.5	110.8	114.4

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NOZZLE - MODEL 04 CONTINUED

TEST POINT	V	P	T	V	T	V	F
	ac			deg R	deg R	lb/sec	lb
449	0	2.36	1590	2048	628.0	39975	
451	0	2.41	1716	2155	618.0	41394	
452	400	2.42	1720	2160	617.5	41448	
453	0	3.92	1731	2610	997.0	80877	
454	400	3.91	1746	2620	990.2	80643	
1405	0	3.07	873	1696	1116.7	58863	
1406	400	3.05	874	1691	1111.5	58426	
1411	0	3.18	872	1716	1156.7	61683	
1412	400	3.18	868	1714	1165.7	62098	
1413	0	3.23	865	1720	1182.6	63237	
1414	400	3.23	861	1716	1188.8	63417	
1415	0	3.22	859	1713	1185.4	63095	
1416	400	3.26	866	1727	1196.1	64201	
1419	0	3.31	851	1721	1224.2	65490	
1420	400	3.32	861	1733	1221.8	65802	
1421	0	3.37	851	1731	1244.4	66968	
1422	400	3.37	854	1734	1243.7	67038	
1466	400	3.02	999	1802	1026.6	57502	
1468	400	3.04	1254	2029	913.1	57579	
1470	400	3.02	1487	2208	831.5	57071	

TEST POINT  
 I amb  
 P amb  
 RH %  
 NF DB  
 LVM LBM  
 PNL (FULL SIZE, 2400 FT SIDE LINE), DB  
 ANGLE RELATIVE TO INLET, DEGREES  
 90 70 60 50  
 CAPWL DB

449	535.5	14.44	51	-5.2	2.78	-1.82	93.3	94.2	96.0	99.6	104.7	107.3	108.1
451	536.0	14.46	55	-5.0	2.79	-1.81	94.0	94.6	95.6	100.4	105.7	108.9	109.1
452	537.7	14.45	51	-5.0	2.79	-1.81	94.0	94.6	95.6	100.4	105.7	108.9	109.1
453	532.8	14.45	55	-8.4	3.63	0.71	99.0	100.2	101.9	106.9	113.3	117.8	118.5
454	539.0	14.44	45	-8.4	3.62	0.70	102.7	103.0	104.0	106.3	111.9	115.7	116.0
1405	525.1	14.43	61	-9.9	1.79	-0.25	97.5	98.7	99.5	102.2	101.6	103.4	104.3
1406	542.9	14.49	42	-10.0	1.70	-0.29	100.1	101.0	101.4	100.1	99.0	98.7	97.6
1411	527.0	14.44	61	-10.1	1.83	-0.10	97.3	98.5	99.5	101.9	101.6	103.8	104.8
1412	542.6	14.50	42	-10.3	1.76	-0.09	100.3	101.1	101.6	100.4	99.6	99.4	98.5
1413	527.3	14.44	61	-10.3	1.84	-0.02	97.3	98.8	100.0	103.6	102.2	104.3	104.9
1415	536.9	14.49	58	-10.4	1.78	-0.03	97.6	99.2	100.6	103.9	102.7	104.2	105.4
1416	543.0	14.49	42	-10.5	1.80	0.02	101.8	102.5	103.6	101.8	100.5	100.4	100.2
1419	536.8	14.48	58	-10.6	1.81	0.09	98.7	99.9	101.1	101.8	100.7	100.2	100.2
1420	542.4	14.50	42	-10.6	1.81	0.10	102.4	103.7	104.8	103.3	101.3	101.1	101.1
1421	539.0	14.47	42	-10.7	1.82	0.16	105.0	110.6	105.7	104.0	102.1	101.9	101.0
1422	542.8	14.49	42	-10.8	1.81	0.16	100.3	100.3	100.3	100.7	100.2	100.2	100.2
1466	539.3	14.48	44	-9.3	2.00	-0.34	100.3	100.3	100.3	100.4	100.4	100.4	100.4
1468	540.6	14.40	45	-8.2	2.50	-0.31	100.3	100.3	100.3	100.3	100.3	100.3	100.3
1470	539.3	14.44	45	-7.4	2.88	-0.34	100.3	100.3	100.3	100.3	100.3	100.3	100.3

187.3  
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177.7  
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OF POOR QUALITY

TEST POINT	V	P	T	V	M	F
FT/SEC	ac	r	DEG R	FT/SEC	LB/SEC	LB
7401	0	1.50	1745	1519	366.7	17314
9405	0	3.03	1360	2112	877.3	57580
9406	400	2.99	1347	2092	886.2	57619
9411	0	3.14	1341	2126	916.8	60577
9412	400	3.14	1345	2130	917.0	60707
9413	0	3.17	1340	2132	924.8	61271
9414	400	3.15	1352	2136	915.7	60797
9415	0	3.27	1346	2161	953.0	64018
9416	400	3.28	1351	2167	953.3	64208
9421	0	3.36	1384	2214	966.0	66480
9422	400	3.35	1371	2201	966.9	66145
7401	541.3	14.50	44	-2.6	1.25	-10.00
9405	542.2	14.50	44	-7.8	2.67	-0.33
9406	543.3	14.74	42	-7.9	2.63	-0.38
9411	541.2	14.49	44	-8.1	2.71	-0.15
9412	543.3	14.51	42	-8.2	2.72	-0.11
9413	541.7	14.49	44	-8.2	2.72	-0.14
9414	543.2	14.50	42	-8.1	2.72	-0.14
9415	540.0	14.48	58	-8.4	2.78	0.03
9416	542.9	14.50	42	-8.4	2.78	0.15
9421	539.5	14.49	58	-8.5	2.89	0.13
9422	543.8	14.48	42	-8.5	2.84	0.13
7401	87.5	101.7	83.0	80.8	97.6	79.4
9405	91.6	106.0	87.5	83.0	97.7	79.4
9406	91.6	106.0	87.5	83.0	97.7	79.4
9411	91.6	106.0	87.5	83.0	97.7	79.4
9412	91.6	106.0	87.5	83.0	97.7	79.4
9413	91.6	106.0	87.5	83.0	97.7	79.4
9414	91.6	106.0	87.5	83.0	97.7	79.4
9415	91.6	106.0	87.5	83.0	97.7	79.4
9416	91.6	106.0	87.5	83.0	97.7	79.4
9421	91.6	106.0	87.5	83.0	97.7	79.4
9422	91.6	106.0	87.5	83.0	97.7	79.4

OAPWL DB

140 DB

P.N.L. (FULL SIZE 2400 FT SIDE LINE), DB  
ANGLE RELATIVE TO INLET, DEGREES

PNL (FULL SIZE 2400 FT SIDE LINE), DB

LBM

LVM

NF

RH

P

T

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PSIA

PSIA

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OF POOR QUALITY

\*\*\*\*\* S.I. UNITS \*\*\*\*\*

NOZZLE - MODEL CONTINUED

TEST V	V	J	T	T	T	P	F
7401	0.	463.0	969.4	876.3	1.4995	166.3	4813
9405	0.	643.7	755.6	558.3	3.0254	397.9	16008
9406	122	637.6	748.3	554.3	2.9910	402.0	16018
9411	0.	648.0	745.0	544.1	3.1398	415.9	16841
9412	122	649.2	747.2	545.8	3.1422	415.9	16877
9413	0.	649.8	744.4	542.3	3.1662	419.5	17034
9414	122.	651.1	751.1	548.3	3.1469	415.4	16902
9415	0.	658.7	747.8	539.5	3.2719	432.3	17797
9416	122	660.5	750.6	541.7	3.2761	432.4	17850
9421	0.	674.8	768.9	551.4	3.3642	438.2	18482
9422	122.	670.9	761.7	546.6	3.3518	438.6	18389
TEST POINT	m/s	K	K	K	Kg/s	N	
TEST T	o	o	o	o			
T	T	T	T	T	P	F	
amb	amb	amb	amb	amb	amb	amb	
TEST P	Pascal	Pascal	Pascal	Pascal	Pascal	Pascal	
TEST RH	RH	RH	RH	RH	RH	RH	
TEST NF	NF	NF	NF	NF	NF	NF	
TEST LVM	LVM	LVM	LVM	LVM	LVM	LVM	
TEST LBM	LBM	LBM	LBM	LBM	LBM	LBM	
PNL (FULL SIZE 2400 FT SIDE LINE), DB	PNL (FULL SIZE 2400 FT SIDE LINE), DB	PNL (FULL SIZE 2400 FT SIDE LINE), DB	PNL (FULL SIZE 2400 FT SIDE LINE), DB	PNL (FULL SIZE 2400 FT SIDE LINE), DB	PNL (FULL SIZE 2400 FT SIDE LINE), DB	PNL (FULL SIZE 2400 FT SIDE LINE), DB	PNL (FULL SIZE 2400 FT SIDE LINE), DB
ANGLE RELATIVE TO INLET, DEGREES	ANGLE RELATIVE TO INLET, DEGREES	ANGLE RELATIVE TO INLET, DEGREES	ANGLE RELATIVE TO INLET, DEGREES	ANGLE RELATIVE TO INLET, DEGREES	ANGLE RELATIVE TO INLET, DEGREES	ANGLE RELATIVE TO INLET, DEGREES	ANGLE RELATIVE TO INLET, DEGREES
140	130	120	90	70	60	50	
9401	300.7	99997	44	-2.6	1.25	-10.00	79.4
9405	301.2	99960	44	-7.8	2.67	-0.33	96.3
9406	301.8	101614.	42	-7.9	2.63	-0.15	96.5
9411	300.7	99913	44	-8.1	2.71	-0.15	99.6
9412	301.8	100024	42	-8.2	2.71	-0.15	99.6
9413	300.9	99906	44	-8.2	2.72	-0.11	96.6
9414	301.8	99977.	42	-8.1	2.72	-0.14	100.2
9415	300.0	99835	58	-8.4	2.78	0.03	98.6
9416	301.6	99964	42	-8.4	2.78	0.04	102.7
9421	299.7	99886.	58	-8.5	2.89	0.15	100.0
9422	302.1	99869.	42	-8.5	2.84	0.13	105.4
9401	300.7	99997	44	-2.6	1.25	-10.00	80.8
9405	301.2	99960	44	-7.8	2.67	-0.33	83.0
9406	301.8	101614.	42	-7.9	2.63	-0.15	83.0
9411	300.7	99913	44	-8.1	2.71	-0.15	87.5
9412	301.8	100024	42	-8.2	2.71	-0.15	87.5
9413	300.9	99906	44	-8.2	2.72	-0.11	83.0
9414	301.8	99977.	42	-8.1	2.72	-0.14	83.0
9415	300.0	99835	58	-8.4	2.78	0.03	87.5
9416	301.6	99964	42	-8.4	2.78	0.04	87.5
9421	299.7	99886.	58	-8.5	2.89	0.15	87.5
9422	302.1	99869.	42	-8.5	2.84	0.13	87.5
9401	300.7	99997	44	-2.6	1.25	-10.00	109.5
9405	301.2	99960	44	-7.8	2.67	-0.33	109.5
9406	301.8	101614.	42	-7.9	2.63	-0.15	109.5
9411	300.7	99913	44	-8.1	2.71	-0.15	109.5
9412	301.8	100024	42	-8.2	2.71	-0.15	109.5
9413	300.9	99906	44	-8.2	2.72	-0.11	109.5
9414	301.8	99977.	42	-8.1	2.72	-0.14	109.5
9415	300.0	99835	58	-8.4	2.78	0.03	109.5
9416	301.6	99964	42	-8.4	2.78	0.04	109.5
9421	299.7	99886.	58	-8.5	2.89	0.15	109.5
9422	302.1	99869.	42	-8.5	2.84	0.13	109.5
9401	300.7	99997	44	-2.6	1.25	-10.00	106.0
9405	301.2	99960	44	-7.8	2.67	-0.33	106.0
9406	301.8	101614.	42	-7.9	2.63	-0.15	106.0
9411	300.7	99913	44	-8.1	2.71	-0.15	106.0
9412	301.8	100024	42	-8.2	2.71	-0.15	106.0
9413	300.9	99906	44	-8.2	2.72	-0.11	106.0
9414	301.8	99977.	42	-8.1	2.72	-0.14	106.0
9415	300.0	99835	58	-8.4	2.78	0.03	106.0
9416	301.6	99964	42	-8.4	2.78	0.04	106.0
9421	299.7	99886.	58	-8.5	2.89	0.15	106.0
9422	302.1	99869.	42	-8.5	2.84	0.13	106.0
9401	300.7	99997	44	-2.6	1.25	-10.00	103.0
9405	301.2	99960	44	-7.8	2.67	-0.33	103.0
9406	301.8	101614.	42	-7.9	2.63	-0.15	103.0
9411	300.7	99913	44	-8.1	2.71	-0.15	103.0
9412	301.8	100024	42	-8.2	2.71	-0.15	103.0
9413	300.9	99906	44	-8.2	2.72	-0.11	103.0
9414	301.8	99977.	42	-8.1	2.72	-0.14	103.0
9415	300.0	99835	58	-8.4	2.78	0.03	103.0
9416	301.6	99964	42	-8.4	2.78	0.04	103.0
9421	299.7	99886.	58	-8.5	2.89	0.15	103.0
9422	302.1	99869.	42	-8.5	2.84	0.13	103.0
9401	300.7	99997	44	-2.6	1.25	-10.00	101.0
9405	301.2	99960	44	-7.8	2.67	-0.33	101.0
9406	301.8	101614.	42	-7.9	2.63	-0.15	101.0
9411	300.7	99913	44	-8.1	2.71	-0.15	101.0
9412	301.8	100024	42	-8.2	2.71	-0.15	101.0
9413	300.9	99906	44	-8.2	2.72	-0.11	101.0
9414	301.8	99977.	42	-8.1	2.72	-0.14	101.0
9415	300.0	99835	58	-8.4	2.78	0.03	101.0
9416	301.6	99964	42	-8.4	2.78	0.04	101.0
9421	299.7	99886.	58	-8.5	2.89	0.15	101.0
9422	302.1	99869.	42	-8.5	2.84	0.13	101.0
9401	300.7	99997	44	-2.6	1.25	-10.00	100.0
9405	301.2	99960	44	-7.8	2.67	-0.33	100.0
9406	301.8	101614.	42	-7.9	2.63	-0.15	100.0
9411	300.7	99913	44	-8.1	2.71	-0.15	100.0
9412	301.8	100024	42	-8.2	2.71	-0.15	100.0
9413	300.9	99906	44	-8.2	2.72	-0.11	100.0
9414	301.8	99977.	42	-8.1	2.72	-0.14	100.0
9415	300.0	99835	58	-8.4	2.78	0.03	100.0
9416	301.6	99964	42	-8.4	2.78	0.04	100.0
9421	299.7	99886.	58	-8.5	2.89	0.15	100.0
9422	302.1	99869.	42	-8.5	2.84	0.13	100.0
9401	300.7	99997	44	-2.6	1.25	-10.00	100.0
9405	301.2	99960	44	-7.8	2.67	-0.33	100.0
9406	301.8	101614.	42	-7.9	2.63	-0.15	100.0
9411	300.7	99913	44	-8.1	2.71	-0.15	100.0
9412	301.8	100024	42	-8.2	2.71	-0.15	100.0
9413	300.9	99906	44	-8.2	2.72	-0.11	100.0
9414	301.8	99977.	42	-8.1	2.72	-0.14	100.0
9415	300.0	99835	58	-8.4	2.78	0.03	100.0
9416	301.6	99964	42	-8.4	2.78	0.04	100.0
9421	299.7	99886.	58	-8.5	2.89	0.15	100.0
9422	302.1	99869.	42	-8.5	2.84	0.13	100.0
9401	300.7	99997	44	-2.6	1.25	-10.00	103.0
9405	301.2	99960	44	-7.8	2.67	-0.33	103.0
9406	301.8	101614.	42	-7.9	2.63	-0.15	103.0
9411	300.7	99913	44	-8.1	2.71	-0.15	103.0
9412	301.8	100024	42	-8.2	2.71	-0.15	103.0
9413	300.9	99906	44	-8.2	2.72	-0.11	103.0
9414	301.8	99977.	42	-8.1	2.72	-0.14	103.0
9415	300.0	99835	58	-8.4	2.78	0.03	103.0
9416	301.6	99964	42	-8.4	2.78	0.04	103.0
9421	299.7	99886.	58	-8.5	2.89	0.15	103.0
9422	302.1	99869.	42	-8.5	2.84	0.13	103.0
9401	300.7	99997	44	-2.6	1.25	-10.00	106.0
9405	301.2	99960	44	-7.8	2.67	-0.33	106.0
9406	301.8	101614.	42	-7.9	2.63	-0.15	106.0
9411	300.7	99913	44	-8.1	2.71	-0.15	106.0
9412	301.8	100024	42	-8.2	2.71	-0.15	106.0
9413	300.9	99906	44	-8.2	2.72	-0.11	106.0
9414	301.8	99977.	42	-8.1	2.72	-0.14	106.0
9415	300.0	99835	58	-8.4	2.78	0.03	106.0
9416	301.6	99964	42	-8.4	2.78	0.04	106.0
9421	299.7	99886.	58	-8.5	2.89	0.15	106.0
9422	302.1	99869.	42	-8.5	2.84	0.13	106.0
9401	300.7	99997	44	-2.6	1.25	-10.00	109.5
9405	301.2	99960	44	-7.8	2.67	-0.33	109.5
9406	301.8	101614.	42	-7.9	2.63	-0.15	109.5
9411	300.7	99913	44	-8.1	2.71	-0.15	109.5
9412	301.8	100024	42	-8.2	2.71	-0.15	109.5
9413	300.9	99906	44	-8.2	2.72	-0.11	109.5
9414	301.8	99977.	42	-8.1	2.72	-0.14	109.5
9415							

### 3.6 Test Matrix of Model 5

Aerodynamic and Acoustic Test Data - Model 5.

NOZZLE - MODEL 05 AREA [MODEL SIZE = 19.89 ; FULL SIZE = 1400.00] SQ.IN.

TEST POINT	V	P	T	V	W	F
	FT/SEC	ac	DEG R	FT/SEC	LB/SEC	LB
507	0	3.02	1713	2378	771.3	57002
508	400	3.01	1712	2373	770.6	56844
513	0	3.13	1718	2412	795.6	59631
514	400	3.12	1706	2401	800.6	59746
519	0	3.23	1707	2432	824.2	61760
520	400	3.20	1701	2420	821.1	61760
541	0	2.40	1696	2137	615.6	40889
542	400	2.41	1712	2152	616.7	41252
543	0	2.70	1703	2264	692.2	48699
544	400	2.69	1727	2275	684.3	48385
545	0	3.62	1718	2537	921.9	72694
546	400	3.61	1696	2518	928.9	72703
1505	0	3.07	853	1677	1125.8	58675
1507	0	3.12	857	1690	1139.0	59824
1511	0	3.18	853	1698	1164.8	61476
1513	0	3.22	851	1704	1182.4	62619
1519	0	3.27	851	1713	1201.1	63960
1519	0	3.32	852	1725	1219.3	65358
1521	0	3.37	853	1734	1234.1	66495

TEST POINT	T	F	RH	NF	LVM	LBM
	amb	amb	%	DB	50	60
507	528.3	14.39	69	-6.6	3.24	96.7
508	532.8	14.43	82	-6.6	3.22	101.3
513	528.4	14.38	69	-6.8	3.30	96.9
514	531.6	14.44	82	-6.9	3.27	103.8
519	528.3	14.37	69	-7.1	3.34	97.2
520	531.3	14.43	82	-7.1	3.31	102.2
541	527.9	14.39	69	-4.9	2.78	91.6
542	535.3	14.42	82	-5.0	2.78	91.6
543	528.6	14.40	69	-5.8	3.03	94.3
544	534.6	14.42	82	-5.8	3.03	97.8
545	528.1	14.39	69	-7.9	3.53	98.2
546	534.5	14.43	82	-8.0	3.47	101.6
1505	526.4	14.37	77	-10.0	1.73	95.8
1507	525.8	14.36	77	-10.1	1.77	95.9
1511	527.4	14.38	77	-10.2	1.78	96.1
1513	527.4	14.40	77	-10.3	1.80	96.1
1519	527.5	14.39	77	-10.5	1.85	96.6
1521	527.5	14.37	77	-10.6	1.88	96.8

TEST POINT	T	P	amb	PSIA	PSIA	DB
	amb	amb	amb	120	130	140
507	99.0	104.3	104.0	99.1	99.0	102.8
508	99.2	104.8	104.0	99.2	99.1	102.8
513	99.9	104.8	104.8	99.9	99.9	102.4
514	99.6	104.7	104.8	99.6	99.6	103.4
519	99.5	101.4	101.4	99.5	99.5	101.4
520	99.5	101.3	101.3	99.5	99.5	101.3
541	97.0	101.2	101.2	97.0	97.0	101.2
542	97.3	103.0	103.0	97.3	97.3	103.0
543	97.0	101.2	101.2	97.0	97.0	101.2
544	98.0	105.6	105.6	98.0	98.0	105.6
545	98.5	102.9	102.9	98.5	98.5	102.9
546	98.6	106.0	106.0	98.6	98.6	106.0
1505	95.7	94.9	94.9	95.7	95.7	94.9
1507	95.0	102.6	102.6	95.0	95.0	102.6
1511	95.5	103.1	103.1	95.5	95.5	103.1
1513	95.3	103.3	103.3	95.3	95.3	103.3
1519	98.6	103.4	103.4	98.6	98.6	103.4
1521	97.4	103.5	103.5	97.4	97.4	103.5

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\*\*\*\*\* S.I. UNITS \*\*\*\*\*

NOZZLE - MODEL 05 AREA [MODEL SIZE = 0.0128 ; FULL SIZE = 0.9031] sq.m.

TEST POINT	V	V	T	T	P	M	F
507	0.	724.8	951.7	713.2	3.0247	349.9	15847
508	122.	723.3	951.1	713.2	3.0138	349.5	15803
513	0.	735.2	954.4	708.8	3.1268	360.9	16578
514	122.	731.8	947.8	703.5	3.1226	363.1	16610
519	0	741.3	948.3	697.6	3.2307	373.9	17324
520	122.	737.6	945.0	696.8	3.2010	372.4	17170
541	0.	651.4	942.2	751.5	2.4026	279.2	11367
542	122.	655.9	951.1	758.1	2.4128	279.7	11468
543	0.	690.1	946.1	730.7	2.7042	314.0	13538
544	122.	693.4	959.4	742.7	2.6903	310.4	13451
545	0.	773.3	954.4	680.3	3.6206	418.2	20209
546	122.	767.5	942.2	671.1	3.6138	421.3	20212
1505	0	511.1	473.9	343.8	3.0729	510.7	16312
1507	0	515.1	476.1	344.0	3.1180	516.6	16631
1511	0.	517.6	473.9	340.6	3.1787	528.3	17091
1513	0.	519.4	472.8	338.7	3.2183	544.8	17408
1515	0.	522.1	472.8	336.9	3.2707	544.8	17781
1519	0.	525.8	473.3	336.0	3.3235	553.1	18170
1521	0.	528.5	473.9	335.0	3.3690	559.8	18486
507	293.5	99240.	82	-6.6	3.24	3.22	-0.35
508	296.0	99459	82	-6.6	3.30	3.30	-0.17
513	293.6	99172.	82	-6.8	3.27	3.27	-0.18
514	295.3	99540.	82	-6.9	3.34	3.34	-0.02
519	293.5	99103.	69	-7.1	3.31	3.31	-0.06
520	295.2	99459	82	-7.1	3.31	3.31	-0.06
541	293.3	99182.	82	-4.9	2.78	2.78	-1.87
542	297.4	99442.	82	-5.0	2.78	2.78	-1.83
543	293.7	99290.	69	-5.8	3.03	3.03	-0.96
544	297.0	99398.	82	-5.8	3.03	3.03	-0.99
545	293.4	99240.	69	-7.9	3.53	3.53	-0.43
546	296.9	99486.	82	-8.0	3.47	3.47	0.43
1505	292.5	99095.	77	-10.0	1.73	1.73	-0.25
1507	292.1	99028	77	-10.1	1.77	1.77	-0.18
1511	293.0	99112.	77	-10.2	1.78	1.78	-0.09
1513	293.0	99267.	77	-10.3	1.80	1.80	-0.04
1515	293.1	99196.	77	-10.4	1.82	1.82	0.03
1519	293.1	99193.	77	-10.5	1.85	1.85	0.10
1521	293.1	99085.	77	-10.6	1.88	1.88	0.16
507	104.3	99.0	104.0	99.1	104.0	104.0	102.8
508	104.8	99.2	104.8	99.2	104.8	104.8	101.1
513	103.4	99.6	104.7	99.6	104.7	103.4	103.4
514	104.8	99.9	104.8	99.9	104.8	104.8	101.1
519	103.3	97.3	103.0	97.3	103.0	100.2	100.2
520	101.3	97.0	101.2	97.0	101.2	98.0	98.0
541	101.3	99.5	101.3	99.5	101.3	99.5	99.5
542	102.2	94.9	102.2	94.9	102.2	99.8	99.8
543	101.5	97.0	101.4	97.0	101.4	102.1	102.1
544	106.0	94.9	106.6	94.9	106.6	104.4	104.4
545	105.6	100.5	105.6	100.5	105.6	104.4	104.4
546	106.6	101.5	106.6	101.5	106.6	108.1	108.1
1505	102.9	94.9	102.6	94.9	102.6	99.8	99.8
1507	103.1	95.2	103.1	95.2	103.1	99.3	99.3
1511	103.0	95.4	103.0	95.4	103.0	99.4	99.4
1513	103.3	95.5	103.4	95.5	103.4	99.6	99.6
1515	103.4	95.3	103.4	95.3	103.4	99.6	99.6
1519	103.5	98.6	103.4	98.6	103.4	99.6	99.6
1521	103.5	95.7	103.5	95.7	103.5	99.9	99.9
507	96.7	100.4	96.7	100.4	96.7	96.8	96.8
508	97.2	97.2	97.2	97.2	97.2	97.2	97.2
513	96.9	103.9	96.9	103.9	96.9	96.9	96.9
514	103.8	105.1	103.8	105.1	103.8	105.1	103.8
519	97.2	105.3	97.2	105.3	97.2	97.2	97.2
520	95.7	94.7	95.7	94.7	95.7	94.7	94.7
541	91.6	94.6	91.6	94.6	91.6	91.6	91.6
542	97.6	102.2	97.6	102.2	97.6	102.2	102.2
543	94.3	98.8	94.3	98.8	94.3	98.8	98.8
544	98.2	101.6	98.2	101.6	98.2	101.6	101.6
545	98.2	105.9	98.2	105.9	98.2	105.9	105.9
546	103.2	103.2	103.2	103.2	103.2	103.2	103.2
1505	99.0	99.0	99.0	99.0	99.0	99.0	99.0
1507	99.8	99.8	99.8	99.8	99.8	99.8	99.8
1511	99.4	99.4	99.4	99.4	99.4	99.4	99.4
1513	99.5	99.5	99.5	99.5	99.5	99.5	99.5
1515	98.5	98.5	98.5	98.5	98.5	98.5	98.5
1519	96.6	98.6	96.6	98.6	96.6	98.6	98.6
1521	97.4	97.4	97.4	97.4	97.4	97.4	97.4

PNL (FULL SIZE 2400 FT SIDE LINE) DB

ANGLE RELATIVE TO INLET DEGREES

90

120

130

140

50

60

70

80

90

100

110

120

130

140

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### 3.7 Test Matrix of Model 6

Aerodynamic and Acoustic Test Data - Model 6.

NOZZLE - MODEL 06 AREA [MODEL SIZE - INNER = 0. , OUTER = 19.65 , FULL SIZE - TOTAL = 1400.00] SQ.IN

TEST POINT	V	P	T	V	M	F
TEST POINT	FT/SEC	FT/SEC	DEGR	LB/SEC	LB/SEC	LB
601	0	2.71	1711	2273	697.6	49286
602	400	2.72	1710	2274	696.7	49242
603	0	2.87	1715	2331	736.6	53367
604	400	2.87	1721	2336	757.9	55502
605	0	2.96	1712	2356	757.9	55350
606	400	2.95	1710	2353	756.7	55350
607	0	3.03	1705	2373	778.7	57423
608	400	3.02	1727	2387	771.2	57216
609	0	3.08	1711	2394	790.1	58781
610	0	3.07	1718	2395	784.2	58376
611	0	3.08	1711	2394	790.1	58781
612	400	3.07	1718	2395	784.2	58376
613	0	3.13	1714	2410	802.2	60082
614	400	3.13	1720	2414	796.8	59779
615	0	3.18	1712	2423	814.8	61356
616	400	3.18	1732	2438	806.3	61096
617	0	3.23	1707	2433	824.4	62334
618	400	3.23	1727	2447	824.4	62686
619	0	3.23	1707	2433	824.4	62334
620	400	3.23	1727	2447	824.4	62686
621	0	3.32	1714	2461	848.3	64879
622	400	3.33	1709	2461	848.3	64879
623	0	3.51	1715	2509	898.4	70064
624	400	3.52	1718	2513	895.2	69916
601	14.50	14.50	47	3.02	3.02	101.9
602	14.45	14.45	42	3.13	3.13	94.1
603	14.48	14.48	47	3.02	3.02	97.4
604	14.46	14.46	42	3.11	3.11	99.2
605	14.47	14.47	47	3.16	3.16	93.9
606	14.45	14.45	83	3.20	3.20	97.2
607	14.48	14.48	47	3.22	3.22	97.2
608	14.45	14.45	83	3.22	3.22	98.9
609	14.46	14.46	47	3.24	3.24	94.1
610	14.46	14.46	47	3.24	3.24	99.2
611	14.46	14.46	47	3.24	3.24	101.8
612	14.43	14.43	66	3.22	3.22	101.8
613	14.46	14.46	47	3.26	3.26	97.9
614	14.39	14.39	66	3.29	3.29	98.2
615	14.45	14.45	47	3.29	3.29	98.2
616	14.38	14.38	63	3.29	3.29	98.2
617	14.37	14.37	47	3.31	3.31	98.2
618	14.45	14.45	63	3.31	3.31	98.2
619	14.45	14.45	47	3.31	3.31	98.2
620	14.45	14.45	41	3.36	3.36	95.5
621	14.35	14.35	59	3.34	3.34	104.0
622	14.40	14.40	42	3.32	3.32	95.5
623	14.45	14.45	42	3.42	3.42	100.4
601	103.0	103.0	47	93.6	93.6	97.7
602	103.2	103.2	42	93.9	93.9	97.4
603	103.0	103.0	47	94.1	94.1	97.4
604	103.8	103.8	42	94.4	94.4	97.4
605	103.6	103.6	47	94.4	94.4	97.2
606	103.7	103.7	83	94.5	94.5	97.2
607	103.3	103.3	47	94.8	94.8	97.2
608	103.4	103.4	83	94.8	94.8	97.2
609	103.3	103.3	47	94.8	94.8	97.2
610	103.3	103.3	47	94.8	94.8	97.2
611	103.2	103.2	47	94.8	94.8	97.2
612	103.8	103.8	66	94.8	94.8	97.2
613	103.2	103.2	47	94.9	94.9	97.2
614	103.0	103.0	66	94.9	94.9	97.2
615	103.9	103.9	47	94.9	94.9	97.2
616	103.6	103.6	63	94.9	94.9	97.2
617	103.3	103.3	47	94.9	94.9	97.2
618	103.3	103.3	47	94.9	94.9	97.2
619	103.3	103.3	47	94.9	94.9	97.2
620	103.6	103.6	41	94.9	94.9	97.2
621	103.9	103.9	59	94.9	94.9	97.2
622	103.0	103.0	42	95.0	95.0	97.2
623	103.5	103.5	42	95.3	95.3	97.2
601	103.4	103.4	90	101.3	101.3	103.4
602	103.6	103.6	80	101.5	101.5	103.7
603	103.5	103.5	90	101.6	101.6	103.7
604	103.4	103.4	80	101.6	101.6	103.7
605	103.4	103.4	80	101.6	101.6	103.7
606	103.4	103.4	80	101.6	101.6	103.7
607	103.4	103.4	80	101.6	101.6	103.7
608	103.4	103.4	80	101.6	101.6	103.7
609	103.4	103.4	80	101.6	101.6	103.7
610	103.4	103.4	80	101.6	101.6	103.7
611	103.4	103.4	80	101.6	101.6	103.7
612	103.4	103.4	80	101.6	101.6	103.7
613	103.4	103.4	80	101.6	101.6	103.7
614	103.4	103.4	80	101.6	101.6	103.7
615	103.4	103.4	80	101.6	101.6	103.7
616	103.4	103.4	80	101.6	101.6	103.7
617	103.4	103.4	80	101.6	101.6	103.7
618	103.4	103.4	80	101.6	101.6	103.7
619	103.4	103.4	80	101.6	101.6	103.7
620	103.4	103.4	80	101.6	101.6	103.7
621	103.4	103.4	80	101.6	101.6	103.7
622	103.4	103.4	80	101.6	101.6	103.7
623	103.4	103.4	80	101.6	101.6	103.7

TEST POINT T amb P RH NF LVM LBM PNL (FULL SIZE, 2400 FT SIDE LINE), DB ANGLE RELATIVE TO INLET, DEGREES 140 DB CAPWL

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TEST POINT	V	P	T	V	T	J	FT/SEC	LB/SEC	LB
TEST POINT	V	P	T	V	T	J	FT/SEC	LB/SEC	LB
TEST POINT	V	P	T	V	T	J	FT/SEC	LB/SEC	LB
1605	0	3.07	878	1701	1116.8	59042			
1607	0	3.12	865	1699	1145.3	60494			
1611	0	3.17	866	1709	1161.0	61674			
1613	0	3.21	863	1714	1179.6	62851			
1615	0	3.27	866	1729	1197.6	64348			
1619	0	3.33	864	1738	1222.1	66017			
1621	0	3.37	864	1745	1236.6	67059			
1605	T	P	RH	NF	LVM	LBM			
1607	530.5	14.49	47	-10.1	1.78	-0.17	94.2	97.6	98.8
1611	530.6	14.48	47	-10.2	1.80	-0.11	95.1	98.3	99.5
1613	531.9	14.49	47	-10.3	1.81	-0.05	95.0	98.5	99.6
1615	532.2	14.47	47	-10.4	1.84	0.03	95.1	98.4	99.7
1619	532.5	14.47	47	-10.5	1.86	0.11	96.1	99.3	100.6
1621	533.0	14.48	47	-10.6	1.88	0.16	96.0	98.2	99.9
1605	528.8	14.49	47	-9.9	1.79	-0.26	94.0	97.2	98.6
1607	530.5	14.49	47	-10.1	1.78	-0.17	94.2	97.6	98.8
1611	530.6	14.48	47	-10.2	1.80	-0.11	95.1	98.3	99.5
1613	531.9	14.49	47	-10.3	1.81	-0.05	95.0	98.5	99.6
1615	532.2	14.47	47	-10.4	1.84	0.03	95.1	98.4	99.7
1619	532.5	14.47	47	-10.5	1.86	0.11	96.1	99.3	100.6
1621	533.0	14.48	47	-10.6	1.88	0.16	96.0	98.2	99.9
1605	T	amb							
1607	98.5	98.6							
1611	98.2	98.8							
1613	98.4	99.0							
1615	98.7	99.0							
1619	99.1	99.5							
1621	99.5	99.9							
1605	140	130							
1607	140	130							
1611	140	130							
1613	140	130							
1615	140	130							
1619	140	130							
1621	140	130							

NOZZLE - MODEL 06 CONTINUED



ORIGINAL PAGE 13  
OF POOR QUALITY

TEST POINT	V	ac	J	T	P	F	TEST POINT	T	P	RH	NF	LVM	LBM	ANGLE RELATIVE TO INLET DEGREES	DB	OPMWL
1605	0.	517.9	480.6	347.2	3.1237	519.5	1681	0.	518.5	487.8	354.2	3.0690	506.6	1641	0.	177.5
1607	0.	517.9	480.6	347.2	3.1237	519.5	1681	0.	517.9	480.6	347.2	3.1237	519.5	1681	0.	177.3
1611	0.	520.9	481.1	345.9	3.1698	526.6	1714	0.	520.9	481.1	345.9	3.1698	526.6	1714	0.	177.7
1613	0.	522.4	479.4	343.4	3.2126	535.1	1747	0.	522.4	479.4	343.4	3.2126	535.1	1747	0.	177.9
1615	0.	527.0	481.1	342.8	3.2718	543.2	1788	0.	527.0	481.1	342.8	3.2718	543.2	1788	0.	178.3
1619	0.	529.7	480.0	340.2	3.3342	554.3	1835	0.	529.7	480.0	340.2	3.3342	554.3	1835	0.	178.7
1621	0.	531.9	480.0	339.1	3.3711	560.9	1864	0.	531.9	480.0	339.1	3.3711	560.9	1864	0.	178.8
1605	293.8	99890.	47	-9.9	1.79	-0.26	94.0	97.2	98.6	100.1	98.4	98.8	100.3	90	98.5	177.5
1607	294.7	99890.	47	-10.1	1.78	-0.17	94.2	97.6	98.8	100.3	98.4	98.6	100.3	90	98.0	177.3
1611	294.8	99815.	47	-10.2	1.80	-0.11	95.1	98.3	99.5	100.8	98.7	98.8	100.8	120	98.2	177.7
1613	295.5	99876.	47	-10.3	1.81	-0.05	95.0	98.5	99.6	100.8	98.7	98.8	100.8	130	99.0	177.9
1615	295.7	99751.	47	-10.4	1.84	0.03	95.1	98.4	99.7	101.0	99.0	98.8	101.0	140	99.1	178.3
1619	295.8	99758.	47	-10.5	1.86	0.11	96.1	99.3	100.6	101.8	99.5	98.8	101.8	140	99.5	178.7
1621	296.1	99842.	47	-10.6	1.88	0.16	96.0	98.2	99.9	101.9	99.5	98.8	101.9	140	99.5	178.8

\*\*\*\*\* S.I. UNITS \*\*\*\*\*

NOZZLE - MODEL 06 CONTINUED



#### 4.0 ACOUSTIC TEST RESULTS

The far-field acoustic data measured with the test nozzles described in Section 2.0 and for each of the test conditions defined in Section 3.0 are presented in the following subsections. A summary of the data acquisition and reduction procedures along with a brief description of the General Electric Anechoic Test Facility are presented in Appendices I through III, Volume III, of the CDR.

##### 4.1 DESCRIPTION OF ACOUSTIC DATA TABLES

The far-field acoustic data for a given test point are described in three successive tabulations. Sample sheets of these tabulations are provided in Tables 4-1 through 4-3. The scope of the tabulations is summarized below:

<u>Sample Sheet</u>	<u>Size</u>	<u>Extrapolated Distance</u>	<u>Type of Data</u>
Table 4-1	Actual Model	12.2 m (40 ft) Arc	Untransformed but corrected for background noise and standard day.
Table 4-2	Actual Model	12.2 m (40 ft) Arc	Flight-transformed model data. Refraction and turbulence corrections applied.
Table 4-3	0.9032 m <sup>2</sup> (1400 in <sup>2</sup> )	731.5 m (2400 ft) sideline	Flight-transformed model data that is scaled and extrapolated to a typical AST case.

The far-field acoustic data provided in these tables mainly consist of 1/3-octave-band sound pressure levels (SPL) (Ref. 20  $\mu\text{N}/\text{m}^2$ ) and overall sound pressure levels (OASPL) at angles to the inlet of 40° through 160° (in 10° increments). The 1/3-octave-band sound power level (Ref. 10<sup>-3</sup> watts) spectra are presented in each of these tables. In addition, for the case of the scaled and extrapolated data set, the perceived noise level (PNL) and the tone-corrected perceived noise level (PNLT) have been computed at each of the microphone angles and are presented. The Shields and Bass air attenuation model

(Reference 3.4) has been employed to correct the measured data to a standard day (15° C or 59° F and 70% relative humidity).

The acoustic results of the test nozzles are presented in Subsections 4.2 through 4.7.





Table 4-2. Description of Acoustic Data Sheet - Page 2 Of Test Point Data Sheet.

IDENTIFICATION - 81F-ZER-0101 X0101L

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
40.0 FT. ARC

BATPROB - PLTRAM

11/10/81 14.848

40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.
PREO	80	83	80	100	125	150	180	200	250	313	400	500
	630	800	1000	1250	1500	1800	2000	2500	3150	4000	5000	6300
	8000	10000	12500	15000	18000	20000	25000	31500	40000	50000	63000	80000
	QASPL	PNL	PNL	DBA								

REFERS TO CORRESPONDING AERODYNAMIC DATA READING

ATTEN ATTENUATION MODEL: SB59 REFERS TO SHIELD & BASE @ AMBIENT TEMPERATURE = 59°F

Distance, ft.

Arc or Sideline

Barometric reading in test facility

Dry bulb temperature in test facility

Relative humidity

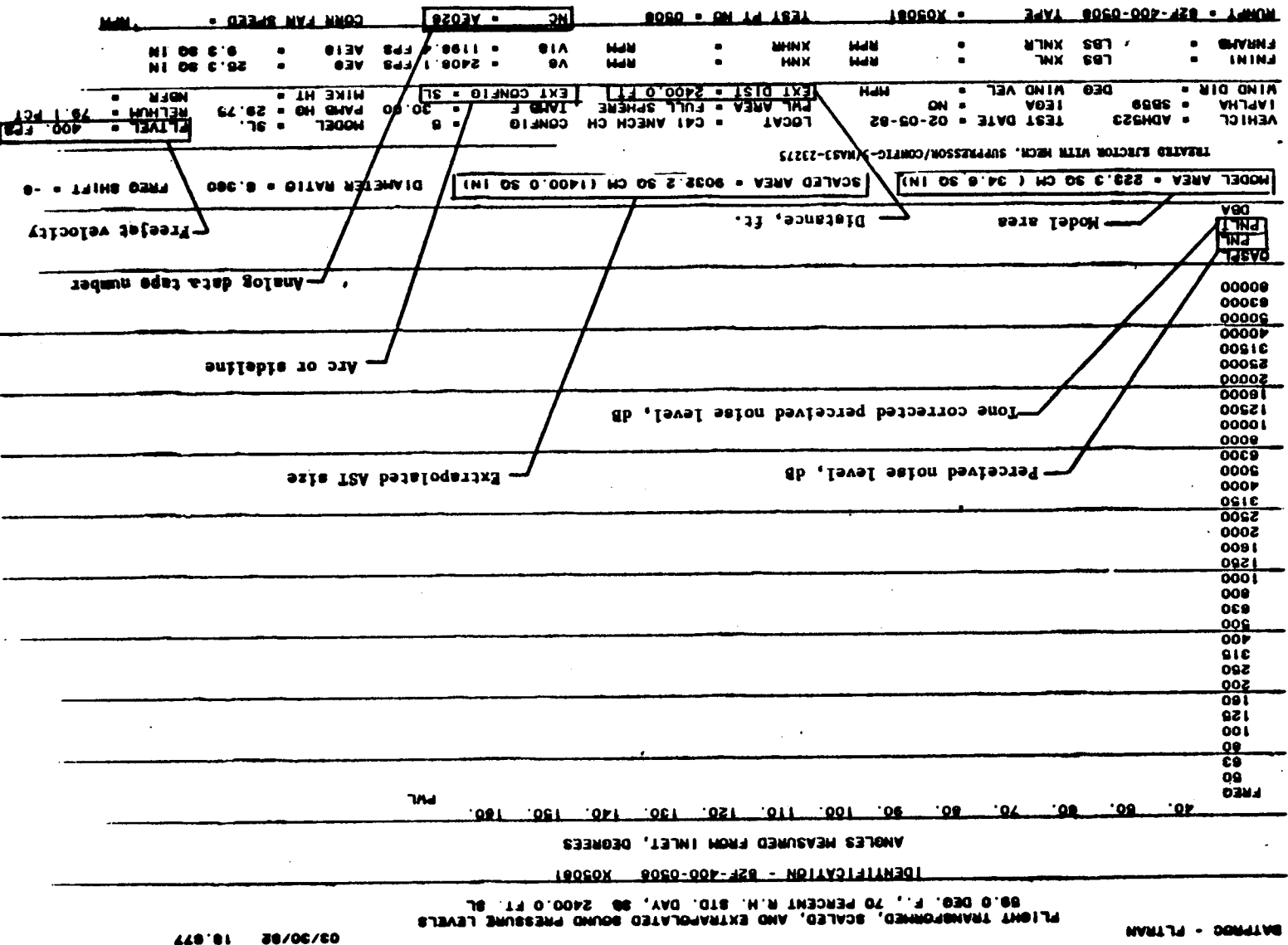
VEHICLE: SB59  
TEST DATE: 08-12-81  
LOCAL: CAL MARCH CR CONF 10  
PWL AREA: FULL SPHERE  
EXIT DIST: 40.0 FT  
EXT CONF 10: ARC  
MODEL: SB59  
PLATE NO: SB-78  
REL HUM: 90.9 PCT  
PLATE: 9. FTS  
WIND DIR: 0  
VEGA: NO  
DEG WIND VEL: MPH  
RPM: XNM  
RPM: XNM  
LBS XNM: XNM  
RPM: XNM  
LBS XNM: XNM  
TEST PT NO: 0101  
NO: 000  
OWN FAN SPEED: MPH

NUMPT: 81F-ZER-0101 TAPE: X0101L

Test Point Number

ORIGINAL PAGE IS  
OF POOR QUALITY

Table 4-3. Description of Acoustic Data Sheet - Page 3 of Test Point Data Sheet.



ORIGINAL PAGE IS OF POOR QUALITY

#### 4.2 Acoustic Data of Model 1

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0103 X0103C

BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50	83.9	85.2	84.2	83.5	85.6	82.0	85.9	84.8	87.5	92.6	94.2	93.4	93.0	130.6
63	87.0	89.5	91.5	91.1	90.9	89.3	93.7	88.1	92.3	92.9	95.7	94.4	95.8	134.1
80	89.3	93.8	93.1	91.1	90.7	91.3	91.5	93.4	94.1	93.9	98.3	98.2	99.1	135.9
100	88.1	93.8	88.6	93.7	94.0	93.1	92.5	96.4	96.6	97.2	98.8	102.5	103.4	138.4
125	85.4	88.4	89.4	93.4	94.0	93.4	92.5	93.9	95.9	98.5	104.9	106.3	107.5	141.0
160	85.3	85.8	87.1	89.7	89.8	92.0	92.9	95.1	100.2	104.8	107.5	110.1	142.0	
200	86.0	87.8	86.8	86.8	86.0	92.0	92.7	95.9	100.8	103.2	107.8	111.0	145.0	
250	86.8	90.6	88.6	92.1	91.7	92.3	93.7	97.9	101.3	108.1	112.8	114.7	148.3	
315	86.6	90.4	87.9	92.2	94.0	94.1	94.8	97.9	104.4	109.9	114.3	115.4	149.6	
400	88.8	91.9	89.4	93.4	94.0	93.6	96.0	98.9	106.6	113.7	117.3	117.0	151.8	
500	89.9	92.7	89.7	93.3	95.4	95.7	96.1	100.8	108.2	116.3	118.9	116.6	152.9	
630	92.0	94.6	91.4	95.4	96.2	96.8	97.7	103.1	110.6	119.4	120.1	117.2	154.6	
800	95.7	95.5	94.0	97.3	98.4	98.2	99.4	104.5	113.2	121.3	120.7	117.6	155.9	
1000	102.2	104.2	99.5	101.0	100.1	99.7	100.9	106.8	114.5	122.1	121.4	117.6	156.6	
1250	103.2	106.2	104.3	105.3	104.6	102.5	102.9	108.0	115.3	122.1	123.2	118.4	157.5	
1600	108.2	107.3	104.5	102.6	103.2	102.8	104.3	108.9	116.0	121.6	123.7	117.9	157.7	
2000	110.6	111.3	106.5	106.6	103.9	102.3	104.3	109.1	115.5	121.5	119.5	114.3	156.1	
2500	108.6	109.2	108.2	111.2	110.1	104.4	104.1	109.5	115.4	121.6	117.9	113.0	156.0	
3150	106.0	107.8	105.8	110.1	111.7	109.0	110.9	115.4	120.3	117.3	111.2	108.7	155.4	
4000	104.5	106.0	104.5	106.8	107.9	107.2	110.8	114.2	119.4	115.4	109.7	106.9	154.3	
5000	103.0	104.8	103.1	106.3	106.5	106.2	108.4	110.4	113.7	117.5	114.6	108.1	153.2	
6300	100.9	103.4	102.6	104.8	106.0	105.9	106.0	111.4	113.9	117.1	113.4	107.6	153.0	
8000	99.6	102.8	104.2	105.4	104.9	110.0	112.3	115.6	112.1	110.7	104.6	100.6	152.1	
10000	98.2	101.0	100.3	103.5	105.0	104.7	105.2	109.5	111.4	115.5	110.7	104.6	152.1	
12500	96.1	98.7	98.2	101.4	103.4	103.2	107.2	109.0	112.5	109.2	104.4	98.7	150.6	
16000	93.4	96.7	95.6	99.4	101.0	101.2	101.3	105.3	110.7	107.5	99.5	95.8	150.2	
20000	90.4	94.2	92.8	96.6	98.3	99.1	99.2	102.8	105.2	108.7	104.9	97.0	149.5	
25000	87.3	90.6	89.4	92.9	96.0	96.6	99.8	101.6	103.9	99.4	94.4	88.6	148.0	
31500	83.1	87.2	86.0	89.7	92.2	92.6	92.8	96.4	98.5	102.6	96.7	84.0	148.4	
40000	78.1	82.5	82.2	88.5	89.1	89.0	93.0	95.5	99.8	93.7	88.2	79.2	149.3	
50000	73.9	78.5	77.2	80.0	83.2	84.5	83.6	87.7	92.6	95.0	89.8	82.4	149.3	
63000	68.1	73.6	71.4	74.9	78.5	79.8	79.1	82.3	86.9	91.3	85.2	77.3	150.1	
80000	62.5	67.3	66.1	68.8	73.1	74.4	72.8	78.3	82.5	88.0	80.8	72.5	152.9	
GASPL	116.3	117.5	115.2	117.6	118.0	116.8	116.6	120.9	125.8	131.7	131.2	127.6	125.9	167.7
PNL	129.1	130.3	128.6	131.3	132.1	130.4	129.8	133.7	138.5	143.9	143.1	138.1	135.8	
PFLT	129.1	131.4	128.6	132.5	133.8	130.4	129.8	133.7	138.5	143.9	143.1	138.1	135.8	
DBA	117.1	118.1	115.7	118.0	118.2	116.7	116.3	120.7	125.9	131.8	131.1	126.6	124.3	

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH732 TEST DATE = 03-19-82 LGCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLVEL = 0. FPS  
IAPLHA = SB559 LEGA = NO PML AREA = FULL SPHERE TAMB F = 44.00 MIKE HG = 29.55 RELHUM = 92.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRFR =

FNINI LBS XNL RPM = XNH XNHR RPM = V8 = 2333.1 FPS AE8 = 20.4 SQ IN  
FNRAMB LBS XNLR RPM = XNHR XNHR RPM = V8 = 2333.1 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-ZER-0103 TAPE = X0103C TEST PT NO = 0103 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL FACE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0103 X0103F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

FREQ 63.9 65.2 64.2 63.5 65.6 62.0 65.9 64.8 67.5 92.6 94.2 93.4 93.0 130.6

87.0 89.5 91.5 91.1 90.9 89.3 93.7 88.1 92.3 92.9 95.7 94.4 95.8 134.1

80 89.3 93.8 88.3 91.1 90.7 91.3 91.5 93.4 94.1 98.3 98.2 99.1 135.9

100 88.1 93.8 88.6 93.7 94.0 93.1 92.5 96.4 96.6 97.2 98.8 102.5 103.4 138.4

125 85.4 88.4 89.4 93.4 94.0 93.4 92.5 98.9 98.5 104.9 106.3 107.5 141.0

160 85.3 85.8 87.1 89.1 89.7 89.8 92.0 92.9 95.1 100.2 104.8 107.5 110.1 142.0

200 88.0 87.8 86.8 90.6 92.0 92.1 92.7 95.9 100.8 103.2 107.8 111.0 112.6 145.0

250 86.8 90.6 88.6 92.1 91.7 92.3 93.7 97.9 101.3 108.1 114.7 114.1 148.3

315 86.6 90.4 87.9 92.2 94.0 94.1 94.8 97.9 104.4 109.9 114.3 115.3 149.6

400 88.8 91.9 89.4 93.4 94.0 93.6 96.0 98.9 106.6 113.7 117.0 115.4 151.8

500 89.9 92.7 89.7 93.3 95.4 95.7 96.1 100.8 108.2 116.3 118.9 116.6 152.9

630 92.0 94.6 91.4 95.4 96.2 96.8 97.7 103.1 110.6 119.4 120.1 117.2 154.6

800 95.7 95.5 94.0 97.3 98.4 98.2 99.4 104.5 113.2 121.3 120.7 117.6 155.9

1000 102.2 104.2 99.5 101.0 100.1 99.7 100.9 106.8 114.5 122.1 123.2 118.4 157.5

1250 103.2 106.2 104.3 105.3 102.5 102.9 108.0 115.3 122.1 123.2 118.4 115.9 157.5

1600 108.2 107.3 104.5 102.6 103.7 102.6 108.9 116.0 121.6 123.7 117.9 114.9 157.7

2000 110.6 111.3 106.5 106.6 103.9 102.3 104.3 109.1 115.5 121.5 114.3 111.8 156.1

2500 108.6 109.2 111.2 110.1 104.1 104.4 109.5 115.4 121.6 117.9 113.0 109.5 156.0

3150 106.0 107.8 105.8 110.1 111.7 109.0 105.4 109.9 115.4 120.3 117.3 111.2 155.4

4000 104.5 106.0 104.5 106.8 107.9 109.1 107.2 110.8 114.2 119.4 115.4 109.7 154.3

5000 103.0 104.6 103.1 106.3 108.2 108.4 110.4 113.7 117.5 114.6 108.1 104.6 153.2

6000 99.6 102.0 100.8 104.2 105.4 104.9 110.0 112.3 115.6 112.1 105.1 102.2 152.0

8000 62.5 67.3 66.1 68.8 73.1 74.4 72.8 78.3 82.5 88.0 80.8 72.5 60.4 152.9

50000 73.9 78.5 77.2 80.0 83.2 84.5 83.6 87.7 92.6 95.0 89.8 82.4 73.0 149.3

63000 68.1 73.6 71.4 74.9 78.5 79.8 79.1 82.3 86.9 91.3 85.2 77.3 67.5 150.1

80000 62.5 67.3 66.1 68.8 73.1 74.4 72.8 78.3 82.5 88.0 80.8 72.5 60.4 152.9

GASPL 116.3 117.5 115.2 117.6 118.0 116.8 116.6 120.9 125.8 131.7 131.2 127.6 125.9 167.7

PNL 129.1 131.4 128.6 132.5 133.8 130.4 129.8 133.7 138.5 143.9 143.1 138.1 135.8

DBA 184.4 189.3 187.9 190.8 194.8 196.1 194.9 199.7 204.0 209.1 202.2 194.1 183.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH732 TEST DATE = 03-19-82 LCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVL = 0. FPS

IAPLHA = SB59 LEA = NO PML AREA = FULL SPHERE TAMB F = 44.00 MIKE HT = 29.55 RELHUM = 92.5 PCT

FNINI = LBS XNL RPM XNH RPM XNH RPM V8 = 2333.1 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR RPM XNHR RPM V8 = 2333.1 FPS AE18 = 20.4 SQ IN

RUNPT = ZER-0103 TAPE = X0103F TEST PT NO = 010: NC = AE040 CORR FAN SPEED = RPM

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ONEWELL PAGE PRINTING SYSTEM - P189-C

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0103 X01031

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 67.8 72.3 70.9 75.7 76.4 78.7 81.2 88.2 94.2 96.3 93.7 88.8 170.1  
53 68.8 73.2 71.3 75.5 78.0 78.5 78.8 83.0 89.8 96.7 93.8 87.9 171.3  
80 70.9 75.0 72.8 77.6 78.8 78.8 79.6 80.3 85.3 92.1 99.8 93.9 88.6 173.0  
100 74.5 75.8 75.4 79.4 80.9 80.9 81.9 86.7 94.7 101.6 99.5 94.1 89.1 174.3  
125 80.8 84.5 80.8 83.1 82.6 82.4 83.4 88.9 95.8 102.3 100.1 94.0 88.1 175.0  
160 81.7 86.3 85.5 87.2 87.0 85.0 85.3 90.0 96.5 102.2 101.7 94.5 88.4 175.9  
200 86.4 87.1 85.6 84.4 85.9 85.1 86.3 90.7 97.1 101.5 102.0 93.7 86.9 176.0  
250 88.5 90.9 87.2 88.2 85.9 84.4 86.3 90.7 96.2 101.1 97.4 89.7 83.2 174.5  
315 86.1 88.4 88.7 92.5 91.8 86.3 85.9 90.8 95.8 100.9 95.4 87.8 80.0 174.4  
400 83.0 86.7 86.0 91.1 93.1 86.8 86.8 90.8 95.6 99.1 94.2 85.3 78.2 173.7  
500 81.0 84.5 84.3 87.5 89.1 90.4 88.4 91.5 94.0 97.8 91.9 83.2 75.5 172.7  
630 79.0 82.5 82.5 86.7 87.4 87.3 89.2 90.8 93.1 95.6 90.6 81.0 72.2 171.6  
800 76.4 81.1 81.7 84.9 86.6 86.8 86.6 91.5 93.1 94.8 88.9 79.8 69.7 171.4  
1000 74.7 79.4 79.7 84.1 85.9 85.4 85.4 90.0 91.2 93.0 87.1 76.5 67.4 170.4  
1250 72.8 78.1 79.0 83.3 85.4 85.6 89.2 90.1 92.6 85.2 75.3 64.4 170.4  
1600 69.8 75.1 76.5 80.8 83.5 83.3 86.6 87.3 89.0 82.9 73.7 60.1 168.6  
2000 66.2 72.5 73.5 78.6 80.9 81.4 81.2 84.6 86.2 86.6 80.3 67.2 54.2 168.6  
2500 61.3 68.8 69.9 75.1 77.7 78.7 78.5 81.4 82.3 83.3 75.8 61.9 45.9 167.8  
3150 54.8 62.8 65.5 69.9 74.0 74.9 74.8 76.8 76.1 66.9 54.2 33.7 166.3  
4000 44.4 54.7 57.4 63.4 67.2 68.0 67.8 70.1 69.9 70.0 58.1 41.6 14.6 166.8  
5000 29.7 42.5 47.3 53.5 58.5 59.7 59.0 61.3 60.6 59.7 45.3 25.5 167.7  
6300 7.7 24.2 30.2 37.5 43.1 45.2 43.5 45.2 45.6 40.7 23.6 168.4 171.3

ORIGINAL PAGE IS  
OF POOR QUALITY

80000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000  
8000

GASPL 93.8 96.6 95.4 98.4 99.2 98.0 97.7 101.6 106.2 111.2 109.2 102.9 97.2 185.9  
PWL 98.1 101.6 104.8 106.3 105.2 104.7 108.3 111.6 115.3 112.2 104.1 96.8  
FNL 98.1 102.2 101.6 105.4 107.2 105.2 104.7 108.3 112.2 115.8 112.2 104.1 96.8  
DBA 87.1 90.6 90.3 94.1 95.6 95.1 94.7 98.3 100.7 103.7 99.2 90.8 83.5

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH732 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM = XNH RPM = V8 = 2333.1 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR RPM = XNHR XNHR = V18 = 2333.1 FPS AEB = 20.4 SQ IN

RUNPT = 82F-ZER-0103 TAPE = X01031 TEST PT NO = 0103 NC = AE040 CORR FAN SPEED = RPM

DATPRG - FLTRAN  
UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC  
IDENTIFICATION - MODEL 82F-400-0104 X0104C BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES  
X05400 X0104C

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.0  | 87.1  | 82.8  | 88.7  | 89.3  | 86.4  | 88.8  | 87.4  | 89.4  | 96.5  | 96.9  | 94.2  | 95.6  |
| 63    | 88.4  | 92.0  | 92.2  | 92.0  | 92.0  | 92.0  | 92.0  | 92.0  | 92.0  | 92.0  | 92.0  | 92.0  | 92.0  |
| 80    | 89.6  | 93.2  | 87.5  | 91.3  | 91.0  | 91.1  | 90.8  | 92.6  | 93.5  | 96.7  | 96.5  | 96.8  | 98.6  |
| 100   | 87.4  | 92.0  | 87.2  | 91.6  | 92.1  | 91.8  | 91.4  | 94.8  | 94.3  | 95.9  | 96.7  | 101.2 | 102.8 |
| 125   | 86.5  | 87.8  | 88.1  | 91.8  | 93.0  | 92.1  | 91.0  | 91.9  | 93.4  | 96.4  | 104.8 | 106.6 | 139.5 |
| 160   | 84.2  | 85.2  | 85.2  | 87.6  | 88.3  | 89.0  | 89.0  | 92.0  | 92.0  | 98.4  | 102.3 | 105.0 | 139.7 |
| 200   | 84.9  | 85.5  | 84.0  | 87.5  | 89.1  | 88.5  | 89.1  | 92.8  | 97.3  | 99.9  | 104.5 | 108.7 | 142.4 |
| 250   | 83.7  | 86.5  | 84.2  | 88.1  | 88.6  | 88.7  | 89.4  | 93.6  | 97.3  | 104.4 | 108.8 | 110.9 | 144.8 |
| 315   | 84.5  | 87.3  | 85.3  | 88.6  | 90.2  | 90.1  | 91.5  | 93.6  | 99.9  | 106.7 | 111.1 | 112.8 | 146.4 |
| 400   | 86.3  | 88.1  | 85.8  | 89.6  | 90.7  | 90.1  | 92.0  | 95.1  | 101.9 | 109.7 | 113.8 | 113.8 | 148.0 |
| 500   | 86.9  | 88.9  | 87.0  | 91.0  | 92.1  | 91.9  | 92.6  | 97.3  | 104.0 | 112.6 | 115.9 | 113.6 | 149.4 |
| 630   | 86.0  | 91.1  | 88.6  | 92.6  | 94.2  | 93.1  | 94.7  | 99.6  | 106.6 | 115.9 | 117.1 | 113.0 | 151.0 |
| 800   | 91.2  | 90.7  | 90.5  | 94.3  | 96.1  | 95.5  | 96.4  | 101.5 | 109.0 | 117.8 | 118.9 | 111.1 | 152.5 |
| 1000  | 94.7  | 96.2  | 94.2  | 97.6  | 97.6  | 96.5  | 98.1  | 103.5 | 111.0 | 119.1 | 119.4 | 110.6 | 153.5 |
| 1250  | 98.5  | 102.2 | 99.0  | 100.5 | 99.6  | 99.0  | 98.4  | 105.0 | 112.3 | 119.6 | 119.7 | 110.7 | 154.0 |
| 1600  | 107.5 | 105.8 | 102.0 | 101.6 | 99.9  | 99.8  | 100.6 | 106.7 | 113.3 | 119.9 | 121.0 | 110.7 | 155.0 |
| 2000  | 108.1 | 110.3 | 107.5 | 107.1 | 103.4 | 101.0 | 101.0 | 106.8 | 113.7 | 120.5 | 120.5 | 111.6 | 155.4 |
| 2500  | 105.6 | 108.7 | 107.0 | 110.7 | 108.8 | 103.9 | 102.1 | 107.7 | 113.4 | 120.1 | 118.2 | 110.2 | 154.8 |
| 3150  | 103.5 | 105.8 | 104.8 | 108.9 | 110.4 | 107.0 | 104.6 | 109.6 | 113.7 | 117.9 | 115.1 | 107.4 | 153.2 |
| 4000  | 101.2 | 103.8 | 101.8 | 104.8 | 104.8 | 104.2 | 106.1 | 109.7 | 112.9 | 116.0 | 114.1 | 106.6 | 152.0 |
| 5000  | 101.2 | 103.8 | 101.8 | 104.8 | 104.8 | 104.2 | 106.1 | 109.7 | 112.9 | 116.0 | 114.1 | 106.6 | 152.0 |
| 6300  | 99.7  | 102.6 | 101.3 | 103.8 | 104.5 | 104.2 | 105.0 | 110.7 | 113.7 | 115.6 | 112.6 | 105.4 | 152.0 |
| 8000  | 99.1  | 101.3 | 99.6  | 102.7 | 103.9 | 103.7 | 103.9 | 112.3 | 113.1 | 111.6 | 103.3 | 98.4  | 150.8 |
| 10000 | 97.5  | 100.3 | 99.5  | 102.0 | 103.7 | 103.2 | 104.2 | 109.2 | 111.9 | 113.5 | 110.2 | 102.6 | 151.1 |
| 12500 | 95.1  | 98.2  | 97.4  | 100.2 | 101.4 | 101.9 | 102.0 | 107.2 | 110.0 | 111.0 | 107.9 | 101.2 | 149.8 |
| 16000 | 92.4  | 95.4  | 94.4  | 97.9  | 99.3  | 100.0 | 100.3 | 108.7 | 108.3 | 106.3 | 106.3 | 93.3  | 149.2 |
| 20000 | 89.4  | 92.2  | 91.1  | 94.2  | 96.8  | 97.1  | 97.7  | 102.3 | 101.9 | 101.9 | 102.6 | 90.6  | 148.4 |
| 25000 | 85.8  | 88.6  | 88.4  | 91.2  | 93.5  | 94.6  | 94.5  | 99.1  | 101.9 | 102.6 | 98.4  | 93.9  | 147.0 |
| 31500 | 81.3  | 85.2  | 84.0  | 87.5  | 89.7  | 90.3  | 91.1  | 95.4  | 98.3  | 100.1 | 95.2  | 89.9  | 146.8 |
| 40000 | 77.1  | 80.0  | 79.7  | 82.5  | 86.0  | 86.1  | 87.0  | 90.8  | 94.5  | 97.5  | 92.0  | 85.2  | 147.3 |
| 50000 | 71.7  | 75.0  | 74.0  | 77.0  | 81.5  | 81.4  | 85.7  | 89.9  | 92.5  | 92.5  | 87.6  | 80.2  | 146.8 |
| 63000 | 65.0  | 69.1  | 67.4  | 71.2  | 75.0  | 75.5  | 75.9  | 80.1  | 84.6  | 87.8  | 81.9  | 73.8  | 146.9 |
| 80000 | 58.5  | 62.9  | 61.2  | 64.5  | 68.6  | 68.8  | 68.3  | 73.8  | 79.0  | 84.0  | 78.3  | 67.2  | 149.0 |
| QASPL | 114.2 | 116.0 | 114.0 | 116.4 | 116.4 | 115.2 | 114.9 | 119.6 | 124.2 | 129.5 | 129.4 | 123.4 | 119.6 |
| PNL   | 126.8 | 129.0 | 127.1 | 130.2 | 130.6 | 128.9 | 128.2 | 132.2 | 136.8 | 142.1 | 141.8 | 134.8 | 129.9 |
| PMLT  | 128.2 | 130.0 | 127.1 | 130.2 | 131.1 | 128.9 | 128.2 | 132.2 | 136.8 | 142.1 | 141.8 | 134.8 | 129.9 |
| DBA   | 114.9 | 116.7 | 114.5 | 117.0 | 116.7 | 115.2 | 114.5 | 119.1 | 124.1 | 129.1 | 129.8 | 121.8 | 116.0 |

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VEHICL = ADH745 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CNFIG = 1 MODEL = AX FLVEL = 400. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
 WIND DIR = SB59 DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = PMLB HG = 29.55 NBFR =  
 FINI = LBS XNL RPM XNH XNHR = RPM V8 = 2327.1 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 2327.1 FPS AE8 = 20.4 SQ IN  
 RUNPT = 82F-400-0104 TAPE = X0104C TEST PT NO = 0104 NC = AE040 CORR FAN SPEED = RPM





FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0104 X01041

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

FREQ 50 71.1 74.1 71.8 74.3 75.1 73.1 73.8 75.6 83.3 90.3 92.3 89.4 82.2 165.8

63 71.9 74.2 71.8 75.0 76.6 75.0 74.2 77.3 85.8 93.5 93.2 89.0 80.7 167.0

80 73.4 75.7 78.8 78.4 78.2 79.4 88.4 95.7 95.5 88.0 88.0 82.2 168.9

100 74.5 77.8 75.0 78.3 80.7 78.7 79.4 81.3 90.8 97.4 96.7 88.9 84.5 170.5

125 77.5 77.4 76.9 79.9 81.9 79.7 79.7 83.4 92.3 98.2 97.3 89.4 87.1 171.5

160 78.8 81.3 79.5 82.7 83.7 82.3 80.1 85.0 93.4 98.6 98.6 89.3 87.2 172.5

200 82.6 87.0 83.8 85.0 84.3 83.2 82.4 86.7 94.1 99.5 98.5 90.6 88.6 173.4

250 92.9 91.7 87.9 86.7 87.6 84.5 82.9 87.0 93.9 99.2 96.2 89.2 87.5 173.6

315 92.7 95.5 92.6 91.7 93.1 87.4 84.1 87.9 94.7 97.5 95.4 88.7 85.8 174.2

400 88.0 92.5 91.3 95.1 95.1 91.6 86.7 88.0 94.6 97.1 92.8 85.5 83.0 173.9

500 87.6 90.9 90.2 93.9 91.3 91.7 88.8 90.4 93.6 95.0 91.5 84.4 81.3 173.0

600 86.8 89.8 88.5 90.6 89.7 88.3 88.5 90.1 93.9 94.0 89.2 81.9 78.0 172.2

800 84.2 88.2 86.8 89.2 88.2 88.0 92.4 91.3 88.0 79.5 76.0 171.3

1000 82.0 86.6 85.4 88.4 88.5 87.4 85.9 89.2 92.0 91.6 86.2 78.1 73.8 171.1

1250 80.8 84.7 83.8 87.0 88.1 86.8 86.1 89.0 90.2 89.0 83.8 76.1 70.7 170.4

1500 78.0 82.8 83.0 85.7 85.5 85.2 83.6 86.7 88.6 86.7 81.8 72.9 66.5 169.7

2000 74.2 79.6 80.0 83.1 83.2 83.1 81.8 84.7 86.0 84.4 78.8 68.7 61.2 168.9

2500 69.3 75.3 75.3 75.7 79.8 80.8 79.7 78.6 80.9 82.1 79.9 72.4 64.9 167.7

3150 65.1 71.3 71.6 75.1 76.1 75.9 74.3 76.3 77.2 75.6 66.4 56.4 41.4 167.5

4000 54.4 62.2 64.3 68.0 69.3 68.8 67.7 69.2 70.4 69.1 57.8 43.6 22.4 167.0

5000 39.4 50.0 58.0 60.6 60.6 59.7 58.5 59.1 60.0 56.9 43.9 25.2 167.0

6300 17.0 30.0 36.1 41.8 44.9 45.2 42.8 43.3 43.6 39.0 21.5 166.8

8000 166.1 168.3 166.8

10000 166.1 168.3 166.8

12500 166.1 168.3 166.8

15000 166.1 168.3 166.8

17500 166.1 168.3 166.8

20000 166.1 168.3 166.8

22500 166.1 168.3 166.8

25000 166.1 168.3 166.8

27500 166.1 168.3 166.8

30000 166.1 168.3 166.8

32500 166.1 168.3 166.8

35000 166.1 168.3 166.8

37500 166.1 168.3 166.8

40000 166.1 168.3 166.8

42500 166.1 168.3 166.8

45000 166.1 168.3 166.8

47500 166.1 168.3 166.8

50000 166.1 168.3 166.8

52500 166.1 168.3 166.8

55000 166.1 168.3 166.8

57500 166.1 168.3 166.8

60000 166.1 168.3 166.8

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH745 TEST DATE = 03-19-82

LOCAT = C41 ANECH CH CONFIG = 1

PML AREA = FULL SPHERE TAMB F = 44.00

MIKE HT =

NBFR =

WIND DIR =

FNI1 = LBS XNL RPM XNHR RPM XNHR RPM V8 = 2327.1 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR RPM XNHR RPM XNHR RPM V8 = 2327.1 FPS AE8 = 20.4 SQ IN

RUNPT = 00-0104 TAPE = X01041 TEST PT NO = 0104 NC = AE040 CORR FAN SPEED =

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DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0105 X0105C

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.7  | 85.7  | 84.2  | 86.0  | 86.4  | 83.2  | 83.6  | 84.5  | 88.5  | 92.6  | 91.4  | 95.1  | 93.5  | 130.7 |
| 63    | 87.5  | 92.3  | 92.3  | 92.8  | 91.2  | 89.5  | 92.9  | 87.3  | 92.8  | 91.6  | 93.2  | 96.9  | 96.6  | 134.4 |
| 80    | 89.8  | 94.6  | 89.3  | 92.1  | 91.0  | 91.6  | 93.9  | 93.9  | 95.3  | 93.2  | 97.5  | 99.2  | 100.1 | 136.3 |
| 100   | 88.3  | 94.3  | 89.4  | 94.2  | 93.4  | 93.4  | 93.0  | 96.7  | 96.6  | 97.2  | 98.6  | 103.0 | 103.4 | 138.6 |
| 125   | 86.1  | 89.4  | 90.2  | 93.9  | 94.3  | 93.7  | 92.8  | 93.9  | 96.2  | 98.0  | 104.9 | 106.8 | 107.5 | 141.2 |
| 160   | 85.8  | 86.1  | 88.1  | 90.1  | 90.5  | 90.3  | 91.5  | 92.9  | 95.6  | 100.4 | 104.5 | 107.7 | 109.9 | 141.9 |
| 200   | 87.5  | 88.6  | 87.3  | 91.6  | 92.5  | 92.6  | 93.0  | 95.6  | 100.6 | 103.2 | 107.8 | 111.2 | 112.4 | 145.0 |
| 250   | 87.8  | 91.1  | 89.6  | 92.6  | 93.1  | 94.2  | 98.6  | 101.6 | 107.9 | 112.5 | 115.0 | 114.6 | 148.5 |       |
| 315   | 87.6  | 91.1  | 88.9  | 92.2  | 94.5  | 94.9  | 95.8  | 99.9  | 104.6 | 109.9 | 114.8 | 116.3 | 116.2 | 150.2 |
| 400   | 89.8  | 92.9  | 90.4  | 93.7  | 95.0  | 93.9  | 96.5  | 99.9  | 107.1 | 114.2 | 117.1 | 117.5 | 115.2 | 151.9 |
| 500   | 90.9  | 93.5  | 90.5  | 94.8  | 96.1  | 96.2  | 96.6  | 102.0 | 109.2 | 116.6 | 119.4 | 117.9 | 115.0 | 153.5 |
| 630   | 92.4  | 96.3  | 92.4  | 96.6  | 97.2  | 97.8  | 99.2  | 104.1 | 112.4 | 119.2 | 120.1 | 118.2 | 115.4 | 154.8 |
| 800   | 96.4  | 96.0  | 94.2  | 98.8  | 98.6  | 99.2  | 100.9 | 106.0 | 115.0 | 121.6 | 120.7 | 118.6 | 116.5 | 156.3 |
| 1000  | 101.4 | 103.2 | 99.5  | 101.8 | 101.1 | 101.0 | 102.1 | 108.3 | 116.2 | 122.1 | 120.7 | 118.9 | 115.8 | 156.8 |
| 1250  | 108.7 | 110.7 | 105.8 | 106.8 | 104.8 | 104.8 | 105.9 | 109.7 | 117.3 | 123.6 | 120.1 | 118.4 | 115.4 | 159.4 |
| 1600  | 109.7 | 108.3 | 105.8 | 103.8 | 104.4 | 103.0 | 104.9 | 109.0 | 117.3 | 121.9 | 122.5 | 117.7 | 115.4 | 157.5 |
| 2000  | 110.6 | 111.8 | 108.0 | 108.6 | 105.9 | 103.0 | 105.0 | 110.1 | 116.7 | 122.0 | 118.8 | 115.1 | 111.8 | 156.5 |
| 2500  | 108.6 | 109.4 | 108.0 | 112.5 | 112.6 | 106.9 | 104.9 | 110.5 | 116.4 | 121.6 | 118.7 | 114.5 | 111.0 | 156.6 |
| 3150  | 107.0 | 108.1 | 106.3 | 109.6 | 111.9 | 110.3 | 107.1 | 110.4 | 116.4 | 120.8 | 117.5 | 112.7 | 109.4 | 155.9 |
| 4000  | 105.2 | 107.0 | 105.8 | 107.6 | 108.1 | 109.6 | 108.7 | 112.1 | 115.7 | 119.9 | 115.6 | 111.2 | 107.9 | 155.1 |
| 5000  | 103.7 | 105.5 | 103.8 | 107.1 | 107.0 | 106.5 | 109.1 | 110.9 | 114.7 | 118.0 | 114.9 | 109.9 | 105.6 | 153.9 |
| 6300  | 101.9 | 104.6 | 103.3 | 105.8 | 106.7 | 106.9 | 107.5 | 112.4 | 117.6 | 113.6 | 108.6 | 104.4 | 103.7 | 153.7 |
| 8000  | 100.4 | 103.0 | 101.6 | 104.7 | 106.2 | 106.0 | 105.7 | 111.0 | 113.8 | 116.3 | 107.8 | 102.9 | 102.9 | 152.9 |
| 10000 | 99.5  | 102.3 | 101.3 | 104.3 | 106.0 | 105.5 | 106.0 | 110.0 | 112.6 | 116.0 | 110.9 | 105.4 | 101.9 | 152.8 |
| 12500 | 96.9  | 100.2 | 99.2  | 101.9 | 104.2 | 104.2 | 104.2 | 108.2 | 110.8 | 113.8 | 109.7 | 103.7 | 99.4  | 151.7 |
| 16000 | 94.7  | 97.7  | 96.4  | 100.2 | 101.8 | 102.6 | 102.6 | 109.5 | 111.2 | 108.0 | 100.8 | 95.5  | 151.0 |       |
| 20000 | 91.9  | 95.4  | 93.8  | 97.6  | 99.8  | 99.6  | 100.7 | 103.8 | 107.0 | 109.9 | 105.1 | 98.8  | 92.7  | 150.7 |
| 25000 | 88.8  | 92.1  | 91.1  | 93.7  | 96.5  | 97.4  | 97.5  | 100.6 | 102.6 | 104.6 | 99.4  | 95.9  | 88.6  | 148.7 |
| 31500 | 84.8  | 88.2  | 87.8  | 91.0  | 93.0  | 93.3  | 93.8  | 97.4  | 99.3  | 102.6 | 97.0  | 91.4  | 84.7  | 148.9 |
| 40000 | 79.6  | 84.0  | 84.4  | 86.7  | 89.5  | 90.1  | 90.7  | 94.0  | 96.2  | 100.0 | 94.2  | 87.5  | 79.9  | 150.0 |
| 50000 | 74.9  | 79.5  | 78.7  | 81.7  | 85.2  | 85.5  | 85.6  | 89.2  | 92.4  | 95.3  | 89.6  | 82.9  | 76.5  | 149.7 |
| 63000 | 69.1  | 75.1  | 72.9  | 76.2  | 80.0  | 81.0  | 80.6  | 84.1  | 88.1  | 91.3  | 85.2  | 77.3  | 71.3  | 150.7 |
| 80000 | 63.8  | 69.5  | 68.8  | 70.3  | 74.3  | 75.1  | 74.1  | 78.8  | 83.8  | 88.0  | 81.3  | 71.7  | 66.4  | 153.4 |
| QASPL | 117.3 | 118.5 | 116.4 | 118.4 | 119.0 | 117.7 | 117.8 | 121.8 | 127.2 | 132.1 | 131.4 | 128.6 | 126.5 | 168.3 |
| PWL   | 129.6 | 131.0 | 132.3 | 132.7 | 131.4 | 131.0 | 134.7 | 139.6 | 144.2 | 142.3 | 139.1 | 136.4 |       |       |
| PML   | 129.6 | 133.2 | 133.9 | 134.0 | 131.4 | 131.0 | 134.7 | 139.6 | 144.2 | 143.5 | 139.1 | 136.4 |       |       |
| DBA   | 118.1 | 119.1 | 116.9 | 118.8 | 119.3 | 117.7 | 117.5 | 121.6 | 127.3 | 132.3 | 131.3 | 127.7 | 125.2 |       |

NASA SHOCK CELL/CIRC CONVENTION NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH733 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CNFIG = 1 MODEL = AX FLVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
 WIND DIR = MIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM = XNH RPM = XNHR RPM = V8 = 2354.2 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNL RPM = XNH RPM = XNHR RPM = V8 = 2354.2 FPS AE8 = 20.4 SQ IN  
 RUNPT = 82F-ZER-0105 TAPE = X0105C TEST PT NO = 0105 NC = AE040 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0105 X01051

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 68.8 73.3 71.9 75.9 77.7 76.7 79.2 82.2 88.7 94.7 96.0 94.2 88.6 170.3

63 69.8 73.9 72.0 77.0 79.8 79.0 79.3 84.3 90.8 97.0 98.3 94.6 88.4 171.9

80 71.4 75.7 73.8 78.8 79.8 80.6 81.8 86.3 93.8 99.6 98.9 94.9 88.6 173.2

100 75.2 76.3 75.7 80.9 81.2 81.9 83.4 88.2 96.4 101.9 99.5 95.1 89.6 174.7

125 80.1 83.5 80.8 83.9 83.6 84.6 90.4 97.6 102.3 99.4 95.2 88.6 175.2

150 87.2 90.8 90.2 87.7 88.5 87.3 88.3 91.0 98.7 103.7 100.7 96.3 90.9 177.8

200 87.9 88.1 86.8 85.6 86.6 85.4 87.1 91.5 98.3 101.7 100.7 93.5 87.4 175.9

250 88.5 91.4 88.7 90.2 87.9 85.2 87.0 91.7 97.5 101.6 96.6 90.5 83.2 174.9

315 86.1 88.7 88.4 93.8 94.3 88.8 86.6 91.8 96.8 100.9 96.1 89.3 81.5 175.0

400 84.0 86.9 86.5 90.6 89.6 93.4 91.9 88.6 91.3 96.6 99.6 94.5 86.8 174.3

500 81.7 85.5 85.6 89.3 89.9 93.4 90.9 89.9 92.7 95.5 98.3 92.1 84.7 173.4

630 79.7 83.6 83.3 87.5 87.9 87.5 90.0 91.3 94.1 96.1 90.9 82.7 73.2 172.2

800 77.4 82.3 82.5 85.9 87.4 87.8 88.1 92.5 93.6 95.3 89.1 80.8 70.7 172.0

1000 75.4 80.4 80.5 84.6 86.7 86.7 86.2 91.0 92.7 93.7 87.4 79.3 68.2 171.3

1250 74.1 79.3 80.0 84.0 86.4 86.0 86.4 89.7 91.3 93.1 85.5 76.0 65.7 171.1

1600 70.6 76.6 77.5 81.3 84.5 84.3 87.6 89.4 87.4 87.1 80.8 68.5 53.9 169.4

2000 67.4 73.5 74.3 79.4 81.7 82.4 82.5 85.4 87.4 87.1 80.8 68.5 53.9 169.4

2500 62.8 70.1 70.9 76.1 79.2 79.2 80.0 82.4 84.0 84.5 76.1 63.6 46.1 169.0

3150 56.3 64.3 66.3 70.7 74.5 75.7 75.5 77.6 77.8 76.8 66.9 55.7 33.7 167.1

4000 46.1 55.7 59.1 64.7 68.0 68.8 68.8 71.1 70.6 70.0 58.3 42.4 15.3 167.3

5000 31.2 44.0 49.5 55.0 59.5 60.7 60.7 62.3 61.3 60.0 45.8 24.7

6300 8.7 25.2 31.7 39.2 45.1 46.2 45.5 46.7 45.4 41.0 23.3

8000 4.6 14.4 21.8 24.0 22.4 22.4 19.8 12.2

9000 171.7

10000 169.1

12500 168.1

15000 168.3

17500 167.3

20000 167.1

25000 167.1

31500 167.1

40000 167.1

50000 167.1

63000 167.1

80000 167.1

97.8 97.7 96.7 99.3 100.3 99.0 98.9 102.5 107.6 111.6 109.4 103.9 97.8 186.6

98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0

98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH733 TEST DATE = 03-19-82  
IAPLHA = SB59 IEGA, = NG  
WIND DIR = DEG WIND VEL = MPH  
PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
EXT CNFIG = SL  
TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
FLTVEL = 0. FPS  
CONFIG = 1 MODEL = AX  
DBA 87.9 91.5 91.2 94.9 96.4 95.9 95.8 99.2 101.9 104.2 99.4 91.9 84.5  
FNL1 98.8 103.6 102.7 106.6 107.7 106.3 105.9 109.2 113.3 116.2 113.4 105.0 98.0  
FNRAMB = LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2354.2 FPS AE8 = 20.4 SQ IN  
= X01051 TEST PT NO = 0105 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0106 X0106C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160  
PWL

|      |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 50   | 88.4 | 88.0 | 84.0 | 87.8 | 88.1 | 86.2 | 86.4 | 87.8 | 89.5 | 97.3  | 98.2  | 95.1  | 98.0  | 134.2 |
| 63   | 89.2 | 90.3 | 90.8 | 93.6 | 89.4 | 89.8 | 94.7 | 91.6 | 92.8 | 99.4  | 99.2  | 95.7  | 98.8  | 136.5 |
| 80   | 89.8 | 94.1 | 88.3 | 91.9 | 90.5 | 91.3 | 91.2 | 93.4 | 91.6 | 94.6  | 93.7  | 97.8  | 98.0  | 100.4 |
| 100  | 87.8 | 92.1 | 88.1 | 92.2 | 93.2 | 92.4 | 92.2 | 95.4 | 92.2 | 95.4  | 95.4  | 98.6  | 102.3 | 103.7 |
| 125  | 86.9 | 87.6 | 88.7 | 92.7 | 93.3 | 92.4 | 91.5 | 92.7 | 93.7 | 93.7  | 95.7  | 103.1 | 105.0 | 107.0 |
| 150  | 85.3 | 83.6 | 87.1 | 87.5 | 87.6 | 88.7 | 89.9 | 92.6 | 97.7 | 103.0 | 106.0 | 108.9 | 110.3 | 110.3 |
| 175  | 84.6 | 84.6 | 84.6 | 86.1 | 89.4 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 200  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 225  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 250  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 275  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 300  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 325  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 350  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 375  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 400  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 425  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 450  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 475  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 500  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 525  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 550  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 575  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 600  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 625  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 650  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 675  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 700  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 725  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 750  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 775  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 800  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 825  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 850  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 875  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 900  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 925  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 950  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 975  | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1000 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1025 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1050 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1075 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1100 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1125 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1150 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1175 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1200 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1225 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1250 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1275 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1300 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1325 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1350 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1375 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1400 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1425 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1450 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1475 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1500 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1525 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1550 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1575 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1600 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1625 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1650 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1675 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1700 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1725 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1750 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1775 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1800 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1825 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1850 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1875 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1900 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1925 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1950 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 1975 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |
| 2000 | 84.6 | 86.6 | 86.6 | 86.6 | 89.5 | 90.8 | 90.4 | 92.5 | 95.7 | 101.9 | 109.9 | 113.8 | 114.5 | 109.9 |

ORIGINAL PAGE IS  
OF POOR QUALITY

|      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA  | 115.7 | 117.0 | 115.3 | 117.2 | 117.3 | 116.1 | 115.6 | 119.9 | 124.7 | 130.0 | 129.5 | 122.3 | 116.5 |
| PFLT | 129.0 | 130.2 | 127.6 | 131.0 | 130.9 | 131.2 | 129.5 | 133.0 | 137.3 | 142.0 | 141.2 | 135.2 | 130.3 |
| PWL  | 127.3 | 129.2 | 127.6 | 130.5 | 130.9 |       |       |       |       |       |       |       |       |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0106 X0106F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PML

200 91.6 92.3 89.0 91.4 90.2 89.6 88.3 91.3 96.9 101.8 106.7 108.6 109.8 142.8  
250 91.6 92.3 89.0 91.4 91.5 90.6 90.4 91.6 99.8 107.2 110.7 112.2 110.2 146.0  
315 91.6 92.3 89.0 91.4 91.9 92.4 90.6 91.7 93.8 102.2 110.1 113.8 112.9 109.3 147.8  
400 92.4 93.3 90.6 91.9 92.4 90.6 91.7 93.8 102.2 110.1 113.8 112.9 109.3 147.8  
500 93.1 94.0 90.6 91.9 92.4 90.6 91.7 93.8 102.2 110.1 113.8 112.9 109.3 147.8  
630 94.4 95.4 91.7 93.8 95.2 94.5 93.7 98.0 108.0 115.9 117.1 113.0 110.6 151.2  
800 96.4 96.9 93.6 95.6 96.6 95.7 96.4 99.4 110.2 117.7 118.1 113.7 113.1 152.7  
1000 98.6 97.1 95.3 97.5 97.6 97.3 101.8 111.7 118.5 118.9 113.0 114.7 153.5  
1250 101.4 101.4 98.2 100.1 101.4 99.1 99.2 103.3 113.0 118.8 120.2 114.0 115.3 154.4  
1500 106.5 108.1 103.6 103.1 102.9 101.6 101.2 104.7 113.9 119.9 119.6 115.4 116.9 155.2  
2000 116.8 113.7 109.4 106.5 106.6 106.3 102.6 106.9 114.7 118.3 117.5 114.2 116.6 155.7  
2500 115.4 116.6 113.3 111.4 112.8 106.3 102.6 106.9 114.7 118.3 117.5 114.2 116.6 156.2  
3150 111.9 113.9 112.0 114.8 114.0 111.8 106.3 108.3 114.5 118.3 116.5 112.1 114.2 156.0  
4000 111.6 112.7 110.4 112.7 110.3 110.7 109.4 111.0 114.2 116.0 114.8 109.3 112.8 154.7  
5000 111.3 111.5 109.5 109.8 108.0 108.8 110.0 114.2 115.9 113.8 109.3 110.5 154.1  
6300 109.9 110.8 108.4 110.2 109.0 108.4 107.2 111.4 114.4 114.7 112.3 108.2 110.6 153.7  
8000 108.2 109.5 107.7 108.8 109.0 107.5 106.3 110.2 113.3 114.5 111.4 107.4 109.1 153.2  
10000 107.0 108.4 107.7 108.0 106.0 107.0 105.0 107.9 111.1 111.9 112.2 110.5 106.4 152.6  
12500 105.4 107.4 105.3 106.5 106.5 105.7 105.0 107.9 111.1 111.0 108.1 103.9 105.6 152.0  
15000 102.7 104.3 102.4 103.9 104.3 103.2 102.9 105.8 108.4 108.6 105.6 101.3 103.1 150.9  
20000 99.6 101.4 99.2 101.3 101.1 100.3 102.7 105.2 105.5 101.7 100.6 101.1 149.7  
25000 95.7 97.8 97.5 99.4 99.1 98.2 100.3 102.9 102.9 99.2 96.9 96.1 149.4  
31500 94.3 96.2 93.8 94.5 95.6 94.6 96.4 99.4 101.0 96.2 93.5 92.1 149.8  
40000 88.8 91.5 88.3 90.2 91.6 90.1 89.6 92.4 95.7 96.1 92.0 88.3 149.0  
50000 83.5 85.9 84.3 85.1 86.0 85.7 83.8 86.9 91.9 92.4 87.5 82.9 148.9  
63000 77.3 79.7 76.9 78.9 79.5 78.3 80.7 88.2 90.7 85.0 77.2 74.6 150.3  
80000 71.0 72.8 70.2 71.3 74.4 72.9 70.8 74.1 78.4 80.9 75.2 67.4 148.4

GASPL 122.1 122.4 119.7 120.6 120.3 118.4 116.9 119.8 124.9 128.9 128.7 124.7 125.5 166.6  
PNL 134.5 135.4 132.4 134.0 133.5 131.5 129.6 132.0 137.0 141.0 140.0 136.4 137.5  
PNLT 136.5 135.4 132.4 134.0 133.5 132.6 129.6 132.0 137.0 141.0 140.0 136.4 137.5  
DBA 193.3 195.3 192.8 194.1 196.4 195.2 193.5 196.5 201.9 204.2 198.6 191.4 189.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH744 TEST DATE = 03-19-82  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
LOCAL = C41 ANECH CH CONFIG = 1  
PML AREA = FULL SPHERE TAMB F = 44.00  
EXT DIST = 40.0 FT  
EXT CONFIG = ARC  
MIKE HT = MIKE HT = 29.55  
RELHUM = 92.5 PCT  
FLTVEL = 400. FPS

FNINI = LBS XNL RPM XNHR = RPM V8 = 2358.4 FPS AE8 = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2358.4 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-400-0106 TAPE = X0106F TEST PT NO = 0106 NC = AE040 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0106 X01061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

50 71.3 73.8 72.1 74.1 75.1 73.4 74.4 74.4 76.1 83.8 90.6 92.8 89.6 82.7 166.2

63 72.0 74.4 71.9 74.6 76.1 75.3 74.7 77.3 86.3 93.8 94.2 89.6 81.8 167.7

80 73.2 75.8 73.1 76.0 77.8 77.2 76.3 80.2 89.5 95.3 95.9 89.6 83.8 169.6

100 75.2 77.3 75.0 77.8 79.2 78.4 78.9 81.6 91.7 98.1 96.9 90.2 86.1 171.1

125 77.2 77.3 76.7 79.5 81.2 80.3 79.8 83.9 93.1 98.7 97.6 89.3 87.6 171.9

160 79.9 81.4 79.4 82.0 83.8 81.6 81.6 85.2 94.2 98.9 98.7 90.1 87.8 172.8

200 84.7 87.9 84.6 84.9 85.1 83.4 83.4 86.4 94.9 99.8 97.8 91.2 88.9 173.6

250 94.7 93.3 90.2 88.1 88.9 84.7 84.2 87.7 94.7 99.1 96.0 89.6 87.9 174.1

315 92.8 95.9 93.7 92.6 94.6 88.2 84.3 88.2 95.2 97.6 95.0 89.0 86.1 174.6

400 88.9 92.7 92.1 95.7 95.4 87.7 89.2 94.6 97.1 93.5 86.2 83.8 174.4

500 88.1 91.2 90.2 93.4 91.5 92.0 90.6 91.4 94.1 94.5 91.3 84.1 81.4 173.1

630 87.3 89.6 89.0 90.9 89.7 89.0 89.7 91.4 93.7 94.0 89.8 82.1 78.0 172.5

800 85.4 88.5 87.6 89.7 89.3 89.7 87.8 91.5 93.5 92.4 87.8 80.3 77.0 172.1

1000 83.3 86.9 86.7 88.7 88.5 88.2 86.8 90.1 92.2 91.9 86.5 78.8 74.3 171.6

1250 81.5 85.5 84.5 87.5 88.4 87.5 87.1 89.5 90.6 89.2 85.1 77.1 72.1 171.0

1500 79.0 83.8 83.5 85.9 86.5 86.0 85.0 87.3 89.3 87.4 81.8 73.2 67.0 170.4

1600 79.0 83.8 83.5 85.9 86.5 86.0 85.0 87.3 89.3 87.4 81.8 73.2 67.0 170.4

2000 75.4 80.1 80.3 83.1 84.2 83.4 82.8 85.0 86.3 84.5 78.4 69.0 61.5 169.2

2500 70.5 76.0 76.2 79.8 80.5 80.7 79.7 81.2 82.3 80.1 72.6 65.5 54.6 168.1

3150 63.3 70.0 71.4 74.5 77.4 77.4 76.2 77.3 78.1 75.1 66.7 56.8 41.2 167.8

4000 55.7 63.7 65.1 68.2 70.6 70.6 69.0 70.1 70.7 68.5 57.6 44.4 22.7 167.4

5000 40.4 51.4 53.4 58.5 61.6 61.6 59.6 60.7 60.8 56.0 43.5 25.6

6300 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

8000 17.3 31.6 37.3 42.6 45.9 46.4 43.7 44.4 45.0 38.1 21.3 167.2

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OF POOR QUALITY

VHICL = ADH744 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CNFIG = 1 MODEL = AX FLIVEL = 400. FPS  
IAPLHA = SB59 IEQA = NG PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
MIND DIR = DEG MIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBR  
FNINI = LBS XNL RPM XNHR = RPM XNHR = RPM V8 = 2358.4 FPS AEB = 20.4 SQ IN  
FNFRMB = LBS XNL RPM XNHR = RPM V8 = 2358.4 FPS AEB = 20.4 SQ IN  
RUPNT = -400-0106 TAPE = X01061 TEST PT NO = 01C NC = AE040 CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRC CONVONIC NOZ/AX/SC-1/NAS3-22514

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

GASPL 99.1 101.1 99.6 101.3 101.5 99.6 97.9 100.3 105.0 108.3 106.6 99.9 96.6 184.9  
PNL 104.3 107.1 105.8 108.2 108.6 107.0 105.3 107.6 111.0 112.7 109.7 102.6 99.0  
PNLT 105.2 107.7 106.5 108.8 108.6 107.6 105.3 108.2 111.6 112.7 109.7 102.6 99.0  
DBA 94.1 97.0 96.0 98.3 98.4 97.2 95.9 98.3 100.8 101.4 97.7 90.5 87.6

8000  
5000  
6300  
8000

100



DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

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IDENTIFICATION - MODEL 82F-ZER-0107 X0107C  
BACKGROUND X79F400B0400  
ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.2  | 84.7  | 84.5  | 86.5  | 86.9  | 82.0  | 85.6  | 85.3  | 88.0  | 95.1  | 93.4  | 94.6  | 92.3  |
| 63    | 89.0  | 91.3  | 91.3  | 91.3  | 91.3  | 92.0  | 93.9  | 93.8  | 93.0  | 96.4  | 95.0  | 96.2  | 95.8  |
| 80    | 90.5  | 94.8  | 89.1  | 91.9  | 91.5  | 92.8  | 93.6  | 93.6  | 95.3  | 95.9  | 98.3  | 99.5  | 100.1 |
| 100   | 88.8  | 94.6  | 89.6  | 94.4  | 94.7  | 93.9  | 93.5  | 96.7  | 96.9  | 98.7  | 99.3  | 103.3 | 104.2 |
| 125   | 86.9  | 88.6  | 89.9  | 93.7  | 94.5  | 93.7  | 92.3  | 93.9  | 96.2  | 99.7  | 105.9 | 107.3 | 141.7 |
| 150   | 86.3  | 86.3  | 87.6  | 89.9  | 90.5  | 90.3  | 92.0  | 93.6  | 96.1  | 101.2 | 105.8 | 108.5 | 111.1 |
| 160   | 86.3  | 86.3  | 87.6  | 89.9  | 90.5  | 90.3  | 92.0  | 93.6  | 96.1  | 101.2 | 105.8 | 108.5 | 111.1 |
| 200   | 88.3  | 88.6  | 87.8  | 91.9  | 93.0  | 93.3  | 92.7  | 96.6  | 101.3 | 104.2 | 108.5 | 112.0 | 113.1 |
| 250   | 87.8  | 91.3  | 89.6  | 93.1  | 92.7  | 93.3  | 94.7  | 99.4  | 102.1 | 109.4 | 113.5 | 115.7 | 149.3 |
| 315   | 88.1  | 91.6  | 89.1  | 92.9  | 94.8  | 94.6  | 95.8  | 98.7  | 105.1 | 111.2 | 115.6 | 116.8 | 150.8 |
| 400   | 90.3  | 92.9  | 90.1  | 94.4  | 95.0  | 94.6  | 96.8  | 99.9  | 107.4 | 115.2 | 118.3 | 118.0 | 152.8 |
| 500   | 91.2  | 94.2  | 91.0  | 95.0  | 96.4  | 96.7  | 97.1  | 102.3 | 109.0 | 117.3 | 120.2 | 118.1 | 154.1 |
| 630   | 93.0  | 96.1  | 93.1  | 96.9  | 97.7  | 98.1  | 99.0  | 104.6 | 112.1 | 120.7 | 121.3 | 119.0 | 155.9 |
| 800   | 96.9  | 97.0  | 95.2  | 98.5  | 99.4  | 99.7  | 101.6 | 106.3 | 114.5 | 121.8 | 121.7 | 118.6 | 156.7 |
| 1000  | 101.7 | 103.2 | 99.5  | 102.5 | 101.6 | 101.2 | 102.4 | 108.0 | 116.0 | 122.8 | 121.9 | 118.9 | 157.4 |
| 1250  | 110.1 | 111.5 | 108.7 | 109.6 | 107.2 | 103.8 | 105.0 | 109.8 | 117.2 | 121.5 | 120.0 | 115.6 | 156.7 |
| 1500  | 110.5 | 104.8 | 105.2 | 104.8 | 105.2 | 103.3 | 104.6 | 110.2 | 117.0 | 121.9 | 123.0 | 117.4 | 157.6 |
| 2000  | 110.1 | 111.5 | 108.7 | 109.6 | 107.2 | 103.8 | 105.0 | 109.8 | 117.2 | 121.5 | 120.0 | 115.6 | 156.7 |
| 2500  | 108.6 | 108.9 | 107.7 | 112.7 | 114.1 | 108.4 | 105.4 | 111.0 | 116.4 | 121.6 | 119.9 | 114.0 | 157.0 |
| 3150  | 107.0 | 108.6 | 105.8 | 109.6 | 111.4 | 110.5 | 112.6 | 118.0 | 115.4 | 119.4 | 116.9 | 109.9 | 155.0 |
| 4000  | 104.7 | 107.0 | 105.5 | 108.3 | 107.9 | 108.5 | 112.6 | 118.0 | 115.4 | 119.4 | 116.9 | 109.9 | 155.0 |
| 5000  | 103.7 | 105.8 | 103.8 | 106.8 | 108.0 | 106.5 | 108.4 | 111.9 | 114.4 | 117.5 | 115.6 | 108.9 | 153.8 |
| 6300  | 101.7 | 104.4 | 103.6 | 106.1 | 107.2 | 107.2 | 112.7 | 114.2 | 117.1 | 114.9 | 107.6 | 103.9 | 153.6 |
| 8000  | 100.1 | 102.6 | 101.2 | 105.2 | 106.4 | 105.9 | 111.0 | 113.3 | 115.6 | 113.3 | 105.6 | 102.2 | 152.7 |
| 10000 | 98.5  | 102.3 | 101.3 | 104.8 | 106.2 | 105.7 | 106.0 | 110.5 | 112.4 | 115.5 | 111.9 | 105.4 | 152.7 |
| 12500 | 97.1  | 100.2 | 99.7  | 102.7 | 104.4 | 104.4 | 104.2 | 108.2 | 110.3 | 112.5 | 110.4 | 103.9 | 151.3 |
| 15000 | 93.7  | 97.7  | 96.6  | 100.4 | 102.3 | 102.3 | 106.2 | 108.8 | 111.0 | 108.5 | 100.5 | 95.5  | 150.8 |
| 20000 | 91.4  | 95.4  | 93.8  | 97.1  | 99.8  | 99.8  | 100.2 | 103.8 | 106.2 | 109.2 | 105.9 | 98.0  | 150.3 |
| 25000 | 88.3  | 92.4  | 91.4  | 94.4  | 96.8  | 97.9  | 98.0  | 100.6 | 102.6 | 104.1 | 99.6  | 95.4  | 148.7 |
| 31500 | 83.6  | 89.0  | 87.8  | 90.5  | 93.5  | 94.6  | 93.8  | 97.4  | 99.3  | 102.3 | 97.0  | 92.4  | 149.0 |
| 40000 | 79.1  | 84.5  | 83.9  | 86.5  | 89.5  | 90.0  | 93.8  | 96.7  | 100.3 | 94.7  | 87.7  | 80.2  | 150.1 |
| 50000 | 74.7  | 79.8  | 78.7  | 81.5  | 84.9  | 85.1  | 88.7  | 92.9  | 96.0  | 90.1  | 82.2  | 75.7  | 150.1 |
| 63000 | 68.8  | 75.6  | 72.9  | 76.2  | 80.3  | 80.8  | 79.4  | 84.1  | 88.1  | 90.8  | 86.4  | 77.6  | 150.6 |
| 80000 | 64.0  | 69.0  | 68.1  | 69.6  | 74.3  | 75.6  | 74.3  | 79.3  | 83.5  | 88.0  | 79.8  | 72.7  | 153.3 |
| QASPL | 118.3 | 118.8 | 116.2 | 118.9 | 119.7 | 118.1 | 117.7 | 122.3 | 127.0 | 132.3 | 132.8 | 129.0 | 126.7 |
| PNL   | 129.8 | 131.0 | 128.9 | 132.6 | 133.5 | 131.7 | 130.9 | 135.3 | 139.5 | 144.2 | 143.6 | 139.0 | 136.2 |
| DBA   | 119.0 | 119.3 | 116.7 | 119.4 | 120.0 | 118.0 | 117.4 | 122.1 | 127.1 | 132.4 | 132.8 | 128.1 | 125.1 |

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NASA SHOCK CELL/CIRC CONVCNIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH734 TEST DATE = 03-19-82 LCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FINI1 = LBS XNL RPM XNH RPM XNHR = V8 = 2381.2 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNL RPM XNH RPM XNHR = V8 = 2381.2 FPS AE8 = 20.4 SQ IN  
 RUNPT = 82F-ZER-0107 TAPE = X0107C TEST PT NO = 0107 NC = AE040 CORR FAN SPEED = RPM





DATPROC - FLTKAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

06/18/82 17.400 PAGE 1

IDENTIFICATION - MODEL 82F-400-0108 X0108C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 89.2 91.7 85.7 89.0 88.1 88.2 87.9 88.3 90.0 101.3 97.7 94.9 99.8 137.9

50 89.2 91.7 85.7 89.0 88.1 88.2 87.9 88.3 90.0 101.3 97.7 94.9 99.8 137.9

63 89.7 93.8 92.3 92.8 92.9 91.0 94.4 90.8 93.5 101.1 98.5 94.9 99.3 137.2

80 90.5 94.3 88.6 92.9 92.0 92.3 92.0 93.4 94.6 99.2 97.0 98.0 100.9 136.9

100 88.8 93.1 88.1 92.4 92.7 92.6 92.2 96.2 95.6 98.2 97.8 102.5 103.9 138.3

125 87.6 88.6 88.9 93.2 93.5 92.7 91.8 93.2 94.7 100.0 103.1 105.5 107.5 140.5

160 86.3 86.3 86.3 88.4 87.5 88.3 89.2 90.1 92.8 99.7 103.0 106.0 109.1 140.6

200 86.8 87.3 84.6 87.9 89.0 89.6 89.7 93.4 97.8 101.2 105.0 109.0 110.9 142.9

250 86.0 86.1 85.3 89.1 89.2 90.8 90.7 94.6 97.8 104.9 109.3 112.5 112.1 145.7

315 86.6 88.4 85.9 89.7 90.0 91.1 92.3 94.9 100.1 107.2 111.8 113.8 112.4 147.2

400 88.1 89.6 86.6 87.2 89.0 91.2 91.0 92.8 95.9 102.6 110.7 114.8 115.3 149.1

500 88.4 90.7 87.5 90.8 91.9 93.0 93.6 98.3 104.7 113.3 116.9 113.9 106.8 150.2

600 92.4 93.2 90.5 93.8 95.1 95.2 97.1 102.8 109.5 118.6 119.4 112.6 103.5 153.2

800 92.4 93.2 90.5 93.8 95.1 95.2 97.1 102.8 109.5 118.6 119.4 112.6 103.5 153.2

1000 96.7 98.7 95.5 98.3 97.4 97.0 98.6 104.0 111.2 119.8 120.4 112.1 104.0 154.3

1250 101.7 104.5 100.5 101.0 101.2 100.8 101.6 107.4 113.8 120.9 122.0 111.4 105.4 154.9

1600 110.2 109.5 105.5 104.1 101.2 100.8 101.6 107.4 113.8 120.9 122.0 111.4 105.4 156.0

2000 108.6 111.5 109.0 109.6 105.9 102.3 102.0 107.6 113.5 121.2 120.8 111.6 105.8 156.0

2500 106.1 108.4 107.7 111.0 110.8 105.7 102.9 108.7 113.6 120.4 118.4 111.0 105.2 155.2

3150 105.2 107.3 105.3 108.6 111.2 110.5 106.1 109.1 114.2 119.8 117.5 107.9 103.9 154.9

4000 104.2 105.8 104.3 106.6 106.6 106.9 108.5 111.1 113.9 118.4 115.9 107.9 102.9 153.9

5000 103.2 105.3 103.3 105.8 106.0 105.5 107.6 111.4 113.4 116.3 114.9 106.9 101.4 152.8

6300 101.7 102.6 102.8 105.1 105.7 106.5 112.4 114.4 116.3 114.4 105.6 100.4 152.9

8000 100.9 102.5 100.8 104.2 104.9 105.5 110.5 113.5 114.8 112.6 104.3 99.4 152.2

10000 99.7 101.8 100.3 103.0 103.0 104.7 105.5 110.2 112.4 115.0 111.2 103.4 98.1 152.2

12500 97.9 99.7 98.4 100.9 102.9 103.4 103.5 108.7 110.5 112.3 109.4 101.9 96.7 151.0

16000 94.9 96.9 95.6 98.7 100.8 101.5 101.8 109.0 109.7 107.3 99.0 94.0 150.2

20000 91.9 94.7 93.3 96.3 98.3 99.3 98.9 103.6 106.2 107.4 104.1 96.8 149.3

25000 88.8 90.9 90.1 92.2 95.0 96.6 96.5 100.3 102.1 103.9 99.1 94.4 87.8 148.0

31500 84.3 87.5 85.8 89.0 91.2 92.1 92.6 96.7 98.8 101.1 96.5 90.2 83.5 147.9

40000 79.4 82.5 81.7 83.7 86.9 88.7 92.8 95.5 98.8 95.5 98.8 93.2 86.0 148.7

50000 74.7 77.5 75.0 78.5 81.7 84.0 83.1 87.7 91.1 93.0 88.3 80.7 72.7 147.9

63000 69.8 72.1 69.4 72.7 77.0 78.5 77.6 82.1 85.1 89.3 84.2 74.6 66.5 148.5

80000 65.5 66.8 63.6 66.8 70.1 71.1 70.3 76.8 81.3 84.5 78.8 67.7 58.9 150.3

QASPL 115.8 117.5 115.3 117.3 117.6 116.8 116.3 120.8 124.5 130.4 130.2 124.2 120.5 166.5

PFLT 128.0 130.9 132.0 131.4 132.0 131.8 129.8 133.4 137.2 142.8 141.9 135.3 130.5

DBA 116.4 118.1 115.8 117.8 117.9 116.8 116.0 120.4 124.4 130.6 130.2 122.5 116.8

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH743 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CNFIGN = 1

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 44.00

WIND DIR = MIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIGN = ARC

FNINI = LBS XNL RPM XNH RPM = V8 = 2377.7 FPS AEB = 20.4 SQ IN

FNRAMB = LBS XNLR RPM XNHR RPM = V18 = 2377.7 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0108 TAPE = X0108C TEST PT NO = 0108

NC = AE040 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0108 X0108F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 250 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 200 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 160 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 125 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 100 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 80  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 63  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 50  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 40  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |

|     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 250 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 200 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 160 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 125 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 100 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 80  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 63  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 50  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 40  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |

|     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 250 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 200 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 160 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 125 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 100 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 80  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 63  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 50  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 40  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |

|     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 250 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 200 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 160 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 125 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 100 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 80  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 63  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 50  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 40  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |

|     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 250 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 200 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 160 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 125 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 100 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 80  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 63  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 50  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 40  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |

|     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 250 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 200 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 160 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 125 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 100 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 80  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 63  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 50  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 40  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |

|     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 250 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 200 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 160 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 125 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 100 | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 80  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 63  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 50  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |
| 40  | 92.4 | 93.4 | 93.4 | 91.9 | 90.6 | 90.8 | 88.8 | 91.0 | 96.7 | 102.8 | 106.9 | 109.3 | 109.8 | 143.3 |

VEHICLE = ADH743 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX  
 IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2377.7 FPS AE8 = 20.4 SQ IN  
 FNAMB = LBS XNLR = RPM XNH XNHR = RPM V18 = 2377.7 FPS AE18 = 0. SQ IN  
 RUNPT = 82F-400-0108 TAPE = X0108F TEST PT NO = 0108 NC = AE040 CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRC CONVONCIC NOZ/AX/SC-1/NAS3-22514  
 MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA   | 195.7 | 197.0 | 193.2 | 194.8 | 196.7 | 196.7 | 194.5 | 198.7 | 202.3 | 205.1 | 199.8 | 192.1 | 190.4 |
| PML   | 136.8 | 137.8 | 135.3 | 134.5 | 134.0 | 133.2 | 129.9 | 132.3 | 137.0 | 141.5 | 140.6 | 136.2 | 137.5 |
| PNL   | 136.8 | 137.8 | 135.3 | 134.5 | 134.0 | 133.2 | 129.9 | 132.3 | 137.0 | 141.5 | 140.6 | 136.2 | 137.5 |
| GASPL | 123.7 | 124.4 | 120.8 | 121.5 | 120.9 | 119.1 | 117.3 | 120.4 | 124.7 | 129.6 | 129.4 | 124.8 | 125.6 |
| 80000 | 73.5  | 74.6  | 70.4  | 72.1  | 74.1  | 74.1  | 71.8  | 76.9  | 78.9  | 81.7  | 76.3  | 68.2  | 66.3  |
| 63000 | 79.8  | 81.4  | 77.4  | 79.4  | 81.6  | 81.5  | 79.1  | 82.1  | 88.7  | 91.5  | 86.1  | 78.0  | 76.1  |
| 50000 | 85.5  | 87.4  | 85.1  | 85.6  | 86.3  | 87.0  | 84.8  | 87.9  | 91.1  | 94.8  | 89.9  | 83.4  | 82.3  |
| 40000 | 90.8  | 92.7  | 89.6  | 91.2  | 91.9  | 91.9  | 90.3  | 92.9  | 96.2  | 97.6  | 93.2  | 88.6  | 87.5  |
| 31500 | 96.1  | 97.0  | 94.8  | 95.3  | 95.1  | 94.2  | 96.8  | 100.1 | 102.9 | 97.7  | 93.4  | 93.1  | 150.5 |
| 25000 | 97.2  | 99.3  | 97.0  | 99.0  | 99.6  | 99.6  | 98.3  | 100.6 | 102.6 | 104.4 | 100.1 | 96.8  | 97.0  |
| 20000 | 100.9 | 102.1 | 99.9  | 102.0 | 102.4 | 102.3 | 100.6 | 103.7 | 105.2 | 106.5 | 102.1 | 100.3 | 100.8 |
| 16000 | 104.2 | 105.3 | 103.1 | 104.6 | 104.8 | 104.5 | 103.4 | 106.6 | 108.7 | 109.3 | 106.4 | 102.0 | 103.8 |
| 12500 | 106.6 | 107.9 | 105.5 | 107.3 | 107.0 | 106.4 | 105.0 | 108.7 | 111.1 | 111.2 | 109.1 | 103.9 | 105.8 |
| 10000 | 108.0 | 108.9 | 106.3 | 108.7 | 109.0 | 107.7 | 107.0 | 110.2 | 112.0 | 113.2 | 110.7 | 106.2 | 107.9 |
| 8000  | 109.0 | 110.7 | 108.5 | 109.8 | 108.5 | 108.5 | 106.9 | 110.5 | 113.5 | 115.7 | 112.2 | 107.4 | 109.1 |
| 6300  | 110.1 | 111.7 | 108.9 | 110.5 | 109.8 | 108.7 | 107.9 | 112.4 | 114.5 | 115.3 | 113.4 | 108.1 | 110.2 |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0108 X01081

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

72.1 74.4 71.8 75.0 75.2 74.2 74.6 76.4 84.0 91.0 93.2 89.5 82.9 156.5

63 72.8 75.1 72.2 76.2 76.2 76.1 75.2 78.2 86.5 94.2 94.5 90.1 82.0 168.1

80 73.6 76.6 73.3 76.0 77.8 77.5 76.8 80.2 89.0 96.5 96.1 89.7 83.5 169.7

100 75.0 78.1 75.1 77.6 79.4 78.4 78.7 82.6 91.2 98.3 97.9 90.7 86.7 171.6

125 76.9 78.6 75.9 78.8 81.5 80.3 80.3 83.9 92.8 99.2 98.1 89.3 88.1 172.3

150 80.9 83.5 80.3 82.8 84.3 82.6 81.8 85.7 94.0 99.6 99.7 90.1 88.5 173.5

200 86.7 90.0 85.8 85.7 85.6 84.2 83.4 87.4 93.8 100.1 98.6 90.4 88.4 173.8

250 95.7 95.6 91.4 89.3 90.8 85.7 83.9 87.7 94.1 99.5 96.5 90.0 87.8 174.7

315 96.3 99.4 96.2 95.6 95.3 89.2 84.8 89.0 94.8 98.9 95.5 88.4 85.9 176.2

400 89.6 93.1 92.7 95.8 95.9 94.1 88.2 89.4 94.8 97.6 93.7 86.1 83.9 174.7

500 89.3 92.4 90.7 93.7 91.5 92.7 90.8 91.6 94.0 95.2 92.2 84.5 81.4 173.7

630 87.8 90.6 89.5 91.4 90.9 89.5 90.0 91.9 93.7 94.7 91.0 82.1 78.5 173.0

800 85.6 89.4 88.1 90.6 90.4 89.5 88.6 92.5 93.6 93.0 88.9 80.3 76.6 172.6

1000 84.0 88.1 87.4 89.7 89.5 89.2 87.4 90.5 92.5 93.1 87.2 78.8 74.3 172.3

1250 82.5 86.0 85.0 88.5 88.3 87.4 88.3 87.4 90.0 90.7 85.3 76.9 71.7 171.5

1500 80.3 84.3 83.8 86.7 87.0 86.7 85.1 88.2 89.3 87.7 82.8 73.2 67.2 170.8

2000 76.9 81.1 81.0 83.8 84.7 84.6 83.3 85.8 86.6 85.2 79.1 69.7 62.2 169.9

2500 71.8 76.8 77.0 80.5 81.7 82.0 79.9 82.2 82.3 81.1 73.0 65.2 54.3 168.7

3150 64.8 71.5 72.2 76.0 77.6 77.9 76.2 77.5 77.8 76.6 67.7 56.7 42.1 168.4

4000 57.4 64.4 66.1 69.0 70.8 70.5 69.2 70.5 71.5 70.4 59.0 44.4 23.7 168.8

5000 42.4 52.6 54.7 59.5 61.9 62.5 60.3 61.2 61.3 57.5 44.8 25.8

6300 19.3 33.1 38.1 43.1 46.2 47.7 44.7 45.4 44.1 40.5 23.7

8000 169.6

167.7

1000 800 8000

1250 106.1 109.3 107.2 108.8 109.1 107.8 105.6 108.3 111.0 113.4 110.4 102.5 99.0

1500 106.7 110.2 107.8 109.3 109.1 108.3 105.6 109.8 111.0 114.1 110.4 102.5 99.0

2000 100.8 103.2 100.8 102.2 102.0 100.3 98.2 100.8 104.8 108.9 107.3 99.9 96.7 185.6

2500 106.1 109.3 107.2 108.8 109.1 107.8 105.6 108.3 111.0 113.4 110.4 102.5 99.0

3150 106.7 110.2 107.8 109.3 109.1 108.3 105.6 109.8 111.0 114.1 110.4 102.5 99.0

4000 95.5 98.5 96.9 99.1 98.9 97.9 96.3 98.9 100.9 102.1 98.4 90.5 87.5

5000 95.5 98.5 96.9 99.1 98.9 97.9 96.3 98.9 100.9 102.1 98.4 90.5 87.5

6300 95.5 98.5 96.9 99.1 98.9 97.9 96.3 98.9 100.9 102.1 98.4 90.5 87.5

8000 95.5 98.5 96.9 99.1 98.9 97.9 96.3 98.9 100.9 102.1 98.4 90.5 87.5

DBA 95.5 98.5 96.9 99.1 98.9 97.9 96.3 98.9 100.9 102.1 98.4 90.5 87.5

PNL 106.1 109.3 107.2 108.8 109.1 107.8 105.6 108.3 111.0 113.4 110.4 102.5 99.0

PNL 106.7 110.2 107.8 109.3 109.1 108.3 105.6 109.8 111.0 114.1 110.4 102.5 99.0

DBA 95.5 98.5 96.9 99.1 98.9 97.9 96.3 98.9 100.9 102.1 98.4 90.5 87.5

GASPL 100.8 103.2 100.8 102.2 102.0 100.3 98.2 100.8 104.8 108.9 107.3 99.9 96.7 185.6

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICLE = ADH743 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS

IAPLHA = SB89 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT

MIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFRR = 92.5 PCT

FNINI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 2377.7 FPS AEB AE18 = 20.4 SQ IN

FNRAMB = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 2377.7 FPS AEB AE18 = 20.4 SQ IN

RUNPT = -400-0108 TAPE = X01081 TEST PT NO = 010 NC = AE040 CORR FAN SPEED = RPP

ORIGINAL PAGE NO  
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0111 X0111C

BACKGROUND X79FA00B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.2  | 87.0  | 84.5  | 85.5  | 84.9  | 82.5  | 85.6  | 85.3  | 87.5  | 92.6  | 91.4  | 92.1  | 92.5  | 130.1 |
| 60    | 89.0  | 91.5  | 89.0  | 92.8  | 89.8  | 92.4  | 89.8  | 89.6  | 93.3  | 90.4  | 93.0  | 95.4  | 93.8  | 134.4 |
| 80    | 90.3  | 95.1  | 89.6  | 91.9  | 91.7  | 92.3  | 92.2  | 94.1  | 95.1  | 94.2  | 97.3  | 99.0  | 100.1 | 136.5 |
| 100   | 88.8  | 89.6  | 89.4  | 94.2  | 94.5  | 93.6  | 93.5  | 96.4  | 96.6  | 98.4  | 99.6  | 103.0 | 104.2 | 139.0 |
| 125   | 86.6  | 89.1  | 90.2  | 94.2  | 94.3  | 93.7  | 93.0  | 94.7  | 95.9  | 98.7  | 105.6 | 107.3 | 108.0 | 141.7 |
| 160   | 86.3  | 86.8  | 88.3  | 90.1  | 90.5  | 90.8  | 92.5  | 93.4  | 96.1  | 101.2 | 105.8 | 108.0 | 110.9 | 142.7 |
| 200   | 88.8  | 89.1  | 88.1  | 91.6  | 93.2  | 93.1  | 93.5  | 96.9  | 101.3 | 103.2 | 108.5 | 112.2 | 113.6 | 145.9 |
| 250   | 88.3  | 91.8  | 90.1  | 92.6  | 93.5  | 93.6  | 95.0  | 99.6  | 102.6 | 108.9 | 113.3 | 115.5 | 114.6 | 149.0 |
| 315   | 88.3  | 91.4  | 89.4  | 92.7  | 95.3  | 95.4  | 96.3  | 99.2  | 105.6 | 111.2 | 115.3 | 116.8 | 116.4 | 150.8 |
| 400   | 90.3  | 93.1  | 90.4  | 94.4  | 95.3  | 94.9  | 97.0  | 100.4 | 107.9 | 115.7 | 118.8 | 118.3 | 115.7 | 153.2 |
| 500   | 91.2  | 94.2  | 91.2  | 95.3  | 96.6  | 97.0  | 97.6  | 102.8 | 109.7 | 117.6 | 120.2 | 118.1 | 115.0 | 154.2 |
| 630   | 93.0  | 96.1  | 92.9  | 97.1  | 98.2  | 98.3  | 99.5  | 104.4 | 112.4 | 120.7 | 121.3 | 118.0 | 115.6 | 155.8 |
| 800   | 97.2  | 97.0  | 95.2  | 98.8  | 99.9  | 99.7  | 101.6 | 106.3 | 114.7 | 122.6 | 121.7 | 118.4 | 116.5 | 157.0 |
| 1000  | 101.7 | 103.7 | 99.5  | 102.0 | 102.1 | 101.5 | 102.6 | 108.0 | 116.5 | 123.3 | 121.7 | 118.6 | 115.5 | 157.6 |
| 1250  | 114.0 | 115.5 | 109.8 | 107.3 | 108.1 | 105.3 | 106.6 | 110.0 | 118.3 | 126.3 | 129.0 | 122.1 | 118.9 | 162.3 |
| 1600  | 110.5 | 109.3 | 105.5 | 104.8 | 104.2 | 103.3 | 104.1 | 109.9 | 117.5 | 122.4 | 122.2 | 117.2 | 111.8 | 157.6 |
| 2000  | 110.4 | 112.0 | 109.0 | 110.6 | 107.4 | 104.0 | 105.8 | 110.6 | 117.5 | 122.5 | 120.0 | 115.1 | 111.8 | 157.6 |
| 2500  | 109.1 | 109.4 | 108.0 | 112.7 | 114.8 | 109.9 | 105.6 | 111.2 | 116.4 | 122.1 | 120.7 | 114.5 | 110.7 | 157.5 |
| 3150  | 107.5 | 109.1 | 106.6 | 111.7 | 111.0 | 109.5 | 108.1 | 111.4 | 116.7 | 121.3 | 118.8 | 112.7 | 109.9 | 156.5 |
| 4000  | 105.0 | 107.3 | 105.8 | 108.1 | 109.1 | 109.5 | 112.3 | 115.4 | 120.4 | 117.6 | 110.7 | 107.9 | 105.6 | 155.6 |
| 5000  | 104.2 | 106.0 | 103.8 | 107.1 | 108.5 | 107.0 | 108.9 | 111.9 | 114.7 | 118.5 | 116.1 | 109.6 | 105.9 | 154.4 |
| 6300  | 102.2 | 105.4 | 103.8 | 107.5 | 107.7 | 107.2 | 112.9 | 114.7 | 117.8 | 115.4 | 108.4 | 104.9 | 104.2 | 154.2 |
| 8000  | 100.6 | 103.8 | 101.8 | 106.4 | 106.0 | 106.5 | 111.3 | 113.5 | 116.6 | 113.8 | 103.2 | 103.2 | 103.2 | 153.2 |
| 10000 | 99.7  | 102.8 | 101.5 | 105.0 | 106.2 | 106.0 | 106.5 | 110.7 | 112.9 | 113.2 | 105.4 | 101.1 | 103.2 | 153.2 |
| 12500 | 97.4  | 100.4 | 99.9  | 102.7 | 104.4 | 104.4 | 104.0 | 108.7 | 111.3 | 114.3 | 111.2 | 103.7 | 98.7  | 152.2 |
| 16000 | 94.9  | 97.9  | 97.4  | 100.4 | 102.8 | 102.7 | 102.8 | 106.4 | 109.3 | 112.0 | 109.0 | 101.5 | 96.3  | 151.5 |
| 20000 | 91.7  | 95.4  | 94.3  | 97.3  | 100.3 | 100.3 | 100.2 | 104.3 | 106.5 | 110.2 | 106.6 | 99.0  | 93.4  | 150.9 |
| 25000 | 89.0  | 92.1  | 92.4  | 94.4  | 97.3  | 97.6  | 98.3  | 101.1 | 102.4 | 105.4 | 100.1 | 95.6  | 89.1  | 149.2 |
| 31500 | 84.6  | 88.7  | 88.8  | 91.7  | 94.2  | 93.6  | 94.1  | 97.2  | 99.5  | 103.3 | 98.0  | 91.9  | 84.0  | 149.5 |
| 40000 | 80.4  | 84.5  | 84.9  | 87.2  | 90.5  | 90.6  | 90.5  | 93.8  | 96.7  | 100.8 | 95.2  | 87.7  | 80.4  | 150.5 |
| 50000 | 76.2  | 80.0  | 79.5  | 82.2  | 85.9  | 86.0  | 85.4  | 89.2  | 93.1  | 96.3  | 90.1  | 82.4  | 75.7  | 150.4 |
| 63000 | 69.6  | 75.1  | 74.4  | 77.4  | 80.5  | 81.0  | 80.1  | 84.6  | 88.1  | 92.3  | 86.2  | 77.8  | 71.5  | 151.3 |
| 80000 | 64.3  | 69.0  | 69.1  | 71.3  | 75.3  | 75.6  | 74.6  | 79.8  | 83.8  | 88.8  | 80.8  | 74.2  | 65.6  | 153.9 |
| QASPL | 118.7 | 120.1 | 116.8 | 119.1 | 120.0 | 118.4 | 118.4 | 118.1 | 122.4 | 127.4 | 133.2 | 133.3 | 129.0 | 126.6 |
| PNL   | 130.2 | 131.6 | 129.2 | 132.7 | 134.0 | 132.1 | 132.1 | 132.6 | 135.2 | 139.9 | 144.9 | 144.2 | 139.1 | 136.5 |
| PNLT  | 132.9 | 135.1 | 131.7 | 134.3 | 135.9 | 132.1 | 132.6 | 135.2 | 139.9 | 146.0 | 146.5 | 140.5 | 137.9 |       |
| DBA   | 119.4 | 120.6 | 117.3 | 119.5 | 120.4 | 118.4 | 117.9 | 122.1 | 127.5 | 133.3 | 133.3 | 128.0 | 125.1 |       |

NASA SHOCK CELL/CIRC CONVCNOC NCZ/AX/SC-1/NAS3-22514

VEHICL = ADH735 TEST DATE = 03-19-82 LCAT = C41 ANECH CH CNFIG = 1 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM XNHR RPM = V8 = 2391.6 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM = V8 = 2391.6 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-ZER-0111 TAPE = X0111C TEST PT NO = 0111 NC = AE040 CORR FAN SPEED = RPM

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FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 85.2 87.0 84.5 85.5 84.9 82.5 85.6 85.3 87.5 92.6 91.4 92.1 92.5 130.1

63 89.0 91.5 91.0 92.8 92.4 89.8 93.9 89.6 93.3 90.4 93.0 95.4 95.8 134.4

80 90.3 95.1 89.6 91.7 93.3 92.2 94.1 95.1 94.2 97.3 99.0 100.1 136.5

100 88.8 94.6 89.4 94.2 94.5 93.6 93.5 96.4 96.6 98.4 99.6 100.1 136.5

125 86.6 89.1 90.2 94.2 94.3 93.7 93.0 94.7 95.9 98.7 105.6 107.3 108.0 141.7

150 86.3 88.8 88.3 90.1 90.5 90.8 92.5 93.4 96.1 101.2 105.8 108.0 110.9 142.7

200 88.8 89.1 88.1 88.1 88.1 93.2 93.5 93.5 95.9 101.3 103.2 108.5 112.2 145.9

250 88.3 91.8 90.1 92.6 93.5 93.6 95.0 99.6 102.6 108.9 113.3 115.5 114.6 149.0

315 88.3 91.4 89.4 92.7 95.3 95.4 96.3 99.2 105.6 111.2 115.3 116.8 116.4 150.8

400 90.3 93.1 90.4 94.4 95.3 94.9 97.0 100.4 107.9 115.7 118.8 118.3 115.7 153.2

500 91.2 94.2 91.2 95.3 96.6 97.0 97.6 102.8 109.7 117.6 120.2 118.1 115.0 154.2

630 93.0 96.1 92.9 97.1 98.2 98.3 99.5 104.4 112.4 120.7 121.3 118.0 115.6 155.8

800 97.2 97.0 95.2 98.8 99.9 99.7 101.6 106.3 114.7 122.6 121.7 118.4 116.4 157.0

1000 101.7 103.7 99.5 102.0 102.1 101.5 102.6 108.0 116.5 123.3 121.7 118.6 115.5 157.6

1250 114.0 115.5 109.8 107.3 108.1 105.3 106.6 110.0 118.3 126.3 129.0 122.1 118.9 162.3

1500 110.5 109.3 105.5 104.8 104.2 103.3 104.1 109.9 117.5 122.4 122.2 117.2 113.7 157.6

1600 110.4 112.0 109.0 110.6 107.4 104.0 105.8 110.6 117.5 122.5 120.0 115.1 111.8 157.2

2000 109.1 109.4 108.0 112.7 114.8 109.9 105.6 111.2 116.4 122.1 120.7 114.5 110.7 157.5

2500 107.5 109.1 106.3 109.6 111.7 111.0 108.1 111.4 116.7 121.3 118.8 112.7 109.9 156.5

3150 107.3 107.3 103.3 107.3 107.3 100.3 100.3 104.3 106.5 110.2 106.6 99.0 93.4 150.9

4000 80.4 84.5 84.9 87.2 90.5 90.6 90.5 93.8 96.7 100.8 95.2 87.7 80.4 150.5

5000 76.2 80.0 79.5 82.2 85.9 86.0 85.4 89.2 93.1 96.3 90.1 82.4 75.7 150.4

63000 64.3 69.0 69.1 71.3 75.3 75.6 74.6 79.8 83.8 88.8 80.8 74.2 65.6 153.9

80000 64.3 69.0 69.1 71.3 75.3 75.6 74.6 79.8 83.8 88.8 80.8 74.2 65.6 153.9

GASPL 118.7 120.1 116.8 119.1 120.0 118.4 118.1 122.4 127.4 133.2 133.3 129.0 126.6 169.3

PWLT 130.2 131.6 129.2 132.7 134.0 132.1 131.5 135.2 139.9 144.9 144.2 139.1 136.5

DBA 186.2 191.0 190.8 193.3 197.0 197.4 196.4 201.3 205.2 209.9 202.5 195.5 187.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH735 TEST DATE = 03-19-82

WIND DIR = DEG WIND VEL = MPH

WIND DIR = DEG WIND VEL = MPH

VEHICL = ADH735 TEST DATE = 03-19-82

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C-2



DATPRC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0111 X01111

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 50    | 60     | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL  | 171.5 | 171.5  | 172.5 | 172.5 | 172.5 | 172.5 | 172.5 | 172.5 | 172.5 | 172.5 | 172.5 | 172.5 |
| 50   | 69.3  | 73.6   | 71.9  | 76.7  | 77.9  | 77.7  | 79.7  | 82.7  | 89.4  | 96.2  | 97.8  | 95.0  |
| 63   | 70.1  | 74.7   | 72.8  | 77.5  | 79.3  | 79.8  | 80.3  | 85.0  | 91.3  | 98.0  | 99.1  | 94.8  |
| 80   | 71.9  | 76.5   | 74.3  | 79.3  | 80.8  | 81.1  | 82.1  | 86.6  | 93.8  | 101.1 | 100.1 | 94.6  |
| 100  | 76.0  | 77.3   | 76.7  | 80.9  | 82.4  | 82.4  | 84.2  | 88.4  | 96.2  | 102.9 | 100.5 | 94.9  |
| 125  | 80.3  | 84.0   | 80.8  | 84.1  | 84.6  | 84.1  | 85.1  | 90.1  | 97.8  | 103.6 | 100.4 | 95.0  |
| 150  | 92.4  | 95.6   | 91.0  | 89.2  | 90.5  | 87.8  | 89.0  | 92.0  | 99.5  | 106.4 | 107.4 | 98.3  |
| 175  | 92.4  | 95.6   | 91.0  | 89.2  | 90.5  | 87.8  | 89.0  | 92.0  | 99.5  | 106.4 | 107.4 | 98.3  |
| 200  | 88.7  | 89.1   | 86.6  | 86.6  | 86.4  | 85.6  | 86.3  | 91.7  | 98.6  | 102.2 | 100.5 | 93.0  |
| 250  | 88.3  | 91.6   | 89.7  | 92.2  | 89.4  | 86.2  | 87.8  | 92.2  | 98.2  | 102.1 | 97.9  | 90.5  |
| 315  | 86.6  | 88.7   | 88.4  | 94.0  | 96.6  | 91.8  | 87.4  | 92.5  | 96.8  | 101.4 | 98.1  | 89.3  |
| 400  | 84.5  | 87.9   | 86.5  | 90.6  | 93.1  | 92.6  | 89.6  | 92.3  | 96.8  | 100.1 | 95.7  | 86.8  |
| 500  | 81.5  | 85.7   | 85.6  | 89.5  | 89.3  | 90.4  | 90.7  | 93.0  | 95.2  | 98.8  | 94.1  | 84.2  |
| 630  | 80.2  | 84.1   | 83.3  | 87.5  | 88.0  | 88.0  | 89.7  | 92.3  | 94.1  | 96.6  | 92.1  | 82.5  |
| 800  | 77.7  | 83.1   | 83.0  | 86.7  | 88.1  | 88.5  | 87.9  | 93.0  | 93.8  | 95.5  | 90.9  | 80.5  |
| 1000 | 75.7  | 81.2   | 80.7  | 85.4  | 86.9  | 86.7  | 86.4  | 91.2  | 92.4  | 94.0  | 88.9  | 77.8  |
| 1250 | 74.3  | 79.8   | 80.2  | 84.8  | 86.6  | 86.5  | 86.9  | 90.5  | 91.6  | 93.1  | 87.7  | 76.0  |
| 1500 | 71.1  | 76.9   | 78.2  | 82.1  | 84.5  | 84.7  | 84.1  | 88.1  | 89.6  | 90.7  | 84.9  | 73.0  |
| 2000 | 67.7  | 73.8   | 75.3  | 79.6  | 82.7  | 82.9  | 82.7  | 85.6  | 87.2  | 87.8  | 81.8  | 69.2  |
| 2500 | 62.6  | 70.1   | 71.4  | 75.9  | 79.7  | 80.0  | 79.5  | 82.9  | 83.5  | 84.8  | 77.6  | 63.9  |
| 3150 | 56.6  | 64.3   | 67.5  | 71.4  | 75.3  | 75.9  | 76.3  | 78.1  | 77.5  | 77.6  | 67.7  | 55.5  |
| 4000 | 45.9  | 56.2   | 60.1  | 65.4  | 69.2  | 69.0  | 69.1  | 70.9  | 70.9  | 70.8  | 59.3  | 42.9  |
| 5000 | 32.0  | 44.5   | 50.0  | 55.5  | 60.5  | 62.1  | 61.8  | 60.7  | 46.8  | 42.0  | 23.8  | 168.9 |
| 6300 | 10.0  | 25.7   | 32.5  | 39.7  | 45.8  | 46.7  | 45.3  | 46.7  | 46.1  | 42.0  | 23.8  | 168.9 |
| 8000 | 8.000 | 18.000 | 22.3  | 24.0  | 21.9  | 22.8  | 19.8  | 13.2  | 169.7 | 172.3 |       |       |

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MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVONIC NO2/AX/SC-1/NAS3-22514

VEHICL = ADH35 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2391.6 FPS AEB = 20.4 SQ IN  
FNFRMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 2391.6 FPS AEB = 20.4 SQ IN

RUNPT = 82F-ZER-0111 TAPE = X01111 TEST PT NO = 0111 NC = AEO40 CORR FAN SPEED = RPM



DATPROC - FLTRAN

06/18/82 17.400 PAGE 3

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0112 X0112F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PML

PML

|        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200    | 91.8  | 92.6  | 89.6  | 91.8  | 90.6  | 89.6  | 89.1  | 91.3  | 96.7  | 103.1 | 107.4 | 109.8 | 110.1 | 143.6 |
| 250    | 91.8  | 92.6  | 89.6  | 91.8  | 92.2  | 90.6  | 90.7  | 91.9  | 100.6 | 108.0 | 112.4 | 112.7 | 111.4 | 147.0 |
| 315    | 91.8  | 92.6  | 89.6  | 91.8  | 92.1  | 93.2  | 91.1  | 91.7  | 93.9  | 102.4 | 111.0 | 114.5 | 114.0 | 110.6 |
| 400    | 92.6  | 93.8  | 90.8  | 92.1  | 93.2  | 91.1  | 91.7  | 93.9  | 102.4 | 111.0 | 114.5 | 114.0 | 110.6 | 148.7 |
| 500    | 93.5  | 94.9  | 91.5  | 93.2  | 94.5  | 92.8  | 92.6  | 95.7  | 105.3 | 114.1 | 115.9 | 113.5 | 110.1 | 150.1 |
| 630    | 95.1  | 95.7  | 92.4  | 94.2  | 95.9  | 94.5  | 94.4  | 98.3  | 108.0 | 116.4 | 117.6 | 113.2 | 111.1 | 151.6 |
| 800    | 96.2  | 97.9  | 94.6  | 96.3  | 97.3  | 96.0  | 96.4  | 99.9  | 110.0 | 118.7 | 118.6 | 114.1 | 113.8 | 153.3 |
| 1000   | 98.8  | 97.7  | 96.8  | 97.3  | 99.0  | 97.3  | 97.5  | 102.3 | 111.5 | 119.3 | 119.5 | 113.6 | 115.9 | 154.2 |
| 1250   | 102.5 | 103.0 | 99.6  | 101.8 | 102.2 | 100.1 | 99.2  | 103.6 | 113.1 | 119.6 | 120.9 | 114.7 | 116.8 | 155.2 |
| 1500   | 110.5 | 111.3 | 105.9 | 104.8 | 103.7 | 102.1 | 101.2 | 105.2 | 113.5 | 120.6 | 120.2 | 115.2 | 117.0 | 155.8 |
| 2000   | 118.8 | 116.7 | 111.9 | 109.0 | 110.0 | 103.6 | 102.1 | 114.1 | 120.3 | 119.0 | 114.5 | 116.3 | 115.0 | 156.9 |
| 2500   | 119.0 | 120.3 | 116.4 | 115.3 | 114.7 | 108.3 | 103.6 | 107.9 | 114.4 | 119.3 | 118.2 | 113.9 | 116.3 | 158.2 |
| 3150   | 113.8 | 114.7 | 113.5 | 116.0 | 114.5 | 113.0 | 107.8 | 108.0 | 114.7 | 118.5 | 116.5 | 112.1 | 114.5 | 156.6 |
| 4000   | 113.3 | 114.0 | 111.9 | 113.0 | 111.3 | 111.4 | 109.9 | 111.0 | 114.5 | 116.4 | 114.9 | 111.0 | 111.9 | 155.0 |
| 5000   | 112.8 | 112.7 | 110.5 | 112.2 | 111.3 | 109.0 | 109.6 | 111.5 | 115.1 | 116.3 | 114.0 | 110.1 | 111.9 | 155.0 |
| 6300   | 110.9 | 112.0 | 109.6 | 110.9 | 110.5 | 109.4 | 108.4 | 112.3 | 114.5 | 115.1 | 112.9 | 107.4 | 110.2 | 154.4 |
| 8000   | 109.7 | 110.7 | 108.5 | 110.0 | 108.7 | 107.5 | 110.6 | 114.4 | 115.0 | 111.7 | 107.2 | 109.9 | 104.1 | 154.1 |
| 10000  | 108.2 | 109.4 | 106.8 | 109.2 | 110.0 | 107.7 | 107.9 | 110.6 | 112.6 | 111.6 | 111.1 | 109.2 | 104.3 | 153.5 |
| 12500  | 106.9 | 108.4 | 106.8 | 108.3 | 108.0 | 106.9 | 106.1 | 108.6 | 111.6 | 110.7 | 107.0 | 109.6 | 109.6 | 152.9 |
| 15000  | 104.7 | 105.3 | 103.9 | 105.9 | 105.5 | 105.0 | 104.5 | 106.1 | 109.2 | 109.6 | 106.4 | 102.1 | 104.1 | 152.0 |
| 20000  | 101.1 | 102.6 | 100.4 | 103.5 | 103.7 | 102.8 | 101.8 | 103.7 | 106.0 | 106.3 | 102.6 | 101.5 | 103.0 | 151.0 |
| 25000  | 100.3 | 101.8 | 99.2  | 100.4 | 100.1 | 99.9  | 99.4  | 100.8 | 102.9 | 103.7 | 99.7  | 96.9  | 97.3  | 150.7 |
| 31500  | 96.3  | 97.2  | 95.5  | 96.0  | 96.8  | 95.8  | 95.0  | 97.4  | 100.7 | 102.5 | 97.5  | 93.2  | 93.6  | 150.8 |
| 40000  | 91.1  | 93.2  | 90.3  | 91.7  | 92.9  | 91.9  | 90.9  | 93.2  | 97.0  | 97.9  | 93.5  | 88.3  | 88.1  | 150.5 |
| 50000  | 85.7  | 88.1  | 85.8  | 87.1  | 88.3  | 87.5  | 85.3  | 88.4  | 83.7  | 82.9  | 89.1  | 83.0  | 82.6  | 150.2 |
| 63000  | 79.3  | 82.7  | 78.7  | 80.9  | 82.4  | 82.0  | 80.1  | 82.8  | 87.7  | 92.0  | 85.3  | 78.0  | 76.1  | 151.4 |
| 80000  | 71.5  | 76.8  | 71.9  | 73.3  | 76.7  | 75.4  | 72.6  | 76.6  | 77.9  | 82.1  | 75.5  | 68.2  | 66.3  | 149.8 |
| GA SPL | 124.4 | 124.7 | 121.6 | 122.3 | 121.6 | 119.5 | 117.9 | 120.4 | 125.2 | 129.6 | 129.3 | 125.1 | 126.1 | 167.6 |
| FNL    | 137.2 | 138.1 | 134.7 | 135.4 | 134.5 | 132.6 | 130.3 | 132.3 | 137.3 | 141.5 | 140.6 | 136.5 | 138.1 |       |
| FNL T  | 138.4 | 139.6 | 135.9 | 135.4 | 134.5 | 133.6 | 130.3 | 132.3 | 137.3 | 141.5 | 140.6 | 136.5 | 138.1 |       |
| DBA    | 194.5 | 198.8 | 194.5 | 196.1 | 198.6 | 197.6 | 195.2 | 198.7 | 201.7 | 205.4 | 199.0 | 192.0 | 190.4 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFER CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH742 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CNFIO = 1 MODEL = AX FLVEL = 400. FPS

IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 44.00 MIKE HT = 29.55 RELHUM = 92.5 PCT

WIND DIR = WIND VEL = MPH EXT DIST = 40.0 FT CNFIO = ARC

FNINI = LBS XNLR RPM XNH XNHR RPM V8 = 2396.1 FPS AE8 = 20.4 SQ IN

FNFRMB = LBS XNLR RPM XNH XNHR RPM V8 = 2396.1 FPS AE18 = 0. SQ IN

RPMPT = 82F-400-0112 TAPE = X0112F TEST PT NO = 0112 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0112 X01121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

|       |      |      |      |      |      |      |      |      |      |       |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|
| 71.5  | 74.3 | 72.3 | 74.4 | 75.8 | 73.9 | 74.4 | 76.1 | 83.9 | 91.5 | 93.4  | 90.7 | 84.0  | 167.0 |
| 50    | 71.5 | 74.3 | 72.3 | 74.4 | 75.8 | 73.9 | 74.4 | 76.1 | 83.9 | 91.5  | 93.4 | 90.7  | 84.0  |
| 50    | 71.5 | 74.3 | 72.3 | 74.4 | 75.8 | 73.9 | 74.4 | 76.1 | 83.9 | 91.5  | 93.4 | 90.7  | 84.0  |
| 63    | 72.4 | 75.3 | 73.0 | 75.4 | 77.1 | 75.6 | 75.3 | 77.9 | 86.8 | 94.6  | 94.8 | 90.2  | 83.4  |
| 80    | 74.0 | 76.1 | 73.9 | 76.4 | 78.5 | 77.2 | 77.0 | 80.5 | 89.5 | 96.8  | 96.4 | 84.3  | 170.0 |
| 80    | 74.0 | 76.1 | 73.9 | 76.4 | 78.5 | 77.2 | 77.0 | 80.5 | 89.5 | 96.8  | 96.4 | 84.3  | 170.0 |
| 100   | 74.9 | 78.2 | 76.1 | 78.4 | 79.8 | 78.7 | 78.9 | 82.1 | 91.4 | 99.0  | 97.4 | 90.6  | 86.8  |
| 100   | 74.9 | 78.2 | 76.1 | 78.4 | 79.8 | 78.7 | 78.9 | 82.1 | 91.4 | 99.0  | 97.4 | 90.6  | 86.8  |
| 125   | 77.4 | 77.9 | 78.1 | 79.4 | 81.5 | 80.5 | 80.0 | 84.4 | 92.9 | 99.5  | 98.2 | 90.0  | 88.7  |
| 125   | 77.4 | 77.9 | 78.1 | 79.4 | 81.5 | 80.5 | 80.0 | 84.4 | 92.9 | 99.5  | 98.2 | 90.0  | 88.7  |
| 150   | 80.9 | 83.1 | 80.8 | 83.8 | 84.6 | 82.6 | 81.6 | 85.5 | 94.3 | 99.7  | 99.3 | 173.6 |       |
| 150   | 80.9 | 83.1 | 80.8 | 83.8 | 84.6 | 82.6 | 81.6 | 85.5 | 94.3 | 99.7  | 99.3 | 173.6 |       |
| 200   | 88.7 | 91.2 | 87.0 | 88.6 | 85.9 | 84.4 | 83.4 | 87.0 | 94.6 | 100.4 | 98.4 | 174.2 |       |
| 200   | 88.7 | 91.2 | 87.0 | 88.6 | 85.9 | 84.4 | 83.4 | 87.0 | 94.6 | 100.4 | 98.4 | 174.2 |       |
| 250   | 96.7 | 96.3 | 92.7 | 90.6 | 92.0 | 85.7 | 84.1 | 87.7 | 94.6 | 99.9  | 96.8 | 175.3 |       |
| 250   | 96.7 | 96.3 | 92.7 | 90.6 | 92.0 | 85.7 | 84.1 | 87.7 | 94.6 | 99.9  | 96.8 | 175.3 |       |
| 315   | 96.5 | 96.6 | 96.9 | 96.6 | 96.4 | 90.2 | 85.3 | 89.2 | 94.9 | 98.6  | 95.7 | 88.7  | 176.5 |
| 315   | 96.5 | 96.6 | 96.9 | 96.6 | 96.4 | 90.2 | 85.3 | 89.2 | 94.9 | 98.6  | 95.7 | 88.7  | 176.5 |
| 400   | 90.8 | 93.6 | 93.6 | 93.6 | 97.0 | 95.9 | 94.6 | 89.2 | 94.9 | 97.4  | 93.5 | 86.2  | 175.0 |
| 400   | 90.8 | 93.6 | 93.6 | 93.6 | 97.0 | 95.9 | 94.6 | 89.2 | 94.9 | 97.4  | 93.5 | 86.2  | 175.0 |
| 500   | 89.8 | 92.4 | 91.7 | 93.7 | 92.5 | 92.7 | 91.1 | 91.6 | 94.3 | 94.9  | 91.4 | 84.5  | 173.7 |
| 500   | 89.8 | 92.4 | 91.7 | 93.7 | 92.5 | 92.7 | 91.1 | 91.6 | 94.3 | 94.9  | 91.4 | 84.5  | 173.7 |
| 630   | 88.8 | 90.8 | 90.0 | 92.6 | 92.2 | 90.0 | 90.5 | 91.9 | 94.6 | 94.4  | 90.0 | 83.0  | 173.4 |
| 630   | 88.8 | 90.8 | 90.0 | 92.6 | 92.2 | 90.0 | 90.5 | 91.9 | 94.6 | 94.4  | 90.0 | 83.0  | 173.4 |
| 800   | 86.4 | 89.7 | 88.8 | 91.0 | 91.2 | 90.3 | 89.0 | 92.4 | 93.7 | 92.8  | 88.4 | 79.5  | 172.8 |
| 800   | 86.4 | 89.7 | 88.8 | 91.0 | 91.2 | 90.3 | 89.0 | 92.4 | 93.7 | 92.8  | 88.4 | 79.5  | 172.8 |
| 1000  | 84.8 | 88.1 | 87.4 | 89.9 | 90.5 | 89.4 | 88.0 | 90.5 | 93.3 | 92.4  | 86.8 | 78.6  | 172.4 |
| 1000  | 84.8 | 88.1 | 87.4 | 89.9 | 90.5 | 89.4 | 88.0 | 90.5 | 93.3 | 92.4  | 86.8 | 78.6  | 172.4 |
| 1250  | 82.8 | 86.5 | 85.5 | 89.0 | 90.4 | 88.3 | 88.2 | 90.3 | 89.9 | 85.3  | 77.7 | 73.4  | 171.9 |
| 1250  | 82.8 | 86.5 | 85.5 | 89.0 | 90.4 | 88.3 | 88.2 | 90.3 | 89.9 | 85.3  | 77.7 | 73.4  | 171.9 |
| 1500  | 80.5 | 84.8 | 85.0 | 87.7 | 88.0 | 87.2 | 86.2 | 88.0 | 89.9 | 87.5  | 82.9 | 73.6  | 171.3 |
| 1500  | 80.5 | 84.8 | 85.0 | 87.7 | 88.0 | 87.2 | 86.2 | 88.0 | 89.9 | 87.5  | 82.9 | 73.6  | 171.3 |
| 2000  | 77.4 | 81.1 | 81.8 | 85.1 | 85.5 | 85.1 | 84.4 | 85.3 | 87.1 | 85.5  | 79.1 | 69.7  | 170.4 |
| 2000  | 77.4 | 81.1 | 81.8 | 85.1 | 85.5 | 85.1 | 84.4 | 85.3 | 87.1 | 85.5  | 79.1 | 69.7  | 170.4 |
| 2500  | 72.0 | 77.3 | 77.5 | 82.0 | 83.0 | 82.5 | 81.2 | 82.3 | 83.0 | 81.0  | 73.6 | 66.4  | 169.4 |
| 2500  | 72.0 | 77.3 | 77.5 | 82.0 | 83.0 | 82.5 | 81.2 | 82.3 | 83.0 | 81.0  | 73.6 | 66.4  | 169.4 |
| 3150  | 67.8 | 74.0 | 74.4 | 77.4 | 78.1 | 78.2 | 77.4 | 77.8 | 78.1 | 75.9  | 67.2 | 56.8  | 169.1 |
| 3150  | 67.8 | 74.0 | 74.4 | 77.4 | 78.1 | 78.2 | 77.4 | 77.8 | 78.1 | 75.9  | 67.2 | 56.8  | 169.1 |
| 4000  | 57.7 | 64.7 | 66.8 | 69.7 | 71.8 | 71.3 | 70.1 | 71.1 | 72.0 | 70.0  | 58.8 | 44.2  | 169.1 |
| 4000  | 57.7 | 64.7 | 66.8 | 69.7 | 71.8 | 71.3 | 70.1 | 71.1 | 72.0 | 70.0  | 58.8 | 44.2  | 169.1 |
| 5000  | 42.6 | 53.1 | 55.4 | 60.0 | 62.9 | 62.5 | 60.9 | 61.5 | 62.1 | 57.8  | 45.0 | 25.6  | 168.6 |
| 5000  | 42.6 | 53.1 | 55.4 | 60.0 | 62.9 | 62.5 | 60.9 | 61.5 | 62.1 | 57.8  | 45.0 | 25.6  | 168.6 |
| 6300  | 19.5 | 33.8 | 38.8 | 44.6 | 48.2 | 48.2 | 45.2 | 45.9 | 46.0 | 38.6  | 22.8 |       | 168.6 |
| 6300  | 19.5 | 33.8 | 38.8 | 44.6 | 48.2 | 48.2 | 45.2 | 45.9 | 46.0 | 38.6  | 22.8 |       | 168.6 |
| 8000  |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 8000  |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 10000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 10000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 12500 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 12500 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 16000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 16000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 20000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 20000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 25000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 25000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 31500 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 31500 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 40000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 40000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 50000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 50000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 63000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 63000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 80000 |      |      |      |      |      |      |      |      |      |       |      |       |       |
| 80000 |      |      |      |      |      |      |      |      |      |       |      |       |       |

ORIGINAL PAGE IS  
OF POOR QUALITY

96

VEHICL = ADH742 TEST DATE = 03-19-82  
 IAPLHA = SB59 LEGA' = NO  
 WIND DIR = DEG WIND VEL = MPH  
 PNL AREA = FULL SPHERE EXT DIST = 2400.0 FT  
 CNFIG = C41 ANECH CH CNFIG = 1  
 MODEL = AX  
 FLVEL = 400. FPS  
 RELHUM = 92.5 PCT  
 PAMB HG = 29.55  
 MIKE HT =  
 NBFR =

FNINI = LBS XNL RPM XNHR =  
 FNFRAMB = LBS XNLR RPM XNHR =  
 V8 = 2396.1 FPS AE8 = 20.4 SQ IN  
 V18 = 2396.1 FPS AE18 = 20.4 SQ IN

TEST PT NO = 011 NC = AE040 CORR FAN SPEED =  
 = X01121

RUNPT = -400-0112 TAPE

NASA SHOCK CELL/CIRC CONVCONIC NGZ/AX/SC-1/NAS3-22514  
 MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

CASPL 101.5 103.6 101.6 103.0 102.8 100.7 98.7 100.7 105.2 109.1 107.2 100.3 97.2 185.9  
 PNL 106.6 109.6 108.0 109.8 109.7 108.2 106.4 108.2 111.5 113.4 110.2 102.7 99.5  
 PNLT 107.2 110.4 108.6 110.3 110.2 108.7 106.4 108.7 112.1 113.4 110.2 102.7 99.5  
 DBA 96.2 98.8 97.6 99.8 99.8 98.3 96.9 98.8 101.3 101.9 98.2 90.7 88.0



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0113 X0113F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|        |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50     | 85.4  | 90.5  | 87.5  | 84.6  | 82.2  | 86.1  | 86.0  | 88.7  | 92.6  | 91.4  | 98.1  | 93.3  | 132.0 |
| 53     | 89.0  | 94.6  | 88.8  | 82.6  | 92.7  | 90.8  | 83.4  | 89.1  | 92.8  | 93.1  | 93.7  | 98.7  | 135.2 |
| 60     | 90.3  | 95.6  | 90.1  | 92.9  | 92.0  | 92.5  | 94.4  | 95.6  | 94.4  | 97.5  | 99.5  | 100.4 | 136.8 |
| 100    | 88.8  | 94.6  | 90.1  | 94.2  | 93.9  | 93.7  | 96.4  | 97.4  | 98.4  | 99.6  | 103.5 | 104.4 | 139.3 |
| 125    | 87.4  | 89.1  | 90.4  | 94.4  | 94.8  | 94.4  | 93.5  | 94.7  | 96.4  | 99.0  | 105.9 | 107.5 | 142.0 |
| 150    | 86.0  | 86.6  | 88.6  | 90.4  | 90.7  | 91.1  | 92.7  | 93.4  | 96.1  | 100.9 | 106.0 | 111.1 | 142.9 |
| 200    | 88.8  | 88.8  | 88.1  | 91.4  | 93.2  | 93.3  | 93.7  | 96.6  | 101.3 | 103.4 | 108.3 | 112.0 | 145.7 |
| 250    | 88.3  | 91.8  | 90.3  | 93.9  | 93.2  | 93.8  | 95.0  | 99.1  | 102.8 | 109.1 | 113.3 | 116.2 | 149.5 |
| 315    | 88.6  | 91.4  | 89.9  | 92.9  | 95.0  | 95.4  | 96.5  | 99.2  | 105.6 | 110.7 | 115.1 | 117.3 | 150.8 |
| 400    | 90.1  | 93.6  | 91.1  | 94.7  | 95.3  | 94.9  | 97.3  | 100.2 | 108.4 | 115.4 | 118.3 | 115.9 | 153.0 |
| 500    | 91.7  | 94.7  | 91.7  | 95.5  | 96.4  | 97.0  | 97.6  | 102.8 | 110.5 | 118.1 | 120.2 | 118.6 | 154.5 |
| 630    | 93.0  | 96.3  | 93.6  | 97.4  | 98.2  | 98.6  | 99.5  | 105.1 | 113.4 | 121.2 | 121.1 | 119.0 | 156.1 |
| 800    | 97.2  | 96.2  | 99.0  | 99.4  | 100.0 | 101.9 | 106.8 | 115.7 | 122.6 | 121.4 | 119.6 | 117.0 | 157.2 |
| 1000   | 102.9 | 104.7 | 100.2 | 102.0 | 101.6 | 101.7 | 103.1 | 109.0 | 116.7 | 123.8 | 121.7 | 116.3 | 158.0 |
| 1250   | 114.7 | 115.2 | 110.3 | 107.3 | 108.1 | 104.8 | 106.9 | 112.0 | 118.5 | 126.6 | 127.2 | 121.9 | 161.7 |
| 1500   | 109.1 | 109.4 | 108.0 | 112.7 | 114.6 | 110.7 | 106.6 | 112.0 | 117.1 | 122.6 | 119.2 | 114.5 | 157.5 |
| 2000   | 110.6 | 112.0 | 109.5 | 110.6 | 107.9 | 104.8 | 105.8 | 111.1 | 117.7 | 123.0 | 119.5 | 112.3 | 157.5 |
| 2500   | 109.1 | 109.4 | 108.0 | 112.7 | 114.6 | 110.7 | 106.6 | 112.0 | 117.1 | 122.6 | 119.2 | 114.5 | 157.5 |
| 3150   | 107.7 | 109.1 | 106.8 | 109.9 | 111.7 | 111.5 | 108.6 | 112.4 | 117.4 | 121.3 | 117.5 | 112.9 | 156.5 |
| 4000   | 105.0 | 107.8 | 106.3 | 109.1 | 108.1 | 109.6 | 110.0 | 112.3 | 116.4 | 120.4 | 116.1 | 111.4 | 155.7 |
| 5000   | 104.2 | 106.5 | 104.6 | 107.6 | 109.0 | 107.7 | 109.1 | 112.9 | 115.4 | 118.3 | 114.1 | 108.4 | 154.4 |
| 6300   | 102.4 | 105.4 | 104.1 | 106.8 | 107.7 | 108.4 | 108.0 | 113.7 | 115.2 | 118.1 | 113.1 | 108.9 | 154.3 |
| 8000   | 101.4 | 103.8 | 102.8 | 106.2 | 107.4 | 106.7 | 106.9 | 111.8 | 114.3 | 116.3 | 112.3 | 106.8 | 153.3 |
| 10000  | 99.7  | 100.7 | 102.0 | 105.5 | 107.0 | 107.2 | 111.2 | 113.4 | 116.5 | 110.4 | 106.4 | 102.1 | 153.5 |
| 12500  | 98.4  | 100.7 | 99.9  | 102.9 | 105.2 | 105.7 | 105.2 | 109.4 | 112.0 | 114.3 | 109.4 | 104.9 | 152.5 |
| 15000  | 95.4  | 98.4  | 97.6  | 101.2 | 103.3 | 103.2 | 103.6 | 107.7 | 110.5 | 112.0 | 108.0 | 101.8 | 151.9 |
| 20000  | 92.2  | 96.2  | 95.1  | 98.3  | 100.8 | 101.3 | 101.2 | 105.3 | 107.7 | 110.4 | 105.6 | 99.8  | 151.5 |
| 25000  | 89.0  | 93.4  | 92.6  | 98.0  | 98.6  | 98.3  | 101.8 | 102.9 | 105.6 | 99.6  | 96.6  | 93.1  | 149.6 |
| 31500  | 85.1  | 89.7  | 89.3  | 92.5  | 94.5  | 94.6  | 94.6  | 98.2  | 100.0 | 103.6 | 97.5  | 93.4  | 149.9 |
| 40000  | 80.9  | 85.5  | 85.4  | 88.0  | 91.3  | 91.6  | 91.0  | 95.3  | 97.7  | 100.5 | 94.0  | 89.5  | 150.9 |
| 50000  | 77.4  | 81.5  | 80.0  | 83.0  | 86.2  | 87.0  | 86.4  | 90.0  | 94.1  | 95.3  | 90.1  | 84.7  | 150.6 |
| 63000  | 72.3  | 76.1  | 74.9  | 77.4  | 81.3  | 82.5  | 82.1  | 85.6  | 89.1  | 89.8  | 85.4  | 80.1  | 150.9 |
| 80000  | 65.5  | 70.3  | 70.6  | 71.8  | 75.8  | 76.9  | 76.3  | 80.8  | 84.0  | 86.8  | 80.3  | 72.7  | 153.2 |
| 95000  | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 100000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 110000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 120000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 130000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 140000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 150000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 160000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 170000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 180000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 190000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 200000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 210000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 220000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 230000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 240000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 250000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 260000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 270000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 280000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 290000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 300000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 310000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 320000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 330000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 340000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 350000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 360000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 370000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 380000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 390000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |
| 400000 | 55.5  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 153.2 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/CIRC CONVGNIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH736 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 41.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIO = ARC MIKE HT = NBFR =

FNINI = LBS XNLR = RPM XNH = RPM XNH = RPM V8 = 2403.0 FPS AEB = 20.4 SQ IN  
FRAMB = LBS XNLR = RPM XNH = RPM V8 = 2403.0 FPS AEB = 20.4 SQ IN

RUNPT = 8; R-0113 TAPE = X0113F TEST PT NO = 0113 NC = AE040 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0113 X01131

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120.  | 130.  | 140.  | 150.  | 160.  |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 50   | 69.0 | 74.1 | 72.7 | 76.9 | 77.9 | 77.7 | 79.9 | 82.4 | 89.9  | 95.9  | 97.3  | 95.2  | 89.3  |
| 50   | 69.0 | 74.1 | 72.7 | 76.9 | 77.9 | 77.7 | 79.9 | 82.4 | 89.9  | 95.9  | 97.3  | 95.2  | 89.3  |
| 63   | 70.6 | 75.2 | 73.3 | 77.8 | 79.0 | 79.8 | 80.3 | 85.0 | 92.0  | 98.5  | 99.1  | 95.3  | 88.9  |
| 63   | 70.6 | 75.2 | 73.3 | 77.8 | 79.0 | 79.8 | 80.3 | 85.0 | 92.0  | 98.5  | 99.1  | 95.3  | 88.9  |
| 80   | 71.9 | 76.7 | 75.1 | 79.6 | 80.8 | 81.3 | 82.1 | 87.3 | 94.8  | 101.6 | 99.9  | 95.6  | 89.1  |
| 80   | 71.9 | 76.7 | 75.1 | 79.6 | 80.8 | 81.3 | 82.1 | 87.3 | 94.8  | 101.6 | 99.9  | 95.6  | 89.1  |
| 100  | 76.0 | 77.6 | 77.7 | 81.2 | 81.9 | 82.7 | 84.4 | 88.9 | 97.2  | 102.9 | 100.2 | 96.1  | 90.1  |
| 100  | 76.0 | 77.6 | 77.7 | 81.2 | 81.9 | 82.7 | 84.4 | 88.9 | 97.2  | 102.9 | 100.2 | 96.1  | 90.1  |
| 125  | 81.6 | 85.0 | 84.1 | 84.1 | 84.1 | 84.4 | 85.6 | 91.1 | 98.1  | 104.1 | 100.4 | 95.7  | 89.1  |
| 125  | 81.6 | 85.0 | 84.1 | 84.1 | 84.1 | 84.4 | 85.6 | 91.1 | 98.1  | 104.1 | 100.4 | 95.7  | 89.1  |
| 150  | 89.2 | 95.3 | 91.5 | 89.2 | 90.5 | 87.3 | 89.3 | 94.0 | 99.7  | 106.7 | 105.7 | 98.0  | 91.1  |
| 150  | 89.2 | 95.3 | 91.5 | 89.2 | 90.5 | 87.3 | 89.3 | 94.0 | 99.7  | 106.7 | 105.7 | 98.0  | 91.1  |
| 200  | 88.9 | 89.4 | 87.3 | 87.6 | 86.6 | 86.1 | 87.3 | 92.2 | 99.1  | 102.5 | 100.0 | 93.5  | 86.2  |
| 200  | 88.9 | 89.4 | 87.3 | 87.6 | 86.6 | 86.1 | 87.3 | 92.2 | 99.1  | 102.5 | 100.0 | 93.5  | 86.2  |
| 250  | 88.5 | 91.6 | 90.2 | 92.2 | 89.9 | 86.9 | 87.8 | 92.7 | 98.5  | 102.6 | 97.4  | 91.5  | 83.7  |
| 250  | 88.5 | 91.6 | 90.2 | 92.2 | 89.9 | 86.9 | 87.8 | 92.7 | 98.5  | 102.6 | 97.4  | 91.5  | 83.7  |
| 315  | 86.6 | 88.7 | 88.4 | 94.0 | 96.3 | 92.6 | 88.4 | 93.3 | 97.6  | 101.9 | 96.6  | 89.3  | 81.3  |
| 315  | 86.6 | 88.7 | 88.4 | 94.0 | 96.3 | 92.6 | 88.4 | 93.3 | 97.6  | 101.9 | 96.6  | 89.3  | 81.3  |
| 400  | 84.7 | 87.9 | 87.0 | 90.8 | 93.1 | 90.1 | 93.3 | 97.6 | 100.1 | 94.5  | 87.1  | 79.7  | 74.9  |
| 400  | 84.7 | 87.9 | 87.0 | 90.8 | 93.1 | 90.1 | 93.3 | 97.6 | 100.1 | 94.5  | 87.1  | 79.7  | 74.9  |
| 500  | 81.5 | 86.2 | 86.1 | 89.7 | 89.3 | 90.9 | 91.2 | 94.0 | 96.2  | 98.8  | 92.6  | 85.0  | 76.8  |
| 500  | 81.5 | 86.2 | 86.1 | 89.7 | 89.3 | 90.9 | 91.2 | 94.0 | 96.2  | 98.8  | 92.6  | 85.0  | 76.8  |
| 630  | 80.2 | 84.6 | 84.0 | 88.0 | 89.9 | 88.8 | 90.0 | 93.3 | 94.9  | 96.4  | 90.1  | 83.2  | 73.7  |
| 630  | 80.2 | 84.6 | 84.0 | 88.0 | 89.9 | 88.8 | 90.0 | 93.3 | 94.9  | 96.4  | 90.1  | 83.2  | 73.7  |
| 800  | 77.9 | 83.1 | 83.2 | 86.9 | 88.4 | 89.3 | 88.6 | 93.8 | 94.3  | 95.8  | 88.6  | 81.0  | 71.2  |
| 800  | 77.9 | 83.1 | 83.2 | 86.9 | 88.4 | 89.3 | 88.6 | 93.8 | 94.3  | 95.8  | 88.6  | 81.0  | 71.2  |
| 1000 | 76.4 | 81.2 | 81.7 | 86.1 | 87.9 | 87.4 | 87.4 | 91.7 | 93.2  | 93.7  | 87.4  | 78.3  | 69.4  |
| 1000 | 76.4 | 81.2 | 81.7 | 86.1 | 87.9 | 87.4 | 87.4 | 91.7 | 93.2  | 93.7  | 87.4  | 78.3  | 69.4  |
| 1250 | 74.3 | 80.1 | 80.7 | 85.3 | 87.4 | 87.5 | 87.6 | 91.0 | 92.1  | 93.6  | 85.5  | 77.0  | 65.9  |
| 1250 | 74.3 | 80.1 | 80.7 | 85.3 | 87.4 | 87.5 | 87.6 | 91.0 | 92.1  | 93.6  | 85.5  | 77.0  | 65.9  |
| 1600 | 72.1 | 77.1 | 78.2 | 82.3 | 85.3 | 86.0 | 85.3 | 88.8 | 90.3  | 90.7  | 83.1  | 74.2  | 60.6  |
| 1600 | 72.1 | 77.1 | 78.2 | 82.3 | 85.3 | 86.0 | 85.3 | 88.8 | 90.3  | 90.7  | 83.1  | 74.2  | 60.6  |
| 2000 | 68.2 | 74.3 | 75.5 | 80.4 | 83.2 | 83.4 | 83.5 | 86.9 | 88.4  | 87.8  | 80.8  | 69.5  | 54.4  |
| 2000 | 68.2 | 74.3 | 75.5 | 80.4 | 83.2 | 83.4 | 83.5 | 86.9 | 88.4  | 87.8  | 80.8  | 69.5  | 54.4  |
| 2500 | 63.1 | 70.8 | 72.1 | 76.9 | 80.2 | 81.0 | 80.5 | 83.9 | 84.8  | 85.0  | 76.6  | 64.6  | 46.6  |
| 2500 | 63.1 | 70.8 | 72.1 | 76.9 | 80.2 | 81.0 | 80.5 | 83.9 | 84.8  | 85.0  | 76.6  | 64.6  | 46.6  |
| 3150 | 56.6 | 65.6 | 67.8 | 72.2 | 76.0 | 76.9 | 76.3 | 78.8 | 78.0  | 77.8  | 67.2  | 56.5  | 34.2  |
| 3150 | 56.6 | 65.6 | 67.8 | 72.2 | 76.0 | 76.9 | 76.3 | 78.8 | 78.0  | 77.8  | 67.2  | 56.5  | 34.2  |
| 4000 | 46.4 | 57.2 | 60.6 | 66.2 | 69.5 | 70.0 | 69.6 | 71.9 | 71.4  | 71.0  | 58.8  | 44.4  | 15.6  |
| 4000 | 46.4 | 57.2 | 60.6 | 66.2 | 69.5 | 70.0 | 69.6 | 71.9 | 71.4  | 71.0  | 58.8  | 44.4  | 15.6  |
| 5000 | 32.5 | 45.5 | 50.5 | 56.3 | 61.3 | 62.2 | 61.0 | 63.6 | 62.8  | 60.5  | 45.6  | 26.7  | 169.2 |
| 5000 | 32.5 | 45.5 | 50.5 | 56.3 | 61.3 | 62.2 | 61.0 | 63.6 | 62.8  | 60.5  | 45.6  | 26.7  | 169.2 |
| 6300 | 11.2 | 27.2 | 33.0 | 40.5 | 46.1 | 47.7 | 46.3 | 47.5 | 47.1  | 41.0  | 23.8  | 169.9 | 171.6 |
| 6300 | 11.2 | 27.2 | 33.0 | 40.5 | 46.1 | 47.7 | 46.3 | 47.5 | 47.1  | 41.0  | 23.8  | 169.9 | 171.6 |

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|   |              |                |          |               |              |               |        |                  |       |              |          |       |      |
|---|--------------|----------------|----------|---------------|--------------|---------------|--------|------------------|-------|--------------|----------|-------|------|
| GASPL   | 96.9         | 99.4           | 97.6     | 100.2         | 101.5        | 100.3         | 99.8   | 103.9            | 108.4 | 113.0        | 110.4    | 104.8 | 98.2 |
| PNL   | 100.1        | 103.5          | 102.6    | 106.5         | 108.5        | 107.5         | 106.8  | 110.5            | 114.3 | 117.5        | 114.1    | 106.6 | 98.8 |
| PNLT  | 101.4        | 105.2          | 103.7    | 107.3         | 109.4        | 107.5         | 106.8  | 110.5            | 114.3 | 117.5        | 114.1    | 106.6 | 98.8 |
| DBA   | 88.8         | 92.4           | 91.9     | 95.8          | 97.5         | 97.2          | 96.7   | 100.5            | 102.7 | 105.0        | 99.7     | 92.5  | 84.7 |
| MODEL AREA =  | 131.5        | SQ CM ( 20.4   | SQ IN)   | SCALED AREA = | 9032.2       | SQ CM (1400.0 | SQ IN) | DIAMETER RATIO = | 8.288 | FREQ SHIFT = | -9       |       |      |
| NASA SHOCK CELL/CIRC CONVCONIC NGZ/AX/SC-1/NAS3-22514 |              |                |          |               |              |               |        |                  |       |              |          |       |      |
| VEHICL =  | ADH736       | TEST DATE =    | 03-19-82 | LOCAT =       | C41 ANECH CH | CONFIG =      | 1      | MODEL =          | AX    | FLTVEL =     | 0. FPS   |       |      |
| IAPLHA =  | SB59         | LEGA, =        | NO       | PML AREA =    | FULL SPHERE  | TAMB F =      | 41.00  | PAMB HG =        | 29.55 | RELHUM =     | 92.5 PCT |       |      |
| WIND DIR =  |              | DEG WIND VEL = |          | EXT DIST =    | 2400.0 FT    | EXT CNFIG =   | SL     | MIKE HT =        |       | NBFR =       |          |       |      |
| FNINI =   |              | LBS XNLR =     |          | RPM XNH =     |              | RPM V8 =      |        | FPS AE8 =        |       | 20.4         | SQ IN    |       |      |
| FNRAMB =  |              | LBS XNLR =     |          | RPM XNHR =    |              | RPM V8 =      |        | FPS AE18 =       |       | 0.           | SQ IN    |       |      |
| RUNPT =   | 82F-ZER-0113 | TAPE =         | X01131   | TEST PT NO =  | 0113         | NC =          | AE040  | CORR FAN SPEED = |       |              |          |       |      |

DATPROC - FLIRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0114 X0114C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 89.9 90.7 90.2 88.8 89.6 87.2 89.9 87.8 90.2 98.6 98.2 98.1 96.3 135.2

63 91.2 91.3 93.8 92.7 91.0 93.7 89.1 93.3 98.5 98.7 97.3 136.9

80 91.0 94.8 89.6 92.9 92.2 91.0 93.4 91.7 93.4 95.1 93.9 97.8 99.0 100.1 136.5

100 88.6 93.3 88.6 92.7 93.2 92.9 93.0 93.0 95.9 95.6 95.4 97.8 103.0 104.4 138.3

125 87.6 88.9 89.9 93.2 94.0 93.4 92.5 93.4 94.7 96.0 103.6 106.3 108.5 140.9

160 85.3 84.6 87.1 87.9 88.5 87.8 89.0 90.4 90.4 93.3 98.4 103.8 107.0 109.6 141.2

200 86.0 86.8 85.3 88.1 89.7 89.6 90.7 89.3 98.8 100.2 105.5 110.0 111.6 143.5

250 84.5 87.3 85.3 89.4 89.7 89.8 91.2 95.6 98.3 105.4 110.3 113.5 112.6 146.5

315 85.3 88.1 85.9 89.9 90.5 91.1 93.5 96.2 103.1 111.2 115.3 115.3 111.2 149.5

400 87.1 89.1 86.9 90.9 91.5 91.9 93.8 94.6 95.7 100.9 107.9 117.2 118.8 114.7 152.5

500 87.7 90.5 88.0 92.0 92.6 92.7 94.6 98.5 105.0 114.1 117.9 115.6 107.8 151.2

630 89.3 91.8 89.6 92.9 93.5 94.6 95.7 100.9 107.9 117.2 118.8 114.7 105.6 152.5

800 91.9 92.5 91.5 94.5 94.9 95.7 98.1 102.5 110.0 119.1 119.7 113.4 104.3 153.6

1000 98.7 99.2 96.7 99.5 97.6 97.5 99.4 104.5 111.7 120.3 120.9 113.1 104.3 154.9

1250 104.7 107.0 102.3 102.3 100.9 99.8 100.4 105.8 113.0 121.6 121.2 112.1 106.2 155.8

1500 104.7 111.3 105.8 101.9 101.5 102.4 107.7 114.3 121.1 122.5 112.7 106.7 156.6

2000 109.4 112.8 110.2 111.1 107.4 102.8 103.0 108.1 114.2 121.5 121.0 112.3 106.6 156.5

2500 107.4 108.7 107.7 111.5 112.6 107.4 103.6 109.2 113.9 121.4 119.2 111.0 105.5 156.0

3150 105.7 108.1 105.6 108.4 110.7 111.0 109.7 112.1 114.4 119.1 115.2 110.2 104.4 155.1

4000 106.8 106.8 105.3 107.6 106.9 108.6 109.7 112.1 114.4 119.1 115.9 108.2 103.2 154.4

5000 104.0 106.0 104.3 106.1 106.8 106.5 108.1 111.9 114.4 116.8 115.1 106.9 101.6 153.4

6300 102.4 105.1 103.6 105.6 106.2 106.4 106.5 112.9 114.7 116.3 113.6 105.9 100.9 153.3

8000 101.6 103.5 101.5 104.4 105.2 105.0 105.7 111.0 113.4 114.8 112.3 104.1 99.9 152.6

10000 100.2 103.0 101.5 103.8 105.2 105.0 105.7 111.0 113.4 115.0 111.4 103.4 98.6 152.6

12500 98.6 100.7 99.4 101.9 103.7 103.9 103.7 109.2 111.5 112.5 109.7 102.4 96.9 151.5

15000 96.2 98.4 97.1 99.9 101.0 101.7 102.3 107.2 109.8 110.2 107.5 100.0 94.3 150.8

20000 92.4 95.4 96.8 99.1 99.3 99.9 104.3 107.2 108.7 104.9 97.5 91.9 150.2

25000 89.3 92.4 94.3 96.0 96.4 96.6 97.0 101.6 103.4 103.9 99.6 88.3 148.8

31500 84.8 88.7 87.8 90.0 92.7 92.8 93.3 97.7 100.0 101.8 96.7 83.7 148.8

4000 80.6 83.8 84.4 85.0 88.8 88.6 89.7 93.8 96.2 98.5 93.7 86.2 149.1

50000 74.9 79.3 82.9 84.2 83.6 83.6 88.7 92.1 93.3 89.1 80.9 73.7 148.6

63000 68.6 73.9 72.2 73.9 77.5 78.8 78.1 83.6 86.9 89.6 84.2 74.6 66.8 149.2

80000 63.0 68.0 67.8 69.1 71.1 72.6 72.1 77.3 82.0 86.8 78.8 68.5 59.6 151.8

DBA 117.6 119.2 116.8 118.6 118.6 118.6 117.3 116.8 121.0 125.1 131.1 130.6 123.3 117.4

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICLE = ADH741 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT. TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
MIND DIR = DEG MIND VEL = MPH EXT DIST = 40.0 FT. EXT CONFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2409.9 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2409.9 FPS AE18 = 0. SQ IN

RUNPT = 22F-400-0114 TAPE = X0114C TEST PT NO = 0114 NC = AE040 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0114 X0114F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

80

100

125

150

200

250

315

400

500

630

800

1000

1250

1500

2000

2500

3150

4000

5000

6300

8000

101

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 91.8  | 93.3  | 90.0  | 92.5  | 91.2  | 89.8  | 89.3  | 92.0  | 97.9  | 103.1 | 107.7 | 110.1 | 110.6 | 143.9 |
| 91.6  | 93.3  | 90.0  | 92.5  | 91.1  | 91.7  | 92.1  | 101.1 | 108.5 | 112.3 | 113.1 | 111.6 | 147.2 | 149.3 |
| 92.8  | 94.4  | 90.7  | 93.3  | 93.2  | 91.4  | 92.7  | 94.4  | 102.8 | 111.4 | 115.4 | 114.6 | 110.5 | 149.3 |
| 93.8  | 94.9  | 91.4  | 94.1  | 94.5  | 93.1  | 93.6  | 96.3  | 105.6 | 114.4 | 116.2 | 114.3 | 110.1 | 150.4 |
| 93.8  | 96.6  | 92.8  | 95.4  | 95.4  | 95.0  | 94.7  | 98.5  | 108.0 | 116.6 | 117.6 | 114.0 | 111.2 | 151.9 |
| 94.9  | 96.6  | 92.8  | 95.4  | 95.4  | 96.2  | 96.8  | 96.2  | 100.2 | 110.3 | 116.5 | 114.0 | 111.2 | 153.8 |
| 96.6  | 97.9  | 94.4  | 96.2  | 96.8  | 96.2  | 97.1  | 98.5  | 108.5 | 117.6 | 119.7 | 115.2 | 113.9 | 153.8 |
| 98.6  | 98.2  | 96.1  | 97.8  | 99.2  | 98.1  | 98.5  | 102.3 | 111.7 | 120.0 | 120.2 | 114.5 | 116.0 | 154.8 |
| 98.6  | 98.6  | 96.2  | 97.8  | 99.2  | 98.1  | 98.5  | 102.3 | 111.7 | 120.0 | 120.2 | 114.5 | 116.0 | 154.8 |
| 104.9 | 104.3 | 100.6 | 102.2 | 102.7 | 100.6 | 99.7  | 103.8 | 113.3 | 119.9 | 121.8 | 115.4 | 117.0 | 155.8 |
| 111.9 | 113.0 | 106.8 | 105.4 | 104.2 | 102.6 | 101.9 | 105.9 | 113.6 | 120.6 | 120.7 | 115.5 | 117.3 | 156.2 |
| 111.9 | 113.0 | 106.8 | 105.4 | 104.2 | 102.6 | 101.9 | 105.9 | 113.6 | 120.6 | 120.7 | 115.5 | 117.3 | 156.2 |
| 119.3 | 117.7 | 112.4 | 109.5 | 110.3 | 104.1 | 102.9 | 106.7 | 113.5 | 120.8 | 119.1 | 114.3 | 116.4 | 157.3 |
| 119.3 | 117.7 | 112.4 | 109.5 | 110.3 | 104.1 | 102.9 | 106.7 | 113.5 | 120.8 | 119.1 | 114.3 | 116.4 | 157.3 |
| 119.6 | 121.3 | 116.9 | 115.8 | 115.5 | 109.0 | 103.8 | 108.1 | 115.4 | 119.5 | 118.1 | 114.3 | 116.1 | 158.7 |
| 119.6 | 121.3 | 116.9 | 115.8 | 115.5 | 109.0 | 103.8 | 108.1 | 115.4 | 119.5 | 118.1 | 114.3 | 116.1 | 158.7 |
| 114.6 | 115.0 | 113.0 | 115.6 | 113.0 | 111.2 | 110.9 | 108.3 | 109.5 | 115.2 | 117.1 | 115.8 | 112.8 | 156.8 |
| 114.6 | 115.0 | 113.0 | 115.6 | 113.0 | 111.2 | 110.9 | 108.3 | 109.5 | 115.2 | 117.1 | 115.8 | 112.8 | 156.8 |
| 113.3 | 114.7 | 111.1 | 112.7 | 110.5 | 111.9 | 111.9 | 111.9 | 115.5 | 116.7 | 114.3 | 109.5 | 111.5 | 155.2 |
| 113.3 | 114.7 | 111.1 | 112.7 | 110.5 | 111.9 | 111.9 | 111.9 | 115.5 | 116.7 | 114.3 | 109.5 | 111.5 | 155.2 |
| 110.9 | 112.4 | 109.9 | 110.8 | 110.3 | 109.4 | 108.0 | 112.9 | 115.3 | 115.4 | 113.2 | 107.9 | 110.7 | 154.7 |
| 110.9 | 112.4 | 109.9 | 110.8 | 110.3 | 109.4 | 108.0 | 112.9 | 115.3 | 115.4 | 113.2 | 107.9 | 110.7 | 154.7 |
| 109.7 | 111.7 | 109.2 | 110.3 | 109.7 | 107.5 | 111.6 | 114.6 | 115.7 | 112.5 | 107.4 | 109.6 | 154.5 | 153.7 |
| 109.7 | 111.7 | 109.2 | 110.3 | 109.7 | 107.5 | 111.6 | 114.6 | 115.7 | 112.5 | 107.4 | 109.6 | 154.5 | 153.7 |
| 108.7 | 109.9 | 107.3 | 108.9 | 109.3 | 108.0 | 107.3 | 111.0 | 113.0 | 111.0 | 106.7 | 108.2 | 153.7 | 153.7 |
| 108.7 | 109.9 | 107.3 | 108.9 | 109.3 | 108.0 | 107.3 | 111.0 | 113.0 | 111.0 | 106.7 | 108.2 | 153.7 | 153.7 |
| 107.1 | 109.1 | 106.8 | 108.0 | 107.7 | 106.9 | 105.3 | 109.3 | 111.8 | 111.8 | 109.4 | 104.9 | 106.1 | 153.1 |
| 107.1 | 109.1 | 106.8 | 108.0 | 107.7 | 106.9 | 105.3 | 109.3 | 111.8 | 111.8 | 109.4 | 104.9 | 106.1 | 153.1 |
| 105.0 | 106.3 | 104.1 | 105.6 | 104.7 | 103.9 | 107.3 | 109.7 | 110.6 | 107.1 | 102.8 | 104.1 | 152.4 | 152.4 |
| 105.0 | 106.3 | 104.1 | 105.6 | 104.7 | 103.9 | 107.3 | 109.7 | 110.6 | 107.1 | 102.8 | 104.1 | 152.4 | 152.4 |
| 102.1 | 103.6 | 101.4 | 103.5 | 103.1 | 102.3 | 101.6 | 104.4 | 106.6 | 106.5 | 102.6 | 101.2 | 151.2 | 151.2 |
| 102.1 | 103.6 | 101.4 | 103.5 | 103.1 | 102.3 | 101.6 | 104.4 | 106.6 | 106.5 | 102.6 | 101.2 | 151.2 | 151.2 |
| 97.7  | 97.7  | 100.5 | 99.6  | 98.8  | 98.6  | 101.9 | 103.9 | 100.9 | 102.7 | 98.2  | 97.4  | 150.9 | 150.9 |
| 97.7  | 97.7  | 100.5 | 99.6  | 98.8  | 98.6  | 101.9 | 103.9 | 100.9 | 102.7 | 98.2  | 97.4  | 150.9 | 150.9 |
| 93.8  | 93.8  | 96.2  | 94.3  | 95.4  | 97.3  | 95.8  | 95.0  | 97.9  | 100.9 | 102.7 | 98.2  | 93.7  | 150.8 |
| 93.8  | 93.8  | 96.2  | 94.3  | 95.4  | 97.3  | 95.8  | 95.0  | 97.9  | 100.9 | 102.7 | 98.2  | 93.7  | 150.8 |
| 86.7  | 86.6  | 87.8  | 86.8  | 87.5  | 87.2  | 85.3  | 88.9  | 92.9  | 95.1  | 90.0  | 83.4  | 82.6  | 150.9 |
| 86.7  | 86.6  | 87.8  | 86.8  | 87.5  | 87.2  | 85.3  | 88.9  | 92.9  | 95.1  | 90.0  | 83.4  | 82.6  | 150.9 |
| 80.1  | 80.2  | 80.4  | 82.1  | 81.8  | 79.7  | 83.7  | 89.4  | 93.7  | 89.4  | 93.7  | 86.1  | 78.7  | 152.6 |
| 80.1  | 80.2  | 80.4  | 82.1  | 81.8  | 79.7  | 83.7  | 89.4  | 93.7  | 89.4  | 93.7  | 86.1  | 78.7  | 152.6 |
| 72.2  | 76.3  | 73.2  | 73.3  | 75.7  | 75.6  | 73.6  | 77.3  | 79.6  | 83.9  | 76.2  | 68.9  | 67.0  | 150.7 |
| 72.2  | 76.3  | 73.2  | 73.3  | 75.7  | 75.6  | 73.6  | 77.3  | 79.6  | 83.9  | 76.2  | 68.9  | 67.0  | 150.7 |
| 124.8 | 125.6 | 121.8 | 122.3 | 121.5 | 119.6 | 118.0 | 121.1 | 125.5 | 130.0 | 129.8 | 125.5 | 126.1 | 168.0 |
| 124.8 | 125.6 | 121.8 | 122.3 | 121.5 | 119.6 | 118.0 | 121.1 | 125.5 | 130.0 | 129.8 | 125.5 | 126.1 | 168.0 |
| 137.7 | 139.0 | 135.0 | 135.3 | 134.4 | 132.7 | 130.9 | 133.1 | 137.7 | 142.0 | 140.8 | 136.8 | 138.0 | 138.0 |
| 137.7 | 139.0 | 135.0 | 135.3 | 134.4 | 132.7 | 130.9 | 133.1 | 137.7 | 142.0 | 140.8 | 136.8 | 138.0 | 138.0 |
| 138.8 | 140.6 | 136.4 | 136.3 | 135.5 | 132.7 | 130.9 | 133.1 | 137.7 | 142.0 | 140.8 | 136.8 | 138.0 | 138.0 |
| 138.8 | 140.6 | 136.4 | 136.3 | 135.5 | 132.7 | 130.9 | 133.1 | 137.7 | 142.0 | 140.8 | 136.8 | 138.0 | 138.0 |
| 195.2 | 198.7 | 195.9 | 195.9 | 197.9 | 197.9 | 195.7 | 199.5 | 203.1 | 207.2 | 199.8 | 192.7 | 191.0 | 191.0 |
| 195.2 | 198.7 | 195.9 | 195.9 | 197.9 | 197.9 | 195.7 | 199.5 | 203.1 | 207.2 | 199.8 | 192.7 | 191.0 | 191.0 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH741 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 41.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
WIND DIR = S859 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRFR =

FNINI = LBS XNL RPM XNH XNHR = RPM XNH RPM V8 = 2409.9 FPS AE8 = 20.4 SQ IN  
FNFRMB = LBS XNLR = RPM XNHR = RPM V8 = 2409.9 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0114 TAPE = X0114F TEST PT NO = 0114 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0114 X01141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 71.8 74.8 72.3 75.5 75.9 74.2 75.4 76.6 84.3 91.8 94.3 91.4 83.9 167.7

63 72.7 75.3 72.9 76.3 77.1 75.8 76.2 78.6 87.1 94.8 95.1 91.0 83.4 168.8

80 73.7 77.0 74.3 77.6 78.0 77.7 77.3 80.7 89.5 97.0 96.4 90.6 84.4 170.2

100 75.1 78.2 75.8 78.9 79.3 78.9 79.7 82.3 91.7 98.8 98.4 91.7 86.9 172.2

125 77.2 78.4 77.4 79.9 81.7 80.8 81.0 84.4 93.1 100.2 98.8 90.8 88.9 173.1

160 83.4 84.3 81.8 84.1 85.1 83.1 82.1 85.7 94.5 99.9 100.3 91.5 89.5 174.1

200 90.1 92.8 87.9 87.2 86.4 84.9 84.2 87.7 94.6 100.4 98.9 91.3 89.3 174.6

250 97.2 97.3 93.2 91.1 92.3 86.2 84.9 88.2 94.3 100.4 97.0 89.7 87.7 175.7

315 97.0 100.6 97.4 97.1 97.2 90.9 85.5 89.4 95.9 98.8 95.6 89.1 86.7 177.1

400 91.6 93.9 93.1 96.5 95.4 94.6 89.7 90.4 95.3 98.3 93.5 86.2 83.8 175.2

500 89.8 93.2 90.9 93.4 91.7 92.5 92.1 92.6 95.0 94.7 92.3 84.3 81.3 174.1

630 88.2 91.2 90.3 92.5 91.6 90.5 90.4 92.3 95.0 94.7 90.3 82.4 79.0 173.5

800 86.4 90.1 89.1 90.9 90.9 90.3 88.6 93.1 94.5 93.1 88.7 80.0 77.1 173.1

1000 84.8 89.1 88.2 90.2 89.9 88.0 91.6 93.5 93.1 87.5 78.9 74.8 72.9

1250 83.3 87.0 86.0 88.7 89.6 88.5 87.7 90.8 91.7 90.6 85.5 77.4 71.9 172.1

1500 80.8 85.6 85.0 87.4 87.8 87.2 85.4 88.7 90.1 88.2 83.1 74.2 67.5 171.5

2000 77.7 82.1 82.0 84.8 85.0 84.9 83.9 86.5 87.6 86.4 79.8 70.4 62.5 170.8

2500 73.0 78.3 78.5 81.8 82.5 82.0 80.9 83.0 83.6 81.2 73.6 66.0 55.0 169.6

3150 65.3 72.7 73.2 76.5 78.1 77.9 76.8 78.9 79.1 77.4 68.0 57.2 42.4 169.2

4000 55.1 63.7 65.6 69.1 72.3 71.3 70.0 71.6 72.2 70.2 59.6 44.7 23.9 169.1

5000 42.9 53.9 56.7 60.5 63.4 62.2 61.4 62.2 62.3 57.8 45.5 26.1

6300 20.5 34.3 40.8 44.3 47.4 47.9 45.2 46.4 45.9 40.8 23.8

8000 171.0 169.3

10000 169.1

12500 171.0

15000 169.1

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100000 169.1

101000 169.1

102000 169.1

103000 169.1

104000 169.1

105000 169.1

106000 169.1

107000 169.1

108000 169.1

109000 169.1

110000 169.1

111000 169.1

112000 169.1

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121000 169.1

122000 169.1

123000 169.1

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127000 169.1

128000 169.1

129000 169.1

130000 169.1

131000 169.1

132000 169.1

133000 169.1

134000 169.1

135000 169.1

136000 169.1

137000 169.1

138000 169.1

139000 169.1

140000 169.1

141000 169.1

142000 169.1

143000 169.1

144000 169.1

145000 169.1

146000 169.1

147000 169.1

148000 169.1

149000 169.1

150000 169.1

151000 169.1

152000 169.1

153000 169.1

154000 169.1

155000 169.1

156000 169.1

157000 169.1

158000 169.1

159000 169.1

160000 169.1

161000 169.1

162000 169.1

163000 169.1

164000 169.1

165000 169.1

166000 169.1

167000 169.1

168000 169.1

169000 169.1

170000 169.1

171000 169.1

172000 169.1

173000 169.1

174000 169.1

175000 169.1

176000 169.1

177000 169.1

178000 169.1

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181000 169.1

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189000 169.1

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191000 169.1

192000 169.1

193000 169.1

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201000 169.1

202000 169.1

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218000 169.1

219000 169.1

220000 169.1

221000 169.1

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0119 X0119C  
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

|     |     |     |     |     |     |      |      |      |      |      |      |      |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

|       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
| 50    | 84.9  | 85.7  | 86.0  | 85.3  | 87.1  | 83.0  | 83.4  | 84.8  | 92.5  | 92.6  | 92.9  | 95.1  |
| 63    | 88.7  | 91.5  | 89.8  | 92.6  | 82.4  | 89.8  | 94.2  | 87.8  | 95.5  | 93.4  | 94.5  | 97.1  |
| 80    | 90.8  | 95.3  | 89.8  | 92.6  | 93.3  | 93.0  | 94.4  | 96.8  | 96.8  | 94.7  | 98.3  | 100.2 |
| 100   | 89.1  | 95.6  | 90.6  | 94.7  | 95.5  | 94.9  | 94.2  | 98.2  | 98.1  | 98.4  | 99.3  | 104.0 |
| 125   | 87.1  | 89.9  | 91.2  | 94.9  | 95.5  | 94.9  | 93.8  | 95.4  | 97.7  | 99.0  | 105.9 | 109.0 |
| 160   | 86.6  | 87.6  | 89.1  | 90.6  | 91.5  | 91.3  | 93.0  | 94.4  | 97.6  | 101.2 | 106.0 | 111.9 |
| 200   | 89.0  | 89.8  | 89.8  | 92.1  | 94.0  | 93.6  | 94.2  | 96.9  | 102.6 | 103.9 | 108.5 | 113.9 |
| 250   | 88.5  | 92.1  | 90.3  | 93.9  | 94.0  | 94.1  | 95.5  | 99.9  | 103.6 | 109.1 | 113.8 | 116.5 |
| 315   | 89.1  | 91.6  | 89.6  | 93.2  | 95.3  | 95.4  | 96.5  | 99.4  | 106.1 | 110.7 | 115.3 | 117.8 |
| 400   | 90.8  | 92.9  | 90.9  | 94.4  | 95.8  | 94.9  | 97.5  | 100.9 | 108.4 | 114.9 | 118.3 | 119.3 |
| 500   | 91.4  | 94.5  | 91.5  | 94.8  | 96.9  | 96.7  | 97.4  | 102.8 | 110.5 | 117.3 | 120.2 | 119.1 |
| 630   | 93.3  | 96.1  | 93.6  | 96.6  | 98.0  | 98.3  | 99.5  | 105.1 | 113.6 | 120.4 | 121.1 | 120.0 |
| 800   | 97.7  | 97.7  | 95.5  | 98.5  | 99.6  | 99.7  | 101.4 | 106.8 | 116.2 | 122.3 | 121.4 | 119.6 |
| 1000  | 102.4 | 104.7 | 100.0 | 101.8 | 101.6 | 101.5 | 102.6 | 108.5 | 117.5 | 123.3 | 122.2 | 119.6 |
| 1250  | 115.0 | 116.0 | 111.0 | 106.5 | 108.1 | 104.8 | 105.9 | 110.5 | 118.5 | 125.3 | 126.2 | 121.1 |
| 1500  | 113.5 | 111.5 | 107.8 | 106.6 | 104.9 | 104.9 | 110.4 | 118.3 | 122.4 | 121.2 | 116.4 | 113.9 |
| 2000  | 112.6 | 113.3 | 111.0 | 112.6 | 109.4 | 105.3 | 105.5 | 110.6 | 118.0 | 122.5 | 119.5 | 115.8 |
| 2500  | 110.1 | 110.7 | 109.2 | 113.5 | 114.8 | 109.4 | 106.4 | 112.0 | 117.4 | 122.4 | 118.7 | 114.0 |
| 3150  | 108.7 | 110.4 | 112.4 | 112.2 | 113.5 | 109.1 | 111.5 | 113.6 | 116.2 | 119.9 | 115.6 | 111.4 |
| 4000  | 105.2 | 108.5 | 107.3 | 109.6 | 109.4 | 110.1 | 111.5 | 113.6 | 116.2 | 119.9 | 115.6 | 111.4 |
| 5000  | 107.2 | 107.5 | 106.1 | 108.6 | 110.0 | 108.0 | 109.6 | 112.9 | 115.4 | 118.3 | 114.9 | 109.9 |
| 6300  | 104.4 | 106.6 | 105.1 | 107.8 | 108.7 | 108.9 | 108.2 | 113.9 | 115.4 | 118.1 | 113.9 | 109.4 |
| 8000  | 104.4 | 106.6 | 105.1 | 107.8 | 108.7 | 108.9 | 108.2 | 113.9 | 115.4 | 118.1 | 113.9 | 109.4 |
| 10000 | 102.0 | 104.6 | 103.3 | 107.4 | 108.2 | 107.5 | 107.7 | 112.0 | 111.8 | 114.3 | 109.7 | 104.4 |
| 12500 | 100.1 | 102.7 | 101.2 | 104.2 | 106.2 | 105.7 | 105.7 | 110.2 | 111.8 | 114.3 | 109.7 | 104.4 |
| 15000 | 97.4  | 100.4 | 99.4  | 102.4 | 104.2 | 104.2 | 104.3 | 107.9 | 111.2 | 114.3 | 109.7 | 104.4 |
| 16000 | 97.4  | 100.4 | 99.4  | 102.4 | 104.2 | 104.2 | 104.3 | 107.9 | 111.2 | 114.3 | 109.7 | 104.4 |
| 20000 | 94.4  | 98.2  | 96.1  | 99.3  | 101.6 | 101.6 | 101.7 | 106.1 | 108.0 | 109.9 | 104.9 | 99.3  |
| 25000 | 91.5  | 94.9  | 93.6  | 96.4  | 99.0  | 99.6  | 99.6  | 102.1 | 103.6 | 106.6 | 99.6  | 97.4  |
| 31500 | 88.3  | 91.5  | 90.3  | 93.0  | 95.7  | 95.3  | 95.8  | 99.2  | 100.5 | 104.3 | 97.2  | 93.4  |
| 40000 | 83.1  | 87.0  | 86.7  | 88.7  | 92.8  | 92.8  | 92.0  | 95.8  | 97.5  | 102.3 | 94.5  | 88.7  |
| 50000 | 78.4  | 83.5  | 82.2  | 83.7  | 87.9  | 88.0  | 86.9  | 91.2  | 94.4  | 99.0  | 90.1  | 84.7  |
| 63000 | 73.3  | 78.1  | 76.7  | 77.9  | 83.3  | 83.8  | 82.4  | 86.3  | 88.9  | 95.6  | 85.7  | 78.8  |
| 80000 | 67.0  | 72.3  | 72.1  | 73.1  | 77.6  | 78.1  | 76.8  | 81.3  | 84.0  | 90.8  | 81.1  | 73.7  |
| GASPL | 120.4 | 121.2 | 118.3 | 120.1 | 120.8 | 119.6 | 119.1 | 123.3 | 128.2 | 132.9 | 132.0 | 129.5 |
| PNL   | 131.8 | 132.8 | 130.6 | 133.6 | 134.5 | 133.7 | 132.7 | 136.6 | 140.7 | 144.8 | 144.1 | 140.4 |
| PMLT  | 134.1 | 135.8 | 132.9 | 133.6 | 136.2 | 134.9 | 132.7 | 136.6 | 140.7 | 144.8 | 144.1 | 140.4 |
| DBA   | 121.2 | 121.7 | 118.8 | 120.6 | 121.1 | 119.6 | 118.8 | 123.0 | 128.3 | 133.1 | 131.8 | 128.3 |

ORIGINAL PAGE IS  
OF POOR QUALITY

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH737 TEST DATE = 03-19-82 LGCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 44.00 MIKE HG = 29.55 RELHUM = 92.5 PCT  
 WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF

FNINI = LBS XNLR RPM XNHR RPM V8 = 2434.3 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM V8 = 2434.3 FPS AE18 = 0. SQ IN  
 RUNPT = 82F-ZER-0119 TAPE = X0119C TEST PT NO = 0119 NC = AE040 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0119 X0119F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

84.9 85.7 86.0 85.3 87.1 83.0 83.4 84.8 92.5 92.6 92.9 95.1 94.3 131.5

63 88.7 91.5 90.8 92.6 92.4 89.8 94.2 87.8 95.5 93.4 94.5 97.2 97.1 135.2

50 89.0 89.8 88.8 92.1 94.0 93.6 94.2 96.9 102.6 103.9 108.5 112.5 113.9 146.2

200 89.1 91.6 89.6 93.2 95.3 95.4 96.5 99.9 103.6 109.1 113.8 116.5 116.1 149.9

250 89.1 91.6 89.6 93.2 95.3 95.4 96.5 99.9 103.6 109.1 113.8 116.5 116.1 149.9

315 89.1 91.6 89.6 93.2 95.3 95.4 96.5 99.9 103.6 109.1 113.8 116.5 116.1 149.9

400 90.8 92.9 90.9 94.4 95.8 94.9 97.5 100.9 108.4 114.9 118.3 119.3 116.7 153.3

500 91.4 94.5 91.5 94.8 96.9 96.7 97.4 102.8 110.5 117.3 120.2 119.1 116.3 154.5

630 93.3 96.1 93.6 96.6 98.0 98.3 99.5 105.1 113.6 120.4 121.1 120.0 117.1 156.1

800 93.7 97.7 95.5 98.5 99.6 99.7 101.4 106.8 116.2 122.3 121.4 119.6 117.5 157.2

1000 102.4 104.7 100.0 101.8 101.6 101.5 102.6 108.5 117.5 123.3 122.2 121.1 117.9 158.0

1250 115.0 116.0 111.0 106.5 108.1 104.8 105.9 110.5 118.3 125.3 126.2 121.1 117.9 160.9

1500 113.5 113.3 111.0 112.6 109.4 105.3 105.5 110.6 118.0 122.5 119.5 115.8 112.3 157.6

1600 112.6 113.3 111.0 112.6 109.4 105.3 105.5 110.6 118.0 122.5 119.5 115.8 112.3 157.6

2000 112.6 113.3 111.0 112.6 109.4 105.3 105.5 110.6 118.0 122.5 119.5 115.8 112.3 157.6

2500 110.1 110.7 109.2 113.5 114.8 109.4 106.4 112.0 117.4 122.4 118.7 114.0 111.2 157.5

3150 108.7 110.1 107.3 110.4 112.2 113.5 109.1 112.4 117.4 121.0 117.5 112.4 110.7 156.7

4000 107.2 108.5 107.3 109.6 109.4 110.1 111.5 113.6 116.2 119.9 115.6 111.4 109.9 155.7

5000 105.7 107.5 106.1 108.6 110.0 108.0 109.6 112.9 115.4 118.3 114.9 109.9 108.1 154.7

6300 104.4 106.6 105.1 107.8 108.7 108.9 108.9 113.9 115.4 118.1 113.9 109.4 107.4 154.7

8000 103.1 105.0 103.3 106.9 108.2 107.7 107.4 112.3 114.5 115.8 112.6 107.3 104.4 153.5

10000 102.0 104.8 102.8 106.3 108.2 107.5 107.7 112.0 113.6 116.3 111.4 105.9 103.6 153.8

12500 100.1 104.2 101.2 104.2 105.7 105.7 105.7 110.2 111.8 114.3 109.7 104.4 100.4 152.7

15000 97.4 100.4 99.1 102.4 104.0 104.2 104.3 107.9 110.5 111.2 107.5 101.8 98.5 152.0

20000 94.4 98.2 96.1 99.3 101.6 101.6 101.7 106.1 108.0 109.9 104.9 99.3 93.9 151.5

25000 91.5 94.9 93.6 96.4 99.0 99.6 99.5 102.1 103.6 106.6 99.6 97.4 90.3 150.6

31500 88.3 91.0 89.3 93.0 95.7 95.8 95.8 99.5 104.3 97.2 93.4 86.0 150.6

40000 83.1 87.0 86.7 88.7 92.8 92.1 92.0 96.9 99.6 97.5 102.3 94.5 88.7 151.8

50000 78.4 83.5 82.2 83.7 87.9 88.0 86.9 91.2 94.4 99.0 90.1 84.7 76.0 152.5

63000 73.3 78.1 76.7 77.9 83.3 83.8 82.4 86.3 88.9 95.6 85.7 78.8 70.3 153.6

80000 67.0 72.3 72.1 73.1 77.6 78.1 76.8 81.3 84.0 90.8 81.1 73.7 62.6 155.5

DBA 189.1 194.2 193.6 194.7 199.4 199.9 198.6 202.9 202.9 202.6 212.2 202.5 195.5 185.4

PWL 131.8 130.6 134.5 133.7 132.7 136.6 140.7 144.8 144.1 140.4 137.3

PNLT 134.1 135.8 132.9 133.6 136.2 134.9 132.7 136.6 140.7 144.8 144.1 140.4 137.3

DBA 189.1 194.2 193.6 194.7 199.4 199.9 198.6 202.9 202.9 202.6 212.2 202.5 195.5 185.4

GASPL 120.4 121.2 118.3 120.1 120.8 119.6 119.1 123.3 128.2 132.9 132.0 129.5 127.4 169.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NA53-22514

VEHICL = ADH737 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT

FNINI = LBS XNL RPM XNH XNHR = RPM XNH RPM = RPM V8 = 2434.3 FPS AEB AE8 = 20.4 SQ IN

FNFRMB = LBS XNLR RPM XNHR = RPM XNH RPM = RPM V8 = 2434.3 FPS AEB AE8 = 20.4 SQ IN

RUNPT = -ZER-0119 TAPE = X0119F TEST PT NO = 011 NC = AE040 CORR FAN SPEED = RPF

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0119 X01191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 69.8 73.3 72.4 76.7 76.4 77.7 80.2 83.2 89.9 95.4 97.3 96.0 90.1 171.6

50 69.8 73.3 72.4 76.7 76.4 77.7 80.2 83.2 89.9 95.4 97.3 96.0 90.1 171.6

63 70.3 74.9 73.0 77.0 79.5 79.5 82.0 85.0 92.0 97.7 99.1 95.8 89.6 172.8

80 72.1 76.5 75.1 78.8 80.6 81.1 82.1 87.3 95.1 100.8 99.9 96.6 90.4 174.5

100 76.5 78.1 76.9 80.7 82.2 82.4 83.9 88.9 97.7 102.6 100.2 96.1 90.6 175.5

125 81.1 85.0 81.3 83.9 84.1 84.1 85.1 90.6 98.8 103.6 100.9 96.0 89.4 176.4

160 93.4 96.1 92.2 88.5 90.5 87.3 88.3 92.5 99.7 105.4 104.7 97.3 90.4 179.2

200 91.7 91.4 88.8 88.4 87.1 86.4 87.1 92.2 99.3 102.2 99.5 92.2 85.9 175.9

250 90.5 92.9 91.7 94.2 91.4 87.4 87.5 92.2 98.7 102.1 97.4 91.2 83.7 175.9

315 87.6 89.9 89.7 94.8 96.6 91.3 88.1 93.3 97.8 101.6 96.1 88.8 81.8 175.8

400 85.7 88.9 89.9 94.8 96.6 91.3 88.1 93.3 97.8 101.6 96.1 88.8 81.8 175.8

500 83.7 87.0 87.1 90.2 90.6 91.4 92.7 94.2 96.0 98.3 92.1 85.0 78.5 174.0

630 81.7 85.6 85.5 89.0 89.0 90.5 93.3 94.0 96.4 90.9 82.7 75.7 173.0

790 78.2 82.4 82.2 86.9 88.7 88.4 87.9 92.2 93.4 93.2 87.6 78.8 69.7 171.9

1000 78.2 82.4 82.2 86.9 88.7 88.4 87.9 92.2 93.4 93.2 87.6 78.8 69.7 171.9

1250 76.6 81.8 81.5 86.0 86.6 88.0 88.1 91.7 92.3 93.3 86.0 76.5 67.4 172.2

1600 73.8 79.1 79.5 83.6 86.3 86.0 85.8 89.6 89.1 90.7 83.4 73.7 61.8 171.1

2000 70.2 76.3 77.0 81.6 83.9 84.4 84.2 87.1 88.4 87.1 80.3 69.5 56.9 170.3

2500 65.3 72.8 73.1 77.9 80.9 81.2 81.0 84.6 85.0 84.5 75.8 64.1 47.4 169.9

3150 59.1 67.1 68.8 73.4 77.0 77.9 77.5 79.1 78.8 78.8 67.2 57.2 35.4 168.8

4000 49.6 59.0 61.6 66.7 70.7 70.8 70.8 72.9 71.9 71.8 58.6 44.4 16.6 169.0

5000 34.7 47.0 51.8 57.0 62.8 62.7 62.0 64.1 62.6 62.2 46.1 26.0 170.2

6300 12.2 29.2 35.2 41.2 47.8 48.7 46.8 48.7 47.4 44.7 23.8 172.0

8000 8.4 16.2 25.1 26.7 24.2 24.6 20.6 16.5

10000 173.8

12500 172.0

15000 170.8

17500 170.2

20000 169.0

22500 168.8

25000 168.8

27500 168.8

30000 168.8

32500 168.8

35000 168.8

37500 168.8

40000 168.8

42500 168.8

45000 168.8

47500 168.8

50000 168.8

52500 168.8

55000 168.8

57500 168.8

60000 168.8

62500 168.8

65000 168.8

67500 168.8

70000 168.8

72500 168.8

75000 168.8

77500 168.8

80000 168.8

82500 168.8

85000 168.8

87500 168.8

90000 168.8

92500 168.8

95000 168.8

97500 168.8

100000 168.8

102500 168.8

105000 168.8

107500 168.8

110000 168.8

112500 168.8

115000 168.8

117500 168.8

120000 168.8

122500 168.8

125000 168.8

127500 168.8

130000 168.8

132500 168.8

135000 168.8

137500 168.8

140000 168.8

142500 168.8

145000 168.8

147500 168.8

150000 168.8

152500 168.8

155000 168.8

157500 168.8

160000 168.8

162500 168.8

165000 168.8

167500 168.8

170000 168.8

172500 168.8

175000 168.8

177500 168.8

180000 168.8

182500 168.8

185000 168.8

187500 168.8

190000 168.8

192500 168.8

195000 168.8

197500 168.8

200000 168.8

202500 168.8

205000 168.8

207500 168.8

210000 168.8

212500 168.8

215000 168.8

217500 168.8

220000 168.8

222500 168.8

225000 168.8

227500 168.8

230000 168.8

232500 168.8

235000 168.8

237500 168.8

240000 168.8

242500 168.8

245000 168.8

247500 168.8

250000 168.8

252500 168.8

255000 168.8

257500 168.8

260000 168.8

262500 168.8

265000 168.8

267500 168.8

270000 168.8

272500 168.8

275000 168.8

277500 168.8

280000 168.8

282500 168.8

285000 168.8

287500 168.8

290000 168.8

292500 168.8

295000 168.8

297500 168.8

300000 168.8

302500 168.8

305000 168.8

307500 168.8

310000 168.8

312500 168.8

315000 168.8

317500 168.8

320000 168.8

322500 168.8

325000 168.8

327500 168.8

330000 168.8

332500 168.8

335000 168.8

337500 168.8

340000 168.8

342500 168.8

345000 168.8

347500 168.8

350000 168.8

352500 168.8

355000 168.8

357500 168.8

360000 168.8

362500 168.8

365000 168.8

367500 168.8

370000 168.8

372500 168.8

375000 168.8

377500 168.8

380000 168.8

382500 168.8

385000 168.8

387500 168.8

390000 168.8

392500 168.8

395000 168.8

397500 168.8

400000 168.8

402500 168.8

405000 168.8

407500 168.8

410000 168.8

412500 168.8

415000 168.8

417500 168.8

420000 168.8

422500 168.8

425000 168.8

427500 168.8

430000 168.8

432500 168.8

435000 168.8

437500 168.8

440000 168.8

442500 168.8

445000 168.8

447500 168.8

450000 168.8

452500 168.8

455000 168.8

457500 168.8

460000 168.8

462500 168.8

465000 168.8

467500 168.8

470000 168.8

472500 168.8

475000 168.8

477500 168.8

480000 168.8

482500 168.8

485000 168.8

487500 168.8

490000 168.8

492500 168.8

495000 168.8

497500 168.8

500000 168.8

502500 168.8

505000 168.8

507500 168.8

510000 168.8

512500 168.8

515000 168.8

517500 168.8

520000 168.8

522500 168.8

525000 168.8

527500 168.8

530000 168.8

532500 168.8

535000 168.8

537500 168.8

540000 168.8

542500 168.8

545000 168.8

547500 168.8

550000 168.8

552500 168.8

555000 168.8

557500 168.8

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0120 X0120C BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 89.9  | 90.2  | 90.0  | 88.6  | 87.0  | 90.4  | 87.5  | 98.2  | 99.6  | 97.9  | 98.9  | 97.3  | 136.5 |
| 63    | 91.5  | 94.8  | 95.3  | 95.1  | 93.9  | 91.5  | 94.7  | 89.3  | 99.7  | 99.7  | 99.7  | 99.6  | 138.4 |
| 80    | 91.0  | 95.8  | 90.1  | 93.1  | 92.7  | 92.3  | 92.7  | 93.9  | 96.3  | 95.4  | 97.5  | 99.2  | 137.2 |
| 100   | 89.6  | 94.1  | 89.4  | 93.4  | 94.5  | 93.9  | 93.5  | 96.9  | 96.9  | 97.2  | 98.6  | 103.8 | 139.2 |
| 125   | 87.9  | 89.1  | 90.4  | 93.7  | 94.5  | 93.7  | 93.3  | 93.9  | 95.9  | 98.5  | 106.8 | 108.5 | 141.3 |
| 150   | 86.0  | 87.3  | 88.4  | 88.5  | 87.8  | 90.5  | 90.9  | 99.9  | 99.6  | 99.2  | 104.5 | 107.7 | 142.2 |
| 200   | 86.3  | 87.3  | 85.3  | 88.4  | 89.7  | 90.1  | 91.0  | 94.1  | 99.6  | 100.7 | 105.8 | 110.7 | 144.2 |
| 250   | 84.8  | 87.8  | 86.1  | 89.4  | 89.5  | 90.3  | 91.0  | 96.1  | 99.6  | 105.9 | 110.8 | 114.0 | 147.0 |
| 315   | 85.6  | 88.1  | 87.1  | 89.4  | 91.5  | 91.4  | 93.3  | 95.4  | 101.9 | 108.2 | 113.1 | 115.0 | 148.5 |
| 400   | 87.1  | 89.1  | 87.4  | 90.4  | 92.0  | 91.1  | 93.0  | 96.4  | 103.4 | 111.9 | 116.1 | 118.4 | 150.3 |
| 500   | 87.9  | 89.7  | 89.2  | 91.8  | 92.6  | 93.2  | 93.6  | 98.5  | 105.0 | 114.3 | 118.2 | 115.9 | 151.5 |
| 630   | 89.5  | 92.3  | 91.1  | 93.6  | 94.5  | 94.3  | 95.7  | 101.4 | 107.9 | 117.9 | 119.6 | 117.7 | 153.2 |
| 800   | 93.2  | 92.5  | 94.8  | 92.8  | 95.8  | 96.2  | 98.1  | 102.8 | 110.2 | 119.8 | 120.4 | 114.1 | 154.3 |
| 1000  | 99.7  | 100.5 | 97.7  | 99.8  | 98.4  | 98.0  | 99.1  | 104.8 | 112.2 | 121.3 | 121.4 | 113.9 | 155.6 |
| 1250  | 107.2 | 109.0 | 103.5 | 103.5 | 101.4 | 100.5 | 101.1 | 106.5 | 113.5 | 121.6 | 121.5 | 113.1 | 156.0 |
| 1500  | 112.7 | 112.8 | 109.5 | 107.8 | 103.9 | 102.0 | 102.6 | 108.3 | 114.5 | 122.7 | 113.4 | 107.2 | 157.0 |
| 2000  | 109.4 | 112.8 | 110.7 | 112.8 | 109.7 | 104.0 | 103.5 | 108.3 | 115.0 | 121.7 | 121.3 | 112.8 | 156.9 |
| 2500  | 107.4 | 108.9 | 108.0 | 112.7 | 113.3 | 109.4 | 104.6 | 109.5 | 114.6 | 121.4 | 119.2 | 111.7 | 156.3 |
| 3150  | 107.0 | 109.1 | 106.8 | 108.9 | 111.4 | 111.8 | 109.1 | 110.9 | 115.4 | 120.3 | 118.0 | 110.7 | 154.8 |
| 4000  | 105.5 | 107.0 | 106.3 | 108.8 | 107.9 | 108.9 | 110.7 | 112.8 | 114.9 | 118.9 | 116.4 | 108.7 | 154.8 |
| 5000  | 104.2 | 106.5 | 104.6 | 106.6 | 108.3 | 106.7 | 108.9 | 112.9 | 114.4 | 117.3 | 115.1 | 107.4 | 153.8 |
| 6300  | 103.2 | 105.4 | 104.3 | 106.8 | 107.0 | 107.4 | 107.5 | 113.9 | 114.9 | 117.1 | 114.1 | 106.9 | 153.9 |
| 8000  | 102.1 | 104.3 | 102.3 | 105.9 | 106.5 | 106.2 | 107.2 | 111.7 | 114.3 | 115.5 | 111.7 | 104.4 | 153.2 |
| 10000 | 101.2 | 103.5 | 102.0 | 105.0 | 106.5 | 106.2 | 107.0 | 111.8 | 114.8 | 115.8 | 110.2 | 102.9 | 152.0 |
| 12500 | 98.6  | 101.2 | 100.7 | 103.4 | 104.7 | 104.9 | 105.2 | 109.2 | 110.3 | 111.0 | 108.0 | 100.5 | 151.5 |
| 16000 | 96.2  | 98.9  | 98.1  | 101.2 | 102.5 | 102.5 | 103.8 | 107.7 | 110.3 | 111.0 | 108.0 | 100.5 | 151.5 |
| 20000 | 93.4  | 96.4  | 95.1  | 97.8  | 100.6 | 101.2 | 105.1 | 107.5 | 105.1 | 105.1 | 105.1 | 98.0  | 150.8 |
| 25000 | 90.5  | 93.4  | 92.6  | 94.9  | 97.0  | 98.9  | 98.5  | 102.1 | 103.4 | 103.9 | 100.4 | 95.6  | 149.3 |
| 31500 | 85.6  | 90.2  | 88.3  | 91.2  | 93.5  | 94.1  | 94.6  | 98.4  | 100.3 | 102.3 | 98.0  | 91.7  | 149.5 |
| 40000 | 80.9  | 84.8  | 84.7  | 86.5  | 89.5  | 90.7  | 90.7  | 99.8  | 99.8  | 99.8  | 94.5  | 79.9  | 150.0 |
| 50000 | 75.4  | 80.5  | 79.2  | 81.5  | 84.4  | 85.5  | 85.4  | 89.0  | 92.4  | 95.3  | 89.6  | 82.2  | 149.7 |
| 63000 | 69.1  | 74.4  | 73.4  | 75.9  | 79.3  | 80.0  | 79.9  | 83.8  | 87.4  | 89.3  | 84.9  | 76.1  | 149.6 |
| 80000 | 63.8  | 69.3  | 67.6  | 69.6  | 73.1  | 73.6  | 72.8  | 78.8  | 82.8  | 85.8  | 80.1  | 69.2  | 151.8 |
| QASPL | 117.6 | 119.3 | 117.1 | 119.3 | 119.3 | 118.2 | 118.1 | 122.1 | 125.7 | 131.2 | 131.0 | 125.7 | 167.6 |
| PNL   | 129.7 | 131.6 | 129.6 | 132.6 | 132.6 | 132.0 | 131.6 | 134.8 | 138.3 | 143.5 | 142.5 | 136.4 | 131.5 |
| PMLT  | 131.1 | 131.6 | 129.6 | 132.6 | 133.3 | 132.0 | 131.6 | 134.8 | 138.3 | 143.5 | 142.5 | 136.4 | 131.5 |
| DBA   | 118.3 | 120.0 | 117.7 | 119.9 | 119.7 | 118.2 | 117.7 | 121.7 | 125.5 | 131.4 | 131.0 | 124.0 | 118.0 |

NASA SHOCK CELL/CIRC CONVCONVIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH740 TEST DATE = 03-19-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFNG = ARC MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2431.2 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2431.2 FPS AE18 = 0. SQ IN  
 RUNPT = 400-0120 TAPE = X0120C TEST PT NO = 0120 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0120 X01201

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |       |      |      |      |      |      |      |       |       |       |      |       |       |
|------|------|-------|------|------|------|------|------|------|-------|-------|-------|------|-------|-------|
| 50   | 72.2 | 75.0  | 73.6 | 75.1 | 76.4 | 74.2 | 74.9 | 76.8 | 84.4  | 92.2  | 94.7  | 91.8 | 85.3  | 168.1 |
| 63   | 72.8 | 75.4  | 73.5 | 75.9 | 77.1 | 76.3 | 75.3 | 78.7 | 87.1  | 95.6  | 92.1  | 84.5 | 169.6 |       |
| 80   | 73.8 | 77.1  | 77.3 | 79.0 | 77.5 | 77.3 | 81.2 | 89.8 | 97.8  | 97.3  | 91.5  | 85.8 | 171.0 |       |
| 100  | 75.3 | 78.6  | 77.2 | 79.1 | 80.0 | 79.4 | 79.7 | 82.6 | 92.2  | 99.8  | 99.0  | 88.0 | 172.9 |       |
| 125  | 77.9 | 78.6  | 78.1 | 79.9 | 82.5 | 81.3 | 80.8 | 84.7 | 93.7  | 100.4 | 99.3  | 92.1 | 173.6 |       |
| 150  | 84.6 | 85.8  | 82.9 | 84.4 | 85.6 | 83.8 | 82.9 | 86.5 | 94.8  | 100.2 | 100.6 | 90.1 | 174.5 |       |
| 200  | 92.8 | 95.0  | 89.3 | 88.6 | 88.3 | 85.4 | 88.0 | 95.3 | 100.6 | 99.1  | 91.6  | 88.9 | 175.1 |       |
| 250  | 98.1 | 98.7  | 95.4 | 93.0 | 94.5 | 88.4 | 88.4 | 95.1 | 100.5 | 97.1  | 90.6  | 88.5 | 176.4 |       |
| 315  | 96.8 | 100.4 | 97.7 | 98.7 | 98.0 | 92.9 | 89.7 | 96.1 | 99.4  | 96.0  | 88.9  | 86.7 | 177.4 |       |
| 400  | 92.0 | 94.4  | 93.5 | 97.9 | 96.1 | 95.4 | 91.2 | 95.8 | 98.0  | 94.0  | 86.7  | 83.9 | 175.7 |       |
| 500  | 91.1 | 94.2  | 92.2 | 93.9 | 92.7 | 92.7 | 93.1 | 93.4 | 95.0  | 96.1  | 84.8  | 81.5 | 174.6 |       |
| 630  | 88.9 | 91.7  | 91.4 | 93.8 | 93.2 | 90.8 | 91.2 | 93.3 | 95.2  | 95.5  | 83.4  | 79.2 | 174.3 |       |
| 800  | 87.2 | 91.0  | 89.6 | 91.5 | 91.7 | 89.7 | 94.1 | 94.4 | 94.1  | 89.2  | 81.0  | 77.3 | 173.7 |       |
| 1000 | 85.5 | 89.4  | 88.9 | 91.4 | 91.5 | 90.4 | 89.2 | 91.8 | 93.6  | 87.8  | 79.9  | 75.3 | 173.5 |       |
| 1250 | 83.8 | 87.7  | 86.5 | 90.2 | 89.9 | 89.8 | 89.0 | 91.6 | 92.0  | 91.1  | 86.0  | 77.9 | 172.8 |       |
| 1500 | 81.8 | 86.1  | 85.5 | 88.7 | 88.8 | 88.2 | 86.9 | 88.7 | 90.6  | 89.0  | 83.6  | 74.7 | 172.2 |       |
| 1600 | 81.8 | 86.1  | 85.5 | 88.7 | 88.8 | 88.2 | 86.9 | 88.7 | 90.6  | 89.0  | 83.6  | 74.7 | 172.2 |       |
| 2000 | 77.7 | 82.6  | 83.3 | 86.3 | 86.5 | 85.6 | 85.4 | 87.0 | 87.8  | 80.1  | 71.0  | 63.0 | 171.5 |       |
| 2500 | 73.0 | 78.8  | 79.5 | 83.0 | 84.0 | 83.2 | 82.2 | 83.8 | 84.1  | 81.7  | 75.0  | 67.6 | 170.5 |       |
| 3150 | 66.3 | 73.2  | 73.9 | 77.5 | 79.6 | 80.2 | 78.6 | 79.8 | 79.3  | 77.9  | 69.2  | 58.2 | 170.2 |       |
| 4000 | 59.2 | 66.9  | 68.6 | 71.7 | 73.1 | 72.5 | 71.3 | 72.3 | 72.7  | 71.5  | 59.8  | 45.9 | 170.3 |       |
| 5000 | 43.6 | 55.4  | 57.2 | 61.7 | 64.1 | 64.0 | 62.4 | 62.7 | 62.5  | 59.7  | 46.0  | 27.3 | 170.3 |       |
| 6300 | 20.8 | 35.3  | 41.1 | 45.8 | 48.9 | 49.2 | 46.9 | 46.6 | 46.5  | 40.6  | 24.5  |      | 171.3 |       |
| 8000 |      |       |      |      |      |      |      |      |       |       |       |      |       | 169.6 |

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OF POOR QUALITY

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9  
 NASA SHOCK CELL/CIRC CONVONIC NOZ/AX/SC-1/NAS3-22514  
 VEHICLE = ADH740 TEST DATE = 03-19-82  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 LOCAL = C41 ANECH CH CNF1G = 1  
 TAMB F = FULL SPHERE  
 EXT CNF1G = SL  
 MIKE HT = 29.55  
 RELHUM = 92.5 PCT  
 FLTVEL = 400. FPS  
 MODEL = AX  
 PAMB HG = 29.55  
 V8 RPM = 2431.2 FPS  
 AE8 = 20.4 SQ IN  
 FPS AE18 = 0. SQ IN  
 XNHR RPM =  
 XNLR RPM =  
 LBS XNL =  
 LBS XNLR =  
 FNIN1 =  
 FNFRAMB =  
 RUNPT = -400-0120 TAPE = X01201 TEST PT NO = 012 NC = AE040 CORR FAN SPEED = RPM



DATPRC - FLIRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0121 X0121C  
BACKGROUND X79F400B0400  
ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
| 80    | 91.3  | 95.3  | 89.6  | 92.9  | 92.7  | 93.3  | 93.0  | 94.6  | 96.6  | 95.4  | 98.5  | 100.0 | 100.9 |
| 80    | 91.7  | 94.3  | 87.8  | 92.6  | 95.2  | 91.5  | 96.4  | 92.6  | 100.8 | 99.4  | 98.5  | 99.4  | 100.1 |
| 63    | 91.7  | 94.3  | 87.8  | 92.6  | 95.2  | 91.5  | 96.4  | 92.6  | 100.8 | 99.4  | 98.5  | 99.4  | 100.1 |
| 50    | 88.9  | 91.2  | 87.2  | 86.5  | 89.9  | 86.5  | 89.1  | 88.0  | 98.0  | 99.1  | 97.7  | 96.9  | 97.0  |
| 50    | 88.9  | 91.2  | 87.2  | 86.5  | 89.9  | 86.5  | 89.1  | 88.0  | 98.0  | 99.1  | 97.7  | 96.9  | 97.0  |
| 100   | 89.6  | 95.8  | 90.9  | 95.2  | 95.7  | 94.9  | 94.5  | 97.9  | 98.1  | 99.4  | 100.1 | 104.0 | 105.7 |
| 100   | 89.6  | 95.8  | 90.9  | 95.2  | 95.7  | 94.9  | 94.5  | 97.9  | 98.1  | 99.4  | 100.1 | 104.0 | 105.7 |
| 125   | 87.4  | 89.9  | 91.2  | 94.4  | 95.3  | 94.7  | 93.8  | 95.2  | 97.7  | 99.2  | 106.1 | 107.8 | 109.2 |
| 125   | 87.4  | 89.9  | 91.2  | 94.4  | 95.3  | 94.7  | 93.8  | 95.2  | 97.7  | 99.2  | 106.1 | 107.8 | 109.2 |
| 150   | 86.3  | 87.1  | 88.8  | 90.1  | 90.5  | 91.3  | 92.7  | 94.6  | 97.3  | 101.7 | 106.3 | 109.5 | 112.4 |
| 150   | 86.3  | 87.1  | 88.8  | 90.1  | 90.5  | 91.3  | 92.7  | 94.6  | 97.3  | 101.7 | 106.3 | 109.5 | 112.4 |
| 200   | 88.8  | 89.6  | 88.1  | 91.9  | 93.7  | 93.8  | 94.2  | 97.4  | 102.6 | 103.9 | 109.5 | 112.7 | 114.6 |
| 200   | 88.8  | 89.6  | 88.1  | 91.9  | 93.7  | 93.8  | 94.2  | 97.4  | 102.6 | 103.9 | 109.5 | 112.7 | 114.6 |
| 250   | 89.0  | 92.3  | 90.8  | 93.6  | 93.7  | 93.8  | 95.5  | 99.9  | 103.3 | 109.6 | 114.3 | 117.5 | 120.2 |
| 250   | 89.0  | 92.3  | 90.8  | 93.6  | 93.7  | 93.8  | 95.5  | 99.9  | 103.3 | 109.6 | 114.3 | 117.5 | 120.2 |
| 315   | 89.6  | 91.9  | 89.9  | 93.4  | 93.4  | 95.3  | 95.6  | 99.7  | 106.1 | 111.4 | 116.3 | 117.7 | 121.6 |
| 315   | 89.6  | 91.9  | 89.9  | 93.4  | 93.4  | 95.3  | 95.6  | 99.7  | 106.1 | 111.4 | 116.3 | 117.7 | 121.6 |
| 400   | 91.1  | 93.4  | 91.1  | 94.7  | 95.5  | 94.9  | 97.3  | 100.9 | 108.4 | 115.9 | 118.8 | 117.2 | 123.5 |
| 400   | 91.1  | 93.4  | 91.1  | 94.7  | 95.5  | 94.9  | 97.3  | 100.9 | 108.4 | 115.9 | 118.8 | 117.2 | 123.5 |
| 500   | 92.2  | 94.7  | 91.7  | 95.3  | 96.4  | 97.0  | 97.2  | 105.1 | 112.6 | 121.2 | 121.6 | 119.2 | 124.6 |
| 500   | 92.2  | 94.7  | 91.7  | 95.3  | 96.4  | 97.0  | 97.2  | 105.1 | 112.6 | 121.2 | 121.6 | 119.2 | 124.6 |
| 630   | 93.8  | 96.1  | 93.6  | 96.9  | 97.7  | 98.3  | 99.2  | 105.1 | 112.6 | 121.2 | 121.6 | 119.2 | 124.6 |
| 630   | 93.8  | 96.1  | 93.6  | 96.9  | 97.7  | 98.3  | 99.2  | 105.1 | 112.6 | 121.2 | 121.6 | 119.2 | 124.6 |
| 800   | 97.9  | 97.2  | 96.2  | 98.8  | 99.6  | 100.2 | 101.4 | 106.5 | 115.2 | 122.6 | 121.9 | 119.4 | 117.8 |
| 800   | 97.9  | 97.2  | 96.2  | 98.8  | 99.6  | 100.2 | 101.4 | 106.5 | 115.2 | 122.6 | 121.9 | 119.4 | 117.8 |
| 1000  | 104.2 | 105.7 | 100.5 | 102.8 | 102.1 | 101.7 | 102.6 | 108.3 | 116.2 | 124.1 | 122.2 | 119.4 | 116.5 |
| 1000  | 104.2 | 105.7 | 100.5 | 102.8 | 102.1 | 101.7 | 102.6 | 108.3 | 116.2 | 124.1 | 122.2 | 119.4 | 116.5 |
| 1250  | 113.7 | 115.2 | 107.0 | 108.5 | 107.1 | 105.3 | 105.9 | 109.5 | 117.0 | 125.1 | 122.9 | 116.2 | 113.9 |
| 1250  | 113.7 | 115.2 | 107.0 | 108.5 | 107.1 | 105.3 | 105.9 | 109.5 | 117.0 | 125.1 | 122.9 | 116.2 | 113.9 |
| 1500  | 114.0 | 112.3 | 108.3 | 108.1 | 105.2 | 103.5 | 105.1 | 110.7 | 117.5 | 122.9 | 122.0 | 116.2 | 113.9 |
| 1500  | 114.0 | 112.3 | 108.3 | 108.1 | 105.2 | 103.5 | 105.1 | 110.7 | 117.5 | 122.9 | 122.0 | 116.2 | 113.9 |
| 2000  | 112.6 | 113.3 | 111.2 | 113.3 | 110.2 | 105.8 | 106.0 | 110.6 | 117.7 | 123.7 | 120.5 | 115.6 | 111.8 |
| 2000  | 112.6 | 113.3 | 111.2 | 113.3 | 110.2 | 105.8 | 106.0 | 110.6 | 117.7 | 123.7 | 120.5 | 115.6 | 111.8 |
| 2500  | 110.1 | 110.9 | 109.5 | 113.7 | 114.6 | 110.7 | 106.6 | 112.0 | 117.1 | 123.1 | 119.4 | 114.0 | 110.5 |
| 2500  | 110.1 | 110.9 | 109.5 | 113.7 | 114.6 | 110.7 | 106.6 | 112.0 | 117.1 | 123.1 | 119.4 | 114.0 | 110.5 |
| 3150  | 109.0 | 111.3 | 108.1 | 110.6 | 112.9 | 113.5 | 109.6 | 112.4 | 117.4 | 121.5 | 118.3 | 112.4 | 109.7 |
| 3150  | 109.0 | 111.3 | 108.1 | 110.6 | 112.9 | 113.5 | 109.6 | 112.4 | 117.4 | 121.5 | 118.3 | 112.4 | 109.7 |
| 4000  | 107.0 | 109.3 | 107.5 | 110.6 | 109.6 | 111.1 | 111.5 | 114.3 | 116.2 | 120.4 | 117.1 | 110.7 | 108.2 |
| 4000  | 107.0 | 109.3 | 107.5 | 110.6 | 109.6 | 111.1 | 111.5 | 114.3 | 116.2 | 120.4 | 117.1 | 110.7 | 108.2 |
| 5000  | 106.2 | 108.0 | 106.6 | 109.1 | 109.8 | 108.7 | 110.4 | 113.9 | 115.9 | 119.3 | 115.4 | 109.6 | 105.3 |
| 5000  | 106.2 | 108.0 | 106.6 | 109.1 | 109.8 | 108.7 | 110.4 | 113.9 | 115.9 | 119.3 | 115.4 | 109.6 | 105.3 |
| 6300  | 104.7 | 105.9 | 105.8 | 108.3 | 109.2 | 109.7 | 109.2 | 113.4 | 115.4 | 118.8 | 114.6 | 108.1 | 104.1 |
| 6300  | 104.7 | 105.9 | 105.8 | 108.3 | 109.2 | 109.7 | 109.2 | 113.4 | 115.4 | 118.8 | 114.6 | 108.1 | 104.1 |
| 8000  | 83.4  | 87.8  | 87.4  | 89.7  | 92.5  | 92.9  | 92.7  | 96.3  | 97.5  | 103.3 | 95.7  | 88.2  | 79.2  |
| 8000  | 83.4  | 87.8  | 87.4  | 89.7  | 92.5  | 92.9  | 92.7  | 96.3  | 97.5  | 103.3 | 95.7  | 88.2  | 79.2  |
| 10000 | 78.9  | 83.0  | 82.0  | 84.7  | 87.4  | 88.5  | 87.4  | 90.7  | 94.4  | 99.5  | 91.3  | 83.7  | 73.2  |
| 10000 | 78.9  | 83.0  | 82.0  | 84.7  | 87.4  | 88.5  | 87.4  | 90.7  | 94.4  | 99.5  | 91.3  | 83.7  | 73.2  |
| 15000 | 97.4  | 102.9 | 99.6  | 102.9 | 99.6  | 102.9 | 104.8 | 108.4 | 110.3 | 112.2 | 108.3 | 100.8 | 95.8  |
| 15000 | 97.4  | 102.9 | 99.6  | 102.9 | 99.6  | 102.9 | 104.8 | 108.4 | 110.3 | 112.2 | 108.3 | 100.8 | 95.8  |
| 20000 | 94.9  | 98.2  | 96.8  | 100.1 | 102.1 | 102.7 | 106.1 | 107.7 | 110.2 | 106.1 | 99.0  | 92.9  | 151.8 |
| 20000 | 94.9  | 98.2  | 96.8  | 100.1 | 102.1 | 102.7 | 106.1 | 107.7 | 110.2 | 106.1 | 99.0  | 92.9  | 151.8 |
| 25000 | 91.5  | 95.4  | 94.9  | 97.4  | 99.3  | 100.4 | 100.0 | 102.6 | 104.1 | 107.9 | 100.6 | 96.1  | 89.3  |
| 25000 | 91.5  | 95.4  | 94.9  | 97.4  | 99.3  | 100.4 | 100.0 | 102.6 | 104.1 | 107.9 | 100.6 | 96.1  | 89.3  |
| 31500 | 87.8  | 92.0  | 91.0  | 94.2  | 96.0  | 96.3  | 99.9  | 100.8 | 105.8 | 98.5  | 92.4  | 84.7  | 151.6 |
| 31500 | 87.8  | 92.0  | 91.0  | 94.2  | 96.0  | 96.3  | 99.9  | 100.8 | 105.8 | 98.5  | 92.4  | 84.7  | 151.6 |
| 40000 | 83.4  | 87.8  | 87.4  | 89.7  | 92.5  | 92.9  | 92.7  | 96.3  | 97.5  | 103.3 | 95.7  | 88.2  | 79.2  |
| 40000 | 83.4  | 87.8  | 87.4  | 89.7  | 92.5  | 92.9  | 92.7  | 96.3  | 97.5  | 103.3 | 95.7  | 88.2  | 79.2  |
| 50000 | 78.9  | 83.0  | 82.0  | 84.7  | 87.4  | 88.5  | 87.4  | 90.7  | 94.4  | 99.5  | 91.3  | 83.7  | 73.2  |
| 50000 | 78.9  | 83.0  | 82.0  | 84.7  | 87.4  | 88.5  | 87.4  | 90.7  | 94.4  | 99.5  | 91.3  | 83.7  | 73.2  |
| 63000 | 72.8  | 78.4  | 77.2  | 79.4  | 82.8  | 84.3  | 82.4  | 86.3  | 89.6  | 95.6  | 86.2  | 78.6  | 66.8  |
| 63000 | 72.8  | 78.4  | 77.2  | 79.4  | 82.8  | 84.3  | 82.4  | 86.3  | 89.6  | 95.6  | 86.2  | 78.6  | 66.8  |
| 80000 | 67.3  | 73.0  | 73.1  | 74.1  | 78.1  | 79.1  | 77.1  | 81.6  | 85.0  | 89.8  | 80.8  | 71.2  | 60.4  |
| 80000 | 67.3  | 73.0  | 73.1  | 74.1  | 78.1  | 79.1  | 77.1  | 81.6  | 85.0  | 89.8  | 80.8  | 71.2  | 60.4  |
| DBA   | 121.0 | 121.9 | 118.6 | 121.2 | 121.2 | 120.1 | 119.2 | 123.3 | 127.8 | 133.6 | 132.1 | 127.7 | 125.2 |
| DBA   | 121.0 | 121.9 | 118.6 | 121.2 | 121.2 | 120.1 | 119.2 | 123.3 | 127.8 | 133.6 | 132.1 | 127.7 | 125.2 |
| PMLT  | 132.9 | 136.1 | 130.7 | 135.1 | 134.0 | 134.5 | 136.5 | 140.5 | 145.5 | 144.5 | 139.0 | 136.6 | 136.6 |
| PMLT  | 132.9 | 136.1 | 130.7 | 135.1 | 134.0 | 134.5 | 136.5 | 140.5 | 145.5 | 144.5 | 139.0 | 136.6 | 136.6 |
| QASPL | 120.3 | 121.3 | 118.2 | 120.7 | 121.0 | 120.1 | 119.6 | 123.6 | 127.8 | 133.5 | 132.4 | 127.3 | 125.2 |
| QASPL | 120.3 | 121.3 | 118.2 | 120.7 | 121.0 | 120.1 | 119.6 | 123.6 | 127.8 | 133.5 | 132.4 | 127.3 | 125.2 |

NASA SHOCK CELL/CIRC CONVONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH738 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
 MIND DIR = DEG MIND,VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = 20.4 SQ IN  
 FNINI = LBS XNL RPM XNHR = RPM V8 = 2451.5 FPS AE8 = 20.4 SQ IN  
 FNFRAMB = LBS XNLR RPM XNHR = RPM V8 = 2451.5 FPS AE8 = 20.4 SQ IN  
 RUNPT = 82F-ZER-0121 TAPE = X0121C TEST PT NO = 0121 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL DATA OF POOR QUALITY

DATPROC - FLIRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0121 X0121F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 97.0 135.9

50 88.9 91.2 87.2 86.5 89.9 86.5 89.1 88.0 98.0 99.1 97.7 96.9 97.0 135.9

63 91.7 94.3 87.8 92.6 89.9 91.5 96.4 92.6 100.8 99.4 98.5 99.4 100.1 138.5

80 91.3 95.3 89.6 92.9 92.7 93.3 93.0 94.6 96.6 95.4 98.5 100.0 100.9 137.4

100 87.4 89.6 90.9 95.2 95.7 94.9 94.5 97.9 98.1 99.4 98.4 100.1 104.0 140.2

125 87.4 89.9 91.2 94.4 95.3 94.7 93.8 95.2 97.7 98.3 95.2 106.1 107.8 142.5

150 86.3 87.1 88.8 90.1 90.5 91.3 92.7 94.6 97.3 101.7 106.3 109.5 112.4 143.9

200 88.8 89.6 91.9 93.7 93.8 94.2 97.4 102.6 109.5 112.7 114.6 114.6 146.7

250 89.0 92.3 90.8 93.6 93.7 93.8 95.5 99.9 103.3 109.6 114.3 116.5 116.1 150.0

315 89.6 91.9 89.9 93.4 95.3 95.6 96.5 99.7 106.1 111.4 116.3 117.5 117.7 151.6

400 91.1 93.4 91.1 94.7 95.5 94.9 97.3 100.9 108.4 115.9 118.8 117.2 153.5

500 92.2 94.7 91.7 95.3 96.4 97.0 97.9 102.5 110.2 117.8 120.7 118.6 154.6

630 93.8 96.1 93.6 96.9 97.7 98.3 99.2 105.1 112.6 121.2 121.6 119.2 156.3

800 97.9 97.2 96.2 98.8 99.6 100.2 101.4 106.5 115.2 122.6 121.9 119.4 157.3

1000 104.2 105.7 100.5 102.8 107.1 101.7 102.6 108.3 116.2 124.1 122.2 119.4 158.2

1250 113.7 115.2 107.0 108.5 107.1 105.3 108.9 117.0 125.1 125.7 119.6 116.7 160.2

1500 114.0 112.3 108.3 108.1 105.2 103.5 105.1 110.7 117.5 122.9 122.0 116.2 113.9 157.9

2000 112.6 113.3 110.2 110.2 105.8 106.0 110.6 117.7 123.7 120.5 115.6 111.6 158.2

2500 110.1 110.9 109.5 113.7 114.6 110.7 106.6 112.0 117.1 123.1 119.4 114.0 157.9

3150 109.0 111.3 108.1 110.6 112.9 113.5 109.6 112.4 117.4 121.5 118.3 112.4 157.1

4000 107.0 109.3 107.5 110.6 109.6 111.1 111.5 114.3 116.2 120.4 117.1 110.7 158.2

5000 106.2 109.6 109.1 109.8 109.8 109.7 110.4 113.9 115.4 119.3 115.4 109.6 155.3

6300 104.7 106.9 105.8 108.3 109.2 109.7 109.2 109.7 109.2 114.4 115.4 114.6 155.1

8000 103.6 105.5 103.8 107.2 108.9 108.7 108.2 113.0 114.8 117.3 113.8 106.3 154.4

10000 102.5 105.0 104.0 106.8 108.5 107.7 107.2 112.2 112.0 114.3 112.2 105.1 154.1

12500 100.6 106.2 101.9 104.7 106.2 106.5 106.5 112.0 114.3 114.3 110.7 103.2 153.0

15000 97.4 100.7 99.6 102.9 104.8 104.2 104.8 108.4 110.3 112.2 108.3 100.8 152.4

20000 94.9 98.2 96.8 100.1 102.1 102.7 106.1 107.7 110.2 106.1 99.0 92.9 151.8

25000 91.5 95.4 94.9 97.4 99.3 100.4 100.0 102.6 104.1 107.9 100.6 96.1 151.2

31500 87.8 92.0 91.0 94.2 96.0 96.3 99.9 100.8 105.6 98.5 92.4 84.7 151.6

40000 83.4 87.8 87.4 89.7 92.5 92.9 92.7 96.3 97.5 103.3 95.7 88.2 152.5

50000 78.9 83.0 82.0 84.7 87.4 88.5 87.4 90.7 94.4 99.5 91.3 83.7 152.7

63000 72.8 78.4 77.2 79.4 82.8 82.4 86.3 89.6 95.6 86.2 78.6 66.8 153.8

80000 67.3 73.0 73.1 74.1 78.1 79.1 79.1 81.6 85.0 89.8 80.8 71.2 155.2

DBA 189.2 194.7 194.4 195.8 199.6 200.7 198.8 203.1 206.5 211.5 202.6 193.7 182.8

PWL 132.9 136.1 130.7 135.1 135.9 134.0 133.0 136.5 140.5 145.5 144.5 139.0 136.6

PWL 131.9 133.4 130.7 134.0 134.5 134.0 133.0 136.5 140.5 145.5 143.3 139.0 136.6

DASPL 120.3 121.3 118.2 120.7 121.0 120.1 119.6 123.6 127.8 133.5 132.4 129.0 127.3 169.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH738 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNHR = RPM XNH RPM V8 = 2451.5 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2451.5 FPS AEB = 20.4 SQ IN

RUNPT = -ZER-0121 TAPE = X0121F TEST PT NO = 012 NC = AEO40 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT., SL

IDENTIFICATION - 82F-ZER-0121 X01211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|      |      |      |      |      |      |      |      |      |       |       |      |      |       |       |
|------|------|------|------|------|------|------|------|------|-------|-------|------|------|-------|-------|
| 70.0 | 73.8 | 72.7 | 76.9 | 78.2 | 77.7 | 79.9 | 83.2 | 89.9 | 96.4  | 97.8  | 95.5 | 90.6 | 171.9 |       |
| 50   | 70.0 | 73.8 | 72.7 | 76.9 | 78.2 | 77.7 | 79.9 | 83.2 | 89.9  | 96.4  | 97.8 | 95.5 | 171.9 |       |
| 50   | 71.1 | 75.2 | 73.3 | 77.5 | 79.0 | 78.8 | 80.5 | 84.8 | 91.8  | 98.2  | 95.3 | 89.4 | 173.0 |       |
| 60   | 72.6 | 75.5 | 75.1 | 80.3 | 81.1 | 81.8 | 87.3 | 94.1 | 101.6 | 100.4 | 95.9 | 90.1 | 174.7 |       |
| 80   | 76.7 | 77.6 | 77.7 | 80.9 | 82.2 | 82.9 | 83.9 | 88.7 | 96.7  | 102.9 | 95.9 | 90.9 | 175.7 |       |
| 100  | 76.7 | 77.6 | 77.7 | 80.9 | 82.2 | 82.9 | 83.9 | 88.7 | 96.7  | 102.9 | 95.9 | 90.9 | 175.7 |       |
| 125  | 82.8 | 86.0 | 81.8 | 84.9 | 84.6 | 84.4 | 85.1 | 90.4 | 97.6  | 104.3 | 95.7 | 89.4 | 176.5 |       |
| 150  | 92.2 | 95.3 | 88.2 | 90.5 | 89.5 | 87.8 | 88.3 | 91.5 | 98.2  | 105.2 | 95.8 | 89.1 | 178.6 |       |
| 200  | 92.2 | 92.1 | 89.3 | 89.9 | 87.4 | 85.9 | 87.3 | 92.5 | 98.6  | 102.7 | 92.0 | 85.9 | 176.3 |       |
| 250  | 90.5 | 92.9 | 92.0 | 94.9 | 92.2 | 87.9 | 88.0 | 92.2 | 98.5  | 103.3 | 98.4 | 91.0 | 83.2  | 176.6 |
| 315  | 87.6 | 90.2 | 95.0 | 96.3 | 92.6 | 88.4 | 93.3 | 97.6 | 102.4 | 96.9  | 88.8 | 81.0 | 176.2 |       |
| 400  | 86.0 | 90.2 | 88.2 | 91.6 | 94.4 | 95.1 | 93.3 | 97.6 | 100.4 | 95.2  | 86.6 | 79.2 | 175.4 |       |
| 500  | 83.5 | 87.7 | 87.3 | 91.2 | 90.8 | 92.4 | 92.7 | 95.0 | 96.0  | 98.8  | 84.2 | 76.8 | 174.5 |       |
| 630  | 82.2 | 86.1 | 86.0 | 89.5 | 90.6 | 89.8 | 91.2 | 94.3 | 95.4  | 97.4  | 82.5 | 72.9 | 173.7 |       |
| 800  | 80.2 | 84.6 | 85.0 | 88.4 | 89.9 | 89.9 | 94.5 | 94.6 | 96.5  | 90.1  | 80.3 | 70.5 | 173.5 |       |
| 1000 | 78.7 | 82.9 | 82.7 | 87.1 | 89.4 | 89.4 | 88.7 | 93.0 | 93.7  | 94.7  | 88.9 | 77.8 | 172.8 |       |
| 1250 | 77.1 | 82.1 | 82.7 | 86.5 | 88.9 | 88.3 | 88.6 | 92.0 | 92.1  | 93.8  | 86.7 | 75.8 | 172.5 |       |
| 1600 | 74.3 | 79.6 | 80.2 | 84.1 | 86.8 | 86.7 | 89.6 | 90.3 | 90.7  | 84.4  | 72.5 | 60.8 | 171.4 |       |
| 2000 | 70.2 | 76.5 | 77.5 | 82.1 | 84.7 | 84.4 | 84.7 | 87.6 | 88.2  | 88.1  | 81.0 | 68.5 | 54.2  | 170.7 |
| 2500 | 65.8 | 72.8 | 73.9 | 78.6 | 81.4 | 81.7 | 82.0 | 84.6 | 84.8  | 84.8  | 77.1 | 63.9 | 46.4  | 170.2 |
| 3150 | 59.1 | 67.6 | 70.0 | 74.4 | 77.3 | 78.7 | 78.0 | 79.6 | 79.3  | 80.1  | 68.2 | 56.0 | 34.4  | 169.6 |
| 4000 | 49.1 | 59.5 | 62.4 | 67.9 | 71.0 | 71.8 | 73.6 | 72.1 | 73.3  | 73.3  | 59.8 | 43.4 | 15.3  | 169.9 |
| 5000 | 35.0 | 47.7 | 52.5 | 58.0 | 62.5 | 63.5 | 62.7 | 64.6 | 62.6  | 63.2  | 47.3 | 25.5 |       | 170.9 |
| 6300 | 12.7 | 28.7 | 35.0 | 42.2 | 47.3 | 49.2 | 47.3 | 48.2 | 47.4  | 45.2  | 25.1 |      |       | 171.1 |
| 8000 |      |      |      |      |      |      |      |      |       |       |      |      |       | 173.6 |

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9  
NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/MAS3-22514

VEHICL = ADH738 TEST DATE = 03-19-82 LCAT = C41 ANECH CH CNFIG = 1 MODEL = AX FLTVL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFH  
FNINI = LBS XNL RPM XNH XNHR = XNHR RPM XNH RPM V8 = 2451.5 FPS AE8 = 20.4 SQ IN  
FNRAMB = LBS XNLR = XNLR RPM XNHR = XNHR RPM V8 = 2451.5 FPS AE18 = 0. SQ IN  
RUNPT = 82F-ZER-0121 TAPE = X01211 TEST PT NO = 0121 NC = AE040 CORR FAN SPEED = RPM

DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0122 X0122C  
BACKGROUND X79F400B400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 90.4 92.2 86.7 90.8 89.4 87.7 90.1 88.5 98.7 98.6 98.9 98.1 98.3 136.6

63 91.5 93.8 90.5 95.3 90.2 92.3 96.4 89.3 99.8 99.1 99.0 99.9 99.8 138.2

80 91.5 96.1 90.1 93.9 93.2 93.6 93.0 94.4 96.6 95.2 98.8 99.5 101.9 137.6

100 89.8 95.1 90.1 93.9 93.0 94.6 94.2 97.7 97.4 99.6 104.5 106.2 140.0

125 88.1 89.1 90.4 94.2 95.3 94.2 93.5 94.7 96.2 97.2 104.6 107.5 141.9

160 85.8 84.6 87.3 88.9 89.5 88.8 90.5 90.9 94.8 99.4 104.8 107.5 142.0

200 86.5 86.6 85.6 88.6 88.6 90.7 90.1 90.7 95.1 99.8 100.9 106.5 113.1 144.8

250 85.0 88.3 85.8 90.1 90.2 90.8 91.7 96.9 99.6 106.1 111.5 114.7 147.7

315 85.6 88.6 87.1 89.7 91.8 91.4 93.3 95.9 101.6 108.2 113.3 114.7 148.8

400 87.3 90.1 87.9 91.2 92.0 91.4 93.3 96.9 103.9 111.9 116.8 117.0 150.8

500 88.2 91.2 88.5 92.3 93.6 94.0 94.1 99.0 105.7 114.8 116.4 109.8 152.0

630 89.8 92.3 90.6 93.9 94.2 95.1 96.0 101.4 107.9 117.9 119.8 116.0 153.4

800 89.7 94.0 92.2 95.8 96.1 96.7 97.9 103.3 110.5 120.1 121.4 106.0 154.8

1000 101.4 102.0 99.0 100.8 99.1 98.5 99.6 105.8 112.5 121.6 121.7 114.1 155.9

1250 109.5 110.2 105.0 104.8 102.9 101.0 101.6 106.8 114.0 122.3 123.0 113.9 158.2

1600 113.5 113.5 110.8 109.3 104.4 102.3 102.6 108.2 115.0 122.4 122.7 114.2 157.6

2000 109.9 113.3 111.5 113.6 111.4 110.5 104.3 108.6 115.2 122.2 121.0 112.6 157.2

2500 108.1 109.2 108.5 112.7 114.3 110.7 108.9 109.5 115.4 122.1 119.4 111.7 156.9

3150 107.0 109.6 107.3 109.6 111.4 112.8 109.9 111.1 115.4 120.5 117.8 110.4 155.9

4000 106.2 108.0 106.5 109.3 108.6 111.2 113.6 115.4 119.6 116.6 108.7 103.7 155.3

5000 105.7 107.3 108.1 108.3 107.5 109.1 112.9 114.9 118.0 115.1 107.4 102.1 154.3

6300 103.4 106.4 105.3 107.1 108.0 108.9 108.5 113.7 115.4 117.6 114.2 106.9 154.4

8000 102.0 104.5 103.3 105.8 107.2 106.5 107.7 112.3 114.1 115.5 111.9 104.4 153.8

10000 102.0 104.5 103.3 105.8 107.2 106.5 107.7 112.3 114.1 115.5 111.9 104.4 153.5

12500 100.1 102.2 101.2 103.9 105.4 105.4 105.5 109.9 112.5 113.3 110.2 103.4 152.5

16000 96.9 99.4 98.4 101.9 103.8 103.5 104.3 108.2 111.3 111.5 108.5 100.3 152.2

20000 94.2 97.2 95.6 98.8 100.6 101.6 101.4 105.6 108.2 109.7 105.6 98.5 151.4

25000 90.8 93.6 93.6 95.7 98.5 99.1 99.5 102.1 104.1 106.1 100.6 95.9 150.3

31500 86.8 90.2 89.5 92.5 94.5 94.6 95.8 98.9 101.0 103.8 97.5 91.7 150.3

40000 81.4 86.0 85.9 87.7 91.0 90.9 91.7 95.0 97.5 101.3 94.5 87.7 151.1

50000 76.7 80.5 80.2 82.5 85.9 86.7 86.1 89.7 93.1 97.3 90.1 82.4 151.0

63000 70.1 74.6 73.4 76.7 80.3 81.0 80.4 84.8 89.1 93.6 85.7 77.1 152.1

80000 64.0 70.3 68.6 70.3 73.6 74.6 75.1 79.3 84.0 89.3 78.8 70.2 154.0

QASPL 118.5 120.0 117.9 120.0 120.0 120.1 119.0 118.6 122.3 126.2 131.8 131.4 126.0 122.5 168.2

PNLT 131.7 132.2 130.3 133.0 133.0 133.6 132.9 132.1 135.8 138.6 144.1 142.8 136.6 132.0

DBA 119.2 120.7 118.5 120.5 120.4 119.1 118.4 121.9 126.0 132.0 131.3 124.3 118.6

NASA SHOCK CELL/CIRC CONVONCIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH739 TEST DATE = 03-19-82 LOCAL = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.00 PAMB HG = 29.55 RELHUM = 92.5 PCT  
WIND DIR = DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2459.0 FPS AE8 = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2459.0 FPS AE18 = 0. SQ IN

RUNPT = 400-0122 TAPE = X0122C TEST PT NO = 0122 NC = AE040 CORR FAN SPEED = RPM

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OF POOR QUALITY

DATPROC - FLIRAN

06/18/82 17.400 PAGE 3

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0122 X0122F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200  
160  
125  
100  
80  
63  
50  
50  
FREQ

92.3 94.4 90.5 93.3 91.7 90.8 89.8 93.3 98.2 103.8 108.4 110.8 112.1 144.9  
250 92.3 94.4 90.5 93.3 91.6 91.9 93.1 101.8 109.2 113.8 114.8 112.8 148.6  
315 92.3 94.4 90.5 93.3 93.6 91.6 91.9 93.1 101.8 109.2 113.8 114.8 112.8 148.6  
400 93.3 95.0 92.1 93.1 93.7 91.6 92.5 95.1 103.7 112.3 116.3 112.7 150.3  
500 93.8 95.7 92.3 94.2 95.5 94.3 93.2 97.0 105.7 115.3 117.4 115.7 151.5  
630 95.9 97.6 93.5 95.7 96.1 95.5 95.0 99.1 108.6 117.7 119.2 115.1 153.1  
800 97.0 98.5 95.4 97.3 97.2 96.9 101.0 111.0 119.8 120.4 116.2 115.2 154.8  
1000 99.8 99.3 96.6 98.9 100.8 99.1 98.8 103.6 112.9 120.9 122.2 116.5 156.3  
1250 108.2 107.5 103.1 103.6 104.8 101.8 101.0 104.9 114.1 121.1 122.0 116.9 156.6  
1500 116.9 116.5 109.9 108.2 106.5 103.3 102.2 106.4 114.6 121.3 120.7 115.8 157.3  
2000 121.0 119.8 112.9 114.2 106.3 104.1 107.2 115.0 121.5 119.4 115.2 117.5 158.8  
2500 119.8 121.5 117.8 118.1 117.2 112.3 112.3 106.1 108.4 115.6 120.5 116.8 159.5  
3150 115.8 115.8 113.9 116.9 114.7 114.8 110.5 110.5 116.1 119.9 117.2 112.4 157.8  
4000 114.6 114.5 112.1 113.9 112.2 110.5 110.5 112.9 116.3 117.9 115.0 110.6 156.3  
5000 113.4 114.5 112.1 113.9 112.2 110.5 110.5 112.9 116.3 117.9 115.0 110.6 156.3  
6300 112.5 113.6 110.6 112.8 112.0 111.9 110.0 113.7 116.6 116.9 113.9 108.7 156.1  
8000 110.7 113.0 111.0 111.8 111.5 110.2 109.3 112.4 115.4 116.3 113.0 108.4 155.5  
10000 108.2 111.4 109.1 111.2 111.3 109.5 109.4 111.8 114.0 114.3 111.5 107.7 155.0  
12500 108.9 110.6 108.5 110.0 109.5 108.4 107.1 110.1 113.4 113.0 110.4 105.2 154.6  
15000 106.5 107.8 105.9 107.6 107.8 106.5 106.0 108.4 110.7 111.6 107.9 103.8 153.8  
20000 102.9 104.6 102.7 105.3 104.9 104.6 103.1 105.7 107.3 108.7 103.6 101.8 152.7  
25000 99.5 101.8 99.3 101.5 103.1 102.4 101.3 102.4 104.9 107.2 101.2 98.4 152.5  
31500 98.1 99.7 98.3 98.8 98.5 97.6 97.5 99.1 102.2 105.5 99.0 95.2 153.0  
40000 90.5 93.2 91.6 93.6 95.6 93.9 93.4 95.2 98.2 101.8 94.9 90.3 152.7  
50000 87.5 89.9 88.9 89.6 90.5 89.7 87.7 89.9 95.1 99.0 91.5 85.9 153.6  
63000 81.8 84.4 82.7 83.4 84.9 84.0 81.9 84.9 91.5 96.2 86.1 80.5 154.8  
80000 73.7 77.1 74.4 76.1 78.2 77.6 76.6 79.4 81.7 86.4 76.3 70.7 152.9

6000 110.7 113.0 111.0 111.8 111.5 110.2 109.3 112.4 115.4 116.3 113.0 108.4 110.6 155.5  
8000 110.7 113.0 111.0 111.8 111.5 110.2 109.3 112.4 115.4 116.3 113.0 108.4 110.6 155.5  
10000 108.2 111.4 109.1 111.2 111.3 109.5 109.4 111.8 114.0 114.3 111.5 107.7 155.0  
12500 108.9 110.6 108.5 110.0 109.5 108.4 107.1 110.1 113.4 113.0 110.4 105.2 154.6  
15000 106.5 107.8 105.9 107.6 107.8 106.5 106.0 108.4 110.7 111.6 107.9 103.8 153.8  
20000 102.9 104.6 102.7 105.3 104.9 104.6 103.1 105.7 107.3 108.7 103.6 101.8 152.7  
25000 99.5 101.8 99.3 101.5 103.1 102.4 101.3 102.4 104.9 107.2 101.2 98.4 152.5  
31500 98.1 99.7 98.3 98.8 98.5 97.6 97.5 99.1 102.2 105.5 99.0 95.2 153.0  
40000 90.5 93.2 91.6 93.6 95.6 93.9 93.4 95.2 98.2 101.8 94.9 90.3 152.7  
50000 87.5 89.9 88.9 89.6 90.5 89.7 87.7 89.9 95.1 99.0 91.5 85.9 153.6  
63000 81.8 84.4 82.7 83.4 84.9 84.0 81.9 84.9 91.5 96.2 86.1 80.5 154.8  
80000 73.7 77.1 74.4 76.1 78.2 77.6 76.6 79.4 81.7 86.4 76.3 70.7 152.9

GASPL 126.3 126.8 123.4 124.2 123.4 121.3 119.6 122.0 126.4 131.0 130.5 126.6 127.2 169.3  
PNL 138.6 139.8 136.3 136.9 136.2 134.3 132.3 134.2 138.6 142.8 141.3 137.4 138.9  
PNLT 138.6 141.0 136.3 138.0 137.9 134.3 132.3 134.2 138.6 142.8 141.3 137.4 138.9  
DBA 196.7 199.7 197.6 198.7 200.5 199.8 198.5 201.2 205.1 209.8 200.0 194.5 192.6

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514

VEHICL = ADH739 TEST DATE = 03-19-82  
IAPLHA = SB59 IEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
LOCAT = C41 ANECH CH CONFIG = 1  
PWL AREA = FULL SPHERE TAMB F = 44.00  
EXT DIST = 40.0 FT EXT CONFIG = ARC  
MIKE HT = 29.55  
RELHUM = 92.5 PCT  
FLVEL = 400. FPS  
MODEL = AX  
AEB = 2459.0 FPS  
AE18 = 20.4 SO IN  
FNRAMB = LBS XNLR =  
XNHR = RPM  
V8 = RPM  
V18 = 2459.0 FPS  
AE18 = 20.4 SO IN  
CORR FAN SPEED = RPM

RUNPT = 82F-400-0122 TAPE = X0122F  
TEST PT NO = 0122 NC = AE040  
CORR FAN SPEED = RPM

4.3 Acoustic Data of Model 2

115  
~~114~~

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0122 X01221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

80 74.7 78.0 75.0 77.9 78.8 78.2 77.6 81.3 90.0 98.1 98.0 91.7 86.3 171.5  
63 72.7 76.1 73.8 76.5 78.2 77.1 75.8 79.2 87.2 95.7 92.4 85.1 169.9  
50 72.2 75.5 73.6 75.3 76.3 74.4 75.1 77.3 85.2 92.8 95.2 92.3 86.0 168.7

125 78.5 79.6 77.9 81.0 83.3 81.8 81.3 85.7 94.2 101.2 100.8 92.9 91.2 174.7  
160 86.7 87.6 84.3 85.5 87.2 84.3 86.8 95.2 101.2 100.5 93.0 89.9 175.0  
200 95.2 96.4 90.9 90.0 88.7 85.7 84.4 88.2 95.6 101.2 99.0 91.6 90.1 175.7

250 98.9 99.4 96.6 94.4 96.2 88.5 86.1 88.7 95.8 101.1 97.3 90.5 88.9 177.1  
315 97.2 100.8 98.3 99.3 99.0 94.2 87.8 89.7 96.1 99.7 95.8 89.3 87.4 177.9  
400 92.7 94.6 94.0 97.9 96.1 96.4 92.0 91.4 96.3 98.7 94.2 86.6 84.1 176.1

500 91.1 94.7 92.7 94.7 93.5 93.2 93.6 94.1 95.4 96.8 92.2 84.5 81.4 175.1  
630 89.4 92.5 91.6 94.3 93.1 91.5 91.4 93.3 95.8 96.0 91.0 83.4 79.3 174.7  
800 88.0 91.3 89.8 92.9 92.7 92.8 90.7 93.9 95.7 94.6 89.4 80.8 77.9 174.4

1000 85.8 90.4 89.9 91.7 92.0 90.9 89.8 92.3 94.3 93.7 88.0 79.9 75.8 173.9  
1250 84.8 88.5 87.8 89.0 91.6 90.0 89.7 91.6 92.8 91.3 86.1 78.4 73.0 173.4  
1600 82.5 87.1 86.8 89.4 89.5 88.7 87.2 89.5 91.7 89.5 84.1 74.5 68.8 172.9

2000 79.2 83.6 83.8 86.8 87.7 86.6 85.9 87.6 88.6 87.5 80.6 71.5 63.8 172.2  
2500 73.8 79.3 79.7 83.8 84.2 84.2 82.5 84.3 84.3 83.4 74.5 66.6 55.7 171.0  
3150 67.1 74.0 74.4 78.5 81.1 80.4 79.3 80.1 79.4 78.7 58.2 43.9 170.9

4000 59.4 67.2 69.6 72.5 73.5 73.0 72.5 72.8 73.5 72.9 60.3 46.2 27.5 171.1  
5000 42.1 53.1 56.7 61.8 65.6 64.5 63.4 63.5 63.3 61.7 46.5 27.5 171.1  
6300 21.3 36.6 42.3 47.1 50.4 50.4 47.7 47.3 48.1 44.7 25.2 171.9

8000 171.2  
10000 173.1  
12500 171.9  
15000 171.2

20000 171.2  
25000 171.2  
31500 171.2  
40000 171.2  
50000 171.2  
63000 171.2  
80000 171.2

GASPL 103.5 105.8 103.5 104.9 104.6 102.5 100.5 102.3 106.4 110.4 108.5 101.9 98.5 187.6  
PNL 108.2 111.4 109.7 111.5 111.6 110.5 108.0 109.8 112.9 114.9 111.2 103.8 100.5  
FNL 109.3 112.2 110.4 112.1 112.4 110.5 108.0 109.8 113.4 115.5 111.2 103.8 100.5

DBA 97.7 100.7 99.3 101.5 101.3 100.1 98.6 100.5 102.7 103.4 99.1 91.5 88.6  
MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRC CONVCONIC NOZ/AX/SC-1/NAS3-22514  
VEHICL = ADH739 TEST DATE = 03-19-82  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 2400.0 FT  
PWL AREA = FULL SPHERE  
TAMB F = 44.00  
PAMB HG = 29.55  
RELHUM = 92.5 PCT  
FLTVEL = 400. FPS  
MODEL = AX  
CONFIG = 1  
C41 ANECH CH  
CONFIG = 1

LOCAT = C41 ANECH CH  
CONFIG = 1  
C41 ANECH CH  
CONFIG = 1  
MODEL = AX  
RELHUM = 92.5 PCT  
FLTVEL = 400. FPS

VEHICL = ADH739 TEST DATE = 03-19-82  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 2400.0 FT  
PWL AREA = FULL SPHERE  
TAMB F = 44.00  
PAMB HG = 29.55  
RELHUM = 92.5 PCT  
FLTVEL = 400. FPS  
MODEL = AX  
CONFIG = 1  
C41 ANECH CH  
CONFIG = 1

FININI = LBS XNL RPM = X01221  
FNRAMB = LBS XNLR RPM = X01221  
TEST PT NG = 0122 NC = AE040 CORR FAN SPEED = RPM

ORIGINAL COPY OF PLOT

HONEYWELL PAGE PRINTING SYSTEM - P1188-02

411

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 82F-ZER-0201 X0201C  
BACKGROUND 0000000000

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 83.4  | 82.2  | 80.0  | 82.3  | 83.1  | 81.2  | 84.1  | 84.3  | 86.5  | 94.3  | 94.9  | 93.9  | 94.0  |
| 50    | 83.4  | 82.2  | 80.0  | 82.3  | 83.1  | 81.2  | 84.1  | 84.3  | 86.5  | 94.3  | 94.9  | 93.9  | 94.0  |
| 63    | 86.2  | 84.3  | 87.8  | 89.1  | 88.9  | 87.5  | 91.9  | 84.8  | 91.5  | 98.1  | 98.5  | 97.7  | 96.8  |
| 80    | 88.0  | 92.3  | 89.4  | 89.2  | 90.1  | 90.2  | 91.4  | 93.1  | 91.7  | 96.0  | 96.2  | 97.6  | 134.2 |
| 100   | 87.3  | 92.1  | 87.6  | 91.4  | 89.2  | 90.1  | 91.5  | 94.4  | 95.1  | 95.4  | 97.3  | 100.5 | 101.4 |
| 125   | 84.6  | 87.1  | 88.7  | 91.9  | 92.5  | 92.2  | 91.8  | 92.7  | 94.7  | 95.7  | 103.4 | 105.0 | 105.5 |
| 150   | 84.5  | 83.1  | 86.3  | 87.4  | 88.0  | 88.1  | 89.5  | 90.9  | 94.1  | 98.2  | 103.5 | 105.7 | 108.9 |
| 160   | 84.5  | 83.1  | 86.3  | 87.4  | 88.0  | 88.1  | 89.5  | 90.9  | 94.1  | 98.2  | 103.5 | 105.7 | 108.9 |
| 200   | 85.0  | 85.8  | 86.1  | 88.1  | 89.2  | 90.3  | 90.5  | 94.1  | 99.6  | 105.8 | 109.0 | 110.4 | 142.9 |
| 250   | 85.8  | 89.3  | 87.8  | 90.4  | 90.5  | 91.6  | 93.7  | 97.1  | 100.3 | 106.4 | 110.3 | 113.5 | 113.1 |
| 315   | 86.6  | 88.6  | 87.1  | 90.4  | 92.8  | 92.6  | 93.0  | 96.7  | 103.4 | 108.7 | 112.6 | 114.5 | 114.7 |
| 400   | 87.6  | 90.1  | 88.4  | 91.9  | 93.0  | 92.4  | 95.3  | 97.7  | 104.9 | 112.7 | 115.8 | 116.3 | 114.7 |
| 500   | 88.9  | 91.2  | 89.0  | 92.3  | 94.1  | 94.2  | 95.4  | 99.5  | 107.2 | 115.1 | 117.7 | 117.1 | 114.0 |
| 630   | 90.8  | 93.1  | 90.9  | 94.4  | 95.2  | 95.6  | 97.0  | 101.6 | 109.1 | 117.7 | 118.3 | 117.5 | 114.4 |
| 800   | 95.2  | 93.7  | 93.5  | 96.5  | 96.9  | 97.2  | 98.9  | 102.8 | 111.2 | 119.8 | 119.2 | 117.4 | 115.8 |
| 1000  | 101.7 | 103.2 | 99.0  | 100.3 | 99.1  | 100.6 | 105.0 | 112.8 | 120.8 | 119.7 | 117.9 | 114.9 | 115.4 |
| 1250  | 98.5  | 103.2 | 101.3 | 103.6 | 103.4 | 101.3 | 101.6 | 106.1 | 113.5 | 121.1 | 120.7 | 117.1 | 114.9 |
| 1500  | 101.0 | 100.3 | 98.3  | 100.3 | 101.4 | 101.0 | 102.9 | 107.2 | 114.0 | 119.9 | 121.0 | 116.2 | 113.2 |
| 2000  | 104.9 | 105.0 | 100.7 | 100.8 | 101.7 | 101.1 | 103.3 | 107.6 | 114.2 | 121.0 | 119.3 | 114.6 | 111.3 |
| 2500  | 105.4 | 104.7 | 103.3 | 103.3 | 104.7 | 104.9 | 108.2 | 113.9 | 120.9 | 117.9 | 113.2 | 109.2 | 109.2 |
| 3150  | 102.3 | 104.3 | 102.6 | 105.4 | 103.5 | 103.6 | 108.4 | 114.4 | 120.0 | 116.5 | 111.4 | 109.0 | 104.2 |
| 4000  | 100.5 | 101.5 | 100.3 | 104.9 | 104.6 | 104.6 | 109.8 | 113.2 | 118.9 | 115.9 | 110.4 | 107.2 | 103.5 |
| 5000  | 98.7  | 100.1 | 98.6  | 101.8 | 103.0 | 102.7 | 104.6 | 108.9 | 112.7 | 116.8 | 114.1 | 109.4 | 104.1 |
| 6300  | 96.4  | 98.7  | 97.6  | 100.6 | 101.8 | 102.7 | 104.3 | 108.9 | 112.2 | 116.3 | 112.9 | 108.6 | 104.1 |
| 8000  | 94.9  | 97.1  | 96.1  | 99.2  | 101.5 | 102.0 | 107.6 | 111.0 | 114.9 | 111.9 | 105.6 | 102.7 | 100.7 |
| 10000 | 93.5  | 96.1  | 95.8  | 98.6  | 101.0 | 101.3 | 103.0 | 107.3 | 110.2 | 115.1 | 110.2 | 103.7 | 100.9 |
| 12500 | 91.2  | 92.7  | 93.8  | 96.3  | 99.0  | 100.0 | 100.6 | 105.3 | 107.9 | 112.4 | 108.8 | 103.5 | 98.5  |
| 16000 | 88.3  | 90.8  | 90.3  | 94.6  | 97.2  | 97.9  | 99.5  | 103.1 | 107.0 | 110.4 | 107.5 | 100.2 | 95.9  |
| 20000 | 84.9  | 88.2  | 87.6  | 90.8  | 94.3  | 94.8  | 96.7  | 100.3 | 104.0 | 108.5 | 104.4 | 97.3  | 92.6  |
| 25000 | 84.6  | 87.6  | 87.6  | 90.9  | 92.3  | 93.9  | 97.5  | 101.1 | 104.6 | 100.1 | 95.0  | 87.9  | 147.1 |
| 31500 | 77.4  | 80.7  | 80.5  | 84.1  | 87.1  | 88.2  | 89.9  | 94.0  | 98.2  | 103.1 | 97.4  | 92.3  | 83.5  |
| 40000 | 72.9  | 76.2  | 76.9  | 78.9  | 83.1  | 84.5  | 86.3  | 90.4  | 94.9  | 100.4 | 95.4  | 87.3  | 79.4  |
| 50000 | 68.0  | 71.5  | 71.2  | 73.9  | 78.0  | 79.8  | 80.7  | 85.4  | 91.3  | 97.4  | 91.2  | 83.7  | 74.5  |
| 63000 | 61.8  | 67.1  | 66.2  | 68.5  | 72.3  | 74.5  | 75.2  | 80.7  | 86.4  | 92.3  | 87.4  | 78.6  | 69.7  |
| 80000 | 57.2  | 63.0  | 61.8  | 61.4  | 66.3  | 67.6  | 68.8  | 75.4  | 82.0  | 87.2  | 83.0  | 72.2  | 61.8  |
| GASPL | 112.0 | 113.0 | 110.9 | 113.3 | 114.0 | 113.6 | 114.7 | 119.2 | 124.4 | 130.8 | 129.7 | 127.2 | 125.1 |
| PWL   | 127.1 | 127.8 | 124.6 | 128.1 | 128.6 | 127.0 | 127.7 | 132.3 | 137.3 | 143.1 | 141.3 | 137.8 | 135.2 |
| PMLT  | 127.1 | 127.8 | 124.6 | 128.1 | 128.6 | 127.0 | 127.7 | 132.3 | 137.3 | 143.1 | 141.3 | 137.8 | 135.2 |
| DBA   | 112.6 | 113.5 | 111.3 | 113.5 | 114.0 | 113.3 | 114.4 | 119.0 | 124.5 | 130.9 | 129.6 | 126.3 | 123.6 |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH721 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNHR = RPM XNHR = RPM V8 = 2281.5 FPS AEB = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2281.5 FPS AE18 = 0. SQ IN  
 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0201 X0201F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PML

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.4  | 82.2  | 80.0  | 82.3  | 83.1  | 81.2  | 84.1  | 84.3  | 86.5  | 94.3  | 94.9  | 93.9  | 94.0  | 130.9 |
| 63    | 86.2  | 84.3  | 87.8  | 89.1  | 88.9  | 87.5  | 91.9  | 84.8  | 91.5  | 98.1  | 98.5  | 97.7  | 96.8  | 135.0 |
| 80    | 88.0  | 92.3  | 87.3  | 89.4  | 89.2  | 90.1  | 90.2  | 91.4  | 93.1  | 91.7  | 96.0  | 96.2  | 97.6  | 134.2 |
| 100   | 87.3  | 92.1  | 87.6  | 91.4  | 92.7  | 91.4  | 91.5  | 94.4  | 95.1  | 95.4  | 97.3  | 100.5 | 101.4 | 136.7 |
| 125   | 84.6  | 87.1  | 88.7  | 91.9  | 92.5  | 92.2  | 91.8  | 92.7  | 94.7  | 95.7  | 103.4 | 105.0 | 105.5 | 139.5 |
| 150   | 84.5  | 83.1  | 86.3  | 87.4  | 88.0  | 88.1  | 89.5  | 89.9  | 94.1  | 98.2  | 103.5 | 108.9 | 108.9 | 140.5 |
| 200   | 85.0  | 85.8  | 86.1  | 88.1  | 90.2  | 90.3  | 90.5  | 94.1  | 99.6  | 100.9 | 105.8 | 109.0 | 110.4 | 142.9 |
| 250   | 85.8  | 89.3  | 87.8  | 90.4  | 90.5  | 91.6  | 93.7  | 97.1  | 100.3 | 106.4 | 110.3 | 113.5 | 113.1 | 146.8 |
| 315   | 86.6  | 88.6  | 87.1  | 90.4  | 92.6  | 92.6  | 93.0  | 96.7  | 103.4 | 108.7 | 112.6 | 114.5 | 114.7 | 148.4 |
| 400   | 87.6  | 90.1  | 88.4  | 91.9  | 93.0  | 92.4  | 95.3  | 97.7  | 104.9 | 112.7 | 115.8 | 116.3 | 114.7 | 150.7 |
| 500   | 88.9  | 91.2  | 89.0  | 92.3  | 94.1  | 94.2  | 95.4  | 99.5  | 107.2 | 115.1 | 117.7 | 117.1 | 114.0 | 152.1 |
| 630   | 90.8  | 93.1  | 90.9  | 94.4  | 95.2  | 95.6  | 97.0  | 101.6 | 109.1 | 117.7 | 119.3 | 117.5 | 114.4 | 153.3 |
| 800   | 93.2  | 93.5  | 96.5  | 96.5  | 97.2  | 98.9  | 102.8 | 111.2 | 119.8 | 119.2 | 117.4 | 115.8 | 114.6 | 154.6 |
| 1000  | 101.7 | 103.2 | 99.0  | 100.3 | 99.1  | 99.2  | 100.6 | 105.0 | 112.8 | 120.8 | 119.7 | 117.9 | 115.0 | 155.4 |
| 1250  | 98.5  | 103.2 | 101.3 | 103.6 | 103.4 | 101.3 | 101.6 | 106.1 | 113.5 | 121.1 | 120.7 | 117.1 | 114.9 | 155.9 |
| 1600  | 101.0 | 100.3 | 98.3  | 101.4 | 101.0 | 102.9 | 107.6 | 114.0 | 119.9 | 121.0 | 119.3 | 114.6 | 111.3 | 155.2 |
| 2000  | 104.9 | 105.0 | 100.7 | 100.8 | 101.7 | 101.1 | 103.3 | 107.6 | 114.2 | 121.0 | 119.3 | 114.6 | 111.3 | 155.2 |
| 2500  | 105.4 | 104.7 | 102.7 | 104.7 | 103.3 | 101.9 | 102.9 | 108.2 | 113.9 | 120.9 | 117.9 | 113.2 | 109.2 | 154.8 |
| 3150  | 102.3 | 104.3 | 102.8 | 105.4 | 105.4 | 103.5 | 103.6 | 108.4 | 114.4 | 120.0 | 116.5 | 111.4 | 109.0 | 154.2 |
| 4000  | 100.5 | 101.5 | 100.3 | 104.3 | 104.9 | 104.6 | 104.6 | 109.8 | 113.2 | 118.9 | 115.9 | 110.4 | 107.2 | 153.5 |
| 5000  | 98.7  | 100.1 | 98.6  | 101.8 | 103.0 | 103.2 | 104.6 | 108.9 | 112.7 | 116.8 | 114.1 | 109.4 | 105.4 | 152.1 |
| 6300  | 96.4  | 98.7  | 97.6  | 100.6 | 101.8 | 102.7 | 104.3 | 108.9 | 112.2 | 116.3 | 112.9 | 108.6 | 104.1 | 151.7 |
| 8000  | 94.9  | 96.1  | 96.1  | 99.2  | 101.5 | 102.7 | 107.6 | 111.0 | 114.9 | 111.9 | 105.6 | 102.7 | 150.7 |       |
| 10000 | 93.5  | 96.1  | 95.8  | 98.6  | 101.0 | 101.3 | 103.0 | 107.3 | 110.2 | 115.1 | 110.2 | 103.7 | 150.8 |       |
| 12500 | 91.2  | 93.3  | 93.8  | 96.3  | 99.0  | 100.0 | 100.6 | 105.3 | 107.9 | 112.4 | 108.8 | 103.5 | 149.4 |       |
| 16000 | 88.3  | 90.8  | 90.3  | 94.6  | 97.2  | 97.9  | 99.5  | 103.1 | 107.0 | 110.4 | 107.5 | 95.9  | 149.0 |       |
| 20000 | 84.9  | 88.2  | 87.8  | 90.8  | 94.8  | 96.7  | 97.9  | 97.3  | 104.0 | 108.5 | 104.4 | 97.3  | 148.3 |       |
| 25000 | 81.9  | 84.6  | 84.6  | 87.6  | 90.9  | 92.3  | 93.9  | 97.5  | 101.1 | 104.6 | 100.1 | 95.0  | 147.1 |       |
| 31500 | 77.4  | 80.7  | 80.5  | 84.1  | 88.2  | 89.9  | 94.0  | 98.2  | 103.1 | 97.4  | 92.3  | 83.5  | 147.9 |       |
| 40000 | 72.9  | 76.2  | 76.9  | 78.9  | 83.1  | 84.5  | 86.3  | 90.4  | 94.9  | 94.4  | 87.3  | 79.4  | 148.9 |       |
| 50000 | 68.0  | 71.5  | 71.2  | 73.9  | 78.0  | 79.8  | 80.7  | 85.4  | 91.3  | 97.4  | 91.2  | 83.7  | 149.8 |       |
| 63000 | 61.8  | 67.1  | 66.2  | 68.5  | 72.3  | 74.5  | 75.2  | 80.7  | 86.4  | 92.3  | 87.4  | 78.6  | 150.2 |       |
| 80000 | 57.2  | 63.0  | 61.8  | 63.0  | 66.3  | 67.6  | 68.8  | 75.4  | 82.0  | 87.2  | 83.0  | 72.2  | 152.1 |       |
| GASPL | 112.0 | 113.0 | 110.9 | 113.3 | 114.0 | 113.6 | 114.7 | 119.2 | 124.4 | 130.8 | 129.7 | 127.2 | 125.1 | 166.5 |
| PNL   | 125.5 | 126.2 | 124.6 | 127.0 | 127.5 | 127.0 | 127.7 | 132.3 | 137.3 | 143.1 | 141.3 | 137.8 | 135.2 |       |
| PMLT  | 127.1 | 127.8 | 128.1 | 128.6 | 127.0 | 127.7 | 132.3 | 137.3 | 143.1 | 143.3 | 143.1 | 141.3 | 137.8 | 135.2 |
| DBA   | 178.8 | 184.3 | 183.2 | 183.9 | 188.4 | 190.0 | 191.0 | 197.1 | 203.4 | 208.8 | 204.3 | 194.3 | 184.6 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH721 = SB59 TEST DATE = 03-17-82 LGCAT = C41 ANECH CH CNFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2281.5 FPS AEB AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM V8 = 2281.5 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0201 TAPE = X0201F TEST PT NO = 0201 NC = AE041 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY





FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0202 X0202F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  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    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     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|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|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| 89.0 | 90.0 | 90.8 | 91.6 | 92.2 | 92.8 | 93.4 | 94.0 | 94.6 | 95.2 | 95.8 | 96.4 | 97.0 | 97.6 | 98.2 | 98.8 | 99.4 | 100.0 | 100.6 | 101.2 | 101.8 | 102.4 | 103.0 | 103.6 | 104.2 | 104.8 | 105.4 | 106.0 | 106.6 | 107.2 | 107.8 | 108.4 | 109.0 | 109.6 | 110.2 | 110.8 | 111.4 | 112.0 | 112.6 | 113.2 | 113.8 | 114.4 | 115.0 | 115.6 | 116.2 | 116.8 | 117.4 | 118.0 | 118.6 | 119.2 | 119.8 | 120.4 | 121.0 | 121.6 | 122.2 | 122.8 | 123.4 | 124.0 | 124.6 | 125.2 | 125.8 | 126.4 | 127.0 | 127.6 | 128.2 | 128.8 | 129.4 | 130.0 | 130.6 | 131.2 | 131.8 | 132.4 | 133.0 | 133.6 | 134.2 | 134.8 | 135.4 | 136.0 | 136.6 | 137.2 | 137.8 | 138.4 | 139.0 | 139.6 | 140.2 | 140.8 | 141.4 | 142.0 | 142.6 | 143.2 | 143.8 | 144.4 | 145.0 | 145.6 | 146.2 | 146.8 | 147.4 | 148.0 | 148.6 | 149.2 | 149.8 | 150.4 | 151.0 | 151.6 | 152.2 | 152.8 | 153.4 | 154.0 | 154.6 | 155.2 | 155.8 | 156.4 | 157.0 | 157.6 | 158.2 | 158.8 | 159.4 | 160.0 | 160.6 | 161.2 | 161.8 | 162.4 | 163.0 | 163.6 | 164.2 | 164.8 | 165.4 | 166.0 | 166.6 | 167.2 | 167.8 | 168.4 | 169.0 | 169.6 | 170.2 | 170.8 | 171.4 | 172.0 | 172.6 | 173.2 | 173.8 | 174.4 | 175.0 | 175.6 | 176.2 | 176.8 | 177.4 | 178.0 | 178.6 | 179.2 | 179.8 | 180.4 | 181.0 | 181.6 | 182.2 | 182.8 | 183.4 | 184.0 | 184.6 | 185.2 | 185.8 | 186.4 | 187.0 | 187.6 | 188.2 | 188.8 | 189.4 | 190.0 | 190.6 | 191.2 | 191.8 | 192.4 | 193.0 | 193.6 | 194.2 | 194.8 | 195.4 | 196.0 | 196.6 | 197.2 | 197.8 | 198.4 | 199.0 | 199.6 | 200.2 | 200.8 | 201.4 | 202.0 | 202.6 | 203.2 | 203.8 | 204.4 | 205.0 | 205.6 | 206.2 | 206.8 | 207.4 | 208.0 | 208.6 | 209.2 | 209.8 | 210.4 | 211.0 | 211.6 | 212.2 | 212.8 | 213.4 | 214.0 | 214.6 | 215.2 | 215.8 | 216.4 | 217.0 | 217.6 | 218.2 | 218.8 | 219.4 | 220.0 | 220.6 | 221.2 | 221.8 | 222.4 | 223.0 | 223.6 | 224.2 | 224.8 | 225.4 | 226.0 | 226.6 | 227.2 | 227.8 | 228.4 | 229.0 | 229.6 | 230.2 | 230.8 | 231.4 | 232.0 | 232.6 | 233.2 | 233.8 | 234.4 | 235.0 | 235.6 | 236.2 | 236.8 | 237.4 | 238.0 | 238.6 | 239.2 | 239.8 | 240.4 | 241.0 | 241.6 | 242.2 | 242.8 | 243.4 | 244.0 | 244.6 | 245.2 | 245.8 | 246.4 | 247.0 | 247.6 | 248.2 | 248.8 | 249.4 | 250.0 | 250.6 | 251.2 | 251.8 | 252.4 | 253.0 | 253.6 | 254.2 | 254.8 | 255.4 | 256.0 | 256.6 | 257.2 | 257.8 | 258.4 | 259.0 | 259.6 | 260.2 | 260.8 | 261.4 | 262.0 | 262.6 | 263.2 | 263.8 | 264.4 | 265.0 | 265.6 | 266.2 | 266.8 | 267.4 | 268.0 | 268.6 | 269.2 | 269.8 | 270.4 | 271.0 | 271.6 | 272.2 | 272.8 | 273.4 | 274.0 | 274.6 | 275.2 | 275.8 | 276.4 | 277.0 | 277.6 | 278.2 | 278.8 | 279.4 | 280.0 | 280.6 | 281.2 | 281.8 | 282.4 | 283.0 | 283.6 | 284.2 | 284.8 | 285.4 | 286.0 | 286.6 | 287.2 | 287.8 | 288.4 | 289.0 | 289.6 | 290.2 | 290.8 | 291.4 | 292.0 | 292.6 | 293.2 | 293.8 | 294.4 | 295.0 | 295.6 | 296.2 | 296.8 | 297.4 | 298.0 | 298.6 | 299.2 | 299.8 | 300.4 | 301.0 | 301.6 | 302.2 | 302.8 | 303.4 | 304.0 | 304.6 | 305.2 | 305.8 | 306.4 | 307.0 | 307.6 | 308.2 | 308.8 | 309.4 | 310.0 | 310.6 | 311.2 | 311.8 | 312.4 | 313.0 | 313.6 | 314.2 | 314.8 | 315.4 | 316.0 | 316.6 | 317.2 | 317.8 | 318.4 | 319.0 | 319.6 | 320.2 | 320.8 | 321.4 | 322.0 | 322.6 | 323.2 | 323.8 | 324.4 | 325.0 | 325.6 | 326.2 | 326.8 | 327.4 | 328.0 | 328.6 | 329.2 | 329.8 | 330.4 | 331.0 | 331.6 | 332.2 | 332.8 | 333.4 | 334.0 | 334.6 | 335.2 | 335.8 | 336.4 | 337.0 | 337.6 | 338.2 | 338.8 | 339.4 | 340.0 | 340.6 | 341.2 | 341.8 | 342.4 | 343.0 | 343.6 | 344.2 | 344.8 | 345.4 | 346.0 | 346.6 | 347.2 | 347.8 | 348.4 | 349.0 | 349.6 | 350.2 | 350.8 | 351.4 | 352.0 | 352.6 | 353.2 | 353.8 | 354.4 | 355.0 | 355.6 | 356.2 | 356.8 | 357.4 | 358.0 | 358.6 | 359.2 | 359.8 | 360.4 | 361.0 | 361.6 | 362.2 | 362.8 | 363.4 | 364.0 | 364.6 | 365.2 | 365.8 | 366.4 | 367.0 | 367.6 | 368.2 | 368.8 | 369.4 | 370.0 | 370.6 | 371.2 | 371.8 | 372.4 | 373.0 | 373.6 | 374.2 | 374.8 | 375.4 | 376.0 | 376.6 | 377.2 | 377.8 | 378.4 | 379.0 | 379.6 | 380.2 | 380.8 | 381.4 | 382.0 | 382.6 | 383.2 | 383.8 | 384.4 | 385.0 | 385.6 | 386.2 | 386.8 | 387.4 | 388.0 | 388.6 | 389.2 | 389.8 | 390.4 | 391.0 | 391.6 | 392.2 | 392.8 | 393.4 | 394.0 | 394.6 | 395.2 | 395.8 | 396.4 | 397.0 | 397.6 | 398.2 | 398.8 | 399.4 | 400.0 | 400.6 | 401.2 | 401.8 | 402.4 | 403.0 | 403.6 | 404.2 | 404.8 | 405.4 | 406.0 | 406.6 | 407.2 | 407.8 | 408.4 | 409.0 | 409.6 | 410.2 | 410.8 | 411.4 | 412.0 | 412.6 | 413.2 | 413.8 | 414.4 | 415.0 | 415.6 | 416.2 | 416.8 | 417.4 | 418.0 | 418.6 | 419.2 | 419.8 | 420.4 | 421.0 | 421.6 | 422.2 | 422.8 | 423.4 | 424.0 | 424.6 | 425.2 | 425.8 | 426.4 | 427.0 | 427.6 | 428.2 | 428.8 | 429.4 | 430.0 | 430.6 | 431.2 | 431.8 | 432.4 | 433.0 | 433.6 | 434.2 | 434.8 | 435.4 | 436.0 | 436.6 | 437.2 | 437.8 | 438.4 | 439.0 | 439.6 | 440.2 | 440.8 | 441.4 | 442.0 | 442.6 | 443.2 | 443.8 | 444.4 | 445.0 | 445.6 | 446.2 | 446.8 | 447.4 | 448.0 | 448.6 | 449.2 | 449.8 | 450.4 | 451.0 | 451.6 | 452.2 | 452.8 | 453.4 | 454.0 | 454.6 | 455.2 | 455.8 | 456.4 | 457.0 | 457.6 | 458.2 | 458.8 | 459.4 | 460.0 | 460.6 | 461.2 | 461.8 | 462.4 | 463.0 | 463.6 | 464.2 | 464.8 | 465.4 | 466.0 | 466.6 | 467.2 | 467.8 | 468.4 | 469.0 | 469.6 | 470.2 | 470.8 | 471.4 | 472.0 | 472.6 | 473.2 | 473.8 | 474.4 | 475.0 | 475.6 | 476.2 | 476.8 | 477.4 | 478.0 | 478.6 | 479.2 | 479.8 | 480.4 | 481.0 | 481.6 | 482.2 | 482.8 | 483.4 | 484.0 | 484.6 | 485.2 | 485.8 | 486.4 | 487.0 | 487.6 | 488.2 | 488.8 | 489.4 | 490.0 | 490.6 | 491.2 | 491.8 | 492.4 | 493.0 | 493.6 | 494.2 | 494.8 | 495.4 | 496.0 | 496.6 | 497.2 | 497.8 | 498.4 | 499.0 | 499.6 | 500.2 | 500.8 | 501.4 | 502.0 | 502.6 | 503.2 | 503.8 | 504.4 | 505.0 | 505.6 | 506.2 | 506.8 | 507.4 | 508.0 | 508.6 | 509.2 | 509.8 | 510.4 | 511.0 | 511.6 | 512.2 | 512.8 | 513.4 | 514.0 | 514.6 | 515.2 | 515.8 | 516.4 | 517.0 | 517.6 | 518.2 | 518.8 | 519.4 | 520.0 | 520.6 | 521.2 | 521.8 | 522.4 | 523.0 | 523.6 | 524.2 | 524.8 | 525.4 | 526.0 | 526.6 | 527.2 | 527.8 | 528.4 | 529.0 | 529.6 | 530.2 | 530.8 | 531.4 | 532.0 | 532.6 | 533.2 | 533.8 | 534.4 | 535.0 | 535.6 | 536.2 | 536.8 | 537.4 | 538.0 | 538.6 | 539.2 | 539.8 | 540.4 | 541.0 | 541.6 | 542.2 | 542.8 | 543.4 | 544.0 | 544.6 | 545.2 | 545.8 | 546.4 | 547.0 | 547.6 | 548.2 | 548.8 | 549.4 | 550.0 | 550.6 | 551.2 | 551.8 | 552.4 | 553.0 | 553.6 | 554.2 | 554.8 | 555.4 | 556.0 | 556.6 | 557.2 | 557.8 | 558.4 | 559.0 | 559.6 | 560.2 | 560.8 | 561.4 | 562.0 | 562.6 | 563.2 | 563.8 | 564.4 | 565.0 | 565.6 | 566.2 | 566.8 | 567.4 | 568.0 | 568.6 | 569.2 | 569.8 | 570.4 | 571.0 | 571.6 | 572.2 | 572.8 | 573.4 | 574.0 | 574.6 | 575.2 | 575.8 | 576.4 | 577.0 | 577.6 | 578.2 | 578.8 | 579.4 | 580.0 | 580.6 | 581.2 | 581.8 | 582.4 | 583.0 | 583.6 | 584.2 | 584.8 | 585.4 | 586.0 | 586.6 | 587.2 | 587.8 | 588.4 | 589.0 | 589.6 | 590.2 | 590.8 | 591.4 | 592.0 | 592.6 | 593.2 | 593.8 | 594.4 | 595.0 | 595.6 | 596.2 | 596.8 | 597.4 | 598.0 | 598.6 | 599.2 | 599.8 | 600.4 | 601.0 | 601.6 | 602.2 | 602.8 | 603.4 | 604.0 | 604.6 | 605.2 | 605.8 | 606.4 | 607.0 | 607.6 | 608.2 | 608.8 | 609.4 | 610.0 | 610.6 | 611.2 | 611.8 | 612.4 | 613.0 | 613.6 | 614.2 | 614.8 | 615.4 | 616.0 | 616.6 | 617.2 | 617.8 | 618.4 | 619.0 | 619.6 | 620.2 | 620.8 | 621.4 | 622.0 | 622.6 | 623.2 | 623.8 | 624.4 | 625.0 | 625.6 | 626.2 | 626.8 | 627.4 | 628.0 | 628.6 | 629.2 | 629.8 | 630.4 | 631.0 | 631.6 | 632.2 | 632.8 | 633.4 | 634.0 | 634.6 | 635.2 | 635.8 | 636.4 | 637.0 | 637.6 | 638.2 | 638.8 | 639.4 | 640.0 | 640.6 | 641.2 | 641.8 | 642.4 | 643.0 | 643.6 | 644.2 | 644.8 | 645.4 | 646.0 | 646.6 | 647.2 | 647.8 | 648.4 | 649.0 | 649.6 | 650.2 | 650.8 | 651.4 | 652.0 | 652.6 | 653.2 | 653.8 | 654.4 | 655.0 | 655.6 | 656.2 | 656.8 | 657.4 | 658.0 | 658.6 | 659.2 | 659.8 | 660.4 | 661.0 | 661.6 | 662.2 | 662.8 | 663.4 | 664.0 | 664.6 | 665.2 | 665.8 | 666.4 | 667.0 | 667.6 | 668.2 | 668.8 | 669.4 | 670.0 | 670.6 | 671.2 | 671.8 | 672.4 | 673.0 | 673.6 | 674.2 | 674.8 | 675.4 | 676.0 | 676.6 | 677.2 | 677.8 | 678.4 | 679.0 | 679.6 | 680.2 | 680.8 | 681.4 | 682.0 | 682.6 | 683.2 | 683.8 | 684.4 | 685.0 | 685.6 | 686.2 | 686.8 | 687.4 | 688.0 | 688.6 | 689.2 | 689.8 | 690.4 | 691.0 | 691.6 | 692.2 | 692.8 | 693.4 | 694.0 | 694.6 | 695.2 | 695.8 | 696.4 | 697.0 | 697.6 | 698.2 | 698.8 | 699.4 | 700.0 | 700.6 | 701.2 | 701.8 | 702.4 | 703.0 | 703.6 | 704.2 | 704.8 | 705.4 | 706.0 | 706.6 | 707.2 | 707.8 | 708.4 | 709.0 | 709.6 | 710.2 | 710.8 | 711.4 | 712.0 | 712.6 | 713.2 | 713.8 | 714.4 | 715.0 | 715.6 | 716.2 | 716.8 | 717.4 | 718.0 | 718.6 | 719.2 | 719.8 | 720.4 | 721.0 | 721.6 | 722.2 | 722.8 | 723.4 | 724.0 | 724.6 | 725.2 | 725.8 | 726.4 | 727.0 | 727.6 | 728.2 | 728.8 | 729.4 | 730.0 | 730.6 | 731.2 | 731.8 | 732.4 | 733.0 | 733.6 | 734.2 | 734.8 | 735.4 | 736.0 | 736.6 | 737.2 | 737.8 | 738.4 | 739.0 | 739.6 | 740.2 | 74 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0202 X02021

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 69.1 71.4 70.0 71.6 73.1 71.1 71.5 73.2 81.4 88.3 91.2 89.1 83.2 164.9

63 69.9 72.0 69.8 72.8 74.9 73.3 73.0 75.8 83.1 91.4 93.2 89.8 81.8 166.5

80 71.7 73.5 71.4 73.9 75.8 74.7 74.8 77.6 88.0 93.4 94.9 83.5 168.0

100 72.6 73.0 73.5 74.7 77.7 76.2 76.8 79.0 88.1 95.8 96.5 90.1 85.6 169.8

125 75.3 75.7 74.4 77.7 78.7 78.3 77.8 81.3 89.9 96.6 97.1 89.1 86.7 170.6

160 77.4 77.8 75.6 79.0 82.0 80.1 79.9 82.8 90.8 96.2 97.8 89.1 86.0 171.1

200 77.3 82.6 80.7 82.7 81.8 81.2 84.0 91.9 97.3 98.0 90.3 86.6 172.0

250 82.3 81.3 79.7 81.0 82.4 81.5 82.2 84.8 91.3 96.9 96.9 90.0 86.6 171.8

315 86.0 86.6 83.5 83.4 86.0 82.2 81.4 85.0 92.4 96.3 95.8 89.1 85.9 171.9

400 83.6 86.0 84.3 87.1 88.9 85.1 83.3 85.6 92.2 95.8 87.0 84.6 171.6

500 82.6 85.4 85.0 88.2 87.5 86.3 84.7 86.8 90.8 93.2 91.7 84.9 80.9 170.4

630 80.3 82.3 81.3 85.1 84.7 84.8 84.3 86.5 91.1 92.3 90.1 83.8 79.7 169.8

800 77.7 81.0 79.3 82.5 83.2 83.3 83.2 86.7 90.1 90.6 88.5 79.9 77.0 168.8

1000 75.8 78.2 81.2 83.0 82.4 81.7 85.6 89.0 89.8 86.7 78.9 75.4 168.3

1250 76.3 79.0 77.5 80.9 82.2 81.8 81.6 84.9 87.2 87.5 84.1 76.3 71.7 167.5

1600 74.6 77.1 76.8 79.6 80.4 80.3 79.4 82.1 85.2 85.2 81.5 72.9 67.5 166.6

2000 70.3 73.2 73.3 76.8 78.0 77.8 77.2 80.0 82.1 82.9 77.6 68.3 60.9 165.5

2500 65.0 69.5 69.4 73.1 74.8 74.2 74.2 76.4 78.4 78.2 72.1 63.6 53.1 164.2

3150 57.8 63.3 64.0 67.4 69.7 71.0 70.3 71.7 74.1 74.4 67.2 54.5 40.1 164.2

4000 46.9 54.1 56.2 60.0 63.2 63.1 62.7 64.1 67.5 68.4 59.7 42.2 20.8 164.9

5000 31.7 42.1 44.8 50.0 54.1 54.6 53.6 54.9 58.2 58.3 46.5 23.2 165.8

6300 8.8 22.7 28.5 33.9 38.1 39.5 37.3 38.6 42.4 41.7 26.8 167.2

8000 170.7 167.2

10000 167.9

12500 170.7

16000 167.9

20000 170.7

25000 167.9

31500 170.7

40000 167.9

50000 170.7

63000 167.9

80000 170.7

QASPL 91.7 93.5 91.9 94.6 95.5 94.0 93.3 96.2 101.8 106.3 106.4 99.8 95.7 182.8

FNL 97.4 99.5 98.4 101.4 102.5 101.1 100.3 103.6 107.8 111.1 109.7 102.4 98.3

FNL 98.1 100.0 99.0 102.0 102.5 101.1 100.3 103.6 108.3 111.6 109.7 102.4 98.3

DBA 87.4 89.7 88.5 91.5 92.3 91.4 90.7 93.6 97.6 99.6 98.0 90.8 87.3

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH719 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CNFIG = 2

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 77.00 MODEL = AX

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2300.5 FPS AE8 = 20.4 SQ IN

FNI = LBS XNLR = RPM XNHR = RPM V8 = 2300.5 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-400-0202 TAPE = X02021 TEST PT NO = 0202 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0203 X0203C

BACKGROUND 0000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50  | 83.7 | 82.2 | 84.0 | 83.3 | 84.1 | 80.7 | 80.1 | 85.0 | 88.2 | 96.3 | 94.7 | 94.9 | 94.8 | 131.8 |
| 60  | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 70  | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 80  | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 90  | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 100 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 110 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 120 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 130 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 140 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 150 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 160 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 170 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 180 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 190 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 200 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 210 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 220 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 230 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 240 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 250 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 260 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 270 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 280 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 290 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 300 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 310 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 320 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 330 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 340 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 350 | 87.2 | 86.0 | 90.3 | 91.8 | 90.7 | 88.3 | 88.3 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |
| 360 | 89.0 | 83.3 | 87.6 | 90.4 | 90.2 | 91.3 | 90.9 | 86.6 | 91.5 | 97.9 | 98.7 | 97.9 | 98.1 | 135.5 |

|      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1000 | 101.7 | 103.2 | 98.8  | 100.8 | 99.6  | 99.5  | 100.9 | 105.0 | 113.8 | 121.3 | 120.7 | 118.1 | 115.5 | 155.1 |
| 1100 | 98.7  | 103.5 | 101.5 | 103.6 | 101.8 | 102.4 | 106.8 | 114.5 | 121.3 | 120.5 | 117.1 | 114.4 | 114.4 | 156.0 |
| 1200 | 100.7 | 103.5 | 103.3 | 101.9 | 103.9 | 109.0 | 114.9 | 121.9 | 117.4 | 112.7 | 109.2 | 115.3 | 111.1 | 155.6 |
| 1300 | 102.9 | 102.9 | 100.7 | 103.5 | 103.3 | 101.9 | 103.9 | 109.0 | 114.9 | 121.9 | 117.4 | 112.7 | 109.2 | 155.3 |
| 1400 | 101.0 | 103.1 | 100.8 | 103.6 | 104.4 | 104.6 | 110.3 | 114.5 | 116.8 | 111.4 | 108.7 | 114.6 | 110.9 | 154.6 |
| 1500 | 99.5  | 100.5 | 98.8  | 102.3 | 103.6 | 103.9 | 104.7 | 110.3 | 114.2 | 119.6 | 115.6 | 109.9 | 107.2 | 153.9 |
| 1600 | 97.7  | 99.6  | 98.1  | 101.1 | 103.0 | 103.0 | 105.1 | 109.2 | 113.7 | 117.6 | 113.9 | 108.9 | 105.2 | 152.5 |
| 1700 | 95.9  | 98.4  | 97.6  | 100.3 | 102.3 | 103.0 | 104.5 | 109.4 | 113.4 | 112.9 | 106.9 | 103.9 | 102.3 | 152.3 |
| 1800 | 94.6  | 96.6  | 95.1  | 99.2  | 101.7 | 101.5 | 103.5 | 107.8 | 112.0 | 115.1 | 111.6 | 104.8 | 102.0 | 151.4 |
| 1900 | 93.0  | 95.6  | 93.6  | 95.9  | 98.8  | 101.0 | 101.8 | 107.8 | 111.2 | 111.5 | 103.9 | 99.9  | 95.9  | 151.2 |
| 2000 | 91.0  | 93.3  | 92.8  | 96.3  | 99.5  | 100.2 | 101.6 | 105.8 | 109.1 | 113.4 | 108.0 | 102.8 | 97.7  | 150.0 |
| 2100 | 87.3  | 90.1  | 89.3  | 93.8  | 97.2  | 98.1  | 99.5  | 103.6 | 108.0 | 111.7 | 106.2 | 99.9  | 94.9  | 149.6 |
| 2200 | 84.4  | 88.0  | 87.4  | 91.1  | 94.1  | 95.6  | 96.9  | 101.3 | 104.8 | 109.7 | 103.9 | 97.3  | 91.6  | 149.0 |
| 2300 | 81.1  | 84.3  | 84.6  | 87.9  | 91.4  | 92.8  | 94.4  | 98.3  | 102.1 | 105.9 | 99.8  | 95.2  | 87.4  | 148.0 |
| 2400 | 77.1  | 80.9  | 80.5  | 84.1  | 87.3  | 88.4  | 90.4  | 95.0  | 99.5  | 104.1 | 97.6  | 91.0  | 82.8  | 148.7 |
| 2500 | 72.2  | 76.9  | 79.4  | 83.6  | 84.5  | 86.3  | 86.3  | 91.7  | 96.4  | 103.1 | 94.9  | 87.8  | 78.2  | 150.8 |
| 2600 | 67.2  | 71.7  | 71.2  | 73.6  | 78.5  | 79.5  | 80.9  | 86.6  | 92.3  | 98.6  | 90.7  | 83.2  | 73.5  | 150.8 |
| 2700 | 61.8  | 67.1  | 66.4  | 67.8  | 73.3  | 74.5  | 75.4  | 81.4  | 87.9  | 93.3  | 86.4  | 78.1  | 66.5  | 151.0 |
| 2800 | 57.5  | 63.2  | 63.0  | 61.4  | 66.3  | 67.6  | 69.3  | 76.1  | 83.0  | 89.2  | 82.5  | 72.2  | 59.8  | 153.5 |
| 2900 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3100 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3200 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3300 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3400 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3500 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3600 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3700 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3800 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 3900 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |
| 4000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 | 50000 |

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA   | 111.4 | 112.7 | 110.3 | 113.0 | 113.8 | 113.4 | 114.9 | 119.7 | 125.5 | 131.6 | 129.8 | 126.2 | 123.6 |       |
| PML   | 125.6 | 126.9 | 123.4 | 127.3 | 128.2 | 126.8 | 128.1 | 132.9 | 138.1 | 143.9 | 141.4 | 137.6 | 135.2 |       |
| PNL   | 124.1 | 125.4 | 123.4 | 126.2 | 127.2 | 126.8 | 128.1 | 132.9 | 138.1 | 143.9 | 141.4 | 137.6 | 135.2 |       |
| CASPL | 110.9 | 112.3 | 110.1 | 112.9 | 113.9 | 113.7 | 115.2 | 119.8 | 125.4 | 131.4 | 130.0 | 127.3 | 125.3 | 167.1 |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH222 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFRR =

FNINI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 2333.5 FPS AEG = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2333.5 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0203 TAPE = X0203C TEST PT NO = 0203 NC = AE041 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 8ZF-ZER-0203 X02031

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 50                   | 60         | 70                     | 80                   | 90                | 100       | 110    | 120      | 130              | 140        | 150   | 160   |
|---|----------------------|------------|------------------------|----------------------|-------------------|-----------|--------|----------|------------------|------------|-------|-------|
| 50  | 67.0                 | 71.1       | 70.9                   | 74.4                 | 75.9              | 76.4      | 80.7   | 86.9     | 93.7             | 95.5       | 93.5  | 88.6  |
| 63  | 68.1                 | 72.9       | 71.3                   | 75.3                 | 77.0              | 77.5      | 78.8   | 82.0     | 89.5             | 96.0       | 97.3  | 93.8  |
| 75  | 67.0                 | 71.1       | 70.9                   | 74.4                 | 75.9              | 76.4      | 80.7   | 86.9     | 93.7             | 95.5       | 93.5  | 88.6  |
| 80  | 70.1                 | 73.7       | 72.6                   | 76.8                 | 79.3              | 80.1      | 84.3   | 91.6     | 98.8             | 98.2       | 87.6  | 172.3 |
| 100   | 74.2                 | 74.8       | 75.4                   | 79.2                 | 79.9              | 82.2      | 85.9   | 93.4     | 100.6            | 98.5       | 94.4  | 173.5 |
| 125   | 80.3                 | 83.5       | 80.1                   | 82.9                 | 82.1              | 83.4      | 87.1   | 95.1     | 101.6            | 99.4       | 94.5  | 174.4 |
| 150   | 77.2                 | 83.6       | 82.7                   | 85.7                 | 86.0              | 84.3      | 88.7   | 95.7     | 101.4            | 98.9       | 93.3  | 174.4 |
| 200   | 78.9                 | 79.6       | 79.3                   | 82.4                 | 83.6              | 83.9      | 85.3   | 90.0     | 96.3             | 100.7      | 99.2  | 174.2 |
| 250   | 81.0                 | 83.1       | 80.5                   | 82.9                 | 84.2              | 84.2      | 86.0   | 90.4     | 96.0             | 101.1      | 97.2  | 174.0 |
| 315   | 80.4                 | 82.2       | 81.2                   | 84.8                 | 85.1              | 83.8      | 85.6   | 90.3     | 95.3             | 101.1      | 94.9  | 173.7 |
| 400   | 78.0                 | 81.9       | 81.0                   | 84.6                 | 85.9              | 84.9      | 86.1   | 90.3     | 95.1             | 99.4       | 93.8  | 172.9 |
| 500   | 76.0                 | 79.0       | 78.6                   | 83.0                 | 84.8              | 85.2      | 85.9   | 91.0     | 94.0             | 98.1       | 92.1  | 172.2 |
| 630   | 73.7                 | 77.6       | 77.6                   | 81.5                 | 83.9              | 84.0      | 86.0   | 89.6     | 93.2             | 95.6       | 89.9  | 170.9 |
| 800   | 71.4                 | 76.1       | 76.8                   | 80.4                 | 82.9              | 83.8      | 85.2   | 89.5     | 92.6             | 95.0       | 88.4  | 170.7 |
| 1000  | 69.7                 | 74.0       | 74.0                   | 79.1                 | 82.2              | 84.0      | 87.7   | 91.0     | 93.5             | 96.7       | 76.3  | 169.8 |
| 1250  | 67.6                 | 72.6       | 73.8                   | 78.6                 | 81.4              | 82.3      | 84.2   | 87.5     | 89.9             | 92.4       | 85.1  | 169.6 |
| 1500  | 64.7                 | 69.7       | 71.1                   | 75.7                 | 79.6              | 80.5      | 81.6   | 85.2     | 87.4             | 89.8       | 81.7  | 168.4 |
| 2000  | 60.1                 | 66.0       | 67.2                   | 73.0                 | 77.1              | 78.3      | 79.4   | 82.8     | 85.9             | 87.5       | 78.9  | 168.0 |
| 2500  | 55.3                 | 62.6       | 64.4                   | 69.6                 | 73.4              | 75.2      | 76.3   | 79.9     | 81.8             | 84.4       | 74.8  | 167.4 |
| 3150  | 48.7                 | 56.5       | 59.7                   | 64.8                 | 69.4              | 71.1      | 72.4   | 75.2     | 77.2             | 78.1       | 67.4  | 166.3 |
| 4000  | 38.5                 | 48.4       | 51.8                   | 57.8                 | 62.3              | 63.9      | 65.4   | 68.7     | 71.5             | 71.5       | 59.0  | 167.1 |
| 5000  | 23.7                 | 36.1       | 42.0                   | 47.6                 | 53.6              | 55.0      | 56.3   | 59.9     | 61.5             | 63.0       | 46.5  | 169.2 |
| 6300  | 1.0                  | 17.4       | 24.2                   | 31.1                 | 38.4              | 40.2      | 40.9   | 44.1     | 45.4             | 44.3       | 24.5  | 169.1 |
| 8000  |                      |            | 6.0                    | 15.1                 | 17.5              | 17.2      | 19.7   | 19.6     | 14.1             |            |       | 171.8 |
| 10000   |                      |            |                        |                      |                   |           |        |          |                  |            |       | 169.4 |
| 12500   |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| 15000   |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| 20000   |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| 25000   |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| 31500   |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| 40000   |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| 50000   |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| 63000   |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| 80000   |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| GASPL   | 88.3                 | 91.4       | 90.3                   | 93.8                 | 95.1              | 95.0      | 96.4   | 100.5    | 105.6            | 110.8      | 107.9 | 102.7 |
| PASPL   | 92.2                 | 95.8       | 95.4                   | 99.4                 | 101.4             | 101.8     | 103.2  | 107.0    | 111.2            | 115.5      | 110.8 | 103.2 |
| PFLT  | 93.0                 | 96.5       | 95.9                   | 100.0                | 102.0             | 101.8     | 103.2  | 107.0    | 111.7            | 116.6      | 111.8 | 103.2 |
| DBA   | 81.5                 | 85.0       | 84.7                   | 88.8                 | 91.1              | 91.5      | 92.9   | 96.9     | 100.4            | 103.9      | 98.3  | 82.9  |
| MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN )             |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)           |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| DIAMETER RATIO = 8.288                              |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| FREQ SHIFT = -9                                     |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |                      |            |                        |                      |                   |           |        |          |                  |            |       |       |
| VEHICL = ADH722                                     | TEST DATE = 03-17-82 | LOCAT =    | CAT ANECH CH           | CONFIG = 2           | MODEL = AX        | FLVEL =   | 0. FPS | RELHUM = | 69.7 PCT         | NBFR =     |       |       |
| IAPLHA = SB59                                       | LEGA =               | NO         | PML AREA = FULL SPHERE | TAMB F               | 53.00             | MIKE HT = |        |          |                  |            |       |       |
| WIND DIR =  | DEG                  | WIND VEL = | MPH                    | EXT DIST = 2400.0 FT | EXT CONFIG = SL   | MIKE HT = |        |          |                  |            |       |       |
| FNINI =   | LBS                  | XNL        | RPM                    | XNHR                 | =                 | V8        | RPM    | V8       | =                | 2333.5 FPS | AE8   | =     |
| FNRAMB =  | LBS                  | XNLR       | =                      | RPM                  | XNHR              | =         | RPM    | V8       | =                | 2333.5 FPS | AE8   | =     |
| RUNPT =   | ZER-0203             | TAPE       | =                      | X02031               | TEST PT NO = 0203 | NC        | =      | AE041    | CORR FAN SPEED = | RPM        |       |       |

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DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0204 X0204C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 40 50 60 70 80 90 100 110 120 130 140 150 160  
PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.6  | 84.5  | 81.3  | 82.8  | 82.0  | 80.0  | 84.1  | 86.9  | 88.6  | 97.3  | 96.9  | 93.4  | 97.1  | 132.9 |
| 63    | 87.1  | 85.5  | 89.9  | 87.6  | 87.3  | 85.3  | 90.6  | 92.4  | 92.7  | 98.3  | 98.2  | 93.3  | 97.7  | 134.9 |
| 80    | 87.8  | 85.0  | 89.2  | 85.0  | 89.2  | 88.7  | 89.4  | 90.5  | 92.9  | 91.6  | 94.4  | 95.5  | 99.9  | 134.0 |
| 100   | 87.4  | 81.5  | 85.6  | 89.8  | 90.6  | 90.0  | 90.1  | 93.1  | 93.5  | 93.3  | 96.2  | 100.2 | 102.8 | 136.0 |
| 125   | 84.3  | 86.5  | 85.5  | 89.5  | 90.7  | 90.4  | 90.0  | 91.4  | 92.3  | 93.9  | 100.6 | 103.5 | 105.4 | 138.0 |
| 160   | 83.1  | 81.1  | 84.0  | 85.5  | 85.8  | 85.4  | 86.5  | 88.5  | 91.0  | 95.9  | 101.8 | 104.2 | 108.1 | 139.1 |
| 200   | 83.3  | 84.0  | 82.7  | 85.5  | 86.5  | 87.2  | 87.8  | 92.1  | 96.1  | 96.9  | 102.3 | 107.2 | 109.4 | 140.9 |
| 250   | 82.7  | 85.7  | 83.2  | 87.3  | 87.3  | 87.7  | 89.1  | 93.8  | 96.1  | 101.6 | 107.5 | 111.2 | 110.6 | 144.0 |
| 315   | 83.0  | 85.1  | 83.3  | 87.1  | 88.9  | 88.6  | 89.0  | 93.4  | 98.4  | 105.0 | 110.1 | 112.5 | 111.9 | 145.8 |
| 400   | 85.3  | 86.8  | 84.6  | 87.9  | 88.9  | 89.1  | 89.7  | 93.9  | 99.9  | 108.0 | 112.8 | 114.0 | 110.7 | 147.4 |
| 500   | 85.9  | 87.4  | 84.7  | 89.3  | 91.1  | 90.7  | 91.6  | 95.8  | 101.7 | 110.3 | 115.2 | 113.9 | 107.8 | 148.6 |
| 630   | 89.1  | 87.3  | 91.1  | 92.5  | 92.6  | 94.0  | 98.4  | 104.1 | 113.7 | 116.8 | 114.0 | 105.4 | 103.8 | 150.2 |
| 800   | 89.7  | 89.7  | 88.5  | 92.5  | 93.6  | 93.7  | 95.4  | 100.3 | 106.8 | 116.3 | 118.0 | 112.9 | 103.8 | 151.5 |
| 1000  | 94.2  | 94.2  | 91.3  | 95.5  | 95.6  | 95.2  | 96.9  | 101.6 | 108.5 | 118.1 | 119.2 | 112.1 | 103.8 | 152.8 |
| 1250  | 94.7  | 98.5  | 96.0  | 98.3  | 98.7  | 97.8  | 98.8  | 103.6 | 109.8 | 118.4 | 119.5 | 111.4 | 104.9 | 153.2 |
| 1500  | 97.8  | 97.3  | 95.1  | 97.6  | 98.4  | 98.8  | 99.6  | 104.4 | 111.3 | 118.8 | 119.8 | 111.9 | 104.9 | 153.6 |
| 2000  | 98.9  | 100.6 | 97.7  | 98.6  | 98.4  | 98.8  | 101.1 | 105.4 | 111.7 | 118.8 | 119.8 | 111.9 | 104.9 | 153.8 |
| 2500  | 98.9  | 100.2 | 98.5  | 101.5 | 101.6 | 99.5  | 100.4 | 105.8 | 111.9 | 118.4 | 119.2 | 110.7 | 104.3 | 153.4 |
| 3150  | 96.8  | 98.8  | 97.3  | 101.4 | 102.7 | 101.3 | 101.4 | 106.1 | 112.2 | 117.0 | 115.4 | 108.7 | 102.7 | 151.6 |
| 4000  | 95.5  | 97.0  | 95.1  | 99.1  | 100.7 | 101.4 | 102.3 | 106.8 | 111.7 | 116.7 | 115.4 | 108.7 | 102.7 | 151.6 |
| 5000  | 95.5  | 97.0  | 95.1  | 99.1  | 100.7 | 101.4 | 102.3 | 106.8 | 111.7 | 116.7 | 115.4 | 108.7 | 102.7 | 151.6 |
| 63000 | 93.7  | 96.3  | 94.1  | 97.8  | 99.0  | 99.7  | 102.4 | 106.4 | 111.4 | 114.6 | 114.6 | 107.7 | 100.7 | 150.5 |
| 80000 | 57.8  | 61.6  | 59.3  | 58.8  | 62.0  | 62.6  | 64.3  | 71.9  | 79.6  | 92.0  | 84.5  | 67.7  | 55.8  | 155.2 |
| 10000 | 89.5  | 92.8  | 91.6  | 94.8  | 96.0  | 98.8  | 100.8 | 105.0 | 108.7 | 112.3 | 110.7 | 103.4 | 97.9  | 148.9 |
| 12500 | 88.0  | 89.7  | 89.0  | 92.5  | 96.2  | 97.7  | 99.3  | 103.5 | 107.4 | 110.4 | 108.3 | 102.0 | 96.0  | 147.9 |
| 15000 | 84.4  | 87.2  | 86.1  | 90.7  | 94.2  | 95.7  | 97.3  | 101.4 | 106.0 | 108.0 | 106.5 | 99.2  | 93.7  | 147.3 |
| 16000 | 84.4  | 87.2  | 86.1  | 90.7  | 94.2  | 95.7  | 97.3  | 101.4 | 106.0 | 108.0 | 106.5 | 99.2  | 93.7  | 147.3 |
| 20000 | 81.4  | 85.0  | 83.9  | 87.6  | 91.6  | 92.6  | 94.4  | 98.4  | 103.0 | 105.6 | 103.7 | 96.5  | 90.4  | 146.3 |
| 25000 | 78.2  | 81.1  | 81.3  | 84.0  | 88.6  | 90.4  | 92.1  | 95.2  | 99.8  | 101.9 | 99.3  | 93.4  | 86.8  | 145.2 |
| 31500 | 73.9  | 77.7  | 76.9  | 80.2  | 84.1  | 86.0  | 87.5  | 92.2  | 96.2  | 100.3 | 97.3  | 89.5  | 82.7  | 145.7 |
| 40000 | 69.4  | 72.4  | 73.3  | 75.3  | 80.2  | 82.0  | 83.7  | 88.9  | 93.4  | 98.6  | 95.3  | 85.8  | 77.6  | 147.5 |
| 50000 | 64.1  | 67.3  | 67.2  | 69.8  | 74.8  | 76.8  | 77.7  | 82.8  | 89.4  | 95.7  | 92.9  | 80.4  | 70.9  | 148.6 |
| 63000 | 59.9  | 64.0  | 61.6  | 63.9  | 68.7  | 70.1  | 71.1  | 77.3  | 84.7  | 92.6  | 89.0  | 75.4  | 64.0  | 150.2 |
| 80000 | 57.8  | 61.6  | 59.3  | 58.8  | 62.0  | 62.6  | 64.3  | 71.9  | 79.6  | 92.0  | 84.5  | 67.7  | 55.8  | 155.2 |
| QASPL | 106.8 | 108.5 | 106.4 | 109.6 | 110.7 | 110.8 | 112.1 | 116.7 | 122.1 | 128.1 | 129.2 | 123.9 | 119.8 | 164.9 |
| PWL   | 120.2 | 121.8 | 119.9 | 123.3 | 124.5 | 124.0 | 125.1 | 129.6 | 135.0 | 140.5 | 141.5 | 135.4 | 130.0 |       |
| DBA   | 107.2 | 108.8 | 106.7 | 109.8 | 110.7 | 110.5 | 111.7 | 116.5 | 122.2 | 128.4 | 129.4 | 122.6 | 116.3 |       |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH18 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 77.00 MIKE HT = 29.25 RELHUM = 39.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC NBFR =

FNINI = LBS XNL = RPM XNH XNHR = RPM V8 = 2343.0 FPS AE8 = 20.4 SQ IN  
FNRAMB = LBS XNL = RPM XNH XNHR = RPM V8 = 2343.0 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-400-0204 TAPE = X0204C TEST PT NO = 0204 NC = AE039 CORR FAN SPEED = RPM

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OF POOR QUALITY

501

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0204 X0204F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 63 80 100 125 150 160 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200    | 89.5  | 91.4  | 87.6  | 90.3  | 88.8  | 87.7  | 87.2  | 90.2  | 94.9  | 100.6 | 105.2 | 108.1 | 109.3 | 141.9 |
| 250    | 89.4  | 91.4  | 87.6  | 90.3  | 88.8  | 88.6  | 87.2  | 90.2  | 94.9  | 100.6 | 105.2 | 108.1 | 109.3 | 141.9 |
| 315    | 89.4  | 91.4  | 87.6  | 90.3  | 88.8  | 88.6  | 87.2  | 90.2  | 94.9  | 100.6 | 105.2 | 108.1 | 109.3 | 141.9 |
| 400    | 90.7  | 91.4  | 88.2  | 90.5  | 89.6  | 88.6  | 87.2  | 90.2  | 94.9  | 100.6 | 105.2 | 108.1 | 109.3 | 141.9 |
| 500    | 91.6  | 92.3  | 88.9  | 90.9  | 88.9  | 87.9  | 86.4  | 89.4  | 94.1  | 100.2 | 104.8 | 110.4 | 114.8 | 148.9 |
| 630    | 93.6  | 93.9  | 89.7  | 92.7  | 94.4  | 93.0  | 91.0  | 93.0  | 96.3  | 105.0 | 114.3 | 116.4 | 114.1 | 150.4 |
| 800    | 94.7  | 95.5  | 92.4  | 94.6  | 95.7  | 94.5  | 92.8  | 96.1  | 107.2 | 116.6 | 118.3 | 114.7 | 113.9 | 152.3 |
| 1000   | 97.2  | 96.1  | 93.5  | 96.1  | 97.3  | 95.9  | 94.5  | 99.5  | 108.7 | 117.1 | 118.9 | 114.3 | 115.3 | 152.9 |
| 1250   | 99.3  | 98.6  | 94.8  | 98.2  | 100.6 | 98.6  | 97.8  | 101.7 | 110.4 | 117.0 | 119.7 | 114.4 | 114.7 | 153.4 |
| 1600   | 100.3 | 103.5 | 100.1 | 101.4 | 100.4 | 99.8  | 99.2  | 102.8 | 111.2 | 118.0 | 119.7 | 115.3 | 115.9 | 154.0 |
| 2000   | 102.7 | 101.6 | 98.7  | 100.4 | 100.6 | 100.1 | 104.0 | 111.7 | 118.0 | 119.5 | 114.5 | 115.6 | 115.3 | 153.9 |
| 2500   | 104.9 | 105.6 | 101.7 | 101.6 | 104.2 | 101.1 | 100.6 | 104.7 | 112.7 | 117.4 | 118.9 | 115.1 | 116.2 | 154.0 |
| 3150   | 104.7 | 105.4 | 103.0 | 105.1 | 106.0 | 103.3 | 102.1 | 105.7 | 112.7 | 117.4 | 116.8 | 113.5 | 115.0 | 153.3 |
| 4000   | 104.3 | 105.5 | 102.9 | 105.8 | 104.4 | 103.9 | 103.5 | 106.9 | 112.4 | 115.2 | 114.5 | 110.7 | 111.9 | 152.3 |
| 5000   | 103.0 | 103.8 | 103.7 | 103.8 | 103.1 | 102.7 | 103.9 | 106.6 | 112.2 | 115.0 | 114.5 | 110.7 | 111.9 | 151.7 |
| 6300   | 101.2 | 103.0 | 99.9  | 102.7 | 102.8 | 102.9 | 102.7 | 106.8 | 111.7 | 113.8 | 113.5 | 109.4 | 111.5 | 151.1 |
| 8000   | 102.0 | 104.0 | 100.5 | 102.4 | 102.5 | 101.9 | 105.4 | 110.0 | 113.3 | 112.2 | 108.3 | 110.3 | 110.6 | 150.6 |
| 10000  | 100.8 | 101.5 | 98.8  | 101.3 | 102.6 | 101.8 | 102.3 | 105.1 | 109.0 | 111.7 | 110.1 | 107.2 | 108.7 | 149.7 |
| 12500  | 99.2  | 101.2 | 98.5  | 100.2 | 100.8 | 100.8 | 103.6 | 108.1 | 109.7 | 108.8 | 104.8 | 106.7 | 108.1 | 148.0 |
| 16000  | 97.1  | 97.6  | 95.4  | 97.4  | 98.8  | 98.7  | 98.7  | 101.5 | 105.5 | 107.6 | 106.1 | 102.2 | 103.4 | 148.0 |
| 20000  | 93.1  | 94.6  | 92.2  | 95.1  | 96.2  | 95.6  | 95.9  | 98.4  | 102.8 | 104.6 | 102.3 | 99.7  | 100.5 | 146.7 |
| 25000  | 89.5  | 91.9  | 89.3  | 91.5  | 93.2  | 93.4  | 93.5  | 95.2  | 99.9  | 103.5 | 100.9 | 96.1  | 96.2  | 146.9 |
| 31500  | 85.6  | 87.1  | 85.9  | 87.1  | 88.7  | 89.0  | 88.9  | 92.1  | 97.9  | 102.7 | 99.7  | 93.2  | 92.0  | 148.1 |
| 40000  | 80.4  | 82.9  | 80.7  | 82.4  | 84.8  | 85.0  | 85.1  | 88.9  | 94.3  | 100.2 | 97.7  | 88.2  | 85.6  | 149.2 |
| 50000  | 75.5  | 77.2  | 76.7  | 77.2  | 79.4  | 79.8  | 79.2  | 82.8  | 90.6  | 94.7  | 91.8  | 79.7  | 75.0  | 150.6 |
| 63000  | 69.2  | 71.2  | 69.6  | 70.7  | 73.3  | 73.3  | 72.5  | 77.3  | 86.9  | 91.8  | 88.9  | 81.8  | 78.0  | 152.4 |
| 80000  | 63.6  | 66.4  | 62.6  | 63.3  | 66.0  | 65.6  | 65.7  | 71.9  | 77.1  | 89.0  | 82.0  | 68.1  | 63.2  | 152.5 |
| 100000 | 126.2 | 127.1 | 124.2 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 125000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 150000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 175000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 200000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 225000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 250000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 275000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 300000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 325000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 350000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 375000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 400000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 425000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 450000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 475000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |
| 500000 | 126.2 | 128.2 | 125.3 | 126.6 | 126.9 | 125.4 | 125.2 | 128.5 | 134.9 | 139.8 | 140.7 | 137.3 | 137.9 | 155.5 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFRR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH718 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNF1G = 2 MODEL = AX FLTVL = 400. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 77.00 PAMB HG = 29.25 MIKE HT = 29.25 RELHUM = 39.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF1G = ARC

FNINI = LBS XNL RPM XNH RPM XNHR RPM V8 = 2343.0 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNL RPM XNH RPM V8 = 2343.0 FPS AE8 = 20.4 SQ IN

RUNPT = 400-0204 TAPE = X0204F TEST PT NO = 0204 NC = AE039 CORR FAN SPEED = RPM

| FREQ  | 40   | 50   | 60   | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   | PWL   |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 69.6  | 71.9 | 72.8 | 73.3 | 73.3  | 72.1  | 71.3  | 73.6  | 81.7  | 88.8  | 92.2  | 90.2  | 84.2  | 165.9 |       |
| 50    | 69.6 | 71.9 | 72.7 | 70.4  | 73.1  | 75.6  | 73.8  | 73.5  | 76.3  | 83.7  | 91.9  | 93.7  | 90.9  | 83.7  |
| 63    | 70.5 | 72.7 | 70.4 | 74.2  | 74.9  | 77.0  | 75.7  | 78.5  | 86.5  | 94.7  | 95.2  | 84.5  | 168.8 |       |
| 80    | 72.4 | 74.2 | 71.2 | 74.9  | 77.0  | 75.7  | 78.5  | 86.5  | 94.7  | 95.2  | 90.8  | 84.5  | 170.7 |       |
| 100   | 73.5 | 75.8 | 73.8 | 76.8  | 78.2  | 76.9  | 80.2  | 88.7  | 96.9  | 97.1  | 91.2  | 87.0  | 170.7 |       |
| 125   | 75.9 | 76.3 | 74.8 | 78.1  | 79.8  | 78.5  | 80.6  | 88.7  | 96.9  | 97.3  | 90.7  | 88.2  | 171.3 |       |
| 150   | 77.7 | 78.7 | 76.0 | 80.1  | 83.0  | 81.1  | 80.2  | 83.7  | 91.6  | 97.1  | 98.2  | 90.5  | 171.8 |       |
| 200   | 78.6 | 83.3 | 81.1 | 83.1  | 82.6  | 82.2  | 81.4  | 84.5  | 92.2  | 97.9  | 97.9  | 87.9  | 172.4 |       |
| 250   | 80.6 | 81.2 | 79.4 | 81.9  | 82.6  | 82.3  | 82.9  | 85.6  | 92.5  | 97.6  | 97.3  | 89.9  | 172.3 |       |
| 315   | 82.4 | 84.8 | 82.2 | 82.9  | 86.0  | 83.0  | 82.4  | 86.0  | 93.2  | 96.7  | 96.4  | 90.0  | 172.3 |       |
| 400   | 81.6 | 84.3 | 83.1 | 86.0  | 87.4  | 84.9  | 83.6  | 86.6  | 92.9  | 96.3  | 93.7  | 87.6  | 171.7 |       |
| 500   | 80.8 | 83.9 | 82.7 | 86.4  | 85.5  | 85.3  | 84.7  | 87.6  | 92.2  | 93.7  | 92.4  | 85.8  | 170.7 |       |
| 630   | 79.0 | 81.8 | 80.3 | 84.1  | 84.0  | 83.8  | 84.8  | 87.0  | 91.7  | 93.1  | 90.5  | 83.5  | 170.0 |       |
| 800   | 76.7 | 80.7 | 79.1 | 82.8  | 83.5  | 83.8  | 83.4  | 86.9  | 90.9  | 91.5  | 89.0  | 81.5  | 169.5 |       |
| 1000  | 77.1 | 81.4 | 79.4 | 82.3  | 83.0  | 83.2  | 82.4  | 85.4  | 89.0  | 90.7  | 87.3  | 77.8  | 168.1 |       |
| 1250  | 75.3 | 78.5 | 77.5 | 81.1  | 80.0  | 82.3  | 82.6  | 84.9  | 87.7  | 88.7  | 84.6  | 77.8  | 168.1 |       |
| 1500  | 72.9 | 77.6 | 76.8 | 79.6  | 80.9  | 81.0  | 80.9  | 83.1  | 86.4  | 86.2  | 82.4  | 74.1  | 167.5 |       |
| 2000  | 69.8 | 73.5 | 73.3 | 76.5  | 78.7  | 78.8  | 78.7  | 80.7  | 83.4  | 83.4  | 78.9  | 69.9  | 166.4 |       |
| 2500  | 64.0 | 69.3 | 69.2 | 73.7  | 75.5  | 75.2  | 75.3  | 76.9  | 79.9  | 79.2  | 73.3  | 64.5  | 165.1 |       |
| 3150  | 57.1 | 64.1 | 64.5 | 68.4  | 71.2  | 71.7  | 71.5  | 72.2  | 75.1  | 75.7  | 68.4  | 56.0  | 165.3 |       |
| 4000  | 46.9 | 54.6 | 57.2 | 60.8  | 63.7  | 64.4  | 63.9  | 65.8  | 69.2  | 70.2  | 61.0  | 44.2  | 166.5 |       |
| 5000  | 31.9 | 42.8 | 45.8 | 50.7  | 54.8  | 55.6  | 55.1  | 57.1  | 59.4  | 60.1  | 49.3  | 25.5  | 167.6 |       |
| 6300  | 9.3  | 29.7 | 34.6 | 39.3  | 40.5  | 39.1  | 40.3  | 43.6  | 43.7  | 43.7  | 28.5  |       | 169.0 |       |
| 8000  |      |      |      |       |       |       |       |       |       |       |       |       |       | 170.9 |
| 10000 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 12500 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 15000 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20000 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 25000 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 31500 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40000 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50000 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 63000 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80000 |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| DBA   | 85.9 | 89.3 | 87.9 | 91.1  | 92.0  | 91.6  | 91.4  | 94.0  | 98.4  | 100.3 | 98.5  | 91.5  | 87.8  |       |
| PWL   | 95.6 | 99.4 | 98.3 | 101.4 | 102.2 | 102.1 | 101.3 | 103.8 | 109.1 | 111.7 | 111.2 | 103.4 | 99.1  |       |
| GASPL | 90.1 | 92.9 | 91.2 | 94.2  | 95.1  | 94.2  | 93.9  | 96.7  | 102.6 | 107.0 | 106.8 | 100.7 | 96.7  | 183.8 |

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/MAS3-22514  
 VEHICL = ADH718 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CNFIG = 2  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 77.00 MIKE HT = 29.25 RELHUM = 400. FPS  
 MIND DIR = SB59 DEQ WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL  
 FNINI = LBS XNL RPM XNHR RPM XNH RPM V8 = 2343.0 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM XNH RPM V8 = 2343.0 FPS AE8 = 20.4 SQ IN  
 RUNPT = 82F-400-0204 TAPE = X02041 TEST PT NO = 0204 NC = AE039 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0205 X0205C

ANGLES MEASURED FROM INLET, DEGREES

| FREQ   | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50     | 83.4  | 83.0  | 84.2  | 83.5  | 84.1  | 80.2  | 80.4  | 85.0  | 89.0  | 95.1  | 94.9  | 94.1  | 95.0  | 131.5 |
| 63     | 87.2  | 86.0  | 90.5  | 91.6  | 90.2  | 88.5  | 90.4  | 90.1  | 93.8  | 97.9  | 98.5  | 97.4  | 98.6  | 135.6 |
| 80     | 89.5  | 93.3  | 87.8  | 90.9  | 91.0  | 91.3  | 91.0  | 92.1  | 94.3  | 92.4  | 96.5  | 97.2  | 99.1  | 135.2 |
| 100    | 88.3  | 93.6  | 86.6  | 92.7  | 93.7  | 92.4  | 92.7  | 95.7  | 95.9  | 96.4  | 98.1  | 102.0 | 103.2 | 137.9 |
| 125    | 85.9  | 87.9  | 89.4  | 92.7  | 93.3  | 93.2  | 92.5  | 93.7  | 95.7  | 96.5  | 104.4 | 106.3 | 107.2 | 140.7 |
| 150    | 85.0  | 84.1  | 86.8  | 88.6  | 88.7  | 89.1  | 90.2  | 92.1  | 94.8  | 99.2  | 104.3 | 107.0 | 109.9 | 141.5 |
| 200    | 86.8  | 87.1  | 86.1  | 89.9  | 91.2  | 91.8  | 92.0  | 95.4  | 100.1 | 102.2 | 107.0 | 110.5 | 112.4 | 144.5 |
| 250    | 86.8  | 80.6  | 88.3  | 91.6  | 91.2  | 92.3  | 94.2  | 97.6  | 101.1 | 106.9 | 111.3 | 114.5 | 114.1 | 147.7 |
| 315    | 87.6  | 89.6  | 87.6  | 91.4  | 93.0  | 93.1  | 94.3  | 97.7  | 103.6 | 108.9 | 113.3 | 115.3 | 115.9 | 149.2 |
| 400    | 88.8  | 91.1  | 88.9  | 92.4  | 93.5  | 93.1  | 96.5  | 98.4  | 106.1 | 112.9 | 116.1 | 117.0 | 115.2 | 151.1 |
| 500    | 89.7  | 92.2  | 90.0  | 93.3  | 94.9  | 95.5  | 96.4  | 100.0 | 108.0 | 115.3 | 117.9 | 117.4 | 115.3 | 152.5 |
| 630    | 91.8  | 94.1  | 92.1  | 95.4  | 95.7  | 96.1  | 98.0  | 102.4 | 110.6 | 118.7 | 119.1 | 118.0 | 115.1 | 154.1 |
| 800    | 96.2  | 95.0  | 94.2  | 97.3  | 97.9  | 98.0  | 99.9  | 103.5 | 112.5 | 120.3 | 119.7 | 116.0 | 115.1 | 155.1 |
| 1000   | 101.9 | 103.7 | 101.1 | 102.2 | 102.3 | 104.5 | 108.6 | 116.0 | 122.5 | 118.8 | 114.8 | 110.6 | 115.1 | 156.1 |
| 1250   | 101.4 | 101.7 | 100.5 | 102.7 | 102.8 | 103.4 | 109.2 | 115.4 | 122.1 | 117.2 | 113.2 | 109.7 | 115.5 | 155.5 |
| 1500   | 100.0 | 101.8 | 100.6 | 102.6 | 103.7 | 103.0 | 104.6 | 109.6 | 115.4 | 120.5 | 116.3 | 111.7 | 109.2 | 154.6 |
| 2000   | 98.8  | 100.5 | 98.3  | 101.6 | 102.9 | 103.1 | 104.7 | 110.6 | 114.7 | 119.4 | 113.4 | 109.9 | 107.7 | 153.6 |
| 2500   | 97.2  | 97.8  | 97.8  | 100.3 | 102.3 | 102.5 | 104.4 | 108.9 | 113.9 | 117.6 | 113.1 | 108.2 | 104.9 | 152.3 |
| 3150   | 95.2  | 97.7  | 96.8  | 99.8  | 101.8 | 103.2 | 104.3 | 109.4 | 113.7 | 117.1 | 112.6 | 107.4 | 104.4 | 152.2 |
| 4000   | 93.9  | 96.3  | 95.3  | 99.2  | 101.5 | 102.0 | 103.0 | 108.1 | 112.5 | 115.9 | 111.4 | 105.6 | 102.7 | 151.4 |
| 5000   | 93.9  | 96.3  | 95.3  | 98.3  | 101.3 | 101.5 | 103.5 | 107.5 | 111.2 | 115.3 | 110.0 | 104.9 | 100.7 | 151.4 |
| 6300   | 90.2  | 93.0  | 93.0  | 96.5  | 99.5  | 100.2 | 101.3 | 105.5 | 109.6 | 113.6 | 107.5 | 103.0 | 98.7  | 150.2 |
| 8000   | 87.6  | 90.3  | 90.3  | 94.1  | 96.9  | 98.4  | 99.7  | 103.6 | 108.2 | 111.2 | 105.7 | 99.9  | 95.7  | 149.4 |
| 10000  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| 12500  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| 15000  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| 20000  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| 25000  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| 31500  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| 40000  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| 50000  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| 63000  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| 80000  | 84.2  | 88.0  | 87.4  | 90.8  | 92.6  | 95.6  | 97.2  | 101.3 | 105.8 | 109.7 | 103.4 | 97.0  | 91.6  | 149.2 |
| GA SPL | 110.3 | 112.1 | 110.2 | 112.7 | 113.8 | 113.7 | 115.2 | 119.9 | 125.8 | 131.7 | 129.6 | 127.6 | 125.7 | 167.2 |
| PWL    | 123.2 | 124.8 | 123.3 | 125.7 | 126.8 | 126.5 | 128.1 | 133.1 | 138.5 | 144.1 | 141.5 | 138.0 | 135.6 |       |
| PWLT   | 124.7 | 126.2 | 124.5 | 126.9 | 126.8 | 126.5 | 128.1 | 133.1 | 138.5 | 144.1 | 141.5 | 138.0 | 135.6 |       |
| DBA    | 110.7 | 112.3 | 110.4 | 112.7 | 113.6 | 113.3 | 114.9 | 119.8 | 126.0 | 131.9 | 129.3 | 126.5 | 123.9 |       |

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICLE = ADH223 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2365.3 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2365.3 FPS AE18 = 0. SQ IN  
 RUNPT = -ZER-0205 TAPE = X0205C TEST PT NO = 0205 NC = AE041 CORR FAN SPEED = RPM

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OF POOR QUALITY

DATPROC - FLIRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0205 X0205F

ANGLES MEASURED FROM INLET, DEGREES

| FREE                         | 40.  | 50.                  | 60.               | 70.        | 80.            | 90.              | 100.      | 110.                   | 120.           | 130.            | 140.              | 150.       | 160.       |      |     |     |     |      |   |      |    |
|------------------------------|--|----------------------|-------------------|------------|----------------|------------------|-----------|------------------------|----------------|-----------------|-------------------|------------|------------|------|-----|-----|-----|------|---|------|----|
| 50                           | 83.4   | 83.0                 | 84.2              | 83.5       | 84.1           | 80.2             | 80.4      | 85.0                   | 89.0           | 95.1            | 94.9              | 94.1       | 95.0       |      |     |     |     |      |   |      |    |
| 63                           | 87.2   | 86.0                 | 90.5              | 91.6       | 90.2           | 88.5             | 90.4      | 90.1                   | 98.5           | 97.9            | 98.5              | 97.4       | 98.6       |      |     |     |     |      |   |      |    |
| 80                           | 89.5   | 93.3                 | 87.8              | 90.9       | 91.0           | 91.3             | 91.0      | 92.1                   | 94.3           | 92.4            | 96.5              | 97.2       | 99.1       |      |     |     |     |      |   |      |    |
| 100                          | 88.3   | 93.6                 | 88.6              | 92.7       | 93.7           | 92.4             | 92.7      | 95.7                   | 95.9           | 96.4            | 98.1              | 102.0      | 103.2      |      |     |     |     |      |   |      |    |
| 125                          | 85.9   | 87.9                 | 89.4              | 92.7       | 93.3           | 93.2             | 92.5      | 93.7                   | 95.7           | 96.5            | 104.4             | 106.3      | 107.2      |      |     |     |     |      |   |      |    |
| 150                          | 85.0   | 84.1                 | 86.8              | 88.6       | 88.7           | 89.1             | 90.2      | 92.1                   | 94.8           | 99.2            | 104.3             | 107.0      | 109.9      |      |     |     |     |      |   |      |    |
| 200                          | 86.8   | 87.1                 | 86.1              | 86.9       | 91.2           | 91.8             | 92.0      | 95.4                   | 100.1          | 102.2           | 107.0             | 110.5      | 112.4      |      |     |     |     |      |   |      |    |
| 250                          | 86.8   | 90.6                 | 88.3              | 91.6       | 91.2           | 92.3             | 94.2      | 97.6                   | 101.1          | 106.9           | 111.3             | 114.5      | 114.1      |      |     |     |     |      |   |      |    |
| 315                          | 87.6   | 89.6                 | 87.6              | 91.4       | 93.0           | 93.1             | 94.3      | 97.7                   | 103.6          | 108.9           | 113.3             | 115.3      | 115.9      |      |     |     |     |      |   |      |    |
| 400                          | 88.8   | 91.1                 | 88.9              | 92.4       | 93.5           | 93.1             | 96.5      | 98.4                   | 106.1          | 112.9           | 116.1             | 117.0      | 115.2      |      |     |     |     |      |   |      |    |
| 500                          | 89.7   | 92.2                 | 90.0              | 93.3       | 94.9           | 95.5             | 96.4      | 100.0                  | 108.0          | 115.3           | 117.9             | 117.4      | 115.3      |      |     |     |     |      |   |      |    |
| 630                          | 91.8   | 94.1                 | 92.1              | 95.4       | 97.9           | 98.0             | 99.9      | 103.5                  | 112.5          | 120.3           | 119.7             | 118.0      | 115.1      |      |     |     |     |      |   |      |    |
| 800                          | 96.2   | 95.3                 | 94.2              | 97.3       | 98.0           | 98.4             | 100.2     | 108.6                  | 110.6          | 118.7           | 119.1             | 118.0      | 115.1      |      |     |     |     |      |   |      |    |
| 1000                         | 101.9  | 103.3                | 99.7              | 101.1      | 102.2          | 102.3            | 104.5     | 108.4                  | 115.0          | 122.5           | 118.8             | 114.8      | 112.4      |      |     |     |     |      |   |      |    |
| 1250                         | 98.7   | 104.0                | 102.5             | 104.6      | 104.1          | 101.8            | 102.4     | 106.8                  | 115.0          | 121.8           | 120.2             | 117.4      | 114.9      |      |     |     |     |      |   |      |    |
| 1500                         | 100.2  | 99.8                 | 98.8              | 101.3      | 102.4          | 101.8            | 103.4     | 108.4                  | 115.4          | 121.9           | 120.5             | 112.4      | 109.2      |      |     |     |     |      |   |      |    |
| 1600                         | 100.0  | 101.8                | 100.6             | 102.6      | 103.7          | 103.0            | 104.6     | 109.6                  | 115.4          | 120.5           | 116.3             | 111.7      | 109.2      |      |     |     |     |      |   |      |    |
| 2000                         | 100.0  | 101.8                | 100.6             | 102.6      | 103.7          | 103.0            | 104.6     | 109.6                  | 115.4          | 120.5           | 116.3             | 111.7      | 109.2      |      |     |     |     |      |   |      |    |
| 2500                         | 101.4  | 101.7                | 100.5             | 102.7      | 102.8          | 102.2            | 103.4     | 109.2                  | 115.4          | 122.1           | 117.2             | 113.2      | 109.7      |      |     |     |     |      |   |      |    |
| 3150                         | 100.0  | 101.8                | 100.6             | 102.6      | 103.7          | 103.0            | 104.6     | 109.6                  | 115.4          | 120.5           | 116.3             | 111.7      | 109.2      |      |     |     |     |      |   |      |    |
| 4000                         | 98.8   | 100.5                | 98.3              | 101.6      | 102.9          | 102.3            | 104.7     | 110.6                  | 114.7          | 119.4           | 114.4             | 109.9      | 107.7      |      |     |     |     |      |   |      |    |
| 5000                         | 97.2   | 98.3                 | 97.8              | 100.3      | 102.3          | 102.5            | 104.4     | 108.9                  | 113.9          | 117.6           | 113.1             | 108.2      | 104.9      |      |     |     |     |      |   |      |    |
| 6300                         | 95.2   | 97.7                 | 96.8              | 99.8       | 101.8          | 103.2            | 104.3     | 109.4                  | 113.7          | 117.1           | 112.6             | 107.4      | 104.4      |      |     |     |     |      |   |      |    |
| 8000                         | 93.9   | 96.3                 | 95.3              | 99.3       | 101.5          | 103.0            | 104.5     | 107.5                  | 111.2          | 115.3           | 110.0             | 104.9      | 100.7      |      |     |     |     |      |   |      |    |
| 10000                        | 92.5   | 95.3                 | 95.1              | 98.3       | 101.3          | 103.5            | 103.5     | 107.5                  | 110.3          | 110.0           | 104.9             | 100.7      | 100.7      |      |     |     |     |      |   |      |    |
| 12500                        | 90.2   | 93.0                 | 93.5              | 96.5       | 99.5           | 100.2            | 101.3     | 105.5                  | 109.6          | 113.6           | 107.5             | 103.0      | 98.7       |      |     |     |     |      |   |      |    |
| 15000                        | 87.6   | 90.3                 | 90.3              | 94.1       | 96.9           | 98.4             | 99.7      | 103.6                  | 108.2          | 111.2           | 105.7             | 99.9       | 95.7       |      |     |     |     |      |   |      |    |
| 20000                        | 84.2   | 84.0                 | 87.4              | 90.8       | 95.6           | 97.2             | 101.3     | 105.8                  | 109.7          | 103.4           | 97.0              | 91.6       | 149.2      |      |     |     |     |      |   |      |    |
| 25000                        | 80.4   | 84.3                 | 84.8              | 87.4       | 91.4           | 92.8             | 94.7      | 98.0                   | 102.3          | 106.4           | 99.6              | 87.9       | 148.2      |      |     |     |     |      |   |      |    |
| 31500                        | 76.4   | 80.9                 | 80.5              | 83.8       | 87.6           | 88.4             | 90.2      | 95.3                   | 99.2           | 104.6           | 97.4              | 87.5       | 148.9      |      |     |     |     |      |   |      |    |
| 40000                        | 71.9   | 76.0                 | 77.1              | 79.4       | 83.8           | 85.2             | 86.8      | 91.4                   | 96.2           | 102.6           | 94.7              | 78.2       | 150.5      |      |     |     |     |      |   |      |    |
| 50000                        | 67.0   | 72.2                 | 71.7              | 74.1       | 78.5           | 80.0             | 81.7      | 86.4                   | 93.1           | 98.4            | 90.7              | 82.9       | 150.8      |      |     |     |     |      |   |      |    |
| 63000                        | 62.0   | 68.6                 | 66.7              | 68.5       | 73.1           | 75.0             | 76.2      | 81.7                   | 87.9           | 93.5            | 86.4              | 77.8       | 151.2      |      |     |     |     |      |   |      |    |
| 80000                        | 58.0   | 64.0                 | 62.8              | 61.4       | 66.3           | 68.1             | 70.1      | 76.4                   | 83.5           | 88.9            | 82.0              | 70.9       | 153.4      |      |     |     |     |      |   |      |    |
| GASPL                        | 110.3  | 112.1                | 110.2             | 112.7      | 113.8          | 113.7            | 115.2     | 119.9                  | 125.8          | 131.7           | 129.6             | 127.6      | 125.7      |      |     |     |     |      |   |      |    |
| PNL                          | 123.2  | 124.8                | 123.3             | 125.7      | 126.8          | 126.5            | 128.1     | 133.1                  | 138.5          | 144.1           | 141.0             | 138.0      | 135.6      |      |     |     |     |      |   |      |    |
| PMLT                         | 124.7  | 126.2                | 124.5             | 126.9      | 126.8          | 126.5            | 128.1     | 133.1                  | 138.5          | 144.1           | 141.5             | 138.0      | 135.6      |      |     |     |     |      |   |      |    |
| DBA                          | 179.3  | 185.4                | 184.1             | 183.9      | 186.6          | 190.4            | 192.1     | 198.1                  | 204.9          | 210.4           | 203.3             | 193.3      | 183.8      |      |     |     |     |      |   |      |    |
| MODEL/FULL SCALE FAC -       | - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 |                      |                   |            |                |                  |           |                        |                |                 |                   |            |            |      |     |     |     |      |   |      |    |
| NASA SHOCK CELL/CIRCULAR C-D | NGZ/AX/SC-2/NAS3-22514   |                      |                   |            |                |                  |           |                        |                |                 |                   |            |            |      |     |     |     |      |   |      |    |
| VEHICL = ADH223              | TEST DATE = 03-17-82   | LOCAL = C41 ANECH CH | CONFIG = 2        | MODEL = AX | FLVEL = 0. FPS | IAPLHA = SBS9    | LEGA = NO | PWL AREA = FULL SPHERE | TAMB F = 53.00 | PAMB HG = 29.55 | RELHUM = 69.7 PCT | WIND DIR = | WIND VEL = |      |     |     |     |      |   |      |    |
| FNIN1 =                      | LBS XNL  | RPM                  | XNH               | RPM        | V8             | FPS              | AE8       | =                      | 20.4           | SO IN           | FNFRMB =          | LBS XNLR   | RPM        | XNHR | RPM | V18 | FPS | AE18 | = | 0.50 | IN |
| RUNPT = 82F-ZER-0205         | TAPE   | = X0205F             | TEST PT NG = 0205 | NC         | = AE041        | CORR FAN SPEED = | RPM       |                        |                |                 |                   |            |            |      |     |     |     |      |   |      |    |

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 8ZF-ZER-0205 X02051

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 67.8 71.6 70.4 74.7 76.2 75.9 79.2 80.7 87.7 93.4 95.0 93.7 88.6 169.5

63 68.6 72.7 71.5 75.5 77.5 78.3 79.0 82.3 89.5 95.8 96.8 94.1 88.6 170.9

80 70.6 73.6 77.6 78.3 78.8 80.6 84.6 82.1 99.1 97.9 94.6 88.4 172.5

100 75.0 75.3 75.7 79.4 80.4 80.7 82.4 85.7 93.9 100.6 98.5 94.4 89.1 173.5

125 80.6 84.0 80.3 82.9 82.6 82.4 83.6 87.9 95.8 102.1 98.4 95.0 88.6 174.5

150 77.2 84.1 83.7 86.5 86.5 84.3 84.8 88.7 96.2 101.9 98.7 93.5 87.4 174.6

200 78.4 79.6 83.1 84.6 84.1 85.6 90.2 96.8 101.7 98.7 91.7 84.4 174.6

250 79.8 80.5 82.7 84.2 84.5 86.5 90.2 96.7 102.1 96.7 90.2 82.0 174.5

315 78.9 80.9 84.0 84.6 84.1 85.1 90.5 95.8 101.4 94.6 88.0 80.3 173.9

400 77.0 80.7 83.6 85.1 84.6 86.1 90.6 95.6 99.4 93.3 85.9 78.8 172.9

500 75.2 79.0 78.1 82.2 84.1 84.4 85.9 91.2 94.5 97.9 90.9 83.5 172.0

630 73.2 76.4 77.3 80.7 83.2 83.5 85.3 89.3 93.4 95.6 89.1 81.0 170.7

800 70.7 75.4 76.0 79.9 82.4 84.0 84.9 89.5 92.9 94.8 88.1 79.5 170.6

1000 69.0 73.7 74.3 79.1 82.0 82.7 83.5 88.0 91.5 93.3 86.4 77.1 169.8

1250 67.1 72.4 73.8 78.1 81.7 82.1 83.9 87.3 89.9 92.4 84.6 75.6 169.5

1600 63.9 69.5 71.8 75.9 79.6 80.5 81.4 84.9 87.9 90.1 81.2 72.3 168.5

2000 60.3 66.2 68.2 73.3 76.8 78.5 79.6 82.8 86.1 87.0 78.4 67.6 167.8

2500 55.1 62.6 64.4 69.4 73.9 75.2 76.5 79.9 82.8 84.4 74.3 61.9 167.6

3150 48.0 56.5 60.0 64.3 69.4 71.1 72.7 75.0 77.5 78.6 67.1 55.1 166.6

4000 37.7 48.4 51.8 57.5 62.6 63.9 65.2 69.0 70.5 72.0 58.7 41.7 167.3

5000 23.5 35.9 42.2 47.6 53.9 55.8 56.8 59.7 61.3 62.5 46.2 24.8 168.8

6300 0.7 17.9 24.7 31.6 38.4 40.7 41.6 43.8 46.1 44.1 24.5 169.1

8000 6300 0.7 17.9 24.7 31.6 38.4 40.7 41.6 43.8 46.1 44.1 24.5 169.1

10000 171.7 159.5 169.5 171.7

12500 171.7 159.5 169.5 171.7

15000 171.7 159.5 169.5 171.7

17500 171.7 159.5 169.5 171.7

20000 171.7 159.5 169.5 171.7

22500 171.7 159.5 169.5 171.7

25000 171.7 159.5 169.5 171.7

27500 171.7 159.5 169.5 171.7

30000 171.7 159.5 169.5 171.7

32500 171.7 159.5 169.5 171.7

35000 171.7 159.5 169.5 171.7

37500 171.7 159.5 169.5 171.7

40000 171.7 159.5 169.5 171.7

42500 171.7 159.5 169.5 171.7

45000 171.7 159.5 169.5 171.7

47500 171.7 159.5 169.5 171.7

50000 171.7 159.5 169.5 171.7

52500 171.7 159.5 169.5 171.7

55000 171.7 159.5 169.5 171.7

57500 171.7 159.5 169.5 171.7

60000 171.7 159.5 169.5 171.7

62500 171.7 159.5 169.5 171.7

65000 171.7 159.5 169.5 171.7

0.5

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VEHICLE = ADH23 TEST DATE = 03-17-82  
 IAPLHA = SB59 IEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 FNRAMB = LBS XNLR RPM XNHR XNH RPM = = =  
 FNINI = LBS XNL RPM XNH RPM = = =  
 V8 = 2365.3 FPS AE8 = 20.4 SQ IN  
 AE18 = FPS AE18 = 0. SQ IN  
 CORR FAN SPEED = RPM

MODEL = AX  
 PAMB HG = 29.55  
 RELHUM = 69.7 PCT  
 FLTVEL = 0. FPS

CONFIG = 2  
 PML AREA = FULL SPHERE  
 TAMB F = 53.00  
 MIKE HT = SL  
 EXT CONFIG = SL  
 NBFR =

LOCAT = C41 ANECH CH  
 CONFIG = 2  
 PML AREA = FULL SPHERE  
 EXT DIST = 2400.0 FT  
 TEST PT NO = 020

NC = AE041  
 CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN )  
 SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)  
 DIAMETER RATIO = 8.288  
 FREQ SHIFT = -9

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0206 X0206C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

|      |     |     |     |     |     |     |      |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

|       |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.9 | 84.2 | 82.0 | 84.4  | 83.1  | 80.0  | 82.7  | 85.8  | 88.6  | 96.5  | 97.4  | 93.4  | 94.2  | 132.5 |
| 60    | 85.8 | 87.3 | 89.1 | 91.0  | 87.6  | 86.2  | 89.8  | 85.7  | 93.6  | 99.3  | 99.5  | 96.3  | 96.3  | 135.1 |
| 80    | 89.1 | 93.2 | 85.8 | 90.2  | 90.0  | 90.8  | 90.2  | 91.5  | 93.5  | 91.3  | 95.9  | 96.6  | 98.6  | 134.5 |
| 100   | 87.2 | 91.8 | 85.9 | 89.8  | 91.1  | 90.0  | 90.4  | 93.3  | 94.0  | 93.3  | 96.5  | 100.5 | 102.0 | 136.1 |
| 125   | 85.3 | 86.8 | 86.5 | 90.0  | 91.5  | 91.1  | 90.7  | 92.2  | 92.8  | 93.6  | 101.6 | 104.3 | 105.6 | 138.6 |
| 150   | 83.1 | 84.5 | 86.0 | 86.0  | 85.7  | 87.3  | 88.5  | 91.5  | 95.9  | 95.9  | 102.0 | 104.5 | 108.1 | 139.2 |
| 200   | 83.9 | 84.0 | 83.2 | 86.0  | 87.3  | 87.5  | 88.3  | 92.3  | 96.3  | 96.3  | 102.8 | 107.7 | 110.1 | 141.4 |
| 250   | 82.9 | 85.7 | 83.4 | 87.3  | 87.9  | 88.2  | 89.6  | 93.8  | 96.6  | 102.4 | 108.3 | 111.5 | 111.6 | 144.6 |
| 315   | 83.5 | 85.6 | 83.8 | 87.1  | 88.9  | 89.3  | 90.5  | 93.6  | 98.9  | 105.0 | 113.0 | 112.4 | 146.3 |       |
| 400   | 84.8 | 86.7 | 84.6 | 88.4  | 89.5  | 88.8  | 90.7  | 93.9  | 100.4 | 108.5 | 113.6 | 114.5 | 111.2 | 148.0 |
| 500   | 85.9 | 87.7 | 85.7 | 89.3  | 90.8  | 90.7  | 92.1  | 95.8  | 102.2 | 111.3 | 116.0 | 114.6 | 108.5 | 149.4 |
| 630   | 87.3 | 89.3 | 87.3 | 91.1  | 92.2  | 92.8  | 94.0  | 98.4  | 104.6 | 114.7 | 117.1 | 114.2 | 106.4 | 150.7 |
| 800   | 89.7 | 90.0 | 88.7 | 93.0  | 93.7  | 94.0  | 95.9  | 100.3 | 107.3 | 116.8 | 118.5 | 113.1 | 105.0 | 152.0 |
| 1000  | 94.2 | 94.0 | 91.8 | 95.3  | 95.4  | 95.5  | 97.4  | 102.6 | 109.0 | 118.1 | 119.5 | 112.6 | 103.5 | 153.0 |
| 1250  | 98.2 | 98.6 | 96.5 | 98.4  | 99.0  | 99.1  | 101.6 | 106.1 | 112.2 | 119.0 | 120.0 | 111.9 | 105.4 | 154.0 |
| 1500  | 96.8 | 96.5 | 94.8 | 97.3  | 98.4  | 98.8  | 100.4 | 105.2 | 111.6 | 118.6 | 120.5 | 111.2 | 102.2 | 153.9 |
| 1750  | 94.7 | 98.3 | 96.0 | 98.6  | 98.7  | 98.0  | 98.7  | 103.8 | 110.8 | 118.9 | 120.5 | 111.4 | 105.7 | 153.9 |
| 2000  | 96.8 | 96.8 | 94.8 | 97.3  | 98.4  | 98.8  | 100.4 | 105.2 | 111.6 | 118.6 | 120.5 | 111.2 | 102.2 | 153.9 |
| 2500  | 97.9 | 98.8 | 96.5 | 98.4  | 99.0  | 99.1  | 101.6 | 106.1 | 112.2 | 119.0 | 120.0 | 111.9 | 105.4 | 154.0 |
| 3000  | 97.9 | 98.8 | 96.5 | 98.4  | 99.0  | 99.1  | 101.6 | 106.1 | 112.2 | 119.0 | 120.0 | 111.9 | 105.4 | 154.0 |
| 3500  | 93.7 | 94.6 | 93.3 | 97.3  | 98.8  | 99.2  | 102.1 | 106.7 | 111.9 | 115.1 | 114.4 | 107.7 | 100.9 | 150.7 |
| 4000  | 94.8 | 95.8 | 95.1 | 98.6  | 99.1  | 100.1 | 102.3 | 107.8 | 112.7 | 117.7 | 115.9 | 108.7 | 102.7 | 152.3 |
| 4500  | 96.3 | 97.1 | 96.3 | 100.1 | 101.0 | 100.8 | 101.7 | 107.4 | 113.2 | 117.5 | 113.3 | 103.7 | 102.7 | 152.6 |
| 5000  | 96.3 | 97.1 | 96.3 | 100.1 | 101.0 | 100.8 | 101.7 | 107.4 | 113.2 | 117.5 | 113.3 | 103.7 | 102.7 | 152.6 |
| 5500  | 91.4 | 92.3 | 91.6 | 95.0  | 97.5  | 98.5  | 100.8 | 105.7 | 110.2 | 112.6 | 111.0 | 103.6 | 98.2  | 149.8 |
| 6000  | 91.1 | 92.3 | 91.8 | 95.7  | 97.8  | 99.0  | 100.4 | 105.8 | 111.5 | 113.4 | 112.1 | 104.1 | 99.7  | 149.8 |
| 6500  | 91.4 | 92.3 | 91.6 | 95.0  | 97.5  | 98.5  | 100.8 | 105.7 | 110.2 | 112.6 | 111.0 | 103.6 | 98.2  | 149.8 |
| 7000  | 88.0 | 89.7 | 89.5 | 93.5  | 96.5  | 97.5  | 99.0  | 104.0 | 108.1 | 110.4 | 109.0 | 101.7 | 96.2  | 148.3 |
| 7500  | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 8000  | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 8500  | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 9000  | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 9500  | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 10000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 10500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 11000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 11500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 12000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 12500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 13000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 13500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 14000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 14500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 15000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 15500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 16000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 16500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 17000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 17500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 18000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 18500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 19000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 19500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 20000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 20500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 21000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 21500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 22000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 22500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 23000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 23500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 24000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 24500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 25000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 25500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 26000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 26500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 27000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 27500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 28000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 28500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 29000 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 29500 | 84.9 | 87.9 | 87.1 | 90.9  | 94.0  | 95.2  | 97.8  | 101.9 | 106.5 | 108.2 | 106.5 | 98.7  | 93.7  | 147.6 |
| 30000 | 84.9 | 87.9 |      |       |       |       |       |       |       |       |       |       |       |       |

DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0206 X0206F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|   |       |          |           |       |             |          |       |          |           |         |              |            |       |
|---|-------|----------|-----------|-------|-------------|----------|-------|----------|-----------|---------|--------------|------------|-------|
| 200   | 90.0  | 91.6     | 88.0      | 90.4  | 89.4        | 88.2     | 87.7  | 90.2     | 95.4      | 100.6   | 105.7        | 109.8      | 142.4 |
| 250   | 90.0  | 91.6     | 88.0      | 90.4  | 90.7        | 89.5     | 89.1  | 90.9     | 97.4      | 104.6   | 109.3        | 111.1      | 144.7 |
| 315   | 90.0  | 91.6     | 88.0      | 90.4  | 90.7        | 89.5     | 89.1  | 90.9     | 97.4      | 104.6   | 109.3        | 111.1      | 144.7 |
| 400   | 91.2  | 91.9     | 88.7      | 90.5  | 91.2        | 89.1     | 89.8  | 91.5     | 100.7     | 109.3   | 114.0        | 114.2      | 148.3 |
| 500   | 91.7  | 92.5     | 89.2      | 91.6  | 92.7        | 91.0     | 91.3  | 94.1     | 102.8     | 112.5   | 115.1        | 114.5      | 149.4 |
| 630   | 93.4  | 94.0     | 90.6      | 92.7  | 94.2        | 93.2     | 93.1  | 96.3     | 105.6     | 114.9   | 117.0        | 114.5      | 151.0 |
| 800   | 95.0  | 95.8     | 92.4      | 94.6  | 95.9        | 94.5     | 95.0  | 98.1     | 107.7     | 116.5   | 118.5        | 115.2      | 152.5 |
| 1000  | 97.4  | 96.4     | 93.8      | 96.6  | 97.0        | 96.1     | 96.6  | 100.5    | 109.7     | 117.6   | 119.9        | 114.3      | 153.6 |
| 1250  | 99.3  | 98.0     | 95.0      | 98.0  | 100.7       | 98.8     | 98.0  | 101.9    | 110.7     | 117.6   | 120.1        | 114.2      | 153.8 |
| 1600  | 100.6 | 103.4    | 100.3     | 101.7 | 100.6       | 99.8     | 100.0 | 103.5    | 111.7     | 118.3   | 120.0        | 115.3      | 154.3 |
| 2000  | 102.5 | 101.6    | 99.0      | 100.6 | 101.1       | 100.4    | 101.4 | 104.8    | 111.7     | 118.6   | 119.3        | 114.6      | 154.1 |
| 2500  | 102.8 | 103.2    | 101.3     | 103.0 | 100.8       | 101.1    | 105.2 | 113.6    | 117.8     | 118.3   | 114.7        | 115.8      | 153.8 |
| 3150  | 104.0 | 104.1    | 101.8     | 103.9 | 104.2       | 102.8    | 102.3 | 105.8    | 113.6     | 118.2   | 117.0        | 113.1      | 153.6 |
| 4000  | 103.8 | 103.7    | 101.9     | 104.5 | 103.4       | 102.7    | 103.5 | 107.8    | 112.9     | 115.7   | 115.6        | 112.3      | 152.4 |
| 5000  | 102.3 | 102.5    | 100.8     | 103.2 | 102.8       | 102.2    | 103.6 | 106.8    | 113.0     | 115.5   | 114.6        | 111.0      | 152.0 |
| 6300  | 101.2 | 101.3    | 99.2      | 102.2 | 102.8       | 102.4    | 103.5 | 107.5    | 112.7     | 114.2   | 113.5        | 108.8      | 151.4 |
| 8000  | 101.5 | 103.0    | 100.5     | 101.9 | 102.5       | 102.0    | 101.9 | 105.9    | 111.5     | 113.5   | 112.4        | 108.4      | 150.9 |
| 10000   | 101.0 | 101.0    | 99.0      | 101.3 | 102.1       | 101.5    | 102.2 | 105.8    | 109.7     | 111.6   | 110.8        | 106.8      | 150.0 |
| 12500   | 99.4  | 100.7    | 98.5      | 100.4 | 101.1       | 100.5    | 104.1 | 108.6    | 109.9     | 108.6   | 104.1        | 106.5      | 149.2 |
| 16000   | 97.1  | 97.6     | 95.9      | 98.4  | 98.6        | 98.2     | 99.2  | 102.0    | 105.9     | 108.2   | 106.9        | 101.3      | 148.4 |
| 20000   | 93.6  | 95.4     | 93.2      | 95.4  | 95.9        | 96.1     | 96.4  | 99.4     | 103.3     | 105.8   | 102.5        | 100.0      | 147.4 |
| 25000   | 90.3  | 91.9     | 89.6      | 92.2  | 93.2        | 93.6     | 93.5  | 96.7     | 100.9     | 104.5   | 101.1        | 96.4       | 147.6 |
| 31500   | 86.1  | 86.9     | 87.6      | 89.5  | 89.5        | 89.4     | 89.4  | 93.1     | 98.9      | 104.2   | 99.7         | 93.2       | 149.1 |
| 40000   | 80.6  | 82.6     | 80.7      | 83.2  | 85.5        | 84.8     | 85.1  | 89.1     | 95.6      | 100.2   | 96.9         | 88.5       | 149.3 |
| 50000   | 75.8  | 77.2     | 76.7      | 78.2  | 79.9        | 80.0     | 79.9  | 84.1     | 92.6      | 98.7    | 93.7         | 83.9       | 151.2 |
| 63000   | 69.5  | 71.2     | 70.9      | 71.2  | 73.8        | 73.8     | 73.7  | 78.3     | 90.2      | 99.4    | 92.5         | 78.5       | 156.2 |
| 80000   | 63.8  | 66.2     | 67.3      | 64.5  | 66.8        | 66.3     | 66.9  | 71.9     | 80.4      | 89.5    | 82.7         | 68.6       | 153.3 |
| GASPL   | 112.9 | 113.4    | 111.0     | 113.1 | 113.4       | 112.6    | 113.0 | 116.7    | 123.2     | 128.1   | 129.2        | 125.5      | 126.0 |
| DBA   | 185.8 | 187.9    | 188.6     | 187.1 | 189.4       | 189.1    | 189.4 | 194.1    | 203.7     | 212.7   | 206.0        | 192.5      | 187.1 |
| PWL   | 125.7 | 127.1    | 124.6     | 125.9 | 126.0       | 124.8    | 125.3 | 129.2    | 135.7     | 140.4   | 140.6        | 137.1      | 138.0 |
| FNLI  | 125.7 | 123.6    | 125.9     | 126.0 | 124.8       | 125.3    | 129.2 | 135.7    | 140.4     | 140.4   | 140.6        | 137.1      | 138.0 |
| FNFRAMB   | =     | LBS XNLR | =         | RPM   | XNHR        | =        | RPM   | V8       | =         | FPS AEB | =            | 20.4 SQ IN | =     |
| FNINI   | =     | LBS XNL  | =         | RPM   | XNH         | =        | RPM   | V8       | =         | FPS AEB | =            | 20.4 SQ IN | =     |
| TEST DATE   | =     | 03-16-82 | TEST AREA | =     | FULL SPHERE | EXT DIST | =     | 40.0 FT  | EXT CNFIG | =       | ARC          | MIKE HT    | =     |
| VEHICL  | =     | ADH717   | VEGA      | =     | NO          | WIND VEL | =     | MPH      | LOCAT     | =       | C41 ANECH CH | CNFIG      | =     |
| IAPLHA  | =     | SB59     | RELHUM    | =     | 39.5 PCT    | FLTVEL   | =     | 400. FPS | MODEL     | =       | AX           | PAMB HG    | =     |
| WIND DIR  | =     | DEG      | RELHUM    | =     | 39.5 PCT    | FLTVEL   | =     | 400. FPS | MODEL     | =       | AX           | PAMB HG    | =     |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |       |          |           |       |             |          |       |          |           |         |              |            |       |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000         |       |          |           |       |             |          |       |          |           |         |              |            |       |
| FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00      |       |          |           |       |             |          |       |          |           |         |              |            |       |
| REFR CORR YES, TURB CORR YES                        |       |          |           |       |             |          |       |          |           |         |              |            |       |
| RPT   |       |          |           |       |             |          |       |          |           |         |              |            |       |

ORIGINAL PAGE IS  
OF POOR QUALITY



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0206 X02061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

70.1 72.4 70.3 72.8 73.9 71.9 72.4 73.8 82.2 89.8 93.0 90.9 85.0 166.6

63 70.6 72.9 70.7 73.8 75.3 73.8 74.0 76.3 84.3 92.9 94.0 91.1 84.7 167.8

80 72.2 74.4 72.1 74.9 76.8 76.0 75.7 78.5 87.1 95.3 95.8 91.1 85.9 169.4

100 73.7 76.1 73.8 76.8 78.5 77.2 77.5 80.3 89.1 96.9 97.3 91.7 86.7 170.9

125 76.0 76.7 73.1 78.7 79.5 78.8 79.1 82.5 91.1 97.8 98.5 90.6 88.9 172.0

160 77.8 78.5 76.5 79.9 83.0 81.3 80.4 83.9 91.9 97.6 98.5 90.3 88.3 172.2

200 78.8 83.3 81.3 83.5 82.8 82.2 82.2 85.3 92.7 98.2 98.2 91.1 88.4 172.7

250 80.4 81.2 79.8 82.1 83.1 82.5 83.5 86.3 92.5 98.2 97.2 90.0 87.5 172.5

315 80.3 82.4 80.7 82.6 84.7 82.7 82.9 86.5 94.1 97.0 95.7 89.5 86.4 172.2

400 81.0 82.9 81.9 84.8 85.7 84.4 83.8 86.8 93.7 97.0 93.9 87.3 84.1 171.9

500 80.3 82.2 81.7 85.2 84.5 84.0 84.6 88.5 92.7 94.2 92.1 85.8 81.6 170.8

600 78.3 80.6 80.3 83.6 83.7 83.3 84.5 87.2 92.4 93.6 90.6 83.8 80.2 170.4

800 76.7 79.0 78.3 82.3 83.5 83.3 84.1 87.7 91.9 91.9 89.0 80.9 78.3 169.8

1000 75.6 80.4 79.4 81.8 83.0 82.7 82.4 85.9 90.4 90.9 87.5 79.8 75.6 169.2

1250 75.6 78.0 77.8 81.1 82.5 82.1 82.6 85.6 88.4 88.7 85.3 77.5 72.6 168.4

1600 73.1 77.1 76.8 79.9 81.2 80.8 80.6 83.5 86.9 86.3 82.3 73.4 67.9 167.6

2000 69.8 73.5 73.9 77.5 78.5 78.3 79.2 81.2 83.8 84.1 79.7 69.0 61.5 166.8

2500 64.5 70.0 70.2 73.9 75.3 75.7 77.9 80.3 80.4 73.4 64.9 54.5 165.8

3150 57.8 64.1 64.7 69.2 71.2 72.0 71.5 73.7 76.1 76.7 68.7 56.2 41.1 166.0

4000 47.4 54.4 57.2 61.3 64.5 64.6 64.4 66.8 70.2 71.7 61.0 44.2 23.1 167.5

5000 32.2 42.6 45.8 51.5 55.6 55.3 55.1 57.4 60.7 60.7 48.5 25.7 167.7

6300 9.5 22.9 29.7 35.6 39.8 40.7 39.8 41.6 45.6 44.4 27.5 174.5

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0207 X0207C

BACKGROUND 0000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PML

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.2  | 83.5  | 83.7  | 82.0  | 83.6  | 80.5  | 84.6  | 86.5  | 89.5  | 95.3  | 95.2  | 95.4  | 94.5  | 131.9 |
| 63    | 87.2  | 85.8  | 91.0  | 90.1  | 91.4  | 89.0  | 91.7  | 92.4  | 93.5  | 98.6  | 98.7  | 98.4  | 97.8  | 135.9 |
| 80    | 89.5  | 93.8  | 88.6  | 90.6  | 91.0  | 91.6  | 91.5  | 92.4  | 94.6  | 93.2  | 97.3  | 98.0  | 99.4  | 135.6 |
| 100   | 88.3  | 93.6  | 88.9  | 93.2  | 94.0  | 92.6  | 93.0  | 96.2  | 96.6  | 96.7  | 98.3  | 102.3 | 103.2 | 138.2 |
| 125   | 85.6  | 88.6  | 90.2  | 92.7  | 93.8  | 93.2  | 92.5  | 93.7  | 95.9  | 97.5  | 104.6 | 106.0 | 107.7 | 140.9 |
| 160   | 84.8  | 84.1  | 87.6  | 88.6  | 89.0  | 89.6  | 89.6  | 91.0  | 92.4  | 95.1  | 99.7  | 104.8 | 110.4 | 141.9 |
| 200   | 86.8  | 87.3  | 86.6  | 90.4  | 92.0  | 92.1  | 92.2  | 95.9  | 100.3 | 101.9 | 107.3 | 110.7 | 112.6 | 144.7 |
| 250   | 87.0  | 90.6  | 89.1  | 92.1  | 91.7  | 92.6  | 94.2  | 97.9  | 101.1 | 107.9 | 112.5 | 114.7 | 114.4 | 148.3 |
| 315   | 87.6  | 90.1  | 88.1  | 91.4  | 93.8  | 94.1  | 94.3  | 97.9  | 103.9 | 110.7 | 115.1 | 116.3 | 116.7 | 150.4 |
| 400   | 89.3  | 91.6  | 89.6  | 92.7  | 93.8  | 93.1  | 96.5  | 98.4  | 105.9 | 113.7 | 117.8 | 118.0 | 115.9 | 152.3 |
| 500   | 89.9  | 92.5  | 89.7  | 93.0  | 94.9  | 95.5  | 96.4  | 100.8 | 107.5 | 115.8 | 119.4 | 118.1 | 115.5 | 153.4 |
| 630   | 92.0  | 94.3  | 91.9  | 95.1  | 96.2  | 96.9  | 98.2  | 102.6 | 109.6 | 118.9 | 120.6 | 118.5 | 115.6 | 154.8 |
| 800   | 96.4  | 95.5  | 97.3  | 97.9  | 98.5  | 99.9  | 104.0 | 112.5 | 120.8 | 121.7 | 118.4 | 116.5 | 115.1 | 156.1 |
| 1000  | 102.4 | 103.7 | 98.8  | 101.0 | 100.4 | 99.7  | 101.1 | 105.5 | 114.0 | 122.6 | 122.0 | 118.9 | 115.8 | 157.1 |
| 1250  | 99.2  | 104.2 | 101.8 | 104.1 | 102.3 | 102.9 | 107.3 | 115.0 | 122.1 | 122.5 | 117.9 | 114.9 | 114.9 | 157.1 |
| 1600  | 100.0 | 99.5  | 98.3  | 100.8 | 102.2 | 101.8 | 103.1 | 108.4 | 115.5 | 121.6 | 121.7 | 116.9 | 113.7 | 156.6 |
| 2000  | 101.9 | 102.3 | 99.7  | 100.8 | 102.2 | 102.1 | 104.3 | 108.3 | 115.7 | 122.0 | 120.5 | 115.3 | 111.6 | 156.3 |
| 2500  | 101.1 | 101.2 | 100.0 | 102.2 | 102.6 | 102.4 | 103.9 | 109.0 | 115.4 | 121.9 | 119.4 | 114.5 | 110.2 | 155.9 |
| 3150  | 100.5 | 101.8 | 99.6  | 102.4 | 102.7 | 103.3 | 104.6 | 109.1 | 115.9 | 120.8 | 118.0 | 112.9 | 109.2 | 155.1 |
| 4000  | 99.0  | 100.0 | 98.5  | 101.3 | 102.4 | 102.9 | 105.0 | 110.6 | 115.2 | 119.9 | 117.8 | 115.6 | 110.7 | 154.5 |
| 5000  | 97.5  | 98.8  | 97.8  | 100.3 | 102.0 | 102.5 | 104.6 | 109.2 | 113.9 | 117.8 | 115.6 | 110.7 | 106.4 | 153.0 |
| 6300  | 95.9  | 98.2  | 97.1  | 99.8  | 102.0 | 103.0 | 104.3 | 109.7 | 113.7 | 117.3 | 114.9 | 109.4 | 105.4 | 152.8 |
| 8000  | 93.9  | 97.1  | 95.6  | 99.0  | 101.2 | 102.0 | 103.7 | 108.1 | 112.8 | 115.4 | 113.4 | 107.3 | 102.2 | 151.7 |
| 10000 | 93.5  | 96.6  | 95.6  | 99.3  | 101.0 | 101.5 | 103.3 | 107.5 | 111.2 | 115.3 | 112.7 | 106.2 | 102.2 | 151.6 |
| 12500 | 91.5  | 94.0  | 93.8  | 97.3  | 100.0 | 100.0 | 101.6 | 105.5 | 108.9 | 113.4 | 110.3 | 104.0 | 100.5 | 150.4 |
| 16000 | 88.6  | 91.6  | 90.8  | 95.1  | 97.7  | 98.4  | 100.2 | 103.8 | 108.0 | 110.7 | 108.5 | 102.2 | 97.4  | 149.7 |
| 20000 | 85.7  | 89.0  | 88.1  | 92.1  | 95.3  | 96.1  | 97.2  | 101.1 | 104.8 | 109.5 | 106.4 | 99.0  | 93.6  | 149.4 |
| 25000 | 82.1  | 85.3  | 85.6  | 88.6  | 92.7  | 93.3  | 94.7  | 98.6  | 102.3 | 105.9 | 100.8 | 96.2  | 88.9  | 148.3 |
| 31500 | 78.4  | 81.7  | 81.7  | 84.8  | 88.3  | 89.2  | 90.9  | 95.5  | 99.2  | 104.6 | 98.9  | 93.5  | 84.8  | 149.2 |
| 40000 | 73.7  | 77.0  | 77.4  | 80.1  | 84.6  | 85.5  | 87.3  | 91.4  | 95.9  | 102.4 | 96.4  | 89.5  | 80.9  | 150.5 |
| 50000 | 68.7  | 72.5  | 71.9  | 75.1  | 79.5  | 80.5  | 81.7  | 86.4  | 92.6  | 97.9  | 93.0  | 83.7  | 74.2  | 150.7 |
| 63000 | 62.5  | 67.9  | 66.7  | 69.5  | 73.8  | 75.0  | 76.2  | 81.2  | 88.4  | 93.5  | 88.6  | 79.3  | 69.5  | 151.6 |
| 80000 | 57.5  | 62.7  | 62.5  | 62.9  | 67.8  | 68.6  | 69.8  | 77.1  | 82.5  | 89.2  | 83.0  | 74.2  | 64.5  | 153.5 |
| GASPL | 110.6 | 112.1 | 110.0 | 112.6 | 113.7 | 113.8 | 115.3 | 119.9 | 125.8 | 131.9 | 131.5 | 128.4 | 126.2 | 167.8 |
| PNL   | 123.4 | 124.8 | 122.9 | 125.6 | 126.4 | 126.7 | 128.3 | 133.1 | 138.7 | 144.1 | 142.9 | 139.0 | 136.0 |       |
| PMLT  | 125.0 | 127.1 | 124.0 | 126.6 | 126.4 | 126.7 | 128.3 | 133.6 | 138.7 | 144.1 | 143.4 | 139.0 | 136.0 |       |
| DBA   | 110.9 | 112.2 | 110.0 | 112.5 | 113.4 | 113.4 | 115.0 | 119.8 | 126.0 | 132.0 | 131.2 | 127.3 | 124.4 |       |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH724 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2377.8 FPS AEB = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SQ IN  
 CORR FAN SPEED = RPM

TEST PT NO = 0207

NC = AE041

AX = 0207C

ORIGINAL PAGE IS  
OF POOR QUALITY





DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0208  
BACKGROUND X79F400B0400 X05400 X0208C

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PNL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.6  | 84.2  | 80.7  | 84.1  | 81.4  | 78.8  | 82.7  | 86.1  | 88.6  | 100.5 | 96.4  | 94.7  | 95.2  | 134.0 |
| 63    | 86.8  | 87.6  | 89.4  | 91.0  | 89.0  | 85.6  | 89.8  | 88.2  | 91.4  | 100.8 | 99.2  | 94.6  | 96.3  | 135.8 |
| 80    | 88.3  | 93.0  | 85.8  | 90.2  | 90.0  | 90.8  | 90.2  | 93.8  | 94.0  | 97.9  | 95.7  | 100.2 | 102.0 | 136.5 |
| 100   | 87.7  | 92.3  | 85.9  | 90.0  | 90.9  | 90.2  | 90.6  | 93.8  | 94.0  | 97.9  | 95.7  | 100.2 | 102.0 | 136.5 |
| 125   | 85.8  | 87.1  | 86.5  | 90.6  | 91.5  | 91.1  | 90.7  | 91.9  | 93.1  | 98.4  | 104.5 | 106.1 | 139.1 |       |
| 150   | 84.2  | 81.4  | 84.7  | 86.3  | 86.6  | 85.9  | 86.8  | 89.3  | 91.5  | 100.1 | 102.3 | 105.2 | 140.0 |       |
| 200   | 84.4  | 84.2  | 83.2  | 86.2  | 87.6  | 87.5  | 88.3  | 92.6  | 96.8  | 99.6  | 103.3 | 107.7 | 141.8 |       |
| 250   | 83.2  | 86.2  | 83.9  | 87.3  | 87.8  | 88.7  | 89.9  | 94.1  | 96.6  | 104.4 | 108.5 | 112.0 | 145.2 |       |
| 315   | 84.0  | 85.8  | 83.8  | 87.6  | 88.9  | 89.1  | 90.2  | 93.4  | 99.4  | 106.7 | 111.1 | 113.3 | 146.8 |       |
| 400   | 85.3  | 87.3  | 84.8  | 88.6  | 89.7  | 89.3  | 91.0  | 94.6  | 100.6 | 108.9 | 113.8 | 114.8 | 148.3 |       |
| 500   | 85.9  | 87.7  | 85.7  | 89.8  | 91.3  | 91.4  | 91.8  | 96.8  | 102.7 | 112.1 | 116.0 | 115.1 | 149.7 |       |
| 630   | 87.8  | 89.8  | 87.8  | 91.4  | 92.5  | 92.6  | 94.2  | 98.6  | 105.1 | 115.2 | 117.8 | 114.7 | 151.3 |       |
| 800   | 90.4  | 90.0  | 89.5  | 93.0  | 94.1  | 94.5  | 95.9  | 100.5 | 107.8 | 117.3 | 119.2 | 113.6 | 152.6 |       |
| 1000  | 94.5  | 95.0  | 92.3  | 96.0  | 95.9  | 96.0  | 97.6  | 103.1 | 110.0 | 119.1 | 120.5 | 113.1 | 154.0 |       |
| 1250  | 94.0  | 98.3  | 96.3  | 98.6  | 98.9  | 98.0  | 98.9  | 103.8 | 111.0 | 120.1 | 120.5 | 112.2 | 154.5 |       |
| 1500  | 95.0  | 95.8  | 94.6  | 97.6  | 98.9  | 99.0  | 100.6 | 105.2 | 112.1 | 119.4 | 120.8 | 112.2 | 154.4 |       |
| 2000  | 95.9  | 97.3  | 95.5  | 97.4  | 98.9  | 99.1  | 101.5 | 106.4 | 113.0 | 120.5 | 120.5 | 112.1 | 154.9 |       |
| 2500  | 95.6  | 97.7  | 96.5  | 99.2  | 99.3  | 98.9  | 100.9 | 106.7 | 112.4 | 120.1 | 118.7 | 111.0 | 154.1 |       |
| 3150  | 94.5  | 96.3  | 95.3  | 98.3  | 99.9  | 100.0 | 107.1 | 113.2 | 119.0 | 117.5 | 116.1 | 109.4 | 152.7 |       |
| 4000  | 93.2  | 94.7  | 94.0  | 97.8  | 98.8  | 98.8  | 102.2 | 108.0 | 112.6 | 118.3 | 116.1 | 109.4 | 152.7 |       |
| 5000  | 92.1  | 94.0  | 93.0  | 96.2  | 98.4  | 98.9  | 101.5 | 106.8 | 112.1 | 116.2 | 114.8 | 107.8 | 151.3 |       |
| 6300  | 91.3  | 94.2  | 92.7  | 95.9  | 97.8  | 99.6  | 101.3 | 107.0 | 112.0 | 115.1 | 113.7 | 106.7 | 150.8 |       |
| 8000  | 91.1  | 92.8  | 91.6  | 94.9  | 97.4  | 98.8  | 100.2 | 105.8 | 110.0 | 113.3 | 110.8 | 103.0 | 149.7 |       |
| 10000 | 88.9  | 91.9  | 91.6  | 95.6  | 97.6  | 98.2  | 100.6 | 105.8 | 110.0 | 113.3 | 110.8 | 103.0 | 149.7 |       |
| 12500 | 87.4  | 89.1  | 89.4  | 92.7  | 96.2  | 96.4  | 98.5  | 103.2 | 107.7 | 110.9 | 108.4 | 101.5 | 148.1 |       |
| 15000 | 84.6  | 86.5  | 86.2  | 90.3  | 93.4  | 94.4  | 96.9  | 101.6 | 108.2 | 105.9 | 98.4  | 93.2  | 147.2 |       |
| 20000 | 80.8  | 83.2  | 82.6  | 86.9  | 87.1  | 89.2  | 91.4  | 95.2  | 99.7  | 101.6 | 98.7  | 93.0  | 144.8 |       |
| 25000 | 77.1  | 79.2  | 80.2  | 83.5  | 83.3  | 84.6  | 87.4  | 91.5  | 96.4  | 100.2 | 96.3  | 89.0  | 145.4 |       |
| 31500 | 72.6  | 75.6  | 75.9  | 79.3  | 83.3  | 83.3  | 84.6  | 87.4  | 91.5  | 96.4  | 100.2 | 96.3  | 145.4 |       |
| 40000 | 68.3  | 71.5  | 72.2  | 74.8  | 79.5  | 80.9  | 83.0  | 88.6  | 94.0  | 98.8  | 94.7  | 84.7  | 147.5 |       |
| 50000 | 63.6  | 66.8  | 67.3  | 70.4  | 74.5  | 76.5  | 78.2  | 83.5  | 91.2  | 96.4  | 91.5  | 80.6  | 149.1 |       |
| 63000 | 60.8  | 64.5  | 62.3  | 65.6  | 70.6  | 71.8  | 73.7  | 80.5  | 88.4  | 95.4  | 90.5  | 76.3  | 152.9 |       |
| 80000 | 60.4  | 64.1  | 61.7  | 62.4  | 66.2  | 66.0  | 67.9  | 75.7  | 86.3  | 95.5  | 87.7  | 72.1  | 159.0 |       |
| DBA   | 105.1 | 107.0 | 105.6 | 108.5 | 109.7 | 110.0 | 112.0 | 117.3 | 123.1 | 129.9 | 129.9 | 123.2 | 117.3 |       |
| PNL   | 118.2 | 120.1 | 118.7 | 121.8 | 123.1 | 123.8 | 125.2 | 130.5 | 135.9 | 142.1 | 141.6 | 135.6 | 130.6 |       |
| GASPL | 105.2 | 107.1 | 105.6 | 108.7 | 110.0 | 110.3 | 112.2 | 117.4 | 123.0 | 129.6 | 129.6 | 124.6 | 120.8 | 166.2 |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH716 TEST DATE = 03-16-82  
IAPLHA = SB59 LEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
LOCAT = C41 ANECH CH CONFIG = 2  
PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
TAMB F = 73.00 EXT CONFIG = ARC  
MODEL = AX  
PAMB HG = 29.25  
RELHUM = 65.6 PCT  
FLTVL = 400 FPS  
NBFR =

FNINI = LBS XNL RPM XNH XNHR =  
FNRAMB = LBS XNLR RPM XNH XNHR =  
TEST PT NO = 0208 NC = AE039  
CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0208 X0208F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ

63

50

100

125

150

200

250

315

400

500

630

800

1000

1250

1500

2000

2500

3150

4000

5000

6300

8000

CGT

ONE-WELL PAGE PRINTING SYSTEM - P188-02

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 90.1  | 92.0  | 88.4  | 90.3  | 89.3  | 88.7  | 88.0  | 90.5  | 95.9  | 102.3 | 106.2 | 108.8 | 110.6 | 143.0 |
| 250   | 90.1  | 92.0  | 88.4  | 90.3  | 89.3  | 88.8  | 88.8  | 90.6  | 97.5  | 105.0 | 109.4 | 111.2 | 110.6 | 144.9 |
| 315   | 90.1  | 92.0  | 88.7  | 91.0  | 89.3  | 89.6  | 89.9  | 92.1  | 101.2 | 110.1 | 114.0 | 114.5 | 112.2 | 148.5 |
| 400   | 91.5  | 92.1  | 88.7  | 91.0  | 89.3  | 91.4  | 89.6  | 89.9  | 92.1  | 101.2 | 110.1 | 114.0 | 114.5 | 148.5 |
| 500   | 93.0  | 93.0  | 89.3  | 91.8  | 89.3  | 91.8  | 91.1  | 95.1  | 103.2 | 112.9 | 115.9 | 114.9 | 111.9 | 150.0 |
| 630   | 93.6  | 94.1  | 90.7  | 93.2  | 94.4  | 93.0  | 93.3  | 96.5  | 106.1 | 115.4 | 117.7 | 115.0 | 113.4 | 151.7 |
| 800   | 95.1  | 96.0  | 92.7  | 94.8  | 96.2  | 95.0  | 95.0  | 98.4  | 108.7 | 117.5 | 119.5 | 115.6 | 114.6 | 153.4 |
| 1000  | 98.0  | 96.3  | 94.5  | 96.6  | 96.6  | 96.8  | 101.9 | 111.2 | 118.3 | 120.3 | 115.2 | 116.0 | 115.4 | 154.3 |
| 1250  | 99.6  | 99.5  | 95.9  | 98.7  | 101.0 | 98.8  | 98.3  | 101.9 | 111.2 | 118.3 | 120.3 | 115.2 | 116.0 | 154.3 |
| 1500  | 100.2 | 103.7 | 100.6 | 101.9 | 101.4 | 100.1 | 100.2 | 103.5 | 112.3 | 119.5 | 120.1 | 115.1 | 115.4 | 154.7 |
| 2000  | 102.6 | 102.6 | 102.3 | 99.8  | 101.4 | 100.3 | 101.4 | 104.9 | 112.1 | 119.7 | 118.8 | 114.6 | 116.2 | 154.5 |
| 2500  | 102.3 | 103.0 | 101.0 | 102.2 | 101.0 | 102.5 | 101.1 | 105.7 | 113.5 | 119.1 | 118.3 | 114.5 | 116.1 | 154.3 |
| 3150  | 102.6 | 103.9 | 101.6 | 103.3 | 103.2 | 102.0 | 102.5 | 106.5 | 113.6 | 118.9 | 117.2 | 113.9 | 115.4 | 154.0 |
| 4000  | 102.1 | 103.0 | 100.9 | 102.7 | 102.5 | 102.4 | 103.0 | 107.0 | 113.1 | 115.9 | 115.0 | 111.4 | 113.1 | 152.2 |
| 5000  | 100.7 | 101.4 | 99.7  | 102.4 | 102.4 | 102.6 | 102.8 | 107.2 | 112.4 | 114.8 | 113.5 | 108.6 | 111.4 | 151.3 |
| 6300  | 99.6  | 101.1 | 98.8  | 101.1 | 102.4 | 102.6 | 102.8 | 107.2 | 112.4 | 114.8 | 113.5 | 108.6 | 111.4 | 151.3 |
| 8000  | 101.4 | 103.1 | 100.1 | 101.7 | 102.0 | 101.8 | 101.7 | 105.9 | 111.2 | 114.2 | 112.1 | 107.6 | 110.3 | 150.9 |
| 10000 | 101.1 | 101.4 | 99.0  | 100.6 | 102.2 | 101.2 | 102.1 | 105.9 | 109.3 | 112.1 | 110.0 | 106.3 | 108.3 | 149.9 |
| 12500 | 98.6  | 100.3 | 98.6  | 101.0 | 100.8 | 99.4  | 100.0 | 103.2 | 108.1 | 109.8 | 107.9 | 103.7 | 105.8 | 148.8 |
| 15000 | 96.6  | 97.0  | 95.8  | 97.5  | 98.0  | 97.4  | 98.4  | 101.6 | 105.3 | 108.4 | 104.6 | 100.6 | 102.2 | 147.8 |
| 20000 | 93.3  | 93.9  | 92.2  | 94.8  | 95.1  | 95.0  | 95.7  | 98.4  | 102.7 | 104.2 | 101.7 | 99.2  | 100.1 | 146.4 |
| 25000 | 88.9  | 90.1  | 88.0  | 90.8  | 91.7  | 92.2  | 92.9  | 95.2  | 100.1 | 103.4 | 99.9  | 95.6  | 95.0  | 145.5 |
| 31500 | 84.5  | 85.3  | 84.8  | 86.6  | 87.9  | 87.6  | 88.8  | 91.5  | 98.5  | 102.9 | 99.1  | 92.1  | 91.6  | 148.0 |
| 40000 | 79.1  | 80.8  | 79.7  | 81.5  | 84.1  | 83.9  | 84.4  | 88.6  | 96.2  | 100.9 | 96.3  | 88.4  | 86.7  | 149.6 |
| 50000 | 74.4  | 76.4  | 75.6  | 76.6  | 79.1  | 79.5  | 79.6  | 83.5  | 94.3  | 100.8 | 96.2  | 85.0  | 81.9  | 153.1 |
| 63000 | 68.7  | 70.7  | 69.7  | 70.9  | 75.2  | 74.8  | 75.2  | 80.5  | 93.6  | 102.4 | 94.9  | 82.3  | 78.1  | 159.1 |
| 80000 | 64.5  | 66.9  | 63.2  | 65.0  | 70.2  | 69.0  | 69.4  | 75.6  | 83.8  | 92.6  | 85.1  | 72.5  | 68.3  | 156.3 |
| GASPL | 112.3 | 113.2 | 110.8 | 112.6 | 113.1 | 112.3 | 112.8 | 116.7 | 123.2 | 129.0 | 129.3 | 125.8 | 126.2 | 166.7 |
| PNL   | 124.8 | 125.8 | 123.4 | 125.4 | 124.6 | 125.2 | 129.4 | 135.7 | 141.2 | 140.7 | 137.3 | 138.4 |       |       |
| DBA   | 186.0 | 188.3 | 185.5 | 187.0 | 191.8 | 190.9 | 191.2 | 197.1 | 207.0 | 215.6 | 208.3 | 195.9 | 191.9 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH716 TEST DATE = 03-16-82  
 IAPLHA = SB59 IEGA = NG  
 WIND DIR = DEG WIND VEL = MPH  
 LOCAT = C41 ANECH CH CNFIG = 2  
 PML AREA = FULL SPHERE TAMB F = 73.00  
 CNFIG = AX MODEL = 2  
 FLTVL = 400. FPS  
 RELHUM = 65.6 PCT  
 NBFR =

FNINI = LBS XNL RPM XNH XNHR = = =  
 FNRAMB = LBS XNLR RPM XNH XNHR = = =  
 AEB8 = 2394.5 FPS AE18 = 20.4 SQ IN  
 AE18 = 20.4 SQ IN

400-0208 TAPE = X0208F TEST PT NO = 020F NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0208 X02081

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| PWL   | 70.5 | 72.6 | 70.2 | 73.2 | 74.1 | 72.4 | 72.5 | 74.3 | 82.7 | 90.5 | 92.9 | 91.3 | 85.5 |
| 50    | 70.5 | 72.6 | 70.2 | 73.2 | 74.1 | 72.4 | 72.5 | 74.3 | 82.7 | 90.5 | 92.9 | 91.3 | 85.5 |
| 50    | 70.8 | 73.5 | 70.8 | 74.0 | 75.9 | 74.5 | 73.8 | 77.3 | 84.7 | 93.4 | 94.7 | 91.6 | 85.2 |
| 63    | 70.8 | 73.5 | 70.8 | 74.0 | 75.9 | 74.5 | 73.8 | 77.3 | 84.7 | 93.4 | 94.7 | 91.6 | 85.2 |
| 80    | 72.4 | 74.2 | 72.2 | 75.4 | 77.0 | 75.7 | 75.9 | 78.7 | 87.6 | 95.8 | 96.6 | 91.6 | 86.7 |
| 100   | 73.9 | 76.3 | 74.1 | 76.9 | 78.7 | 77.7 | 77.5 | 80.5 | 90.1 | 97.8 | 98.3 | 92.1 | 87.6 |
| 125   | 76.6 | 76.6 | 75.8 | 78.6 | 80.1 | 79.3 | 79.3 | 83.0 | 91.2 | 98.9 | 98.3 | 91.1 | 88.4 |
| 150   | 78.0 | 79.5 | 77.1 | 80.7 | 83.3 | 81.3 | 80.6 | 83.8 | 92.4 | 98.4 | 98.8 | 91.3 | 88.5 |
| 200   | 78.4 | 83.6 | 83.7 | 83.6 | 82.5 | 85.3 | 83.3 | 85.3 | 93.3 | 99.4 | 98.3 | 90.9 | 87.4 |
| 250   | 80.4 | 81.9 | 80.6 | 83.0 | 83.5 | 83.4 | 86.4 | 92.9 | 99.3 | 99.7 | 90.0 | 87.6 | 86.6 |
| 315   | 79.8 | 82.3 | 80.7 | 82.3 | 83.9 | 82.4 | 87.0 | 94.0 | 98.4 | 95.8 | 89.3 | 86.6 | 86.6 |
| 400   | 79.6 | 82.7 | 81.8 | 84.2 | 84.6 | 83.6 | 84.0 | 87.5 | 93.7 | 97.8 | 94.2 | 88.1 | 85.0 |
| 500   | 78.6 | 81.4 | 80.7 | 83.4 | 83.7 | 84.6 | 88.7 | 92.8 | 95.3 | 92.4 | 85.9 | 82.2 | 82.2 |
| 630   | 76.7 | 79.5 | 79.2 | 82.8 | 83.4 | 82.9 | 87.4 | 92.5 | 93.9 | 91.0 | 84.2 | 80.6 | 80.6 |
| 800   | 75.1 | 78.4 | 78.0 | 81.2 | 83.1 | 83.4 | 83.5 | 87.3 | 91.5 | 92.5 | 89.0 | 80.7 | 77.8 |
| 1000  | 76.4 | 80.5 | 79.0 | 81.7 | 82.6 | 82.4 | 82.2 | 85.8 | 90.2 | 91.6 | 87.2 | 79.0 | 75.5 |
| 1250  | 75.6 | 78.5 | 77.7 | 80.4 | 82.6 | 81.7 | 82.5 | 85.7 | 88.0 | 89.1 | 84.6 | 77.0 | 72.1 |
| 1500  | 72.3 | 76.7 | 76.9 | 80.5 | 80.9 | 79.7 | 80.0 | 82.7 | 86.4 | 86.2 | 81.6 | 73.0 | 67.2 |
| 1600  | 72.3 | 76.7 | 76.9 | 80.5 | 80.9 | 79.7 | 80.0 | 82.7 | 86.4 | 86.2 | 81.6 | 73.0 | 67.2 |
| 2000  | 69.3 | 72.9 | 73.7 | 76.7 | 77.9 | 77.5 | 78.3 | 80.8 | 83.2 | 84.3 | 77.3 | 68.3 | 60.6 |
| 2500  | 64.3 | 68.6 | 69.2 | 73.3 | 74.4 | 74.6 | 75.1 | 76.9 | 79.7 | 78.9 | 72.7 | 64.1 | 53.6 |
| 3150  | 56.5 | 62.3 | 63.2 | 67.7 | 69.7 | 70.6 | 70.8 | 72.2 | 75.2 | 75.6 | 67.4 | 55.4 | 40.1 |
| 4000  | 45.8 | 52.7 | 56.1 | 60.3 | 62.9 | 63.1 | 63.8 | 65.2 | 69.8 | 70.3 | 60.4 | 43.0 | 22.2 |
| 5000  | 30.6 | 40.7 | 44.8 | 49.8 | 54.1 | 54.4 | 54.4 | 56.9 | 61.3 | 60.8 | 47.9 | 25.7 |      |
| 6300  | 8.2  | 22.0 | 28.6 | 34.1 | 39.0 | 40.2 | 39.5 | 41.0 | 47.4 | 46.5 | 30.0 |      |      |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 15000 |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 174.6 |      |      |      |      |      |      |      |      |      |      |      |      |      |

ORIGINAL PRESSURE  
OF POOR QUALITY

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9  
 NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH716 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 LEGA = NG EXT DIST = 2400.0 FT PML AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT  
 WIND DIR = DEG WIND VEL = MPH WIND VEL = NG  
 FNINI = LBS XNLR = RPM XNH = RPM V8 = 2394.5 FPS AEB = 20.4 SQ IN  
 FNFRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2394.5 FPS AE18 = 0. SQ IN  
 RUNPT = 82F-400-0208 TAPE = X02081 TEST PT NO = 0208 NC = AE039 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0211 X0211C

BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.2  | 83.0  | 81.7  | 84.3  | 84.4  | 80.7  | 82.9  | 84.8  | 88.0  | 94.3  | 94.4  | 94.4  | 94.8  | 131.2 |
| 63    | 88.0  | 86.5  | 90.5  | 92.3  | 91.4  | 89.0  | 92.4  | 87.6  | 92.3  | 97.6  | 97.5  | 97.2  | 97.6  | 135.3 |
| 80    | 89.8  | 89.3  | 88.6  | 91.1  | 91.2  | 92.1  | 91.5  | 92.9  | 95.6  | 92.2  | 96.8  | 98.5  | 99.4  | 135.8 |
| 100   | 88.6  | 93.8  | 89.1  | 92.9  | 93.7  | 92.9  | 93.2  | 96.2  | 96.1  | 96.7  | 98.3  | 102.3 | 103.2 | 138.2 |
| 125   | 85.9  | 88.1  | 89.9  | 92.9  | 93.8  | 93.2  | 92.5  | 94.2  | 95.9  | 97.7  | 104.9 | 106.5 | 107.7 | 141.1 |
| 150   | 84.3  | 87.3  | 89.1  | 93.2  | 93.8  | 93.2  | 92.5  | 94.2  | 95.9  | 97.7  | 104.9 | 106.5 | 107.7 | 141.1 |
| 160   | 85.3  | 84.3  | 87.6  | 89.2  | 89.8  | 91.0  | 92.6  | 95.3  | 100.4 | 105.5 | 107.7 | 110.6 | 112.4 | 142.4 |
| 200   | 87.5  | 87.6  | 86.8  | 90.6  | 92.0  | 92.3  | 92.2  | 95.9  | 100.6 | 102.7 | 107.8 | 111.5 | 113.1 | 145.2 |
| 250   | 87.0  | 91.1  | 89.6  | 92.1  | 92.2  | 92.6  | 94.5  | 98.1  | 101.3 | 107.7 | 112.8 | 115.2 | 114.6 | 148.6 |
| 315   | 87.8  | 90.4  | 88.4  | 91.9  | 94.0  | 94.1  | 94.8  | 97.9  | 104.1 | 110.7 | 115.1 | 116.3 | 116.7 | 150.4 |
| 400   | 89.1  | 91.4  | 89.4  | 92.7  | 94.5  | 93.4  | 96.3  | 98.4  | 105.6 | 113.4 | 117.6 | 117.8 | 115.7 | 152.0 |
| 500   | 89.9  | 92.7  | 90.2  | 93.8  | 95.1  | 95.5  | 96.6  | 100.8 | 107.7 | 116.1 | 119.4 | 118.1 | 115.3 | 153.4 |
| 630   | 92.5  | 94.3  | 92.4  | 95.4  | 96.5  | 96.9  | 98.7  | 102.4 | 110.1 | 119.4 | 120.6 | 118.5 | 115.9 | 155.0 |
| 800   | 96.2  | 95.5  | 94.2  | 97.5  | 98.1  | 98.5  | 99.9  | 104.0 | 112.0 | 121.1 | 118.4 | 116.5 | 115.2 | 156.2 |
| 1000  | 101.9 | 103.5 | 99.5  | 101.3 | 100.6 | 99.7  | 101.6 | 105.8 | 113.5 | 122.6 | 121.7 | 118.6 | 115.3 | 156.9 |
| 1250  | 99.2  | 104.2 | 102.5 | 104.6 | 104.4 | 102.3 | 102.9 | 107.1 | 114.8 | 122.8 | 122.0 | 117.6 | 114.7 | 157.2 |
| 1600  | 100.0 | 99.5  | 99.3  | 101.1 | 102.4 | 102.3 | 103.4 | 107.4 | 115.5 | 121.9 | 121.5 | 116.2 | 113.2 | 156.5 |
| 2000  | 101.4 | 102.3 | 99.7  | 101.8 | 102.4 | 102.8 | 104.3 | 108.8 | 115.5 | 122.2 | 120.5 | 115.1 | 111.1 | 156.3 |
| 2500  | 100.6 | 101.4 | 100.0 | 102.5 | 103.1 | 102.2 | 103.9 | 109.2 | 114.9 | 122.4 | 118.9 | 113.2 | 110.0 | 155.9 |
| 3150  | 100.0 | 101.6 | 99.8  | 102.4 | 103.4 | 103.5 | 104.6 | 109.4 | 115.4 | 121.0 | 117.8 | 112.2 | 108.2 | 155.1 |
| 4000  | 98.3  | 99.8  | 98.3  | 101.6 | 102.6 | 102.6 | 104.7 | 110.6 | 114.4 | 120.4 | 116.9 | 110.7 | 106.9 | 154.5 |
| 5000  | 96.7  | 99.3  | 97.3  | 100.1 | 102.3 | 102.5 | 104.9 | 109.4 | 113.7 | 118.6 | 115.4 | 109.4 | 105.4 | 153.2 |
| 6300  | 95.9  | 98.2  | 97.3  | 100.1 | 102.0 | 103.2 | 104.3 | 109.4 | 113.7 | 118.1 | 114.6 | 108.1 | 104.4 | 153.0 |
| 8000  | 94.9  | 97.6  | 96.1  | 99.7  | 101.7 | 102.3 | 103.5 | 108.3 | 111.4 | 116.3 | 112.0 | 106.4 | 101.2 | 152.1 |
| 10000 | 93.5  | 96.1  | 95.8  | 99.8  | 102.0 | 102.3 | 103.8 | 108.3 | 111.4 | 116.3 | 112.0 | 106.4 | 101.2 | 152.1 |
| 12500 | 91.5  | 94.0  | 93.8  | 97.3  | 100.0 | 100.5 | 102.1 | 105.5 | 109.6 | 114.4 | 110.3 | 104.8 | 99.0  | 151.0 |
| 15000 | 87.8  | 91.3  | 90.8  | 94.6  | 97.7  | 99.1  | 100.2 | 103.8 | 108.2 | 111.9 | 108.5 | 101.9 | 96.2  | 150.3 |
| 16000 | 87.8  | 91.3  | 90.8  | 94.6  | 97.7  | 99.1  | 100.2 | 103.8 | 108.2 | 111.9 | 108.5 | 101.9 | 96.2  | 150.3 |
| 20000 | 85.2  | 88.7  | 88.4  | 91.8  | 95.6  | 96.3  | 97.7  | 101.8 | 105.5 | 110.2 | 105.9 | 99.3  | 93.3  | 149.9 |
| 25000 | 81.6  | 84.8  | 84.8  | 92.4  | 93.5  | 95.2  | 98.8  | 102.8 | 106.6 | 106.6 | 101.8 | 96.0  | 88.7  | 148.8 |
| 31500 | 77.9  | 81.9  | 81.5  | 84.8  | 88.6  | 89.4  | 91.2  | 95.3  | 99.7  | 105.1 | 99.9  | 93.0  | 84.0  | 149.7 |
| 40000 | 72.9  | 76.7  | 77.6  | 80.1  | 84.8  | 86.0  | 87.5  | 92.2  | 95.9  | 102.9 | 96.7  | 89.0  | 79.4  | 150.9 |
| 50000 | 68.0  | 72.2  | 71.7  | 74.4  | 79.0  | 81.0  | 82.8  | 86.9  | 92.8  | 99.6  | 93.5  | 84.2  | 74.5  | 151.8 |
| 63000 | 62.5  | 67.6  | 66.7  | 69.0  | 73.6  | 75.5  | 76.9  | 82.4  | 88.4  | 95.3  | 88.9  | 79.1  | 69.2  | 152.7 |
| 80000 | 57.2  | 63.0  | 63.0  | 65.0  | 67.3  | 69.3  | 71.1  | 77.1  | 84.2  | 89.4  | 84.0  | 74.2  | 61.0  | 154.1 |
| GASPL | 110.2 | 112.1 | 110.3 | 112.9 | 114.0 | 114.0 | 115.4 | 119.9 | 125.6 | 132.3 | 131.3 | 128.1 | 126.0 | 167.9 |
| PWL   | 123.1 | 124.8 | 123.1 | 125.8 | 126.9 | 126.9 | 128.2 | 133.1 | 138.4 | 144.6 | 142.6 | 138.3 | 135.6 |       |
| PMLT  | 124.5 | 127.0 | 124.2 | 126.9 | 126.9 | 126.9 | 128.2 | 133.1 | 138.4 | 144.6 | 142.6 | 138.3 | 135.6 |       |
| DBA   | 110.5 | 112.2 | 110.4 | 112.8 | 113.7 | 113.6 | 115.0 | 119.8 | 125.7 | 132.4 | 131.0 | 126.9 | 124.1 |       |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NA53-22514

VEHICL = ADH725 TEST DATE = 03-17-82 L0CAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FININI = LBS XNL RPM XNH RPM = V8 = 2398.0 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM = V18 = 2398.0 FPS AE18 = 0. SQ IN

RUNPT = 07 ZER-0211 TAPE = X0211C TEST PT NO = 0211 NC = AE041 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0211 X0211F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.                                       | 50.                  | 60.               | 70.        | 80.            | 90.              | 100.       | 110.                   | 120.           | 130.            | 140.              | 150.            | 160.               |                    |                  |           |        |
|---|---|----------------------|-------------------|------------|----------------|------------------|------------|------------------------|----------------|-----------------|-------------------|-----------------|--------------------|--------------------|------------------|-----------|--------|
| 50  | 84.2                                      | 83.0                 | 81.7              | 84.3       | 84.4           | 80.7             | 82.9       | 84.8                   | 88.0           | 94.3            | 94.4              | 94.4            | 131.2              |                    |                  |           |        |
| 63  | 88.0                                      | 86.5                 | 90.5              | 92.3       | 91.4           | 89.0             | 92.4       | 87.6                   | 92.3           | 97.6            | 97.2              | 97.6            | 135.3              |                    |                  |           |        |
| 80  | 89.8                                      | 89.3                 | 88.6              | 91.1       | 91.2           | 92.1             | 91.5       | 92.9                   | 95.6           | 92.2            | 96.8              | 98.5            | 135.8              |                    |                  |           |        |
| 100   | 88.6                                      | 89.3                 | 88.1              | 89.9       | 93.7           | 92.9             | 93.2       | 93.2                   | 96.1           | 96.7            | 98.3              | 102.3           | 138.2              |                    |                  |           |        |
| 125   | 85.9                                      | 88.1                 | 89.9              | 92.9       | 93.8           | 93.2             | 92.5       | 94.2                   | 95.9           | 97.7            | 104.9             | 106.5           | 141.1              |                    |                  |           |        |
| 150   | 85.3                                      | 84.3                 | 87.6              | 89.1       | 89.2           | 89.8             | 91.0       | 92.6                   | 95.3           | 100.4           | 105.5             | 107.7           | 142.4              |                    |                  |           |        |
| 200   | 87.5                                      | 87.6                 | 86.8              | 90.6       | 92.0           | 92.3             | 92.2       | 95.9                   | 100.6          | 102.7           | 107.8             | 111.5           | 145.2              |                    |                  |           |        |
| 250   | 87.0                                      | 87.1                 | 89.6              | 92.1       | 92.2           | 92.6             | 94.5       | 98.1                   | 101.3          | 107.7           | 112.8             | 115.2           | 148.6              |                    |                  |           |        |
| 315   | 87.8                                      | 90.4                 | 88.4              | 91.9       | 94.0           | 94.1             | 94.8       | 97.9                   | 104.1          | 110.7           | 116.3             | 116.7           | 150.4              |                    |                  |           |        |
| 400   | 89.1                                      | 91.4                 | 89.4              | 92.7       | 94.5           | 93.4             | 96.3       | 98.4                   | 105.6          | 113.4           | 117.6             | 117.8           | 152.0              |                    |                  |           |        |
| 500   | 89.9                                      | 91.4                 | 89.4              | 92.7       | 94.5           | 93.4             | 96.3       | 98.4                   | 105.6          | 113.4           | 117.6             | 117.8           | 153.4              |                    |                  |           |        |
| 630   | 92.5                                      | 94.3                 | 92.4              | 95.4       | 96.5           | 96.9             | 98.7       | 102.4                  | 110.1          | 119.4           | 120.6             | 118.5           | 155.0              |                    |                  |           |        |
| 800   | 95.5                                      | 94.2                 | 97.5              | 98.1       | 98.5           | 99.9             | 104.0      | 112.0                  | 121.1          | 121.7           | 118.4             | 116.5           | 156.2              |                    |                  |           |        |
| 1000  | 101.9                                     | 103.5                | 99.5              | 101.3      | 100.6          | 99.7             | 101.6      | 105.8                  | 113.5          | 122.6           | 121.7             | 118.6           | 156.9              |                    |                  |           |        |
| 1250  | 99.2                                      | 104.2                | 102.5             | 104.6      | 104.4          | 102.3            | 102.9      | 107.1                  | 114.8          | 122.8           | 122.0             | 117.6           | 157.2              |                    |                  |           |        |
| 1500  | 100.0                                     | 99.5                 | 101.1             | 102.4      | 102.4          | 103.4            | 103.4      | 107.4                  | 115.5          | 122.2           | 120.5             | 115.1           | 156.3              |                    |                  |           |        |
| 1600  | 100.0                                     | 99.5                 | 101.1             | 102.4      | 102.4          | 103.4            | 103.4      | 107.4                  | 115.5          | 122.2           | 120.5             | 115.1           | 156.3              |                    |                  |           |        |
| 2000  | 101.4                                     | 101.8                | 102.4             | 102.4      | 102.4          | 103.4            | 103.4      | 107.4                  | 115.5          | 122.2           | 120.5             | 115.1           | 156.3              |                    |                  |           |        |
| 2500  | 100.6                                     | 101.4                | 100.0             | 102.5      | 103.1          | 102.2            | 103.9      | 109.2                  | 114.9          | 122.4           | 118.9             | 113.2           | 155.9              |                    |                  |           |        |
| 3150  | 100.0                                     | 101.6                | 99.8              | 102.4      | 103.4          | 103.5            | 104.6      | 109.4                  | 115.4          | 121.0           | 117.8             | 112.2           | 155.1              |                    |                  |           |        |
| 4000  | 98.3                                      | 99.8                 | 98.8              | 101.6      | 102.6          | 103.5            | 104.9      | 109.4                  | 113.7          | 118.6           | 115.4             | 109.4           | 153.2              |                    |                  |           |        |
| 5000  | 96.7                                      | 99.3                 | 97.3              | 100.1      | 102.3          | 102.5            | 104.9      | 109.4                  | 113.7          | 118.6           | 115.4             | 109.4           | 153.2              |                    |                  |           |        |
| 6300  | 95.9                                      | 98.2                 | 97.3              | 100.1      | 102.0          | 103.2            | 104.3      | 109.4                  | 113.7          | 118.1           | 114.6             | 108.1           | 153.0              |                    |                  |           |        |
| 8000  | 94.9                                      | 97.6                 | 96.1              | 99.7       | 101.7          | 102.3            | 103.5      | 107.8                  | 112.8          | 116.6           | 112.0             | 106.4           | 152.1              |                    |                  |           |        |
| 10000   | 93.5                                      | 95.8                 | 95.8              | 99.8       | 102.3          | 103.8            | 108.3      | 111.4                  | 116.3          | 112.0           | 106.4             | 101.2           | 152.1              |                    |                  |           |        |
| 12500   | 91.5                                      | 94.0                 | 93.8              | 97.3       | 100.0          | 100.5            | 105.5      | 109.6                  | 114.4          | 110.3           | 104.8             | 99.0            | 151.0              |                    |                  |           |        |
| 15000   | 87.8                                      | 91.3                 | 90.8              | 94.6       | 97.7           | 99.1             | 100.2      | 103.8                  | 108.2          | 111.9           | 108.5             | 101.9           | 150.3              |                    |                  |           |        |
| 20000   | 85.2                                      | 88.4                 | 88.3              | 91.8       | 95.6           | 97.7             | 101.8      | 105.5                  | 110.2          | 105.9           | 99.3              | 93.1            | 149.9              |                    |                  |           |        |
| 25000   | 81.6                                      | 84.8                 | 85.3              | 88.6       | 92.4           | 93.5             | 95.2       | 98.8                   | 102.8          | 106.6           | 101.8             | 96.0            | 148.8              |                    |                  |           |        |
| 31500   | 77.9                                      | 81.9                 | 81.5              | 84.8       | 88.6           | 89.4             | 91.2       | 95.3                   | 99.7           | 105.1           | 99.9              | 93.0            | 149.7              |                    |                  |           |        |
| 40000   | 72.9                                      | 76.7                 | 77.6              | 80.1       | 84.8           | 86.0             | 87.5       | 92.2                   | 95.9           | 102.9           | 96.7              | 79.4            | 150.9              |                    |                  |           |        |
| 50000   | 68.0                                      | 72.2                 | 71.7              | 74.4       | 79.0           | 81.0             | 82.2       | 86.9                   | 92.8           | 99.6            | 93.5              | 84.2            | 151.8              |                    |                  |           |        |
| 63000   | 62.5                                      | 67.6                 | 66.7              | 69.0       | 73.6           | 75.5             | 76.9       | 82.4                   | 88.4           | 95.3            | 88.9              | 79.1            | 152.7              |                    |                  |           |        |
| 80000   | 57.2                                      | 63.0                 | 63.0              | 63.0       | 62.4           | 67.3             | 69.3       | 71.1                   | 77.1           | 84.2            | 84.0              | 74.2            | 154.1              |                    |                  |           |        |
| GASPL   | 110.2                                     | 112.1                | 110.3             | 112.9      | 114.0          | 114.0            | 115.4      | 119.9                  | 125.6          | 132.3           | 131.3             | 128.1           | 126.0              |                    |                  |           |        |
| PNL   | 123.1                                     | 124.8                | 123.1             | 125.8      | 126.9          | 126.9            | 128.2      | 133.1                  | 138.4          | 144.6           | 142.6             | 138.3           | 135.6              |                    |                  |           |        |
| PNLT  | 124.5                                     | 127.0                | 124.2             | 126.9      | 126.9          | 126.9            | 128.2      | 133.1                  | 138.4          | 144.6           | 142.6             | 138.3           | 135.6              |                    |                  |           |        |
| DBA   | 179.0                                     | 184.5                | 184.3             | 184.7      | 189.5          | 191.4            | 193.0      | 198.8                  | 205.5          | 211.2           | 205.5             | 195.8           | 184.0              |                    |                  |           |        |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000         | FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 |                      |                   |            |                |                  |            |                        |                |                 |                   |                 |                    |                    |                  |           |        |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |   |                      |                   |            |                |                  |            |                        |                |                 |                   |                 |                    |                    |                  |           |        |
| VEHCL = ADH725                                      | TEST DATE = 03-17-82                      | LOCAT = C41 ANECH CH | CONFIG = 2        | MODEL = AX | FLVEL = 0. FPS | IAPLHA = SB59    | LEGA, = NO | PML AREA = FULL SPHERE | TAMB F = 53.00 | PAMB HG = 29.55 | RELHUM = 69.7 PCT | WIND DIR = SB59 | DEG WIND VEL = MPH | EXT DIST = 40.0 FT | EXT CONFIG = ARC | MIKE HT = | NBFR = |
| FNINI =   | LBS XNL                                   | RPM                  | XNH               | RPM        | V8             | FPS              | AE8        | =                      | 20.4 SQ IN     |                 |                   |                 |                    |                    |                  |           |        |
| FNRAMB =  | LBS XNLR                                  | RPM                  | XNHR              | RPM        | V18            | FPS              | AE18       | =                      | 0. SQ IN       |                 |                   |                 |                    |                    |                  |           |        |
| RUNPT = 82F-ZER-0211                                | TAPE                                      | = X0211F             | TEST PT NO = 0211 | NC         | = AE041        | CORR FAN SPEED = | RPM        |                        |                |                 |                   |                 |                    |                    |                  |           |        |

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HONEYWELL PAGE PRINTING SYSTEM - P1189-02



DATPRG - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0212 X0212C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40           | 50             | 60       | 70           | 80           | 90       | 100         | 110              | 120       | 130        | 140      | 150      | 160        |       |
|---|--------------|----------------|----------|--------------|--------------|----------|-------------|------------------|-----------|------------|----------|----------|------------|-------|
| PWL   | 86.7         | 86.1           | 81.8     | 82.6         | 82.8         | 82.7     | 83.8        | 91.7             | 98.2      | 102.8      | 102.7    | 97.0     | 96.2       | 137.9 |
| 50  | 86.7         | 86.1           | 81.8     | 82.6         | 82.8         | 82.7     | 83.8        | 91.7             | 98.2      | 102.8      | 102.7    | 97.0     | 96.2       | 137.9 |
| 80  | 87.6         | 87.8           | 89.1     | 90.2         | 89.0         | 87.3     | 92.0        | 90.6             | 93.3      | 104.6      | 105.5    | 96.1     | 99.8       | 139.6 |
| 100   | 89.0         | 93.1           | 86.9     | 90.5         | 91.9         | 91.0     | 91.4        | 94.8             | 96.1      | 104.4      | 100.5    | 101.7    | 103.1      | 139.5 |
| 125   | 86.0         | 87.8           | 86.8     | 90.6         | 92.0         | 91.6     | 91.7        | 93.9             | 95.1      | 102.2      | 104.6    | 104.5    | 106.1      | 140.5 |
| 150   | 95.0         | 98.5           | 96.3     | 99.1         | 99.4         | 98.3     | 98.9        | 103.8            | 111.5     | 119.9      | 112.2    | 106.2    | 154.5      | 154.5 |
| 175   | 95.2         | 96.0           | 95.1     | 97.6         | 99.4         | 98.5     | 100.6       | 105.7            | 112.8     | 119.4      | 112.0    | 112.6    | 154.7      | 154.6 |
| 200   | 96.4         | 97.3           | 95.5     | 97.9         | 98.7         | 99.8     | 101.3       | 106.1            | 113.5     | 120.3      | 119.9    | 112.6    | 155.9      | 155.1 |
| 250   | 95.9         | 97.4           | 95.7     | 99.2         | 100.1        | 99.4     | 101.1       | 107.2            | 113.1     | 120.1      | 119.7    | 111.2    | 155.5      | 154.5 |
| 315   | 94.5         | 96.5           | 95.1     | 98.8         | 99.9         | 100.5    | 101.9       | 107.6            | 114.2     | 119.0      | 118.3    | 110.7    | 153.7      | 153.7 |
| 400   | 93.2         | 95.5           | 93.7     | 97.8         | 99.1         | 99.6     | 102.5       | 109.3            | 113.1     | 118.6      | 117.3    | 108.9    | 153.2      | 153.2 |
| 500   | 92.6         | 95.2           | 93.0     | 97.5         | 98.4         | 99.4     | 101.8       | 107.3            | 112.8     | 115.9      | 116.0    | 107.8    | 151.7      | 151.7 |
| 630   | 92.3         | 94.2           | 92.9     | 96.4         | 98.6         | 99.8     | 101.3       | 108.0            | 112.8     | 115.9      | 115.0    | 106.7    | 151.6      | 151.6 |
| 800   | 91.9         | 93.3           | 92.3     | 95.7         | 97.7         | 99.0     | 100.2       | 106.3            | 111.7     | 114.1      | 114.1    | 105.1    | 150.6      | 150.6 |
| 1000  | 90.4         | 92.9           | 91.9     | 95.9         | 98.1         | 99.6     | 100.6       | 106.3            | 110.0     | 113.3      | 112.3    | 103.8    | 150.1      | 150.1 |
| 1250  | 87.9         | 89.6           | 89.6     | 94.2         | 96.4         | 97.4     | 98.7        | 103.9            | 108.7     | 110.9      | 109.6    | 102.0    | 148.7      | 148.7 |
| 1600  | 85.4         | 86.7           | 86.7     | 91.3         | 94.4         | 95.6     | 97.2        | 101.3            | 107.4     | 108.7      | 106.4    | 98.4     | 147.8      | 147.8 |
| 2000  | 81.3         | 84.2           | 83.1     | 87.4         | 91.2         | 92.5     | 94.1        | 98.7             | 104.0     | 106.9      | 103.4    | 93.5     | 147.0      | 147.0 |
| 2500  | 80.6         | 81.4           | 80.2     | 84.3         | 88.1         | 90.0     | 91.9        | 95.2             | 99.9      | 101.6      | 98.9     | 93.5     | 145.0      | 145.0 |
| 3150  | 74.4         | 77.6           | 75.6     | 79.8         | 84.8         | 85.4     | 86.9        | 91.5             | 96.6      | 99.9       | 96.6     | 89.2     | 145.5      | 145.5 |
| 4000  | 68.8         | 72.5           | 72.2     | 75.6         | 80.5         | 81.6     | 83.2        | 87.9             | 93.7      | 99.0       | 94.9     | 85.7     | 147.6      | 147.6 |
| 5000  | 65.1         | 67.1           | 66.2     | 70.0         | 74.7         | 77.2     | 78.4        | 83.3             | 89.4      | 96.4       | 91.3     | 81.4     | 149.1      | 149.1 |
| 6300  | 61.8         | 64.8           | 62.6     | 65.6         | 72.4         | 72.0     | 77.2        | 79.3             | 89.4      | 96.4       | 89.7     | 77.3     | 153.6      | 153.6 |
| 8000  | 60.1         | 63.9           | 62.5     | 61.6         | 68.7         | 66.5     | 72.2        | 76.2             | 86.0      | 98.0       | 88.2     | 71.8     | 161.0      | 161.0 |
| QASPL   | 105.7        | 107.6          | 105.6    | 109.1        | 110.4        | 110.8    | 112.4       | 118.0            | 123.6     | 129.6      | 130.3    | 124.7    | 121.0      | 166.9 |
| PWL   | 118.6        | 120.4          | 118.6    | 122.2        | 123.4        | 123.8    | 125.5       | 131.4            | 137.2     | 142.3      | 142.6    | 136.0    | 131.1      | 131.1 |
| PWLT  | 118.6        | 120.4          | 118.6    | 122.2        | 123.4        | 123.8    | 125.5       | 131.4            | 137.2     | 142.3      | 142.6    | 136.0    | 131.1      | 131.1 |
| DBA   | 105.6        | 107.3          | 105.5    | 108.9        | 110.0        | 110.3    | 112.0       | 117.8            | 123.7     | 129.9      | 130.4    | 123.4    | 117.6      | 117.6 |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |              |                |          |              |              |          |             |                  |           |            |          |          |            |       |
| VEHICL =  | ADH715       | TEST DATE =    | 03-16-82 | LOCAT =      | C41 ANECH CH | CONF16   | =           | 2                | MODEL =   | AX         | FLTVL =  | 400. FPS |            |       |
| IAPLHA =  | SB59         | LEGA =         | NO       | PWL AREA =   | FULL SPHERE  | TAMB F = | 73.00       | PAMB HG =        | 29.25     | RELHUM =   | 65.6 PCT |          |            |       |
| WIND DIR =  |              | DEG WIND VEL = |          | MPH          | EXT DIST =   | 40.0 FT  | EXT CNF16 = | ARC              | MIKE HT = |            | NBFR =   |          |            |       |
| FNIN1 =   | LBS XNL      | RPM            | XNH      | XNHR =       |              |          |             | V8               | =         | 2410.0 FPS | AEB      | =        | 20.4 SO IN |       |
| FNRAMB =  | LBS XNL      | RPM            | XNHR =   |              |              |          |             | V8               | =         | 2410.0 FPS | AEB      | =        | 20.4 SO IN |       |
| RUNPT =   | 82F-400-0212 | TAPE =         | X0212C   | TEST PT NO = | 0212         | NC =     | AE039       | CORR FAN SPEED = |           |            |          |          |            |       |

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0212 X02121

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150.  | 160.  |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50   | 70.8 | 74.7 | 70.1 | 73.7 | 75.2 | 73.1 | 73.2 | 76.6 | 83.2 | 90.5 | 93.3 | 91.4  | 86.0  |
| 63   | 71.7 | 74.9 | 71.4 | 76.5 | 76.6 | 75.3 | 74.8 | 78.1 | 84.9 | 93.5 | 94.9 | 91.3  | 85.1  |
| 80   | 73.4 | 75.3 | 72.9 | 77.2 | 77.2 | 76.4 | 79.4 | 88.1 | 95.8 | 96.9 | 91.9 | 86.9  | 170.3 |
| 100  | 73.9 | 77.2 | 74.3 | 77.7 | 78.7 | 77.9 | 77.5 | 80.6 | 90.2 | 97.9 | 97.9 | 88.0  | 171.8 |
| 125  | 76.7 | 77.0 | 75.6 | 79.0 | 80.5 | 79.8 | 79.6 | 83.1 | 91.8 | 98.8 | 98.7 | 91.3  | 172.5 |
| 160  | 78.6 | 79.8 | 76.9 | 80.3 | 83.8 | 81.6 | 80.7 | 83.9 | 93.2 | 98.4 | 99.0 | 91.6  | 172.9 |
| 200  | 79.3 | 83.8 | 81.7 | 84.1 | 84.1 | 81.9 | 82.5 | 85.8 | 93.9 | 99.3 | 99.0 | 91.7  | 173.6 |
| 250  | 80.4 | 81.9 | 80.9 | 82.9 | 83.2 | 83.2 | 83.2 | 86.3 | 93.7 | 99.3 | 97.8 | 90.3  | 173.3 |
| 315  | 80.4 | 82.3 | 80.8 | 82.8 | 84.8 | 82.9 | 83.1 | 87.5 | 95.0 | 98.4 | 96.6 | 89.9  | 173.1 |
| 400  | 80.5 | 82.9 | 81.3 | 84.4 | 84.6 | 84.1 | 84.0 | 88.0 | 94.2 | 98.0 | 95.5 | 87.6  | 172.9 |
| 500  | 78.6 | 81.7 | 80.4 | 83.9 | 84.0 | 83.5 | 84.8 | 89.9 | 93.6 | 95.1 | 93.8 | 86.0  | 171.7 |
| 630  | 76.7 | 80.3 | 79.0 | 82.8 | 83.4 | 84.2 | 84.2 | 87.9 | 93.2 | 94.5 | 92.0 | 83.9  | 171.1 |
| 800  | 75.6 | 78.0 | 82.4 | 83.8 | 83.6 | 83.5 | 88.2 | 92.1 | 92.6 | 91.0 | 82.0 | 79.4  | 170.6 |
| 1000 | 77.4 | 80.5 | 79.2 | 82.2 | 82.8 | 82.7 | 86.4 | 90.3 | 91.7 | 89.8 | 80.0 | 76.5  | 169.8 |
| 1250 | 76.4 | 79.0 | 78.2 | 81.1 | 82.5 | 82.5 | 86.2 | 89.0 | 89.1 | 85.8 | 77.5 | 72.3  | 168.8 |
| 1600 | 73.8 | 77.7 | 77.1 | 80.7 | 81.1 | 80.7 | 80.3 | 83.4 | 87.6 | 86.7 | 82.0 | 72.8  | 167.8 |
| 2000 | 69.8 | 73.4 | 74.0 | 78.2 | 78.6 | 78.6 | 80.5 | 84.2 | 84.6 | 78.3 | 68.8 | 60.8  | 166.7 |
| 2500 | 65.0 | 68.8 | 69.7 | 74.3 | 75.2 | 75.1 | 74.8 | 77.2 | 80.0 | 78.9 | 73.0 | 64.7  | 165.7 |
| 3150 | 57.0 | 63.3 | 63.7 | 68.2 | 70.7 | 71.3 | 71.3 | 72.2 | 75.5 | 75.4 | 67.7 | 55.7  | 165.0 |
| 4000 | 49.3 | 55.0 | 56.1 | 61.0 | 64.4 | 63.8 | 63.3 | 65.2 | 69.6 | 70.6 | 60.6 | 44.0  | 166.7 |
| 5000 | 32.4 | 42.7 | 44.5 | 50.3 | 55.1 | 52.2 | 54.6 | 56.1 | 61.5 | 60.8 | 47.6 | 26.4  | 168.0 |
| 6300 | 8.7  | 23.0 | 28.6 | 34.9 | 39.3 | 40.9 | 39.8 | 40.7 | 48.4 | 47.5 | 29.2 | 172.2 | 179.5 |
| 8000 |      | 0.4  | 9.1  | 18.8 | 17.9 | 20.5 | 17.5 | 25.1 | 25.1 | 25.7 |      | 176.6 |       |

ORIGINAL PAGE IS  
OF POOR QUALITY

80000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000

GASPL 89.5 92.2 90.7 93.8 94.7 94.0 94.1 98.0 104.0 108.4 107.8 101.5 97.9 186.0  
 PNL 95.1 98.3 97.4 101.0 101.9 101.4 101.3 104.8 109.9 113.1 111.0 103.6 100.0  
 PNLT 96.2 98.3 98.1 101.5 101.9 101.4 101.3 104.8 110.5 113.1 111.0 103.6 100.0  
 DBA 85.3 88.4 87.3 90.7 91.6 91.2 91.3 95.2 99.7 101.6 99.6 91.7 88.9

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH715 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNFIGN = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIGN = SL MIKE HT = NBFR

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2410.0 FPS AEB = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2410.0 FPS AEB = 20.4 SQ IN

RUNPT = 82F-400-0212 TAPE = X02121 TEST PT NO = 0212 NC = AE039 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0213 X0213C

BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

84.4 83.5 82.0 82.5 83.6 84.5 82.1 84.8 94.5 94.6 94.9 94.4 95.0 132.2

63 68.2 67.0 90.5 91.3 90.2 90.5 89.7 89.6 98.2 98.6 98.2 98.6 136.2

80 89.8 94.1 88.6 91.4 91.5 92.1 91.7 93.1 95.3 92.7 96.8 98.2 99.6 135.9

100 89.1 93.8 89.4 93.4 94.0 92.9 93.5 96.4 97.1 96.7 98.6 102.3 103.7 138.5

125 86.1 88.6 90.2 93.2 94.3 93.9 92.8 93.7 95.7 97.5 105.1 106.8 108.0 141.3

160 85.3 84.8 87.3 88.9 89.6 91.2 93.1 96.1 99.4 104.5 107.5 110.4 142.0

200 87.3 86.8 90.4 92.5 92.3 92.7 95.9 101.1 101.9 107.0 110.5 112.6 144.6

250 87.3 90.8 89.3 92.1 92.5 92.6 95.0 98.6 102.1 107.7 112.5 115.4 148.8

315 88.1 90.1 88.4 91.9 94.0 94.1 95.0 97.9 105.4 109.9 114.1 116.5 150.2

400 89.1 91.6 89.6 93.2 94.3 93.6 96.5 99.2 107.1 113.2 117.1 118.0 152.1

500 90.7 93.0 90.2 93.8 95.4 95.7 96.9 101.3 109.2 115.8 118.7 118.4 153.3

630 91.8 94.8 92.4 95.6 96.7 96.6 98.2 103.1 112.6 118.7 120.1 118.7 154.8

800 96.9 95.7 94.7 97.5 98.1 98.5 100.1 104.8 114.5 120.1 120.9 118.9 155.9

1000 101.7 103.5 98.8 100.8 100.6 100.6 101.6 106.8 116.0 121.6 121.7 119.6 116.0 156.9

1250 99.5 104.5 102.3 104.8 102.0 102.9 108.1 117.0 122.3 121.5 118.9 115.7 157.3

1600 101.2 100.0 99.5 101.8 102.9 102.0 104.1 108.7 118.0 121.1 121.2 117.2 156.7

2000 101.9 102.5 100.0 101.3 102.4 102.6 104.5 109.6 118.0 122.5 119.8 116.3 112.1 156.8

2500 100.9 101.9 100.5 103.0 103.3 102.7 104.4 110.5 117.4 122.1 117.9 115.0 110.5 156.1

3150 100.0 101.8 100.1 102.9 103.4 103.3 105.1 110.1 117.4 120.8 117.0 113.7 109.5 155.3

4000 99.3 100.3 98.8 102.1 103.4 103.4 105.0 111.1 116.4 120.4 115.6 111.9 107.4 154.8

5000 98.2 99.8 98.1 101.1 102.5 102.5 105.6 109.9 116.2 118.1 114.4 110.4 105.9 153.2

6300 96.7 98.9 97.8 100.6 102.5 103.5 104.8 110.2 114.7 117.3 113.6 108.9 104.9 152.9

8000 95.4 97.3 96.3 100.0 102.2 102.3 104.0 108.3 112.7 115.1 111.0 105.9 102.7 151.7

10000 93.8 97.1 95.8 99.8 102.0 102.3 104.0 108.6 114.0 115.6 112.4 106.8 103.7 152.0

12500 92.0 94.0 94.0 97.5 100.5 101.0 102.3 106.5 110.4 113.4 108.8 103.8 98.7 150.6

16000 88.8 91.3 91.6 95.1 98.2 98.9 100.5 104.3 109.7 111.7 106.7 101.7 96.9 150.3

20000 85.7 89.0 92.1 95.6 96.3 98.4 101.8 106.8 109.7 103.4 99.0 94.1 149.6

25000 82.1 86.1 85.8 89.1 92.2 93.5 95.7 99.0 103.6 107.1 100.6 95.7 89.4 149.2

31500 77.9 81.7 81.7 85.3 86.8 89.7 91.4 96.0 100.7 104.6 97.6 92.3 85.3 149.5

40000 73.9 77.0 78.1 80.6 84.6 85.7 87.5 92.7 98.4 102.1 95.4 88.5 79.9 150.8

50000 68.2 72.7 72.7 75.4 79.2 81.3 82.9 87.1 94.6 99.4 91.5 83.7 75.2 151.8

63000 62.5 67.9 66.4 69.5 73.8 75.5 77.2 82.2 89.9 95.3 86.9 78.8 70.0 152.8

80000 57.7 62.7 61.8 62.6 67.1 69.6 71.3 78.1 85.5 91.4 82.0 74.2 63.0 155.5

110.0 112.5 110.5 113.1 113.9 113.6 115.4 120.6 127.8 132.0 130.4 127.8 124.8

124.6 127.2 124.4 127.3 127.0 126.9 128.6 133.7 140.3 144.2 142.5 139.4 136.2

123.4 125.1 123.4 126.1 127.0 126.9 128.6 133.7 140.3 144.2 141.9 139.4 136.2

110.7 112.4 110.5 113.2 114.2 114.1 115.8 120.7 127.6 131.8 130.7 128.8 126.6 168.0

NASA SHOCK CELL/CIRCULAR C-D NGZ/AX/SC-2/NAS3-22514

VEHICL = ADH226 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CONFID = 2 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR RPM = V8 = 2416.6 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR RPM = XNHR XNHR RPM = V8 = 2416.6 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0213 TAPE = X0213C TEST PT NO = 0213 NC = AE041 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0213 X0213F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PML

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.4  | 83.5  | 82.0  | 82.5  | 83.6  | 84.5  | 82.1  | 84.8  | 94.5  | 94.6  | 94.9  | 94.4  | 95.0  | 132.2 |
| 63    | 88.2  | 87.0  | 90.5  | 91.3  | 90.2  | 90.5  | 89.7  | 89.6  | 98.0  | 97.4  | 98.5  | 98.2  | 98.6  | 136.2 |
| 80    | 89.8  | 89.1  | 88.6  | 91.4  | 91.5  | 92.1  | 91.7  | 93.1  | 95.3  | 92.7  | 96.8  | 99.6  | 135.9 |       |
| 100   | 89.1  | 89.8  | 89.4  | 93.4  | 94.0  | 92.9  | 93.5  | 96.4  | 97.1  | 96.7  | 98.6  | 102.3 | 103.7 | 138.5 |
| 125   | 86.1  | 88.6  | 90.2  | 93.2  | 94.3  | 93.9  | 92.8  | 93.7  | 95.7  | 97.5  | 105.1 | 106.8 | 108.0 | 141.3 |
| 160   | 85.3  | 84.8  | 87.3  | 88.9  | 89.2  | 89.6  | 89.6  | 91.2  | 93.1  | 96.1  | 99.4  | 104.5 | 110.4 | 142.0 |
| 200   | 87.3  | 87.3  | 86.6  | 90.4  | 92.5  | 92.7  | 95.9  | 101.1 | 101.9 | 101.1 | 101.9 | 107.0 | 112.6 | 144.6 |
| 250   | 87.3  | 90.8  | 89.3  | 92.1  | 92.5  | 92.6  | 98.6  | 98.6  | 102.1 | 107.7 | 112.5 | 115.5 | 115.4 | 148.8 |
| 315   | 88.1  | 90.1  | 88.4  | 91.9  | 94.0  | 94.1  | 95.0  | 97.9  | 105.4 | 109.9 | 114.1 | 116.5 | 116.7 | 150.2 |
| 400   | 89.1  | 91.6  | 89.6  | 93.2  | 94.3  | 93.6  | 96.5  | 99.2  | 107.1 | 113.2 | 117.1 | 118.0 | 116.7 | 152.1 |
| 500   | 90.7  | 93.0  | 90.2  | 93.8  | 95.4  | 95.7  | 96.9  | 101.3 | 109.2 | 115.8 | 118.7 | 118.4 | 115.8 | 153.3 |
| 630   | 91.8  | 94.8  | 92.4  | 95.6  | 96.7  | 96.6  | 98.2  | 103.1 | 112.6 | 118.7 | 120.1 | 118.7 | 115.9 | 154.8 |
| 800   | 96.9  | 93.5  | 94.7  | 97.5  | 98.1  | 98.5  | 100.1 | 104.8 | 114.5 | 120.1 | 118.9 | 117.3 | 115.9 | 155.9 |
| 1000  | 101.7 | 103.5 | 98.8  | 100.8 | 100.6 | 100.0 | 101.6 | 106.8 | 116.0 | 121.6 | 119.6 | 116.0 | 116.0 | 156.9 |
| 1250  | 99.5  | 104.5 | 102.3 | 104.8 | 103.6 | 102.0 | 102.9 | 108.1 | 117.0 | 122.3 | 118.9 | 115.7 | 115.7 | 157.3 |
| 1600  | 101.2 | 100.0 | 99.5  | 101.8 | 102.9 | 102.0 | 104.1 | 108.7 | 118.0 | 121.1 | 117.2 | 113.9 | 113.9 | 156.7 |
| 2000  | 101.9 | 102.3 | 100.0 | 101.3 | 102.4 | 102.6 | 104.5 | 108.0 | 122.5 | 119.8 | 116.3 | 112.1 | 115.8 | 156.8 |
| 2500  | 100.9 | 101.9 | 100.5 | 103.0 | 103.3 | 102.7 | 104.4 | 110.5 | 117.4 | 122.1 | 117.9 | 115.0 | 110.5 | 156.1 |
| 3150  | 100.0 | 101.8 | 100.1 | 102.9 | 103.4 | 103.3 | 105.1 | 110.1 | 117.4 | 120.8 | 117.0 | 113.7 | 109.5 | 155.3 |
| 4000  | 99.3  | 100.3 | 98.8  | 102.1 | 103.4 | 103.4 | 105.0 | 111.1 | 116.4 | 120.4 | 115.6 | 111.9 | 107.4 | 154.8 |
| 5000  | 98.2  | 99.8  | 98.1  | 101.1 | 102.5 | 102.5 | 105.6 | 109.9 | 115.2 | 118.1 | 114.4 | 110.4 | 105.9 | 153.2 |
| 6300  | 96.7  | 98.9  | 97.8  | 100.6 | 102.5 | 102.5 | 104.8 | 110.2 | 114.7 | 117.3 | 113.6 | 108.9 | 104.9 | 152.9 |
| 8000  | 95.4  | 97.3  | 96.3  | 100.0 | 102.2 | 102.3 | 104.0 | 108.6 | 114.0 | 115.6 | 112.4 | 106.8 | 103.7 | 152.0 |
| 10000 | 92.8  | 97.1  | 95.8  | 99.8  | 102.0 | 102.0 | 108.3 | 112.7 | 115.1 | 111.0 | 103.9 | 102.7 | 151.7 |       |
| 12500 | 92.0  | 94.0  | 94.0  | 97.5  | 100.5 | 101.0 | 102.3 | 106.5 | 110.4 | 113.4 | 108.6 | 103.8 | 98.7  | 150.6 |
| 16000 | 88.8  | 91.3  | 91.6  | 95.1  | 98.2  | 98.9  | 100.5 | 104.3 | 109.7 | 111.7 | 106.7 | 101.7 | 96.9  | 150.3 |
| 20000 | 85.7  | 89.0  | 88.6  | 92.1  | 95.6  | 96.3  | 98.4  | 101.8 | 106.8 | 109.7 | 103.4 | 99.0  | 94.1  | 149.6 |
| 25000 | 82.1  | 86.1  | 85.8  | 89.1  | 92.2  | 93.5  | 95.7  | 99.0  | 103.6 | 107.1 | 100.6 | 95.7  | 89.4  | 149.2 |
| 31500 | 77.9  | 81.7  | 81.7  | 85.3  | 88.8  | 89.7  | 91.4  | 96.0  | 100.7 | 104.6 | 97.6  | 92.3  | 85.3  | 149.5 |
| 40000 | 73.9  | 77.0  | 78.1  | 80.6  | 84.6  | 85.7  | 87.5  | 92.7  | 98.4  | 102.1 | 95.4  | 88.5  | 79.9  | 150.8 |
| 50000 | 68.2  | 72.7  | 72.2  | 75.4  | 79.2  | 81.3  | 82.9  | 87.2  | 94.6  | 99.4  | 91.5  | 83.7  | 75.2  | 151.8 |
| 63000 | 62.5  | 67.9  | 66.4  | 69.5  | 73.8  | 75.5  | 77.2  | 82.2  | 89.9  | 95.3  | 86.9  | 78.8  | 70.0  | 152.8 |
| 80000 | 57.7  | 62.7  | 61.8  | 62.6  | 67.1  | 69.6  | 71.3  | 78.1  | 85.5  | 91.4  | 82.0  | 74.2  | 63.0  | 155.5 |
| DBA   | 179.4 | 184.4 | 183.4 | 185.1 | 189.4 | 191.6 | 193.3 | 199.5 | 206.9 | 212.6 | 203.5 | 195.7 | 185.4 |       |
| PML   | 124.6 | 127.2 | 124.4 | 127.3 | 127.0 | 126.9 | 128.6 | 133.7 | 140.3 | 144.2 | 142.5 | 139.4 | 136.2 |       |
| PNL   | 123.4 | 125.1 | 123.4 | 126.1 | 127.0 | 126.9 | 128.6 | 133.7 | 140.3 | 144.2 | 141.9 | 139.4 | 136.2 |       |
| GASPL | 110.7 | 112.4 | 110.5 | 113.2 | 114.2 | 114.1 | 115.8 | 120.7 | 127.6 | 131.8 | 130.7 | 128.8 | 126.6 | 168.0 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH226 TEST DATE = 03-17-82  
IAPLHA = SB59 IEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 40.0 FT  
PWL AREA = FULL SPHERE  
TAMB F = 53.00  
EXT CNF1G = ARC  
MIKE HT = 29.55  
PAMB HG = 29.55  
RELHUM = 69.7 PCT  
NBFR =  
FLTVEL = 0. FPS  
MODEL = AX  
CONFI8 = 2

FNINI = LBS XNL RPM XNH RPM  
FNRMB = LBS XNL RPM XNH RPM  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 40.0 FT  
PWL AREA = FULL SPHERE  
TAMB F = 53.00  
EXT CNF1G = ARC  
MIKE HT = 29.55  
PAMB HG = 29.55  
RELHUM = 69.7 PCT  
NBFR =  
FLTVEL = 0. FPS  
MODEL = AX  
CONFI8 = 2

RUNPT = 82F-ZER-0213 TAPE = X0213F  
TEST PT NO = 0213 NC = AE041  
CORR FAN SPEED = RPM

HONEYWELL PAGE PRINTING SYSTEM - 21188-02

ORIGINAL PAGE IS  
OF POOR QUALITY





UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0214 X0214C  
 BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 86.4  | 85.0  | 82.8  | 83.4  | 82.8  | 79.7  | 84.4  | 87.9  | 89.9  | 96.5  | 96.9  | 95.2  | 95.2  |
| 50    | 86.4  | 85.0  | 82.8  | 83.4  | 82.8  | 79.7  | 84.4  | 87.9  | 89.9  | 96.5  | 96.9  | 95.2  | 95.2  |
| 63    | 87.1  | 87.1  | 88.6  | 88.4  | 87.9  | 85.0  | 90.6  | 89.8  | 93.0  | 97.1  | 97.7  | 96.8  | 96.9  |
| 80    | 89.1  | 93.0  | 86.9  | 90.2  | 90.3  | 91.6  | 90.8  | 91.4  | 94.0  | 91.3  | 94.9  | 97.1  | 99.6  |
| 100   | 88.2  | 92.8  | 86.7  | 90.3  | 91.6  | 90.8  | 91.4  | 94.1  | 94.0  | 96.2  | 101.2 | 102.6 | 136.5 |
| 125   | 85.5  | 87.3  | 86.8  | 90.8  | 92.0  | 91.6  | 91.0  | 92.4  | 93.6  | 94.4  | 101.8 | 105.0 | 139.3 |
| 160   | 83.9  | 81.6  | 85.5  | 86.5  | 86.6  | 86.7  | 87.8  | 89.3  | 92.0  | 96.6  | 102.8 | 105.5 | 140.2 |
| 200   | 84.6  | 84.2  | 83.7  | 86.0  | 87.8  | 88.2  | 88.6  | 92.8  | 97.3  | 97.6  | 103.3 | 108.2 | 142.0 |
| 250   | 83.2  | 86.5  | 84.5  | 87.8  | 88.1  | 89.2  | 90.4  | 94.6  | 96.8  | 102.9 | 108.5 | 112.5 | 145.3 |
| 315   | 83.8  | 85.8  | 84.0  | 87.9  | 89.4  | 90.1  | 90.7  | 94.1  | 99.6  | 106.2 | 111.3 | 113.7 | 147.2 |
| 400   | 85.8  | 86.8  | 85.1  | 88.9  | 90.5  | 89.8  | 91.5  | 94.9  | 101.1 | 108.7 | 114.1 | 114.8 | 148.5 |
| 500   | 86.9  | 86.8  | 86.2  | 89.0  | 91.6  | 91.7  | 92.8  | 96.8  | 103.0 | 111.8 | 116.5 | 115.6 | 150.1 |
| 630   | 88.8  | 89.8  | 88.1  | 91.6  | 93.2  | 93.6  | 94.2  | 98.9  | 105.1 | 115.7 | 118.6 | 115.2 | 151.9 |
| 800   | 90.7  | 90.7  | 93.5  | 94.6  | 94.7  | 96.1  | 100.8 | 108.0 | 118.3 | 120.0 | 114.6 | 106.0 | 153.4 |
| 1000  | 95.2  | 95.5  | 93.0  | 96.3  | 96.6  | 96.5  | 97.9  | 102.8 | 110.0 | 119.6 | 120.7 | 113.6 | 154.3 |
| 1250  | 95.0  | 99.3  | 97.5  | 99.8  | 100.2 | 98.5  | 99.4  | 104.3 | 111.5 | 120.4 | 120.5 | 112.4 | 154.7 |
| 1600  | 95.2  | 96.3  | 95.1  | 98.1  | 99.2  | 99.6  | 101.4 | 105.9 | 112.6 | 119.9 | 121.6 | 112.4 | 155.1 |
| 2000  | 96.7  | 97.6  | 95.2  | 97.6  | 99.2  | 99.6  | 101.5 | 106.9 | 113.5 | 120.6 | 119.2 | 111.0 | 155.2 |
| 2500  | 96.1  | 97.9  | 96.5  | 99.2  | 100.1 | 99.4  | 101.1 | 107.5 | 113.6 | 120.6 | 119.2 | 111.0 | 154.6 |
| 3150  | 95.2  | 96.8  | 95.3  | 98.8  | 99.9  | 100.7 | 101.9 | 107.6 | 113.9 | 118.3 | 118.0 | 110.4 | 153.3 |
| 4000  | 94.0  | 95.2  | 94.0  | 97.8  | 99.3  | 100.3 | 102.5 | 109.0 | 113.1 | 118.6 | 116.3 | 109.2 | 153.0 |
| 5000  | 93.4  | 95.0  | 93.2  | 96.2  | 98.7  | 99.6  | 101.8 | 107.3 | 112.6 | 115.9 | 115.3 | 107.8 | 151.4 |
| 6300  | 93.0  | 95.5  | 93.7  | 96.2  | 97.8  | 100.1 | 101.8 | 107.8 | 112.8 | 115.4 | 114.7 | 106.7 | 151.3 |
| 8000  | 92.6  | 94.3  | 92.3  | 95.9  | 98.2  | 99.0  | 100.4 | 106.3 | 111.7 | 113.3 | 111.6 | 104.8 | 150.2 |
| 10000 | 90.4  | 92.6  | 95.9  | 98.1  | 99.2  | 100.6 | 105.8 | 110.0 | 113.3 | 113.3 | 111.6 | 104.3 | 149.9 |
| 12500 | 88.2  | 89.9  | 89.9  | 93.7  | 96.4  | 98.2  | 104.4 | 108.0 | 111.2 | 108.9 | 102.2 | 96.5  | 148.6 |
| 16000 | 85.1  | 87.2  | 86.7  | 90.8  | 93.9  | 95.6  | 101.8 | 106.9 | 108.7 | 107.1 | 99.2  | 93.7  | 147.9 |
| 20000 | 81.8  | 84.7  | 83.4  | 87.2  | 91.2  | 93.2  | 94.8  | 99.7  | 103.8 | 106.1 | 104.2 | 96.2  | 146.9 |
| 25000 | 78.1  | 80.4  | 80.9  | 84.3  | 88.1  | 90.5  | 92.4  | 95.9  | 99.9  | 99.9  | 102.6 | 98.7  | 145.5 |
| 31500 | 73.6  | 76.8  | 76.8  | 76.1  | 80.0  | 83.8  | 85.9  | 87.9  | 92.7  | 96.6  | 100.7 | 96.6  | 145.9 |
| 40000 | 68.5  | 71.5  | 72.2  | 75.3  | 80.0  | 82.1  | 83.7  | 86.4  | 93.7  | 99.3  | 95.2  | 85.9  | 147.9 |
| 50000 | 64.1  | 67.1  | 66.5  | 69.5  | 74.2  | 77.2  | 78.4  | 84.5  | 91.0  | 96.9  | 92.5  | 81.1  | 149.5 |
| 63000 | 60.3  | 64.0  | 62.0  | 65.0  | 69.9  | 72.5  | 73.7  | 79.8  | 88.7  | 96.6  | 90.0  | 76.8  | 153.6 |
| 80000 | 59.9  | 63.1  | 62.3  | 61.1  | 64.7  | 66.3  | 68.2  | 75.4  | 86.5  | 97.7  | 87.7  | 71.3  | 160.8 |
| DBA   | 105.9 | 107.6 | 105.9 | 108.9 | 110.2 | 110.5 | 112.2 | 117.9 | 123.7 | 130.1 | 130.4 | 123.6 | 117.7 |
| PWL   | 118.9 | 121.7 | 120.1 | 122.1 | 123.4 | 123.9 | 125.5 | 131.2 | 136.5 | 142.3 | 142.1 | 136.0 | 131.0 |
| PNLT  | 118.9 | 121.7 | 120.1 | 122.1 | 123.4 | 123.9 | 125.5 | 131.2 | 136.5 | 142.3 | 142.1 | 136.0 | 131.0 |
| GASPL | 105.9 | 107.7 | 106.0 | 109.1 | 110.5 | 111.0 | 112.5 | 118.0 | 123.5 | 129.8 | 130.3 | 125.0 | 121.3 |

NASA SHOCK CELL/CIRCULAR C-D NGZ/AX/SC-2/NAS3-22514

VEHICLE = ADH714 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFID = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NG PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2424.6 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM V18 = 2424.6 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0214 TAPE = X0214C TEST PT NO = 0214 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
 OF POOR QUALITY

641

P1188-02

HONEYWELL PAGE PRINTING SYSTEM-





DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL BZF-ZER-0215 X0215C  
BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ 50 63 80 100 125 160 200 250 315 400 500 630 800 1000 1250 1600 2000 2500 3150 4000 5000 6300 8000

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 84.7  | 83.7  | 81.7  | 83.3  | 83.9  | 84.0  | 86.4  | 86.5  | 94.5  | 94.6  | 94.4  | 94.1  | 95.8  | 132.4 |
| 63    | 88.2  | 86.8  | 88.8  | 91.3  | 91.2  | 90.8  | 89.2  | 89.3  | 98.0  | 98.4  | 98.0  | 97.3  | 136.2 |
| 80    | 90.3  | 93.8  | 88.6  | 91.6  | 92.0  | 92.1  | 92.0  | 93.4  | 95.6  | 92.4  | 97.0  | 98.2  | 136.0 |
| 100   | 88.8  | 94.6  | 90.1  | 93.7  | 94.7  | 93.6  | 94.2  | 96.7  | 97.1  | 96.7  | 98.8  | 102.5 | 138.8 |
| 125   | 85.9  | 88.9  | 90.2  | 93.2  | 94.5  | 93.9  | 93.8  | 94.7  | 96.7  | 97.7  | 105.1 | 107.0 | 141.5 |
| 160   | 85.5  | 85.1  | 87.8  | 89.1  | 89.7  | 90.1  | 91.7  | 93.1  | 96.3  | 100.2 | 105.5 | 108.2 | 142.7 |
| 200   | 87.8  | 87.6  | 87.3  | 90.4  | 92.7  | 92.3  | 92.7  | 96.4  | 101.6 | 102.2 | 107.5 | 111.2 | 145.2 |
| 250   | 87.5  | 91.1  | 89.6  | 92.6  | 92.5  | 92.6  | 95.0  | 98.9  | 101.8 | 107.9 | 112.8 | 115.7 | 149.0 |
| 315   | 88.6  | 90.6  | 88.6  | 92.4  | 94.3  | 93.9  | 95.0  | 98.2  | 104.9 | 109.7 | 114.6 | 116.9 | 150.4 |
| 400   | 89.8  | 92.4  | 89.6  | 93.7  | 94.5  | 93.9  | 96.3  | 99.2  | 106.9 | 113.4 | 117.8 | 118.0 | 152.3 |
| 500   | 90.7  | 93.0  | 91.0  | 94.0  | 95.6  | 95.5  | 96.9  | 101.0 | 108.2 | 116.1 | 119.4 | 118.4 | 153.5 |
| 630   | 92.8  | 95.1  | 92.4  | 95.6  | 96.7  | 96.6  | 98.7  | 103.1 | 110.9 | 119.2 | 120.1 | 118.5 | 154.8 |
| 800   | 96.9  | 96.2  | 95.2  | 98.6  | 98.2  | 100.4 | 105.0 | 113.0 | 120.6 | 121.2 | 119.1 | 116.0 | 156.9 |
| 1000  | 102.4 | 104.2 | 103.8 | 101.3 | 101.1 | 100.2 | 101.6 | 105.5 | 114.8 | 122.1 | 121.7 | 116.0 | 156.9 |
| 1250  | 99.7  | 105.2 | 103.3 | 104.8 | 104.1 | 102.3 | 103.1 | 107.8 | 115.3 | 122.3 | 122.0 | 117.6 | 157.1 |
| 1600  | 102.2 | 101.0 | 99.8  | 102.3 | 102.9 | 102.0 | 103.9 | 108.7 | 116.0 | 121.6 | 121.2 | 113.7 | 156.5 |
| 2000  | 103.1 | 103.8 | 100.7 | 101.8 | 102.9 | 102.6 | 104.3 | 109.8 | 116.2 | 122.5 | 119.8 | 115.3 | 156.5 |
| 2500  | 101.9 | 102.9 | 101.5 | 103.5 | 104.3 | 103.2 | 104.9 | 110.2 | 115.6 | 122.1 | 118.2 | 113.7 | 155.8 |
| 3150  | 101.0 | 103.1 | 101.1 | 103.6 | 104.2 | 104.0 | 105.9 | 110.4 | 116.2 | 120.8 | 117.3 | 112.7 | 155.1 |
| 4000  | 99.8  | 101.0 | 99.8  | 102.8 | 103.9 | 103.9 | 106.0 | 111.3 | 115.7 | 119.9 | 116.1 | 109.7 | 154.5 |
| 5000  | 98.7  | 100.1 | 98.8  | 101.8 | 103.3 | 103.7 | 105.6 | 110.2 | 114.4 | 117.8 | 114.4 | 109.7 | 153.0 |
| 6300  | 96.7  | 99.4  | 98.3  | 100.8 | 102.8 | 103.2 | 105.3 | 110.7 | 114.2 | 117.3 | 113.9 | 108.6 | 152.9 |
| 8000  | 95.9  | 97.8  | 97.1  | 100.2 | 102.5 | 102.8 | 104.5 | 108.8 | 113.3 | 115.6 | 111.7 | 105.7 | 151.8 |
| 10000 | 94.0  | 96.6  | 96.6  | 100.1 | 102.0 | 102.6 | 104.8 | 109.5 | 113.6 | 115.0 | 110.0 | 104.3 | 150.8 |
| 12500 | 92.0  | 94.5  | 94.5  | 97.8  | 100.5 | 101.5 | 102.6 | 106.5 | 109.9 | 113.6 | 110.0 | 104.3 | 150.8 |
| 15000 | 88.8  | 92.3  | 91.8  | 95.6  | 98.7  | 98.9  | 101.5 | 104.8 | 108.7 | 110.7 | 107.7 | 101.2 | 149.9 |
| 20000 | 85.4  | 89.9  | 88.9  | 92.9  | 94.5  | 96.2  | 99.3  | 103.1 | 107.4 | 109.0 | 105.2 | 98.3  | 149.3 |
| 25000 | 82.1  | 86.8  | 86.1  | 88.9  | 89.5  | 92.9  | 94.5  | 99.3  | 103.1 | 107.4 | 100.8 | 96.2  | 149.3 |
| 31500 | 78.1  | 82.4  | 81.7  | 85.8  | 89.1  | 89.9  | 92.4  | 96.5  | 100.0 | 105.6 | 97.9  | 92.5  | 150.0 |
| 40000 | 73.7  | 77.7  | 78.4  | 80.6  | 85.3  | 86.0  | 88.5  | 93.2  | 96.9  | 103.1 | 95.7  | 89.3  | 151.2 |
| 50000 | 68.2  | 73.0  | 72.7  | 75.6  | 82.0  | 83.4  | 88.1  | 94.3  | 100.1 | 92.0  | 85.4  | 75.7  | 152.4 |
| 63000 | 62.5  | 67.9  | 67.4  | 70.0  | 74.8  | 76.5  | 78.2  | 82.9  | 89.4  | 97.5  | 87.9  | 78.8  | 154.4 |
| 80000 | 58.2  | 63.7  | 63.5  | 63.1  | 68.8  | 70.1  | 72.6  | 77.1  | 84.0  | 92.9  | 81.7  | 73.9  | 156.4 |
| DBA   | 111.8 | 113.4 | 111.3 | 113.6 | 114.4 | 114.0 | 115.9 | 120.7 | 126.4 | 132.1 | 130.6 | 127.2 | 124.5 |
| PWL   | 124.1 | 125.9 | 124.1 | 126.7 | 127.6 | 127.3 | 129.2 | 133.9 | 139.2 | 144.2 | 142.1 | 138.7 | 136.3 |
| PNT   | 125.5 | 128.1 | 125.5 | 126.7 | 127.6 | 127.6 | 129.2 | 133.9 | 139.2 | 144.2 | 142.1 | 138.7 | 136.3 |
| DBA   | 111.8 | 113.4 | 111.3 | 113.6 | 114.4 | 114.0 | 115.9 | 120.7 | 126.4 | 132.1 | 130.6 | 127.2 | 124.5 |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH727 TEST DATE = 03-17-82 LOCAL = CA1 ANEGH CH CNF10 = 2 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBRF =  
 FNIN1 = LBS XNL RPM XNH XNHR = RPM V8 = 2426.4 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM V18 = 2426.4 FPS AE18 = 20.4 SQ IN  
 RUNPT = BZF-ZER-0215 TAPE = X0215C TEST PT NO = 0215 NC = AE041 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0215 X0215F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.7  | 83.7  | 81.7  | 83.3  | 83.9  | 84.0  | 86.4  | 86.5  | 94.5  | 94.6  | 94.4  | 94.1  | 95.8  | 132.4 |
| 63    | 88.2  | 86.8  | 88.8  | 88.8  | 91.3  | 91.2  | 90.8  | 89.2  | 89.3  | 98.0  | 98.4  | 98.0  | 97.9  | 136.2 |
| 80    | 93.3  | 93.8  | 88.6  | 91.6  | 92.0  | 92.1  | 92.0  | 93.4  | 95.6  | 92.4  | 97.0  | 98.2  | 99.4  | 136.0 |
| 100   | 98.8  | 94.6  | 90.1  | 93.7  | 93.6  | 94.2  | 96.7  | 97.1  | 96.7  | 97.1  | 96.7  | 98.8  | 102.5 | 138.8 |
| 125   | 85.9  | 88.9  | 90.2  | 93.2  | 94.5  | 93.9  | 93.8  | 94.7  | 96.7  | 97.7  | 105.1 | 107.0 | 108.0 | 141.5 |
| 150   | 85.5  | 85.1  | 87.8  | 89.1  | 89.7  | 90.1  | 91.7  | 93.1  | 96.3  | 100.2 | 105.5 | 111.1 | 142.7 |       |
| 200   | 87.8  | 87.6  | 87.3  | 90.4  | 92.7  | 92.3  | 92.7  | 96.4  | 101.6 | 102.2 | 107.5 | 112.2 | 113.1 | 145.2 |
| 250   | 87.5  | 87.5  | 89.1  | 89.6  | 92.6  | 92.5  | 92.6  | 98.9  | 98.9  | 101.6 | 107.9 | 112.8 | 115.4 | 149.0 |
| 315   | 88.6  | 90.6  | 88.6  | 92.4  | 94.3  | 93.9  | 95.0  | 98.2  | 104.9 | 109.7 | 114.6 | 116.5 | 116.9 | 150.4 |
| 400   | 89.8  | 92.4  | 89.6  | 93.7  | 94.5  | 93.9  | 96.3  | 99.2  | 106.9 | 113.4 | 117.8 | 118.0 | 115.9 | 152.3 |
| 500   | 90.7  | 93.0  | 91.0  | 94.0  | 95.6  | 95.5  | 96.9  | 101.0 | 108.2 | 116.1 | 119.4 | 118.4 | 115.8 | 153.5 |
| 630   | 92.8  | 95.1  | 92.4  | 95.6  | 96.7  | 96.6  | 98.7  | 103.1 | 110.9 | 119.2 | 120.1 | 118.5 | 115.6 | 154.8 |
| 800   | 96.9  | 96.2  | 95.2  | 98.0  | 98.2  | 100.4 | 105.0 | 113.0 | 120.6 | 121.2 | 118.9 | 116.8 | 116.0 | 156.0 |
| 1000  | 102.4 | 104.2 | 102.2 | 103.3 | 104.8 | 104.1 | 102.3 | 103.1 | 107.8 | 115.3 | 122.0 | 117.6 | 114.9 | 157.1 |
| 1250  | 99.7  | 105.2 | 103.3 | 104.8 | 104.1 | 102.3 | 103.1 | 107.8 | 115.3 | 122.3 | 122.0 | 117.6 | 114.9 | 157.1 |
| 1500  | 102.2 | 101.0 | 99.8  | 102.3 | 102.9 | 102.0 | 103.9 | 108.7 | 116.0 | 121.6 | 121.6 | 116.7 | 113.7 | 156.5 |
| 2000  | 103.1 | 103.8 | 100.7 | 101.8 | 102.9 | 102.6 | 104.9 | 109.8 | 115.6 | 122.1 | 118.2 | 113.7 | 110.5 | 155.8 |
| 2500  | 101.9 | 102.9 | 101.5 | 103.5 | 104.3 | 103.2 | 104.9 | 110.2 | 115.6 | 122.1 | 118.2 | 113.7 | 110.5 | 155.8 |
| 3150  | 101.0 | 103.1 | 101.1 | 103.6 | 104.2 | 104.0 | 105.9 | 110.4 | 116.2 | 120.8 | 117.3 | 112.7 | 110.0 | 155.1 |
| 4000  | 99.8  | 101.0 | 99.8  | 102.8 | 103.9 | 103.9 | 106.0 | 111.3 | 115.7 | 119.9 | 116.1 | 111.2 | 108.2 | 154.5 |
| 5000  | 98.7  | 100.1 | 98.8  | 101.8 | 103.3 | 103.7 | 105.6 | 110.2 | 114.4 | 117.8 | 114.4 | 109.7 | 105.9 | 153.0 |
| 6300  | 96.7  | 99.4  | 98.3  | 100.8 | 102.8 | 103.2 | 105.3 | 110.7 | 114.2 | 117.3 | 113.9 | 108.6 | 105.1 | 152.9 |
| 8000  | 95.9  | 97.8  | 97.1  | 100.2 | 102.5 | 102.8 | 104.5 | 108.8 | 113.3 | 115.6 | 112.4 | 106.8 | 103.7 | 151.8 |
| 10000 | 94.0  | 96.6  | 96.8  | 100.1 | 102.0 | 102.3 | 104.8 | 108.5 | 111.7 | 115.6 | 111.7 | 105.7 | 101.7 | 151.8 |
| 12500 | 92.0  | 94.5  | 94.5  | 97.8  | 100.5 | 101.5 | 106.5 | 109.9 | 113.6 | 110.0 | 104.3 | 98.7  | 150.8 |       |
| 15000 | 88.8  | 88.8  | 88.8  | 88.8  | 88.8  | 88.8  | 88.8  | 88.8  | 88.8  | 88.8  | 88.8  | 88.8  | 88.8  | 149.9 |
| 20000 | 85.4  | 89.5  | 88.9  | 92.1  | 95.8  | 96.3  | 98.2  | 102.3 | 106.0 | 105.2 | 98.3  | 92.6  | 149.4 |       |
| 25000 | 82.1  | 85.8  | 86.1  | 88.9  | 92.9  | 94.5  | 96.2  | 99.3  | 103.1 | 107.4 | 100.8 | 96.2  | 149.3 |       |
| 31500 | 78.1  | 82.4  | 81.7  | 85.8  | 89.1  | 89.9  | 92.4  | 96.5  | 100.0 | 105.6 | 97.9  | 92.5  | 150.0 |       |
| 40000 | 73.7  | 77.7  | 78.4  | 80.6  | 85.3  | 86.0  | 88.5  | 93.2  | 96.9  | 103.1 | 95.7  | 89.3  | 151.2 |       |
| 50000 | 68.2  | 73.0  | 72.7  | 75.6  | 79.7  | 82.0  | 83.4  | 88.1  | 94.3  | 100.1 | 92.0  | 85.4  | 152.4 |       |
| 63000 | 62.5  | 67.9  | 67.4  | 70.0  | 74.8  | 76.5  | 78.2  | 82.9  | 89.4  | 97.5  | 87.9  | 78.8  | 154.4 |       |
| 80000 | 58.2  | 63.7  | 63.5  | 63.1  | 68.8  | 70.1  | 72.6  | 77.1  | 84.0  | 92.9  | 81.7  | 73.9  | 156.4 |       |
| DBA   | 179.7 | 185.1 | 184.9 | 185.5 | 190.8 | 192.3 | 194.4 | 199.0 | 205.7 | 214.3 | 203.6 | 195.7 | 185.6 |       |
| PWL   | 124.1 | 125.9 | 124.1 | 126.7 | 127.6 | 127.3 | 129.2 | 133.9 | 139.2 | 144.2 | 142.1 | 138.7 | 136.3 |       |
| PNT   | 125.5 | 128.1 | 125.5 | 126.7 | 127.6 | 127.3 | 129.2 | 133.9 | 139.2 | 144.2 | 142.1 | 138.7 | 136.3 |       |
| DBA   | 179.7 | 185.1 | 184.9 | 185.5 | 190.8 | 192.3 | 194.4 | 199.0 | 205.7 | 214.3 | 203.6 | 195.7 | 185.6 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH272 TEST DATE = 03-17-82  
IAPLHA = SB59 LEGA = NO  
MIND DIR = DEG MIND VEL = MPH  
EXT DIST = 40.0 FT  
EXT CNFIG = ARC  
TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
FLTVEL = 0. FPS

LOCAT = C41 ANECH CH CNFIG = 2  
PWL AREA = FULL SPHERE  
LBS XNL = 114.6  
XNH = 116.2  
RPM = 120.8  
XNHR = 126.3  
RPM = 131.9  
V8 = 2426.4 FPS  
AE8 = 20.4 SO IN  
AE18 = 0. SO IN

RUNPT = 82F-ZER-0215 TAPE = X0215F  
TEST PT NO = 0215 NC = AE041  
CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 8ZF-ZER-0215 X02151

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 68.8 72.8 71.2 75.9 77.2 76.7 78.9 81.4 88.4 93.9 96.8 94.7 89.3 170.6

63 69.6 73.4 72.5 76.3 78.3 78.3 79.5 83.3 89.8 96.5 98.3 95.1 89.1 171.9

80 71.6 75.5 73.8 77.8 79.3 81.3 85.3 92.3 99.6 98.9 95.1 88.9 173.2

100 75.7 76.6 76.7 80.2 81.2 80.9 82.9 87.2 94.4 100.9 100.0 95.4 89.9 174.3

125 81.1 84.5 80.1 83.4 83.6 82.9 84.1 88.6 96.1 102.3 100.4 95.5 88.9 175.3

160 78.2 85.3 84.5 86.7 86.5 84.6 85.5 89.7 96.5 102.4 100.4 93.8 87.4 175.4

200 80.4 80.9 80.8 84.1 85.1 84.4 86.1 90.5 97.1 101.5 99.5 92.5 85.7 174.9

250 81.0 83.4 81.5 83.4 84.9 84.7 87.3 91.4 97.0 102.1 97.7 83.2 174.8

315 79.4 82.2 81.9 84.8 86.1 85.1 86.6 91.5 96.1 101.4 95.6 88.5 81.0 174.2

400 78.0 81.9 81.2 84.6 85.6 85.6 87.3 91.3 96.3 99.6 94.3 86.9 79.5 173.5

500 76.2 79.5 79.6 83.5 85.1 85.2 87.2 92.0 95.5 98.4 92.6 84.7 76.8 172.9

630 74.7 78.1 78.3 82.2 84.2 84.8 86.5 90.6 93.9 95.9 90.4 82.5 73.4 171.4

800 72.2 77.1 77.5 80.9 83.4 84.0 85.9 90.8 93.4 95.0 89.4 80.8 71.5 171.2

1000 71.0 75.2 76.0 80.1 83.0 83.5 85.0 88.7 92.2 93.0 87.4 78.3 68.9 170.2

1250 68.6 73.6 75.5 79.8 82.4 82.8 85.2 88.3 90.4 92.6 86.3 76.3 65.4 170.2

1500 65.7 71.0 72.8 77.2 80.6 81.8 82.6 85.9 88.2 90.1 83.7 73.6 60.2 169.2

2000 61.6 68.2 69.7 74.8 78.6 79.0 81.4 84.0 86.6 86.5 80.4 68.8 54.1 168.3

2500 56.3 64.1 65.9 70.6 75.2 76.0 77.5 80.9 83.0 83.6 76.1 63.1 46.1 167.7

3150 49.7 58.0 61.2 65.8 70.9 72.8 74.2 76.2 78.2 79.6 68.4 56.1 34.0 167.7

4000 39.5 49.9 53.0 59.5 64.1 65.4 67.4 70.2 71.3 73.0 59.2 43.5 15.4 168.3

5000 25.2 37.6 43.5 48.9 55.4 56.5 58.6 61.4 62.0 63.0 47.2 26.5

6300 2.0 18.7 25.7 33.1 39.7 42.7 43.4 45.6 47.4 45.8 25.8

8000 8.3 16.6 19.5 20.0 21.2 21.1 18.4

10000 172.7

12500 172.7

15000 174.7

20000

25000

31500

40000

50000

63000

80000

QASPL 88.8 92.3 91.3 94.5 95.8 95.6 97.4 101.6 106.6 111.3 108.9 103.7 97.5 186.3

PWL 92.7 96.5 96.4 100.1 102.3 102.8 104.5 108.0 112.2 115.8 111.5 104.3 96.7

PMLT 93.7 97.6 97.0 100.6 102.3 103.3 104.5 108.0 112.8 116.4 112.5 104.3 96.7

DBA 81.9 85.7 85.8 89.5 91.8 92.2 94.0 97.9 101.3 104.1 99.1 91.5 83.9

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH727 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2426.4 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2426.4 FPS AE8 = 20.4 SQ IN

TEST PT NO = 0215 NC = AE041 CGRR FAN SPEED = RPM

ZER-0215 TAPE = X02151

ORIGINAL PAGE IS  
OF POOR QUALITY

DATPRC - FLTKAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0216 X0216C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 90.1  | 88.6  | 85.9  | 85.4  | 85.4  | 89.9  | 95.3  | 99.3  | 99.2  | 103.8 | 105.4 | 99.6  | 96.2  | 140.3 |
| 63    | 90.1  | 89.6  | 90.7  | 91.2  | 89.5  | 90.0  | 95.6  | 98.0  | 98.2  | 103.3 | 103.5 | 98.4  | 97.7  | 139.5 |
| 80    | 90.6  | 93.7  | 88.0  | 91.3  | 90.8  | 92.1  | 93.7  | 97.5  | 98.2  | 100.8 | 102.0 | 99.4  | 99.1  | 138.7 |
| 100   | 90.3  | 93.6  | 88.2  | 91.0  | 92.7  | 92.5  | 93.7  | 98.1  | 98.6  | 101.7 | 103.0 | 102.0 | 103.1 | 139.8 |
| 125   | 88.6  | 89.6  | 88.6  | 91.6  | 93.2  | 93.1  | 93.8  | 97.2  | 97.9  | 101.7 | 105.9 | 105.8 | 107.2 | 141.6 |
| 160   | 87.7  | 86.2  | 87.8  | 87.6  | 88.5  | 91.2  | 96.4  | 96.8  | 102.4 | 106.3 | 106.0 | 109.9 | 142.2 | 142.2 |
| 200   | 88.0  | 85.8  | 88.3  | 88.9  | 90.5  | 92.4  | 97.9  | 99.8  | 102.9 | 106.0 | 108.7 | 111.9 | 143.7 | 143.7 |
| 250   | 87.7  | 89.0  | 86.2  | 89.3  | 88.9  | 91.5  | 93.4  | 98.6  | 99.6  | 105.4 | 112.7 | 112.9 | 146.3 | 146.3 |
| 315   | 88.3  | 88.1  | 85.6  | 88.9  | 90.5  | 91.3  | 93.5  | 98.4  | 100.9 | 107.4 | 112.3 | 113.8 | 147.8 | 147.8 |
| 400   | 89.3  | 90.3  | 88.3  | 89.6  | 90.7  | 91.6  | 93.2  | 99.7  | 102.6 | 109.9 | 114.1 | 115.0 | 148.9 | 148.9 |
| 500   | 90.4  | 90.5  | 88.0  | 90.5  | 92.3  | 93.2  | 94.9  | 100.0 | 104.0 | 112.3 | 117.0 | 115.4 | 150.4 | 150.4 |
| 630   | 91.8  | 92.8  | 89.3  | 92.6  | 93.2  | 95.1  | 96.2  | 102.1 | 106.1 | 115.7 | 118.6 | 115.5 | 152.0 | 152.0 |
| 800   | 93.4  | 93.0  | 92.0  | 94.0  | 94.6  | 95.7  | 98.4  | 103.3 | 108.8 | 117.8 | 120.0 | 114.6 | 153.3 | 153.3 |
| 1000  | 96.2  | 96.2  | 94.0  | 96.2  | 97.7  | 99.7  | 100.4 | 102.8 | 108.6 | 113.3 | 116.9 | 115.8 | 152.2 | 152.2 |
| 1250  | 97.2  | 100.0 | 98.0  | 100.1 | 100.7 | 99.0  | 100.4 | 106.6 | 112.3 | 120.4 | 121.0 | 112.7 | 155.2 | 155.2 |
| 1500  | 97.2  | 97.2  | 97.2  | 97.2  | 97.2  | 97.2  | 97.2  | 97.2  | 97.2  | 97.2  | 97.2  | 97.2  | 155.2 | 155.2 |
| 2000  | 98.4  | 98.5  | 97.1  | 99.3  | 99.9  | 100.3 | 101.9 | 107.7 | 114.1 | 119.9 | 121.5 | 112.4 | 155.9 | 155.9 |
| 2500  | 97.9  | 99.4  | 98.0  | 100.5 | 101.6 | 100.7 | 102.1 | 109.0 | 114.4 | 120.9 | 119.9 | 111.7 | 155.2 | 155.2 |
| 3150  | 96.5  | 97.5  | 97.1  | 100.3 | 101.7 | 101.2 | 102.9 | 109.3 | 114.7 | 119.3 | 118.5 | 104.9 | 154.1 | 154.1 |
| 4000  | 95.2  | 96.5  | 95.2  | 98.8  | 100.6 | 101.1 | 103.2 | 110.0 | 113.9 | 118.3 | 116.6 | 109.9 | 153.2 | 153.2 |
| 5000  | 94.6  | 96.6  | 96.2  | 94.0  | 97.7  | 99.7  | 100.4 | 102.8 | 108.6 | 113.3 | 116.9 | 108.3 | 152.2 | 152.2 |
| 6300  | 94.0  | 96.0  | 94.7  | 97.2  | 99.3  | 100.6 | 102.3 | 108.3 | 112.5 | 115.9 | 114.2 | 107.5 | 151.5 | 151.5 |
| 8000  | 91.7  | 93.6  | 93.4  | 96.9  | 99.4  | 99.7  | 101.9 | 106.6 | 110.7 | 114.1 | 111.8 | 104.3 | 150.8 | 150.8 |
| 10000 | 88.9  | 91.1  | 90.4  | 94.4  | 97.7  | 98.4  | 99.7  | 104.2 | 109.2 | 111.2 | 109.1 | 103.0 | 149.0 | 149.0 |
| 12500 | 86.4  | 88.2  | 87.2  | 91.8  | 95.1  | 98.9  | 102.8 | 107.6 | 107.1 | 107.1 | 99.9  | 93.7  | 148.4 | 148.4 |
| 16000 | 86.4  | 86.0  | 84.6  | 88.4  | 92.2  | 94.0  | 95.6  | 100.2 | 104.5 | 107.1 | 103.4 | 96.7  | 147.5 | 147.5 |
| 20000 | 82.8  | 86.0  | 84.6  | 86.4  | 92.2  | 94.0  | 95.6  | 100.2 | 104.5 | 107.1 | 103.4 | 96.7  | 147.5 | 147.5 |
| 25000 | 78.9  | 82.2  | 81.4  | 85.3  | 89.1  | 91.2  | 92.9  | 96.7  | 100.7 | 101.1 | 98.7  | 93.0  | 145.3 | 145.3 |
| 31500 | 75.9  | 77.6  | 76.6  | 81.0  | 85.0  | 86.9  | 89.6  | 92.7  | 97.1  | 99.4  | 96.6  | 89.2  | 145.6 | 145.6 |
| 40000 | 72.1  | 73.5  | 73.2  | 76.6  | 81.3  | 84.6  | 85.2  | 89.8  | 94.7  | 99.3  | 95.2  | 86.2  | 148.2 | 148.2 |
| 50000 | 67.1  | 73.6  | 69.0  | 70.7  | 76.2  | 81.2  | 83.4  | 84.8  | 92.5  | 96.7  | 93.0  | 82.1  | 149.9 | 149.9 |
| 63000 | 65.9  | 77.2  | 64.6  | 66.8  | 71.1  | 79.3  | 84.5  | 80.0  | 89.9  | 96.9  | 91.0  | 79.8  | 154.4 | 154.4 |
| 80000 | 64.7  | 71.7  | 67.2  | 64.9  | 67.2  | 74.1  | 75.2  | 76.7  | 87.8  | 99.2  | 89.2  | 77.3  | 162.3 | 162.3 |
| QASPL | 107.8 | 109.2 | 107.5 | 110.1 | 111.6 | 111.9 | 113.8 | 119.4 | 124.4 | 130.1 | 130.6 | 125.2 | 121.9 | 167.6 |
| PNL   | 120.7 | 122.1 | 120.5 | 123.4 | 124.2 | 124.8 | 126.7 | 132.8 | 137.4 | 142.8 | 142.7 | 136.4 | 131.6 | 167.6 |
| PMLT  | 120.7 | 122.1 | 120.5 | 123.4 | 124.2 | 124.8 | 126.7 | 132.8 | 137.4 | 142.8 | 142.7 | 136.4 | 131.6 | 167.6 |
| DBA   | 107.6 | 109.0 | 107.4 | 110.0 | 111.3 | 111.4 | 113.3 | 119.3 | 124.5 | 130.4 | 130.6 | 123.8 | 118.3 | 167.6 |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH713 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNFIG = 2 MODEL = AX FLTVL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNHR = RPM V8 = 2431.7 FPS AE8 = 20.4 SO IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2431.7 FPS AE18 = 20.4 SO IN

RUNPT = 82F-400-0216 TAPE = X0216C TEST PT NO = 0216 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0216 X0216F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 93.1  | 93.4  | 89.7  | 91.6  | 90.0  | 91.5  | 91.5  | 95.0  | 97.4  | 103.1 | 107.4 | 109.3 | 111.6 | 144.0 |
| 250   | 93.1  | 93.4  | 89.7  | 91.6  | 92.0  | 91.5  | 92.1  | 95.6  | 99.4  | 105.9 | 109.6 | 111.3 | 111.8 | 145.5 |
| 315   | 93.1  | 93.4  | 89.7  | 91.6  | 92.0  | 91.5  | 92.1  | 95.6  | 99.4  | 105.9 | 109.6 | 111.3 | 111.8 | 145.5 |
| 400   | 94.1  | 93.0  | 89.5  | 91.6  | 92.0  | 91.8  | 91.9  | 96.9  | 102.4 | 110.2 | 114.8 | 113.2 | 149.1 |       |
| 500   | 94.4  | 94.6  | 91.6  | 91.9  | 93.9  | 93.5  | 94.1  | 98.3  | 104.3 | 113.5 | 116.7 | 112.9 | 150.8 |       |
| 500   | 94.4  | 94.6  | 91.6  | 91.9  | 93.9  | 93.5  | 94.1  | 98.3  | 104.3 | 113.5 | 116.7 | 112.9 | 150.8 |       |
| 600   | 95.9  | 95.2  | 91.8  | 93.2  | 94.8  | 95.5  | 95.3  | 100.1 | 107.2 | 116.0 | 116.6 | 116.1 | 152.5 |       |
| 630   | 95.9  | 95.2  | 91.8  | 93.2  | 94.8  | 95.5  | 95.3  | 100.1 | 107.2 | 116.0 | 116.6 | 116.1 | 152.5 |       |
| 800   | 97.2  | 97.5  | 93.1  | 95.3  | 96.3  | 96.3  | 97.5  | 101.2 | 109.4 | 118.2 | 120.0 | 116.1 | 154.0 |       |
| 1000  | 98.8  | 97.6  | 95.7  | 96.8  | 98.5  | 97.9  | 98.6  | 103.5 | 111.2 | 119.1 | 121.0 | 115.3 | 154.9 |       |
| 1250  | 101.3 | 100.6 | 97.5  | 102.5 | 102.5 | 99.8  | 99.8  | 104.7 | 113.1 | 118.7 | 121.0 | 115.3 | 154.9 |       |
| 1500  | 101.3 | 100.6 | 97.5  | 102.5 | 102.5 | 99.8  | 99.8  | 104.7 | 113.1 | 118.7 | 121.0 | 115.3 | 154.9 |       |
| 2000  | 103.6 | 103.6 | 101.4 | 102.7 | 102.5 | 102.3 | 102.9 | 106.7 | 114.1 | 120.5 | 120.1 | 115.4 | 155.6 |       |
| 2500  | 103.9 | 105.0 | 101.9 | 102.4 | 104.4 | 102.3 | 107.9 | 115.0 | 119.4 | 119.3 | 116.9 | 116.9 | 155.1 |       |
| 3150  | 104.8 | 105.6 | 103.1 | 104.5 | 104.9 | 103.3 | 103.5 | 108.8 | 114.9 | 119.0 | 117.8 | 114.5 | 154.7 |       |
| 4000  | 104.1 | 104.2 | 102.6 | 104.7 | 104.3 | 103.6 | 104.4 | 110.0 | 114.3 | 117.5 | 116.9 | 112.8 | 153.8 |       |
| 5000  | 102.7 | 103.2 | 101.0 | 103.4 | 103.7 | 103.4 | 104.3 | 108.7 | 113.6 | 115.5 | 114.4 | 109.7 | 152.3 |       |
| 6300  | 102.1 | 102.9 | 99.8  | 102.6 | 103.4 | 103.8 | 108.4 | 113.6 | 115.5 | 114.4 | 109.7 | 111.7 | 152.3 |       |
| 8000  | 101.3 | 102.6 | 100.3 | 101.9 | 104.3 | 102.8 | 103.2 | 106.8 | 112.0 | 114.9 | 113.1 | 108.8 | 151.7 |       |
| 10000 | 103.3 | 103.2 | 100.8 | 102.6 | 104.0 | 102.7 | 103.4 | 106.6 | 110.8 | 112.4 | 110.9 | 108.0 | 150.9 |       |
| 12500 | 101.3 | 102.0 | 100.3 | 102.3 | 101.4 | 101.2 | 104.3 | 109.6 | 110.5 | 109.0 | 105.7 | 102.0 | 149.0 |       |
| 15000 | 98.1  | 99.0  | 96.8  | 99.3  | 99.7  | 99.9  | 99.9  | 102.8 | 106.9 | 109.0 | 105.7 | 102.0 | 149.0 |       |
| 20000 | 95.1  | 95.7  | 93.2  | 96.3  | 96.8  | 97.0  | 97.0  | 100.2 | 104.0 | 104.1 | 102.2 | 99.9  | 147.4 |       |
| 25000 | 90.9  | 92.8  | 90.0  | 92.3  | 93.7  | 94.2  | 94.7  | 92.0  | 100.8 | 102.7 | 100.1 | 95.8  | 147.0 |       |
| 31500 | 86.2  | 88.3  | 86.3  | 88.3  | 89.6  | 89.9  | 91.1  | 92.7  | 99.3  | 103.4 | 99.6  | 93.6  | 148.8 |       |
| 40000 | 82.3  | 82.8  | 80.4  | 83.3  | 85.9  | 87.6  | 86.6  | 89.8  | 97.4  | 101.1 | 97.8  | 89.9  | 150.5 |       |
| 50000 | 78.1  | 78.4  | 76.6  | 78.4  | 80.8  | 84.2  | 84.9  | 84.7  | 95.8  | 102.3 | 96.7  | 88.5  | 154.6 |       |
| 63000 | 72.2  | 77.5  | 71.5  | 71.6  | 75.7  | 82.3  | 85.9  | 80.0  | 95.1  | 106.1 | 96.4  | 87.6  | 162.5 |       |
| 80000 | 69.5  | 79.6  | 65.6  | 66.2  | 71.2  | 77.1  | 76.6  | 76.6  | 85.3  | 96.3  | 86.6  | 77.8  | 159.7 |       |
| OASPL | 114.1 | 114.7 | 112.2 | 113.9 | 114.6 | 113.8 | 114.2 | 118.6 | 124.6 | 129.5 | 130.1 | 126.4 | 127.2 | 168.4 |
| PNL   | 126.7 | 127.3 | 124.8 | 126.4 | 127.0 | 125.9 | 126.5 | 131.5 | 137.0 | 141.6 | 141.6 | 138.0 | 139.3 |       |
| DBA   | 190.6 | 199.9 | 187.5 | 188.2 | 192.7 | 198.5 | 199.5 | 197.8 | 208.5 | 219.3 | 209.7 | 201.0 | 195.6 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH713 TEST DATE = 03-16-82  
 IAPLHA = SB59 IEQA = NG  
 WIND DIR = DEG WIND VEL = MPH  
 PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
 LOCAT = C41 ANECH CH CONFIO = 2  
 MODEL = AX FLVEL = 400. FPS  
 PAMB HG = 29.25 RELHUM = 65.6 PCT  
 MIKE HT = NBFR =

FNINI \* LBS XNL RPM XNH RPM = \* \* \* \* \*  
 FNRAMB \* LBS XNLR RPM XNHR RPM = \* \* \* \* \*

RIINPT = 00-0216 TAPE = X0216F TEST PT NO = 0216 NC = AE039 CORR FAN SPEED = RPM

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LINEWELL PAGE PRINTING SYSTEM - P1182-G





UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0219 X0219C

BACKGROUND 0000000000

ANGLES MEASURED FROM INLET, DEGREES

|      |     |     |     |     |     |     |      |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|      |     |     |     |     |     |     |      |      |      |      |      |      | PWL  |

|      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50   | 84.7  | 84.0  | 84.7  | 83.0  | 87.4  | 84.5  | 83.1  | 86.8  | 94.2  | 94.3  | 95.4  | 95.4  | 132.6 |
| 60   | 88.5  | 88.0  | 89.3  | 91.8  | 92.7  | 91.3  | 93.7  | 90.1  | 98.5  | 98.1  | 98.5  | 98.4  | 136.9 |
| 70   | 86.9  | 86.6  | 89.2  | 93.2  | 94.5  | 94.2  | 93.8  | 94.9  | 96.9  | 97.7  | 105.4 | 107.5 | 141.8 |
| 80   | 89.5  | 89.6  | 94.6  | 98.3  | 92.5  | 93.1  | 93.0  | 93.9  | 93.7  | 97.8  | 99.5  | 100.6 | 136.8 |
| 90   | 90.5  | 90.7  | 94.8  | 98.4  | 92.1  | 93.4  | 94.0  | 97.4  | 97.4  | 99.6  | 103.3 | 104.4 | 139.2 |
| 100  | 89.6  | 89.4  | 94.8  | 98.7  | 94.7  | 93.4  | 94.0  | 97.4  | 97.4  | 99.6  | 103.3 | 104.4 | 139.2 |
| 110  | 86.9  | 86.6  | 89.2  | 93.2  | 94.5  | 94.2  | 93.8  | 94.9  | 96.9  | 97.7  | 105.4 | 107.5 | 141.8 |
| 125  | 86.9  | 86.6  | 89.2  | 93.2  | 94.5  | 94.2  | 93.8  | 94.9  | 96.9  | 97.7  | 105.4 | 107.5 | 141.8 |
| 150  | 102.4 | 102.4 | 104.2 | 101.5 | 100.7 | 102.1 | 106.8 | 115.5 | 123.1 | 122.0 | 118.9 | 115.8 | 157.5 |
| 160  | 103.0 | 101.8 | 99.3  | 102.1 | 103.7 | 103.9 | 109.7 | 117.0 | 122.4 | 121.5 | 117.6 | 113.2 | 157.9 |
| 200  | 103.9 | 104.3 | 101.0 | 102.8 | 103.4 | 103.1 | 105.3 | 109.6 | 117.0 | 123.5 | 119.8 | 114.8 | 157.1 |
| 250  | 102.6 | 103.4 | 101.2 | 104.5 | 104.8 | 103.2 | 104.9 | 110.5 | 116.6 | 123.4 | 118.2 | 113.2 | 156.7 |
| 315  | 101.8 | 103.1 | 100.8 | 104.6 | 104.6 | 104.5 | 105.9 | 110.4 | 116.7 | 121.3 | 112.2 | 109.5 | 155.5 |
| 350  | 101.8 | 103.1 | 100.8 | 104.6 | 104.6 | 104.5 | 105.9 | 110.4 | 116.7 | 121.3 | 112.2 | 109.5 | 155.5 |
| 400  | 101.8 | 103.1 | 100.8 | 104.6 | 104.6 | 104.5 | 105.9 | 110.4 | 116.7 | 121.3 | 112.2 | 109.5 | 155.5 |
| 500  | 98.7  | 100.6 | 98.6  | 102.3 | 103.8 | 103.5 | 106.1 | 109.9 | 114.9 | 119.1 | 114.6 | 109.9 | 153.7 |
| 630  | 96.9  | 99.7  | 98.6  | 101.6 | 103.0 | 103.7 | 105.5 | 110.9 | 114.7 | 118.3 | 113.9 | 104.9 | 153.4 |
| 800  | 95.9  | 98.1  | 96.8  | 102.7 | 103.0 | 104.3 | 108.5 | 112.3 | 116.9 | 118.3 | 112.1 | 106.6 | 152.3 |
| 1000 | 94.5  | 97.3  | 96.8  | 100.6 | 102.5 | 103.0 | 104.3 | 108.5 | 112.3 | 116.9 | 112.1 | 106.6 | 152.3 |
| 1250 | 92.0  | 94.5  | 95.3  | 98.3  | 100.5 | 101.5 | 103.1 | 106.3 | 110.1 | 114.6 | 109.3 | 104.0 | 151.2 |
| 1500 | 89.3  | 92.1  | 92.8  | 95.8  | 98.7  | 99.4  | 101.2 | 104.8 | 109.2 | 112.9 | 108.0 | 101.2 | 151.0 |
| 1600 | 89.3  | 92.1  | 92.8  | 95.8  | 98.7  | 99.4  | 101.2 | 104.8 | 109.2 | 112.9 | 108.0 | 101.2 | 151.0 |
| 2000 | 85.7  | 88.9  | 89.5  | 91.6  | 93.2  | 94.5  | 96.2  | 99.8  | 103.6 | 108.1 | 100.8 | 93.4  | 150.3 |
| 2500 | 82.4  | 86.4  | 86.1  | 89.6  | 93.2  | 94.5  | 96.2  | 99.8  | 103.6 | 108.1 | 100.8 | 93.4  | 149.9 |
| 3150 | 78.6  | 82.4  | 82.4  | 85.8  | 89.3  | 90.4  | 92.2  | 96.5  | 100.5 | 106.1 | 98.6  | 85.5  | 150.4 |
| 4000 | 73.4  | 77.7  | 78.9  | 81.1  | 85.0  | 86.5  | 88.0  | 93.2  | 98.4  | 104.9 | 96.4  | 80.7  | 152.7 |
| 5000 | 68.7  | 72.5  | 75.4  | 80.7  | 82.0  | 83.2  | 87.4  | 94.1  | 101.6 | 104.9 | 92.7  | 84.9  | 153.5 |
| 6300 | 62.3  | 68.1  | 69.8  | 74.8  | 76.3  | 77.9  | 82.9  | 89.1  | 97.3  | 98.1  | 79.1  | 67.2  | 154.5 |
| 8000 | 57.5  | 63.2  | 65.5  | 63.1  | 69.1  | 70.3  | 72.1  | 77.4  | 84.0  | 93.4  | 83.0  | 73.7  | 157.4 |

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|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| QASPL | 111.9 | 113.3 | 111.2 | 114.2 | 115.1 | 114.8 | 116.4 | 121.0 | 126.9 | 132.9 | 131.0 | 128.6 | 126.5 |
| PWL   | 124.7 | 126.1 | 123.9 | 127.4 | 128.3 | 127.8 | 129.2 | 134.1 | 139.7 | 145.3 | 142.2 | 138.6 | 136.1 |
| DBA   | 112.3 | 113.6 | 111.1 | 114.2 | 114.9 | 114.4 | 116.0 | 120.9 | 127.1 | 133.1 | 130.6 | 127.1 | 124.4 |

|          |          |              |            |          |                |           |            |         |                |        |              |
|----------|----------|--------------|------------|----------|----------------|-----------|------------|---------|----------------|--------|--------------|
| VEHICLE  | = ADH728 | TEST DATE    | = 03-17-82 | LOCAT    | = C41 ANECH CH | CONFIG    | = 2        | MODEL   | = AX           | FLTVEL | = 0. FPS     |
| IAPLHA   | = SB59   | LEGA         | = NO       | PWL AREA | = FULL SPHERE  | TAMB F    | = 53.00    | PAMB HG | = 29.55        | RELHUM | = 69.7 PCT   |
| WIND DIR | =        | DEG WIND VEL | =          | MPH      | EXT DIST       | = 40.0 FT | EXT CONFIG | = ARC   | MIKE HT        | =      | NBRF         |
| FININI   | =        | LBS XNL      | =          | RPM      | XNH            | =         | RPM        | V8      | = 2445.6 FPS   | AE8    | = 20.4 SQ IN |
| FNRAMB   | =        | LBS XNLR     | =          | RPM      | XNHR           | =         | RPM        | V18     | =              | AE18   | = 0. SQ IN   |
| RUNPT    | = 827    | ER-0219      | TAPE       | = X0219C | TEST PT NO     | = 0219    | NC         | = AE041 | CORR FAN SPEED | =      | RPM          |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0219 X0219F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 84.7 84.0 84.7 83.0 87.4 84.5 83.1 86.8 94.2 94.3 95.4 95.4 95.3 132.6

50 88.5 88.0 89.3 91.8 92.7 91.3 93.7 90.1 98.5 98.1 98.5 98.4 98.6 136.9

60 90.5 94.6 88.3 92.1 92.5 93.1 93.0 93.9 95.8 93.7 97.8 99.5 100.6 136.8

70 89.6 94.8 89.4 93.7 94.7 93.4 94.0 97.4 97.4 97.4 99.6 103.3 104.4 139.2

80 86.9 96.9 89.2 93.2 94.5 94.5 94.2 93.8 94.9 96.9 97.7 105.4 107.5 141.8

90 86.3 85.1 87.3 89.6 90.2 90.3 92.0 93.4 97.1 100.7 105.8 108.5 111.6 143.1

100 88.0 87.8 86.8 90.9 92.7 93.1 92.7 93.4 96.4 102.1 103.2 108.0 112.2 145.8

110 88.6 86.8 86.8 92.6 92.7 93.1 95.0 99.1 102.6 108.4 113.3 116.0 115.6 149.3

120 88.6 90.6 88.4 92.2 94.5 94.4 95.5 98.4 105.6 110.7 115.6 117.4 117.4 151.1

130 90.3 92.4 89.6 93.7 95.0 94.4 96.5 99.4 107.1 114.4 117.8 118.5 116.7 152.7

140 90.7 90.3 94.3 93.7 95.0 94.4 96.5 99.4 107.1 114.4 117.8 118.5 116.7 152.7

150 90.7 90.3 94.3 93.7 95.0 94.4 96.5 99.4 107.1 114.4 117.8 118.5 116.7 152.7

160 102.4 101.5 101.2 99.3 101.7 102.3 103.1 108.3 116.3 123.3 121.5 117.6 114.7 157.5

170 100.5 104.7 102.8 105.3 104.9 102.3 103.1 108.3 116.3 123.3 121.5 117.6 114.7 157.5

180 103.0 101.8 99.3 102.1 102.7 103.0 103.9 109.7 117.0 122.4 121.2 115.7 113.2 156.9

190 103.9 101.8 99.3 102.1 102.7 103.0 103.9 109.7 117.0 122.4 121.2 115.7 113.2 156.9

200 103.9 104.3 101.2 102.8 103.4 103.4 103.6 117.0 123.5 119.8 118.2 113.2 110.2 156.7

210 101.6 103.1 100.8 104.6 104.5 104.5 105.9 110.4 116.7 121.3 117.3 112.2 109.5 155.5

220 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

230 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

240 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

250 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

260 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

270 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

280 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

290 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

300 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

310 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

320 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

330 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

340 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

350 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

360 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

370 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

380 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

390 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

400 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

410 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

420 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

430 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

440 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

450 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

460 100.3 101.8 99.8 103.3 104.6 104.6 106.0 111.6 115.4 120.9 119.1 114.6 109.9 154.9

HONEYWELL PAGE PRINTING SYSTEM - P1188-02

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

VEHICL = ADH728 TEST DATE = 03-17-82  
IAPLHA = SB59 IEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT AREA = FULL SPHERE  
PML AREA = 40.0 FT  
EXT CNFIG = ARC  
MIKE HT = 29.55  
RELHUM = 69.7 PCT  
FLTVL = 0. FPS  
MODEL = AX  
PAMB HG = 53.00  
TAMB F = 53.00  
CNFIG = 2  
CNFIG = C41 ANECH CH  
EXT CNFIG = ARC  
MIKE HT = 29.55  
RELHUM = 69.7 PCT  
FLTVL = 0. FPS

FINI = LBS XNL RPM  
FNRMB = LBS XNL RPM  
XNH = XNHR RPM  
V8 = V8 RPM  
FPS = 2445.6 FPS  
AE8 = AE8 FPS  
20.4 SQ IN = 20.4 SQ IN  
0. SQ IN = 0. SQ IN

RUNPT = 82F-ZER-0219 TAPE = X0219F TEST PT NO = 0219 NC = AE041 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 8ZF-ZER-0219 X02191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 63 72.6 75.9 77.7 77.2 79.2 81.7 88.7 94.9 96.8 95.2 90.1 171.1

69.3 69.6 74.2 71.5 76.5 78.5 78.5 79.3 84.0 90.8 97.5 98.3 95.3 88.9 172.2

80 71.4 73.8 78.6 80.1 81.6 86.1 81.6 86.1 93.1 100.3 99.4 95.9 89.1 173.8

100 75.7 76.3 79.9 81.4 81.2 83.7 87.4 85.2 102.1 99.7 95.4 89.9 174.8

125 81.1 84.5 80.6 83.6 83.6 83.4 84.6 88.9 96.8 103.3 100.6 95.2 88.6 175.8

160 78.9 84.8 84.0 87.2 87.3 84.8 85.5 90.2 97.5 103.4 99.9 93.8 87.1 175.8

200 81.2 83.9 83.9 84.9 85.4 86.1 91.5 98.1 102.2 99.5 91.5 85.2 175.3

250 81.8 83.9 81.7 84.4 85.4 85.2 87.3 91.2 97.7 103.1 97.7 90.2 82.5 175.4

315 80.1 82.7 81.7 85.8 86.6 85.1 86.6 91.8 97.1 102.6 95.6 88.0 80.8 175.0

400 78.7 81.9 81.0 85.6 86.9 86.1 87.3 91.3 96.8 100.1 94.3 86.4 79.0 173.8

500 76.7 80.2 79.6 84.0 85.8 85.9 87.2 92.2 95.2 99.4 92.4 85.0 76.0 173.3

630 74.7 78.6 78.1 82.7 84.7 84.5 87.0 90.3 94.4 97.1 90.6 82.7 73.4 172.1

800 72.4 77.4 77.8 81.7 83.7 84.5 86.2 91.0 93.9 96.0 89.4 81.0 71.2 171.8

1000 71.0 75.5 75.8 81.1 83.2 83.7 85.0 88.7 92.2 94.3 87.2 78.1 68.7 170.7

1250 69.1 74.4 74.4 80.3 82.9 83.6 84.7 88.3 91.1 93.9 85.8 75.8 66.2 170.9

1600 65.7 71.0 73.6 77.7 80.6 81.8 83.1 85.7 88.4 91.1 83.0 73.3 60.4 169.6

2000 62.1 68.0 70.7 75.0 78.6 79.5 81.1 84.0 87.1 88.8 80.7 68.8 54.8 169.4

2500 56.6 64.1 68.6 71.6 75.7 76.7 78.0 81.1 83.0 85.6 75.3 63.9 46.9 168.7

3150 50.0 58.3 66.7 66.6 71.2 72.8 74.2 76.7 78.7 80.3 68.4 56.4 34.8 168.2

4000 40.0 49.9 60.5 59.5 64.3 65.9 67.2 70.2 71.8 73.5 60.0 43.7 16.1 168.8

5000 25.0 37.6 54.0 49.4 55.6 57.0 58.1 61.4 63.5 64.8 48.0 26.0 171.0

6300 2.5 18.2 41.7 32.8 39.9 42.7 43.1 44.8 47.1 47.3 26.5 172.8

8000 6300 172.8 171.9 171.0 168.8 168.2 168.7 169.4 169.6 170.9

10000 175.8 175.8 175.8 175.8 175.8 175.8 175.8 175.8 175.8 175.8

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80000 175.8 175.8 175.8 175.8 175.8 175.8 175.8 175.8 175.8 175.8

89.3 92.4 91.2 95.1 96.3 96.0 97.5 101.8 107.2 112.3 108.9 103.8 97.5 186.9

93.2 96.7 96.9 100.8 102.7 103.1 104.5 108.2 112.7 116.9 111.4 104.2 96.7

93.8 97.3 97.5 101.4 103.2 103.6 104.5 108.2 113.3 117.6 112.5 104.2 96.7

82.4 86.0 86.0 86.0 90.2 92.2 92.6 94.0 98.0 101.8 105.2 99.0 91.3 83.5

DBA 82.4 86.0 86.0 86.0 90.2 92.2 92.6 94.0 98.0 101.8 105.2 99.0 91.3 83.5

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH728 TEST DATE = 03-17-82

IAPLHA = SB59 IEQA = NG WIND VEL = MPH

FNINI = LBS XNLR = RPM XNH = RPM V8 = 2445.6 FPS AE8 = 20.4 SQ IN

RUNPT 2F-ZER-0219 TAPE = X02191 TEST PT NO = 07 NC = AE041 CORR FAN SPEED = R

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031

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0220 X0220C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|   |              |                |          |            |              |          |             |            |           |                  |            |       |       |       |
|---|--------------|----------------|----------|------------|--------------|----------|-------------|------------|-----------|------------------|------------|-------|-------|-------|
| 50  | 90.1         | 90.4           | 86.9     | 88.2       | 88.0         | 88.2     | 87.2        | 95.8       | 98.2      | 107.0            | 105.2      | 105.1 | 98.0  | 141.6 |
| 63  | 90.1         | 90.7           | 92.0     | 90.7       | 89.8         | 92.7     | 95.5        | 98.5       | 105.3     | 104.5            | 104.7      | 98.2  | 140.9 |       |
| 80  | 91.2         | 95.2           | 89.1     | 92.0       | 91.8         | 92.4     | 91.6        | 96.3       | 97.9      | 105.4            | 104.4      | 100.7 | 140.9 |       |
| 100   | 90.3         | 93.6           | 88.7     | 91.8       | 92.7         | 91.8     | 92.2        | 96.6       | 97.8      | 104.7            | 103.6      | 105.5 | 103.1 | 141.0 |
| 125   | 88.6         | 90.3           | 89.1     | 91.8       | 93.0         | 92.9     | 92.2        | 95.2       | 97.9      | 103.7            | 105.6      | 107.5 | 107.4 | 142.2 |
| 160   | 89.0         | 87.5           | 88.0     | 88.8       | 89.0         | 88.9     | 89.0        | 88.9       | 94.3      | 97.3             | 104.1      | 110.1 | 142.7 |       |
| 200   | 89.0         | 87.0           | 88.5     | 89.1       | 90.3         | 90.6     | 90.6        | 95.8       | 99.6      | 105.4            | 106.3      | 110.2 | 144.4 |       |
| 250   | 88.0         | 86.0           | 87.8     | 89.8       | 90.1         | 90.8     | 91.7        | 97.4       | 100.3     | 106.9            | 109.8      | 113.0 | 112.6 | 146.4 |
| 315   | 88.8         | 90.1           | 88.3     | 89.9       | 91.7         | 91.6     | 92.2        | 96.7       | 101.4     | 108.2            | 112.6      | 114.7 | 148.4 |       |
| 400   | 89.8         | 90.6           | 89.1     | 91.6       | 92.5         | 91.8     | 92.5        | 97.9       | 103.4     | 110.4            | 115.3      | 112.9 | 149.9 |       |
| 500   | 91.2         | 90.7           | 88.7     | 92.5       | 93.6         | 92.7     | 93.1        | 100.3      | 104.5     | 113.6            | 117.2      | 116.6 | 151.1 |       |
| 630   | 91.8         | 92.3           | 91.4     | 92.9       | 94.3         | 94.7     | 94.7        | 100.9      | 106.4     | 116.7            | 119.1      | 116.5 | 152.7 |       |
| 800   | 93.4         | 94.0           | 92.7     | 94.5       | 95.6         | 96.0     | 97.1        | 102.3      | 108.8     | 118.3            | 120.2      | 115.4 | 153.7 |       |
| 1000  | 96.2         | 97.0           | 95.0     | 97.3       | 97.4         | 97.5     | 98.4        | 103.8      | 110.5     | 120.6            | 121.2      | 119.2 | 155.1 |       |
| 1250  | 96.7         | 100.0          | 98.3     | 100.8      | 100.9        | 99.5     | 99.9        | 105.3      | 112.3     | 120.9            | 121.5      | 114.2 | 155.5 |       |
| 1600  | 98.2         | 99.6           | 100.2    | 100.3      | 101.9        | 102.0    | 102.4       | 113.6      | 120.9     | 122.0            | 113.4      | 106.7 | 155.8 |       |
| 2000  | 99.4         | 100.3          | 98.2     | 100.4      | 100.7        | 100.6    | 102.0       | 107.4      | 114.5     | 121.5            | 121.0      | 113.1 | 156.8 |       |
| 2500  | 98.1         | 99.9           | 98.2     | 101.5      | 102.3        | 101.2    | 101.4       | 107.7      | 114.1     | 121.6            | 119.2      | 112.2 | 156.3 |       |
| 3150  | 97.5         | 97.0           | 97.6     | 100.8      | 102.2        | 102.0    | 102.9       | 108.3      | 114.7     | 120.8            | 118.5      | 111.7 | 154.8 |       |
| 4000  | 95.5         | 97.2           | 95.7     | 98.8       | 100.9        | 101.6    | 103.5       | 109.0      | 113.9     | 120.3            | 116.6      | 115.3 | 154.1 |       |
| 5000  | 95.6         | 96.5           | 94.5     | 97.7       | 99.4         | 100.4    | 103.0       | 107.8      | 113.1     | 117.9            | 115.3      | 109.8 | 152.5 |       |
| 6300  | 94.0         | 96.2           | 94.7     | 97.9       | 99.3         | 101.1    | 102.8       | 108.3      | 113.3     | 117.6            | 114.7      | 109.2 | 152.5 |       |
| 8000  | 93.4         | 94.8           | 93.6     | 96.9       | 99.1         | 99.9     | 101.9       | 106.8      | 111.0     | 114.8            | 111.3      | 104.0 | 150.8 |       |
| 10000   | 91.2         | 93.9           | 93.6     | 96.9       | 99.1         | 99.9     | 101.7       | 106.5      | 111.7     | 116.6            | 110.2      | 105.6 | 151.5 |       |
| 12500   | 89.2         | 91.4           | 91.6     | 94.4       | 97.7         | 98.9     | 100.2       | 104.7      | 109.0     | 112.9            | 109.4      | 103.0 | 149.7 |       |
| 16000   | 86.6         | 88.5           | 87.9     | 92.1       | 95.1         | 96.4     | 98.4        | 102.8      | 107.6     | 110.2            | 106.6      | 100.9 | 148.8 |       |
| 20000   | 82.8         | 86.7           | 85.6     | 89.2       | 94.0         | 95.8     | 98.9        | 104.5      | 107.9     | 103.7            | 97.9       | 91.3  | 147.9 |       |
| 25000   | 79.4         | 82.4           | 82.4     | 85.4       | 89.6         | 91.7     | 93.1        | 96.7       | 100.9     | 102.1            | 96.9       | 94.5  | 145.8 |       |
| 31500   | 78.4         | 79.1           | 77.6     | 81.0       | 85.3         | 86.9     | 88.9        | 93.0       | 96.9      | 100.7            | 97.1       | 90.2  | 146.2 |       |
| 40000   | 74.1         | 75.8           | 73.4     | 76.1       | 81.3         | 83.1     | 85.0        | 89.8       | 95.0      | 99.8             | 86.4       | 78.5  | 148.5 |       |
| 50000   | 73.8         | 73.1           | 67.5     | 71.2       | 75.5         | 79.5     | 84.8        | 89.9       | 95.0      | 97.7             | 92.0       | 81.6  | 150.3 |       |
| 63000   | 77.9         | 69.6           | 68.1     | 68.8       | 77.1         | 77.5     | 74.7        | 80.8       | 89.9      | 98.4             | 89.7       | 76.8  | 155.2 |       |
| 80000   | 70.2         | 73.7           | 66.2     | 65.4       | 76.9         | 70.3     | 70.9        | 76.9       | 89.5      | 99.5             | 88.9       | 71.6  | 162.7 |       |
| QASPL   | 108.2        | 109.7          | 108.0    | 110.7      | 111.9        | 112.1    | 113.5       | 118.7      | 124.3     | 131.1            | 130.8      | 126.3 | 122.1 | 168.1 |
| PNL   | 121.2        | 122.7          | 121.0    | 123.9      | 125.2        | 125.2    | 126.5       | 131.9      | 137.4     | 143.9            | 142.7      | 137.4 | 131.9 |       |
| PMLT  | 121.2        | 122.7          | 121.0    | 123.9      | 125.2        | 125.2    | 126.5       | 131.9      | 137.4     | 143.9            | 142.7      | 137.4 | 131.9 |       |
| DBA   | 108.0        | 109.5          | 107.8    | 110.6      | 111.6        | 111.6    | 113.0       | 118.4      | 124.4     | 131.4            | 130.8      | 124.8 | 118.6 |       |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |              |                |          |            |              |          |             |            |           |                  |            |       |       |       |
| VEHICL =  | ADH712       | TEST DATE =    | 03-16-82 | LOCAT =    | C41 ANECH CH | CONFIG = | 2           | MODEL =    | AX        | FLTVL =          | 400. FPS   |       |       |       |
| IAPLHA =  | SB59         | LEGA =         | NO       | PWL AREA = | FULL SPHERE  | TAMB F = | 73.00       | PAMB HG =  | 29.25     | RELHUM =         | 65.6 PCT   |       |       |       |
| WIND DIR =  |              | DEG WIND VEL = |          | MPH        | EXT DIST =   | 40.0 FT  | EXT CNFIO = | ARC        | MIKE HT = | NBFR =           |            |       |       |       |
| FNNINI =  | LBS XNL      | RPM            | XNH      | XNHR       | RPM          | V8       | =           | 2452.7 FPS | AE8       | =                | 20.4 SQ IN |       |       |       |
| FNRAMB =  | LBS XNLR     | RPM            |          |            | RPM          | V18      | =           | FPS        | AE18      | =                | 0. SQ IN   |       |       |       |
| RUNPT =   | 82F-400-0220 | TAPE           | =        | X0220C     | TEST PT NO = | 0220     | NC          | =          | AE039     | CORR FAN SPEED = | RPM        |       |       |       |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-400-0220 X0220F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 93.3  | 94.3  | 91.0  | 92.0  | 91.2  | 90.8  | 89.7  | 93.7  | 97.9  | 103.8 | 107.7 | 110.3 | 112.1 | 144.6 |
| 250   | 93.3  | 94.3  | 91.0  | 92.0  | 93.1  | 91.8  | 90.9  | 93.9  | 100.5 | 106.7 | 111.2 | 112.9 | 112.0 | 146.7 |
| 315   | 93.3  | 94.3  | 91.0  | 92.0  | 93.9  | 92.1  | 91.6  | 95.6  | 102.9 | 111.5 | 115.1 | 116.0 | 113.6 | 149.9 |
| 400   | 94.2  | 94.8  | 92.0  | 92.5  | 93.9  | 92.1  | 91.6  | 98.6  | 104.6 | 114.6 | 117.3 | 116.8 | 113.9 | 151.7 |
| 500   | 95.2  | 95.2  | 92.8  | 94.3  | 95.1  | 93.0  | 92.4  | 98.6  | 104.6 | 114.6 | 117.3 | 116.8 | 113.9 | 151.7 |
| 600   | 96.7  | 95.5  | 92.5  | 92.5  | 97.5  | 94.7  | 93.8  | 98.9  | 107.2 | 116.5 | 118.9 | 117.2 | 115.1 | 153.1 |
| 800   | 98.0  | 97.7  | 95.7  | 96.0  | 97.3  | 96.5  | 96.3  | 100.2 | 109.3 | 119.2 | 120.5 | 117.0 | 117.3 | 154.9 |
| 1000  | 99.0  | 98.8  | 96.7  | 97.4  | 99.0  | 97.6  | 97.6  | 101.8 | 111.2 | 119.6 | 121.7 | 117.3 | 117.3 | 155.2 |
| 1250  | 101.2 | 101.3 | 98.4  | 99.8  | 102.9 | 100.3 | 99.3  | 103.4 | 112.7 | 119.7 | 121.5 | 116.4 | 117.2 | 155.6 |
| 1500  | 102.7 | 105.3 | 102.6 | 104.0 | 102.3 | 101.3 | 101.5 | 104.8 | 113.9 | 120.7 | 120.8 | 116.4 | 117.7 | 155.9 |
| 1600  | 102.7 | 105.3 | 102.6 | 104.0 | 102.3 | 101.3 | 101.5 | 104.8 | 113.9 | 120.7 | 120.8 | 116.4 | 117.7 | 155.9 |
| 2000  | 103.7 | 104.2 | 102.7 | 102.7 | 101.8 | 101.9 | 106.0 | 113.8 | 121.1 | 119.3 | 115.8 | 117.1 | 115.8 | 155.6 |
| 2500  | 104.5 | 104.8 | 102.1 | 103.4 | 105.2 | 102.8 | 101.6 | 106.7 | 114.9 | 120.8 | 119.2 | 115.9 | 117.2 | 155.7 |
| 3150  | 105.4 | 106.3 | 103.5 | 105.6 | 104.0 | 103.5 | 107.7 | 114.7 | 120.7 | 117.4 | 114.1 | 115.3 | 115.1 | 155.1 |
| 4000  | 105.1 | 105.7 | 103.1 | 105.2 | 104.5 | 104.1 | 104.6 | 108.9 | 114.0 | 118.4 | 114.1 | 113.8 | 114.0 | 154.7 |
| 5000  | 103.0 | 103.9 | 101.5 | 103.4 | 103.5 | 104.4 | 104.5 | 107.9 | 114.2 | 118.2 | 115.7 | 113.5 | 113.5 | 153.7 |
| 6000  | 103.1 | 103.2 | 100.3 | 102.6 | 103.4 | 104.1 | 104.3 | 108.3 | 112.7 | 117.1 | 113.8 | 109.6 | 111.5 | 152.6 |
| 8000  | 101.3 | 102.8 | 100.3 | 102.6 | 103.0 | 102.5 | 103.1 | 106.5 | 112.1 | 115.5 | 112.3 | 108.1 | 109.7 | 151.7 |
| 10000 | 100.5 | 101.2 | 98.6  | 101.7 | 103.7 | 102.9 | 103.3 | 106.8 | 110.5 | 113.9 | 110.8 | 107.6 | 108.9 | 151.1 |
| 12500 | 100.8 | 100.6 | 102.3 | 102.3 | 101.9 | 101.7 | 104.7 | 109.6 | 111.7 | 108.5 | 105.8 | 106.0 | 105.3 | 150.3 |
| 15000 | 98.3  | 99.2  | 98.1  | 99.3  | 99.7  | 99.4  | 99.9  | 102.8 | 106.8 | 109.7 | 105.9 | 103.1 | 103.5 | 149.3 |
| 20000 | 95.3  | 95.9  | 94.0  | 96.5  | 96.8  | 97.0  | 97.2  | 99.9  | 104.0 | 104.7 | 102.0 | 100.7 | 100.6 | 147.5 |
| 25000 | 90.9  | 93.6  | 91.0  | 93.0  | 94.2  | 94.7  | 94.6  | 96.7  | 100.6 | 103.9 | 100.6 | 96.8  | 96.0  | 147.5 |
| 31500 | 86.7  | 88.5  | 87.0  | 88.6  | 89.9  | 89.9  | 90.3  | 93.0  | 99.5  | 103.9 | 99.8  | 93.8  | 92.9  | 149.2 |
| 40000 | 84.8  | 84.3  | 81.4  | 83.3  | 85.9  | 86.1  | 86.4  | 89.8  | 97.7  | 102.1 | 96.8  | 89.4  | 89.0  | 150.8 |
| 50000 | 80.1  | 80.6  | 77.9  | 80.1  | 82.5  | 81.4  | 84.7  | 95.8  | 103.8 | 95.4  | 85.5  | 85.4  | 84.3  | 155.4 |
| 63000 | 83.0  | 77.0  | 70.0  | 72.1  | 81.7  | 80.5  | 76.2  | 80.8  | 96.9  | 106.4 | 96.1  | 81.8  | 84.3  | 162.8 |
| 80000 | 81.5  | 72.0  | 67.0  | 68.2  | 81.0  | 73.3  | 72.4  | 76.9  | 87.1  | 96.6  | 86.3  | 72.0  | 74.5  | 160.1 |
| GASPL | 114.3 | 115.1 | 112.5 | 114.3 | 114.8 | 114.0 | 114.0 | 117.9 | 124.5 | 130.5 | 130.2 | 127.4 | 127.4 | 168.9 |
| PNL   | 127.1 | 127.9 | 125.2 | 127.1 | 127.4 | 126.2 | 126.4 | 130.5 | 136.9 | 142.9 | 141.5 | 138.6 | 139.3 |       |
| PNLT  | 127.1 | 127.9 | 125.2 | 127.1 | 127.4 | 126.2 | 126.4 | 130.5 | 136.9 | 142.9 | 141.5 | 138.6 | 139.3 |       |
| DBA   | 202.1 | 193.5 | 188.3 | 189.7 | 201.5 | 195.5 | 193.7 | 198.1 | 210.2 | 219.6 | 209.4 | 195.5 | 197.8 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH712 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVL = 400. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH RPM XNH RPM V8 = 2452.7 FPS AEB = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2452.7 FPS AE18 = 0. SQ IN  
 RUNPT = 8 00-0220 TAPE = X0220F TEST PT NO = 0220 NC = AE039 CORR FAN SPEED = RPM







FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0221 X0221F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

|         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50      | 84.9  | 84.5  | 84.2  | 83.3  | 86.9  | 85.2  | 85.1  | 85.5  | 96.5  | 94.3  | 94.7  | 94.9  | 95.0  | 133.0 |
| 63      | 88.5  | 87.5  | 89.5  | 91.6  | 91.7  | 91.0  | 92.9  | 88.6  | 99.5  | 97.9  | 98.7  | 98.7  | 98.8  | 137.0 |
| 80      | 90.8  | 94.6  | 88.1  | 92.1  | 93.0  | 93.6  | 92.7  | 93.9  | 97.1  | 93.7  | 97.8  | 99.5  | 100.9 | 137.0 |
| 100     | 90.1  | 95.3  | 89.6  | 94.2  | 95.2  | 94.4  | 94.7  | 97.4  | 98.4  | 97.9  | 99.3  | 103.5 | 104.9 | 139.6 |
| 125     | 86.6  | 89.4  | 89.4  | 93.4  | 95.0  | 94.4  | 94.0  | 95.2  | 97.7  | 98.7  | 105.6 | 107.5 | 108.5 | 142.0 |
| 150     | 86.3  | 85.1  | 87.6  | 89.6  | 90.5  | 90.6  | 91.7  | 93.6  | 98.1  | 100.9 | 108.2 | 111.6 | 143.1 |       |
| 200     | 88.0  | 88.3  | 87.1  | 91.4  | 93.5  | 93.3  | 93.2  | 96.6  | 102.3 | 103.7 | 108.0 | 112.0 | 113.9 | 145.9 |
| 250     | 88.0  | 89.6  | 93.1  | 93.2  | 93.3  | 93.3  | 95.7  | 98.9  | 102.3 | 108.9 | 113.3 | 116.5 | 119.6 | 149.6 |
| 315     | 89.1  | 90.9  | 88.6  | 93.2  | 94.8  | 94.6  | 95.3  | 98.7  | 105.4 | 110.9 | 115.6 | 117.5 | 117.7 | 151.3 |
| 400     | 90.6  | 92.4  | 89.9  | 93.9  | 95.0  | 94.6  | 96.8  | 99.4  | 107.1 | 114.4 | 118.6 | 117.4 | 153.1 |       |
| 500     | 91.7  | 93.5  | 90.2  | 94.8  | 96.4  | 96.0  | 97.4  | 101.5 | 109.0 | 117.1 | 120.2 | 118.9 | 116.0 | 154.2 |
| 630     | 93.0  | 95.3  | 92.4  | 96.4  | 97.5  | 97.6  | 99.5  | 104.1 | 111.4 | 119.7 | 120.8 | 119.2 | 116.9 | 155.5 |
| 800     | 97.2  | 96.5  | 94.5  | 98.0  | 99.1  | 99.0  | 100.9 | 105.5 | 114.0 | 121.6 | 121.4 | 118.9 | 117.5 | 156.6 |
| 1000    | 102.2 | 104.0 | 98.3  | 102.8 | 101.1 | 100.7 | 102.1 | 107.0 | 115.3 | 122.6 | 122.5 | 118.9 | 116.8 | 157.4 |
| 1250    | 102.5 | 105.5 | 102.5 | 105.1 | 104.4 | 102.5 | 103.9 | 108.3 | 116.8 | 123.1 | 122.5 | 117.6 | 115.4 | 157.7 |
| 1500    | 106.2 | 106.2 | 103.3 | 100.8 | 103.1 | 103.7 | 102.8 | 104.6 | 109.4 | 117.5 | 122.4 | 120.7 | 115.9 | 156.9 |
| 1600    | 106.2 | 103.3 | 100.8 | 103.1 | 103.7 | 102.8 | 104.6 | 109.4 | 117.5 | 122.4 | 120.7 | 115.9 | 113.7 | 156.9 |
| 2000    | 104.4 | 105.4 | 102.7 | 106.0 | 106.6 | 104.2 | 105.1 | 110.7 | 117.1 | 122.6 | 118.2 | 113.7 | 111.0 | 156.5 |
| 2500    | 104.4 | 105.4 | 102.7 | 106.0 | 106.6 | 104.2 | 105.1 | 110.7 | 117.1 | 122.6 | 118.2 | 113.7 | 111.0 | 156.5 |
| 3150    | 103.3 | 104.8 | 102.6 | 105.9 | 106.9 | 106.3 | 106.6 | 110.9 | 117.2 | 121.5 | 117.5 | 111.9 | 110.0 | 155.9 |
| 4000    | 101.5 | 103.3 | 101.0 | 104.6 | 105.4 | 105.6 | 107.0 | 112.1 | 116.2 | 120.6 | 116.1 | 109.4 | 106.2 | 153.8 |
| 5000    | 100.2 | 102.1 | 99.6  | 103.6 | 104.0 | 104.7 | 106.6 | 111.4 | 115.4 | 118.6 | 114.6 | 109.4 | 106.2 | 153.8 |
| 6300    | 98.2  | 100.9 | 99.8  | 102.6 | 103.8 | 105.0 | 106.0 | 110.9 | 114.9 | 117.8 | 113.6 | 108.6 | 105.4 | 153.4 |
| 8000    | 96.9  | 99.1  | 97.8  | 102.0 | 103.5 | 104.0 | 105.2 | 109.3 | 114.3 | 116.6 | 112.4 | 106.3 | 103.7 | 152.6 |
| 10000   | 95.3  | 97.6  | 98.1  | 101.6 | 103.3 | 103.5 | 105.3 | 109.5 | 113.2 | 116.3 | 111.2 | 102.4 | 102.6 | 152.6 |
| 12500   | 93.2  | 95.8  | 98.8  | 102.0 | 102.2 | 103.3 | 107.0 | 111.1 | 114.4 | 109.3 | 103.8 | 100.5 | 151.4 |       |
| 15000   | 90.1  | 93.1  | 94.1  | 96.6  | 98.9  | 100.1 | 102.2 | 105.1 | 110.0 | 112.7 | 107.2 | 100.7 | 97.4  | 151.1 |
| 20000   | 87.2  | 90.5  | 92.6  | 93.3  | 96.8  | 97.3  | 99.4  | 102.8 | 103.0 | 110.7 | 104.4 | 98.3  | 94.4  | 150.7 |
| 25000   | 83.6  | 87.3  | 91.8  | 90.4  | 93.7  | 95.0  | 96.4  | 100.8 | 103.8 | 108.1 | 100.8 | 95.7  | 89.9  | 150.0 |
| 31500   | 79.6  | 83.4  | 90.0  | 86.6  | 90.1  | 90.9  | 93.2  | 97.3  | 100.7 | 106.1 | 98.4  | 92.5  | 86.3  | 150.6 |
| 40000   | 75.2  | 78.5  | 89.6  | 81.4  | 86.3  | 87.0  | 89.0  | 93.4  | 97.7  | 104.4 | 96.2  | 89.8  | 81.9  | 152.3 |
| 50000   | 69.7  | 73.5  | 87.9  | 76.6  | 81.2  | 83.0  | 84.2  | 88.6  | 95.1  | 100.9 | 92.5  | 84.9  | 75.7  | 153.2 |
| 63000   | 63.3  | 68.4  | 87.9  | 70.6  | 75.8  | 77.8  | 78.9  | 84.4  | 90.9  | 96.8  | 87.1  | 79.6  | 70.0  | 154.5 |
| 80000   | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 95000   | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 100000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 125000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 150000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 200000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 250000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 315000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 400000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 500000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 630000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 800000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 950000  | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |
| 1000000 | 58.7  | 64.0  | 86.0  | 64.4  | 70.6  | 71.3  | 72.8  | 79.9  | 86.0  | 93.2  | 83.2  | 72.7  | 62.8  | 157.6 |

|           |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1000000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 1250000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 1500000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 2000000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 2500000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 3150000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 4000000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 5000000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 6300000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 8000000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 9500000   | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 10000000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 12500000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 15000000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 20000000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 25000000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 31500000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 40000000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 50000000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 63000000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 80000000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 95000000  | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |
| 100000000 | 58.7 | 64.0 | 86.0 | 64.4 | 70.6 | 71.3 | 72.8 | 79.9 | 86.0 | 93.2 | 83.2 | 72.7 | 62.8 | 157.6 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH729 TEST DATE = 03-17-82  
IAPLHA = SB59 IEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
CONFIG = C41 ANECH CH CONFIG = 2  
MODEL = AX PAMB HG = 29.55 RELHUM = 69.7 PCT  
FLTVL = 0. FPS

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2457.9 FPS AE8 = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2457.9 FPS AE8 = 20.4 SQ IN

RUNPT = 82F-ZER-0221 TAPE = X0221F TEST PT NO = 0221 NC = AE041 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0221 X02211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 63 80 100 125 150 200 250 315 400 500 750 1000 1250 1500 2000 2500 3150 4000 5000 6300 8000

|       |       |      |      |      |      |      |      |      |      |      |       |       |       |       |     |
|-------|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-----|
| 69.5  | 72.8  | 71.4 | 76.2 | 77.7 | 77.4 | 79.4 | 81.7 | 86.7 | 94.9 | 97.5 | 95.5  | 90.8  | 171.5 |       |     |
| 50    | 69.5  | 72.8 | 71.4 | 76.2 | 77.7 | 77.4 | 79.4 | 81.7 | 86.7 | 94.9 | 97.5  | 95.5  | 90.8  | 171.5 | PWL |
| 50    | 78.0  | 81.7 | 80.8 | 85.2 | 86.6 | 86.9 | 88.2 | 92.7 | 96.0 | 99.1 | 92.6  | 85.2  | 77.3  | 173.5 |     |
| 500   | 78.0  | 81.7 | 80.8 | 85.2 | 86.6 | 86.9 | 88.2 | 92.7 | 96.0 | 99.1 | 92.6  | 85.2  | 77.3  | 173.5 |     |
| 1000  | 72.0  | 76.5 | 76.8 | 81.9 | 84.0 | 84.7 | 85.7 | 89.2 | 93.2 | 94.0 | 87.4  | 77.8  | 68.9  | 171.0 |     |
| 1250  | 69.9  | 74.6 | 76.8 | 81.3 | 83.7 | 84.1 | 85.7 | 89.3 | 91.9 | 93.4 | 85.8  | 75.8  | 66.2  | 171.0 |     |
| 1500  | 66.9  | 72.2 | 74.1 | 78.2 | 82.1 | 82.5 | 83.4 | 86.4 | 89.4 | 90.8 | 83.0  | 73.1  | 61.9  | 169.8 |     |
| 1600  | 66.9  | 72.2 | 74.1 | 78.2 | 82.1 | 82.5 | 83.4 | 86.4 | 89.4 | 90.8 | 83.0  | 73.1  | 61.9  | 169.8 |     |
| 2000  | 62.8  | 69.0 | 72.0 | 75.8 | 78.8 | 80.3 | 82.1 | 84.3 | 87.9 | 88.5 | 79.9  | 68.3  | 55.8  | 169.5 |     |
| 2500  | 58.1  | 65.1 | 69.6 | 71.9 | 76.2 | 77.0 | 78.8 | 81.4 | 85.0 | 85.4 | 75.3  | 63.1  | 47.9  | 169.1 |     |
| 3150  | 51.2  | 59.5 | 67.0 | 67.3 | 71.7 | 73.3 | 74.4 | 77.7 | 79.0 | 80.3 | 68.4  | 55.6  | 35.0  | 168.4 |     |
| 4000  | 41.0  | 50.9 | 61.3 | 60.3 | 65.4 | 68.2 | 71.0 | 72.0 | 73.5 | 59.7 | 43.5  | 16.9  | 169.0 |       |     |
| 5000  | 26.7  | 38.4 | 54.7 | 49.6 | 56.4 | 57.5 | 59.1 | 61.7 | 62.8 | 64.3 | 47.7  | 27.0  | 170.7 |       |     |
| 6300  | 3.5   | 19.2 | 41.0 | 34.1 | 41.2 | 43.7 | 44.1 | 46.1 | 46.6 | 46.6 | 26.3  | 171.6 |       |       |     |
| 8000  | 8000  | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 10000 | 10000 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 12500 | 12500 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 16000 | 16000 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 20000 | 20000 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 25000 | 25000 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 31500 | 31500 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 40000 | 40000 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 50000 | 50000 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 63000 | 63000 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |
| 80000 | 80000 | 19.6 | 9.0  | 17.6 | 20.7 | 20.7 | 20.7 | 22.7 | 22.6 | 17.6 | 172.9 |       |       |       |     |

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|              |                           |               |                             |                  |                |              |             |   |         |            |                |       |            |       |
|--------------|---------------------------|---------------|-----------------------------|------------------|----------------|--------------|-------------|---|---------|------------|----------------|-------|------------|-------|
| DBA          | 84.0                      | 87.4          | 87.1                        | 91.3             | 93.2           | 93.5         | 94.7        | 98.6  | 102.4   | 104.9      | 99.1           | 91.3  | 84.2       |       |
| PWLT         | 95.9                      | 98.6          | 98.6                        | 102.3            | 103.7          | 104.3        | 105.2       | 108.7   | 113.9   | 117.2      | 112.5          | 104.2 | 97.4       |       |
| PWL          | 94.9                      | 98.1          | 98.1                        | 101.7            | 103.7          | 103.8        | 105.2       | 108.7   | 113.3   | 116.6      | 111.4          | 104.2 | 97.4       |       |
| DBASPL       | 91.0                      | 93.6          | 92.1                        | 95.9             | 97.1           | 96.8         | 98.0        | 102.2   | 107.7   | 112.1      | 109.3          | 103.9 | 98.3       | 187.0 |
| MODEL AREA = | 131.5 SQ CM ( 20.4 SQ IN) | SCALED AREA = | 9032.2 SQ CM (1400.0 SQ IN) | DIAMETER RATIO = | 8.288          | FREQ SHIFT = | -9          | NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |         |            |                |       |            |       |
| VEHICL       | = ADH729                  | TEST DATE =   | 03-17-82                    | LOCAT            | = C41 ANECH CH | CONFIG       | = 2         | MODEL   | = AX    | FLTVEL     | = 0. FPS       |       |            |       |
| IAPLHA       | = SB59                    | LEGA          | = NG                        | PWL AREA         | = FULL SPHERE  | TAMB F       | = 53.00     | PAMB HG   | = 29.55 | RELHUM     | = 69.7 PCT     |       |            |       |
| WIND DIR     | =                         | DEG           | WIND VEL                    | =                | MPH            | EXT DIST     | = 2400.0 FT | EXT CONFIG  | = SL    | MIKE HT    | =              | NBFR  | =          |       |
| FNINI        | =                         | LBS           | XNLR                        | =                | RPM            | XNHR         | =           | V8  | =       | 2457.9 FPS | AE8            | =     | 20.4 SQ IN |       |
| FNRMB        | =                         | LBS           | XNLR                        | =                | RPM            | XNHR         | =           | V8  | =       | 2457.9 FPS | AE8            | =     | 20.4 SQ IN |       |
| RUNPT =      | ZER-0221                  | TAPE          | =                           | X02211           | TEST PT NO     | =            | 0221        | NC  | =       | AE041      | COHR FAN SPEED | =     | RPM        |       |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0222 X0222C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 50   | 89.3 | 89.6 | 86.2 | 86.4 | 85.2 | 88.2 | 86.2 | 93.0 | 93.7  | 104.8 | 104.7 | 102.6 | 98.0  | 139.8 |
| 60   | 89.0 | 90.6 | 88.6 | 91.5 | 91.3 | 92.4 | 91.3 | 92.4 | 91.4  | 93.2  | 94.3  | 103.1 | 104.2 | 139.3 |
| 80   | 89.1 | 90.3 | 87.8 | 91.1 | 91.5 | 91.1 | 92.5 | 97.2 | 102.4 | 110.2 | 115.1 | 116.0 | 113.2 | 149.6 |
| 100  | 88.8 | 89.8 | 87.3 | 89.6 | 90.7 | 91.1 | 91.7 | 95.9 | 100.9 | 108.9 | 112.3 | 114.8 | 115.2 | 148.5 |
| 125  | 87.8 | 89.6 | 88.3 | 89.6 | 90.7 | 91.1 | 91.7 | 97.4 | 102.0 | 109.0 | 118.6 | 120.5 | 115.6 | 152.7 |
| 150  | 86.7 | 87.2 | 85.5 | 87.5 | 88.6 | 89.1 | 90.0 | 94.7 | 95.1  | 102.5 | 110.8 | 120.6 | 115.4 | 155.2 |
| 175  | 85.6 | 86.5 | 84.8 | 86.8 | 87.9 | 88.4 | 89.4 | 94.1 | 95.0  | 100.4 | 106.4 | 116.7 | 119.1 | 152.7 |
| 200  | 84.5 | 85.5 | 83.8 | 86.0 | 87.1 | 87.6 | 88.6 | 93.0 | 92.8  | 98.8  | 104.0 | 113.1 | 117.5 | 151.0 |
| 225  | 83.4 | 84.4 | 82.7 | 85.1 | 86.2 | 86.7 | 87.7 | 92.4 | 92.0  | 98.8  | 104.0 | 113.1 | 117.5 | 151.0 |
| 250  | 82.3 | 83.3 | 81.6 | 84.0 | 85.1 | 85.6 | 86.6 | 91.5 | 91.1  | 97.2  | 102.4 | 110.2 | 115.1 | 149.6 |
| 275  | 81.2 | 82.2 | 80.5 | 82.9 | 84.0 | 84.5 | 85.5 | 90.4 | 90.0  | 96.8  | 103.9 | 111.7 | 116.0 | 148.5 |
| 300  | 80.1 | 81.1 | 79.4 | 81.8 | 82.9 | 83.4 | 84.4 | 89.3 | 89.0  | 95.7  | 102.4 | 110.2 | 115.1 | 147.4 |
| 325  | 79.0 | 80.0 | 78.3 | 80.7 | 81.8 | 82.3 | 83.3 | 88.2 | 87.8  | 94.1  | 101.6 | 110.8 | 115.7 | 146.3 |
| 350  | 77.9 | 78.9 | 77.2 | 79.6 | 80.7 | 81.2 | 82.2 | 87.1 | 86.7  | 93.0  | 100.9 | 109.0 | 113.8 | 145.2 |
| 375  | 76.8 | 77.8 | 76.1 | 78.5 | 79.6 | 80.1 | 81.1 | 86.0 | 85.6  | 91.9  | 100.2 | 108.3 | 112.0 | 144.1 |
| 400  | 75.7 | 76.7 | 75.0 | 77.4 | 78.5 | 79.0 | 80.0 | 84.9 | 84.5  | 90.8  | 99.7  | 108.6 | 111.3 | 143.0 |
| 425  | 74.6 | 75.6 | 73.9 | 76.3 | 77.4 | 77.9 | 78.9 | 83.8 | 83.4  | 89.7  | 98.6  | 108.4 | 109.4 | 141.9 |
| 450  | 73.5 | 74.5 | 72.8 | 75.2 | 76.3 | 76.8 | 77.8 | 82.7 | 82.3  | 88.6  | 97.5  | 107.3 | 108.1 | 140.8 |
| 475  | 72.4 | 73.4 | 70.7 | 73.1 | 74.2 | 74.7 | 75.7 | 81.6 | 81.2  | 87.5  | 96.4  | 106.2 | 107.0 | 139.7 |
| 500  | 71.3 | 72.3 | 69.6 | 72.0 | 73.1 | 73.6 | 74.6 | 80.5 | 80.1  | 86.4  | 95.3  | 105.1 | 105.8 | 138.6 |
| 525  | 70.2 | 71.2 | 68.5 | 71.2 | 72.3 | 72.8 | 73.8 | 79.4 | 79.0  | 85.3  | 94.2  | 104.0 | 104.7 | 137.5 |
| 550  | 69.1 | 70.1 | 67.4 | 70.4 | 71.5 | 72.0 | 73.0 | 78.3 | 77.9  | 84.2  | 93.1  | 102.9 | 103.4 | 136.4 |
| 575  | 68.0 | 69.0 | 66.3 | 69.4 | 70.5 | 71.0 | 72.0 | 77.2 | 76.8  | 83.1  | 92.0  | 101.8 | 102.1 | 135.3 |
| 600  | 66.9 | 67.9 | 65.2 | 68.2 | 69.3 | 69.8 | 70.8 | 76.1 | 75.7  | 82.0  | 90.9  | 100.7 | 101.0 | 134.2 |
| 625  | 65.8 | 66.8 | 64.1 | 67.2 | 68.3 | 68.8 | 69.8 | 75.0 | 74.6  | 80.9  | 89.8  | 99.6  | 99.9  | 133.1 |
| 650  | 64.7 | 65.7 | 63.0 | 66.0 | 67.1 | 67.6 | 68.6 | 73.9 | 73.5  | 79.8  | 88.7  | 98.5  | 98.8  | 132.0 |
| 675  | 63.6 | 64.6 | 61.9 | 65.0 | 66.1 | 66.6 | 67.6 | 72.8 | 72.4  | 78.7  | 87.6  | 97.4  | 97.7  | 130.9 |
| 700  | 62.5 | 63.5 | 60.8 | 63.9 | 65.0 | 65.5 | 66.5 | 71.7 | 71.3  | 77.6  | 86.5  | 96.3  | 96.6  | 129.8 |
| 725  | 61.4 | 62.4 | 59.7 | 62.8 | 63.9 | 64.4 | 65.4 | 70.6 | 70.2  | 76.5  | 85.4  | 95.2  | 95.5  | 128.7 |
| 750  | 60.3 | 61.3 | 58.6 | 61.7 | 62.8 | 63.3 | 64.3 | 69.5 | 69.1  | 75.4  | 84.3  | 94.1  | 94.4  | 127.6 |
| 775  | 59.2 | 60.2 | 57.5 | 60.6 | 61.7 | 62.2 | 63.2 | 68.4 | 68.0  | 74.3  | 83.2  | 93.0  | 93.3  | 126.5 |
| 800  | 58.1 | 59.1 | 56.4 | 59.5 | 60.6 | 61.1 | 62.1 | 67.3 | 66.9  | 73.2  | 82.1  | 91.9  | 92.2  | 125.4 |
| 825  | 57.0 | 58.0 | 55.3 | 58.4 | 59.5 | 60.0 | 61.0 | 66.2 | 65.8  | 72.1  | 81.0  | 90.8  | 91.1  | 124.3 |
| 850  | 55.9 | 56.9 | 54.2 | 57.3 | 58.4 | 58.9 | 59.9 | 65.1 | 64.6  | 71.0  | 80.0  | 89.7  | 90.0  | 123.2 |
| 875  | 54.8 | 55.8 | 53.1 | 56.2 | 57.3 | 57.8 | 58.8 | 64.0 | 63.5  | 69.9  | 78.9  | 88.6  | 88.9  | 122.1 |
| 900  | 53.7 | 54.7 | 52.0 | 55.1 | 56.2 | 56.7 | 57.7 | 62.9 | 62.4  | 68.8  | 77.8  | 87.5  | 87.8  | 121.0 |
| 925  | 52.6 | 53.6 | 50.9 | 54.0 | 55.1 | 55.6 | 56.6 | 61.8 | 61.3  | 67.7  | 76.7  | 86.4  | 86.7  | 119.9 |
| 950  | 51.5 | 52.5 | 49.8 | 52.9 | 54.0 | 54.5 | 55.5 | 60.7 | 60.2  | 66.6  | 75.6  | 85.3  | 85.6  | 118.8 |
| 975  | 50.4 | 51.4 | 48.7 | 51.8 | 52.9 | 53.4 | 54.4 | 59.6 | 59.1  | 65.5  | 74.5  | 84.2  | 84.5  | 117.7 |
| 1000 | 49.3 | 50.3 | 47.6 | 50.7 | 51.8 | 52.3 | 53.3 | 58.5 | 58.0  | 64.4  | 73.4  | 83.1  | 83.4  | 116.6 |
| 1025 | 48.2 | 49.2 | 46.5 | 49.6 | 50.7 | 51.2 | 52.2 | 57.4 | 56.9  | 63.3  | 72.3  | 82.0  | 82.3  | 115.5 |
| 1050 | 47.1 | 48.1 | 45.4 | 48.5 | 49.6 | 50.1 | 51.1 | 56.3 | 55.8  | 62.2  | 71.2  | 80.9  | 81.2  | 114.4 |
| 1075 | 46.0 | 47.0 | 44.3 | 47.4 | 48.5 | 49.0 | 50.0 | 55.2 | 54.7  | 61.1  | 70.1  | 79.8  | 80.1  | 113.3 |
| 1100 | 44.9 | 45.9 | 43.2 | 46.3 | 47.4 | 47.9 | 48.9 | 54.1 | 53.6  | 60.0  | 69.0  | 78.7  | 79.0  | 112.2 |
| 1125 | 43.8 | 44.8 | 42.1 | 45.2 | 46.3 | 46.8 | 47.8 | 53.0 | 52.5  | 58.9  | 67.9  | 77.6  | 77.9  | 111.1 |
| 1150 | 42.7 | 43.7 | 41.0 | 44.1 | 45.2 | 45.7 | 46.7 | 51.9 | 51.4  | 57.8  | 66.8  | 76.5  | 76.8  | 110.0 |
| 1175 | 41.6 | 42.6 | 39.9 | 43.0 | 44.1 | 44.6 | 45.6 | 50.8 | 50.3  | 56.7  | 65.7  | 75.4  | 75.7  | 108.9 |
| 1200 | 40.5 | 41.5 | 38.8 | 41.9 | 43.0 | 43.5 | 44.5 | 49.7 | 49.2  | 55.6  | 64.6  | 74.3  | 74.6  | 107.8 |
| 1225 | 39.4 | 40.4 | 37.7 | 40.8 | 41.9 | 42.4 | 43.4 | 48.6 | 48.1  | 54.5  | 63.5  | 73.2  | 73.5  | 106.7 |
| 1250 | 38.3 | 39.3 | 36.6 | 39.7 | 40.6 | 41.1 | 42.1 | 47.5 | 47.0  | 53.4  | 62.4  | 72.1  | 72.4  | 105.6 |
| 1275 | 37.2 | 38.2 | 35.5 | 38.6 | 39.5 | 40.0 | 41.0 | 46.4 | 45.9  | 52.3  | 61.3  | 71.0  | 71.3  | 104.5 |
| 1300 | 36.1 | 37.1 | 34.4 | 37.5 | 38.4 | 38.9 | 39.9 | 45.3 | 44.8  | 51.2  | 60.2  | 69.9  | 70.2  | 103.4 |
| 1325 | 35.0 | 36.0 | 33.3 | 36.4 | 37.3 | 37.8 | 38.8 | 44.2 | 43.7  | 50.1  | 59.1  | 68.8  | 69.1  | 102.3 |
| 1350 | 33.9 | 34.9 | 32.2 | 35.3 | 36.2 | 36.7 | 37.7 | 43.1 | 42.6  | 49.0  | 58.0  | 67.7  | 68.0  | 101.2 |
| 1375 | 32.8 | 33.8 | 31.1 | 34.2 | 35.1 | 35.6 | 36.6 | 42.0 | 41.5  | 47.9  | 56.9  | 66.6  | 66.9  | 100.1 |
| 1400 | 31.7 | 32.7 | 30.0 | 33.1 | 34.0 | 34.5 | 35.5 | 40.9 | 40.4  | 46.8  | 55.8  | 65.5  | 65.8  | 99.0  |
| 1425 | 30.6 | 31.6 | 28.9 | 32.0 | 32.9 | 33.4 | 34.4 | 39.8 | 39.3  | 45.7  | 54.7  | 64.4  | 64.7  | 97.9  |
| 1450 | 29.5 | 30.5 | 27.8 | 30.9 | 31.8 | 32.3 | 33.3 | 38.7 | 38.2  | 44.6  | 53.6  | 63.3  | 63.6  | 96.8  |
| 1475 | 28.4 | 29.4 | 26.7 | 29.8 | 30.7 | 31.2 | 32.2 | 37.6 | 37.1  | 43.5  | 52.5  | 62.2  | 62.5  | 95.7  |
| 1500 | 27.3 | 28.3 | 25.6 | 28.7 | 29.6 | 30.1 | 31.1 | 36.5 | 36.0  | 42.4  | 51.4  | 61.1  | 61.4  | 94.6  |
| 1525 | 26.2 | 27.2 | 24.5 | 27.6 | 28.5 | 29.0 | 30.0 | 35.4 | 34.9  | 41.3  | 50.3  | 59.9  | 60.2  | 93.5  |
| 1550 | 25.1 | 26.1 | 23.4 | 26.5 | 27.4 | 27.9 | 28.9 | 34.3 | 33.8  | 40.2  | 49.2  | 58.8  | 59.1  | 92.4  |
| 1575 | 24.0 | 25.0 | 22.3 | 25.4 | 26.3 | 26.8 | 27.8 | 33.2 | 32.7  | 39.1  | 48.1  | 57.7  | 58.0  | 91.3  |
| 1600 | 22.9 | 23.9 | 21.2 | 24.3 | 25.2 | 25.7 | 26.7 | 32.1 | 31.6  | 38.0  | 47.0  | 56.6  | 56.9  | 90.2  |
| 1625 | 21.8 | 22.8 | 20.1 | 23.2 | 24.1 | 24.6 | 25.6 | 31.0 | 30.5  | 36.9  | 45.9  | 55.5  | 55.8  | 89.1  |
| 1650 | 20.7 | 21.7 | 19.0 | 22.1 | 23.0 | 23.5 | 24.5 | 29.9 | 29.4  | 35.8  | 44.8  | 54.4  | 54.7  | 88.0  |
| 1675 | 19.6 | 20.6 | 17.9 | 21.0 | 21.9 | 22.4 | 23.4 | 28.8 | 28.3  | 34.7  | 43.7  | 53.3  | 53.6  | 86.9  |
| 1700 | 18.5 | 19.5 | 16.8 | 19.9 | 20.8 | 21.3 | 22.3 | 27.7 | 27.2  | 33.6  | 42.6  | 52.2  | 52.5  | 85.8  |
| 1725 | 17.4 | 18.4 | 15.7 | 18.8 | 19.7 | 20.2 | 21.2 | 26.6 | 26.1  | 32.5  | 41.5  | 51.1  | 51.4  | 84.7  |
| 1750 | 16.3 | 17.3 | 14.6 | 17.7 | 18.6 | 19.1 | 20.1 | 25.5 | 25.0  | 31.4  | 40.4  | 50.0  | 50.3  | 83.6  |
| 1775 | 15.2 | 16.2 | 13.5 | 16.6 | 17.5 | 18.0 | 19.0 | 24.4 | 23.9  | 30.3  | 39.3  | 48.9  | 49.2  | 82.5  |
| 1800 | 14.1 | 15.1 | 12.4 | 15.5 | 16.4 | 16.9 | 17.9 | 23.3 | 22.8  | 29.2  | 38.2  | 47.8  | 48.1  | 81.4  |
| 1825 | 13.0 | 14.0 | 11.3 | 14.4 | 15.3 | 15.8 | 16.8 | 22.2 | 21.7  | 28.1  | 37.1  | 46.7  | 47.0  | 80.3  |
| 1850 | 11.9 | 12.9 | 10.2 | 13.3 | 14.2 | 14.7 | 15.7 | 21.1 | 20.6  | 27.0  | 36.0  | 45.6  | 45.9  | 79.2  |
| 1875 | 10.8 | 11.8 | 9.1  | 12.2 | 13.1 | 13.6 | 14.6 | 20.0 | 19.5  | 25.9  | 34.9  | 44.5  | 44.8  | 78.1  |
| 1900 | 9.7  | 10.7 | 8.0  | 11.1 | 12.0 | 12.5 | 13.5 | 18.9 | 18.4  | 24.8  | 33.8  | 43.4  | 43.7  | 77.0  |
| 1925 | 8.6  | 9.6  | 6.9  | 10.0 | 10.9 | 11.4 | 12.4 | 17.8 | 17.3  | 23.7  | 32.7  | 42.3  | 42.6  | 75.9  |
| 1950 | 7.5  | 8.5  | 5.8  | 8.9  | 9.8  | 10.3 | 11.3 | 16.7 | 16.2  | 22.6  | 31.6  | 41.2  | 41.5  | 74.8  |
| 1975 | 6.4  | 7.4  | 4.7  | 7.8  | 8.7  | 9.2  | 10.2 | 15.6 | 15.1  | 21.5  | 30.5  | 40.1  | 40.4  | 73.7  |
| 2000 | 5.3  | 6.3  | 3.6  | 6.7  | 7.6  | 8.1  | 9.1  | 14.5 | 14.0  | 20.4  | 29.4  | 39.0  | 39.3  | 72.6  |
| 2025 | 4.2  | 5.2  | 2.5  | 5.6  | 6.5  | 7.0  | 8.0  | 13.4 | 12.9  | 19.3  | 28.3  | 37.9  | 38.2  | 71.5  |
| 2050 | 3.1  | 4.1  | 1.4  | 4.5  | 5.4  | 5.9  | 6.9  | 12.3 | 11.8  | 18.2  | 27.2  | 36.8  | 37.1  | 70.4  |
| 2075 | 2.0  | 3.0  | 0.3  | 3.4  | 4.3  | 4.8  | 5.8  | 11.2 | 10.7  | 17.1  | 26.1  | 35.7  | 36.0  | 69.3  |
| 2100 | 1.0  | 2.0  | -0.8 | 2.3  | 3.2  | 3.7  | 4.7  | 10.1 | 9.6   | 16.0  | 25.0  | 34.6  | 34.9  | 68.2  |
| 2125 | 0.0  | 1.0  | -1.7 | 1.2  | 2.1  | 2.6  | 3.6  | 9.0  | 8.5   | 14.9  | 23.9  | 33.5  | 33.8  | 67.1  |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-400-0222 X0222F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200  
160  
125  
100  
80  
63  
50  
40

92.5 93.5 90.6 91.5 90.5 90.5 89.0 93.2 97.4 104.6 107.4 110.3 112.6 144.7  
250 92.5 93.5 90.6 91.5 90.5 90.5 89.0 93.2 97.4 104.6 107.4 110.3 112.6 144.7  
315 92.5 93.5 90.6 91.5 90.5 90.5 89.0 93.1 99.1 106.1 110.6 112.3 112.0 146.2  
400 93.6 94.1 89.8 92.4 92.9 91.3 91.2 94.4 102.4 111.0 115.3 115.4 113.7 149.7  
500 94.1 94.9 91.5 93.7 93.9 93.3 92.1 97.1 104.6 114.6 117.3 116.8 113.9 151.6  
630 95.4 95.9 92.4 93.8 95.1 94.5 94.1 98.4 107.5 116.8 119.2 117.2 115.3 153.3  
800 96.5 97.6 93.6 95.6 97.0 96.5 96.3 99.3 109.6 119.2 120.5 118.1 116.5 154.8  
1000 98.6 98.6 95.3 97.7 98.7 98.1 97.9 102.3 111.8 119.9 121.0 117.4 117.9 155.4  
1250 102.2 101.5 97.8 99.4 102.4 100.6 99.8 104.2 112.7 119.5 122.0 116.9 117.2 155.8  
1600 103.9 105.4 102.3 103.2 102.4 101.3 101.2 105.3 113.7 120.8 121.3 117.0 118.3 156.3  
2000 107.7 106.7 103.6 103.5 104.6 101.8 102.4 106.5 113.7 120.8 120.3 116.1 118.2 157.9  
2500 107.4 107.2 104.8 106.3 107.1 103.8 102.6 107.5 115.0 120.2 119.7 116.1 117.7 155.8  
3150 107.3 107.6 105.2 107.1 106.7 105.8 104.5 108.1 114.8 119.9 118.5 114.7 116.7 155.4  
4000 106.1 106.7 105.6 106.7 105.8 104.6 105.9 110.0 114.6 117.1 117.5 113.5 115.0 154.2  
5000 104.5 104.9 103.5 104.9 104.7 103.6 105.3 109.3 114.8 117.0 116.1 111.9 113.9 153.6  
6300 103.8 104.4 102.1 104.1 104.6 104.3 104.8 109.1 114.4 115.6 114.9 109.9 113.1 152.9  
8000 103.3 104.1 101.6 103.4 103.2 103.3 103.9 107.9 113.2 115.2 113.3 109.0 111.5 152.3

10000 101.3 101.9 99.8 102.7 104.7 103.4 104.4 108.2 111.3 112.8 111.3 108.2 109.7 151.4  
12500 102.3 103.0 101.3 103.0 103.0 101.9 102.2 105.5 110.3 110.9 110.0 104.9 106.6 150.7  
15000 100.1 100.0 98.1 100.3 100.5 99.9 100.4 103.6 107.9 109.1 107.3 103.2 104.9 149.8  
20000 96.6 96.9 95.0 97.0 97.8 95.0 95.3 98.4 100.9 104.2 105.0 102.6 102.2 148.1  
25000 92.7 94.3 91.3 93.5 95.0 95.0 95.3 98.4 101.8 103.4 100.4 97.8 97.2 148.0  
31500 89.2 90.5 87.0 89.1 90.6 90.4 91.3 94.2 100.0 103.4 100.3 94.6 94.1 149.4  
40000 84.6 84.1 82.2 84.3 86.9 86.4 87.4 90.8 98.4 101.1 97.8 90.9 89.7 150.8  
50000 80.4 81.4 77.8 79.1 81.1 82.0 82.1 87.2 97.3 103.0 96.9 87.5 87.8 155.3  
63000 79.7 74.5 70.7 72.9 75.1 78.3 77.4 82.3 96.9 107.4 96.9 83.1 85.4 163.7  
80000 64.4 76.8 62.3 65.0 72.5 74.6 75.4 79.4 87.1 97.6 87.1 73.3 75.6 160.8

GASPL 115.9 116.2 113.8 115.4 115.8 114.5 114.8 118.7 124.9 130.2 130.7 127.5 128.0 169.3  
PNL 128.6 129.0 126.5 128.3 128.3 127.2 127.3 131.4 137.2 142.3 142.1 138.7 139.9  
PNLT 128.6 129.0 126.5 128.3 128.3 127.2 127.3 131.4 137.2 142.3 142.1 138.7 139.9  
DBA 191.4 197.2 185.7 188.0 193.6 195.7 196.3 200.4 210.3 220.6 210.2 196.9 198.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH711 TEST DATE = 03-16-82  
IAPLHA = SB59 IEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
PWL AREA = FULL SPHERE EXT DIST = 40.0 FT  
CONFIG = C41 ANECH CH CONFIG = 2  
MODEL = AX  
PAMB HG = 29.25  
RELHUM = 65.6 PCT  
FLTVEL = 400. FPS  
TAMB F = 73.00  
EXT CNFIG = ARC  
MIKE HT =  
NBFR =

FNINI = LBS XNL RPM XNH RPM =  
FNRAMB = LBS XNLR RPM XNHR RPM =  
= 2462.3 FPS AEB = 20.4 SQ IN  
= 0. SQ IN

RUNPT = 8 00-0222 TAPE = X0222F TEST PT NO = 0222 NC = AE039 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0222 X02221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |       |       |       |      |       |       |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|-------|
| 50   | 72.5 | 74.6 | 71.3 | 74.7 | 75.6 | 74.1 | 73.8 | 76.7 | 83.9  | 91.4  | 94.2  | 92.1 | 87.1  | 168.1 |
| 63   | 73.0 | 75.4 | 75.9 | 76.6 | 76.1 | 74.8 | 79.3 | 86.1 | 95.0  | 96.2  | 93.5  | 87.3 | 170.0 |       |
| 80   | 74.2 | 76.3 | 73.9 | 76.0 | 77.7 | 77.2 | 76.7 | 80.6 | 89.0  | 97.2  | 98.0  | 93.8 | 88.5  | 171.6 |
| 100  | 75.3 | 77.9 | 75.1 | 77.8 | 79.5 | 78.9 | 79.1 | 82.1 | 91.0  | 99.5  | 99.2  | 94.6 | 89.6  | 173.2 |
| 125  | 77.3 | 78.8 | 76.7 | 79.7 | 81.2 | 80.8 | 80.4 | 84.3 | 93.1  | 100.1 | 99.6  | 93.7 | 90.7  | 173.8 |
| 160  | 80.7 | 81.6 | 79.0 | 81.3 | 84.8 | 83.1 | 82.2 | 86.2 | 93.9  | 99.6  | 100.5 | 89.7 | 174.2 |       |
| 200  | 82.1 | 85.3 | 85.0 | 84.6 | 83.7 | 83.4 | 87.0 | 94.7 | 100.6 | 99.7  | 92.8  | 90.3 | 174.6 |       |
| 250  | 85.6 | 86.3 | 84.3 | 85.0 | 86.6 | 84.0 | 84.4 | 88.1 | 94.5  | 100.4 | 98.2  | 91.5 | 174.3 |       |
| 315  | 84.8 | 86.5 | 85.2 | 87.6 | 88.9 | 85.7 | 84.4 | 88.8 | 95.5  | 99.5  | 97.1  | 90.9 | 174.2 |       |
| 400  | 84.2 | 86.5 | 85.3 | 88.1 | 88.1 | 87.4 | 86.0 | 89.0 | 95.0  | 98.8  | 95.5  | 88.8 | 173.7 |       |
| 500  | 82.6 | 85.2 | 84.4 | 87.4 | 87.0 | 86.0 | 87.1 | 90.7 | 94.4  | 95.6  | 94.0  | 87.0 | 172.5 |       |
| 630  | 80.5 | 83.0 | 83.0 | 85.3 | 85.6 | 84.7 | 86.2 | 89.6 | 94.2  | 95.1  | 92.1  | 84.8 | 172.0 |       |
| 800  | 79.3 | 82.1 | 81.2 | 84.2 | 85.3 | 85.1 | 85.5 | 89.2 | 93.6  | 93.3  | 90.4  | 82.1 | 171.3 |       |
| 1000 | 77.4 | 81.5 | 80.5 | 83.3 | 84.7 | 83.9 | 84.4 | 87.8 | 92.2  | 92.6  | 88.4  | 80.5 | 170.7 |       |
| 1250 | 75.8 | 79.0 | 78.5 | 82.5 | 85.1 | 84.0 | 84.7 | 87.9 | 90.0  | 89.9  | 85.9  | 78.9 | 169.7 |       |
| 1600 | 76.0 | 79.5 | 79.6 | 82.5 | 83.7 | 82.2 | 82.3 | 84.9 | 88.6  | 87.4  | 83.7  | 74.2 | 169.1 |       |
| 2000 | 72.8 | 75.9 | 76.0 | 79.5 | 80.4 | 80.0 | 80.3 | 82.8 | 85.8  | 84.9  | 80.0  | 70.9 | 168.1 |       |
| 2500 | 67.5 | 71.6 | 72.0 | 75.5 | 77.2 | 76.9 | 77.1 | 79.5 | 81.2  | 79.6  | 73.5  | 67.1 | 166.5 |       |
| 3150 | 60.3 | 66.6 | 66.4 | 70.5 | 73.0 | 73.3 | 73.3 | 75.4 | 77.0  | 75.6  | 67.9  | 57.7 | 166.3 |       |
| 4000 | 50.5 | 58.0 | 58.4 | 62.8 | 65.6 | 65.8 | 66.3 | 67.9 | 71.3  | 70.8  | 61.6  | 45.5 | 167.7 |       |
| 5000 | 36.1 | 44.0 | 47.3 | 52.5 | 56.9 | 57.4 | 59.1 | 63.5 | 61.1  | 49.4  | 28.2  | 0.7  | 169.2 |       |
| 6300 | 14.2 | 27.1 | 30.8 | 36.6 | 41.0 | 42.7 | 42.0 | 44.7 | 50.4  | 48.7  | 30.7  | 0.1  | 182.0 |       |
| 8000 |      |      | 2.4  | 11.1 | 16.9 | 21.2 | 19.2 | 20.5 | 28.6  | 28.2  | 0.1   |      | 179.2 |       |

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OF POOR QUALITY

|       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| QASPL | 92.8 | 94.9  | 93.7  | 96.1  | 97.0  | 95.8  | 95.8  | 99.3  | 105.0 | 109.5 | 108.6 | 103.0 | 99.2  | 187.6 |
| PNL   | 98.2 | 100.9 | 100.0 | 102.9 | 103.9 | 103.0 | 103.1 | 106.2 | 110.9 | 114.0 | 111.6 | 104.9 | 101.2 |       |
| PMLT  | 98.2 | 100.9 | 100.6 | 103.4 | 103.9 | 103.0 | 103.1 | 106.7 | 110.9 | 114.0 | 112.3 | 106.0 | 101.2 |       |
| DBA   | 88.1 | 90.7  | 90.0  | 92.9  | 93.8  | 92.9  | 93.3  | 96.6  | 100.8 | 102.4 | 99.8  | 92.8  | 89.8  |       |

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9  
 NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH711 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2  
 IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 73.00 MODEL = AX  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = 29.25 RELHUM = 65.6 PCT  
 FINI = LBS XNL RPM XNH XNHR = RPM V8 = 2462.3 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 2462.3 FPS AE8 = 20.4 SQ IN  
 RUNPT = 82F-400-0222 TAPE = X02221 TEST PT NO = 0222 NC = AE039 CORR FAN SPEED = RPM

01

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0223 X0223C

BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50  | 94.4  | 89.5  | 85.0  | 88.0  | 87.6  | 84.7  | 86.6  | 86.3  | 95.0  | 95.1  | 94.4  | 94.4  | 95.3  | 133.6 |
| 55  | 93.5  | 90.5  | 89.8  | 93.1  | 93.7  | 92.0  | 91.7  | 89.3  | 99.0  | 98.4  | 97.7  | 98.3  | 99.1  | 137.2 |
| 60  | 92.8  | 95.8  | 88.8  | 92.6  | 93.5  | 93.8  | 93.5  | 94.9  | 96.6  | 94.2  | 98.3  | 99.7  | 101.4 | 137.5 |
| 65  | 93.3  | 90.4  | 95.8  | 94.7  | 95.2  | 94.4  | 94.7  | 97.9  | 97.6  | 97.9  | 99.8  | 104.0 | 105.4 | 139.9 |
| 70  | 89.9  | 90.1  | 90.4  | 94.2  | 95.8  | 94.9  | 94.3  | 95.7  | 97.4  | 99.2  | 106.4 | 109.5 | 142.8 |       |
| 75  | 89.9  | 87.1  | 88.3  | 90.6  | 90.5  | 91.1  | 93.0  | 94.4  | 97.6  | 101.7 | 107.0 | 109.5 | 112.6 | 144.1 |
| 80  | 90.5  | 90.3  | 87.6  | 92.4  | 94.2  | 94.1  | 94.0  | 97.6  | 103.1 | 103.9 | 108.8 | 113.0 | 114.9 | 146.8 |
| 85  | 89.5  | 89.5  | 92.6  | 90.1  | 93.9  | 93.5  | 94.1  | 96.5  | 100.1 | 103.3 | 109.2 | 113.8 | 116.7 | 150.1 |
| 90  | 90.3  | 91.9  | 89.1  | 93.2  | 95.8  | 95.4  | 96.5  | 99.7  | 105.9 | 111.4 | 116.1 | 118.0 | 118.2 | 151.8 |
| 95  | 91.8  | 93.1  | 90.1  | 94.7  | 95.8  | 94.9  | 97.5  | 100.4 | 107.9 | 114.9 | 119.1 | 119.5 | 117.7 | 153.7 |
| 100 | 92.9  | 94.2  | 91.0  | 95.5  | 96.9  | 97.0  | 97.9  | 102.8 | 109.7 | 117.6 | 120.9 | 119.6 | 117.3 | 155.0 |
| 105 | 95.3  | 96.1  | 92.9  | 96.9  | 98.2  | 98.6  | 100.0 | 103.9 | 112.4 | 120.7 | 121.8 | 120.2 | 117.6 | 156.4 |
| 110 | 103.4 | 104.2 | 98.5  | 102.0 | 101.6 | 103.4 | 107.5 | 116.3 | 124.3 | 123.0 | 119.9 | 116.8 | 116.8 | 158.5 |
| 115 | 108.9 | 109.8 | 106.0 | 108.1 | 107.4 | 104.8 | 106.5 | 111.1 | 118.0 | 123.2 | 120.5 | 116.1 | 112.3 | 157.6 |
| 120 | 108.9 | 107.0 | 103.8 | 105.1 | 104.4 | 103.0 | 105.1 | 110.4 | 117.8 | 122.0 | 116.9 | 113.9 | 113.9 | 157.8 |
| 125 | 108.9 | 108.2 | 103.6 | 102.1 | 105.3 | 107.0 | 106.5 | 108.4 | 112.7 | 115.9 | 118.6 | 115.9 | 109.9 | 154.5 |
| 130 | 102.2 | 103.6 | 102.1 | 105.3 | 107.0 | 106.5 | 107.3 | 112.4 | 115.4 | 117.8 | 115.1 | 109.1 | 105.4 | 154.1 |
| 135 | 100.2 | 103.2 | 101.6 | 104.6 | 106.3 | 107.0 | 107.3 | 112.4 | 115.4 | 117.8 | 115.1 | 109.1 | 105.4 | 154.1 |
| 140 | 99.1  | 101.1 | 100.1 | 103.2 | 105.5 | 105.8 | 107.0 | 111.1 | 114.8 | 116.8 | 113.6 | 112.7 | 105.7 | 153.3 |
| 145 | 97.8  | 100.8 | 99.8  | 102.8 | 105.8 | 105.8 | 107.0 | 110.5 | 113.4 | 114.4 | 110.8 | 104.0 | 100.0 | 152.3 |
| 150 | 96.0  | 97.5  | 97.5  | 100.8 | 104.0 | 103.7 | 104.8 | 108.5 | 112.1 | 114.4 | 110.8 | 104.0 | 100.0 | 152.3 |
| 155 | 93.3  | 93.3  | 93.3  | 95.1  | 95.6  | 98.1  | 101.7 | 103.0 | 110.5 | 112.2 | 108.5 | 101.4 | 96.7  | 151.5 |
| 160 | 93.3  | 93.0  | 93.0  | 94.1  | 94.6  | 96.5  | 97.9  | 104.1 | 104.0 | 105.7 | 99.0  | 93.6  | 151.1 |       |
| 165 | 91.2  | 93.0  | 93.0  | 93.8  | 91.6  | 95.7  | 96.5  | 97.9  | 101.8 | 104.8 | 101.6 | 96.5  | 93.9  | 150.4 |
| 170 | 83.4  | 85.9  | 91.0  | 88.8  | 92.1  | 92.7  | 94.4  | 98.3  | 101.7 | 105.8 | 99.6  | 93.0  | 85.5  | 151.1 |
| 175 | 88.2  | 81.7  | 86.4  | 84.1  | 88.8  | 89.0  | 85.5  | 95.2  | 98.9  | 97.4  | 89.2  | 79.7  | 152.7 |       |
| 180 | 84.7  | 78.6  | 83.7  | 83.7  | 83.7  | 85.2  | 90.1  | 95.8  | 100.4 | 93.2  | 85.2  | 74.2  | 153.4 |       |
| 185 | 72.3  | 76.4  | 86.9  | 73.3  | 78.6  | 79.8  | 80.7  | 85.9  | 91.6  | 97.0  | 88.9  | 79.8  | 69.0  | 155.0 |
| 190 | 78.0  | 72.2  | 85.5  | 66.9  | 72.1  | 74.1  | 75.1  | 80.9  | 86.2  | 92.2  | 83.7  | 74.4  | 61.3  | 157.2 |
| 195 | 116.3 | 116.9 | 114.2 | 117.1 | 118.0 | 117.5 | 118.3 | 122.5 | 127.9 | 133.2 | 132.2 | 129.5 | 127.6 | 169.4 |
| 200 | 116.3 | 116.9 | 114.2 | 117.1 | 118.0 | 117.5 | 118.3 | 122.5 | 127.9 | 133.2 | 132.2 | 129.5 | 127.6 | 169.4 |
| 205 | 128.8 | 129.7 | 127.3 | 130.5 | 131.4 | 131.0 | 131.6 | 135.5 | 140.8 | 145.2 | 143.3 | 139.6 | 136.9 |       |
| 210 | 128.8 | 129.7 | 127.3 | 130.5 | 131.4 | 131.0 | 131.6 | 135.5 | 140.8 | 145.2 | 143.3 | 139.6 | 136.9 |       |
| 215 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 220 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 225 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 230 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 235 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 240 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 245 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 250 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 255 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 260 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 265 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 270 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 275 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 280 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 285 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 290 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 295 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 300 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 305 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 310 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 315 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 320 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 325 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 330 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 335 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 340 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 345 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 350 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 355 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |
| 360 | 116.9 | 117.4 | 114.5 | 117.4 | 118.1 | 117.3 | 118.0 | 122.3 | 128.0 | 133.3 | 131.8 | 128.1 | 125.5 |       |

VEHICL = ADH730 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH RPM XNHR = V8 RPM V8 = 2508.1 FPS AEB = 20.4 SQ IN  
 FNRAMB = LBS XNLR = X0223C TEST PT NO = 0223 NC = AE041 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0223 X0223F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 94.4 89.5 85.0 88.0 87.6 84.7 86.6 86.3 95.0 95.1 94.4 94.4 95.3 133.6

50 94.4 89.5 85.0 88.0 87.6 84.7 86.6 86.3 95.0 95.1 94.4 94.4 95.3 133.6

63 93.5 90.5 89.8 93.1 93.7 92.0 91.7 89.3 99.0 98.4 97.7 98.4 99.1 137.2

80 92.8 95.8 88.8 92.6 93.8 93.5 94.9 96.6 94.2 98.3 99.7 101.2 137.5

100 93.3 95.8 90.4 94.7 95.2 94.4 94.7 97.9 97.6 99.8 104.0 105.4 139.9

125 89.9 90.1 90.4 94.2 95.8 94.9 94.3 95.7 97.4 99.2 106.4 108.5 142.8

160 89.0 87.1 88.3 90.6 90.5 91.1 93.0 94.4 97.6 101.7 107.0 109.5 144.1

200 90.5 90.3 87.6 92.4 94.2 94.1 94.0 97.6 103.1 103.9 108.8 113.0 146.8

250 89.5 92.6 90.1 93.9 93.5 94.1 96.5 100.1 103.3 109.2 113.8 116.7 150.1

315 90.3 91.9 89.1 93.2 95.8 95.4 96.5 99.7 105.9 111.4 116.1 118.0 151.8

400 91.8 93.1 90.1 94.7 95.8 94.9 97.5 100.4 107.9 114.9 119.1 119.5 153.7

500 92.9 94.2 91.0 95.5 96.9 97.0 97.9 102.8 109.7 117.6 120.9 119.6 155.0

630 95.3 96.1 92.9 96.9 98.2 98.6 100.0 103.9 112.4 120.7 121.8 120.2 156.4

800 98.4 99.8 95.0 98.8 99.1 99.5 102.1 106.3 114.5 122.8 119.9 117.5 157.5

1000 103.4 104.2 102.0 101.6 101.5 103.4 107.5 116.3 124.3 123.0 119.9 116.8 158.5

1250 106.2 107.2 103.3 105.6 105.1 103.3 103.9 109.3 117.5 124.1 123.5 118.1 158.7

1500 107.4 108.2 105.5 109.0 109.8 107.4 107.4 104.8 106.5 111.1 118.0 123.2 157.6

2000 108.9 109.8 106.0 108.1 107.4 104.4 104.8 106.5 111.1 117.7 117.4 122.9 157.6

2500 107.4 108.2 105.5 109.0 109.8 107.4 107.4 104.8 106.5 111.1 117.7 117.4 157.6

3150 105.3 107.3 105.1 108.4 109.2 109.3 108.9 111.6 117.9 121.5 118.3 113.4 156.5

4000 103.8 105.3 103.5 107.1 107.9 108.2 112.8 116.7 120.1 117.1 111.7 108.4 155.5

5000 102.2 103.6 102.1 105.3 107.0 106.5 108.4 112.7 118.6 115.9 109.9 106.4 154.5

6300 100.2 103.2 101.6 104.6 106.3 107.0 107.3 112.4 115.4 117.8 115.1 109.1 154.1

8000 78.0 72.2 85.5 66.9 72.1 74.1 75.1 80.9 86.2 92.2 83.7 74.4 61.3 157.2

50000 84.7 78.2 88.4 78.6 83.7 85.0 85.2 90.1 95.8 100.4 93.2 85.2 74.2 153.4

63000 72.3 76.4 86.9 73.3 78.6 79.8 80.7 85.9 91.6 97.0 88.9 79.8 69.0 155.0

80000 78.0 72.2 85.5 66.9 72.1 74.1 75.1 80.9 86.2 92.2 83.7 74.4 61.3 157.2

116.3 116.9 114.2 117.1 118.0 117.5 118.3 122.5 127.9 133.2 132.2 129.5 127.6 169.4

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

198.3 193.4 206.2 189.1 194.2 196.0 196.9 202.4 207.9 213.6 205.3 196.2 184.1

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

128.8 129.7 127.3 130.5 131.4 131.0 131.6 135.5 140.8 145.2 143.3 139.6 136.9

VEHCL = ADH730 TEST DATE = 03-17-82  
LAPLHA = SB59 IEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
FNINI = LBS XNL RPM XNHR = RPM  
FNRMB = LBS XNL RPM XNHR = RPM  
RUNPT = 82F-ZER-0223 TAPE = X0223F  
TEST PT NO = 0223 NC = AE041  
CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514  
MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00  
REFR CORR YES, TURB CORR YES

Table with 13 columns of numerical data representing pressure levels at various frequencies and angles.

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OF POOR QUALITY

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 8ZF-ZER-0223 X02231

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |       |       |       |       |       |       |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 50    | 70.8 | 73.6 | 71.7 | 76.9 | 76.4 | 77.7 | 80.2 | 82.7 | 89.4  | 95.4  | 98.0  | 96.2  | 91.1  | 172.1 |
| 63    | 71.8 | 74.7 | 72.5 | 77.8 | 79.5 | 79.8 | 80.5 | 85.0 | 91.3  | 98.0  | 99.8  | 96.3  | 90.6  | 173.3 |
| 80    | 74.1 | 76.5 | 74.3 | 79.1 | 80.8 | 81.3 | 82.6 | 86.1 | 93.8  | 101.1 | 100.7 | 96.9  | 90.9  | 174.8 |
| 100   | 77.2 | 77.1 | 76.4 | 80.9 | 81.7 | 82.2 | 84.7 | 88.4 | 95.9  | 103.1 | 101.0 | 96.4  | 90.6  | 175.8 |
| 125   | 82.1 | 84.5 | 79.8 | 84.1 | 84.1 | 84.1 | 84.1 | 85.9 | 89.6  | 101.6 | 96.2  | 89.6  | 176.9 |       |
| 150   | 84.7 | 87.3 | 84.5 | 87.5 | 87.5 | 87.5 | 85.8 | 86.3 | 91.2  | 98.7  | 104.2 | 101.9 | 94.3  | 177.0 |
| 200   | 88.2 | 86.9 | 84.8 | 86.6 | 85.4 | 87.3 | 92.7 | 98.8 | 103.0 | 100.2 | 92.7  | 85.9  | 176.2 |       |
| 250   | 86.8 | 89.4 | 86.7 | 89.7 | 89.4 | 87.0 | 88.5 | 92.7 | 98.7  | 102.8 | 98.4  | 91.5  | 83.7  | 176.0 |
| 315   | 84.9 | 87.4 | 85.9 | 90.3 | 91.6 | 89.3 | 87.9 | 93.0 | 97.8  | 102.1 | 96.9  | 89.5  | 81.5  | 175.6 |
| 400   | 82.2 | 86.2 | 85.2 | 89.3 | 90.6 | 90.9 | 90.3 | 92.6 | 98.1  | 100.4 | 95.3  | 87.6  | 79.3  | 174.9 |
| 500   | 78.2 | 83.7 | 83.3 | 87.7 | 89.1 | 89.4 | 93.5 | 96.5 | 98.6  | 93.6  | 85.2  | 77.0  | 173.9 |       |
| 630   | 78.2 | 81.6 | 81.6 | 87.9 | 87.5 | 89.3 | 93.1 | 95.4 | 96.6  | 91.9  | 82.7  | 73.9  | 172.8 |       |
| 800   | 75.7 | 80.9 | 80.8 | 84.7 | 86.9 | 87.8 | 87.9 | 92.5 | 94.6  | 95.5  | 90.6  | 81.3  | 71.7  | 172.5 |
| 1000  | 74.2 | 78.5 | 79.0 | 83.1 | 86.0 | 87.2 | 91.0 | 93.7 | 94.0  | 88.7  | 78.6  | 69.2  | 171.7 |       |
| 1250  | 72.4 | 77.1 | 78.5 | 82.6 | 85.9 | 87.4 | 90.3 | 92.1 | 92.9  | 87.3  | 76.3  | 66.2  | 171.5 |       |
| 1500  | 69.7 | 74.0 | 75.8 | 80.2 | 84.1 | 84.0 | 84.9 | 87.9 | 90.4  | 90.8  | 84.5  | 73.3  | 61.4  | 170.6 |
| 2000  | 66.1 | 71.0 | 73.5 | 77.3 | 81.6 | 81.8 | 82.9 | 85.5 | 88.4  | 88.0  | 81.2  | 69.1  | 55.1  | 169.9 |
| 2500  | 62.1 | 67.6 | 71.1 | 73.6 | 77.9 | 79.0 | 80.0 | 82.6 | 85.0  | 85.1  | 76.6  | 63.9  | 47.1  | 169.4 |
| 3150  | 53.7 | 61.5 | 69.0 | 68.6 | 73.7 | 74.8 | 75.9 | 78.7 | 80.0  | 79.6  | 69.1  | 56.4  | 35.0  | 168.7 |
| 4000  | 44.7 | 53.4 | 62.3 | 62.5 | 67.1 | 68.1 | 69.4 | 72.0 | 73.0  | 73.3  | 61.0  | 44.0  | 16.1  | 169.4 |
| 5000  | 39.7 | 41.6 | 52.4 | 52.4 | 58.9 | 59.5 | 60.6 | 63.4 | 64.0  | 63.8  | 49.0  | 26.8  |       | 171.0 |
| 6300  | 18.5 | 23.9 | 41.5 | 36.1 | 43.7 | 45.7 | 45.1 | 47.6 | 48.9  | 46.1  | 27.0  |       |       | 171.8 |
| 8000  |      |      | 18.6 | 11.5 | 20.4 | 22.7 | 22.5 | 24.2 | 23.3  | 17.9  |       |       |       | 173.4 |
| 10000 |      |      |      |      |      |      |      |      |       |       |       |       |       | 175.6 |

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MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.286 FREQ SHIFT = -9  
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH730 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.00 MIKE HT = 29.55 RELHUM = 69.7 PCT  
FNINI = LBS XNL RPM XNH XNHR = = = V8 RPM = 2508.1 FPS AE8 = 20.4 SQ IN  
FNRAMB = LBS XNLR RPM XNH XNHR = = = V8 RPM = 2508.1 FPS AE8 = 20.4 SQ IN  
ZER-0223 TAPE = X02231 TEST PI NO = 0223 NC = AE041 CORR FAN SPEED = RPM



DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0224 X0224C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

| FREQ  | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 89.3  | 87.3  | 85.4  | 86.4  | 84.1  | 85.6  | 93.1  | 91.7  | 94.5  | 102.8 | 102.4 | 102.8 | 98.0  | 138.5 |
| 63    | 89.6  | 89.4  | 92.0  | 90.7  | 89.0  | 88.1  | 96.6  | 93.5  | 95.9  | 102.6 | 102.0 | 103.2 | 99.3  | 139.1 |
| 80    | 91.2  | 95.0  | 88.6  | 92.8  | 92.3  | 92.4  | 94.5  | 94.5  | 96.1  | 100.1 | 101.0 | 102.2 | 101.7 | 136.7 |
| 100   | 90.3  | 94.8  | 89.0  | 92.6  | 93.7  | 92.5  | 95.2  | 96.6  | 97.1  | 101.2 | 101.5 | 104.5 | 105.4 | 140.2 |
| 125   | 87.6  | 88.8  | 87.8  | 91.6  | 93.2  | 93.1  | 94.5  | 94.9  | 95.9  | 101.2 | 104.3 | 106.8 | 108.7 | 141.6 |
| 150   | 86.5  | 84.2  | 87.0  | 88.6  | 88.1  | 88.5  | 92.7  | 91.6  | 95.3  | 102.1 | 105.8 | 108.0 | 111.4 | 142.9 |
| 200   | 87.3  | 85.5  | 87.3  | 88.5  | 90.1  | 89.3  | 93.2  | 95.1  | 98.6  | 102.9 | 106.3 | 110.5 | 113.1 | 144.6 |
| 250   | 87.0  | 88.8  | 86.5  | 89.8  | 89.9  | 90.5  | 94.7  | 96.8  | 99.1  | 105.6 | 110.8 | 114.5 | 114.4 | 147.5 |
| 315   | 87.0  | 87.8  | 86.3  | 90.1  | 91.2  | 91.6  | 93.5  | 95.9  | 101.6 | 108.4 | 113.6 | 116.0 | 116.2 | 149.5 |
| 400   | 88.3  | 89.3  | 87.8  | 90.9  | 91.7  | 91.1  | 93.7  | 96.6  | 102.9 | 110.9 | 116.1 | 117.3 | 114.7 | 150.7 |
| 500   | 88.9  | 90.0  | 88.2  | 92.3  | 93.1  | 93.7  | 95.1  | 98.3  | 104.7 | 114.6 | 118.5 | 117.4 | 112.0 | 152.1 |
| 630   | 90.8  | 91.3  | 89.8  | 93.4  | 94.2  | 94.6  | 97.0  | 100.6 | 107.1 | 117.4 | 120.1 | 117.5 | 109.9 | 153.6 |
| 800   | 93.4  | 92.7  | 91.7  | 94.8  | 95.6  | 95.8  | 98.6  | 104.0 | 109.8 | 119.1 | 121.2 | 116.4 | 108.8 | 154.6 |
| 1000  | 98.5  | 97.5  | 95.3  | 98.1  | 97.6  | 97.3  | 100.1 | 104.8 | 111.5 | 121.1 | 122.2 | 115.9 | 107.3 | 155.9 |
| 1250  | 102.5 | 104.0 | 100.3 | 102.3 | 101.4 | 99.8  | 101.9 | 106.3 | 113.5 | 122.4 | 122.2 | 114.9 | 108.9 | 156.6 |
| 1500  | 106.3 | 106.3 | 103.8 | 102.4 | 102.6 | 102.3 | 104.4 | 107.7 | 114.6 | 122.4 | 123.0 | 114.6 | 107.4 | 157.3 |
| 2000  | 105.2 | 106.6 | 105.2 | 107.4 | 106.4 | 102.6 | 104.5 | 108.4 | 115.5 | 123.0 | 122.0 | 114.6 | 107.4 | 157.2 |
| 2500  | 103.4 | 104.4 | 103.5 | 107.0 | 107.8 | 105.4 | 104.4 | 109.2 | 114.9 | 122.4 | 120.7 | 113.2 | 106.7 | 156.5 |
| 3150  | 101.5 | 103.0 | 101.6 | 104.8 | 106.7 | 106.7 | 107.9 | 109.6 | 115.1 | 120.3 | 118.1 | 110.7 | 104.9 | 155.0 |
| 4000  | 100.0 | 101.7 | 100.5 | 103.3 | 104.7 | 104.1 | 107.7 | 112.0 | 110.8 | 114.8 | 118.2 | 117.3 | 109.1 | 153.8 |
| 5000  | 98.9  | 100.7 | 99.0  | 102.2 | 103.4 | 102.9 | 106.0 | 110.8 | 114.8 | 118.2 | 117.3 | 109.1 | 103.1 | 153.8 |
| 6300  | 97.5  | 99.7  | 98.2  | 101.2 | 102.8 | 103.3 | 105.6 | 111.3 | 115.0 | 117.6 | 116.0 | 110.0 | 102.2 | 153.6 |
| 8000  | 96.9  | 97.5  | 97.0  | 99.9  | 102.4 | 101.9 | 104.7 | 109.5 | 114.0 | 116.6 | 113.3 | 106.0 | 101.1 | 152.8 |
| 10000 | 95.2  | 96.4  | 96.9  | 99.9  | 101.9 | 101.9 | 104.7 | 109.6 | 113.0 | 115.8 | 113.3 | 106.0 | 100.1 | 152.5 |
| 12500 | 92.9  | 94.1  | 94.1  | 97.9  | 100.2 | 100.4 | 102.2 | 107.4 | 110.7 | 113.4 | 111.4 | 104.5 | 98.2  | 151.2 |
| 15000 | 89.9  | 92.0  | 91.2  | 95.1  | 97.9  | 98.9  | 100.4 | 105.3 | 109.4 | 111.4 | 108.6 | 101.4 | 95.7  | 150.5 |
| 16000 | 89.9  | 92.0  | 91.2  | 95.1  | 97.9  | 98.9  | 100.4 | 105.3 | 109.4 | 111.4 | 108.6 | 101.4 | 95.7  | 150.5 |
| 19000 | 87.3  | 89.0  | 88.6  | 92.4  | 95.7  | 96.2  | 98.1  | 102.7 | 106.6 | 109.4 | 105.7 | 98.4  | 92.6  | 149.8 |
| 20000 | 87.3  | 89.0  | 88.6  | 92.4  | 95.7  | 96.2  | 98.1  | 102.7 | 106.6 | 109.4 | 105.7 | 98.4  | 92.6  | 149.8 |
| 25000 | 85.4  | 84.9  | 86.5  | 92.1  | 93.5  | 93.5  | 95.6  | 99.4  | 101.7 | 102.6 | 99.9  | 96.5  | 88.9  | 147.1 |
| 31500 | 79.1  | 79.9  | 84.8  | 88.0  | 89.4  | 89.4  | 91.6  | 96.0  | 99.4  | 101.7 | 98.8  | 92.2  | 85.0  | 148.0 |
| 40000 | 74.3  | 76.3  | 76.9  | 80.1  | 84.5  | 85.9  | 88.0  | 93.4  | 97.7  | 100.8 | 97.2  | 89.2  | 82.0  | 150.3 |
| 50000 | 74.1  | 73.6  | 75.5  | 79.5  | 82.0  | 82.4  | 88.5  | 95.2  | 98.9  | 95.0  | 98.9  | 84.4  | 77.8  | 152.3 |
| 63000 | 71.4  | 71.1  | 70.1  | 73.9  | 74.6  | 79.0  | 78.5  | 85.0  | 92.9  | 98.6  | 93.5  | 79.3  | 75.4  | 156.4 |
| 80000 | 71.2  | 70.9  | 74.0  | 73.7  | 71.7  | 75.1  | 76.2  | 85.4  | 92.0  | 100.7 | 91.7  | 75.1  | 70.8  | 164.3 |
| DBA   | 113.2 | 114.2 | 112.5 | 115.0 | 115.5 | 114.3 | 116.2 | 120.4 | 125.7 | 132.2 | 131.9 | 125.7 | 119.8 |       |
| PASPL | 112.6 | 113.7 | 112.0 | 114.6 | 115.2 | 114.3 | 116.5 | 120.7 | 125.6 | 131.9 | 131.9 | 127.2 | 123.5 | 169.4 |
| PWL   | 125.1 | 126.3 | 124.8 | 127.9 | 128.7 | 128.1 | 130.0 | 133.9 | 138.5 | 144.4 | 143.7 | 138.1 | 133.1 |       |
| PMLT  | 125.1 | 126.3 | 124.8 | 127.9 | 128.7 | 128.1 | 130.0 | 133.9 | 138.5 | 144.4 | 143.7 | 138.1 | 133.1 |       |

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH710 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT  
MIND DIR = MIND WIND VEL = DEG MIND WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBRF =

FNNI = LBS XNL RPM XNH RPM = V8 = 2527.9 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM = V18 = 2527.9 FPS AEB = 0. SQ IN  
RUNPT = 82F-400-0224 TAPE = X0224C TEST PT NO = 0224 NC = AE039 CORR FAN SPEED = RPM

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| DATPRC - FLTKAN |       | FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS |       | 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB |       | 40.0 FT. ARC |       | IDENTIFICATION - 82F-400-0224 |       | X0224F |       | ANGLES MEASURED FROM INLET, DEGREES |       | 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160 |       | FREQ  |       |       |
|-----------------|-------|--|-------|--|-------|--------------|-------|-------------------------------|-------|--------|-------|-------------------------------------|-------|---|-------|-------|-------|-------|
|                 |       |  |       |  |       |              |       | X0224F                        |       |        |       |                                     |       |   |       |       |       |       |
| 250             | 92.8  | 93.6   | 90.3  | 92.4                                       | 93.0  | 91.8         | 92.1  | 93.1                          | 99.6  | 106.9  | 111.6 | 113.6                               | 113.5 | 147.3   | 113.6 | 111.6 | 108.7 | 111.6 |
| 200             | 92.4  | 91.1   | 90.5  | 92.8                                       | 92.6  | 93.2         | 98.2  | 104.1                         | 108.7 | 111.6  | 113.6 | 113.5                               | 147.3 | 113.6   | 111.6 | 108.7 | 111.6 | 113.6 |
| 150             | 90.3  | 92.4   | 91.1  | 90.5                                       | 92.8  | 92.6         | 93.2  | 98.2                          | 104.1 | 108.7  | 111.6 | 113.6                               | 113.5 | 147.3   | 113.6 | 111.6 | 108.7 | 111.6 |
| 100             | 90.3  | 92.4   | 91.1  | 90.5                                       | 92.8  | 92.6         | 93.2  | 98.2                          | 104.1 | 108.7  | 111.6 | 113.6                               | 113.5 | 147.3   | 113.6 | 111.6 | 108.7 | 111.6 |
| 80              | 90.3  | 92.4   | 91.1  | 90.5                                       | 92.8  | 92.6         | 93.2  | 98.2                          | 104.1 | 108.7  | 111.6 | 113.6                               | 113.5 | 147.3   | 113.6 | 111.6 | 108.7 | 111.6 |
| 63              | 90.3  | 92.4   | 91.1  | 90.5                                       | 92.8  | 92.6         | 93.2  | 98.2                          | 104.1 | 108.7  | 111.6 | 113.6                               | 113.5 | 147.3   | 113.6 | 111.6 | 108.7 | 111.6 |
| 50              | 90.3  | 92.4   | 91.1  | 90.5                                       | 92.8  | 92.6         | 93.2  | 98.2                          | 104.1 | 108.7  | 111.6 | 113.6                               | 113.5 | 147.3   | 113.6 | 111.6 | 108.7 | 111.6 |
| 40              | 90.3  | 92.4   | 91.1  | 90.5                                       | 92.8  | 92.6         | 93.2  | 98.2                          | 104.1 | 108.7  | 111.6 | 113.6                               | 113.5 | 147.3   | 113.6 | 111.6 | 108.7 | 111.6 |
| 315             | 92.8  | 93.6   | 90.3  | 92.4                                       | 93.0  | 91.8         | 92.1  | 93.1                          | 99.6  | 106.9  | 111.6 | 113.6                               | 113.5 | 147.3   | 113.6 | 111.6 | 108.7 | 111.6 |
| 350             | 92.8  | 93.6   | 90.3  | 92.4                                       | 93.0  | 91.8         | 92.1  | 93.1                          | 99.6  | 106.9  | 111.6 | 113.6                               | 113.5 | 147.3   | 113.6 | 111.6 | 108.7 | 111.6 |
| 4000            | 109.1 | 109.7  | 107.1 | 109.2                                      | 108.1 | 108.6        | 108.6 | 108.6                         | 108.6 | 108.6  | 108.6 | 108.6                               | 108.6 | 108.6   | 108.6 | 108.6 | 108.6 | 108.6 |
| 5000            | 107.5 | 108.4  | 106.2 | 107.9                                      | 107.5 | 105.9        | 107.5 | 110.9                         | 115.9 | 118.2  | 116.9 | 113.2                               | 114.6 | 155.4   | 114.6 | 113.2 | 114.6 | 155.4 |
| 6300            | 106.3 | 107.4  | 104.8 | 107.1                                      | 106.9 | 106.3        | 107.1 | 111.3                         | 115.1 | 117.2  | 116.0 | 111.5                               | 113.5 | 154.4   | 113.5 | 111.5 | 113.5 | 154.4 |
| 8000            | 104.8 | 106.3  | 103.8 | 105.9                                      | 106.5 | 105.3        | 106.2 | 109.6                         | 114.2 | 116.5  | 114.4 | 110.2                               | 111.4 | 153.7   | 111.4 | 110.2 | 111.4 | 153.7 |
| 10000           | 104.0 | 103.9  | 102.6 | 104.5                                      | 105.9 | 104.9        | 106.1 | 109.6                         | 112.2 | 114.5  | 112.9 | 109.2                               | 110.3 | 152.8   | 110.3 | 109.2 | 110.3 | 152.8 |
| 12500           | 102.0 | 103.0  | 101.6 | 104.2                                      | 104.6 | 103.4        | 103.7 | 107.5                         | 111.3 | 112.9  | 110.4 | 106.3                               | 107.6 | 151.9   | 107.6 | 110.3 | 107.6 | 151.9 |
| 16000           | 102.1 | 102.0  | 100.6 | 102.8                                      | 102.5 | 101.9        | 101.9 | 105.3                         | 109.1 | 111.2  | 107.9 | 103.6                               | 104.7 | 151.3   | 104.7 | 103.6 | 104.7 | 151.3 |
| 20000           | 98.6  | 99.4   | 97.2  | 99.5                                       | 100.3 | 99.2         | 99.5  | 102.7                         | 105.2 | 105.8  | 103.7 | 103.7                               | 103.7 | 149.6   | 103.7 | 103.7 | 103.7 | 149.6 |
| 25000           | 95.4  | 95.8   | 93.0  | 96.3                                       | 96.7  | 96.5         | 97.5  | 99.9                          | 103.1 | 104.9  | 102.4 | 98.8                                | 98.5  | 149.6   | 98.8  | 98.5  | 98.8  | 149.6 |
| 31500           | 92.7  | 90.5   | 89.5  | 91.6                                       | 92.6  | 92.4         | 93.1  | 96.0                          | 102.3 | 104.9  | 101.6 | 96.6                                | 96.4  | 151.1   | 96.6  | 96.6  | 96.6  | 151.1 |
| 40000           | 85.6  | 86.3   | 83.7  | 87.0                                       | 89.1  | 88.9         | 89.4  | 93.3                          | 100.2 | 103.4  | 99.8  | 92.2                                | 92.5  | 152.9   | 92.2  | 92.5  | 92.2  | 152.9 |
| 50000           | 80.4  | 81.1   | 80.3  | 81.9                                       | 84.1  | 85.0         | 83.9  | 88.5                          | 98.8  | 104.0  | 99.2  | 88.0                                | 91.1  | 156.7   | 99.2  | 88.0  | 91.1  | 156.7 |
| 63000           | 79.2  | 75.8   | 76.0  | 76.4                                       | 79.2  | 82.0         | 79.9  | 85.0                          | 99.4  | 107.6  | 98.9  | 85.3                                | 87.9  | 164.3   | 98.9  | 85.3  | 87.9  | 164.3 |
| 80000           | 75.0  | 73.5   | 71.0  | 73.3                                       | 75.7  | 78.1         | 77.6  | 85.4                          | 89.6  | 97.8   | 89.1  | 75.5                                | 78.1  | 161.7   | 89.1  | 75.5  | 78.1  | 161.7 |
| GNAPL           | 119.4 | 119.5  | 116.8 | 118.4                                      | 118.3 | 116.4        | 117.1 | 120.2                         | 125.9 | 131.3  | 131.4 | 128.3                               | 128.6 | 170.3   | 128.3 | 128.6 | 128.3 | 170.3 |
| PML             | 131.9 | 132.0  | 129.6 | 131.5                                      | 131.0 | 129.4        | 129.9 | 132.8                         | 138.2 | 143.3  | 142.6 | 139.4                               | 140.6 |   | 139.4 | 140.6 | 139.4 | 140.6 |
| PMLT            | 133.0 | 132.0  | 129.6 | 131.5                                      | 131.0 | 129.4        | 129.9 | 132.8                         | 138.2 | 143.3  | 142.6 | 139.4                               | 140.6 |   | 139.4 | 140.6 | 139.4 | 140.6 |
| DBA             | 196.2 | 194.5  | 192.6 | 194.4                                      | 196.9 | 199.3        | 198.5 | 205.9                         | 212.7 | 220.8  | 212.2 | 198.9                               | 201.5 |   | 198.9 | 201.5 | 198.9 | 201.5 |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0224 X0224F

ANGLES MEASURED FROM INLET, DEGREES

40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160 FREQ

PML

RUNPT = 400-0224 TAPE = X0224F TEST PT NO = 0224 NC = AE039 CORR FAN SPEED = RPM

FNINI = LBS XNLR = RPM XNH = RPM V8 = 2527.9 FPS AE8 = 20.4 SQ IN FNRAMB = LBS XNLR = RPM XNH = RPM V8 = 2527.9 FPS AE8 = 20.4 SQ IN

VEHICL = ADH710 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS

NASA SHOCK CELL/CIRCULAR C-D NGZ/AX/SC-2/NAS3-22514 MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00

REFR CORR YES, TURB CORR YES

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0224 X02241

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|      |       |      |      |      |      |      |      |      |       |       |       |      |       |       |
|------|-------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|-------|
| 73.3 | 74.4  | 72.7 | 75.7 | 76.0 | 74.1 | 75.1 | 76.2 | 84.7 | 93.0  | 95.3  | 93.4  | 88.2 | 169.3 |       |
| 53   | 73.2  | 75.0 | 73.5 | 76.0 | 77.6 | 76.8 | 77.0 | 78.8 | 86.9  | 95.8  | 97.2  | 94.5 | 88.3  | 171.0 |
| 80   | 75.3  | 76.6 | 74.6 | 77.9 | 78.7 | 77.7 | 78.7 | 80.8 | 89.8  | 97.8  | 98.9  | 94.7 | 89.9  | 172.5 |
| 100  | 76.3  | 77.5 | 75.9 | 78.8 | 79.9 | 78.7 | 80.4 | 83.2 | 91.7  | 100.0 | 100.3 | 95.2 | 90.6  | 174.0 |
| 125  | 77.9  | 78.0 | 77.2 | 79.8 | 81.7 | 80.5 | 84.9 | 93.9 | 101.5 | 100.4 | 94.3  | 92.3 | 90.6  | 174.8 |
| 160  | 83.1  | 82.6 | 80.3 | 82.6 | 85.5 | 83.1 | 83.7 | 86.5 | 94.8  | 101.3 | 101.2 | 94.2 | 90.6  | 175.2 |
| 200  | 87.3  | 89.3 | 85.4 | 86.9 | 86.6 | 83.7 | 85.2 | 87.8 | 95.8  | 101.9 | 99.9  | 93.5 | 90.0  | 175.5 |
| 250  | 91.2  | 91.7 | 89.1 | 89.3 | 90.6 | 86.0 | 86.4 | 88.5 | 95.4  | 101.4 | 98.6  | 92.1 | 89.2  | 175.4 |
| 315  | 86.1  | 90.5 | 89.5 | 91.6 | 92.5 | 88.9 | 86.3 | 89.4 | 96.8  | 100.5 | 97.4  | 91.5 | 89.3  | 175.4 |
| 400  | 87.7  | 89.7 | 88.9 | 92.1 | 91.4 | 90.4 | 90.0 | 90.0 | 96.1  | 99.6  | 96.0  | 89.0 | 86.1  | 174.9 |
| 500  | 85.6  | 88.2 | 86.9 | 89.9 | 89.2 | 88.0 | 90.0 | 92.6 | 95.5  | 97.1  | 94.6  | 86.7 | 83.2  | 173.8 |
| 630  | 83.5  | 86.5 | 85.7 | 88.3 | 88.4 | 87.0 | 88.4 | 91.3 | 95.4  | 96.2  | 92.9  | 87.1 | 81.4  | 173.4 |
| 800  | 81.8  | 85.1 | 84.0 | 87.2 | 87.5 | 87.1 | 87.7 | 91.4 | 94.2  | 94.9  | 91.5  | 83.6 | 79.9  | 172.7 |
| 1000 | 79.9  | 83.7 | 82.8 | 85.8 | 87.0 | 85.9 | 86.7 | 89.5 | 93.1  | 93.9  | 89.5  | 81.7 | 76.6  | 172.0 |
| 1250 | 78.6  | 81.0 | 81.3 | 84.2 | 86.3 | 85.5 | 86.5 | 89.4 | 91.0  | 91.5  | 87.5  | 79.9 | 74.1  | 171.2 |
| 1600 | 75.7  | 79.5 | 79.9 | 83.6 | 84.9 | 83.7 | 83.8 | 86.9 | 89.6  | 89.4  | 84.1  | 75.6 | 69.0  | 170.3 |
| 2000 | 74.8  | 77.9 | 78.5 | 82.0 | 82.4 | 82.0 | 81.8 | 84.5 | 87.0  | 87.1  | 80.6  | 71.3 | 63.1  | 169.7 |
| 2500 | 69.5  | 74.1 | 74.2 | 78.0 | 79.7 | 78.9 | 78.8 | 81.2 | 82.2  | 80.4  | 74.7  | 68.5 | 57.2  | 168.0 |
| 3150 | 63.0  | 68.1 | 68.2 | 73.2 | 74.7 | 74.8 | 75.5 | 76.9 | 78.2  | 77.1  | 69.9  | 58.7 | 43.6  | 167.9 |
| 4000 | 54.0  | 58.0 | 60.9 | 65.3 | 67.6 | 67.8 | 68.1 | 69.7 | 73.6  | 72.3  | 62.9  | 47.5 | 27.0  | 169.5 |
| 5000 | 37.1  | 46.2 | 48.8 | 55.3 | 59.1 | 59.4 | 59.4 | 61.6 | 65.3  | 63.3  | 51.4  | 29.4 | 1.2   | 171.3 |
| 6300 | 14.2  | 26.8 | 33.3 | 39.4 | 44.0 | 45.7 | 43.8 | 46.0 | 51.9  | 49.7  | 33.0  | 1.2  | 175.0 | 182.7 |
| 8000 | 180.0 |      |      |      |      |      |      |      |       |       |       |      |       |       |

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MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9  
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/MAS3-22514

VEHICL = ADH710 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.25 RELHUM = 65.6 PCT  
MIND DIR = DEG MIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNHR = RPM V8 = 2527.9 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2527.9 FPS AEB = 20.4 SQ IN

RUNPT = 82F-400-0224 TAPE = X02241 TEST PT NO = 0224 NC = AE039 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0226  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

50 84.0 82.9 80.7 79.6 83.3 78.5 82.7 84.2 87.6 87.6 96.1 90.9 95.9 130.2

63 85.8 84.4 88.1 83.8 82.7 89.8 90.3 92.0 92.0 97.9 92.0 95.2 133.2

80 86.2 84.1 84.4 88.1 87.0 88.1 87.6 89.3 91.2 88.6 92.6 94.2 97.2 132.2

100 85.1 89.2 84.0 87.9 89.0 87.9 87.8 91.3 91.7 91.2 94.4 98.2 100.5 134.0

125 83.2 85.3 84.2 88.2 89.4 89.3 88.7 89.6 91.1 92.4 99.1 102.0 103.6 136.4

160 81.6 79.8 83.2 85.0 84.5 84.1 85.5 86.2 89.7 93.9 100.0 102.7 106.1 137.3

200 82.3 81.9 81.9 84.4 85.2 85.9 86.3 90.0 94.5 94.9 101.0 105.7 107.9 139.4

250 80.9 84.2 82.6 85.5 86.3 86.9 87.3 91.3 94.3 100.1 106.0 109.5 108.9 142.4

315 82.0 84.0 82.5 85.9 87.2 88.1 88.4 91.9 96.9 103.2 108.3 110.0 109.9 143.8

400 83.3 85.3 83.3 86.9 87.9 87.5 88.9 92.6 98.6 106.2 111.1 112.3 108.2 145.6

500 84.9 86.2 84.2 87.5 89.3 89.4 90.3 93.7 100.5 108.8 113.5 112.4 105.5 147.0

630 85.3 88.1 85.6 89.1 90.5 91.1 92.2 96.6 102.6 112.7 115.3 112.0 102.9 148.7

800 87.9 88.5 87.7 91.0 91.9 92.5 94.4 98.0 105.3 114.3 116.5 111.1 101.5 149.8

1000 92.5 92.7 90.5 93.5 93.9 93.7 95.6 100.3 106.8 116.1 117.7 110.1 101.3 151.1

1250 92.7 96.8 94.8 97.1 97.7 96.0 96.9 101.6 108.5 116.4 117.7 109.7 102.7 151.4

1500 97.3 95.8 94.3 96.1 96.8 96.8 98.6 102.9 109.1 115.9 118.8 109.4 102.7 151.8

2000 101.4 101.8 101.8 97.7 97.9 96.9 97.1 99.3 103.6 109.5 116.3 119.3 110.4 103.1 152.4

2500 102.2 103.0 101.5 103.0 100.8 97.7 98.6 104.0 109.4 116.2 117.7 109.7 103.5 151.8

3150 98.8 100.6 100.6 103.4 103.5 101.9 102.1 101.8 105.6 109.5 114.2 114.4 107.5 101.5 150.7

4000 96.0 97.5 96.3 99.8 101.9 102.1 101.8 105.6 109.5 114.2 114.4 107.5 101.5 101.5 149.9

5000 96.0 97.5 96.3 99.8 101.9 102.1 101.8 105.6 109.5 114.2 114.4 107.5 101.5 101.5 149.9

6300 92.4 94.7 93.8 96.3 97.5 99.2 101.0 105.4 108.9 111.3 111.6 104.4 99.1 148.1

8000 91.1 92.3 91.6 95.2 96.6 97.5 98.9 104.3 108.3 110.1 110.1 102.3 97.2 147.2

10000 89.5 91.8 91.1 94.3 96.3 97.0 99.3 104.0 107.7 109.3 108.5 101.4 96.4 146.9

12500 87.5 88.5 88.8 88.8 92.0 94.5 95.5 96.5 101.5 105.1 106.6 106.3 99.2 145.3

15000 84.9 85.9 85.4 89.2 91.7 92.7 95.0 98.7 103.3 104.5 103.8 96.2 91.2 144.4

20000 82.4 83.4 83.4 86.4 88.6 90.3 92.4 96.1 100.3 101.8 101.4 93.0 88.1 143.4

25000 77.0 78.8 81.8 83.0 85.6 87.1 89.1 92.7 96.0 96.4 96.3 90.6 84.0 141.3

31500 72.6 75.4 75.4 78.7 81.4 83.0 85.0 89.4 92.0 94.0 94.1 86.3 79.5 141.3

40000 68.2 70.9 74.6 77.2 79.0 80.6 85.4 88.4 91.6 92.3 82.3 74.6 74.6 142.5

50000 64.1 66.5 65.9 68.3 72.3 74.0 75.2 79.6 84.4 88.0 88.2 77.2 68.2 142.6

63000 60.1 63.2 60.3 63.3 67.2 68.3 69.3 73.3 79.2 86.8 84.5 70.6 59.9 145.0

80000 58.1 60.8 59.9 58.5 61.8 61.5 63.0 67.4 77.1 85.2 79.8 64.0 59.9 149.2

100000 108.0 109.1 107.5 109.8 110.2 109.9 111.0 115.1 120.0 125.8 127.8 122.2 117.9 162.5

121.8 122.9 121.5 124.1 124.4 123.7 124.3 128.2 132.9 138.2 140.0 133.9 128.4

108.7 109.7 108.0 110.3 110.4 109.8 110.8 114.9 120.0 126.1 128.0 121.0 114.5

NASA SHOCK CELL/CIRCULAR C-D NGZ/AX/SC-2/NAS3-22514

VEHICLE = ADH720 TEST DATE = 03-16-82  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
WIND DIR = DEG WIND VEL = MPH LOCAL = CAT ANECH CH CONFIG = 2 MODEL = AX  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2234.5 FPS AEA = 20.4 SQ IN  
RPNPT = 82F-400-0226 TAPE = X0226C TEST PT NO = 0226 NC = AE039 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM - P1188-02

341

| VEHICLE   | ADH720       | TEST DATE | 03-16-82 | LOCAT      | C41 ANECH CH | CONFIG    | 2          | MODEL          | AX         | FLTVEL | 400. FPS |       |                     |         |            |       |                |               |
|---|--------------|-----------|----------|------------|--------------|-----------|------------|----------------|------------|--------|----------|-------|---------------------|---------|------------|-------|----------------|---------------|
| 1 ALPHA   | SB59         | LEGA      | NO       | PWL AREA   | FULL SPHERE  | TAMB F    | 77.00      | PAMB HG        | 29.25      | RELHUM | 39.5 PCT |       |                     |         |            |       |                |               |
| WIND DIR  | DEG          | WIND VEL  | MPH      | EXT DIST   | 40.0 FT      | EXT CNFIG | ARC        | MIKE HT        | 29.25      | NBFR   |          |       |                     |         |            |       |                |               |
| FNINI   | LBS          | XNL       | RPM      | XNH        | RPM          | V8        | 2234.5 FPS | AE8            | 20.4 SQ IN |        |          |       |                     |         |            |       |                |               |
| FNRAMB  | LBS          | XNLR      | RPM      | XNHR       | RPM          | V8        | 2234.5 FPS | AE18           | 0. SQ IN   |        |          |       |                     |         |            |       |                |               |
| RUNPT   | 82F-400-0226 | TAPE      | X0226F   | TEST PT NO | 0226         | NC        | AE039      | CORR FAN SPEED | RPM        |        |          |       |                     |         |            |       |                |               |
| 200   | 88.2         | 90.3      | 87.3     | 88.7       | 87.8         | 86.9      | 85.4       | 87.7           | 93.4       | 98.8   | 103.4    | 105.6 | 107.3               | 139.9   |            |       |                |               |
| 250   | 88.2         | 90.3      | 87.3     | 88.7       | 89.0         | 88.3      | 87.1       | 89.1           | 96.1       | 102.8  | 107.3    | 109.2 | 107.6               | 142.7   |            |       |                |               |
| 315   | 88.2         | 90.3      | 87.3     | 88.7       | 89.0         | 88.3      | 87.1       | 89.1           | 96.1       | 102.8  | 107.3    | 109.2 | 107.6               | 142.7   |            |       |                |               |
| 400   | 89.7         | 90.4      | 87.4     | 89.2       | 89.7         | 87.8      | 88.1       | 90.6           | 98.8       | 106.7  | 111.4    | 111.9 | 108.5               | 145.7   |            |       |                |               |
| 500   | 90.2         | 91.2      | 87.9     | 90.1       | 89.5         | 89.5      | 89.5       | 92.0           | 100.5      | 110.2  | 113.1    | 111.9 | 107.7               | 147.1   |            |       |                |               |
| 630   | 92.1         | 92.3      | 89.0     | 90.8       | 92.4         | 91.5      | 91.2       | 94.4           | 103.5      | 112.2  | 114.8    | 112.3 | 109.0               | 148.6   |            |       |                |               |
| 800   | 93.0         | 94.5      | 90.6     | 92.6       | 93.9         | 93.0      | 93.4       | 95.8           | 105.4      | 114.4  | 116.7    | 112.5 | 111.2               | 150.4   |            |       |                |               |
| 1000  | 95.5         | 94.8      | 92.7     | 94.6       | 95.5         | 94.8      | 94.8       | 97.4           | 107.4      | 115.0  | 117.1    | 112.5 | 113.0               | 151.0   |            |       |                |               |
| 1250  | 97.5         | 97.1      | 94.0     | 96.2       | 99.7         | 96.8      | 96.3       | 99.7           | 108.2      | 114.8  | 118.3    | 112.5 | 113.3               | 151.7   |            |       |                |               |
| 1600  | 98.8         | 102.1     | 99.2     | 100.3      | 98.8         | 97.8      | 98.2       | 101.3          | 108.9      | 115.5  | 119.2    | 113.8 | 114.1               | 152.6   |            |       |                |               |
| 2000  | 102.9        | 100.5     | 98.1     | 98.9       | 99.1         | 98.3      | 99.2       | 102.2          | 109.4      | 116.1  | 118.3    | 113.9 | 115.2               | 152.6   |            |       |                |               |
| 2500  | 108.5        | 107.8     | 102.4    | 101.2      | 103.2        | 99.3      | 98.9       | 103.1          | 110.6      | 114.9  | 117.7    | 114.1 | 114.9               | 152.6   |            |       |                |               |
| 3150  | 108.4        | 108.2     | 105.7    | 106.2      | 106.7        | 103.3     | 103.5      | 110.6          | 115.1      | 116.0  | 112.5    | 113.9 | 113.3               | 152.3   |            |       |                |               |
| 4000  | 106.3        | 107.4     | 106.1    | 107.7      | 105.6        | 104.7     | 103.0      | 105.7          | 109.9      | 113.2  | 114.4    | 111.4 | 111.9               | 151.4   |            |       |                |               |
| 5000  | 103.5        | 104.3     | 102.0    | 103.1      | 103.9        | 102.2     | 102.4      | 105.0          | 110.2      | 112.4  | 113.3    | 109.5 | 111.7               | 150.4   |            |       |                |               |
| 6300  | 102.2        | 103.3     | 100.4    | 102.4      | 101.5        | 102.2     | 102.6      | 105.7          | 109.6      | 111.1  | 111.7    | 107.3 | 109.7               | 149.3   |            |       |                |               |
| 8000  | 99.7         | 101.2     | 99.5     | 101.0      | 100.5        | 100.5     | 104.5      | 109.1          | 110.5      | 110.2  | 106.6    | 109.1 | 148.7               |         |            |       |                |               |
| 10000   | 98.2         | 98.7      | 97.1     | 99.7       | 100.9        | 100.0     | 100.8      | 104.2          | 107.0      | 108.2  | 108.5    | 104.9 | 147.7               |         |            |       |                |               |
| 12500   | 99.2         | 100.2     | 98.0     | 99.7       | 98.5         | 98.1      | 101.8      | 105.5          | 106.3      | 106.2  | 102.0    | 104.5 | 146.7               |         |            |       |                |               |
| 15000   | 96.6         | 96.4      | 95.2     | 96.8       | 96.3         | 95.7      | 96.5       | 98.8           | 102.8      | 104.0  | 104.1    | 99.0  | 145.5               |         |            |       |                |               |
| 20000   | 93.6         | 93.4      | 91.4     | 93.6       | 93.2         | 93.3      | 93.9       | 96.2           | 99.4       | 99.5   | 99.9     | 97.7  | 143.8               |         |            |       |                |               |
| 25000   | 90.5         | 90.1      | 88.8     | 90.2       | 90.1         | 90.6      | 92.9       | 95.8           | 97.5       | 98.0   | 93.5     | 94.1  | 143.2               |         |            |       |                |               |
| 31500   | 84.3         | 84.9      | 86.1     | 86.0       | 86.0         | 86.4      | 89.5       | 92.9           | 95.7       | 96.7   | 89.7     | 89.0  | 143.6               |         |            |       |                |               |
| 40000   | 79.1         | 80.6      | 79.2     | 80.9       | 81.8         | 82.0      | 82.1       | 85.4           | 89.3       | 92.4   | 92.9     | 85.0  | 143.7               |         |            |       |                |               |
| 50000   | 74.3         | 75.7      | 77.5     | 76.4       | 76.9         | 77.0      | 76.7       | 79.6           | 85.1       | 92.2   | 90.2     | 79.2  | 145.6               |         |            |       |                |               |
| 63000   | 69.2         | 70.4      | 68.3     | 69.2       | 71.3         | 70.7      | 73.3       | 84.4           | 84.4       | 92.1   | 87.0     | 74.2  | 149.5               |         |            |       |                |               |
| 80000   | 63.8         | 65.6      | 61.3     | 62.7       | 65.8         | 64.5      | 64.4       | 67.4           | 74.6       | 82.3   | 77.2     | 64.4  | 146.8               |         |            |       |                |               |
| GASPL   | 114.7        | 115.0     | 112.4    | 113.3      | 112.0        | 111.7     | 114.6      | 120.4          | 125.3      | 127.6  | 123.9    | 124.1 | 163.2               |         |            |       |                |               |
| PNL1  | 128.2        | 129.5     | 127.3    | 126.9      | 125.2        | 124.4     | 127.2      | 132.9          | 137.6      | 139.4  | 136.0    | 136.6 |                     |         |            |       |                |               |
| DBA   | 185.6        | 187.2     | 184.3    | 185.2      | 187.8        | 186.9     | 186.7      | 189.5          | 197.9      | 205.4  | 200.6    | 188.2 | 184.5               |         |            |       |                |               |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000         |              |           |          |            |              |           |            |                |            |        |          |       | FREE JET VEL (FPS)= | 400.00, | DIAM (IN)= | 48.00 | REFR CORR YES, | TURB CORR YES |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/MAS3-22514 |              |           |          |            |              |           |            |                |            |        |          |       |                     |         |            |       |                |               |

ORIGINAL PRICE IS OF POOR QUALITY

DATPROG - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0226 X0226F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| PWL  |    |    |    |    |    |    |     |     |     |     |     |     |     |

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0226 X02261

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 68.6 | 70.9 | 69.0 | 71.5 | 72.3 | 70.6 | 70.7 | 72.8 | 80.3 | 87.2 | 90.4 | 88.6 | 81.9  | 164.1 |
| 63    | 69.1 | 71.6 | 69.4 | 72.3 | 73.8 | 72.5 | 72.2 | 74.2 | 82.1 | 90.6 | 92.0 | 88.6 | 81.0  | 165.5 |
| 80    | 71.0 | 72.7 | 70.4 | 73.0 | 74.2 | 73.8 | 76.6 | 85.0 | 92.6 | 93.6 | 88.9 | 82.2 | 167.0 |       |
| 100   | 71.7 | 74.8 | 72.0 | 74.8 | 76.5 | 75.7 | 76.0 | 86.8 | 94.8 | 95.8 | 89.1 | 84.3 | 168.8 |       |
| 125   | 74.1 | 75.1 | 74.1 | 76.6 | 78.0 | 77.0 | 77.3 | 80.2 | 88.8 | 95.3 | 95.7 | 88.8 | 169.4 |       |
| 150   | 75.9 | 77.2 | 75.2 | 78.1 | 82.1 | 79.3 | 78.7 | 81.6 | 89.4 | 94.9 | 96.8 | 88.6 | 170.0 |       |
| 200   | 77.0 | 82.0 | 80.2 | 82.1 | 81.1 | 80.5 | 81.2 | 83.8 | 90.2 | 95.7 | 89.6 | 86.1 | 171.0 |       |
| 250   | 80.8 | 80.1 | 78.9 | 80.5 | 81.1 | 80.5 | 81.2 | 83.8 | 90.2 | 95.7 | 89.3 | 86.6 | 170.9 |       |
| 315   | 86.0 | 87.1 | 82.9 | 82.5 | 85.0 | 81.2 | 80.7 | 84.4 | 91.1 | 94.1 | 88.9 | 85.4 | 170.9 |       |
| 400   | 85.4 | 87.1 | 85.8 | 87.2 | 88.2 | 84.9 | 82.4 | 84.5 | 90.8 | 94.0 | 86.7 | 83.5 | 170.7 |       |
| 500   | 82.8 | 85.9 | 85.4 | 86.8 | 86.0 | 84.2 | 86.4 | 89.7 | 91.7 | 90.9 | 84.9 | 80.4 | 169.8 |       |
| 630   | 79.5 | 82.3 | 81.5 | 84.9 | 84.0 | 84.3 | 84.8 | 85.3 | 89.7 | 90.4 | 89.3 | 82.3 | 168.7 |       |
| 800   | 77.7 | 81.0 | 79.6 | 82.5 | 82.2 | 83.0 | 83.2 | 85.8 | 88.7 | 88.8 | 87.2 | 79.4 | 167.7 |       |
| 1000  | 74.8 | 78.6 | 78.5 | 81.0 | 81.2 | 80.6 | 81.2 | 83.9 | 85.7 | 85.3 | 83.1 | 75.6 | 166.0 |       |
| 1250  | 72.8 | 75.8 | 75.8 | 79.5 | 81.2 | 80.6 | 81.2 | 83.9 | 85.7 | 85.3 | 83.1 | 75.6 | 166.0 |       |
| 1500  | 72.9 | 76.6 | 76.3 | 79.1 | 79.2 | 78.8 | 78.2 | 81.2 | 83.8 | 82.8 | 79.9 | 71.3 | 165.1 |       |
| 2000  | 69.3 | 72.2 | 73.1 | 76.0 | 76.2 | 75.8 | 76.4 | 78.0 | 80.7 | 79.8 | 76.8 | 66.7 | 163.8 |       |
| 2500  | 64.5 | 68.0 | 68.4 | 72.1 | 72.5 | 73.0 | 73.3 | 74.7 | 76.4 | 74.1 | 70.8 | 62.5 | 162.2 |       |
| 3150  | 58.1 | 62.3 | 64.0 | 67.2 | 68.2 | 68.5 | 68.6 | 69.9 | 70.9 | 69.7 | 65.6 | 53.3 | 161.6 |       |
| 4000  | 45.6 | 52.4 | 57.7 | 59.8 | 61.0 | 61.4 | 61.5 | 63.2 | 64.2 | 63.2 | 58.0 | 40.7 | 162.0 |       |
| 5000  | 30.7 | 40.6 | 44.3 | 49.2 | 51.8 | 52.6 | 52.1 | 53.6 | 54.4 | 52.3 | 44.5 | 22.2 | 162.1 |       |
| 6300  | 8.0  | 21.4 | 30.5 | 33.9 | 36.8 | 37.7 | 36.6 | 37.1 | 38.1 | 37.9 | 24.0 |      | 164.0 |       |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |       | 167.9 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 165.1 |

ORIGINAL PAGE IS  
OF POOR QUALITY

VEHICL = ADH220 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 77.00 PAMB HG = 29.25 RELHUM = 39.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNINI = LBS XNL RPM XNH RPM = = = V8 = 2234.5 FPS AEB = 20.4 SQ IN = 0. SQ IN RPM  
 FNRAMB = LBS XNLR RPM XNHR RPM = = = V8 = 2234.5 FPS AEB = 20.4 SQ IN = 0. SQ IN RPM  
 RUNPT = 00-0226 TAPE = X02261 TEST PT NO = 0226 NC = AE039 CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NA53-22514  
 MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0253 X0253C

BACKGROUND 0000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 87.2 88.5 86.0 86.1 84.5 87.4 87.3 95.0 95.3 95.7 94.9 96.5 133.5

63 91.5 91.0 92.0 94.3 93.7 91.8 94.2 95.3 98.6 99.0 98.4 99.6 137.7

80 92.8 92.3 97.6 96.2 96.7 95.6 96.7 99.4 99.4 99.4 101.1 105.5 106.9 141.4

100 92.3 92.3 94.1 94.7 94.8 94.5 95.6 97.8 97.8 95.7 99.3 100.7 102.6 138.5

125 88.9 90.6 92.2 95.4 97.3 96.4 96.0 97.2 98.7 100.7 108.1 110.3 111.2 144.5

160 88.3 87.3 90.3 91.9 92.0 92.1 94.5 95.9 99.1 103.2 108.3 111.0 114.6 145.8

200 90.8 89.8 89.6 92.9 95.2 95.1 97.2 101.6 104.3 110.4 115.8 118.4 151.9

250 89.5 93.1 92.1 94.9 95.5 95.1 97.2 101.6 104.3 110.4 115.8 118.4 151.9

315 90.6 92.9 93.9 96.3 96.3 96.4 97.0 100.7 106.6 112.7 117.8 120.2 153.6

400 92.6 94.4 95.2 96.8 96.8 95.9 98.8 101.7 108.4 115.7 120.3 121.5 155.1

500 93.2 95.2 92.7 95.8 97.4 97.7 98.6 103.3 110.2 118.3 122.2 121.6 156.2

630 95.0 96.8 94.9 97.9 99.2 98.9 100.0 105.6 112.6 121.4 123.1 122.2 157.6

800 99.7 99.5 100.9 100.5 102.5 102.6 107.3 115.2 123.1 124.2 124.2 121.4 158.6

1000 110.9 107.7 102.5 103.8 103.4 102.2 103.9 108.8 116.5 124.6 124.7 121.9 159.6

1250 110.7 110.7 106.0 106.8 106.4 104.8 105.1 109.8 118.0 124.3 123.7 119.6 159.2

1600 115.0 111.3 109.8 108.2 105.3 105.2 118.5 123.0 118.2 117.1 117.1 113.1 158.6

2000 111.6 113.0 110.7 112.8 112.7 107.8 107.5 111.8 118.5 123.7 121.0 117.1 158.6

2500 109.9 110.7 108.7 112.2 113.8 111.9 108.6 113.0 118.1 123.6 119.9 115.5 158.3

3150 108.5 109.6 108.3 110.6 111.7 112.3 112.1 113.4 118.5 121.4 117.4 113.2 157.0

4000 107.3 108.8 110.4 112.2 112.2 110.4 110.4 114.4 116.9 119.6 115.6 111.4 155.7

5000 105.5 107.6 105.8 108.6 110.0 108.7 110.1 114.4 116.9 119.6 115.6 111.4 155.7

6300 103.9 105.9 105.6 107.6 109.0 109.5 110.0 114.9 116.7 119.1 115.4 110.9 155.7

8000 103.1 104.3 103.3 106.5 108.5 107.8 109.0 112.3 114.7 116.8 112.7 107.4 154.6

10000 102.0 103.8 103.6 105.8 108.5 107.8 109.0 112.3 114.7 116.8 112.7 107.4 154.6

12500 100.0 101.5 101.5 104.0 106.8 106.2 106.6 110.0 113.1 115.1 111.3 106.3 153.5

16000 96.6 99.6 99.6 101.6 104.4 104.4 105.2 108.3 112.2 113.2 109.2 103.4 153.2

20000 94.4 97.2 98.1 99.1 101.8 103.2 103.2 106.3 109.8 111.5 106.7 101.3 152.8

25000 91.1 93.8 96.6 95.6 99.4 100.0 100.0 103.0 105.6 108.4 102.6 98.7 152.0

31500 86.9 90.7 97.2 93.1 95.6 96.4 97.7 100.0 103.0 106.1 100.4 95.5 152.4

40000 82.7 86.0 97.6 88.6 92.7 89.7 93.1 97.1 101.6 94.0 87.7 77.5 153.5

50000 77.5 81.5 96.4 83.9 88.3 89.7 93.1 97.1 101.6 94.0 87.7 77.5 153.5

63000 72.3 77.4 95.4 79.0 83.8 84.9 88.4 92.9 98.8 90.4 82.8 72.0 157.8

80000 67.2 72.5 93.3 73.6 78.6 78.3 78.8 83.9 88.0 94.9 84.5 77.2 160.9

DBA 120.9 120.6 118.5 120.7 121.4 120.1 120.3 123.9 128.8 133.8 132.7 129.7 126.5

PWL 134.0 133.6 130.7 133.3 134.4 133.6 133.9 137.3 141.6 145.9 144.6 140.9 138.0

GASPL 120.3 120.0 118.2 120.2 121.1 120.1 120.5 124.1 128.8 133.7 133.2 131.2 128.9 170.9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH731 TEST DATE = 03-17-82 LOCAT = CA1 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 53.00 MIKE HT = 29.55 RELHUM = 69.7 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR = V8 RPM V8 = 2580.2 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = V18 = 2580.2 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0253 TAPE = X0253C TEST PT NO = 0253 NC = AE041 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM- P118-02

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-ZER-0253 X0253F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 67.2 67.2 68.5 66.0 66.1 64.5 67.4 67.3 95.0 95.3 95.7 94.9 96.5 133.5

63 91.5 91.0 92.0 94.3 93.7 91.8 94.2 91.3 99.3 98.6 99.0 98.4 99.6 137.7

80 92.8 96.3 90.3 94.1 94.7 94.8 94.5 95.6 97.8 97.8 95.7 100.7 102.6 138.5

100 92.3 97.6 92.6 96.7 95.6 96.7 99.4 99.4 99.4 99.4 99.4 99.4 99.4 141.4

125 88.9 90.6 92.2 95.4 97.3 96.4 96.0 97.2 98.7 98.7 98.7 98.7 98.7 144.5

150 88.3 87.3 90.3 91.9 92.0 92.1 94.5 95.9 99.1 103.2 108.3 111.0 114.6 145.8

200 89.8 89.6 92.9 89.6 95.2 95.1 95.5 98.1 103.8 104.9 110.3 114.2 116.4 148.1

250 89.5 93.1 92.1 94.9 95.5 95.1 97.2 101.6 104.3 110.4 115.8 118.7 118.4 151.9

315 90.6 92.9 90.9 93.9 96.3 96.4 97.0 100.7 106.6 112.7 117.8 120.0 120.2 153.6

400 92.6 94.4 92.4 95.2 96.8 95.9 98.8 101.7 108.4 115.7 120.3 121.5 119.4 155.1

500 93.2 95.8 92.7 95.8 97.4 97.7 98.6 103.3 110.2 118.3 122.2 121.6 118.0 156.2

630 95.0 96.8 94.9 97.9 99.2 98.9 100.0 105.6 112.6 121.4 123.1 122.2 118.6 157.6

800 99.7 98.2 96.7 99.5 100.9 100.5 102.6 107.3 115.2 123.1 124.2 121.4 118.8 158.6

1000 110.9 107.7 102.5 103.8 103.8 103.9 108.8 116.5 124.6 124.6 124.6 124.6 124.6 159.6

1250 110.7 106.0 106.8 106.4 104.8 105.1 109.8 118.0 124.3 123.7 119.6 116.9 116.9 159.2

1500 115.0 111.3 109.5 109.8 108.2 105.3 106.4 111.2 118.5 123.4 123.0 118.2 114.7 158.8

2000 111.6 113.0 112.7 112.8 112.7 107.5 111.8 118.5 123.7 121.0 117.1 113.1 113.1 158.6

2500 109.9 110.7 108.7 112.2 113.8 111.9 108.6 113.0 118.1 123.6 119.9 115.5 112.0 158.3

3150 108.5 109.6 108.3 110.6 111.7 112.3 112.1 113.4 118.7 121.5 118.5 114.2 110.7 157.4

4000 107.3 108.3 106.8 109.8 110.4 110.4 112.2 115.1 117.9 121.4 117.4 113.2 109.4 157.0

5000 105.5 107.6 110.0 108.6 110.0 114.4 116.9 119.6 119.6 115.6 111.4 106.9 106.9 155.7

6300 103.9 105.9 105.6 107.6 109.0 109.5 110.0 114.9 116.7 119.1 115.4 110.9 106.1 155.7

8000 103.1 104.3 103.3 106.5 108.5 108.3 109.0 112.8 116.0 117.1 114.1 108.6 104.5 154.6

10000 102.0 103.6 103.6 106.8 108.5 107.8 109.0 112.3 114.7 116.8 112.7 107.4 103.4 154.5

12500 100.0 101.5 104.0 106.8 106.2 106.6 110.0 112.3 114.7 116.8 112.7 107.4 103.4 153.5

15000 96.6 99.6 99.6 101.6 104.4 104.4 105.2 108.3 112.2 113.2 109.2 103.4 97.4 153.2

20000 94.4 97.2 98.1 99.1 101.8 101.8 103.2 106.3 109.8 111.5 106.7 101.3 95.4 152.8

25000 91.1 93.8 98.6 99.6 100.0 100.9 100.3 103.0 105.6 108.4 102.6 98.7 92.2 152.0

31500 86.9 90.7 97.2 93.1 95.6 96.4 97.7 100.0 103.0 106.1 100.4 95.5 87.0 152.4

40000 82.7 86.0 97.6 88.6 92.3 92.7 94.0 97.7 100.4 105.1 97.7 92.0 83.2 154.5

50000 77.5 81.5 96.4 83.9 87.7 88.3 89.7 93.1 97.1 101.6 94.0 87.7 77.5 155.5

63000 72.3 77.4 95.4 79.0 83.8 83.3 84.9 88.4 92.9 98.8 90.4 82.8 72.0 157.8

80000 67.2 72.5 93.3 73.6 78.6 78.3 78.8 83.9 88.0 94.9 84.5 77.2 64.8 160.9

QASPL 120.3 120.0 118.2 120.2 121.1 120.1 120.5 124.1 128.8 133.7 133.2 131.2 128.9 170.9

PNL 132.1 132.5 130.7 133.3 134.4 133.6 133.9 137.3 141.6 145.9 144.0 140.9 138.0

PFLT 134.0 133.6 130.7 133.3 134.4 133.6 133.9 137.3 141.6 145.9 144.6 140.9 138.0

DBA 168.9 194.0 214.0 195.4 200.2 199.9 200.8 205.3 209.5 216.1 206.2 199.0 187.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH731 TEST DATE = 03-17-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT

FINI1 = LBS XNL RPM XNH XNHR RPM = = = XNHL RPM XNH XNHR RPM = = = XNHL RPM XNH XNHR RPM = = =

FNRAMB = LBS XNLR RPM = = = XNLR RPM = = = XNLR RPM = = = XNLR RPM = = =

RUNPT = ER-0253 TAPE = X0253F TEST PT NO = 0253 NC = AE041 CORR FAN SPEED = RPM

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UNIVERSITY MICROFILMS INTERNATIONAL



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0253 X02531

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|       |      |      |      |      |      |      |      |      |       |       |       |      |       |       |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|-------|
| 50    | 71.5 | 74.8 | 73.9 | 77.4 | 79.4 | 78.7 | 81.4 | 83.9 | 89.9  | 96.2  | 99.3  | 98.2 | 92.8  | 173.5 |
| 63    | 72.1 | 75.7 | 74.3 | 78.0 | 80.0 | 80.5 | 81.3 | 85.5 | 91.8  | 98.8  | 101.1 | 98.3 | 91.4  | 174.6 |
| 80    | 73.9 | 77.2 | 76.3 | 80.1 | 81.8 | 81.6 | 82.6 | 87.8 | 94.1  | 101.8 | 101.9 | 98.9 | 91.9  | 176.0 |
| 100   | 78.5 | 78.6 | 78.2 | 81.7 | 83.4 | 83.2 | 85.2 | 89.4 | 96.7  | 103.4 | 103.0 | 97.9 | 91.9  | 177.0 |
| 125   | 89.6 | 88.0 | 83.8 | 85.9 | 85.9 | 84.9 | 86.4 | 90.9 | 97.8  | 104.8 | 103.4 | 98.2 | 90.1  | 177.9 |
| 160   | 89.2 | 90.8 | 87.2 | 88.8 | 87.3 | 87.5 | 91.7 | 99.2 | 104.4 | 102.2 | 95.8  | 89.4 | 177.5 |       |
| 200   | 93.2 | 91.1 | 90.6 | 91.6 | 90.4 | 87.6 | 88.6 | 93.0 | 99.6  | 103.2 | 101.2 | 94.0 | 86.7  | 177.1 |
| 250   | 89.5 | 92.6 | 91.5 | 94.4 | 94.7 | 90.0 | 89.5 | 93.4 | 99.2  | 103.3 | 98.9  | 92.5 | 84.5  | 177.0 |
| 315   | 87.4 | 89.9 | 89.2 | 93.5 | 95.6 | 93.8 | 90.4 | 94.3 | 98.6  | 102.9 | 97.4  | 90.3 | 82.5  | 176.7 |
| 400   | 85.5 | 88.4 | 88.5 | 91.6 | 93.1 | 93.9 | 93.6 | 94.3 | 98.8  | 100.4 | 95.5  | 88.4 | 80.3  | 175.7 |
| 500   | 83.7 | 86.7 | 86.6 | 90.5 | 91.7 | 93.4 | 95.7 | 97.7 | 99.9  | 93.9  | 86.7  | 78.0 | 175.4 |       |
| 630   | 81.5 | 85.6 | 85.3 | 89.0 | 90.9 | 89.8 | 91.0 | 94.8 | 96.4  | 97.6  | 91.6  | 84.2 | 74.4  | 174.1 |
| 800   | 79.4 | 83.6 | 84.8 | 87.7 | 89.7 | 90.3 | 90.7 | 95.0 | 95.9  | 96.8  | 90.9  | 83.0 | 72.5  | 174.0 |
| 1000  | 78.2 | 81.7 | 82.3 | 86.4 | 89.0 | 89.5 | 92.7 | 95.0 | 94.5  | 89.2  | 80.1  | 69.7 | 173.0 |       |
| 1250  | 76.6 | 80.9 | 82.3 | 85.6 | 88.9 | 88.3 | 89.4 | 92.0 | 93.4  | 93.9  | 87.3  | 78.1 | 67.2  | 172.8 |
| 1600  | 73.7 | 78.0 | 79.8 | 83.4 | 86.8 | 86.5 | 89.4 | 91.4 | 91.6  | 85.0  | 75.6  | 62.7 | 171.9 |       |
| 2000  | 69.3 | 75.5 | 77.5 | 80.8 | 84.3 | 84.5 | 85.1 | 87.5 | 90.1  | 89.0  | 81.9  | 71.1 | 55.8  | 171.5 |
| 2500  | 65.3 | 71.9 | 75.1 | 77.6 | 81.2 | 81.5 | 82.5 | 84.9 | 86.8  | 86.1  | 77.6  | 66.1 | 48.9  | 171.1 |
| 3150  | 58.7 | 66.0 | 73.7 | 72.6 | 77.4 | 78.3 | 78.9 | 80.2 | 80.7  | 80.6  | 70.1  | 58.6 | 37.3  | 170.3 |
| 4000  | 48.2 | 58.1 | 68.5 | 66.8 | 70.6 | 71.9 | 72.7 | 73.7 | 74.3  | 73.5  | 61.7  | 46.5 | 17.6  | 170.8 |
| 5000  | 34.2 | 45.9 | 62.7 | 56.9 | 62.4 | 63.3 | 64.1 | 65.9 | 65.5  | 65.0  | 49.2  | 29.3 |       | 172.9 |
| 6300  | 11.2 | 27.2 | 49.5 | 41.3 | 47.7 | 49.0 | 49.6 | 50.6 | 50.1  | 47.3  | 27.8  | 0.8  |       | 173.9 |
| 8000  |      |      | 27.1 | 17.3 | 25.6 | 26.2 | 26.7 | 26.7 | 24.6  | 19.6  |       |      |       | 176.1 |
| 10000 |      |      |      |      |      |      |      |      |       |       |       |      |       | 179.3 |

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|       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 98.0  | 99.2  | 98.2  | 101.2 | 102.4 | 101.4 | 101.5 | 104.7 | 109.0 | 113.2 | 111.2 | 106.5 | 99.7 | 189.1 |
| PNL   | 101.9 | 104.0 | 104.3 | 107.0 | 109.1 | 108.5 | 108.7 | 111.5 | 115.4 | 118.5 | 113.3 | 108.0 | 98.6 |       |
| PMLT  | 102.9 | 104.6 | 104.8 | 107.0 | 109.1 | 108.5 | 108.7 | 111.5 | 115.4 | 118.5 | 113.3 | 108.0 | 98.6 |       |
| DBA   | 90.2  | 93.0  | 93.2  | 96.5  | 98.6  | 98.6  | 98.2  | 98.6  | 101.7 | 104.0 | 105.6 | 100.6 | 93.4 | 85.2  |

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9  
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH731 TEST DATE = 03-17-82 LOCAL = C41 ANECH CH CNFIG = 2 MODEL = AX  
IAPLHA = SB59 IEGA = NG PWL AREA = FULL SPHERE TAMB F = 53.00 PAMB HG = 29.55 RELHUM = 69.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFR  
FNIN1 = LBS XNL RPM XNHR = RPM V8 = 2580.2 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR = XNHR = RPM V8 = 2580.2 FPS AEB = 20.4 SQ IN  
RPNPT = 82F-ZER-0253 TAPE = X02531 TEST PT NO = 0253 NC = AE041 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1206 X1206C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 88.5 85.0 82.6 85.2 82.2 83.6 82.0 84.7 86.6 90.2 92.6 128.2

63 86.6 86.5 89.1 90.2 88.7 88.3 87.5 90.2 92.5 91.7 131.2

80 87.5 88.0 87.1 85.9 86.4 85.7 87.0 87.0 86.2 89.4 92.6 94.1 130.1

100 86.2 88.0 81.5 86.3 86.7 85.5 86.4 89.1 86.6 91.0 96.7 97.8 131.7

125 86.0 84.7 82.6 86.3 87.1 87.0 86.1 87.1 88.0 88.2 95.3 99.3 133.7

160 84.4 81.3 81.6 83.7 83.3 83.6 84.0 86.3 89.8 99.4 103.6 134.2

200 85.4 83.4 81.4 84.4 84.7 85.5 87.4 90.5 90.3 96.0 102.2 105.1 136.1

250 85.7 84.7 80.0 85.0 85.1 86.0 89.0 90.5 94.6 101.3 106.0 106.9 139.0

315 86.0 83.0 81.0 86.1 85.9 86.1 88.6 92.1 96.2 102.6 107.0 107.9 140.1

400 85.8 84.3 81.5 84.8 86.1 84.9 86.6 88.8 92.6 98.9 105.6 109.0 106.7 141.5

500 86.4 84.9 81.4 86.0 86.7 86.0 86.2 89.4 93.9 100.8 108.0 109.6 104.3 142.4

630 87.5 86.1 82.6 87.6 87.2 87.5 87.9 91.8 95.6 103.7 109.6 110.0 101.4 143.4

800 88.7 89.2 84.4 89.0 88.7 89.3 92.5 97.7 105.1 112.0 109.1 100.0 144.2

1000 92.0 90.0 86.2 89.3 89.5 90.9 94.3 98.8 105.8 112.0 108.4 98.0 144.6

1250 96.0 96.0 90.5 93.3 91.1 91.2 91.6 95.3 100.0 105.4 110.2 106.2 98.9 143.5

1500 100.5 100.5 95.8 97.1 93.7 91.5 92.1 95.9 100.6 104.4 110.4 107.0 103.3 98.2 143.8

2000 101.7 102.1 98.7 100.6 99.7 95.6 93.5 96.1 101.2 105.0 107.0 103.3 96.6 143.4

2500 100.4 100.2 97.0 101.0 101.6 98.4 95.6 97.0 100.4 104.6 105.2 100.7 95.2 142.9

3150 98.5 99.0 96.1 99.3 100.2 99.5 98.6 98.6 103.0 103.3 100.4 93.7 142.2

4000 97.9 98.0 96.0 97.6 97.3 98.2 100.8 101.6 103.1 101.6 97.1 92.1 141.7

5000 96.9 98.4 94.5 96.7 97.4 96.1 96.0 99.3 101.8 101.4 100.3 96.1 90.5 140.8

6300 95.8 96.0 95.1 96.9 97.1 96.3 96.1 98.7 102.0 101.6 99.4 97.7 89.4 141.0

8000 94.1 95.5 93.3 95.9 96.7 95.5 94.7 97.2 101.0 100.5 98.0 93.3 89.4 140.1

10000 93.1 94.8 93.1 95.9 97.1 95.4 95.4 97.3 98.9 99.8 97.0 92.7 88.7 140.0

12500 90.4 92.3 90.8 93.3 94.9 94.4 93.4 95.6 97.2 96.3 94.8 90.9 86.1 138.7

16000 87.3 88.9 87.8 90.7 92.5 91.8 92.3 93.7 96.0 93.8 92.3 87.6 83.6 137.9

20000 83.4 86.1 84.2 87.5 89.6 89.3 89.7 91.5 92.6 92.6 88.8 85.3 81.1 136.8

25000 80.9 82.2 81.9 83.6 86.2 86.0 86.9 88.2 89.7 86.3 84.2 82.3 76.9 135.7

31500 78.3 80.7 77.0 79.2 82.2 81.6 82.8 84.7 85.3 82.8 81.0 78.2 73.1 135.0

40000 72.7 83.0 73.4 74.9 78.1 77.7 79.5 80.7 81.0 79.2 74.5 68.5 63.8 135.8

50000 66.3 78.0 69.7 68.9 72.5 73.2 73.4 75.2 77.1 75.0 73.4 70.9 63.8 135.3

63000 69.8 78.2 67.2 64.9 68.0 67.9 67.6 69.1 71.0 72.8 71.3 66.4 137.7

80000 69.3 80.7 68.2 63.4 65.0 66.4 63.5 63.4 65.7 72.3 67.6 60.9 144.8

QASPL 108.9 109.3 106.1 108.7 108.9 107.3 107.0 109.2 112.2 115.4 119.5 118.4 115.1 155.7

PWL 122.0 122.1 118.9 122.1 122.3 121.1 120.6 122.8 125.1 127.7 130.0 127.5 123.0

PNL 122.0 122.1 118.9 122.1 122.3 121.1 120.6 122.8 125.1 127.7 130.0 128.0 123.0

DBA 109.3 109.7 106.3 108.9 108.9 107.1 106.5 108.8 112.0 115.3 119.1 116.6 110.5

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH709 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NG PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.30 RELHUM = 76.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR RPM = X1206C TEST PT NO = 1206 NC = AE039 CORR FAN SPEED = RPM  
FNRMB = LBS XNLR RPM = X1206C TEST PT NO = 1206 NC = AE039 CORR FAN SPEED = RPM  
V8 V8 = 1709.3 FPS AE8 = 20.4 SQ IN V18 V18 = 1709.3 FPS AE18 = 0. SQ IN

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1206 X12061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 70.8 68.2 66.0 70.7 70.1 68.0 68.0 68.3 72.6 72.6 77.6 83.0 83.6 78.3 158.1

50 70.7 69.5 66.6 69.4 70.7 69.1 67.8 69.1 75.8 82.3 86.7 79.2 161.2

80 71.0 70.6 66.4 71.2 70.7 69.9 72.4 78.5 84.5 89.5 87.8 81.2 163.2

100 72.0 71.1 67.7 72.2 71.9 71.4 73.2 79.8 85.7 91.0 88.5 81.9 164.3

125 73.4 74.4 69.5 73.6 73.5 72.7 72.9 74.9 81.1 85.1 88.9 85.6 81.9 162.9

160 77.2 75.6 71.6 74.0 75.3 74.6 73.8 76.1 81.9 84.4 89.3 84.6 81.5 163.1

200 81.4 81.9 76.1 78.2 78.0 74.9 74.4 76.8 82.6 85.1 86.0 83.1 79.7 162.6

250 85.8 86.4 81.5 82.1 83.9 79.0 75.8 77.0 82.0 85.0 84.4 80.7 78.4 163.9

315 85.9 87.0 83.6 85.1 85.7 81.9 78.0 78.0 83.3 83.8 82.8 80.5 76.6 164.7

400 82.4 83.5 80.9 84.6 83.1 81.5 80.2 83.9 83.9 81.2 77.3 74.9 163.9

500 80.7 82.8 80.5 83.8 81.9 81.2 81.3 82.5 83.7 81.8 79.3 75.5 72.4 163.2

630 78.7 80.8 79.5 81.9 81.8 80.2 79.1 80.8 83.4 81.3 77.8 76.3 70.1 162.5

800 77.1 80.6 77.8 80.6 81.4 80.1 78.9 79.8 82.6 80.5 76.5 71.8 69.4 162.1

1000 76.0 80.3 78.6 80.8 81.1 79.2 77.5 78.4 80.9 80.0 75.6 71.0 68.0 162.1

1250 75.0 78.4 77.1 80.0 81.5 78.9 78.1 78.6 79.4 76.8 73.5 68.9 64.4 161.8

1600 73.7 77.4 76.6 79.5 79.0 77.7 75.9 76.7 78.3 74.2 70.6 64.9 60.3 161.5

2000 69.4 73.8 73.4 76.3 76.5 74.9 74.7 74.5 75.2 72.1 66.8 61.5 55.2 160.3

2500 64.1 68.7 69.2 72.5 73.0 72.0 71.5 71.8 72.2 66.5 61.3 56.5 46.9 159.1

3150 56.3 62.9 63.0 67.2 68.2 67.3 67.4 67.1 66.7 61.2 55.4 48.2 35.5 158.0

4000 46.8 53.5 56.2 59.2 61.3 60.0 60.3 60.2 59.0 53.4 46.9 41.5 32.3 157.3

5000 33.6 43.6 44.2 48.6 51.6 51.3 52.0 50.6 49.0 41.5 32.3 18.8 157.3

6300 7.8 29.5 26.7 32.0 35.9 36.9 35.7 34.1 30.5 24.6 11.8 157.5

8000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 161.5

10000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 158.4

12500 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.5

15000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

17500 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

20000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

22500 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

25000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

27500 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

30000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

32500 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

35000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

37500 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

40000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

42500 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

45000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 157.3

VEHICL = ADH709 TEST DATE = 03-16-82  
IAPLHA = SB59 IEGA / = NO  
WIND DIR = DEG WIND VEL = MPH  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1709.3 FPS AE8 = 20.4 SQ IN  
FNNI = LBS XNL = RPM XNHR = RPM V8 = 1709.3 FPS AE8 = 20.4 SQ IN  
RUNIT = 00-1206 TAPE = X12061 TEST PT NO = 1206 NC = AE039 CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514  
MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

GASPL 91.9 93.2 90.2 92.7 92.9 90.7 89.3 90.1 93.6 95.1 97.6 95.2 90.1 175.6  
PNL 97.2 99.1 96.5 99.4 99.5 97.9 96.8 97.3 99.7 99.4 99.1 95.9 91.0  
PNLT 98.6 99.1 96.5 99.9 99.5 97.9 96.8 97.6 99.7 99.4 99.1 95.9 91.0  
DBA 86.8 89.2 87.1 89.8 90.0 88.1 87.0 87.6 89.8 88.5 86.4 83.0 79.3

80000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000  
8000

8000 0.6 5.9 13.4 13.8 11.4 7.9 4.8 0.1 161.5  
158.4  
157.5

6300 7.8 29.5 26.7 32.0 35.9 36.9 35.7 34.1 30.5 24.6 11.8 157.5  
5000 33.6 43.6 44.2 48.6 51.6 51.3 52.0 50.6 49.0 41.5 32.3 18.8 157.3

4000 46.8 53.5 56.2 59.2 61.3 60.0 60.3 60.2 59.0 53.4 46.9 41.5 32.3 157.3  
3150 56.3 62.9 63.0 67.2 68.2 67.3 67.4 67.1 66.7 61.2 55.4 48.2 35.5 158.0

2500 64.1 68.7 69.2 72.5 73.0 72.0 71.5 71.8 72.2 66.5 61.3 56.5 46.9 159.1  
2000 69.4 73.8 73.4 76.3 76.5 74.9 74.7 74.5 75.2 72.1 66.8 61.5 55.2 160.3

1600 73.7 77.4 76.6 79.5 79.0 77.7 75.9 76.7 78.3 74.2 70.6 64.9 60.3 161.5  
1250 75.0 78.4 77.1 80.0 81.5 78.9 78.1 78.6 79.4 76.8 73.5 68.9 64.4 161.8

1000 76.0 80.3 78.6 80.8 81.1 79.2 77.5 78.4 80.9 80.0 75.6 71.0 68.0 162.1  
800 77.1 80.6 77.8 80.6 81.4 80.1 78.9 79.8 82.6 80.5 76.5 71.8 69.4 162.1

630 78.7 80.8 79.5 81.9 81.8 80.2 79.1 80.8 83.4 81.3 77.8 76.3 70.1 162.5  
500 80.7 82.8 80.5 83.8 81.9 81.2 81.3 82.5 83.7 81.8 79.3 75.5 72.4 163.2

400 82.4 83.5 80.9 84.6 83.1 81.5 80.2 83.9 83.9 81.2 77.3 74.9 163.9  
315 85.9 87.0 83.6 85.1 85.7 81.9 78.0 78.0 83.3 83.8 82.8 80.5 76.6 164.7

250 85.8 86.4 81.5 82.1 83.9 79.0 75.8 77.0 82.0 85.0 84.4 80.7 78.4 163.9  
200 81.4 81.9 76.1 78.2 78.0 74.9 74.4 76.8 82.6 85.1 86.0 83.1 79.7 162.6

160 77.2 75.6 71.6 74.0 75.3 74.6 73.8 76.1 81.9 84.4 89.3 84.6 81.5 163.1  
125 73.4 74.4 69.5 73.6 73.5 72.7 72.9 74.9 81.1 85.1 88.9 85.6 81.9 162.9

100 72.0 71.1 67.7 72.2 71.9 71.4 73.2 79.8 85.7 91.0 88.5 81.9 164.3  
80 71.0 70.6 66.4 71.2 70.7 69.9 72.4 78.5 84.5 89.5 87.8 81.2 163.2

63 70.7 69.5 66.6 69.4 70.7 69.1 67.8 69.1 75.8 82.3 86.7 79.2 161.2  
50 70.8 68.2 66.0 70.7 70.1 68.0 68.0 68.3 72.6 72.6 77.6 83.0 83.6 78.3 158.1

40 70.8 68.2 66.0 70.7 70.1 68.0 68.0 68.3 72.6 72.6 77.6 83.0 83.6 78.3 158.1  
PWL

40 70.8 68.2 66.0 70.7 70.1 68.0 68.0 68.3 72.6 72.6 77.6 83.0 83.6 78.3 158.1  
150 160

150 160  
140 150 160

140 150 160  
130 140 150 160

130 140 150 160  
120 130 140 150 160

120 130 140 150 160  
110 120 130 140 150 160

110 120 130 140 150 160  
100 110 120 130 140 150 160

100 110 120 130 140 150 160  
90 100 110 120 130 140 150 160

90 100 110 120 130 140 150 160  
80 90 100 110 120 130 140 150 160

80 90 100 110 120 130 140 150 160  
70 80 90 100 110 120 130 140 150 160

70 80 90 100 110 120 130 140 150 160  
60 70 80 90 100 110 120 130 140 150 160

60 70 80 90 100 110 120 130 140 150 160  
50 60 70 80 90 100 110 120 130 140 150 160

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1207 X1207C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.4 79.7 81.7 81.5 81.1 79.7 82.4 82.0 83.5 88.6 89.2 96.6 96.5 129.8

63 82.7 82.8 87.8 88.1 87.9 84.5 87.2 87.1 88.0 89.6 89.2 97.9 96.8 132.4

80 85.3 89.6 83.1 87.4 86.5 87.1 87.5 88.4 89.8 87.9 91.0 95.2 96.4 131.5

100 84.8 88.8 83.1 87.7 88.2 86.9 87.0 90.2 90.6 89.4 93.6 98.0 99.7 133.3

125 83.4 84.1 84.2 87.9 88.5 88.2 87.5 88.2 89.4 90.5 97.6 101.5 103.7 135.8

160 82.8 80.3 83.8 84.9 85.7 85.6 87.0 87.1 89.3 90.9 97.8 102.5 106.6 137.1

200 82.5 85.1 84.1 87.1 87.5 87.3 88.0 92.4 94.3 94.6 100.5 106.2 109.1 140.1

250 83.0 90.3 85.1 87.9 88.2 90.3 92.0 94.1 95.3 99.1 106.0 110.7 112.1 143.9

315 84.6 87.9 85.1 89.9 91.8 90.4 90.8 94.2 97.4 100.9 107.3 111.8 114.7 145.6

400 85.1 88.6 86.4 89.4 90.3 89.6 91.8 94.9 98.6 104.7 110.8 114.8 115.2 147.7

500 86.9 89.2 86.3 89.8 91.1 91.2 92.1 95.3 99.3 106.1 113.0 116.6 115.0 149.1

630 88.6 90.6 88.1 92.2 93.2 92.6 93.0 97.2 101.1 108.7 115.1 117.5 115.7 150.4

800 98.7 100.2 98.0 100.1 98.6 95.8 96.4 99.6 103.5 110.1 117.2 118.4 117.1 152.0

1000 98.7 100.2 98.0 100.1 98.6 95.8 96.4 99.6 103.5 110.1 117.2 118.4 117.1 152.0

1250 96.2 98.5 97.3 101.6 103.2 102.0 100.4 101.3 105.0 110.1 117.0 118.4 117.2 152.4

1600 100.7 98.5 95.3 97.6 98.4 98.3 99.6 102.2 105.6 109.1 116.8 118.4 117.2 152.0

2000 102.7 102.3 99.0 100.4 100.2 97.8 98.8 101.9 106.0 109.2 115.5 117.8 114.9 151.2

2500 100.6 100.9 98.2 100.7 101.3 99.2 98.4 102.0 105.6 109.1 114.2 115.7 113.2 149.8

3150 100.0 101.3 98.8 101.1 100.7 99.9 99.7 103.3 105.9 108.1 113.3 114.7 112.9 149.2

4000 98.4 99.2 97.0 100.3 100.1 99.3 99.7 103.3 105.9 108.1 113.3 114.7 112.9 149.2

5000 98.6 98.9 96.2 98.7 99.4 98.4 99.3 102.3 105.3 105.9 109.8 111.8 108.6 146.9

6300 98.0 99.5 97.4 98.9 98.8 98.6 98.6 102.5 105.5 105.4 108.7 111.7 107.5 146.8

8000 96.6 97.5 96.3 100.2 99.7 98.2 97.9 100.8 104.5 104.0 107.3 108.3 106.4 145.6

10000 94.6 96.8 95.6 99.1 101.4 99.4 98.4 101.1 103.7 103.3 106.0 108.5 106.8 145.7

12500 92.4 93.8 93.1 96.1 99.1 98.4 97.7 99.1 101.7 100.3 103.8 106.1 102.4 144.4

16000 89.3 91.1 90.3 93.7 96.0 96.3 96.3 98.2 100.2 98.0 101.5 103.3 99.9 143.6

20000 86.2 88.1 87.2 90.8 93.1 93.3 93.2 95.5 97.1 95.4 97.8 100.8 96.9 142.3

25000 82.7 84.2 84.1 87.1 90.2 90.8 91.2 92.5 94.2 92.6 93.2 97.5 92.8 141.5

31500 78.1 81.2 79.8 83.2 86.0 86.3 86.8 89.4 90.8 89.3 90.7 94.7 89.2 141.3

40000 73.4 76.6 76.7 78.9 82.1 83.5 82.8 85.8 87.0 86.5 88.7 93.3 85.4 142.5

50000 68.6 71.5 70.5 73.7 77.7 78.7 77.9 80.2 82.9 82.8 85.0 90.1 81.3 142.9

63000 63.3 67.7 65.8 70.2 72.5 72.5 75.5 72.9 75.9 78.8 79.3 82.8 87.2 83.2 145.2

80000 60.8 64.7 62.8 65.0 67.8 67.8 72.7 66.8 71.0 76.0 76.4 80.7 84.2 79.8 149.0

OASPL 110.0 110.7 108.4 111.1 111.7 110.6 110.7 113.4 116.7 120.0 126.0 126.0 128.0 127.0 162.4

PWL 122.8 123.8 121.5 124.1 124.2 123.2 123.4 126.4 129.7 132.2 137.4 139.5 138.0

PMLT 124.3 125.6 122.8 124.1 125.7 124.9 123.4 126.4 129.7 132.2 137.4 139.5 138.0

DBA 110.5 110.9 108.4 111.1 111.4 110.1 110.2 113.0 116.6 119.9 125.9 125.9 127.7 126.3

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH697 TEST DATE = 03-16-82 LGCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS

IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 69.00 MIKE HG = 29.25 RELHUM = 76.6 PCT

WIND DIR = DEG WIND VEL. = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNHR = RPM V8 = 1708.3 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1708.3 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-1207 TAPE = X1207C TEST PT NO = 1207 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-ZER-1207 X1207F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40  | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|---|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 96.5                                      | 96.6  | 99.2  | 89.2  | 88.6  | 89.2  | 88.6  | 89.2  | 88.6  | 89.2  | 88.6  | 89.2  | 96.5  |
| 50  | 81.4                                      | 79.7  | 81.7  | 81.5  | 81.1  | 79.7  | 82.4  | 82.0  | 83.5  | 88.6  | 89.2  | 96.6  | 129.8 |
| 53  | 82.7                                      | 82.8  | 87.8  | 88.1  | 87.9  | 84.5  | 92.2  | 87.1  | 88.0  | 90.6  | 89.2  | 97.9  | 132.4 |
| 60  | 85.1                                      | 84.1  | 87.1  | 87.5  | 87.3  | 88.0  | 92.4  | 88.0  | 94.3  | 94.6  | 100.5 | 106.2 | 140.1 |
| 70  | 85.1                                      | 84.1  | 87.1  | 87.5  | 87.3  | 88.0  | 92.4  | 88.0  | 94.3  | 94.6  | 100.5 | 106.2 | 140.1 |
| 80  | 85.3                                      | 89.6  | 83.1  | 87.4  | 86.5  | 87.1  | 87.5  | 88.4  | 89.8  | 87.9  | 91.0  | 95.2  | 131.5 |
| 100   | 84.8                                      | 88.8  | 83.1  | 87.7  | 88.2  | 86.9  | 87.0  | 90.2  | 89.4  | 90.5  | 103.7 | 135.8 |       |
| 125   | 83.4                                      | 84.1  | 84.2  | 87.9  | 88.5  | 88.2  | 87.5  | 88.2  | 89.4  | 90.5  | 103.7 | 135.8 |       |
| 150   | 82.8                                      | 80.3  | 83.8  | 84.9  | 85.7  | 85.6  | 87.0  | 87.1  | 89.3  | 90.9  | 97.8  | 102.5 | 137.1 |
| 200   | 82.5                                      | 85.1  | 84.1  | 87.1  | 87.5  | 87.3  | 88.0  | 92.4  | 88.0  | 94.3  | 94.6  | 100.5 | 140.1 |
| 250   | 83.0                                      | 85.1  | 85.1  | 87.9  | 88.2  | 90.3  | 92.0  | 94.1  | 95.3  | 99.1  | 106.0 | 110.7 | 143.9 |
| 315   | 84.6                                      | 87.9  | 85.1  | 89.9  | 91.8  | 90.4  | 90.8  | 94.2  | 97.4  | 100.9 | 107.3 | 111.8 | 145.6 |
| 400   | 85.1                                      | 88.6  | 86.4  | 89.4  | 90.3  | 89.6  | 91.8  | 94.9  | 98.6  | 104.7 | 110.8 | 114.8 | 147.7 |
| 500   | 86.9                                      | 89.2  | 86.3  | 89.8  | 91.1  | 91.2  | 92.1  | 95.3  | 99.3  | 106.1 | 113.0 | 116.6 | 149.1 |
| 630   | 88.6                                      | 90.6  | 88.1  | 92.2  | 93.2  | 92.6  | 93.0  | 97.2  | 101.1 | 108.7 | 115.1 | 117.5 | 150.4 |
| 800   | 91.9                                      | 91.7  | 91.0  | 94.5  | 95.1  | 94.0  | 95.1  | 97.8  | 102.5 | 109.8 | 116.5 | 117.6 | 151.4 |
| 1000  | 98.7                                      | 100.2 | 98.0  | 100.1 | 98.6  | 95.8  | 96.4  | 99.6  | 103.5 | 110.1 | 117.2 | 118.4 | 152.0 |
| 1250  | 98.6                                      | 100.9 | 98.2  | 100.7 | 101.3 | 99.2  | 98.4  | 102.0 | 105.6 | 112.9 | 114.2 | 115.7 | 149.8 |
| 1500  | 98.3                                      | 91.1  | 90.3  | 93.7  | 96.0  | 96.3  | 98.2  | 98.0  | 101.5 | 103.3 | 103.3 | 103.3 | 143.6 |
| 2000  | 86.2                                      | 88.1  | 87.2  | 90.8  | 93.1  | 93.3  | 93.2  | 95.5  | 97.1  | 95.4  | 97.6  | 100.8 | 142.3 |
| 2500  | 82.7                                      | 84.2  | 84.4  | 87.1  | 90.2  | 90.8  | 91.2  | 92.5  | 94.2  | 92.6  | 93.2  | 97.5  | 141.3 |
| 3150  | 78.1                                      | 81.2  | 79.8  | 83.2  | 86.0  | 86.3  | 86.8  | 89.4  | 90.8  | 89.3  | 90.7  | 94.7  | 141.3 |
| 4000  | 73.4                                      | 76.6  | 76.7  | 78.9  | 82.1  | 83.5  | 82.8  | 85.9  | 87.0  | 86.5  | 88.7  | 93.3  | 142.5 |
| 5000  | 68.6                                      | 71.5  | 70.5  | 73.7  | 77.7  | 78.7  | 77.9  | 80.2  | 82.9  | 82.8  | 85.0  | 90.1  | 142.9 |
| 63000   | 63.3                                      | 67.7  | 65.8  | 70.2  | 72.5  | 75.5  | 72.9  | 75.9  | 78.8  | 79.3  | 82.8  | 87.2  | 145.2 |
| 80000   | 60.8                                      | 64.7  | 62.8  | 65.0  | 67.8  | 72.7  | 66.8  | 71.0  | 76.0  | 76.4  | 80.7  | 84.2  | 149.0 |
| GASPL   | 110.0                                     | 110.7 | 108.4 | 111.1 | 111.7 | 110.6 | 110.7 | 113.4 | 116.7 | 120.0 | 126.0 | 128.0 | 162.4 |
| PNL   | 124.3                                     | 125.6 | 122.8 | 124.1 | 125.7 | 124.9 | 123.4 | 126.4 | 129.7 | 132.2 | 137.4 | 139.5 | 138.0 |
| DBA   | 181.8                                     | 185.7 | 183.9 | 186.6 | 189.3 | 193.6 | 188.8 | 192.5 | 197.0 | 197.4 | 201.5 | 205.1 | 200.7 |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000         | FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 |       |       |       |       |       |       |       |       |       |       |       |       |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000         | REFR CORR YES, TURB CORR YES              |       |       |       |       |       |       |       |       |       |       |       |       |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |   |       |       |       |       |       |       |       |       |       |       |       |       |

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VEHICLE = ADH697 TEST DATE = 03-16-82  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 FNINI = LBS XNL RPM XNH XNHR RPM = = =  
 FNFRMB = LBS XNLR RPM XNH XNHR RPM = = =  
 TEST PT NO = 1207 NC = AE039 CORR FAN SPEED = RPM  
 V8 = 1708.3 FPS AE8 = 20.4 SQ IN  
 V18 = 1708.3 FPS AE18 = 0. SQ IN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1207 X12071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| PWL   | 64.0 | 69.1 | 67.9 | 71.7 | 72.9 | 72.4 | 74.4 | 74.4 | 77.2 | 80.2 | 85.2 | 89.8 | 91.5 | 88.6  | 166.1 |
| 50    | 64.0 | 69.1 | 67.9 | 71.7 | 72.9 | 72.4 | 74.4 | 74.4 | 77.2 | 80.2 | 85.2 | 89.8 | 91.5 | 88.6  | 166.1 |
| 60    | 65.8 | 69.7 | 67.8 | 72.0 | 73.8 | 74.0 | 74.8 | 77.5 | 80.8 | 86.5 | 91.9 | 93.3 | 88.4 | 167.4 |       |
| 80    | 67.4 | 71.0 | 69.6 | 74.3 | 75.9 | 75.4 | 75.6 | 79.3 | 82.6 | 89.1 | 93.9 | 94.1 | 88.9 | 168.8 |       |
| 100   | 70.7 | 72.1 | 72.4 | 76.7 | 77.7 | 76.7 | 77.7 | 79.9 | 83.9 | 90.2 | 94.2 | 94.2 | 90.6 | 169.8 |       |
| 125   | 77.4 | 80.5 | 79.4 | 82.1 | 81.1 | 78.4 | 78.9 | 81.6 | 84.9 | 90.3 | 95.9 | 94.8 | 89.9 | 170.4 |       |
| 160   | 74.7 | 78.6 | 78.5 | 83.5 | 85.5 | 84.5 | 82.8 | 83.3 | 86.2 | 90.2 | 95.4 | 94.5 | 90.6 | 170.7 |       |
| 200   | 79.0 | 78.4 | 76.3 | 79.4 | 80.6 | 80.7 | 81.8 | 84.0 | 86.6 | 89.0 | 94.2 | 89.2 | 89.3 | 170.3 |       |
| 500   | 74.9 | 77.7 | 76.8 | 80.9 | 81.3 | 80.6 | 80.9 | 83.9 | 85.7 | 86.5 | 86.7 | 86.7 | 79.7 | 166.5 |       |
| 630   | 74.6 | 77.0 | 75.7 | 79.1 | 80.3 | 79.4 | 80.2 | 82.7 | 84.8 | 84.0 | 85.8 | 84.6 | 76.1 | 165.3 |       |
| 800   | 73.5 | 77.2 | 76.6 | 79.0 | 79.5 | 79.4 | 79.2 | 82.6 | 84.7 | 83.1 | 84.2 | 83.8 | 73.8 | 165.1 |       |
| 1000  | 71.7 | 74.9 | 75.2 | 80.1 | 80.2 | 78.9 | 78.4 | 80.7 | 83.4 | 81.4 | 82.4 | 79.8 | 71.7 | 163.9 |       |
| 1250  | 69.2 | 73.9 | 74.3 | 78.9 | 81.7 | 79.9 | 78.7 | 80.8 | 82.4 | 80.3 | 80.6 | 79.1 | 68.5 | 164.1 |       |
| 1600  | 66.1 | 70.3 | 71.3 | 75.5 | 79.2 | 78.7 | 77.8 | 78.5 | 79.9 | 76.8 | 77.5 | 75.5 | 63.8 | 162.8 |       |
| 2000  | 62.0 | 67.0 | 68.2 | 72.9 | 76.0 | 76.4 | 76.3 | 77.4 | 78.1 | 73.9 | 74.2 | 71.0 | 58.3 | 161.9 |       |
| 2500  | 57.1 | 62.7 | 64.2 | 69.3 | 72.4 | 73.0 | 72.5 | 74.0 | 74.1 | 70.1 | 68.7 | 65.6 | 50.4 | 160.7 |       |
| 3150  | 50.2 | 56.4 | 59.6 | 64.0 | 68.2 | 69.1 | 69.2 | 69.4 | 69.3 | 64.8 | 60.8 | 57.4 | 37.8 | 159.9 |       |
| 4000  | 39.4 | 48.7 | 51.1 | 56.9 | 61.0 | 61.8 | 61.8 | 63.1 | 62.1 | 56.8 | 52.1 | 45.6 | 19.8 | 159.7 |       |
| 5000  | 25.0 | 36.5 | 41.8 | 47.2 | 52.1 | 54.0 | 52.8 | 54.2 | 52.1 | 46.4 | 40.3 | 30.5 |      | 160.8 |       |
| 6300  | 2.4  | 17.2 | 23.5 | 31.2 | 37.7 | 39.4 | 37.9 | 37.7 | 35.9 | 28.5 | 18.7 | 3.3  |      | 161.3 |       |
| 8000  |      |      | 8.5  | 14.3 | 18.4 | 14.7 | 14.1 | 10.4 | 0.2  |      |      |      |      | 163.6 |       |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 167.4 |       |

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|       |      |      |      |      |       |       |      |       |       |       |       |       |      |       |
|-------|------|------|------|------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|
| QASPL | 87.2 | 89.5 | 88.4 | 92.0 | 93.0  | 92.0  | 91.8 | 94.1  | 96.7  | 99.4  | 104.0 | 103.5 | 98.6 | 180.6 |
| PNL   | 91.8 | 94.5 | 94.0 | 97.7 | 99.8  | 99.2  | 99.0 | 100.8 | 102.6 | 103.2 | 106.5 | 105.6 | 99.3 |       |
| PFLT  | 92.5 | 95.4 | 94.6 | 97.7 | 100.6 | 100.0 | 99.0 | 100.8 | 103.1 | 103.7 | 107.6 | 106.9 | 99.3 |       |
| DBA   | 81.5 | 84.4 | 83.9 | 87.7 | 89.2  | 88.3  | 88.0 | 90.2  | 92.2  | 91.8  | 94.3  | 93.3  | 86.6 |       |

|          |                |           |            |            |                |          |             |                |            |         |            |
|----------|----------------|-----------|------------|------------|----------------|----------|-------------|----------------|------------|---------|------------|
| VEHICL   | = ADH697       | TEST DATE | = 03-16-82 | LOCAL      | = C41 ANECH CH | CONFIG   | = 2         | MODEL          | = AX       | FLVEL   | = 0. FPS   |
| IAPLHA   | = SB59         | IEGA      | = NO       | PML AREA   | = FULL SPHERE  | TAMB F   | = 69.00     | PAMB HG        | = 29.25    | RELHUM  | = 76.6 PCT |
| WIND DIR | =              | DEG       | WIND VEL   | =          | MPH            | EXT DIST | = 2400.0 FT | EXT CONFIG     | = SL       | MIKE HT | =          |
| FNINI    | =              | LBS       | XNL        | RPM        | XNH            | RPM      | V8          | =              | 1708.3 FPS | AE8     | =          |
| FNRAMB   | =              | LBS       | XNLR       | =          | RPM            | XNHR     | =           | RPM            | V8         | =       | 20.4 SQ IN |
| RUNPT    | = 82F-ZER-1207 | TAPE      | = X12071   | TEST PT NG | = 1207         | NC       | = AE039     | CORR FAN SPEED | =          | RPM     |            |





FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1208 X1208F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 63 80 100 125 150 160  
40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250   | 87.8  | 83.1  | 85.3  | 84.8  | 84.6  | 84.1  | 85.3  | 89.2  | 91.6  | 97.9  | 102.6 | 105.8 | 136.8 |       |
| 200   | 86.5  | 87.8  | 83.1  | 85.3  | 84.8  | 84.7  | 85.1  | 89.9  | 94.9  | 100.9 | 105.6 | 106.0 | 138.5 |       |
| 150   | 87.7  | 88.6  | 84.3  | 87.3  | 87.1  | 85.4  | 84.7  | 85.9  | 90.5  | 97.3  | 104.0 | 107.1 | 140.0 |       |
| 100   | 88.0  | 88.7  | 84.9  | 87.3  | 87.2  | 86.1  | 87.6  | 94.1  | 101.1 | 107.7 | 110.1 | 106.4 | 142.8 |       |
| 500   | 88.8  | 88.6  | 84.3  | 87.3  | 87.3  | 87.1  | 90.5  | 96.4  | 104.0 | 110.2 | 111.7 | 107.9 | 144.7 |       |
| 600   | 89.9  | 89.9  | 86.9  | 88.7  | 88.0  | 89.4  | 91.8  | 98.5  | 104.9 | 111.9 | 112.4 | 109.1 | 146.0 |       |
| 800   | 89.9  | 88.9  | 86.9  | 88.7  | 88.0  | 89.4  | 91.8  | 98.5  | 104.9 | 111.9 | 112.4 | 109.1 | 146.0 |       |
| 1000  | 91.4  | 89.8  | 87.9  | 89.6  | 90.7  | 89.7  | 90.0  | 93.0  | 99.6  | 105.0 | 110.9 | 109.3 | 144.9 |       |
| 1250  | 93.7  | 92.9  | 89.0  | 91.8  | 93.4  | 91.3  | 91.5  | 94.1  | 101.2 | 104.5 | 110.7 | 108.7 | 144.7 |       |
| 1500  | 100.5 | 99.8  | 94.0  | 95.5  | 95.4  | 92.3  | 92.7  | 95.3  | 101.4 | 104.8 | 108.4 | 107.6 | 144.2 |       |
| 2000  | 105.4 | 103.6 | 99.3  | 98.3  | 93.3  | 93.3  | 96.0  | 101.5 | 105.0 | 106.7 | 106.9 | 106.6 | 144.7 |       |
| 2500  | 105.4 | 104.7 | 100.5 | 101.4 | 101.6 | 98.5  | 95.5  | 97.0  | 102.9 | 104.4 | 106.2 | 106.4 | 145.0 |       |
| 3150  | 102.6 | 102.2 | 100.0 | 102.2 | 100.7 | 99.0  | 97.8  | 98.1  | 103.7 | 104.7 | 104.4 | 103.2 | 144.3 |       |
| 4000  | 101.6 | 102.1 | 99.2  | 101.3 | 97.4  | 97.4  | 96.4  | 99.3  | 103.3 | 103.2 | 102.1 | 101.3 | 143.6 |       |
| 5000  | 100.5 | 100.4 | 97.8  | 100.4 | 98.4  | 96.4  | 96.4  | 99.3  | 103.3 | 103.9 | 102.6 | 101.3 | 143.0 |       |
| 6300  | 100.5 | 100.5 | 97.4  | 99.0  | 99.3  | 98.0  | 96.1  | 98.9  | 102.9 | 102.1 | 101.0 | 99.8  | 142.8 |       |
| 8000  | 100.9 | 102.2 | 98.9  | 99.7  | 100.0 | 97.7  | 95.5  | 97.9  | 102.0 | 101.7 | 100.1 | 99.5  | 143.2 |       |
| 10000 | 100.2 | 101.0 | 99.3  | 100.9 | 101.4 | 98.6  | 96.8  | 98.5  | 100.7 | 99.4  | 98.9  | 98.6  | 143.4 |       |
| 12500 | 100.0 | 100.7 | 98.6  | 100.6 | 99.2  | 97.9  | 96.1  | 97.4  | 100.1 | 97.6  | 95.8  | 99.1  | 143.3 |       |
| 15000 | 96.7  | 97.1  | 95.3  | 96.6  | 96.6  | 95.8  | 94.8  | 95.5  | 97.5  | 95.3  | 95.3  | 93.6  | 141.9 |       |
| 20000 | 92.4  | 94.3  | 91.9  | 93.8  | 93.6  | 92.6  | 92.1  | 93.8  | 95.5  | 91.8  | 89.7  | 91.5  | 140.7 |       |
| 25000 | 88.8  | 90.4  | 88.1  | 90.0  | 89.8  | 89.4  | 90.4  | 92.2  | 88.9  | 88.3  | 88.8  | 90.7  | 139.8 |       |
| 31500 | 84.7  | 85.2  | 84.1  | 85.5  | 86.0  | 85.1  | 84.8  | 86.7  | 88.3  | 86.5  | 85.4  | 85.8  | 139.0 |       |
| 40000 | 80.0  | 80.7  | 79.1  | 80.6  | 82.1  | 81.5  | 81.0  | 82.7  | 83.0  | 81.7  | 81.6  | 81.2  | 138.6 |       |
| 50000 | 78.2  | 75.1  | 75.1  | 76.0  | 76.0  | 76.0  | 76.0  | 78.1  | 79.9  | 78.0  | 76.6  | 78.4  | 138.4 |       |
| 63000 | 84.5  | 71.2  | 70.9  | 69.9  | 71.8  | 70.7  | 69.8  | 70.5  | 74.2  | 79.4  | 75.4  | 72.3  | 142.6 |       |
| 80000 | 64.7  | 65.9  | 65.3  | 63.2  | 72.8  | 65.9  | 65.2  | 63.7  | 64.4  | 69.6  | 65.6  | 62.5  | 64.4  | 140.6 |
| GASPL | 112.7 | 112.4 | 109.3 | 110.8 | 110.5 | 108.4 | 107.1 | 109.1 | 113.5 | 115.4 | 119.4 | 119.8 | 157.0 |       |
| PML   | 125.2 | 124.8 | 121.3 | 123.2 | 122.5 | 120.5 | 119.4 | 121.8 | 125.9 | 127.6 | 129.4 | 129.6 | 129.8 |       |
| PMLT  | 125.2 | 124.8 | 121.3 | 123.2 | 122.5 | 120.5 | 119.4 | 121.8 | 125.9 | 127.6 | 129.4 | 129.6 | 129.8 |       |
| DBA   | 195.0 | 187.5 | 187.0 | 185.5 | 193.3 | 187.5 | 186.7 | 186.2 | 188.0 | 192.8 | 189.0 | 186.2 | 188.0 |       |

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3-3

VEHICL = ADH708 TEST DATE = 03-16-82  
 LOCAL = C41 ANECH CH CONFIG = 2  
 TAMB F = FULL SPHERE EXT DIST = 40.0 FT  
 EXT CONFIG = ARC  
 MIKE HT = 29.30 PAMB HG = 69.00  
 RELHUM = 76.6 PCT  
 FLTVEL = 400. FPS  
 MODEL = AX  
 FNI1 = LBS XNL = RPM XNHR = RPM V8 = 1713.8 FPS AEB8 = 20.4 SQ IN  
 FNRAMB = LBS XNL = RPM XNHR = RPM V8 = 1713.8 FPS AEB8 = 20.4 SQ IN  
 RUNPT = 82F-400-1208 TAPE = X1208F TEST PT NO = 1208 NC = AE039 CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NGZ/AX/SC-2/NAS3-22514  
 MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00  
 REFR CORR YES, TURB CORR YES

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1208 X12081

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 50                   | 63                   | 80         | 100              | 125               | 150           | 200       | 250                    | 315            | 400              | 500               | 630    | 800        | 1000           | 1250  | 1500                 | 2000            | 2500      | 3150            | 4000              | 5000     | 6300              | 8000          |           |     |
|---|----------------------|----------------------|------------|------------------|-------------------|---------------|-----------|------------------------|----------------|------------------|-------------------|--------|------------|----------------|-------|----------------------|-----------------|-----------|-----------------|-------------------|----------|-------------------|---------------|-----------|-----|
| PWL   | 158.3                | 158.3                | 158.3      | 158.3            | 158.3             | 158.3         | 158.3     | 158.3                  | 158.3          | 158.3            | 158.3             | 158.3  | 158.3      | 158.3          | 158.3 | 158.3                | 158.3           | 158.3     | 158.3           | 158.3             | 158.3    | 158.3             | 158.3         | 158.3     |     |
| 50  | 66.6                 | 66.9                 | 66.6       | 66.6             | 66.6              | 66.6          | 66.6      | 66.6                   | 66.6           | 66.6             | 66.6              | 66.6   | 66.6       | 66.6           | 66.6  | 66.6                 | 66.6            | 66.6      | 66.6            | 66.6              | 66.6     | 66.6              | 66.6          | 66.6      |     |
| 63  | 66.6                 | 66.9                 | 66.6       | 66.6             | 66.6              | 66.6          | 66.6      | 66.6                   | 66.6           | 66.6             | 66.6              | 66.6   | 66.6       | 66.6           | 66.6  | 66.6                 | 66.6            | 66.6      | 66.6            | 66.6              | 66.6     | 66.6              | 66.6          | 66.6      |     |
| 80  | 67.6                 | 68.9                 | 65.8       | 69.6             | 70.0              | 70.0          | 70.0      | 70.0                   | 70.0           | 70.0             | 70.0              | 70.0   | 70.0       | 70.0           | 70.0  | 70.0                 | 70.0            | 70.0      | 70.0            | 70.0              | 70.0     | 70.0              | 70.0          | 70.0      |     |
| 100   | 68.7                 | 70.2                 | 68.3       | 72.1             | 72.1              | 72.1          | 72.1      | 72.1                   | 72.1           | 72.1             | 72.1              | 72.1   | 72.1       | 72.1           | 72.1  | 72.1                 | 72.1            | 72.1      | 72.1            | 72.1              | 72.1     | 72.1              | 72.1          | 72.1      |     |
| 125   | 70.1                 | 70.0                 | 69.2       | 71.7             | 73.2              | 72.3          | 72.3      | 72.3                   | 72.3           | 72.3             | 72.3              | 72.3   | 72.3       | 72.3           | 72.3  | 72.3                 | 72.3            | 72.3      | 72.3            | 72.3              | 72.3     | 72.3              | 72.3          | 72.3      |     |
| 150   | 72.2                 | 73.0                 | 70.2       | 73.8             | 73.8              | 73.8          | 73.8      | 73.8                   | 73.8           | 73.8             | 73.8              | 73.8   | 73.8       | 73.8           | 73.8  | 73.8                 | 73.8            | 73.8      | 73.8            | 73.8              | 73.8     | 73.8              | 73.8          | 73.8      |     |
| 200   | 78.7                 | 79.7                 | 75.0       | 77.3             | 77.7              | 74.7          | 74.7      | 74.7                   | 74.7           | 74.7             | 74.7              | 74.7   | 74.7       | 74.7           | 74.7  | 74.7                 | 74.7            | 74.7      | 74.7            | 74.7              | 74.7     | 74.7              | 74.7          | 74.7      |     |
| 250   | 83.6                 | 83.2                 | 80.1       | 80.4             | 82.3              | 77.5          | 75.4      | 77.6                   | 82.3           | 84.6             | 84.6              | 84.6   | 84.6       | 84.6           | 84.6  | 84.6                 | 84.6            | 84.6      | 84.6            | 84.6              | 84.6     | 84.6              | 84.6          | 84.6      |     |
| 315   | 82.9                 | 84.0                 | 80.9       | 82.7             | 83.4              | 80.4          | 80.4      | 80.4                   | 80.4           | 80.4             | 80.4              | 80.4   | 80.4       | 80.4           | 80.4  | 80.4                 | 80.4            | 80.4      | 80.4            | 80.4              | 80.4     | 80.4              | 80.4          | 80.4      |     |
| 400   | 79.6                 | 81.0                 | 80.1       | 83.1             | 82.2              | 80.6          | 79.2      | 79.1                   | 83.8           | 83.5             | 81.3              | 77.4   | 75.0       | 162.6          | 162.6 | 162.6                | 162.6           | 162.6     | 162.6           | 162.6             | 162.6    | 162.6             | 162.6         | 162.6     |     |
| 500   | 78.1                 | 80.6                 | 79.0       | 81.9             | 80.4              | 78.7          | 79.0      | 81.3                   | 83.1           | 81.7             | 79.4              | 78.1   | 79.4       | 75.6           | 72.5  | 161.9                | 161.9           | 161.9     | 161.9           | 161.9             | 161.9    | 161.9             | 161.9         | 161.9     |     |
| 630   | 76.5                 | 77.3                 | 80.7       | 79.3             | 78.4              | 77.3          | 79.7      | 83.4                   | 80.7           | 78.1             | 74.1              | 71.1   | 161.4      | 161.4          | 161.4 | 161.4                | 161.4           | 161.4     | 161.4           | 161.4             | 161.4    | 161.4             | 161.4         | 161.4     |     |
| 800   | 76.0                 | 78.2                 | 76.5       | 79.1             | 80.0              | 78.9          | 76.7      | 79.0                   | 82.1           | 79.8             | 76.5              | 71.9   | 69.5       | 161.1          | 161.1 | 161.1                | 161.1           | 161.1     | 161.1           | 161.1             | 161.1    | 161.1             | 161.1         | 161.1     |     |
| 1000  | 76.0                 | 79.6                 | 77.9       | 79.7             | 80.5              | 78.4          | 76.0      | 79.9                   | 81.0           | 79.1             | 75.2              | 71.0   | 67.7       | 161.5          | 161.5 | 161.5                | 161.5           | 161.5     | 161.5           | 161.5             | 161.5    | 161.5             | 161.5         | 161.5     |     |
| 1250  | 77.2                 | 78.1                 | 78.0       | 81.8             | 79.2              | 78.3          | 78.3      | 79.4                   | 76.4           | 73.4             | 69.2              | 64.3   | 161.8      | 161.8          | 161.8 | 161.8                | 161.8           | 161.8     | 161.8           | 161.8             | 161.8    | 161.8             | 161.8         | 161.8     |     |
| 1500  | 77.2                 | 77.2                 | 80.0       | 81.8             | 79.2              | 78.2          | 78.2      | 79.2                   | 76.2           | 73.2             | 69.2              | 64.3   | 161.8      | 161.8          | 161.8 | 161.8                | 161.8           | 161.8     | 161.8           | 161.8             | 161.8    | 161.8             | 161.8         | 161.8     |     |
| 2000  | 69.4                 | 73.0                 | 73.2       | 75.8             | 76.5              | 75.9          | 74.7      | 74.7                   | 75.4           | 71.2             | 68.1              | 61.3   | 55.3       | 160.3          | 160.3 | 160.3                | 160.3           | 160.3     | 160.3           | 160.3             | 160.3    | 160.3             | 160.3         | 160.3     |     |
| 2500  | 63.4                 | 68.9                 | 68.9       | 72.3             | 73.0              | 72.2          | 71.5      | 72.3                   | 72.5           | 66.5             | 60.6              | 56.4   | 46.9       | 159.1          | 159.1 | 159.1                | 159.1           | 159.1     | 159.1           | 159.1             | 159.1    | 159.1             | 159.1         | 159.1     |     |
| 3150  | 56.3                 | 62.6                 | 63.3       | 67.0             | 68.0              | 68.1          | 67.4      | 67.4                   | 67.3           | 61.1             | 55.8              | 48.6   | 35.8       | 158.2          | 158.2 | 158.2                | 158.2           | 158.2     | 158.2           | 158.2             | 158.2    | 158.2             | 158.2         | 158.2     |     |
| 4000  | 46.0                 | 52.7                 | 55.4       | 59.2             | 61.0              | 60.5          | 59.8      | 60.4                   | 59.7           | 54.0             | 46.7              | 36.7   | 18.0       | 157.4          | 157.4 | 157.4                | 157.4           | 157.4     | 157.4           | 157.4             | 157.4    | 157.4             | 157.4         | 157.4     |     |
| 5000  | 31.6                 | 40.6                 | 44.2       | 48.8             | 52.1              | 52.0          | 51.0      | 50.9                   | 48.1           | 41.6             | 33.2              | 18.4   | 156.9      | 156.9          | 156.9 | 156.9                | 156.9           | 156.9     | 156.9           | 156.9             | 156.9    | 156.9             | 156.9         | 156.9     |     |
| 6300  | 12.0                 | 21.1                 | 28.1       | 32.6             | 37.0              | 36.7          | 34.4      | 34.1                   | 31.1           | 25.6             | 11.8              | 0.3    | 159.0      | 159.0          | 159.0 | 159.0                | 159.0           | 159.0     | 159.0           | 159.0             | 159.0    | 159.0             | 159.0         | 159.0     |     |
| 8000  | 8.000                | 8.000                | 8.000      | 8.000            | 8.000             | 8.000         | 8.000     | 8.000                  | 8.000          | 8.000            | 8.000             | 8.000  | 8.000      | 8.000          | 8.000 | 8.000                | 8.000           | 8.000     | 8.000           | 8.000             | 8.000    | 8.000             | 8.000         | 8.000     |     |
| QASPL   | 89.5                 | 90.9                 | 88.9       | 91.3             | 91.6              | 89.5          | 88.1      | 89.7                   | 93.5           | 94.8             | 97.6              | 95.6   | 90.2       | 175.2          | 175.2 | 175.2                | 175.2           | 175.2     | 175.2           | 175.2             | 175.2    | 175.2             | 175.2         | 175.2     |     |
| PWL   | 94.9                 | 97.0                 | 96.6       | 99.0             | 99.0              | 97.6          | 96.3      | 97.2                   | 99.8           | 99.6             | 99.2              | 96.2   | 91.1       | 191.1          | 191.1 | 191.1                | 191.1           | 191.1     | 191.1           | 191.1             | 191.1    | 191.1             | 191.1         | 191.1     |     |
| DBA   | 85.1                 | 87.5                 | 86.3       | 88.9             | 89.1              | 87.4          | 85.8      | 87.1                   | 89.7           | 88.0             | 86.6              | 83.2   | 79.4       | 191.1          | 191.1 | 191.1                | 191.1           | 191.1     | 191.1           | 191.1             | 191.1    | 191.1             | 191.1         | 191.1     |     |
| MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN )             |                      |                      |            |                  |                   |               |           |                        |                |                  |                   |        |            |                |       |                      |                 |           |                 |                   |          |                   |               |           |     |
| SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)           |                      |                      |            |                  |                   |               |           |                        |                |                  |                   |        |            |                |       |                      |                 |           |                 |                   |          |                   |               |           |     |
| DIAMETER RATIO = 8.288                              |                      |                      |            |                  |                   |               |           |                        |                |                  |                   |        |            |                |       |                      |                 |           |                 |                   |          |                   |               |           |     |
| FREQ SHIFT = -9                                     |                      |                      |            |                  |                   |               |           |                        |                |                  |                   |        |            |                |       |                      |                 |           |                 |                   |          |                   |               |           |     |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |                      |                      |            |                  |                   |               |           |                        |                |                  |                   |        |            |                |       |                      |                 |           |                 |                   |          |                   |               |           |     |
| VEHICL = ADH708                                     | TEST DATE = 03-16-82 | LOCAT = C41 ANECH CH | CONFIG = 2 | MODEL = AX       | FLTVEL = 400. FPS | IAPLHA = SB59 | LEGA = NO | PWL AREA = FULL SPHERE | TAMB F = 69.00 | PAMB HG = 29.30  | RELHUM = 76.6 PCT | NBFR = | MIND DIR = | DEG MIND VEL = | MPH   | EXT DIST = 2400.0 FT | EXT CONFIG = SL | MIKE HT = | PAMB HG = 29.30 | RELHUM = 76.6 PCT | NBFR =   | FLTVEL = 400. FPS | IAPLHA = SB59 | LEGA = NO |     |
| FNINI =   | LBS XNL              | RPM                  | XNH        | RPM              | V8                | FPS           | AEB       | =                      | 20.4 SQ IN     | FNRAMB =         | LBS XNLR          | RPM    | XNHR       | =              | RPM   | V8                   | FPS             | AEB       | =               | 20.4 SQ IN        | FNRAMB = | LBS XNL           | RPM           | XNH       | RPM |
| 100-1208 TAPE                                       | = X12081             | TEST PT NO = 1208    | NC = AE039 | CORR FAN SPEED = | RPM               | 100-1208 TAPE | = X12081  | TEST PT NO = 1208      | NC = AE039     | CORR FAN SPEED = | RPM               |        |            |                |       |                      |                 |           |                 |                   |          |                   |               |           |     |

ORIGINAL PAGE IS  
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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1211 X1211C  
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|        |       |       |      |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50     | 80.7  | 79.2  | 80.0 | 82.8  | 81.9  | 79.2  | 80.6  | 79.8  | 82.7  | 86.8  | 88.9  | 96.1  | 95.5  | 129.0 |
| 63     | 84.7  | 84.0  | 90.0 | 88.6  | 87.7  | 84.5  | 91.2  | 88.3  | 88.1  | 88.2  | 97.4  | 97.1  | 132.3 |       |
| 80     | 86.3  | 89.0  | 1.0  | 83.3  | 87.4  | 87.5  | 88.2  | 89.1  | 90.8  | 87.9  | 91.0  | 94.7  | 95.4  | 131.6 |
| 100    | 85.3  | 89.3  | 83.6 | 87.9  | 88.7  | 87.9  | 87.7  | 91.4  | 91.6  | 89.7  | 94.1  | 99.0  | 99.9  | 133.9 |
| 125    | 83.9  | 84.9  | 88.4 | 89.3  | 88.9  | 87.8  | 89.2  | 90.4  | 90.7  | 98.4  | 101.8 | 104.2 | 136.3 |       |
| 150    | 83.3  | 80.6  | 84.3 | 84.9  | 86.0  | 85.8  | 86.7  | 87.4  | 89.8  | 91.4  | 98.3  | 102.2 | 106.6 | 137.1 |
| 200    | 82.8  | 85.8  | 84.3 | 87.1  | 88.0  | 87.3  | 88.2  | 92.4  | 94.3  | 94.1  | 100.5 | 106.5 | 109.1 | 140.2 |
| 250    | 83.0  | 90.3  | 87.6 | 88.2  | 90.3  | 91.7  | 93.9  | 95.3  | 99.1  | 105.5 | 110.7 | 112.1 | 143.8 |       |
| 315    | 84.6  | 87.9  | 85.1 | 90.2  | 92.0  | 90.4  | 90.8  | 94.2  | 97.4  | 100.9 | 112.0 | 114.2 | 145.6 |       |
| 400    | 85.1  | 88.6  | 86.9 | 89.2  | 90.5  | 89.4  | 91.8  | 94.9  | 98.9  | 104.7 | 110.8 | 114.8 | 115.2 | 147.7 |
| 500    | 87.4  | 89.5  | 87.0 | 89.8  | 91.1  | 91.2  | 92.1  | 95.0  | 99.3  | 106.1 | 113.2 | 116.4 | 115.5 | 149.1 |
| 630    | 88.6  | 91.1  | 89.1 | 91.9  | 93.2  | 92.9  | 93.2  | 96.9  | 101.4 | 108.7 | 115.6 | 117.5 | 115.7 | 150.5 |
| 800    | 92.9  | 92.5  | 91.5 | 94.5  | 94.6  | 94.0  | 95.4  | 98.3  | 102.8 | 109.8 | 116.5 | 117.4 | 117.5 | 151.3 |
| 1000   | 99.0  | 100.5 | 97.5 | 99.8  | 98.6  | 96.3  | 95.9  | 99.8  | 104.0 | 111.1 | 117.2 | 118.6 | 117.6 | 152.3 |
| 1250   | 96.2  | 99.3  | 97.6 | 101.6 | 102.6 | 101.6 | 100.9 | 101.1 | 105.3 | 110.4 | 117.3 | 118.4 | 117.9 | 152.3 |
| 1500   | 99.7  | 98.0  | 95.6 | 98.2  | 97.8  | 99.9  | 102.2 | 105.6 | 109.1 | 117.3 | 118.4 | 117.7 | 115.2 |       |
| 2000   | 102.2 | 102.1 | 98.2 | 99.6  | 99.4  | 97.8  | 98.5  | 101.6 | 106.5 | 109.5 | 115.8 | 118.1 | 115.6 | 151.4 |
| 2500   | 99.9  | 100.7 | 98.0 | 100.2 | 100.8 | 99.2  | 98.6  | 102.2 | 105.9 | 109.6 | 114.4 | 116.0 | 113.5 | 150.1 |
| 3150   | 99.7  | 100.5 | 98.1 | 100.3 | 100.7 | 99.5  | 99.6  | 102.1 | 106.4 | 108.5 | 113.5 | 114.9 | 112.9 | 149.4 |
| 4000   | 98.4  | 98.7  | 96.2 | 99.3  | 100.1 | 98.8  | 99.2  | 103.0 | 106.1 | 108.3 | 111.6 | 112.9 | 111.1 | 148.1 |
| 5000   | 98.6  | 99.2  | 96.7 | 98.5  | 98.7  | 98.1  | 99.3  | 102.3 | 105.3 | 105.9 | 110.5 | 111.6 | 108.8 | 147.0 |
| 6300   | 98.3  | 100.2 | 97.6 | 99.9  | 99.6  | 98.5  | 98.8  | 102.0 | 105.5 | 105.6 | 109.9 | 110.2 | 107.2 | 146.7 |
| 8000   | 96.4  | 97.7  | 97.3 | 99.7  | 100.2 | 99.0  | 97.7  | 100.8 | 104.3 | 107.8 | 108.3 | 106.2 | 106.2 | 145.7 |
| 10000  | 94.4  | 96.8  | 96.1 | 99.4  | 100.9 | 99.9  | 98.9  | 100.6 | 102.9 | 103.3 | 106.8 | 107.5 | 104.8 | 145.6 |
| 12500  | 92.1  | 94.5  | 93.6 | 96.6  | 98.6  | 98.4  | 97.2  | 99.1  | 100.9 | 100.8 | 104.3 | 105.4 | 102.9 | 144.3 |
| 15000  | 89.8  | 91.6  | 90.6 | 94.2  | 95.8  | 96.5  | 97.6  | 99.0  | 98.3  | 98.3  | 102.8 | 100.1 | 143.7 |       |
| 20000  | 85.9  | 88.6  | 87.7 | 91.0  | 93.1  | 93.3  | 93.7  | 95.6  | 97.6  | 95.9  | 99.5  | 100.3 | 97.2  | 142.7 |
| 25000  | 82.4  | 84.9  | 84.7 | 88.1  | 90.2  | 91.0  | 90.9  | 93.0  | 94.7  | 92.3  | 95.5  | 97.5  | 93.3  | 142.0 |
| 31500  | 78.3  | 81.0  | 80.5 | 83.7  | 86.5  | 86.6  | 86.8  | 89.4  | 90.5  | 90.1  | 93.7  | 94.2  | 90.0  | 141.8 |
| 40000  | 74.4  | 76.6  | 76.9 | 79.4  | 82.8  | 83.0  | 83.3  | 85.9  | 87.0  | 87.5  | 91.5  | 92.0  | 85.9  | 142.8 |
| 50000  | 69.1  | 72.0  | 71.0 | 74.2  | 77.7  | 78.2  | 78.4  | 80.5  | 83.6  | 83.0  | 88.5  | 89.6  | 84.3  | 143.7 |
| 63000  | 63.3  | 67.7  | 66.3 | 69.7  | 73.0  | 74.0  | 72.9  | 75.9  | 79.3  | 78.1  | 86.1  | 87.2  | 83.2  | 145.9 |
| 80000  | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 90000  | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 100000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 110000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 120000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 130000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 140000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 150000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 160000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 170000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 180000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 190000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 200000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 210000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 220000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 230000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 240000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 250000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 260000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 270000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 280000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 290000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 300000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 310000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 320000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 330000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 340000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 350000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 360000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 370000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 380000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 390000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |
| 400000 | 60.8  | 65.2  | 63.6 | 65.0  | 67.5  | 69.9  | 67.5  | 71.7  | 75.5  | 75.9  | 84.2  | 83.2  | 78.8  | 149.5 |

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NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICLE = ADH698 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 1714.1 FPS AE8 = 20.4 SQ IN  
 FNAMB = LBS XNLR = RPM XNHR = RPM V8 = 1714.1 FPS AE8 = 20.4 SQ IN  
 CORR FAN SPEED = RPM

FLIGHT TRANFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1211 X1211F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60.7 79.2 80.0 82.8 81.9 79.2 80.6 79.8 82.7 86.8 88.9 96.1 95.5 129.0  
63 84.7 84.0 90.0 88.6 87.5 84.5 91.2 86.3 88.3 88.1 90.2 97.4 97.1 132.3  
80 86.3 89.1 83.3 87.4 87.8 88.2 89.1 90.8 87.9 91.0 94.7 95.4 131.6  
100 85.3 89.3 83.6 87.9 86.7 87.7 87.9 91.4 91.6 89.7 94.1 99.0 99.9 133.9  
125 83.9 84.9 88.4 89.3 88.9 87.8 89.2 90.4 90.7 98.4 101.8 104.2 106.3  
150 83.3 80.6 84.3 84.9 86.0 85.8 86.7 87.4 89.8 91.4 98.3 102.2 106.6 137.1  
200 82.8 85.8 84.3 87.1 88.0 87.3 88.2 92.4 94.3 94.1 100.5 106.5 109.1 140.2  
250 83.0 90.3 85.3 87.6 88.2 90.3 91.7 93.9 95.3 99.1 105.5 110.7 112.1 143.8  
315 84.6 87.9 85.1 90.2 92.0 90.4 90.8 94.2 97.4 100.9 107.8 112.0 114.2 145.6  
400 85.1 88.6 86.9 89.2 90.5 89.4 91.8 94.9 98.9 104.7 110.8 114.8 115.2 147.7  
500 87.4 89.5 87.0 89.8 91.1 91.2 92.1 95.0 99.3 106.1 113.2 116.4 115.5 149.1  
630 88.6 91.1 89.1 91.9 93.2 92.9 93.2 96.9 101.4 108.7 115.6 117.5 115.7 150.5  
800 92.9 91.5 94.5 94.5 94.0 95.4 98.3 102.8 109.8 116.5 117.4 117.5 151.3  
1000 99.0 100.5 97.5 99.8 98.6 96.3 95.9 99.8 104.0 111.1 117.2 118.6 117.6 152.3  
1250 96.2 99.3 97.8 101.6 102.9 101.8 100.9 101.1 105.3 110.4 117.0 118.4 117.9 152.3  
1500 98.0 97.6 98.2 98.6 99.2 98.6 102.2 105.9 109.6 114.4 116.0 113.5 150.1  
2000 102.2 102.1 98.2 99.6 100.8 99.2 98.6 102.2 105.9 109.6 114.4 116.0 113.5 150.1  
2500 99.9 100.7 98.0 100.2 100.8 99.2 98.6 102.2 105.9 109.6 114.4 116.0 113.5 150.1  
3150 99.7 100.5 98.1 100.3 100.7 99.5 99.6 102.1 106.4 108.5 113.5 114.9 112.9 149.4  
4000 98.4 98.7 96.2 99.3 100.1 98.8 99.2 103.0 106.1 108.3 111.6 111.1 148.1  
5000 98.6 99.2 96.7 98.5 98.7 98.1 99.3 102.3 105.3 105.9 110.5 111.6 108.8 147.0  
6300 98.3 100.2 97.6 99.9 99.6 98.5 98.8 102.0 105.5 105.6 109.9 110.2 107.2 146.7  
8000 96.4 97.7 97.3 99.7 100.2 99.0 97.7 100.8 104.5 104.3 107.8 106.2 145.7  
10000 96.4 97.7 97.3 99.7 100.2 99.0 97.7 100.8 104.5 104.3 107.8 106.2 145.7  
12500 92.1 94.5 93.6 96.6 96.6 96.4 97.2 99.1 100.9 100.8 104.3 105.4 102.9 144.3  
15000 89.8 91.6 90.6 94.2 95.8 96.0 96.6 97.9 100.5 98.3 102.3 102.8 100.1 143.7  
20000 85.9 88.8 84.7 91.0 93.1 93.7 95.8 99.7 100.3 97.6 95.9 99.7 97.2 142.7  
25000 82.4 84.9 88.1 90.2 91.0 90.9 93.0 94.7 92.3 95.5 97.5 93.3 142.0  
31500 78.3 81.0 80.5 83.7 86.5 86.6 86.8 89.4 90.5 90.1 93.7 94.2 90.0 141.8  
40000 74.4 76.6 76.9 79.4 82.8 83.0 83.3 85.9 87.0 87.5 92.0 85.9 142.8  
50000 69.1 72.0 71.0 74.2 77.7 78.2 78.4 80.5 83.6 83.0 88.5 89.6 84.3 143.7  
63000 63.3 67.7 66.3 69.7 73.0 74.0 72.9 75.9 79.3 78.1 86.1 87.2 83.2 145.9  
80000 60.8 65.2 63.6 65.0 67.5 69.9 67.5 71.7 75.5 75.9 84.2 83.2 78.8 149.5

GASPL 109.7 110.7 108.4 110.9 111.6 110.6 110.7 113.3 116.8 120.2 126.3 128.0 127.1 162.6  
PWL 122.6 123.6 121.3 123.7 124.1 123.0 123.3 126.3 129.7 132.5 137.7 139.5 138.1  
PNLT 124.1 125.1 121.3 123.7 124.6 124.6 124.3 126.3 129.7 132.5 137.7 139.5 138.1  
DBA 181.9 186.2 184.6 186.5 189.3 191.2 189.3 193.1 196.7 196.8 204.9 204.3 200.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH698 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = 29.25 NBFRR =

FNINI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 1714.1 FPS AEB = 20.4 SQ IN  
FNFRMB = LBS XNL RPM XNHR = RPM V8 = 1714.1 FPS AEB = 20.4 SQ IN

RUNPT = ZER-1211 TAPE = X1211F TEST PT NO = 1211 NC = AE039 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1211 X12111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 64.0 69.1 68.4 71.4 73.2 72.2 74.4 77.2 80.4 85.2 89.8 91.5 88.6 166.1

63 66.3 69.9 68.5 72.0 73.8 80.8 74.8 77.3 80.8 86.5 92.1 94.1 88.9 167.5

80 67.4 71.5 70.6 74.1 75.9 75.6 79.1 82.8 89.1 94.4 94.1 88.9 168.9

100 71.7 72.8 72.9 76.7 77.2 76.7 77.9 80.4 84.2 90.2 95.2 93.9 169.7

125 77.6 80.7 78.9 81.9 81.1 78.9 78.4 81.9 85.4 91.3 95.9 95.0 170.7

160 74.7 79.3 79.0 83.5 83.3 84.3 83.0 86.5 90.4 95.4 94.5 90.4 170.7

200 78.0 77.9 76.6 79.4 80.4 80.2 82.1 84.0 86.6 89.0 95.5 94.2 170.6

250 80.0 81.7 79.0 81.2 81.5 80.0 80.6 83.2 87.3 89.1 93.7 93.5 169.8

315 77.4 79.9 78.4 81.5 82.6 81.1 80.4 83.5 86.3 88.9 91.9 90.8 168.4

400 76.7 79.4 78.2 81.3 82.1 81.1 81.1 83.1 86.5 87.3 90.5 89.1 167.8

500 74.9 77.2 76.0 79.9 81.3 80.1 80.4 83.7 85.9 86.8 88.1 86.4 166.5

630 74.6 77.3 76.2 78.9 79.6 80.2 82.7 84.8 84.0 86.5 84.4 76.3 165.4

800 73.8 77.9 76.8 80.0 80.2 79.4 79.5 82.1 84.7 83.3 85.4 82.3 165.1

1000 71.4 75.1 76.2 79.6 80.7 79.7 78.2 80.7 83.4 81.7 82.9 79.8 164.1

1250 68.9 73.9 74.8 79.1 81.2 80.4 79.2 80.3 81.6 80.3 81.3 78.1 163.9

1600 65.8 71.8 76.0 78.7 78.7 77.3 78.5 79.2 77.3 78.0 74.2 77.3 162.7

2000 62.5 67.5 68.5 73.4 75.7 76.2 76.5 77.1 78.4 74.2 75.0 70.5 162.0

2500 56.9 63.5 64.7 69.5 72.4 73.0 73.0 74.3 74.6 70.6 70.5 65.1 161.1

3150 50.0 57.1 59.8 65.0 68.2 69.3 68.9 69.9 64.5 63.0 57.4 38.3 160.3

4000 39.6 48.5 51.9 57.4 61.5 62.0 61.8 63.1 61.9 57.5 55.1 45.1 160.2

5000 26.0 36.5 42.0 47.7 52.9 53.5 53.3 54.2 52.1 47.4 43.0 29.3 161.2

8000 2.9 17.7 24.0 31.7 37.7 38.9 38.4 38.0 36.7 28.7 22.2 2.8 162.1

10000 164.3

12500 167.9

16000

20000

25000

31500

40000

50000

63000

80000

DBA 81.3 84.5 84.1 87.6 89.0 88.4 88.0 90.0 92.2 92.0 94.8 93.2 86.8

PMLT 92.6 95.3 93.9 97.6 100.3 100.0 99.6 100.6 103.2 103.5 107.0 106.7 99.6

PNL 91.5 94.5 93.9 97.6 99.5 99.2 99.1 100.6 102.7 103.5 107.0 105.5 99.6

GASPL 86.9 89.5 88.4 91.8 92.8 91.9 91.8 94.0 96.9 99.7 104.2 103.5 98.8 180.8

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH698 IAPLHA = SB59 TEST DATE = 03-16-82  
 IEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
 WIND DIR = DEG WIND VEL = MPH  
 CONFIG = 2 TAMB F = 69.00 EXT CNFIG = SL  
 MODEL = AX PAMB HG = 29.25 MIKE HT = NBFR  
 FLTVL = 0. FPS RELHUM = 76.6 PCT

FNINI = LBS XNL RPM XNHR = RPM V8 = 1714.1 FPS AEB = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1714.1 FPS AEB = 20.4 SQ IN

RUNPT = 82F-ZER-1211 TAPE = X12111 TEST PT NO = 1211 NC = AE039 CORR FAN SPEED = RPM

CONTINUED FROM PRINTING SYSTEM - P1180-U

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 8ZF-ZER-1212 X1212C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.7  | 83.5  | 81.0  | 82.0  | 81.6  | 81.2  | 83.1  | 82.5  | 84.2  | 82.3  | 89.7  | 90.9  | 127.9 |
| 63    | 85.0  | 84.3  | 88.3  | 88.4  | 85.3  | 91.4  | 87.6  | 89.0  | 85.9  | 91.4  | 94.8  | 93.0  | 131.0 |
| 80    | 85.8  | 89.8  | 83.3  | 87.1  | 86.5  | 87.2  | 87.9  | 90.1  | 86.9  | 89.8  | 93.0  | 96.1  | 130.9 |
| 100   | 84.1  | 88.1  | 81.9  | 85.7  | 86.2  | 85.9  | 86.0  | 89.2  | 89.4  | 86.9  | 91.6  | 97.0  | 132.1 |
| 125   | 82.1  | 83.6  | 82.9  | 86.4  | 87.5  | 87.2  | 86.3  | 87.2  | 88.2  | 88.2  | 95.6  | 100.0 | 134.3 |
| 160   | 79.3  | 79.1  | 81.3  | 82.4  | 83.2  | 82.8  | 83.5  | 83.6  | 86.1  | 88.7  | 95.3  | 99.5  | 134.4 |
| 200   | 80.5  | 81.3  | 80.6  | 82.6  | 84.0  | 83.3  | 85.0  | 88.1  | 91.1  | 90.4  | 95.8  | 102.5 | 136.7 |
| 250   | 79.3  | 83.3  | 79.6  | 83.1  | 83.7  | 85.1  | 85.7  | 88.9  | 90.8  | 94.4  | 101.0 | 106.2 | 139.4 |
| 315   | 79.3  | 82.4  | 80.1  | 83.9  | 85.3  | 85.1  | 86.0  | 89.2  | 92.6  | 96.4  | 103.1 | 108.4 | 140.5 |
| 400   | 80.8  | 83.4  | 80.1  | 84.7  | 85.0  | 85.1  | 85.5  | 89.2  | 93.4  | 99.4  | 106.3 | 109.5 | 142.1 |
| 500   | 81.7  | 83.2  | 80.5  | 85.0  | 86.1  | 86.0  | 86.4  | 90.3  | 94.0  | 101.3 | 108.2 | 110.4 | 142.9 |
| 630   | 82.6  | 82.6  | 85.9  | 87.0  | 87.4  | 87.7  | 92.2  | 95.9  | 104.2 | 109.6 | 110.7 | 102.9 | 143.8 |
| 800   | 84.7  | 84.5  | 83.3  | 87.3  | 87.9  | 88.5  | 89.4  | 92.8  | 98.3  | 105.3 | 111.2 | 109.9 | 144.4 |
| 1000  | 88.7  | 88.5  | 88.3  | 89.3  | 89.4  | 89.3  | 90.4  | 94.6  | 99.0  | 106.3 | 112.0 | 108.9 | 144.8 |
| 1250  | 90.7  | 92.8  | 89.3  | 92.3  | 91.7  | 90.5  | 91.7  | 95.6  | 100.0 | 105.9 | 111.2 | 106.7 | 144.1 |
| 1600  | 95.5  | 95.0  | 92.8  | 93.8  | 92.4  | 91.3  | 91.9  | 96.2  | 101.1 | 105.1 | 110.5 | 98.7  | 143.7 |
| 2000  | 95.9  | 97.1  | 94.2  | 96.1  | 96.2  | 93.3  | 93.0  | 96.4  | 101.5 | 105.0 | 108.3 | 104.1 | 142.8 |
| 2500  | 94.1  | 95.2  | 93.2  | 96.0  | 96.8  | 94.9  | 93.4  | 97.0  | 100.6 | 104.9 | 106.4 | 101.5 | 141.8 |
| 3150  | 92.2  | 94.0  | 91.8  | 94.6  | 95.9  | 93.5  | 95.6  | 97.3  | 101.4 | 103.5 | 104.6 | 97.9  | 140.8 |
| 4000  | 92.7  | 93.0  | 90.7  | 93.3  | 93.6  | 93.3  | 95.2  | 99.3  | 101.4 | 103.6 | 102.3 | 97.9  | 140.4 |
| 5000  | 95.9  | 95.4  | 92.7  | 93.7  | 93.4  | 92.1  | 93.3  | 97.3  | 100.8 | 100.9 | 100.8 | 95.8  | 139.4 |
| 6300  | 97.5  | 98.0  | 95.6  | 96.1  | 95.1  | 93.8  | 93.1  | 97.5  | 101.2 | 101.4 | 99.4  | 95.5  | 140.3 |
| 8000  | 94.4  | 95.3  | 97.7  | 95.3  | 97.2  | 95.0  | 93.2  | 98.8  | 100.2 | 98.8  | 98.3  | 93.6  | 140.0 |
| 10000 | 92.9  | 94.1  | 93.1  | 96.9  | 98.1  | 96.4  | 95.4  | 96.6  | 98.9  | 98.8  | 96.5  | 93.2  | 140.1 |
| 12500 | 90.1  | 91.0  | 90.6  | 93.1  | 95.4  | 95.6  | 94.4  | 96.1  | 97.7  | 96.1  | 94.6  | 91.6  | 139.0 |
| 16000 | 86.8  | 88.6  | 87.8  | 90.7  | 92.5  | 92.5  | 93.1  | 94.9  | 96.2  | 93.8  | 92.3  | 90.1  | 138.3 |
| 20000 | 83.7  | 85.8  | 84.7  | 87.3  | 89.6  | 90.1  | 89.7  | 92.0  | 93.3  | 91.4  | 89.0  | 88.0  | 137.2 |
| 25000 | 79.7  | 81.7  | 83.8  | 86.4  | 87.0  | 86.7  | 88.7  | 90.4  | 87.6  | 86.0  | 83.5  | 78.0  | 136.3 |
| 31500 | 75.3  | 77.5  | 76.5  | 80.2  | 82.0  | 82.6  | 82.6  | 85.4  | 86.0  | 83.6  | 82.0  | 79.4  | 135.4 |
| 40000 | 70.2  | 72.8  | 74.9  | 78.1  | 79.0  | 78.8  | 81.4  | 81.7  | 79.3  | 78.7  | 76.0  | 69.4  | 135.3 |
| 50000 | 64.9  | 67.8  | 66.2  | 69.2  | 73.0  | 73.5  | 72.9  | 75.5  | 77.4  | 73.5  | 73.2  | 70.9  | 134.3 |
| 63000 | 59.8  | 64.2  | 60.8  | 63.7  | 67.3  | 68.5  | 67.6  | 69.9  | 71.8  | 68.6  | 68.3  | 65.7  | 134.3 |
| 80000 | 58.5  | 63.5  | 56.1  | 59.5  | 62.3  | 61.7  | 61.8  | 63.7  | 66.5  | 63.9  | 62.7  | 59.2  | 136.0 |
| QASPL | 105.3 | 106.2 | 104.2 | 106.4 | 105.8 | 105.8 | 108.7 | 112.2 | 115.7 | 119.9 | 119.9 | 119.0 | 155.3 |
| PNL   | 118.2 | 119.0 | 116.8 | 118.8 | 119.2 | 118.4 | 118.6 | 122.0 | 125.0 | 127.9 | 130.4 | 127.9 | 124.0 |
| PNLT  | 118.2 | 119.0 | 116.8 | 118.8 | 119.2 | 118.4 | 118.6 | 122.0 | 125.0 | 127.9 | 130.4 | 127.9 | 124.0 |
| DBA   | 105.2 | 105.9 | 103.7 | 105.8 | 106.0 | 104.6 | 104.6 | 108.0 | 111.9 | 115.6 | 119.6 | 117.2 | 111.4 |

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VEHICL = ADH707 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 400. FPS  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =  
 FNINI = LBS XNLR RPM XNH RPM = V6 V18 = 1724.6 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM = V18 = 1724.6 FPS AE18 = 20.4 SQ IN  
 RUNPT = 8ZF-ZER-1212 TAPE = X1212C TEST PT NO = 1212 NC = AE039 CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

DATPRC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1212 X1212F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PWL

200  
150  
125  
100  
80  
63  
50  
40

250 85.7 88.7 83.8 86.0 85.1 85.1 83.8 85.3 89.2 92.1 98.2 102.8 105.8 136.9  
250 85.7 88.7 83.8 86.0 85.1 85.1 83.8 85.3 89.2 92.1 98.2 102.8 105.8 136.9  
315 85.7 88.7 83.8 86.0 87.1 85.3 84.7 85.4 90.1 95.4 101.9 105.8 106.5 139.0  
315 85.7 88.7 83.8 86.0 87.1 85.3 84.7 85.4 90.1 95.4 101.9 105.8 106.5 139.0  
400 87.0 88.7 85.1 87.3 86.7 85.4 84.2 86.4 91.0 97.6 104.2 107.6 106.1 140.3  
400 87.0 88.7 85.1 87.3 86.7 85.4 84.2 86.4 91.0 97.6 104.2 107.6 106.1 140.3  
500 87.4 89.0 84.6 87.8 88.0 86.3 85.1 87.6 94.2 102.0 107.3 110.2 106.7 142.8  
500 87.4 89.0 84.6 87.8 88.0 86.3 85.1 87.6 94.2 102.0 107.3 110.2 106.7 142.8  
500 89.7 90.7 87.4 89.3 89.9 89.0 88.9 91.3 98.7 105.8 112.0 109.9 146.1  
500 89.7 90.7 87.4 89.3 89.9 89.0 88.9 91.3 98.7 105.8 112.0 109.9 146.1  
630 88.8 89.3 85.3 88.4 88.9 87.8 87.1 90.4 97.4 104.1 110.3 111.5 108.4 144.8  
630 88.8 89.3 85.3 88.4 88.9 87.8 87.1 90.4 97.4 104.1 110.3 111.5 108.4 144.8  
800 89.7 90.7 87.4 89.3 89.9 89.0 88.9 91.3 98.7 105.8 112.0 109.9 146.1  
800 89.7 90.7 87.4 89.3 89.9 89.0 88.9 91.3 98.7 105.8 112.0 109.9 146.1  
1000 91.8 90.6 88.1 90.7 91.0 89.9 90.0 93.2 99.8 105.5 111.4 110.0 109.8 145.3  
1000 91.8 90.6 88.1 90.7 91.0 89.9 90.0 93.2 99.8 105.5 111.4 110.0 109.8 145.3  
1250 94.0 92.9 88.7 91.8 93.4 91.3 91.5 94.4 101.2 105.1 111.0 109.4 109.4 145.1  
1250 94.0 92.9 88.7 91.8 93.4 91.3 91.5 94.4 101.2 105.1 111.0 109.4 109.4 145.1  
1600 96.5 93.0 94.0 95.0 94.4 92.3 91.9 95.3 101.9 105.3 109.2 108.3 144.3  
1600 96.5 93.0 94.0 95.0 94.4 92.3 91.9 95.3 101.9 105.3 109.2 108.3 144.3  
2000 102.4 100.7 97.2 98.9 98.3 94.6 93.3 95.7 101.4 105.7 107.9 106.4 144.2  
2000 102.4 100.7 97.2 98.9 98.3 94.6 93.3 95.7 101.4 105.7 107.9 106.4 144.2  
2500 102.0 102.1 98.2 99.1 99.5 96.5 96.5 96.7 102.8 104.7 105.8 104.2 143.8  
2500 102.0 102.1 98.2 99.1 99.5 96.5 96.5 96.7 102.8 104.7 105.8 104.2 143.8  
3150 99.9 100.5 97.7 99.6 99.2 97.5 97.0 97.7 103.2 105.3 104.7 103.6 143.6  
3150 99.9 100.5 97.7 99.6 99.2 97.5 97.0 97.7 103.2 105.3 104.7 103.6 143.6  
4000 99.5 100.5 97.3 98.9 97.0 95.9 95.6 96.9 100.0 103.2 103.6 103.0 142.9  
4000 99.5 100.5 97.3 98.9 97.0 95.9 95.6 96.9 100.0 103.2 103.6 103.0 142.9  
5000 98.4 98.3 95.5 97.3 96.9 95.1 95.6 98.6 103.5 103.5 102.2 101.6 142.4  
5000 98.4 98.3 95.5 97.3 96.9 95.1 95.6 98.6 103.5 103.5 102.2 101.6 142.4  
6300 101.9 100.8 97.3 97.6 98.6 96.8 96.8 95.3 98.7 102.9 102.3 101.4 142.7  
6300 101.9 100.8 97.3 97.6 98.6 96.8 96.8 95.3 98.7 102.9 102.3 101.4 142.7  
8000 103.5 103.2 100.1 99.9 101.1 98.0 95.5 97.6 102.3 101.9 100.1 99.9 143.8  
8000 103.5 103.2 100.1 99.9 101.1 98.0 95.5 97.6 102.3 101.9 100.1 99.9 143.8  
10000 100.7 101.6 100.4 102.0 102.1 99.4 97.8 98.3 101.5 99.7 98.5 98.5 144.0  
10000 100.7 101.6 100.4 102.0 102.1 99.4 97.8 98.3 101.5 99.7 98.5 98.5 144.0  
12500 99.7 100.2 98.3 101.1 99.4 98.6 96.9 98.0 100.6 98.0 97.0 98.0 143.6  
12500 99.7 100.2 98.3 101.1 99.4 98.6 96.9 98.0 100.6 98.0 97.0 98.0 143.6  
16000 96.5 96.6 95.3 96.8 96.6 95.5 95.5 96.8 98.0 96.0 96.0 94.3 142.2  
16000 96.5 96.6 95.3 96.8 96.6 95.5 95.5 96.8 98.0 96.0 96.0 94.3 142.2  
20000 92.7 93.8 92.1 94.0 93.6 93.1 92.1 93.8 95.8 92.9 91.9 92.8 141.0  
20000 92.7 93.8 92.1 94.0 93.6 93.1 92.1 93.8 95.8 92.9 91.9 92.8 141.0  
25000 89.0 90.4 88.4 90.0 89.0 89.1 90.5 92.2 89.7 88.8 89.5 91.1 140.1  
25000 89.0 90.4 88.4 90.0 89.0 89.1 90.5 92.2 89.7 88.8 89.5 91.1 140.1  
31500 87.0 87.3 86.3 86.9 86.6 85.6 85.0 87.2 88.6 86.0 86.2 86.8 139.8  
31500 87.0 87.3 86.3 86.9 86.6 85.6 85.0 87.2 88.6 86.0 86.2 86.8 139.8  
40000 82.7 80.3 82.4 82.7 82.0 81.2 83.2 84.4 80.4 80.8 81.9 82.1 139.3  
40000 82.7 80.3 82.4 82.7 82.0 81.2 83.2 84.4 80.4 80.8 81.9 82.1 139.3  
50000 76.3 77.6 76.1 76.7 76.5 75.3 77.1 79.6 76.3 76.7 77.5 77.6 138.6  
50000 76.3 77.6 76.1 76.7 76.5 75.3 77.1 79.6 76.3 76.7 77.5 77.6 138.6  
63000 70.0 71.7 70.1 71.9 71.5 70.0 71.5 75.5 72.7 72.2 72.2 73.2 138.7  
63000 70.0 71.7 70.1 71.9 71.5 70.0 71.5 75.5 72.7 72.2 72.2 73.2 138.7  
80000 63.5 66.6 61.8 63.1 66.5 64.7 64.1 65.0 65.7 62.9 62.4 62.3 138.1  
80000 63.5 66.6 61.8 63.1 66.5 64.7 64.1 65.0 65.7 62.9 62.4 62.3 138.1

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH707 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CNFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 TEQA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF  
FNINI = LBS XNL RPM XNH RPM = V8 = 1724.6 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM = V8 = 1724.6 FPS AEB = 20.4 SQ IN  
RUNPT = 82F-ZER-1212 TAPE = X1212F TEST PT NO = 1212 NC = AE039 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1212 X12121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PWL

50 55.9 69.2 66.6 69.6 69.4 68.2 66.9 68.7 72.6 78.1 83.1 84.3 79.5 158.7

63 66.3 69.4 66.1 70.0 70.6 69.1 67.8 69.9 75.8 82.4 86.2 86.9 80.0 161.1

80 67.7 69.7 70.6 71.5 70.5 69.7 72.6 78.9 84.5 89.1 88.1 81.7 163.2

100 68.5 71.0 68.8 71.4 72.4 71.7 73.4 80.1 86.2 90.8 88.7 83.0 164.5

125 70.4 70.8 69.4 72.8 73.5 72.5 75.3 81.2 85.7 90.0 86.3 82.6 163.7

160 72.4 73.0 69.9 73.8 75.8 73.8 73.8 76.3 82.4 85.1 89.5 85.5 163.4

200 74.7 77.4 78.0 76.8 76.6 74.7 74.1 77.1 82.9 85.2 87.4 84.0 80.3 162.7

250 80.2 80.3 78.0 78.0 80.3 76.7 75.4 77.3 82.2 85.3 85.8 81.8 78.7 162.6

315 79.5 81.4 78.7 80.4 81.2 78.4 75.7 78.0 83.3 84.0 83.3 79.0 77.4 162.2

400 76.9 79.3 77.8 80.5 80.6 79.1 78.4 78.7 83.4 84.1 81.7 77.8 75.4 162.0

500 76.0 79.0 77.1 79.6 78.2 77.2 78.1 80.6 83.0 81.6 80.1 75.4 73.6 161.3

630 74.4 76.4 75.0 77.7 76.2 76.4 79.0 83.0 81.5 78.2 74.4 71.8 160.7

800 77.4 78.5 77.7 79.2 77.6 76.0 78.8 82.1 80.0 76.9 72.1 69.7 161.1

1000 78.5 80.6 79.0 79.8 81.6 78.7 76.0 77.6 81.3 79.3 75.2 71.4 67.8 162.2

1250 75.2 78.6 79.1 81.7 82.5 79.9 78.2 78.1 80.2 76.7 73.1 69.1 64.6 162.4

1600 73.4 76.7 76.6 80.5 79.5 78.9 77.0 77.4 78.9 74.5 70.7 67.3 60.9 161.9

2000 69.2 72.5 73.2 76.0 76.5 75.7 75.5 76.0 75.9 71.9 67.0 64.2 55.4 160.6

2500 63.6 68.4 69.2 72.5 73.0 72.7 71.5 72.3 72.8 67.5 62.9 57.6 47.9 159.4

3150 56.6 62.6 63.5 67.0 69.0 68.3 67.1 67.5 67.3 61.9 56.3 49.4 36.2 158.5

4000 48.3 54.7 57.6 60.6 61.6 61.0 60.0 60.9 59.9 53.5 47.5 37.7 18.0 158.2

5000 33.4 42.6 45.4 50.7 52.7 52.5 51.2 51.4 49.5 40.3 32.4 19.1 157.7

6300 10.0 23.3 29.1 34.2 37.5 37.2 35.3 34.6 32.7 22.0 10.5 156.9

8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

10000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

12500 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

15000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

17500 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

20000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

25000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

31500 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

40000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

50000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

63000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

80000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000

961 87.7 89.6 88.0 90.2 90.8 88.9 87.8 89.5 93.6 95.3 97.9 95.5 90.8 175.1

961 93.5 96.4 95.7 98.8 98.9 97.7 96.5 97.6 100.0 99.6 99.5 96.2 91.7

961 94.0 96.4 96.4 99.3 98.9 97.7 96.5 97.6 100.0 99.6 99.5 96.2 91.7

961 84.6 87.0 86.1 88.5 89.0 87.2 85.8 87.1 89.9 88.4 86.9 83.1 79.9

961 84.6 87.0 86.1 88.5 89.0 87.2 85.8 87.1 89.9 88.4 86.9 83.1 79.9

VEHICLE = ADH207 TEST DATE = 03-16-82  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE  
MIND DIR = DEG MIND VEL = MPH EXT DIST = 2400.0 FT  
FNNI = LBS XNLR = RPM XNHR = RPM V8 = 1724.6 FPS AE8 = 20.4 SQ IN  
FNFRMB = LBS XNLR = RPM XNHR = RPM V8 = 1724.6 FPS AE8 = 20.4 SQ IN  
RPNPT = 8 ER-1212 TAPE = X12121 TEST PT NO = 1212  
CORR FAN SPEED = RPM

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1213 X1213C  
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.4  | 80.7  | 82.0  | 81.8  | 82.4  | 79.7  | 81.6  | 81.8  | 83.0  | 83.3  | 89.7  | 96.1  | 97.0  | 129.9 |
| 63    | 83.0  | 84.5  | 87.8  | 88.4  | 85.8  | 88.4  | 85.8  | 88.4  | 88.9  | 90.3  | 89.4  | 91.0  | 94.7  | 131.8 |
| 80    | 86.5  | 90.3  | 84.1  | 87.6  | 87.0  | 88.0  | 88.0  | 88.9  | 90.3  | 89.4  | 91.0  | 94.7  | 96.6  | 131.8 |
| 100   | 85.3  | 89.1  | 83.6  | 87.9  | 88.5  | 87.9  | 87.5  | 91.2  | 91.4  | 90.2  | 94.1  | 98.5  | 100.2 | 133.8 |
| 125   | 83.9  | 84.9  | 88.4  | 89.0  | 88.4  | 89.0  | 88.9  | 90.7  | 91.0  | 98.9  | 102.3 | 104.5 | 136.6 |       |
| 150   | 83.8  | 81.3  | 84.8  | 85.4  | 85.4  | 86.7  | 86.1  | 87.0  | 87.4  | 89.6  | 91.9  | 98.8  | 103.2 | 137.7 |
| 160   | 83.8  | 81.3  | 84.8  | 85.4  | 85.4  | 86.7  | 86.1  | 87.0  | 87.4  | 89.6  | 91.9  | 98.8  | 103.2 | 137.7 |
| 200   | 83.3  | 86.3  | 84.6  | 87.4  | 88.0  | 87.6  | 88.5  | 92.9  | 94.6  | 95.1  | 100.8 | 106.7 | 109.4 | 140.4 |
| 250   | 83.5  | 90.6  | 87.9  | 88.7  | 90.3  | 92.2  | 94.4  | 95.6  | 99.4  | 106.3 | 111.2 | 112.1 | 144.2 |       |
| 315   | 85.1  | 87.9  | 85.6  | 90.4  | 92.3  | 91.1  | 91.5  | 94.4  | 97.6  | 100.9 | 107.8 | 112.3 | 114.9 | 146.0 |
| 400   | 85.6  | 89.4  | 87.4  | 89.7  | 90.8  | 90.1  | 91.8  | 95.4  | 98.9  | 104.9 | 111.3 | 115.0 | 115.4 | 148.0 |
| 500   | 87.7  | 89.2  | 86.5  | 89.8  | 91.4  | 92.0  | 92.4  | 95.3  | 99.8  | 106.3 | 113.2 | 116.4 | 115.3 | 149.1 |
| 630   | 88.8  | 91.1  | 88.9  | 92.7  | 93.2  | 93.1  | 93.2  | 97.2  | 101.1 | 108.9 | 115.6 | 117.7 | 116.2 | 150.8 |
| 800   | 93.2  | 92.0  | 91.5  | 94.5  | 95.1  | 94.5  | 95.1  | 98.0  | 102.8 | 110.1 | 116.5 | 119.1 | 117.5 | 151.6 |
| 1000  | 99.7  | 101.0 | 97.8  | 100.8 | 99.1  | 96.5  | 96.4  | 100.1 | 104.3 | 110.1 | 117.2 | 118.9 | 117.8 | 152.4 |
| 1250  | 97.2  | 100.3 | 97.8  | 101.6 | 103.2 | 101.2 | 101.6 | 105.5 | 110.6 | 117.0 | 118.4 | 117.4 | 115.2 | 152.5 |
| 1600  | 101.5 | 99.0  | 96.3  | 98.3  | 98.9  | 98.6  | 99.6  | 102.7 | 105.8 | 109.4 | 118.0 | 118.4 | 115.4 | 152.1 |
| 2000  | 103.2 | 103.1 | 99.2  | 100.9 | 100.2 | 98.6  | 99.0  | 101.9 | 106.0 | 110.0 | 116.0 | 117.8 | 115.4 | 151.5 |
| 2500  | 100.9 | 101.2 | 99.2  | 101.2 | 101.8 | 99.9  | 98.6  | 102.5 | 106.1 | 109.4 | 114.9 | 116.5 | 113.5 | 150.4 |
| 3150  | 100.2 | 101.3 | 98.8  | 101.1 | 101.4 | 99.7  | 99.9  | 103.3 | 106.7 | 108.5 | 113.5 | 113.2 | 113.2 | 149.6 |
| 4000  | 99.4  | 100.2 | 97.5  | 99.8  | 100.3 | 99.8  | 99.9  | 103.5 | 105.9 | 108.3 | 111.8 | 113.4 | 111.4 | 148.5 |
| 5000  | 99.6  | 100.4 | 97.5  | 99.2  | 98.9  | 98.9  | 99.8  | 102.1 | 105.6 | 106.4 | 110.5 | 111.6 | 109.6 | 147.3 |
| 6300  | 99.3  | 101.0 | 98.4  | 100.1 | 99.0  | 99.1  | 102.7 | 105.6 | 109.7 | 110.7 | 107.7 | 107.0 | 107.0 | 147.0 |
| 8000  | 97.1  | 98.2  | 97.3  | 100.9 | 99.5  | 98.4  | 101.3 | 104.7 | 104.5 | 108.3 | 108.1 | 107.2 | 106.1 | 146.1 |
| 10000 | 95.1  | 97.3  | 96.1  | 99.4  | 101.6 | 100.4 | 99.4  | 101.1 | 103.7 | 103.8 | 106.5 | 107.5 | 104.8 | 145.8 |
| 12500 | 93.1  | 94.8  | 93.8  | 96.6  | 98.9  | 99.1  | 98.4  | 99.8  | 101.4 | 101.1 | 104.3 | 105.6 | 102.7 | 144.6 |
| 15000 | 90.3  | 92.1  | 91.3  | 94.9  | 96.8  | 96.5  | 97.1  | 98.9  | 100.7 | 98.3  | 102.5 | 103.1 | 99.9  | 144.1 |
| 20000 | 86.7  | 89.3  | 87.9  | 91.5  | 94.1  | 94.1  | 97.0  | 97.8  | 96.4  | 99.8  | 100.8 | 96.4  | 143.2 |       |
| 25000 | 83.4  | 85.2  | 84.9  | 88.3  | 90.7  | 91.3  | 91.7  | 93.7  | 94.2  | 92.8  | 96.5  | 98.0  | 93.3  | 142.4 |
| 31500 | 79.1  | 82.2  | 81.0  | 84.2  | 86.7  | 87.1  | 87.6  | 89.7  | 90.8  | 90.1  | 94.5  | 94.9  | 89.2  | 142.3 |
| 40000 | 74.9  | 77.6  | 77.2  | 79.9  | 83.1  | 83.5  | 83.8  | 86.7  | 87.7  | 87.8  | 93.0  | 92.8  | 85.6  | 143.6 |
| 50000 | 69.9  | 72.3  | 71.7  | 75.0  | 78.5  | 79.0  | 78.7  | 81.5  | 84.1  | 83.3  | 90.7  | 90.4  | 83.6  | 144.8 |
| 63000 | 65.0  | 68.5  | 66.6  | 70.2  | 74.0  | 74.2  | 73.9  | 76.6  | 79.8  | 79.8  | 87.8  | 86.4  | 78.9  | 146.9 |
| 80000 | 62.5  | 65.7  | 63.6  | 66.2  | 68.3  | 68.9  | 68.3  | 72.0  | 76.5  | 80.1  | 85.2  | 84.2  | 80.0  | 150.8 |
| DASPL | 110.7 | 111.5 | 109.0 | 111.6 | 112.1 | 111.2 | 111.1 | 113.7 | 117.0 | 120.3 | 126.3 | 128.2 | 127.3 | 162.9 |
| PMLT  | 123.3 | 124.3 | 124.3 | 126.1 | 125.1 | 124.7 | 123.5 | 128.6 | 126.7 | 129.9 | 132.5 | 138.0 | 139.8 | 138.3 |
| PWL   | 124.8 | 125.9 | 121.9 | 124.3 | 126.1 | 125.1 | 124.7 | 126.7 | 129.9 | 132.5 | 138.0 | 139.8 | 138.3 |       |
| DBA   | 111.1 | 111.7 | 109.0 | 111.4 | 111.8 | 110.6 | 110.5 | 113.3 | 116.8 | 120.3 | 126.3 | 128.0 | 126.6 |       |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH699 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFID = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC MIKE HT = NBR

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FNINI = LBS XNL RPM = XNH RPM = V8 RPM = 1723.1 FPS AEB = 20.4 SO IN  
FRAMB = LBS XNLR RPM = XNHR RPM = V8 RPM = 1723.1 FPS AE18 = 0. SO IN  
RUNPT = 82F-ZER-1213 TAPE = X1213C TEST PT NO = 1213 NC = AE039 CORR FAN SPEED = RPM

| FREQUENCY |       | 40    |       | 50    |       | 60    |       | 70    |       | 80    |       | 90    |       | 100   |  | 110 |  | 120 |  | 130 |  | 140 |  | 150 |  | 160 |  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|
| 50        | 81.4  | 80.7  | 82.0  | 81.8  | 82.4  | 79.7  | 81.6  | 81.8  | 83.0  | 89.3  | 89.7  | 96.1  | 97.0  | 129.9 |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 63        | 83.0  | 84.5  | 89.8  | 87.8  | 88.4  | 85.8  | 90.9  | 87.6  | 88.5  | 91.1  | 90.7  | 97.9  | 97.8  | 132.8 |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 80        | 86.5  | 90.3  | 84.1  | 87.6  | 87.0  | 87.8  | 88.0  | 88.9  | 88.9  | 91.2  | 91.0  | 94.7  | 96.6  | 131.8 |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 100       | 85.3  | 83.6  | 87.9  | 88.5  | 87.9  | 87.9  | 87.5  | 91.2  | 91.4  | 90.2  | 94.1  | 98.5  | 100.2 | 133.8 |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 125       | 83.9  | 84.9  | 88.4  | 89.0  | 88.9  | 88.0  | 88.9  | 90.7  | 91.0  | 98.9  | 102.3 | 104.5 | 136.6 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 160       | 83.8  | 81.3  | 84.8  | 85.4  | 86.7  | 86.1  | 87.0  | 87.4  | 89.6  | 91.9  | 98.8  | 103.2 | 137.7 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 200       | 83.3  | 86.3  | 84.6  | 87.4  | 88.0  | 87.6  | 88.5  | 92.9  | 94.6  | 95.1  | 100.8 | 106.7 | 140.4 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 250       | 83.5  | 90.6  | 86.3  | 87.9  | 88.7  | 90.3  | 92.2  | 94.4  | 95.6  | 99.4  | 106.3 | 111.2 | 144.2 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 315       | 85.1  | 87.9  | 85.6  | 90.4  | 92.3  | 91.1  | 91.5  | 94.4  | 97.6  | 100.9 | 107.8 | 112.3 | 146.0 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 400       | 85.6  | 89.4  | 87.4  | 89.7  | 90.8  | 90.1  | 91.8  | 95.4  | 98.9  | 104.9 | 111.3 | 115.4 | 148.0 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 500       | 87.7  | 89.2  | 86.5  | 89.8  | 91.4  | 92.0  | 92.4  | 95.3  | 99.8  | 106.3 | 113.2 | 116.4 | 149.1 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 630       | 88.8  | 91.1  | 88.9  | 92.7  | 93.2  | 93.1  | 93.2  | 97.2  | 101.1 | 108.9 | 115.6 | 117.7 | 150.8 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 800       | 93.2  | 92.0  | 91.5  | 94.5  | 95.1  | 94.5  | 95.1  | 98.0  | 102.8 | 110.1 | 116.5 | 118.1 | 151.6 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 1000      | 97.2  | 101.0 | 97.8  | 100.8 | 99.1  | 96.5  | 96.4  | 100.1 | 104.3 | 110.1 | 117.2 | 118.9 | 152.4 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 1250      | 97.2  | 100.3 | 97.8  | 101.6 | 103.2 | 101.2 | 101.6 | 105.5 | 110.6 | 117.0 | 118.7 | 118.2 | 152.5 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 1500      | 99.3  | 101.0 | 98.4  | 100.6 | 100.1 | 99.0  | 99.1  | 102.7 | 105.7 | 105.6 | 109.7 | 110.7 | 147.0 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 2000      | 97.1  | 98.2  | 97.3  | 100.7 | 100.9 | 99.5  | 98.4  | 101.3 | 104.7 | 104.5 | 108.3 | 108.1 | 146.1 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 2500      | 97.1  | 98.2  | 97.3  | 100.7 | 100.9 | 99.5  | 98.4  | 101.3 | 104.7 | 104.5 | 108.3 | 108.1 | 146.1 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 3150      | 99.4  | 100.2 | 97.5  | 99.8  | 100.3 | 99.8  | 99.9  | 103.5 | 105.9 | 108.3 | 111.8 | 113.4 | 148.5 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 4000      | 99.6  | 100.4 | 97.5  | 99.2  | 98.9  | 98.9  | 99.8  | 102.1 | 105.6 | 106.4 | 110.5 | 111.6 | 147.3 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 5000      | 99.6  | 100.4 | 97.5  | 99.2  | 98.9  | 98.9  | 99.8  | 102.1 | 105.6 | 106.4 | 110.5 | 111.6 | 147.3 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 6300      | 99.3  | 101.0 | 98.4  | 100.6 | 100.1 | 99.0  | 99.1  | 102.7 | 105.7 | 105.6 | 109.7 | 110.7 | 147.0 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 8000      | 97.1  | 98.2  | 97.3  | 100.7 | 100.9 | 99.5  | 98.4  | 101.3 | 104.7 | 104.5 | 108.3 | 108.1 | 146.1 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 10000     | 95.1  | 97.3  | 96.1  | 99.4  | 101.6 | 100.4 | 99.4  | 101.1 | 103.7 | 103.8 | 106.5 | 104.8 | 145.8 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 12500     | 93.1  | 94.8  | 93.8  | 96.6  | 98.9  | 99.1  | 98.4  | 99.8  | 101.4 | 101.1 | 104.3 | 105.6 | 144.6 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 16000     | 90.3  | 92.1  | 91.3  | 94.9  | 96.8  | 96.5  | 97.1  | 98.9  | 100.7 | 98.3  | 102.5 | 103.1 | 144.1 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 20000     | 86.7  | 89.3  | 87.9  | 91.5  | 94.1  | 94.1  | 94.4  | 97.0  | 97.8  | 96.4  | 99.8  | 100.8 | 143.2 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 25000     | 83.4  | 85.3  | 84.9  | 88.3  | 90.7  | 91.3  | 91.7  | 94.2  | 94.2  | 92.8  | 96.5  | 98.0  | 142.4 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 31500     | 79.1  | 82.2  | 81.0  | 84.2  | 86.7  | 87.1  | 87.6  | 89.7  | 90.8  | 90.1  | 94.5  | 94.9  | 142.3 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 40000     | 74.9  | 77.6  | 77.2  | 79.9  | 83.1  | 83.5  | 83.8  | 86.7  | 87.7  | 87.8  | 93.0  | 92.8  | 143.6 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 50000     | 65.9  | 72.3  | 71.7  | 75.0  | 78.5  | 79.0  | 78.7  | 81.5  | 84.1  | 83.3  | 90.7  | 90.4  | 144.8 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 63000     | 65.0  | 68.5  | 66.6  | 70.2  | 74.0  | 74.2  | 73.9  | 76.6  | 79.8  | 79.8  | 87.8  | 88.4  | 146.9 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| 80000     | 62.5  | 65.7  | 63.6  | 66.2  | 68.3  | 68.9  | 68.3  | 72.0  | 76.5  | 80.1  | 85.2  | 84.2  | 150.8 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| GASPL     | 110.7 | 111.5 | 109.0 | 111.6 | 112.1 | 111.2 | 111.1 | 113.7 | 117.0 | 120.3 | 126.3 | 128.2 | 162.9 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| PNL1      | 123.3 | 124.3 | 121.9 | 124.3 | 124.7 | 123.5 | 123.6 | 126.7 | 129.9 | 132.5 | 138.0 | 139.8 | 138.3 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| PNL2      | 124.8 | 125.9 | 121.9 | 124.3 | 124.7 | 125.1 | 124.7 | 126.7 | 129.9 | 132.5 | 138.0 | 139.8 | 138.3 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |
| DBA       | 183.5 | 186.7 | 184.7 | 187.5 | 190.1 | 190.6 | 190.1 | 193.5 | 197.6 | 200.6 | 206.1 | 205.4 | 200.4 |       |  |     |  |     |  |     |  |     |  |     |  |     |  |

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DATPRC - FLIAN  
 FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC  
 IDENTIFICATION - 8ZF-ZER-1213 X1213F  
 ANGLES MEASURED FROM INLET, DEGREES  
 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
 PML

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514  
 VEHICL = ADH699 TEST DATE = 03-16-82  
 IAPLHA = SB59 IEGA = NG  
 WIND DIR = DEG WIND VEL = MPH  
 LOCAT = C41 ANECH CH CONFIG = 2  
 CONFIG = AX MODEL = 2  
 FLTVEL = 0. FPS  
 RELHUM = 76.6 PCT  
 PAMB HG = 29.25  
 MIKE HT =  
 NBFR =  
 VEHICL = ADH699  
 IAPLHA = SB59  
 WIND DIR = DEG  
 WIND VEL = MPH  
 LOCAT = C41 ANECH CH  
 CONFIG = 2  
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 MIKE HT =  
 NBFR =  
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 MIKE HT =  
 NBFR =  
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 MIKE HT =  
 NBFR =  
 VEHICL = ADH699  
 IAPLHA = SB59  
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 MIKE HT =  
 NBFR =  
 VEHICL = ADH699  
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 MIKE HT =  
 NBFR =  
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 MODEL = 2  
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 RELHUM = 76.6 PCT  
 PAMB HG = 29.25  
 MIKE HT =  
 NBFR =  
 VEHICL = ADH699  
 IAPLHA = SB59  
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 WIND VEL = MPH  
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 MIKE HT =  
 NBFR =  
 VEHICL = ADH699  
 IAPLHA = SB59  
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 PAMB HG = 29.25  
 MIKE HT =  
 NBFR =  
 VEHICL = ADH699  
 IAPLHA = SB59  
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 CONFIG = 2  
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 MODEL = 2  
 FLTVEL = 0. FPS  
 RELHUM = 76.6 PCT  
 PAMB HG = 29.25  
 MIKE HT =  
 NBFR =  
 VEHICL = ADH699  
 IAPLHA = SB59  
 WIND DIR = DEG  
 WIND VEL = MPH  
 LOCAT = C41 ANECH CH  
 CONFIG = 2  
 CONFIG = AX  
 MODEL = 2  
 FLTVEL = 0. FPS

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1213 X12131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 64.5 69.8 68.9 71.9 73.4 72.9 74.4 77.7 80.4 85.4 90.3 91.7 88.8 166.4

63 66.6 69.7 68.0 72.0 74.0 74.8 75.0 77.5 81.3 86.8 92.1 93.1 88.6 167.5

80 67.7 71.5 70.3 74.8 75.9 75.9 79.3 82.6 89.3 94.4 89.4 89.4 169.1

100 72.0 72.3 72.9 76.7 77.7 77.7 80.2 84.2 90.4 95.2 94.7 90.6 170.0

125 78.4 81.2 79.1 82.9 81.6 79.1 78.9 82.1 85.6 90.3 95.9 95.3 170.7

160 75.7 80.3 79.0 83.5 85.5 84.8 83.5 86.7 90.7 95.4 94.8 90.6 170.9

200 79.7 78.9 77.3 80.1 81.1 80.9 81.8 84.5 86.8 89.3 95.2 94.2 89.4 170.5

250 81.0 82.7 80.0 82.4 82.2 80.7 81.1 83.4 86.8 89.6 93.9 86.7 169.8

315 78.4 80.4 79.7 82.5 83.6 81.8 80.4 83.8 86.6 88.6 92.4 91.3 84.0 168.8

400 77.2 80.1 78.9 82.1 82.9 81.3 81.3 83.3 86.8 87.3 90.5 89.3 82.7 168.0

500 75.9 78.7 77.3 80.4 81.5 81.1 81.1 84.2 85.7 86.8 88.3 86.9 80.0 166.8

630 75.6 78.5 76.9 79.6 79.8 79.9 80.7 82.5 85.0 84.5 86.5 84.4 77.1 165.6

800 74.8 78.7 77.6 80.8 80.7 79.9 79.7 82.9 84.9 83.3 85.2 82.8 74.1 165.4

1000 72.2 75.6 76.2 80.6 81.4 80.2 78.9 81.2 83.7 81.9 83.4 79.5 72.4 164.5

1250 69.7 74.4 74.8 79.1 82.0 80.9 79.7 80.8 82.4 80.8 81.1 78.1 68.5 164.2

1600 66.8 71.3 72.1 76.0 79.0 79.4 78.5 79.3 79.7 77.5 78.0 75.0 64.1 163.0

2000 63.0 68.0 69.2 74.1 76.7 77.0 78.1 78.6 74.2 75.2 75.2 70.8 58.3 162.4

2500 57.6 64.0 65.0 70.0 73.4 73.7 73.8 75.5 74.9 71.1 70.7 65.6 49.9 161.6

3150 51.0 57.4 60.1 65.3 68.7 69.6 69.7 70.7 69.3 65.0 64.0 57.9 38.3 160.8

4000 40.4 49.7 52.4 57.9 61.7 62.5 62.6 63.4 62.1 57.5 55.8 45.9 19.8 160.6

5000 26.5 37.5 42.3 48.2 53.1 54.0 53.8 55.0 52.8 47.7 44.5 30.0 162.0

6300 3.6 18.0 24.8 32.5 38.4 39.7 38.6 39.0 37.2 29.0 24.5 3.5 163.1

8000 165.2 165.3 163.1

661

10000 169.2

12500 165.2

15000 165.2

16000 165.2

20000 165.2

25000 165.2

31500 165.2

40000 165.2

GASPL 87.9 90.3 89.0 92.4 93.4 92.5 92.2 94.4 97.0 99.7 104.3 103.7 98.9 181.0

PNL 92.4 95.3 94.5 98.1 100.0 99.8 99.6 101.3 102.9 103.5 107.1 105.6 99.6

PFLT 93.2 96.1 95.0 98.1 100.7 100.6 100.1 101.3 103.4 104.1 107.1 106.8 99.6

DBA 82.2 85.3 84.6 88.2 89.6 89.0 88.5 90.5 92.4 92.2 94.9 93.4 86.9

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NO2/AX/SC-2/NAS3-22514

VEHICL = ADH699 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT

WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR RPM = V8 FPS AE8 = 1723.1 FPS AE8 = 20.4 SQ IN

FNRAMB = LBS XNLR RPM = V8 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-1213 TAPE = X12131 TEST PT NO = 1213 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1214 X1214F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

| FREQ | 200  | 250  | 315  | 400  | 500  | 630  | 800  | 1000 | 1250 | 1500 | 1600  | 2000  | 2500  | 3150  | 4000  | 5000  | 6300  | 8000  | 10000 | 12500 | 15000 | 20000 | 25000 | 31500 | 40000 | 50000 | 63000 | 80000 | GASPL | PNLT  | PNLT  | DBA   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|      | 86.2 | 88.5 | 83.6 | 86.3 | 87.3 | 85.1 | 84.7 | 85.9 | 90.6 | 95.4 | 101.4 | 105.8 | 107.0 | 108.3 | 144.5 | 144.1 | 143.6 | 143.6 | 142.9 | 142.9 | 143.2 | 143.6 | 143.6 | 144.5 | 144.4 | 144.4 | 144.7 | 141.6 | 140.7 | 139.8 | 139.2 | 139.1 | 139.5 | 130.5 | 130.5 | 129.6 | 129.6 | 122.9 | 120.1 | 121.7 | 121.4 | 119.6 | 118.7 | 121.4 | 119.6 | 118.7 | 189.4 | 187.7 | 189.4 | 187.1 | 186.2 | 187.8 | 187.5 | 157.2 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH706 TEST DATE = 03-16-82  
IAPLHA = SB59 LEGA = NG  
MIND DIR = DEG MIND VEL = MPH  
LOCAL = C41 ANECH CH CONFIG = 2  
PWL AREA = FULL SPHERE TAMB F = 69.00  
EXT DIST = 40.0 FT  
EXT CONFIG = ARC  
MIKE HT = 29.25  
RELHUM = 76.6 PCT  
FLVEL = 400. FPS  
NBFR =

FNINI = LBS XNL RPM = XNH XNHR RPM = V8 RPM = 1726.4 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR RPM = XNH XNHR RPM = V8 RPM = 1726.4 FPS AEB = 20.4 SQ IN

RUNPT = 82F-400-1214 TAPE = X1214F TEST PT NO = 1214 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1214 X12141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 66.7 68.5 66.9 69.6 69.7 68.2 67.4 68.4 73.3 78.3 83.6 84.6 80.0 159.0  
59 66.6 69.1 66.9 70.2 70.7 69.6 67.8 70.1 75.8 82.2 86.7 87.1 80.3 161.4  
63 68.0 69.8 67.5 70.7 71.5 70.0 70.0 72.4 78.7 84.7 90.1 88.6 82.0 163.8  
80 68.4 70.7 68.8 71.6 72.8 71.2 71.7 74.2 80.6 86.3 91.4 89.3 83.2 165.0  
100 68.4 70.7 70.9 70.1 72.9 74.2 72.8 75.8 81.7 86.1 90.9 87.3 83.1 164.4  
125 70.4 70.9 70.1 72.9 74.2 72.8 72.8 75.8 81.7 86.1 90.9 87.3 83.1 164.4  
150 72.4 72.8 70.6 73.8 76.3 74.1 73.8 76.6 82.3 84.9 89.2 86.4 81.6 163.5  
200 75.2 77.9 75.0 77.3 77.1 75.2 74.9 76.8 82.9 85.1 87.2 85.0 80.3 162.9  
250 80.4 80.5 77.9 79.4 80.6 77.2 75.4 77.3 82.5 85.3 86.0 82.0 79.2 162.8  
315 79.1 80.4 78.6 80.8 80.8 78.4 76.0 83.5 84.0 84.1 80.3 77.7 162.4  
400 76.6 79.0 78.0 80.6 80.4 79.1 78.2 78.8 83.2 84.0 82.1 77.6 75.7 162.0  
500 76.1 77.4 76.9 79.4 78.1 77.5 77.4 80.7 83.0 81.8 80.6 76.1 73.8 161.3  
630 74.5 76.3 74.7 77.0 77.1 76.2 76.7 79.0 82.9 81.5 79.1 74.5 72.3 160.8  
800 78.6 80.1 77.7 78.3 80.2 78.1 76.0 78.4 82.0 79.7 77.4 72.8 69.8 161.6  
1000 77.9 81.1 79.9 80.8 83.2 79.7 76.8 77.0 80.8 79.6 75.7 70.9 67.9 162.6  
1250 76.3 79.4 79.7 83.2 83.0 80.9 78.7 80.4 76.9 73.1 68.6 64.7 163.0  
1500 72.9 76.7 77.1 81.0 79.8 77.7 76.9 79.2 74.5 71.2 65.7 61.3 162.2  
2000 69.7 73.5 73.7 76.5 77.3 75.9 75.7 76.3 76.8 71.8 67.4 62.5 56.0 161.0  
2500 64.1 68.9 69.4 73.5 73.7 73.2 72.0 73.2 73.2 67.9 63.1 58.0 48.2 160.0  
3150 56.8 62.9 63.8 68.0 69.1 68.1 68.3 67.7 62.2 56.7 50.0 36.2 159.1  
4000 49.1 55.7 57.9 60.8 62.8 61.5 61.0 60.9 60.4 54.5 47.5 37.6 18.2 158.7  
5000 33.4 43.6 45.9 50.7 53.7 52.5 51.7 51.8 49.5 41.8 33.1 19.6 157.6  
6300 10.8 23.8 29.6 35.0 38.5 37.7 36.3 34.8 32.9 23.1 11.0 157.5

8000 156.8  
10000 157.5  
12500  
15000  
20000  
25000  
31500  
40000  
50000  
63000  
80000

GASPL 87.8 89.7 88.4 90.8 91.2 89.4 88.0 89.5 93.7 95.3 98.3 96.1 91.0 175.5  
PWL 93.4 96.5 96.1 99.3 99.3 98.2 96.8 97.8 100.3 99.6 99.9 96.7 91.9  
PNL 94.0 96.5 96.8 99.9 99.3 98.2 96.8 97.8 100.8 99.6 99.9 96.7 91.9  
DBA 84.8 87.3 86.6 89.2 89.6 87.8 86.2 87.0 89.9 88.4 87.3 83.5 80.2

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH706 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CNFNG = 2 MODEL = AX FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFNG = SL MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM = V8 = 1726.4 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM = V8 = 1726.4 FPS AE18 = 0. SQ IN

RUNPT = 8 00-1214 TAPE = X12141 TEST PT NO = 1214 NC = AE039 CORR FAN SPEED = RPM

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OF POOR QUALITY

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1215 X1215C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 80.7  | 80.5  | 82.0  | 81.3  | 82.4  | 81.0  | 82.1  | 82.0  | 88.2  | 88.1  | 97.4  | 98.1  | 95.5  | 132.0 |
| 60    | 84.2  | 85.0  | 88.3  | 88.7  | 88.0  | 87.6  | 87.2  | 87.8  | 88.6  | 91.1  | 88.9  | 94.0  | 95.2  | 132.1 |
| 80    | 86.0  | 90.1  | 83.3  | 87.6  | 87.2  | 87.8  | 87.2  | 88.6  | 88.6  | 92.0  | 98.7  | 96.8  | 134.3 |       |
| 100   | 85.6  | 89.3  | 84.1  | 88.2  | 89.0  | 88.4  | 88.0  | 91.2  | 92.1  | 90.4  | 94.6  | 99.0  | 99.9  | 134.1 |
| 125   | 84.6  | 85.6  | 85.7  | 89.4  | 90.0  | 89.7  | 89.0  | 89.7  | 91.4  | 91.5  | 99.4  | 103.0 | 105.0 | 137.2 |
| 160   | 83.6  | 80.6  | 84.6  | 85.4  | 86.3  | 87.2  | 86.3  | 87.2  | 87.9  | 90.6  | 99.0  | 103.0 | 106.9 | 137.6 |
| 200   | 83.0  | 86.1  | 84.8  | 87.9  | 88.7  | 88.1  | 88.2  | 93.1  | 93.6  | 95.1  | 101.5 | 106.5 | 109.6 | 140.6 |
| 250   | 83.8  | 90.8  | 86.1  | 88.1  | 89.2  | 90.6  | 92.2  | 94.6  | 96.3  | 99.9  | 106.8 | 111.0 | 112.6 | 144.4 |
| 315   | 85.1  | 88.4  | 85.6  | 90.7  | 92.3  | 91.6  | 91.5  | 94.7  | 98.1  | 101.2 | 108.3 | 112.0 | 114.9 | 146.0 |
| 400   | 85.8  | 88.9  | 87.4  | 90.4  | 91.0  | 90.1  | 92.3  | 95.2  | 99.1  | 105.2 | 111.3 | 115.5 | 115.7 | 148.3 |
| 500   | 87.7  | 90.0  | 87.3  | 90.3  | 91.9  | 92.0  | 92.6  | 95.5  | 100.0 | 106.8 | 114.2 | 116.9 | 116.0 | 149.8 |
| 630   | 89.1  | 91.6  | 89.6  | 92.4  | 93.0  | 93.1  | 93.5  | 96.9  | 101.4 | 109.7 | 115.6 | 117.7 | 116.4 | 150.9 |
| 800   | 93.2  | 92.0  | 91.8  | 95.0  | 95.6  | 94.5  | 95.4  | 98.8  | 103.0 | 110.8 | 117.2 | 118.4 | 117.5 | 152.0 |
| 1000  | 100.5 | 101.2 | 97.8  | 100.6 | 99.1  | 96.8  | 97.1  | 100.1 | 104.3 | 111.3 | 117.5 | 119.4 | 118.1 | 152.8 |
| 1250  | 102.4 | 102.7 | 100.7 | 103.0 | 103.1 | 100.4 | 99.6  | 102.5 | 105.9 | 109.9 | 115.7 | 116.7 | 114.0 | 151.0 |
| 1500  | 101.7 | 103.0 | 100.6 | 102.8 | 102.7 | 101.5 | 101.1 | 102.8 | 106.7 | 109.0 | 114.5 | 113.1 | 111.6 | 149.0 |
| 2000  | 104.7 | 104.3 | 100.7 | 102.4 | 101.9 | 99.3  | 99.3  | 102.6 | 106.7 | 109.7 | 117.0 | 118.1 | 115.6 | 152.0 |
| 2500  | 102.4 | 102.7 | 100.7 | 103.0 | 103.1 | 100.4 | 99.6  | 102.5 | 105.9 | 109.9 | 115.7 | 116.7 | 114.0 | 151.0 |
| 3150  | 101.7 | 103.0 | 100.6 | 102.8 | 102.7 | 101.5 | 101.1 | 102.8 | 106.7 | 109.0 | 114.5 | 113.1 | 111.6 | 149.0 |
| 4000  | 100.9 | 101.0 | 98.5  | 101.5 | 101.3 | 101.1 | 101.2 | 104.3 | 106.4 | 108.3 | 113.1 | 113.1 | 111.6 | 149.0 |
| 5000  | 100.4 | 101.2 | 98.5  | 100.7 | 100.9 | 100.1 | 100.5 | 103.1 | 106.3 | 106.7 | 111.8 | 112.6 | 109.1 | 148.1 |
| 6300  | 99.0  | 101.5 | 99.4  | 101.4 | 101.3 | 100.5 | 100.1 | 103.5 | 106.5 | 106.1 | 110.7 | 110.7 | 108.5 | 147.7 |
| 8000  | 97.4  | 98.2  | 96.5  | 101.2 | 101.0 | 99.4  | 102.0 | 105.7 | 104.8 | 108.8 | 108.8 | 108.8 | 106.9 | 146.7 |
| 10000 | 95.6  | 97.8  | 96.6  | 99.4  | 102.1 | 100.1 | 99.9  | 101.8 | 104.2 | 104.8 | 107.8 | 108.0 | 106.0 | 146.5 |
| 12500 | 93.6  | 95.3  | 94.3  | 97.6  | 99.1  | 99.4  | 98.7  | 100.3 | 102.9 | 101.6 | 105.8 | 106.6 | 104.2 | 145.5 |
| 15000 | 90.3  | 92.9  | 91.6  | 95.7  | 97.0  | 96.8  | 97.3  | 98.9  | 101.2 | 98.8  | 104.0 | 104.1 | 101.9 | 144.8 |
| 20000 | 87.2  | 89.6  | 88.4  | 92.0  | 95.1  | 94.8  | 94.7  | 97.0  | 98.3  | 97.2  | 101.0 | 101.5 | 98.7  | 144.0 |
| 25000 | 83.9  | 85.9  | 85.7  | 88.1  | 91.2  | 91.8  | 92.2  | 94.2  | 95.4  | 93.6  | 98.5  | 98.0  | 94.5  | 143.2 |
| 31500 | 79.6  | 82.7  | 81.5  | 85.0  | 87.5  | 87.6  | 88.6  | 90.2  | 91.3  | 90.8  | 96.0  | 95.7  | 90.2  | 143.1 |
| 40000 | 74.9  | 77.8  | 78.2  | 80.4  | 84.1  | 84.2  | 84.3  | 86.9  | 88.0  | 88.5  | 94.5  | 94.0  | 87.6  | 144.6 |
| 50000 | 69.6  | 72.8  | 72.0  | 75.5  | 79.0  | 80.0  | 79.7  | 81.7  | 84.6  | 84.3  | 92.2  | 91.6  | 83.8  | 145.9 |
| 63000 | 64.5  | 68.7  | 66.8  | 70.5  | 74.3  | 75.2  | 74.4  | 77.1  | 81.8  | 80.8  | 91.1  | 88.2  | 82.2  | 148.7 |
| 80000 | 63.0  | 66.0  | 66.8  | 65.5  | 69.0  | 69.4  | 69.3  | 72.2  | 77.5  | 79.9  | 88.2  | 83.7  | 79.5  | 152.2 |
| GASPL | 111.8 | 112.3 | 109.9 | 112.5 | 113.0 | 111.8 | 111.7 | 114.1 | 117.4 | 120.8 | 127.1 | 128.6 | 127.6 | 163.5 |
| PWL   | 124.4 | 125.5 | 123.1 | 125.6 | 127.0 | 124.5 | 124.5 | 127.2 | 130.2 | 132.9 | 138.8 | 140.1 | 138.6 |       |
| PMLT  | 126.0 | 127.2 | 123.1 | 125.6 | 127.0 | 126.1 | 124.5 | 127.2 | 130.2 | 132.9 | 138.8 | 140.1 | 138.6 |       |
| DBA   | 112.4 | 112.7 | 110.1 | 112.6 | 112.8 | 111.3 | 111.2 | 113.8 | 117.2 | 120.7 | 127.0 | 128.3 | 126.9 |       |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICLE = ADH700 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNIN1 = LBS XNL RPM XNH RPM XNHR = RPM V8 = 1734.0 FPS AE8 = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1734.0 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-1215 TAPE = X1215C TEST PT NO = 1215 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1215 X1215F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 80.7  | 80.5  | 82.0  | 81.3  | 82.4  | 81.0  | 82.1  | 82.0  | 88.2  | 88.1  | 97.4  | 98.1  | 95.5  | 132.0 |
| 63    | 84.2  | 85.0  | 88.0  | 88.7  | 86.0  | 90.9  | 87.2  | 88.6  | 92.0  | 90.4  | 99.8  | 98.7  | 96.8  | 134.3 |
| 80    | 86.0  | 90.1  | 83.3  | 87.6  | 87.2  | 87.8  | 87.2  | 88.6  | 91.1  | 88.9  | 94.0  | 95.2  | 95.6  | 132.1 |
| 100   | 85.6  | 89.3  | 84.1  | 88.2  | 89.0  | 88.4  | 88.0  | 88.0  | 91.2  | 92.1  | 90.4  | 94.6  | 99.0  | 134.1 |
| 125   | 84.6  | 85.6  | 85.7  | 89.4  | 90.0  | 89.7  | 89.0  | 89.7  | 91.4  | 91.5  | 99.4  | 103.0 | 105.0 | 137.2 |
| 160   | 83.8  | 80.6  | 84.6  | 85.4  | 87.2  | 86.3  | 87.2  | 87.9  | 90.6  | 92.2  | 99.0  | 103.0 | 106.9 | 137.6 |
| 200   | 83.0  | 86.1  | 84.8  | 87.9  | 88.7  | 88.1  | 88.2  | 93.1  | 95.6  | 95.1  | 101.5 | 106.5 | 109.6 | 140.6 |
| 250   | 83.8  | 90.8  | 86.1  | 89.2  | 90.6  | 92.2  | 94.6  | 96.3  | 99.9  | 106.8 | 111.0 | 112.6 | 144.4 |       |
| 315   | 85.1  | 88.4  | 85.6  | 90.7  | 92.3  | 91.6  | 91.5  | 94.7  | 98.1  | 101.2 | 108.3 | 112.0 | 114.9 | 146.0 |
| 400   | 85.8  | 88.9  | 87.4  | 90.4  | 91.0  | 90.1  | 92.3  | 95.2  | 99.1  | 105.2 | 111.3 | 115.5 | 115.7 | 148.3 |
| 500   | 87.7  | 90.0  | 87.3  | 90.3  | 91.9  | 92.0  | 92.6  | 95.5  | 100.0 | 106.8 | 114.2 | 116.9 | 116.0 | 149.8 |
| 630   | 89.1  | 91.6  | 89.6  | 92.4  | 93.0  | 93.1  | 93.5  | 98.9  | 101.4 | 109.7 | 115.6 | 117.7 | 116.4 | 150.9 |
| 800   | 93.2  | 92.0  | 91.8  | 95.0  | 95.6  | 94.5  | 98.8  | 103.0 | 110.8 | 117.2 | 118.4 | 117.5 | 152.0 |       |
| 1000  | 100.5 | 101.2 | 97.8  | 100.6 | 102.7 | 101.5 | 101.1 | 104.3 | 106.7 | 109.0 | 114.5 | 113.7 | 150.2 |       |
| 1250  | 98.2  | 100.3 | 98.5  | 101.8 | 103.4 | 102.3 | 101.2 | 101.8 | 105.5 | 111.1 | 117.7 | 119.2 | 153.0 |       |
| 1600  | 103.2 | 101.0 | 97.6  | 99.8  | 99.6  | 99.6  | 99.6  | 102.6 | 106.7 | 109.7 | 117.0 | 118.1 | 152.8 |       |
| 2000  | 104.7 | 104.3 | 100.7 | 102.4 | 101.9 | 99.3  | 99.3  | 102.6 | 106.7 | 109.7 | 117.0 | 118.1 | 152.8 |       |
| 2500  | 102.4 | 102.7 | 100.7 | 103.0 | 103.1 | 100.4 | 99.6  | 102.5 | 105.9 | 109.9 | 115.7 | 116.7 | 151.0 |       |
| 3150  | 101.7 | 103.0 | 100.6 | 102.8 | 102.7 | 101.5 | 101.1 | 102.8 | 106.7 | 109.0 | 114.5 | 113.2 | 149.2 |       |
| 4000  | 100.9 | 101.0 | 98.5  | 101.5 | 101.3 | 101.1 | 101.2 | 104.3 | 106.4 | 108.3 | 113.1 | 113.6 | 149.0 |       |
| 5000  | 100.4 | 101.2 | 98.5  | 100.7 | 100.9 | 100.5 | 100.5 | 103.1 | 106.3 | 106.7 | 111.8 | 112.6 | 148.1 |       |
| 6300  | 99.0  | 101.5 | 99.4  | 101.4 | 101.3 | 100.5 | 100.1 | 103.5 | 106.5 | 106.1 | 110.7 | 108.5 | 147.7 |       |
| 8000  | 95.4  | 98.2  | 97.5  | 101.7 | 100.0 | 99.4  | 102.0 | 105.7 | 104.8 | 108.8 | 108.8 | 108.9 | 146.7 |       |
| 10000 | 95.6  | 97.8  | 96.6  | 99.4  | 102.1 | 100.1 | 99.9  | 101.8 | 104.2 | 104.8 | 107.8 | 106.0 | 146.5 |       |
| 12500 | 93.6  | 95.3  | 94.3  | 97.6  | 99.1  | 99.4  | 98.7  | 100.3 | 102.9 | 101.6 | 105.8 | 106.6 | 145.5 |       |
| 16000 | 90.3  | 92.9  | 91.6  | 95.7  | 97.0  | 96.8  | 97.3  | 98.9  | 101.2 | 98.8  | 104.0 | 104.1 | 144.8 |       |
| 20000 | 87.2  | 89.6  | 88.4  | 92.0  | 95.1  | 94.8  | 94.7  | 97.0  | 98.3  | 97.2  | 101.0 | 101.5 | 144.0 |       |
| 25000 | 83.9  | 85.7  | 88.1  | 91.2  | 91.8  | 92.2  | 94.2  | 95.4  | 93.6  | 98.5  | 98.0  | 94.5  | 143.2 |       |
| 31500 | 79.6  | 82.7  | 81.5  | 85.0  | 87.5  | 87.6  | 88.6  | 90.2  | 91.3  | 90.8  | 96.0  | 95.7  | 143.1 |       |
| 40000 | 74.9  | 77.8  | 78.2  | 80.4  | 84.1  | 84.2  | 84.3  | 86.9  | 88.0  | 88.5  | 94.0  | 87.6  | 144.6 |       |
| 50000 | 69.6  | 72.8  | 72.0  | 75.5  | 79.0  | 80.0  | 79.7  | 81.7  | 84.6  | 84.3  | 92.2  | 91.6  | 145.9 |       |
| 63000 | 64.5  | 68.7  | 66.8  | 70.5  | 74.3  | 75.2  | 74.4  | 77.1  | 81.8  | 80.8  | 91.1  | 88.2  | 148.7 |       |
| 80000 | 63.0  | 66.0  | 66.0  | 66.0  | 66.0  | 65.5  | 69.0  | 69.4  | 69.3  | 72.2  | 77.5  | 79.9  | 152.2 |       |
| GASPL | 111.8 | 112.3 | 109.9 | 112.5 | 113.0 | 111.8 | 111.7 | 114.1 | 117.4 | 120.8 | 127.1 | 128.6 | 127.6 | 163.5 |
| PNL1  | 126.0 | 127.2 | 123.1 | 125.6 | 127.0 | 126.1 | 124.5 | 127.2 | 130.2 | 132.9 | 138.8 | 140.1 | 138.6 |       |
| DBA   | 183.9 | 187.0 | 187.4 | 187.1 | 190.7 | 191.3 | 191.0 | 193.8 | 198.7 | 200.5 | 209.1 | 205.0 | 200.4 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH700 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SBS9 IEQA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINI = LBS XNL RPM XNH RPM V8 = 1734.0 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 1734.0 FPS AEB = 0. SQ IN  
RUNPT = ZER-1215 TAPE = X1215F TEST PT NO = 1215 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1215 X12151

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 64.8 69.3 68.9 72.7 73.7 72.9 74.9 77.4 80.7 85.7 90.3 92.2 89.1 166.7

63 66.6 70.4 68.8 72.5 74.5 74.8 75.3 77.8 81.5 87.3 93.1 93.6 89.4 168.2

80 67.9 72.0 71.1 74.6 75.6 75.9 76.1 79.1 82.8 90.1 94.4 94.4 89.6 169.2

100 72.0 72.3 73.2 77.2 78.2 77.2 77.9 80.9 84.4 91.2 96.0 94.9 90.6 170.4

125 79.1 81.5 79.1 82.6 81.6 79.4 79.6 82.1 85.6 91.6 96.1 95.8 90.9 171.1

160 76.7 80.3 79.7 83.8 85.8 84.8 83.5 83.8 86.7 91.2 96.2 95.3 90.9 171.4

200 81.5 80.9 78.6 81.6 82.1 80.9 81.8 84.5 87.3 89.3 96.2 94.7 89.9 171.2

250 82.5 83.9 81.5 83.9 84.0 81.5 81.3 84.2 87.5 89.4 94.9 93.5 87.0 170.4

315 79.9 81.9 81.2 84.3 84.8 82.3 81.4 83.8 86.3 89.1 93.1 91.5 84.5 169.3

400 78.7 81.9 80.7 83.8 84.1 83.1 82.6 83.8 86.8 87.8 91.5 89.3 83.2 168.6

500 77.4 79.4 78.3 82.2 82.5 82.4 82.4 84.9 86.2 86.8 89.6 86.7 80.2 167.4

630 76.4 79.3 77.9 81.1 81.8 81.2 81.4 83.5 85.8 84.7 87.8 85.4 76.6 166.5

800 74.5 79.2 78.6 81.5 82.0 81.4 80.7 83.6 85.7 83.8 86.2 82.8 74.8 166.1

1000 72.4 75.6 76.5 81.1 82.2 80.7 79.9 81.9 84.7 82.2 83.9 80.3 72.2 165.0

1250 70.2 74.9 75.3 79.1 82.5 80.7 80.2 81.6 82.9 81.8 82.3 78.6 69.8 164.9

1600 67.3 71.8 72.6 77.0 79.2 79.7 78.8 79.8 81.2 78.0 79.5 76.0 65.6 163.9

2000 63.0 68.7 69.5 74.9 77.0 76.9 77.3 78.1 79.1 74.7 76.7 71.8 60.3 163.2

2500 58.1 64.2 65.5 70.5 74.4 74.5 74.0 75.5 75.4 71.8 72.0 66.4 52.2 162.4

3150 51.5 58.1 60.8 65.0 69.2 70.1 70.2 71.2 70.6 65.8 66.0 57.9 39.6 161.6

4000 40.9 50.2 52.9 58.7 62.5 63.0 63.6 63.9 62.6 58.3 57.3 46.6 20.8 161.5

5000 26.5 37.7 43.3 48.7 54.1 54.8 54.3 55.2 53.1 48.4 46.0 31.3 163.0

6300 3.4 18.5 25.0 33.0 38.9 40.7 39.6 39.2 37.7 30.0 26.0 4.8 164.2

8000 170.6

10000 167.1

12500 167.1

15000 167.1

170.6

181.7

199.2

204.1

205.0

210.2

215.4

218.7

221.7

225.1

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH700 TEST DATE = 03-16-82

LAPLHA = SB59 IEQA = NO

WIND DIR = DEG WIND VEL = MPH

FNINI = LBS XNL = RPM XNHR = RPM

FNAMB = LBS XNL = RPM XNHR = RPM

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

DBA 83.1 86.1 85.5 89.2 90.5 89.6 89.2 91.1 93.0 92.5 95.9 93.7 87.3

PWLT 94.3 97.1 95.6 99.2 101.3 101.6 103.3 104.6 108.0 107.3 100.0

PWL 93.5 96.2 95.6 99.2 100.7 100.3 100.1 101.6 103.3 104.0 106.0 100.0

QASPL 89.1 91.2 90.0 93.4 94.2 93.1 92.8 94.8 97.4 100.2 105.0 104.1 99.2 181.7

80000

63000

50000

40000

31500

25000

20000

16000

12500

10000

8000

6300

5000

4000

3150

2500

2000

1600

1250

1000

800

630

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502

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1216 BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PHL

50 84.9 82.7 81.7 83.8 81.4 82.5 84.9 82.8 84.5 80.6 91.4 90.4 95.8 128.5

63 83.7 85.3 89.0 90.3 87.7 84.5 91.9 86.1 88.8 84.1 91.2 91.9 94.8 131.2

80 86.3 89.6 87.9 87.2 87.8 87.2 88.1 90.3 86.4 90.8 93.2 96.1 131.2

100 84.1 87.6 81.9 86.2 87.0 86.9 86.0 89.4 89.4 87.2 91.6 96.8 132.2

125 82.6 83.4 82.7 86.9 88.0 87.7 86.3 86.9 88.2 88.2 96.1 100.0 134.4

160 79.5 78.6 82.1 83.4 83.7 83.1 84.0 84.9 87.1 89.2 96.0 102.7 134.8

200 80.0 81.3 80.6 83.1 84.7 84.8 85.0 88.4 91.3 90.6 102.7 105.9 136.7

250 81.0 83.1 80.1 84.1 84.2 85.8 86.5 89.6 91.3 94.4 101.5 106.7 139.7

315 80.1 81.6 80.9 84.7 86.3 85.6 86.5 89.2 93.1 96.7 103.3 109.4 141.3

400 81.3 82.6 80.9 85.4 86.0 85.9 86.5 89.2 93.9 99.4 106.6 110.3 142.7

500 81.9 83.5 81.0 85.5 86.9 87.2 87.4 90.8 94.8 101.6 108.7 111.4 143.6

630 83.3 84.8 82.6 86.9 88.0 88.4 88.2 92.7 96.6 104.7 110.6 111.7 144.7

800 85.7 85.2 84.5 88.5 89.1 89.2 89.9 94.0 98.3 105.6 112.0 110.1 145.1

1000 90.5 89.2 86.0 90.1 90.0 90.9 95.3 100.0 106.6 112.7 110.1 99.6 145.6

1250 93.7 93.3 90.8 92.9 92.0 92.2 95.8 100.8 106.4 112.0 107.9 99.7 144.9

1500 98.2 98.0 95.3 96.1 94.7 93.1 92.6 96.7 101.3 105.4 111.0 106.4 144.4

2000 96.4 98.6 96.5 98.4 98.7 95.6 93.8 96.6 101.5 105.2 109.0 105.3 143.7

2500 96.1 96.7 95.2 98.2 98.8 97.7 95.4 97.7 101.4 105.4 106.4 102.2 142.7

3150 93.2 94.5 93.3 96.3 97.7 97.2 97.4 98.3 102.2 104.0 105.5 101.4 142.0

4000 95.4 95.2 92.2 94.3 94.6 95.1 96.4 100.3 102.1 103.6 103.1 99.1 141.2

5000 97.9 98.2 95.2 96.7 94.4 93.9 94.5 98.8 102.1 102.2 101.5 97.1 140.9

6300 97.3 99.7 97.4 98.9 97.1 95.5 93.8 98.0 102.2 102.1 100.2 95.7 141.4

8000 94.9 96.5 95.8 99.4 99.2 97.0 94.4 96.8 100.7 99.3 97.0 93.5 140.6

10000 93.1 95.1 94.1 96.6 94.4 97.6 96.4 97.8 99.4 97.8 94.3 90.9 140.9

12500 91.6 92.3 92.1 94.3 96.6 95.9 95.2 96.3 97.9 96.6 95.1 91.9 139.7

15000 88.3 89.6 88.8 92.4 93.8 93.3 93.8 95.4 97.2 94.5 93.3 89.3 139.2

20000 84.7 87.6 85.4 88.5 90.8 90.7 90.8 93.0 95.1 91.9 90.3 86.5 138.3

25000 80.9 82.9 82.7 85.1 87.9 89.0 88.7 90.0 91.7 88.3 86.7 84.8 137.7

31500 76.8 79.0 78.0 81.2 83.5 85.1 83.8 86.2 87.0 84.8 83.0 81.2 136.7

40000 71.7 74.1 73.4 76.1 80.1 80.2 79.8 81.7 83.0 80.8 79.7 76.8 136.4

50000 66.1 68.5 67.7 71.7 74.2 74.4 76.7 78.4 74.8 74.7 72.1 65.1 135.8

63000 61.3 65.5 61.8 70.2 68.5 68.6 70.6 73.5 69.8 69.6 66.9 59.4 135.9

80000 59.0 64.7 57.8 64.0 63.3 63.2 63.0 64.5 67.5 65.1 63.7 61.2 137.3

OASPL 106.9 107.7 105.7 108.1 108.4 107.3 106.8 109.4 112.8 116.0 120.6 119.9 116.6 156.1

PNL 119.6 120.5 118.3 120.6 120.9 120.1 119.9 122.8 125.7 128.3 131.0 128.9 124.9

DBA 107.0 107.7 105.5 107.7 107.7 107.7 106.5 105.8 108.9 112.6 116.0 120.3 118.2 112.2

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH705 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFRR =

FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 1734.6 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 400-1216 TAPE = X1216C TEST FT NO = 1216 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1216 X12161

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160.  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50   | 66.7 | 68.5 | 67.4 | 70.3 | 70.5 | 68.9 | 67.9 | 69.7 | 73.3 | 78.3 | 83.6 | 85.3 | 80.0  |
| 63   | 67.8 | 69.4 | 67.3 | 71.0 | 71.4 | 70.3 | 68.8 | 70.4 | 76.5 | 82.9 | 87.2 | 87.9 | 80.8  |
| 80   | 68.5 | 70.3 | 67.5 | 71.2 | 72.6 | 71.5 | 70.2 | 73.1 | 78.8 | 84.7 | 89.8 | 89.0 | 82.3  |
| 100  | 69.8 | 71.6 | 69.1 | 72.6 | 73.7 | 72.5 | 71.9 | 74.7 | 81.2 | 86.5 | 91.7 | 90.1 | 83.2  |
| 125  | 71.5 | 71.6 | 70.7 | 74.1 | 74.2 | 73.3 | 73.0 | 76.1 | 82.0 | 86.3 | 90.9 | 87.8 | 83.1  |
| 150  | 74.8 | 74.1 | 70.9 | 74.6 | 77.0 | 75.3 | 74.3 | 76.6 | 82.5 | 85.3 | 89.8 | 86.0 | 82.4  |
| 200  | 78.4 | 80.4 | 75.8 | 78.2 | 78.9 | 76.4 | 74.9 | 77.5 | 82.8 | 85.2 | 87.9 | 84.9 | 81.0  |
| 250  | 83.2 | 83.5 | 80.6 | 80.8 | 82.8 | 79.0 | 76.1 | 77.5 | 82.7 | 85.2 | 84.9 | 81.3 | 79.5  |
| 315  | 81.9 | 82.8 | 80.9 | 82.6 | 83.3 | 81.2 | 78.0 | 78.8 | 83.9 | 84.2 | 84.3 | 80.6 | 78.4  |
| 400  | 79.4 | 81.2 | 80.1 | 83.0 | 82.4 | 80.9 | 80.3 | 79.8 | 84.4 | 83.8 | 81.4 | 77.5 | 76.7  |
| 500  | 77.3 | 79.7 | 81.4 | 78.9 | 79.0 | 79.7 | 82.3 | 84.4 | 82.6 | 80.3 | 75.8 | 74.7 | 162.4 |
| 630  | 76.4 | 77.8 | 75.8 | 78.2 | 78.8 | 77.9 | 80.8 | 84.0 | 82.3 | 79.0 | 74.7 | 72.6 | 161.8 |
| 800  | 79.6 | 81.4 | 79.1 | 80.8 | 81.2 | 79.4 | 76.7 | 79.3 | 82.9 | 80.5 | 78.1 | 72.6 | 162.6 |
| 1000 | 77.4 | 81.7 | 80.4 | 82.4 | 83.7 | 80.7 | 77.3 | 78.3 | 81.9 | 79.8 | 75.5 | 71.2 | 163.3 |
| 1250 | 76.6 | 79.9 | 80.0 | 83.7 | 83.8 | 81.2 | 79.2 | 80.5 | 77.2 | 73.6 | 69.5 | 65.0 | 163.5 |
| 1500 | 73.7 | 77.7 | 77.6 | 80.3 | 80.8 | 79.2 | 77.7 | 77.7 | 79.9 | 75.3 | 71.8 | 66.6 | 162.6 |
| 1600 | 73.7 | 77.7 | 77.6 | 80.3 | 80.8 | 79.2 | 77.7 | 77.7 | 79.9 | 75.3 | 71.8 | 66.6 | 162.6 |
| 2000 | 70.7 | 73.8 | 74.7 | 77.3 | 77.8 | 76.4 | 76.2 | 72.5 | 72.8 | 68.3 | 62.7 | 56.9 | 161.7 |
| 2500 | 65.1 | 69.4 | 70.2 | 74.3 | 74.2 | 73.5 | 72.7 | 73.4 | 74.2 | 68.4 | 63.7 | 58.9 | 160.6 |
| 3150 | 57.6 | 64.4 | 64.3 | 68.2 | 70.5 | 70.3 | 69.1 | 68.8 | 68.4 | 63.2 | 57.2 | 50.9 | 159.8 |
| 4000 | 49.6 | 56.5 | 58.6 | 61.8 | 63.5 | 61.3 | 61.7 | 61.1 | 55.0 | 48.4 | 38.4 | 19.2 | 159.5 |
| 5000 | 34.9 | 44.1 | 46.9 | 51.7 | 53.8 | 52.2 | 51.7 | 50.7 | 41.9 | 34.1 | 20.6 |      | 159.0 |
| 6300 | 11.5 | 24.6 | 29.9 | 35.5 | 38.8 | 39.9 | 36.8 | 35.9 | 23.0 | 11.5 |      |      | 158.3 |
| 8000 |      | 1.9  | 10.8 | 14.9 | 15.4 | 12.8 | 10.3 | 8.2  |      |      |      |      | 158.2 |

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MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9  
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/MAS3-22514

VEHICL = ADH705 TEST DATE = 03-16-82 LGCAT = C41 ANECH CH CNF1G = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
WIND DIR = DEG WIND VEL = MPH

FNINI = LBS XNLR RPM XNHR XNHR RPM V8 = 1734.6 FPS AE8 = 20.4 SQ IN  
FNRAMB = LBS XNLR RPM XNHR XNHR RPM V8 = 1734.6 FPS AE8 = 20.4 SQ IN

RUNPT = 400-1216 TAPE = X12161 TEST PT NO = 1216 NC = AE039 CORR FAN SPEED = RPM

DATPROC - FLTKAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1219 X1219C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PWL

50 82.9 81.0 83.5 82.8 84.1 82.0 84.6 81.8 88.5 88.8 96.4 98.1 97.5 132.2

63 85.0 83.8 88.8 89.1 89.9 87.0 92.4 86.1 91.5 89.9 98.2 98.2 98.3 134.3

80 87.0 90.3 83.6 87.9 87.7 88.3 88.2 88.6 91.8 89.7 92.8 96.0 97.4 132.6

100 85.3 89.3 83.9 88.4 89.2 88.4 88.2 89.7 91.6 90.7 94.6 99.3 100.7 134.3

125 84.9 85.4 85.7 89.4 89.5 89.7 89.0 89.4 91.4 91.7 99.4 103.0 105.0 137.2

150 83.8 81.3 84.6 86.7 86.8 87.0 87.6 90.8 92.2 99.0 103.2 107.4 137.9

200 83.8 86.1 84.8 88.1 88.7 88.3 88.7 92.9 95.8 95.1 101.5 107.0 140.8

250 84.5 90.8 86.6 88.6 89.2 91.1 92.5 94.6 96.1 99.6 106.5 111.5 112.6 144.5

315 85.6 88.4 85.9 90.9 92.5 91.4 92.0 94.7 98.4 101.2 108.1 113.0 115.7 146.6

400 85.8 89.6 87.4 90.2 91.5 90.4 92.0 95.4 99.1 104.9 111.6 115.5 115.7 148.4

500 87.7 90.0 87.3 90.8 92.1 92.2 92.6 95.8 100.0 107.1 113.7 117.4 116.0 149.9

630 87.0 89.6 91.6 89.1 93.2 94.0 93.1 94.0 97.7 101.9 108.7 115.1 116.4 150.9

800 93.7 92.7 92.0 95.5 95.0 95.4 98.5 103.3 110.8 116.7 117.9 118.1 151.8

1000 101.0 101.5 98.3 100.8 98.9 96.5 97.4 100.6 104.8 111.1 117.7 119.4 118.1 152.6

1250 106.2 105.8 102.5 103.9 103.4 100.1 99.8 102.4 106.6 109.0 110.0 116.3 118.6 152.2

1500 105.2 102.3 99.6 100.6 100.2 99.3 100.6 106.6 109.2 109.4 117.3 118.9 118.2 152.7

2000 106.2 105.8 102.5 103.9 103.4 100.1 99.8 102.4 106.6 109.0 110.0 116.3 118.6 152.2

2500 103.6 104.4 102.5 105.0 104.8 102.7 99.9 102.5 105.9 110.1 115.2 116.5 114.5 151.1

3150 103.0 103.6 104.2 104.6 104.2 102.6 102.6 103.6 107.2 109.0 112.8 115.2 113.7 150.5

4000 101.7 102.5 100.0 103.3 103.1 101.8 102.4 105.3 106.9 108.6 112.8 113.4 111.6 149.4

5000 100.9 102.2 100.0 101.7 101.7 100.6 101.5 103.8 107.3 107.2 111.8 111.8 109.8 148.4

6300 99.3 101.7 99.9 102.4 102.1 101.3 101.3 103.7 107.2 106.6 109.7 111.2 109.0 147.9

8000 97.6 99.2 98.5 101.7 102.2 101.0 100.2 102.5 106.2 105.0 107.4 107.4 147.1

10000 96.1 98.3 97.3 100.9 102.6 101.4 100.9 102.6 104.7 104.5 107.5 108.0 146.9

12500 93.9 95.8 94.8 98.1 99.9 99.9 99.4 101.1 102.9 101.6 105.3 106.6 145.6

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 16000 | 90.8  | 93.4  | 92.1  | 95.7  | 97.5  | 97.5  | 97.8  | 99.4  | 101.7 | 99.0  | 103.8 | 100.6 | 144.9 |
| 20000 | 87.4  | 90.6  | 89.2  | 92.3  | 95.1  | 94.8  | 95.2  | 97.0  | 98.3  | 96.7  | 101.0 | 101.8 | 144.0 |
| 25000 | 83.9  | 86.2  | 86.4  | 89.6  | 91.9  | 92.3  | 92.7  | 94.0  | 96.2  | 93.3  | 98.2  | 98.3  | 143.4 |
| 31500 | 79.8  | 83.2  | 82.0  | 85.5  | 88.5  | 88.3  | 88.3  | 90.9  | 92.3  | 91.1  | 95.5  | 95.2  | 143.3 |
| 40000 | 75.2  | 78.6  | 80.9  | 84.6  | 84.7  | 84.8  | 86.9  | 88.8  | 88.8  | 88.8  | 93.7  | 94.0  | 144.6 |
| 50000 | 70.9  | 73.5  | 73.7  | 77.5  | 79.0  | 80.0  | 79.9  | 82.2  | 85.4  | 84.8  | 91.5  | 91.4  | 145.7 |
| 63000 | 65.8  | 69.5  | 68.3  | 71.7  | 75.3  | 76.2  | 74.9  | 77.1  | 81.8  | 80.1  | 91.1  | 88.2  | 148.9 |
| 80000 | 63.0  | 66.7  | 68.6  | 67.0  | 72.5  | 72.9  | 70.0  | 73.0  | 78.5  | 77.1  | 90.7  | 84.9  | 154.0 |
| QASPL | 113.0 | 113.4 | 111.1 | 113.7 | 113.9 | 112.6 | 112.4 | 114.5 | 117.8 | 120.8 | 126.7 | 128.7 | 163.8 |
| PNL   | 126.9 | 127.8 | 124.1 | 126.9 | 128.3 | 127.1 | 125.4 | 127.8 | 130.7 | 133.0 | 138.4 | 140.1 | 138.8 |
| DBA   | 113.6 | 113.8 | 111.4 | 113.9 | 113.8 | 112.3 | 112.0 | 114.1 | 117.6 | 120.8 | 126.7 | 128.4 | 127.1 |

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH701 TEST DATE = 03-16-82 LOCAL = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =  
 FINI1 = LBS XNL RPM XNH RPM = = = = V6 = 1738.4 FPS AEB = 20.4 SQ IN  
 FNRM1 = LBS XNLR RPM XNHR RPM = = = = V18 = 1738.4 FPS AE18 = 0. SQ IN  
 RUNPT = 82F-ZER-1219 TAPE = X1219C TEST PT NO = 1219 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1219 X1219F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| 50    | 82.9  | 81.0  | 83.5  | 82.8  | 84.1  | 82.0  | 84.6  | 81.8  | 88.5  | 88.8  | 96.4  | 98.1  | 97.5  | 132.2 |  |
| 63    | 85.0  | 83.8  | 88.8  | 89.1  | 89.9  | 87.0  | 92.4  | 86.1  | 91.5  | 89.9  | 98.2  | 98.3  | 134.3 |       |  |
| 80    | 87.0  | 90.3  | 83.6  | 87.9  | 88.3  | 88.2  | 88.6  | 91.8  | 89.7  | 92.8  | 96.0  | 97.4  | 132.6 |       |  |
| 100   | 85.3  | 89.3  | 83.9  | 86.4  | 89.2  | 88.4  | 88.2  | 90.7  | 91.6  | 90.7  | 94.6  | 99.3  | 100.7 | 134.3 |  |
| 125   | 84.9  | 85.4  | 85.7  | 89.4  | 89.5  | 89.7  | 89.0  | 89.4  | 91.4  | 91.7  | 99.4  | 103.0 | 105.0 | 137.2 |  |
| 150   | 83.8  | 81.3  | 84.6  | 86.4  | 86.7  | 86.8  | 87.0  | 87.6  | 90.8  | 92.2  | 103.2 | 107.4 | 137.9 |       |  |
| 200   | 83.8  | 86.1  | 84.8  | 88.1  | 88.7  | 88.3  | 88.7  | 92.9  | 95.8  | 95.1  | 101.5 | 107.0 | 140.8 |       |  |
| 250   | 84.5  | 90.8  | 88.6  | 88.6  | 89.2  | 91.1  | 92.5  | 94.6  | 96.1  | 99.6  | 106.5 | 111.5 | 144.5 |       |  |
| 315   | 85.6  | 88.4  | 85.9  | 90.9  | 92.5  | 91.4  | 92.0  | 94.7  | 98.4  | 101.2 | 108.1 | 113.0 | 146.6 |       |  |
| 400   | 85.8  | 89.6  | 87.4  | 90.2  | 91.5  | 90.4  | 92.0  | 95.4  | 99.1  | 104.9 | 111.6 | 115.5 | 148.4 |       |  |
| 500   | 87.7  | 90.0  | 87.3  | 90.8  | 92.2  | 92.6  | 95.8  | 100.0 | 107.1 | 113.7 | 117.4 | 116.0 | 149.9 |       |  |
| 630   | 89.6  | 91.6  | 89.1  | 93.2  | 94.0  | 93.1  | 94.0  | 97.7  | 101.9 | 108.7 | 115.1 | 118.2 | 150.9 |       |  |
| 800   | 93.7  | 92.7  | 92.0  | 95.5  | 95.1  | 95.0  | 95.4  | 98.5  | 103.3 | 110.8 | 116.7 | 117.9 | 151.8 |       |  |
| 1000  | 101.0 | 101.5 | 98.3  | 100.8 | 98.9  | 96.5  | 97.4  | 100.6 | 104.8 | 111.1 | 117.7 | 119.4 | 152.9 |       |  |
| 1250  | 100.2 | 101.5 | 99.3  | 102.8 | 103.9 | 102.0 | 100.9 | 101.8 | 106.0 | 111.4 | 117.5 | 119.2 | 153.0 |       |  |
| 1600  | 105.2 | 102.3 | 99.6  | 100.6 | 100.2 | 99.3  | 100.6 | 102.4 | 106.6 | 109.4 | 117.3 | 118.9 | 152.7 |       |  |
| 2000  | 106.2 | 105.8 | 103.9 | 103.4 | 103.9 | 103.4 | 102.7 | 99.9  | 105.9 | 110.1 | 115.2 | 116.5 | 151.1 |       |  |
| 2500  | 103.6 | 104.4 | 102.5 | 105.0 | 104.8 | 102.7 | 99.9  | 102.5 | 105.9 | 110.0 | 115.2 | 116.5 | 151.1 |       |  |
| 3150  | 103.0 | 103.8 | 101.6 | 104.6 | 104.2 | 103.2 | 102.6 | 103.6 | 107.2 | 109.0 | 114.3 | 115.2 | 150.5 |       |  |
| 4000  | 101.7 | 102.5 | 100.0 | 103.3 | 103.1 | 102.4 | 105.3 | 106.9 | 108.6 | 112.8 | 111.8 | 109.8 | 149.4 |       |  |
| 5000  | 100.9 | 102.2 | 100.0 | 101.7 | 101.7 | 101.3 | 103.7 | 107.3 | 107.2 | 106.6 | 109.7 | 111.2 | 147.9 |       |  |
| 6300  | 99.3  | 101.7 | 99.9  | 102.4 | 102.1 | 101.3 | 103.7 | 107.2 | 106.6 | 109.7 | 111.2 | 109.0 | 147.9 |       |  |
| 8000  | 97.6  | 99.2  | 98.5  | 101.7 | 102.2 | 101.0 | 102.5 | 106.2 | 105.0 | 108.8 | 109.1 | 107.4 | 147.1 |       |  |
| 10000 | 96.1  | 98.3  | 97.3  | 100.9 | 102.6 | 101.4 | 100.9 | 102.6 | 104.7 | 104.5 | 107.5 | 108.0 | 146.9 |       |  |
| 12500 | 93.9  | 95.8  | 94.8  | 98.1  | 99.9  | 99.4  | 101.1 | 102.9 | 101.6 | 105.6 | 106.6 | 102.7 | 145.6 |       |  |
| 16000 | 90.8  | 90.8  | 93.4  | 92.1  | 95.7  | 97.5  | 97.8  | 99.4  | 101.7 | 99.0  | 103.8 | 100.6 | 144.9 |       |  |
| 20000 | 87.4  | 90.6  | 89.2  | 92.3  | 95.1  | 94.8  | 95.2  | 97.0  | 98.3  | 96.7  | 101.0 | 97.2  | 144.0 |       |  |
| 25000 | 83.9  | 86.2  | 86.4  | 89.6  | 91.9  | 92.3  | 92.7  | 94.0  | 96.2  | 93.3  | 98.2  | 98.3  | 143.4 |       |  |
| 31500 | 79.8  | 83.2  | 82.0  | 85.5  | 88.5  | 88.3  | 88.3  | 90.9  | 92.3  | 90.9  | 92.3  | 95.5  | 143.3 |       |  |
| 40000 | 75.2  | 78.6  | 78.9  | 80.9  | 84.6  | 84.7  | 84.8  | 86.9  | 89.0  | 88.8  | 93.7  | 94.0  | 144.6 |       |  |
| 50000 | 70.9  | 73.5  | 73.7  | 77.5  | 79.0  | 80.0  | 82.2  | 85.4  | 84.8  | 84.8  | 91.5  | 91.2  | 145.7 |       |  |
| 63000 | 65.8  | 69.5  | 68.3  | 71.7  | 75.3  | 76.2  | 74.9  | 77.1  | 81.8  | 80.1  | 88.2  | 85.9  | 148.9 |       |  |
| 80000 | 63.0  | 66.7  | 68.6  | 67.0  | 72.5  | 72.9  | 70.0  | 73.0  | 78.5  | 77.1  | 90.7  | 84.9  | 154.0 |       |  |
| QASPL | 113.0 | 113.4 | 111.1 | 113.7 | 113.9 | 112.6 | 112.4 | 114.5 | 117.8 | 120.8 | 126.7 | 128.7 | 127.8 | 163.8 |  |
| PNL   | 125.5 | 126.3 | 124.1 | 126.9 | 126.8 | 125.7 | 125.4 | 127.8 | 130.7 | 133.0 | 138.4 | 140.1 | 138.8 |       |  |
| PFLT  | 126.9 | 127.8 | 124.1 | 126.9 | 126.3 | 127.1 | 125.4 | 127.8 | 130.7 | 133.0 | 138.4 | 140.1 | 138.8 |       |  |
| DBA   | 184.1 | 187.7 | 189.1 | 188.6 | 193.5 | 194.0 | 191.6 | 194.4 | 199.6 | 198.2 | 211.2 | 206.0 | 202.1 |       |  |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH701 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH RPM = X1219F TEST PT NO = 1219 NC = AE039 CORR FAN SPEED = RPM  
 FNFRMB = LBS XNLR RPM XNHR RPM = X1219F TEST PT NO = 1219 NC = AE039 CORR FAN SPEED = RPM

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DATPRC - FL1MAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1219 X12191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|       |      |      |      |      |      |      |      |      |      |      |       |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 64.8  | 70.1 | 68.9 | 72.4 | 73.2 | 74.7 | 77.7 | 80.7 | 85.4 | 90.5 | 92.2 | 89.1  | 166.7 |       |
| 50    | 64.8 | 70.4 | 68.8 | 73.0 | 74.8 | 75.0 | 75.3 | 78.0 | 81.5 | 87.5 | 92.6  | 89.4  | 168.3 |
| 63    | 66.6 | 70.4 | 68.8 | 73.0 | 74.8 | 75.0 | 75.3 | 78.0 | 81.5 | 87.5 | 92.6  | 89.4  | 168.3 |
| 80    | 68.4 | 72.0 | 70.6 | 75.3 | 76.6 | 75.9 | 76.6 | 79.8 | 83.3 | 89.1 | 93.9  | 94.9  | 169.2 |
| 100   | 72.5 | 73.1 | 73.4 | 77.7 | 77.7 | 77.7 | 80.7 | 84.7 | 91.2 | 95.5 | 94.4  | 90.9  | 170.1 |
| 125   | 79.6 | 81.7 | 79.6 | 82.9 | 81.4 | 79.1 | 79.9 | 82.6 | 86.1 | 91.3 | 96.4  | 90.9  | 171.2 |
| 160   | 78.7 | 81.6 | 80.5 | 84.8 | 86.3 | 84.5 | 83.3 | 83.8 | 87.2 | 91.4 | 95.9  | 91.1  | 171.4 |
| 200   | 83.5 | 82.2 | 80.6 | 82.4 | 82.4 | 81.7 | 82.8 | 84.2 | 87.6 | 89.3 | 93.5  | 94.7  | 171.0 |
| 250   | 84.0 | 83.3 | 83.3 | 85.4 | 85.5 | 82.2 | 81.8 | 83.9 | 87.8 | 89.6 | 94.2  | 94.0  | 170.6 |
| 315   | 81.1 | 83.7 | 82.9 | 86.3 | 86.6 | 84.6 | 81.6 | 83.8 | 86.3 | 89.4 | 92.6  | 91.3  | 169.5 |
| 400   | 80.0 | 82.6 | 81.7 | 85.6 | 85.6 | 84.8 | 84.1 | 84.6 | 87.3 | 87.8 | 91.2  | 89.3  | 168.8 |
| 500   | 78.2 | 80.9 | 79.8 | 83.9 | 84.3 | 83.1 | 83.6 | 85.9 | 86.7 | 87.0 | 89.3  | 86.9  | 167.7 |
| 600   | 76.9 | 80.3 | 79.4 | 82.1 | 82.6 | 81.7 | 82.4 | 84.2 | 86.8 | 85.2 | 87.8  | 84.6  | 166.8 |
| 800   | 74.8 | 79.4 | 79.1 | 82.5 | 82.7 | 82.1 | 82.0 | 83.9 | 86.4 | 84.3 | 85.2  | 83.3  | 166.3 |
| 1000  | 72.7 | 76.6 | 77.5 | 81.6 | 82.7 | 81.7 | 80.7 | 82.4 | 85.2 | 82.4 | 83.9  | 80.5  | 165.4 |
| 1250  | 70.7 | 75.4 | 76.0 | 80.6 | 83.0 | 81.9 | 81.2 | 82.3 | 83.4 | 81.6 | 82.1  | 78.6  | 165.2 |
| 1600  | 67.6 | 72.3 | 73.1 | 77.5 | 80.0 | 80.2 | 79.5 | 80.5 | 81.2 | 78.0 | 79.0  | 76.0  | 164.0 |
| 2000  | 63.5 | 69.2 | 70.0 | 74.9 | 77.5 | 77.7 | 78.6 | 79.6 | 74.9 | 76.5 | 71.5  | 59.0  | 163.3 |
| 2500  | 58.4 | 65.2 | 66.2 | 70.8 | 74.4 | 74.5 | 74.5 | 75.5 | 75.4 | 71.3 | 72.0  | 66.6  | 162.4 |
| 3150  | 51.5 | 58.4 | 61.6 | 66.5 | 69.9 | 70.6 | 70.7 | 71.3 | 65.5 | 65.8 | 58.1  | 38.6  | 161.8 |
| 4000  | 41.1 | 50.7 | 53.4 | 59.2 | 63.5 | 63.8 | 64.6 | 63.6 | 58.5 | 56.8 | 46.1  | 21.1  | 161.6 |
| 5000  | 26.7 | 38.5 | 44.0 | 49.2 | 54.6 | 55.3 | 54.8 | 55.2 | 54.1 | 48.7 | 45.3  | 31.3  | 163.0 |
| 6300  | 4.6  | 19.2 | 26.8 | 35.0 | 38.9 | 40.7 | 39.9 | 39.7 | 38.4 | 30.5 | 25.2  | 4.5   | 164.1 |
| 8000  |      |      |      | 10.0 | 17.1 | 19.1 | 16.7 | 15.4 | 13.4 | 1.0  |       |       | 167.3 |
| 10000 |      |      |      |      |      |      |      |      |      |      | 172.4 |       |       |

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MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9  
 NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH701 TEST DATE = 03-16-82  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
 C1 ANECH CH CONFIG = 2  
 MODEL = AX  
 FLTVL = 0. FPS  
 RETLHUM = 76.6 PCT  
 PAMB HG = 29.25  
 MIKE HT = NBFR

FNINI = LBS XNL = RPM XNH XNHR = RPM V8 = 1738.4 FPS AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR = RPM V8 = 1738.4 FPS AE8 = 20.4 SQ IN  
 CORR FAN SPEED = RPM

RUNPT = 82F-ZER-1219 TAPE = X12191 TEST PT NO = 1219 NC = AE039





DATAPROC - FLTRAN

FLIGHT TRANFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1220 X1220F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. P.W.L.

250 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
200 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
150 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
125 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
100 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
80 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
63 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0

500 86.6 89.3 86.2 88.7 88.5 88.1 85.6 88.1 85.6 88.1 95.4 102.4 108.4 111.1 107.8 143.7  
400 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.3 107.3 141.2  
315 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.3 107.3 141.2  
250 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
200 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
150 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
125 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
100 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
80 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0  
63 87.4 88.4 85.2 87.3 85.6 85.8 84.8 86.8 89.9 92.6 98.9 104.1 107.1 138.0

1250 98.4 95.5 90.8 94.2 96.0 93.1 92.2 95.2 101.6 105.2 111.9 110.2 110.3 146.0  
1600 104.0 104.1 98.2 102.8 103.6 98.6 93.4 96.0 102.3 106.0 110.1 109.3 109.6 146.0  
2000 108.4 107.0 103.2 102.8 103.6 98.6 93.3 96.7 102.6 106.3 108.0 107.2 108.7 146.8  
2500 106.7 105.9 103.6 104.6 103.8 101.8 98.7 98.3 104.0 105.8 108.1 107.1 107.7 146.8  
3150 104.7 104.7 102.6 104.3 102.3 101.0 100.8 100.5 105.1 106.2 104.2 107.2 146.2  
4000 103.2 103.4 101.8 102.5 100.0 98.9 99.6 102.6 104.3 105.5 103.0 105.6 145.2  
5000 102.5 101.8 98.8 100.6 100.2 99.1 97.6 100.7 104.8 104.5 102.2 105.5 144.5  
6300 104.1 103.6 101.3 102.3 102.1 99.8 97.8 100.5 104.5 103.9 103.0 101.5 105.0 145.1

8000 102.5 104.5 102.3 103.6 103.5 100.7 98.1 99.6 103.6 103.6 102.7 101.1 104.3 145.6  
10000 102.5 102.6 101.3 103.9 103.6 101.6 99.5 100.5 102.3 101.0 100.5 99.8 102.0 145.6  
12500 101.0 101.9 99.6 102.1 100.7 99.9 98.4 99.4 102.2 98.9 98.6 98.1 100.9 144.9  
15000 98.5 98.9 97.3 98.8 98.3 97.0 96.8 98.3 99.8 97.3 96.1 95.9 98.7 143.9  
16000 98.5 98.9 97.3 98.8 98.3 97.0 96.8 98.3 99.8 97.3 96.1 95.9 98.7 143.9  
20000 94.7 95.8 93.4 96.5 95.4 94.6 93.6 95.6 97.3 94.2 93.5 94.5 95.8 142.8  
25000 91.0 91.9 90.1 92.5 92.0 91.5 91.1 92.3 94.3 91.0 90.6 90.9 92.6 141.8  
31500 86.7 86.7 86.1 88.2 88.6 87.6 86.8 88.7 90.5 88.1 87.8 88.0 89.1 141.2  
40000 83.6 84.7 82.6 84.2 83.7 83.0 82.8 84.9 86.3 82.8 82.7 83.6 83.3 141.1  
50000 78.3 79.1 78.1 79.0 79.3 79.7 77.3 79.2 81.9 78.7 78.6 79.5 79.3 140.7  
63000 71.7 73.7 70.7 72.4 73.9 75.0 71.8 73.7 77.6 75.1 74.6 75.2 76.3 141.0  
80000 64.7 67.9 64.5 65.9 68.2 67.2 66.2 68.0 67.8 65.3 64.8 65.4 66.5 140.3

8ASPL 114.9 114.6 112.0 113.4 112.8 110.7 109.2 110.8 114.9 116.8 120.9 120.9 120.4 158.6  
PNLT 126.1 126.6 124.0 125.5 124.6 122.6 121.7 123.5 127.3 129.0 131.2 130.6 131.5  
DBA 187.3 189.9 186.9 188.3 190.1 189.8 188.1 190.0 191.5 186.8 188.4 189.0 189.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH704 TEST DATE = 03-16-82 LOCAL = C41 ANEGH CH CNFIG = 2 MODEL = AX FLTVL = 400. FPS  
IAPLHA = SB59 IEA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNIN1 = LBS XNL RPM XNH RPM = = = V8 = 1744.1 FPS AEB = 20.4 SQ IN  
FNFRMB = LBS XNL RPM XNHR RPM = = = V18 = 1744.1 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-1220 TAPE = X1220F TEST PT NO = 1220 NC = AE039 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1220 X12201

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.                         | 50.   | 60.  | 70.   | 80.   | 90.  | 100. | 110. | 120.  | 130.  | 140.  | 150.  | 160.  |
|---|-----------------------------|-------|------|-------|-------|------|------|------|-------|-------|-------|-------|-------|
| 50  | 66.4                        | 69.0  | 67.9 | 70.6  | 70.2  | 69.2 | 67.6 | 68.9 | 73.8  | 78.8  | 83.9  | 85.1  | 80.7  |
| 63  | 67.5                        | 69.7  | 67.7 | 71.0  | 71.1  | 70.8 | 68.3 | 70.4 | 77.0  | 82.8  | 87.3  | 87.8  | 81.2  |
| 80  | 68.5                        | 71.2  | 67.6 | 71.4  | 72.2  | 71.3 | 70.7 | 73.3 | 79.4  | 85.1  | 90.7  | 89.2  | 82.8  |
| 100   | 69.6                        | 72.2  | 69.8 | 74.1  | 73.9  | 72.5 | 72.7 | 74.5 | 80.8  | 86.9  | 91.5  | 89.9  | 83.7  |
| 125   | 71.7                        | 72.4  | 71.5 | 75.5  | 75.2  | 74.0 | 73.5 | 75.8 | 82.3  | 86.3  | 91.7  | 88.3  | 83.7  |
| 150   | 76.9                        | 75.6  | 72.0 | 76.2  | 78.3  | 75.6 | 74.6 | 77.1 | 82.8  | 85.3  | 90.4  | 86.3  | 82.8  |
| 200   | 82.2                        | 83.9  | 81.6 | 83.2  | 81.2  | 80.2 | 81.0 | 83.3 | 84.7  | 82.7  | 82.0  | 74.1  | 76.5  |
| 250   | 86.3                        | 86.6  | 84.0 | 84.4  | 85.6  | 81.0 | 77.3 | 78.2 | 83.4  | 85.9  | 85.9  | 82.6  | 80.1  |
| 315   | 84.2                        | 85.2  | 84.1 | 85.9  | 85.6  | 83.7 | 80.5 | 79.6 | 84.5  | 85.1  | 85.5  | 82.0  | 78.2  |
| 400   | 81.7                        | 83.5  | 82.7 | 85.3  | 83.8  | 82.6 | 82.2 | 81.5 | 85.3  | 85.0  | 83.5  | 78.4  | 76.8  |
| 500   | 79.7                        | 81.9  | 81.6 | 83.2  | 81.2  | 80.2 | 81.0 | 83.3 | 84.7  | 82.7  | 82.0  | 76.5  | 74.1  |
| 630   | 78.5                        | 79.9  | 78.3 | 80.9  | 81.1  | 80.2 | 78.5 | 81.0 | 84.3  | 82.8  | 80.5  | 75.0  | 73.0  |
| 800   | 79.6                        | 81.3  | 80.5 | 82.4  | 82.8  | 80.6 | 78.4 | 80.6 | 83.6  | 81.6  | 78.5  | 73.6  | 71.4  |
| 1000  | 77.6                        | 81.9  | 81.3 | 83.5  | 84.0  | 81.4 | 78.6 | 79.5 | 82.5  | 81.0  | 77.8  | 72.6  | 69.5  |
| 1250  | 77.1                        | 79.7  | 80.0 | 83.7  | 84.0  | 82.2 | 79.9 | 80.3 | 81.0  | 78.0  | 75.0  | 70.5  | 65.8  |
| 1500  | 74.7                        | 78.4  | 77.9 | 81.5  | 80.8  | 80.2 | 78.5 | 78.9 | 80.4  | 75.3  | 72.3  | 67.4  | 62.3  |
| 1600  | 74.7                        | 78.4  | 77.9 | 81.5  | 80.8  | 80.2 | 78.5 | 78.9 | 80.4  | 75.3  | 72.3  | 67.4  | 62.3  |
| 2000  | 71.2                        | 74.8  | 75.2 | 78.0  | 78.3  | 77.2 | 76.7 | 77.5 | 77.7  | 73.2  | 68.9  | 63.6  | 57.1  |
| 2500  | 65.6                        | 70.4  | 70.4 | 75.0  | 74.7  | 74.2 | 73.0 | 74.1 | 74.4  | 68.8  | 64.4  | 59.4  | 49.3  |
| 3150  | 58.6                        | 64.1  | 65.3 | 69.5  | 70.0  | 69.8 | 69.1 | 69.3 | 69.4  | 63.2  | 58.2  | 50.8  | 37.7  |
| 4000  | 48.0                        | 54.2  | 57.4 | 61.9  | 63.6  | 63.0 | 61.8 | 62.4 | 61.8  | 55.6  | 49.1  | 38.9  | 19.7  |
| 5000  | 35.1                        | 44.6  | 47.7 | 52.5  | 54.5  | 54.3 | 53.0 | 53.1 | 51.4  | 42.7  | 34.2  | 20.9  |       |
| 6300  | 12.0                        | 24.8  | 31.1 | 36.5  | 39.3  | 40.4 | 37.2 | 36.7 | 35.0  | 24.3  | 12.4  |       |       |
| 8000  |                             |       | 2.4  | 10.6  | 15.7  | 17.9 | 13.6 | 12.0 | 9.3   |       |       |       |       |
| 10000   |                             |       |      |       |       |      |      |      |       |       |       | 159.4 | 158.6 |
| 12500   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| 15000   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| 20000   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| 25000   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| 31500   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| 40000   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| 50000   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| 63000   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| 80000   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| GP SPL  | 91.8                        | 93.2  | 91.8 | 93.9  | 93.8  | 91.8 | 90.2 | 91.3 | 94.8  | 96.1  | 99.1  | 96.7  | 91.8  |
| PNL   | 97.2                        | 99.0  | 98.1 | 101.2 | 101.0 | 99.7 | 98.3 | 99.2 | 101.5 | 100.6 | 100.9 | 97.4  | 92.9  |
| PNL T   | 98.3                        | 100.1 | 98.7 | 101.7 | 101.0 | 99.7 | 98.3 | 99.2 | 102.0 | 100.6 | 100.9 | 97.4  | 92.9  |
| DBA   | 87.2                        | 89.5  | 88.8 | 91.4  | 91.3  | 89.7 | 88.0 | 89.0 | 91.2  | 89.6  | 88.6  | 84.3  | 81.1  |
| MODEL AREA =  | 131.5 SQ CM ( 20.4 SQ IN)   |       |      |       |       |      |      |      |       |       |       |       |       |
| SCALED AREA =                                       | 9032.2 SQ CM (1400.0 SQ IN) |       |      |       |       |      |      |      |       |       |       |       |       |
| DIAMETER RATIO =                                    | 8.288                       |       |      |       |       |      |      |      |       |       |       |       |       |
| FREQ SHIFT =  | -9                          |       |      |       |       |      |      |      |       |       |       |       |       |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/MAS3-22514 |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| VEHICL =  | ADH704                      |       |      |       |       |      |      |      |       |       |       |       |       |
| TEST DATE =   | 03-16-82                    |       |      |       |       |      |      |      |       |       |       |       |       |
| LOCAT =   | C41 ANECH CH                |       |      |       |       |      |      |      |       |       |       |       |       |
| CONFIG =  | 2                           |       |      |       |       |      |      |      |       |       |       |       |       |
| MODEL =   | AX                          |       |      |       |       |      |      |      |       |       |       |       |       |
| FLTVL =   | 400. FPS                    |       |      |       |       |      |      |      |       |       |       |       |       |
| RELHUM =  | 76.6 PCT                    |       |      |       |       |      |      |      |       |       |       |       |       |
| WIND DIR =  |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| DEG   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| WIND VEL =  |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| MPH   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| EXT DIST =  | 2400.0 FT                   |       |      |       |       |      |      |      |       |       |       |       |       |
| EXT CONFIG =  | SL                          |       |      |       |       |      |      |      |       |       |       |       |       |
| MIKE HT =   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| NBFR =  |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| VEHICL =  | ADH704                      |       |      |       |       |      |      |      |       |       |       |       |       |
| LEGA =  | NO                          |       |      |       |       |      |      |      |       |       |       |       |       |
| PML AREA =  | FULL SPHERE                 |       |      |       |       |      |      |      |       |       |       |       |       |
| TAMB F =  | 69.00                       |       |      |       |       |      |      |      |       |       |       |       |       |
| PAMB HG =   | 29.25                       |       |      |       |       |      |      |      |       |       |       |       |       |
| RELHUM =  | 76.6 PCT                    |       |      |       |       |      |      |      |       |       |       |       |       |
| FLTVL =   | 400. FPS                    |       |      |       |       |      |      |      |       |       |       |       |       |
| VEHICL =  | ADH704                      |       |      |       |       |      |      |      |       |       |       |       |       |
| TEST DATE =   | 03-16-82                    |       |      |       |       |      |      |      |       |       |       |       |       |
| LOCAT =   | C41 ANECH CH                |       |      |       |       |      |      |      |       |       |       |       |       |
| CONFIG =  | 2                           |       |      |       |       |      |      |      |       |       |       |       |       |
| MODEL =   | AX                          |       |      |       |       |      |      |      |       |       |       |       |       |
| FLTVL =   | 400. FPS                    |       |      |       |       |      |      |      |       |       |       |       |       |
| RELHUM =  | 76.6 PCT                    |       |      |       |       |      |      |      |       |       |       |       |       |
| NBFR =  |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| WIND DIR =  |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| DEG   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| WIND VEL =  |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| MPH   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| EXT DIST =  | 2400.0 FT                   |       |      |       |       |      |      |      |       |       |       |       |       |
| EXT CONFIG =  | SL                          |       |      |       |       |      |      |      |       |       |       |       |       |
| MIKE HT =   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| NBFR =  |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| FNINI =   | LBS XNL                     |       |      |       |       |      |      |      |       |       |       |       |       |
| RPM   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| XNH   | RPM                         |       |      |       |       |      |      |      |       |       |       |       |       |
| XNHR  | RPM                         |       |      |       |       |      |      |      |       |       |       |       |       |
| V8  | RPM                         |       |      |       |       |      |      |      |       |       |       |       |       |
| V8  | RPM                         |       |      |       |       |      |      |      |       |       |       |       |       |
| AE8   | FPS                         |       |      |       |       |      |      |      |       |       |       |       |       |
| AE8   | FPS                         |       |      |       |       |      |      |      |       |       |       |       |       |
| AE18  | FPS                         |       |      |       |       |      |      |      |       |       |       |       |       |
| AE18  | FPS                         |       |      |       |       |      |      |      |       |       |       |       |       |
| FNRAMB =  | LBS XNLR                    |       |      |       |       |      |      |      |       |       |       |       |       |
| RPM   |                             |       |      |       |       |      |      |      |       |       |       |       |       |
| TEST PT NO =  | 1220                        |       |      |       |       |      |      |      |       |       |       |       |       |
| NC  | = AE039                     |       |      |       |       |      |      |      |       |       |       |       |       |
| CORR FAN SPEED =                                    | RPM                         |       |      |       |       |      |      |      |       |       |       |       |       |
| RUNPT =   | 82                          |       |      |       |       |      |      |      |       |       |       |       |       |
| 0-1220  | TAPPE                       |       |      |       |       |      |      |      |       |       |       |       |       |
| X12201  | =                           |       |      |       |       |      |      |      |       |       |       |       |       |

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OF POOR QUALITY

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1221 X1221C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 82.9 82.5 84.0 84.0 82.9 83.0 84.4 88.0 88.5 90.1 99.4 99.1 96.3 133.6

63 85.0 85.5 89.8 89.1 88.9 87.0 92.2 90.6 92.0 90.9 100.0 99.4 96.8 135.1

80 87.5 91.1 84.6 88.1 88.0 89.1 88.2 90.1 91.6 90.7 97.0 97.5 96.9 133.7

100 86.3 90.1 84.6 88.4 89.7 88.9 88.7 92.7 92.4 91.2 97.6 99.8 100.4 135.1

125 85.1 85.6 85.4 88.7 90.3 89.7 88.8 90.7 91.4 92.5 100.4 102.8 105.0 137.4

160 84.3 82.8 85.1 86.4 87.2 87.1 87.5 89.1 90.6 93.4 100.3 104.0 107.6 138.5

200 83.8 87.1 85.6 88.6 89.2 88.6 89.0 93.9 96.3 95.9 102.0 107.2 110.1 141.2

250 84.5 91.3 86.8 88.9 89.5 91.1 93.0 95.9 96.8 100.1 107.5 112.2 113.1 145.2

315 85.6 88.9 86.4 91.2 92.5 91.9 92.3 95.7 98.9 101.7 108.6 113.3 115.4 146.7

400 86.3 89.9 87.9 90.2 91.5 90.9 92.3 96.2 99.9 105.7 112.1 116.3 116.2 149.0

500 88.2 87.8 90.8 92.1 92.7 92.9 96.5 100.8 107.3 114.2 117.4 116.3 150.1

630 90.1 92.1 89.6 93.2 94.0 93.6 94.2 98.4 101.9 110.2 116.1 118.7 116.9 151.6

800 93.4 92.5 95.3 95.9 95.0 96.1 99.5 103.8 117.7 118.9 118.5 152.6

1000 101.2 101.2 98.3 100.8 98.9 96.8 97.1 100.8 105.0 111.8 118.5 119.4 118.8 153.3

1250 101.0 102.3 100.3 103.1 103.2 102.3 101.4 102.3 106.0 111.4 118.0 119.7 118.7 153.4

1600 106.7 104.5 101.6 102.6 104.7 100.8 100.5 102.9 107.2 110.5 117.0 118.6 115.6 152.2

2000 106.9 107.1 104.2 105.6 104.7 100.8 100.5 102.9 107.2 110.5 117.0 118.6 115.6 152.6

2500 105.1 105.7 103.5 106.0 105.8 103.4 101.6 103.2 106.9 109.9 116.2 116.7 114.2 151.7

3150 103.7 104.8 103.1 105.3 105.4 104.2 104.1 104.3 107.4 109.0 115.5 115.2 113.2 151.0

4000 102.2 103.2 104.0 104.6 104.6 103.3 103.7 105.8 109.1 113.1 113.6 111.4 149.8

5000 101.6 102.7 101.2 102.5 102.9 101.9 102.3 104.8 107.6 107.7 112.0 111.8 109.3 148.8

6300 99.8 102.0 100.4 102.9 102.6 102.5 101.6 105.2 108.0 106.6 110.9 110.7 108.0 148.4

8000 98.4 99.2 98.8 101.9 102.7 101.7 100.9 103.5 107.0 106.0 109.3 108.6 106.4 147.3

10000 96.9 98.8 97.8 100.9 102.4 101.4 101.4 104.1 105.4 105.3 108.0 104.8 147.3

12500 94.9 96.3 95.1 98.6 100.1 100.4 99.7 101.8 103.7 102.8 106.1 106.1 146.0

16000 91.8 93.4 92.6 96.2 97.8 98.3 99.9 102.2 99.5 104.0 104.3 99.6 145.3

20000 88.4 91.1 86.7 89.6 93.0 95.8 95.4 97.5 99.3 97.7 100.8 97.2 144.3

25000 85.2 86.9 86.7 89.6 92.4 93.6 92.9 94.7 96.7 94.1 98.5 96.0 143.8

31500 80.8 83.7 82.5 85.7 88.2 88.6 89.1 91.7 92.8 91.6 96.0 94.9 143.6

40000 76.7 78.8 79.2 81.1 85.1 85.2 85.8 87.9 89.0 89.3 94.7 93.3 145.0

50000 71.1 74.5 73.7 76.2 80.2 81.0 80.9 83.2 86.1 85.0 92.5 91.1 146.3

63000 68.5 71.0 68.6 72.2 80.2 80.2 80.9 83.2 86.1 85.0 92.5 91.6 149.2

80000 65.8 69.0 65.8 67.0 70.8 70.8 71.4 70.8 75.7 78.3 79.9 90.4 153.7

GASPL 113.9 114.3 112.2 114.5 114.6 113.3 113.1 115.4 118.3 121.3 127.5 129.0 127.9 164.2

PFLT 127.7 128.5 125.3 127.6 128.8 127.9 126.4 128.5 131.1 133.3 139.4 140.3 138.6

DBA 114.5 114.8 112.6 114.8 114.7 113.1 112.8 114.9 118.1 121.2 127.5 128.6 127.2

VEHICL = ADH702 TEST DATE = 03-16-82

IAPLHA = SB59 LEGA = NO

WIND DIR = DEG WIND VEL = MPH

FNINI = LBS XNLR = RPM XNH = RPM XNHR =

FNRAMB = LBS XNLR = RPM XNH = RPM XNHR =

RUNPT = 82F-ZER-1221 TAPE = X1221C

TEST PT NO = 1221 NC = AE039 CORR FAN SPEED = RPM

MODEL = AX CONFIG = 2

PAMB HG = 29.25 RELHUM = 76.6 PCT

MIKE HT = NBFR =

TAMB F = 69.00 EXT CNFIG = ARC

EXT DIST = 40.0 FT

PML AREA = FULL SPHERE

LOCAT = C41 ANECH CH CONFIG = 2

FLVEL = 0. FPS

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1221 X1221F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 82.9                 | 82.5                 | 84.0               | 84.0             | 82.9           | 83.0          | 84.4             | 88.0                   | 88.5           | 90.1            | 99.4              | 99.1    | 96.3       | 133.6   | 50                   | 85.0                 | 85.5             | 89.8       | 89.1           | 88.9             | 87.0      | 92.2                   | 90.6           | 92.0            | 90.9              | 100.0   | 99.4  | 96.8  | 135.1 |  |
|---|----------------------|----------------------|--------------------|------------------|----------------|---------------|------------------|------------------------|----------------|-----------------|-------------------|---------|------------|---|----------------------|----------------------|------------------|------------|----------------|------------------|-----------|------------------------|----------------|-----------------|-------------------|---------|-------|-------|-------|--|
| 150   | 84.3                 | 82.8                 | 85.1               | 86.4             | 86.4           | 87.2          | 87.5             | 89.1                   | 89.1           | 90.6            | 99.4              | 99.1    | 96.3       | 133.6   | 50                   | 85.0                 | 85.5             | 89.8       | 89.1           | 88.9             | 87.0      | 92.2                   | 90.6           | 92.0            | 90.9              | 100.0   | 99.4  | 96.8  | 135.1 |  |
| 100   | 86.3                 | 85.6                 | 89.6               | 89.9             | 89.9           | 90.2          | 91.5             | 92.3                   | 92.3           | 95.7            | 98.9              | 98.9    | 96.3       | 146.7   | 80                   | 87.5                 | 88.1             | 88.0       | 88.1           | 88.0             | 89.1      | 88.2                   | 90.1           | 91.6            | 90.7              | 97.0    | 97.5  | 96.9  | 133.7 |  |
| 125   | 85.1                 | 85.6                 | 88.7               | 89.0             | 89.0           | 89.7          | 90.3             | 90.7                   | 90.7           | 91.4            | 92.5              | 92.5    | 90.4       | 137.4   | 100                  | 86.3                 | 86.4             | 88.4       | 88.4           | 88.7             | 89.7      | 89.7                   | 91.2           | 92.4            | 91.2              | 97.6    | 99.8  | 100.4 | 135.1 |  |
| 150   | 84.3                 | 82.8                 | 85.1               | 86.4             | 86.4           | 87.2          | 87.5             | 89.1                   | 89.1           | 90.6            | 99.4              | 99.1    | 96.3       | 133.6   | 150                  | 85.0                 | 85.5             | 89.8       | 89.1           | 88.9             | 87.0      | 92.2                   | 90.6           | 92.0            | 90.9              | 100.0   | 99.4  | 96.8  | 135.1 |  |
| 200   | 83.8                 | 87.1                 | 85.6               | 88.6             | 88.6           | 89.2          | 88.6             | 89.0                   | 89.0           | 93.9            | 96.3              | 96.3    | 95.9       | 141.2   | 200                  | 83.8                 | 87.1             | 85.6       | 88.6           | 88.6             | 89.1      | 88.9                   | 90.6           | 92.0            | 90.9              | 100.0   | 99.4  | 96.8  | 135.1 |  |
| 250   | 84.5                 | 91.3                 | 86.8               | 88.9             | 89.5           | 91.1          | 93.0             | 95.9                   | 95.9           | 99.8            | 100.1             | 107.5   | 113.1      | 145.2   | 250                  | 84.5                 | 91.3             | 86.8       | 88.9           | 89.5             | 91.1      | 93.0                   | 95.9           | 95.9            | 99.8              | 100.1   | 107.5 | 113.1 | 145.2 |  |
| 300   | 86.7                 | 89.6                 | 89.6               | 90.8             | 90.8           | 92.1          | 92.7             | 92.9                   | 96.5           | 100.8           | 107.3             | 114.2   | 116.3      | 150.1   | 300                  | 86.7                 | 89.6             | 89.6       | 90.8           | 90.8             | 92.1      | 92.7                   | 92.9           | 96.5            | 100.8             | 107.3   | 114.2 | 116.3 | 150.1 |  |
| 350   | 103.7                | 104.8                | 103.1              | 105.3            | 105.4          | 104.2         | 104.1            | 104.3                  | 109.0          | 115.5           | 115.2             | 113.2   | 151.0      | 350   | 103.7                | 104.8                | 103.1            | 105.3      | 105.4          | 104.2            | 104.1     | 104.3                  | 109.0          | 115.5           | 115.2             | 113.2   | 151.0 |       |       |  |
| 4000  | 102.2                | 103.2                | 101.2              | 104.0            | 104.6          | 103.3         | 103.7            | 105.8                  | 107.6          | 109.1           | 113.1             | 113.6   | 149.8      | 4000  | 102.2                | 103.2                | 101.2            | 104.0      | 104.6          | 103.3            | 103.7     | 105.8                  | 107.6          | 109.1           | 113.1             | 113.6   | 149.8 |       |       |  |
| 5000  | 101.6                | 102.7                | 101.2              | 102.5            | 102.9          | 101.9         | 102.3            | 104.8                  | 107.8          | 107.7           | 112.0             | 110.7   | 148.4      | 5000  | 101.6                | 102.7                | 101.2            | 102.5      | 102.9          | 101.9            | 102.3     | 104.8                  | 107.8          | 107.7           | 112.0             | 110.7   | 148.4 |       |       |  |
| 6300  | 99.8                 | 102.0                | 100.4              | 102.9            | 102.6          | 102.6         | 102.5            | 102.5                  | 108.0          | 106.6           | 110.9             | 110.7   | 148.4      | 6300  | 99.8                 | 102.0                | 100.4            | 102.9      | 102.6          | 102.6            | 102.5     | 102.5                  | 108.0          | 106.6           | 110.9             | 110.7   | 148.4 |       |       |  |
| 8000  | 98.4                 | 99.2                 | 98.8               | 101.9            | 102.7          | 101.7         | 100.9            | 103.5                  | 107.0          | 106.0           | 109.3             | 108.6   | 147.4      | 8000  | 98.4                 | 99.2                 | 98.8             | 101.9      | 102.7          | 101.7            | 100.9     | 103.5                  | 107.0          | 106.0           | 109.3             | 108.6   | 147.4 |       |       |  |
| 10000   | 96.9                 | 98.8                 | 98.8               | 100.9            | 102.4          | 101.4         | 101.4            | 104.1                  | 105.4          | 105.3           | 108.3             | 108.0   | 147.3      | 10000   | 96.9                 | 98.8                 | 98.8             | 100.9      | 102.4          | 101.4            | 101.4     | 104.1                  | 105.4          | 105.3           | 108.3             | 108.0   | 147.3 |       |       |  |
| 12500   | 94.9                 | 96.3                 | 95.1               | 98.6             | 100.1          | 99.7          | 101.8            | 103.7                  | 102.8          | 106.1           | 106.1             | 102.2   | 146.0      | 12500   | 94.9                 | 96.3                 | 95.1             | 98.6       | 100.1          | 99.7             | 101.8     | 103.7                  | 102.8          | 106.1           | 106.1             | 102.2   | 146.0 |       |       |  |
| 15000   | 91.8                 | 93.4                 | 92.6               | 97.8             | 97.8           | 97.8          | 98.3             | 99.9                   | 102.2          | 99.5            | 104.0             | 104.3   | 145.3      | 15000   | 91.8                 | 93.4                 | 92.6             | 97.8       | 97.8           | 97.8             | 98.3      | 99.9                   | 102.2          | 99.5            | 104.0             | 104.3   | 145.3 |       |       |  |
| 20000   | 88.4                 | 89.4                 | 89.4               | 93.0             | 95.8           | 95.6          | 95.4             | 97.5                   | 99.3           | 97.7            | 100.8             | 101.0   | 144.3      | 20000   | 88.4                 | 89.4                 | 89.4             | 93.0       | 95.8           | 95.6             | 95.4      | 97.5                   | 99.3           | 97.7            | 100.8             | 101.0   | 144.3 |       |       |  |
| 25000   | 85.2                 | 86.9                 | 86.7               | 89.6             | 92.4           | 93.0          | 92.9             | 94.7                   | 96.7           | 94.1            | 98.5              | 98.0    | 143.6      | 25000   | 85.2                 | 86.9                 | 86.7             | 89.6       | 92.4           | 93.0             | 92.9      | 94.7                   | 96.7           | 94.1            | 98.5              | 98.0    | 143.6 |       |       |  |
| 31500   | 80.8                 | 83.7                 | 82.5               | 88.2             | 88.2           | 85.8          | 85.8             | 87.9                   | 89.0           | 81.6            | 87.7              | 88.7    | 143.6      | 31500   | 80.8                 | 83.7                 | 82.5             | 88.2       | 88.2           | 85.8             | 85.8      | 87.9                   | 89.0           | 81.6            | 87.7              | 88.7    | 88.7  | 143.6 |       |  |
| 40000   | 76.7                 | 78.8                 | 79.2               | 81.1             | 85.1           | 85.2          | 85.8             | 87.9                   | 89.0           | 81.6            | 87.7              | 88.7    | 143.6      | 40000   | 76.7                 | 78.8                 | 79.2             | 81.1       | 85.1           | 85.2             | 85.8      | 87.9                   | 89.0           | 81.6            | 87.7              | 88.7    | 88.7  | 143.6 |       |  |
| 50000   | 71.1                 | 74.5                 | 73.7               | 76.2             | 80.2           | 81.0          | 80.9             | 83.2                   | 86.1           | 85.0            | 92.5              | 91.1    | 146.3      | 50000   | 71.1                 | 74.5                 | 73.7             | 76.2       | 80.2           | 81.0             | 80.9      | 83.2                   | 86.1           | 85.0            | 92.5              | 91.1    | 146.3 |       |       |  |
| 63000   | 68.5                 | 71.0                 | 68.6               | 72.2             | 76.8           | 76.2          | 76.1             | 78.6                   | 83.0           | 81.3            | 91.6              | 87.7    | 149.2      | 63000   | 68.5                 | 71.0                 | 68.6             | 72.2       | 76.8           | 76.2             | 76.1      | 78.6                   | 83.0           | 81.3            | 91.6              | 87.7    | 149.2 |       |       |  |
| 80000   | 65.8                 | 69.0                 | 65.8               | 67.0             | 70.8           | 70.8          | 70.5             | 75.7                   | 78.3           | 79.9            | 90.4              | 83.2    | 153.7      | 80000   | 65.8                 | 69.0                 | 65.8             | 67.0       | 70.8           | 70.8             | 70.5      | 75.7                   | 78.3           | 79.9            | 90.4              | 83.2    | 153.7 |       |       |  |
| GASPL   | 113.9                | 114.3                | 112.2              | 114.5            | 114.6          | 113.3         | 113.1            | 115.4                  | 118.3          | 121.3           | 127.5             | 129.0   | 164.2      | GASPL   | 113.9                | 114.3                | 112.2            | 114.5      | 114.6          | 113.3            | 113.1     | 115.4                  | 118.3          | 121.3           | 127.5             | 129.0   | 164.2 |       |       |  |
| PNLT  | 127.4                | 125.3                | 127.6              | 128.5            | 127.6          | 128.8         | 127.9            | 126.4                  | 128.5          | 131.1           | 133.3             | 139.4   | 138.6      | PNLT  | 127.4                | 125.3                | 127.6            | 128.5      | 127.6          | 128.8            | 127.9     | 126.4                  | 128.5          | 131.1           | 133.3             | 139.4   | 138.6 |       |       |  |
| DBA   | 186.7                | 189.8                | 186.9              | 188.6            | 192.6          | 193.0         | 192.3            | 196.8                  | 199.6          | 200.6           | 211.0             | 204.5   | 198.1      | DBA   | 186.7                | 189.8                | 186.9            | 188.6      | 192.6          | 193.0            | 192.3     | 196.8                  | 199.6          | 200.6           | 211.0             | 204.5   | 198.1 |       |       |  |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000         |                      |                      |                    |                  |                |               |                  |                        |                |                 |                   |         |            | MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000         |                      |                      |                  |            |                |                  |           |                        |                |                 |                   |         |       |       |       |  |
| NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |                      |                      |                    |                  |                |               |                  |                        |                |                 |                   |         |            | NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514 |                      |                      |                  |            |                |                  |           |                        |                |                 |                   |         |       |       |       |  |
| VEHICL = ADH202                                     | TEST DATE = 03-16-82 | LOCAT = C41 ANECH CH | CONFIG = 2         | MODEL = AX       | FLVEL = 0. FPS | IAPLHA = SB59 | LEGA = NO        | PWL AREA = FULL SPHERE | TAMB F = 69.00 | PAMB HG = 29.25 | RELHUM = 76.6 PCT | NBRFR = |            | VEHICL = ADH202                                     | TEST DATE = 03-16-82 | LOCAT = C41 ANECH CH | CONFIG = 2       | MODEL = AX | FLVEL = 0. FPS | IAPLHA = SB59    | LEGA = NO | PWL AREA = FULL SPHERE | TAMB F = 69.00 | PAMB HG = 29.25 | RELHUM = 76.6 PCT | NBRFR = |       |       |       |  |
| WIND DIR =  | DEG WIND VEL =       | MPH                  | EXT DIST = 40.0 FT | EXT CNFNG = ARC  | MIKE HT =      |               |                  |                        |                |                 |                   |         | WIND DIR = | DEG WIND VEL =                                      | MPH                  | EXT DIST = 40.0 FT   | EXT CNFNG = ARC  | MIKE HT =  |                |                  |           |                        |                |                 |                   |         |       |       |       |  |
| FNINI =   | LBS XNL              | RPM                  | XNH                | RPM              | V8             | FPS           | AE8              | =                      | 20.4 SQ IN     |                 |                   |         | FNINI =    | LBS XNL   | RPM                  | XNH                  | RPM              | V8         | FPS            | AE8              | =         | 20.4 SQ IN             |                |                 |                   |         |       |       |       |  |
| FNRAMB =  | LBS XNLR             |                      |                    |                  | V18            | FPS           | AE18             | =                      | 0. SQ IN       |                 |                   |         | FNRAMB =   | LBS XNLR  |                      |                      |                  | V18        | FPS            | AE18             | =         | 0. SQ IN               |                |                 |                   |         |       |       |       |  |
| RUNPT =   | ZER-1221             | TAPE                 | = X1221F           | TEST PT NO = 122 | NC             | = AE039       | CORR FAN SPEED = | RPM                    |                |                 |                   |         | RUNPT =    | ZER-1221  | TAPE                 | = X1221F             | TEST PT NO = 122 | NC         | = AE039        | CORR FAN SPEED = | RPM       |                        |                |                 |                   |         |       |       |       |  |

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1221 X12211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 65.3 70.3 69.4 72.4 74.2 73.7 74.9 78.4 81.4 86.2 91.0 93.0 89.6 167.4

63 67.1 70.7 69.3 73.0 74.8 75.5 75.5 78.8 82.3 87.8 93.1 94.1 89.6 168.5

80 68.9 72.5 71.1 75.3 76.6 76.4 76.9 80.6 83.3 85.2 91.7 96.5 95.4 171.0

100 72.2 72.8 73.4 77.4 78.4 77.7 78.7 81.7 83.2 91.7 96.5 95.4 91.6 171.0

125 79.9 81.5 79.6 82.9 81.4 79.4 79.6 82.9 86.4 92.1 97.1 95.8 91.7 171.7

160 79.4 82.3 81.5 85.0 85.5 84.8 83.8 84.3 87.2 91.4 96.4 95.8 91.1 171.7

200 85.0 84.4 82.6 86.4 84.4 83.4 81.7 82.6 84.7 87.6 90.3 96.5 95.0 90.2 171.6

250 84.8 86.7 85.0 87.2 86.7 83.0 82.6 84.4 88.0 90.1 94.9 94.0 87.0 171.0

315 82.6 84.9 83.9 87.3 87.6 85.3 83.4 84.5 87.3 89.1 93.6 91.5 84.8 170.0

400 80.7 83.6 83.6 86.3 85.8 85.6 85.3 87.5 87.8 92.5 89.3 82.7 169.4

500 78.7 81.7 81.0 84.7 85.8 84.6 84.9 86.4 87.4 87.5 89.6 87.2 80.0 168.2

630 77.6 80.8 80.7 82.9 83.8 82.9 83.2 85.2 87.3 85.7 88.0 84.6 76.8 167.2

800 75.3 79.7 79.6 83.0 83.2 83.4 82.2 85.4 87.2 84.3 86.4 82.8 74.3 166.8

1000 73.4 76.6 77.7 81.8 83.2 82.4 81.4 83.4 85.9 83.4 84.4 80.0 71.7 165.8

1250 71.4 75.9 76.5 80.6 82.7 81.9 81.7 83.8 84.1 82.3 82.8 78.8 68.5 165.6

1600 68.6 72.8 73.3 78.0 80.2 80.7 79.8 81.3 81.9 79.3 79.8 75.5 63.6 164.4

2000 64.5 69.2 70.5 75.4 77.7 78.4 78.3 79.1 80.1 75.4 76.7 72.0 58.0 163.7

2500 59.4 65.7 66.5 71.5 75.2 75.2 74.8 76.0 76.4 72.3 71.7 65.9 50.7 162.7

3150 52.7 59.1 61.8 66.5 70.4 71.3 70.9 71.7 71.8 66.3 66.0 57.9 37.6 162.1

4000 42.1 51.2 53.9 59.4 63.2 64.0 64.1 65.4 64.1 59.0 57.3 45.9 19.3 162.0

5000 28.2 38.7 44.3 49.4 55.1 55.8 55.8 56.2 54.1 49.2 46.3 30.5 4.3 164.7

6300 4.9 20.2 26.8 33.7 40.2 41.7 40.9 40.7 39.2 30.7 26.2 4.3 167.5

8000 167.5 172.1

8000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000  
8000

NASV SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

VEHICL = ADH702 TEST DATE = 03-16-82 LMCAT = C41 ANECH CH CNF10 = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT  
MIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF10 = SL MIKE HT = NBFRR =

FNINI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 1756.1 FPS AEG = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-1221 TAPE = X12211 TEST PT NO = 1221 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE #  
OF POOR QUALITY

DATPROC - FLPLAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1222 X1222C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 85.7 84.0 82.0 82.5 82.1 82.2 83.4 82.5 84.2 83.6 90.7 90.9 96.5 128.7

50 85.5 85.3 89.5 89.6 88.2 85.3 91.7 87.3 89.3 86.4 91.5 91.9 95.6 131.5

60 87.3 91.1 84.1 87.6 87.2 88.6 88.2 89.4 91.3 87.7 91.3 93.7 97.1 132.0

70 84.6 86.6 82.6 86.7 88.0 87.1 87.0 90.2 90.4 87.4 91.6 97.3 99.9 132.8

80 83.1 84.1 83.2 87.2 87.8 87.4 87.9 89.2 88.7 96.1 100.3 103.0 134.8

90 80.3 79.8 82.8 83.9 83.7 84.5 85.1 87.1 85.2 89.2 96.8 100.2 105.6 135.7

100 80.3 81.6 85.4 86.0 86.1 86.8 89.9 94.4 100.4 107.1 110.5 108.7 143.0

110 81.8 83.9 81.6 85.4 86.0 86.1 86.8 89.9 94.4 100.4 107.1 110.5 108.7 143.0

120 82.9 81.8 86.0 87.4 87.5 87.1 91.0 94.8 102.1 109.5 111.6 106.5 144.1

130 84.1 85.8 83.4 87.7 88.1 89.0 93.2 97.1 105.2 111.3 112.0 103.4 145.2

140 86.9 86.5 85.5 89.3 89.6 90.4 94.5 99.3 106.6 112.7 111.4 101.8 145.8

150 93.7 92.2 87.8 91.6 91.4 90.5 91.6 96.1 100.3 107.1 113.0 110.9 100.1 146.0

160 99.2 101.0 96.0 97.1 94.4 93.0 92.9 96.6 101.5 106.9 113.5 108.9 100.9 146.3

170 103.7 102.8 100.8 101.8 98.4 95.1 94.4 96.9 102.6 106.1 112.3 107.7 100.4 146.2

180 102.9 103.8 101.7 103.9 103.4 99.8 96.3 98.4 102.5 106.0 110.5 106.6 98.6 146.1

190 99.9 100.9 99.2 102.5 103.1 101.7 99.6 99.5 102.4 105.9 108.2 104.2 97.5 144.9

200 98.0 99.3 97.6 100.6 100.7 100.5 100.6 100.7 103.9 105.0 106.5 102.2 96.2 144.1

210 99.2 99.0 96.2 99.0 98.8 97.8 99.2 103.5 104.4 105.1 105.1 99.6 94.9 143.7

220 99.1 99.9 97.2 99.7 98.2 97.4 97.3 101.1 104.6 103.4 103.5 98.6 93.6 143.0

230 98.3 100.2 98.1 99.9 98.6 98.3 97.1 100.2 103.2 102.4 102.4 98.0 93.0 143.1

240 96.1 97.5 96.3 99.7 100.2 98.5 96.7 98.5 102.7 102.0 101.0 96.1 91.9 142.4

250 95.1 96.3 95.1 98.4 99.9 99.1 98.4 99.3 101.2 101.0 99.5 94.7 91.0 142.4

260 92.6 92.8 92.8 95.8 97.6 97.1 96.7 98.3 99.2 98.1 97.1 93.9 90.2 141.1

270 89.8 91.1 89.8 93.2 95.0 95.3 94.8 96.7 98.2 95.3 94.5 86.9 86.9 140.4

280 85.7 86.1 85.3 88.2 89.6 88.2 87.3 89.3 91.7 87.3 86.4 91.5 91.9 131.5

612

GASPL 110.3 111.0 108.8 111.2 111.0 109.7 109.1 111.3 114.3 116.9 121.6 120.5 117.1 157.4  
PWL 122.6 123.4 121.3 124.0 122.7 122.6 125.1 127.4 129.1 132.3 129.9 125.3  
DBA 110.8 111.4 109.1 111.5 111.0 109.4 108.6 110.9 114.1 116.8 121.4 118.9 112.6

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH703 TEST DATE = 03-16-82  
IAPLHA = SB59 IEGA = NO  
MIND DIR = DEG MIND YEL = MPH  
LOCAT = C41 ANECH CH CONFIG = 2  
EXT DIST = 40.0 FT  
PWL AREA = FULL SPHERE  
TAMB F = 69.00  
MODEL = AX  
RELHUM = 76.6 PCT  
FLTVEL = 400. FPS  
NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1755.3 FPS AEB = 20.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1755.3 FPS AEB = 20.4 SQ IN

RUNPT = 82F-400-1222 TAPE = X1222C TEST PT NO = 1222 NC = AE039 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1222 X1222F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 87.2  | 88.9  | 85.0  | 87.2  | 88.1  | 86.3  | 85.4  | 86.9  | 91.1  | 96.4  | 102.6 | 108.8 | 107.5 | 140.0 |
| 250   | 87.2  | 88.9  | 85.0  | 87.2  | 88.1  | 86.3  | 85.4  | 86.9  | 91.1  | 96.4  | 102.6 | 108.8 | 107.5 | 141.5 |
| 315   | 87.2  | 88.9  | 85.0  | 87.2  | 88.1  | 86.3  | 85.4  | 86.9  | 91.1  | 96.4  | 102.6 | 108.8 | 107.5 | 141.5 |
| 400   | 88.5  | 89.6  | 86.2  | 88.6  | 89.3  | 87.8  | 85.9  | 88.4  | 95.7  | 103.3 | 109.4 | 111.9 | 107.7 | 144.5 |
| 500   | 88.5  | 89.6  | 86.2  | 88.6  | 89.3  | 87.8  | 85.9  | 88.4  | 95.7  | 103.3 | 109.4 | 111.9 | 107.7 | 144.5 |
| 630   | 90.5  | 90.1  | 86.7  | 89.5  | 89.6  | 88.5  | 88.4  | 91.5  | 98.5  | 105.5 | 112.0 | 113.3 | 109.5 | 146.4 |
| 800   | 90.7  | 91.6  | 87.9  | 90.9  | 91.5  | 90.0  | 89.9  | 93.1  | 100.0 | 106.6 | 113.1 | 114.3 | 110.5 | 147.5 |
| 1000  | 93.0  | 92.0  | 89.9  | 92.5  | 93.0  | 91.2  | 91.3  | 94.7  | 101.4 | 106.6 | 113.8 | 112.4 | 111.6 | 147.4 |
| 1250  | 100.5 | 97.8  | 92.0  | 94.4  | 96.2  | 93.8  | 92.7  | 95.4  | 102.6 | 108.0 | 112.6 | 111.2 | 111.1 | 146.8 |
| 1500  | 106.5 | 107.0 | 100.7 | 100.2 | 100.4 | 96.1  | 94.4  | 96.0  | 102.9 | 106.4 | 111.5 | 110.8 | 109.2 | 147.4 |
| 2000  | 110.9 | 108.8 | 105.1 | 105.6 | 101.1 | 96.6  | 97.7  | 103.2 | 106.6 | 109.5 | 108.8 | 109.2 | 109.2 | 148.4 |
| 2500  | 108.8 | 108.7 | 105.7 | 106.8 | 105.8 | 103.3 | 99.2  | 105.5 | 106.5 | 108.7 | 107.6 | 108.8 | 108.8 | 148.4 |
| 3150  | 106.4 | 106.8 | 104.1 | 106.3 | 103.8 | 102.5 | 102.3 | 102.1 | 106.4 | 106.9 | 107.6 | 105.5 | 108.0 | 147.6 |
| 4000  | 104.7 | 105.4 | 102.8 | 104.7 | 102.0 | 101.1 | 104.4 | 106.6 | 104.5 | 106.0 | 104.5 | 106.7 | 106.7 | 146.7 |
| 5000  | 104.2 | 103.5 | 100.3 | 102.6 | 101.7 | 100.4 | 99.5  | 102.1 | 106.5 | 105.4 | 105.1 | 104.0 | 106.3 | 145.9 |
| 6300  | 104.2 | 104.6 | 101.4 | 103.5 | 103.3 | 101.3 | 99.3  | 101.4 | 105.4 | 104.5 | 104.2 | 102.5 | 105.6 | 146.0 |
| 8000  | 103.4 | 105.2 | 102.7 | 103.9 | 104.2 | 101.5 | 99.0  | 99.9  | 104.6 | 104.3 | 103.4 | 101.8 | 105.1 | 146.0 |
| 10000 | 103.2 | 103.9 | 101.8 | 104.2 | 103.9 | 102.1 | 100.8 | 101.1 | 102.4 | 100.8 | 99.9  | 99.5  | 102.6 | 146.0 |
| 12500 | 102.0 | 102.4 | 100.3 | 102.6 | 101.7 | 100.1 | 98.8  | 99.7  | 102.7 | 99.6  | 99.2  | 98.7  | 101.4 | 145.5 |
| 16000 | 99.0  | 99.1  | 97.5  | 99.6  | 99.1  | 98.3  | 97.3  | 98.6  | 100.4 | 97.9  | 97.2  | 96.4  | 99.4  | 144.5 |
| 20000 | 95.7  | 96.3  | 94.1  | 96.5  | 96.1  | 95.6  | 94.6  | 96.1  | 97.7  | 94.4  | 93.9  | 94.6  | 96.1  | 143.3 |
| 25000 | 91.0  | 92.7  | 90.4  | 93.2  | 93.3  | 93.0  | 91.9  | 92.9  | 94.2  | 92.2  | 91.3  | 92.2  | 93.3  | 142.6 |
| 31500 | 89.5  | 90.0  | 88.1  | 89.4  | 88.5  | 88.3  | 87.5  | 89.5  | 91.2  | 88.9  | 88.1  | 89.0  | 89.6  | 142.2 |
| 40000 | 81.5  | 83.2  | 82.4  | 83.3  | 84.9  | 84.7  | 83.5  | 85.4  | 86.8  | 83.8  | 84.8  | 84.8  | 84.3  | 141.3 |
| 50000 | 79.0  | 80.4  | 80.6  | 79.2  | 79.6  | 79.7  | 78.6  | 79.5  | 82.5  | 79.3  | 79.2  | 80.1  | 79.4  | 141.4 |
| 63000 | 72.2  | 73.7  | 75.2  | 72.9  | 74.9  | 74.5  | 72.2  | 73.7  | 78.7  | 75.3  | 74.0  | 75.3  | 74.8  | 141.5 |
| 80000 | 65.7  | 68.1  | 66.0  | 65.6  | 68.2  | 67.4  | 66.5  | 67.1  | 68.9  | 65.5  | 64.2  | 65.5  | 65.0  | 140.4 |
| GASPL | 116.6 | 116.4 | 113.3 | 114.8 | 114.0 | 111.8 | 110.4 | 111.8 | 115.9 | 117.3 | 121.6 | 121.7 | 120.9 | 159.5 |
| PWL   | 128.8 | 128.7 | 125.5 | 127.2 | 126.2 | 123.9 | 123.0 | 124.8 | 128.4 | 129.6 | 131.9 | 131.4 | 132.1 |       |
| PWLT  | 129.9 | 128.7 | 125.5 | 127.2 | 126.2 | 123.9 | 123.0 | 124.8 | 128.4 | 129.6 | 131.9 | 131.4 | 132.1 |       |
| DBA   | 188.1 | 190.1 | 189.4 | 188.3 | 190.4 | 189.9 | 188.6 | 189.4 | 192.4 | 189.4 | 189.1 | 188.0 | 189.2 | 188.7 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH703 TEST DATE = 03-16-82  
 IEGA = NO EXT DIST = 40.0 FT  
 IAPLHA = SB59 PML AREA = FULL SPHERE TAMB F = 69.00  
 WIND DIR = DEG WIND VEL = MPH

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1755.3 FPS AEB AE8 = 20.4 SQ IN  
 FNRAMB = LBS XNLR RPM V18 = 1755.3 FPS AE18 = 0. SQ IN  
 CORR FAN SPEED = RPM

RUNPT = 82F-400-1222 TAPE = X1222F TEST PT NO = 1222 NC = AE039

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1222 X12221

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 67.4 69.7 67.9 70.8 70.4 69.2 68.1 69.4 73.3 78.8 84.4 85.6 80.5 159.8

53 67.4 70.1 67.7 70.8 71.9 70.6 68.5 70.6 77.2 83.7 88.3 88.6 81.0 162.8

80 69.4 70.5 68.2 71.7 72.2 71.3 71.0 73.7 79.9 85.9 90.9 89.9 82.7 164.8

100 69.5 71.9 69.3 73.0 74.1 72.7 72.4 75.2 81.4 87.0 91.9 90.8 83.6 165.9

125 71.9 72.2 71.3 74.5 75.5 73.8 73.8 76.8 82.7 86.8 92.5 88.8 84.4 165.8

160 79.0 77.9 73.2 76.3 78.6 76.3 75.1 77.4 83.8 86.1 91.1 87.3 83.5 165.2

200 84.7 86.9 81.7 82.0 82.6 78.4 76.6 77.8 84.0 86.2 89.7 86.6 82.0 165.8

250 88.8 88.4 86.3 86.7 87.6 83.2 79.3 84.0 86.2 87.4 84.1 80.5 166.8

315 86.3 88.0 86.1 87.6 85.2 82.0 80.5 86.0 85.8 86.2 82.5 79.4 166.8

400 83.3 85.6 84.3 87.3 85.3 84.1 83.7 83.1 86.5 85.7 84.5 79.6 77.5 166.0

500 81.2 83.8 82.6 85.4 83.2 81.7 82.3 85.1 86.4 83.8 82.5 78.0 75.3 165.0

630 80.2 81.6 79.8 82.9 82.5 81.4 80.4 82.5 85.9 83.5 81.1 76.9 73.8 164.2

800 79.7 82.3 80.6 83.6 83.9 82.1 80.0 81.5 84.6 82.2 79.7 74.7 72.0 164.4

1000 78.5 82.6 81.6 83.8 84.7 82.2 79.5 79.8 83.5 81.7 78.4 73.2 70.3 164.7

1250 77.8 80.9 80.5 83.9 84.3 82.7 81.2 80.8 81.1 77.9 74.5 70.2 66.4 164.4

1600 75.7 78.9 80.6 82.0 81.8 80.4 78.9 79.1 81.0 76.0 72.9 68.0 62.8 163.8

2000 71.7 75.0 75.4 78.8 79.0 78.4 77.2 77.8 78.3 73.8 73.8 69.9 64.1 162.8

2500 66.6 70.9 71.2 75.0 75.5 75.2 74.0 74.6 74.7 69.0 64.8 59.4 49.6 161.7

3150 58.6 64.9 65.5 70.2 71.3 71.3 69.9 69.9 69.3 64.4 58.8 52.1 38.4 160.9

4000 50.8 57.5 59.4 63.1 63.5 63.8 62.5 63.2 62.5 56.4 49.4 39.9 20.3 160.6

5000 33.1 43.1 47.5 51.6 55.0 55.3 53.6 51.9 43.7 35.0 22.0 159.7

6300 12.8 26.1 33.6 36.7 39.5 40.4 38.5 37.0 35.5 25.0 13.0 159.8

8000 8000

10000 158.8

12500

16000

20000

25000

31500

40000

50000

63000

80000

DBA 88.6 90.9 89.7 92.5 92.4 90.7 89.1 89.9 92.3 90.2 89.4 85.3 81.8

PNL 100.1 100.7 99.9 102.6 102.0 100.6 99.6 99.9 102.2 101.2 101.7 98.3 93.4

FNL 99.0 100.7 99.2 102.1 102.0 100.6 99.1 99.9 102.2 101.2 101.7 98.3 93.4

93.7 95.2 93.2 95.4 95.2 93.0 91.4 92.3 95.8 96.6 99.8 97.6 92.2 177.8

MODEL AREA = 131.5 SQ CM ( 20.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.288 FREQ SHIFT = -9

NASA SHOCK CELL/CIRCULAR C-D NOZ/AX/SC-2/NAS3-22514

VEHICL = ADH703 TEST DATE = 03-16-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVL = 400. FPS

IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.25 RELHUM = 76.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM V8 = 1755.3 FPS AEB = 20.4 SQ IN

FNRMB = LBS XNLR RPM XNHR RPM V8 = 1755.3 FPS AE18 = 0. SQ IN

RUNPT = 00-1222 TAPE = X12221 TEST PT NO = 1222 NC = AE039 CORR FAN SPEED = RPM

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#### 4.4 Acoustic Data of Model 3

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0303 X0303C

BACKGROUND 000000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.7 84.0 82.7 82.0 82.6 84.2 85.6 86.5 103.7 94.1 93.9 94.1 95.8 136.4

63 88.5 87.5 88.3 89.9 91.0 92.2 91.8 100.8 99.6 99.5 98.9 99.8 137.7

80 90.8 95.3 90.6 92.0 94.6 95.2 94.4 99.0 95.2 97.3 99.5 101.4 137.7

100 90.6 96.3 92.4 94.2 94.2 94.9 96.5 97.7 99.3 98.4 100.3 103.8 140.9

125 87.1 89.6 90.7 92.9 93.8 96.4 97.0 96.9 101.5 101.2 106.6 108.5 143.0

150 86.8 89.8 90.1 93.5 94.1 94.0 95.4 98.8 102.9 107.0 109.2 111.4 143.8

200 88.5 87.6 89.3 89.9 91.5 95.1 95.2 96.9 102.8 104.6 108.0 112.0 113.1 145.8

250 88.5 91.3 91.8 93.6 94.0 94.6 97.5 100.6 105.8 111.4 114.8 116.5 115.6 150.4

315 88.1 91.1 91.7 93.3 93.3 97.1 98.8 101.9 106.8 113.2 115.1 117.3 116.2 151.2

400 90.1 92.1 92.9 93.4 93.8 97.6 100.0 103.9 110.4 117.2 119.1 119.0 116.4 154.0

500 90.2 93.0 93.5 94.3 94.3 94.9 97.7 100.1 104.0 110.2 118.1 120.2 118.6 154.5

630 91.8 94.3 94.6 95.2 96.2 98.4 101.5 105.7 110.9 120.4 122.3 119.7 117.2 156.4

800 95.5 95.5 95.5 96.3 97.1 100.0 101.9 105.3 111.6 120.3 121.5 119.4 115.8 155.9

1000 100.2 100.0 99.0 99.1 99.7 100.8 102.9 106.3 112.6 120.1 122.0 118.9 116.1 156.1

1250 98.5 103.3 102.6 102.8 102.4 102.5 103.9 107.1 112.7 120.1 122.0 118.2 113.9 156.1

1500 102.5 100.3 100.6 100.9 101.0 102.6 104.2 107.9 113.4 119.8 121.6 118.7 112.0 155.6

2000 105.2 104.8 102.7 101.4 100.7 102.6 104.2 107.9 113.3 120.2 119.8 114.4 109.9 154.9

2500 103.9 104.7 104.2 105.0 102.8 103.2 105.0 108.3 112.8 119.6 117.9 112.5 108.5 154.1

3150 102.3 103.6 103.3 104.4 104.9 105.5 104.9 108.4 113.2 118.1 117.2 111.9 107.3 153.4

4000 101.0 102.2 101.8 102.8 103.6 106.1 106.5 109.3 112.1 116.7 115.2 111.2 106.6 152.4

5000 98.9 100.5 100.7 101.7 102.9 104.6 106.5 108.8 111.9 116.0 114.3 109.3 105.7 151.8

6300 98.0 100.5 99.9 100.9 102.8 104.3 105.3 108.7 111.2 114.3 113.4 109.2 105.1 151.1

8000 96.1 98.7 99.2 100.1 100.4 103.9 105.3 107.7 109.9 114.0 111.6 108.0 103.8 150.9

10000 95.6 97.5 98.5 99.5 100.8 103.0 103.9 106.5 109.3 114.0 111.2 106.9 103.8 149.9

12500 93.2 95.6 97.2 97.9 99.2 101.2 102.2 104.4 107.6 110.2 108.8 105.3 100.8 148.8

15000 91.0 94.1 95.1 95.7 96.8 99.0 99.9 103.4 105.7 108.0 106.4 102.4 98.6 148.1

20000 88.8 91.4 92.0 93.9 94.7 96.5 98.1 99.9 102.9 104.0 100.9 96.7 147.6

25000 84.5 88.4 89.4 89.8 91.9 95.1 96.3 96.2 100.2 101.7 99.0 94.4 146.5

31500 80.0 85.1 85.1 86.1 88.6 91.3 91.9 93.5 93.5 97.0 99.3 97.6 146.6

40000 75.8 81.1 82.0 82.8 85.2 87.4 88.7 90.3 95.3 97.3 96.9 91.2 148.4

50000 71.6 79.2 79.9 83.7 84.5 85.9 85.9 83.2 97.5 94.8 88.6 78.6 151.2

63000 65.8 79.8 79.8 73.7 81.1 76.8 80.7 81.3 83.2 92.4 97.1 93.3 87.0 155.6

80000 62.6 83.4 83.4 72.0 83.2 72.9 79.0 78.7 80.7 91.7 96.1 92.8 83.8 161.6

GASPL 112.1 113.2 112.7 113.4 113.7 115.4 116.7 119.7 124.2 130.5 131.4 128.8 126.2 168.2

PNL 125.3 126.4 126.0 126.8 127.3 129.4 129.8 132.7 137.0 142.5 142.3 138.6 135.3

PMLT 126.3 127.4 126.0 126.8 127.3 129.4 129.8 132.7 137.0 142.5 142.8 138.6 135.3

DBA 112.6 113.4 112.8 113.4 113.5 115.0 116.3 119.3 123.8 130.3 130.9 127.4 123.9

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH092 TEST DATE = 09-01-81 LCAT = C41 ANECH CH CNFIG = 3 MODEL = 3  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 81.00 PAMB HG = 29.50 RELHUM = 68.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =  
FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2351.6 FPS AE8 = 25.3 SQ IN  
FNFRMB = LBS XNLR = RPM XNHR = RPM V18 = 2351.6 FPS AE18 = 0. SQ IN  
RUNPT = 81F-ZER-0303 TAPE = X0303C TEST PT NO = 0303 NC = 863 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0304 X0304C  
BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 87.2 85.7 81.8 82.2 81.8 82.6 83.3 86.3 113.9 94.0 95.1 95.0 98.2 145.4

63 88.6 87.8 88.5 88.5 89.2 88.5 89.8 89.5 89.2 100.2 100.0 99.1 99.0 139.4

80 90.4 95.2 89.3 90.8 91.6 94.5 94.0 93.6 104.3 93.3 96.0 96.0 100.8 138.9

100 90.0 94.8 90.0 91.6 92.9 93.6 95.5 96.4 102.5 96.1 97.8 102.5 103.8 139.5

125 87.3 88.8 90.4 92.4 93.0 94.6 95.8 95.4 101.8 98.7 104.8 107.3 108.2 142.1

160 85.9 87.6 88.6 87.9 89.7 91.9 92.8 100.3 100.1 104.8 107.5 110.1 142.2

200 85.3 85.6 86.1 86.5 88.5 91.0 91.9 94.8 100.8 100.9 105.5 110.2 143.9

250 84.7 87.5 87.7 90.0 90.4 91.8 94.4 98.1 102.1 108.4 112.0 114.5 148.0

315 84.6 87.5 87.2 88.8 89.7 93.6 95.7 98.4 102.0 109.7 112.8 115.5 148.7

400 87.3 88.6 88.9 89.9 91.0 94.6 97.2 100.7 101.6 114.4 116.6 111.7 151.1

500 86.7 89.7 90.7 91.0 92.6 95.5 97.9 102.0 102.2 115.6 117.7 116.1 109.3 151.7

630 88.5 90.8 91.4 92.4 93.2 95.6 99.2 102.9 101.9 116.9 119.8 116.2 106.9 153.0

800 90.7 91.0 91.2 92.5 94.4 96.7 98.6 102.0 102.9 116.8 120.2 114.1 103.5 152.9

1000 95.5 96.5 95.3 95.3 95.4 97.8 99.9 103.6 103.6 117.1 119.7 113.4 103.6 152.7

1250 95.0 99.3 97.6 97.6 97.9 99.0 100.7 104.1 103.7 117.1 120.3 112.7 102.9 153.0

1600 102.0 99.8 98.1 98.6 100.6 102.6 105.0 104.1 117.0 120.4 111.5 102.7 153.1

2000 103.4 105.3 102.2 99.9 98.5 99.8 102.2 105.6 104.3 117.9 118.8 110.6 152.8

2500 100.7 102.2 103.8 101.8 100.7 102.5 105.5 104.5 116.8 116.4 109.2 102.0 151.4

3150 99.3 100.6 99.8 101.6 103.2 105.4 105.2 115.6 116.0 107.4 99.5 150.8

4000 98.0 99.0 99.3 100.4 103.8 105.0 106.5 105.1 113.7 113.5 106.2 99.4 149.3

5000 95.4 97.5 97.2 99.0 99.9 101.4 104.3 106.3 104.9 113.8 112.3 104.8 148.9

6300 96.0 97.7 96.6 97.9 99.6 101.8 103.5 106.2 105.8 111.9 111.7 104.5 148.2

8000 94.3 96.7 96.9 97.4 101.2 102.8 105.0 105.0 105.3 110.2 108.7 102.9 147.6

10000 93.3 95.2 95.8 96.5 97.8 99.5 101.6 105.0 105.3 110.2 108.7 102.9 147.4

12500 92.5 94.4 94.7 94.7 96.3 98.8 100.2 103.0 104.4 108.3 107.9 101.8 146.8

16000 90.1 92.9 92.9 92.5 94.1 96.8 98.2 101.7 103.8 106.1 104.0 100.2 146.1

20000 87.7 89.0 90.6 91.0 92.0 94.8 96.7 98.0 102.4 103.8 102.6 98.5 145.8

25000 84.3 87.8 87.5 87.7 89.8 92.2 94.2 96.8 98.9 99.8 98.6 95.4 144.7

31500 80.4 84.0 84.0 84.5 86.0 89.7 91.0 91.4 95.5 97.0 95.7 91.5 144.7

40000 75.6 80.1 80.8 81.0 82.7 86.1 87.5 88.3 92.8 93.3 93.4 87.7 145.5

50000 71.3 75.5 75.7 78.7 77.7 82.3 82.7 82.3 90.0 91.9 90.4 82.1 146.9

63000 65.1 74.2 70.6 80.4 74.3 78.8 78.9 79.6 88.5 89.8 89.0 77.8 150.3

80000 61.1 76.2 82.7 79.8 73.7 73.9 88.4 90.6 87.5 71.1 65.4 156.9

GASPL 109.8 111.2 110.2 110.7 111.1 113.1 114.5 117.2 119.4 127.7 129.6 125.3 121.0 165.0

16000 90.1 92.9 92.9 92.5 94.1 96.8 98.2 101.7 103.8 106.1 104.0 100.2 93.6 146.1

20000 87.7 89.0 90.6 91.0 92.0 94.8 96.7 98.0 102.4 103.8 102.6 98.5 145.8

25000 84.3 87.8 87.5 87.7 89.8 92.2 94.2 96.8 98.9 99.8 98.6 95.4 144.7

31500 80.4 84.0 84.0 84.5 86.0 89.7 91.0 91.4 95.5 97.0 95.7 91.5 144.7

40000 75.6 80.1 80.8 81.0 82.7 86.1 87.5 88.3 92.8 93.3 93.4 87.7 145.5

50000 71.3 75.5 75.7 78.7 77.7 82.3 82.7 82.3 90.0 91.9 90.4 82.1 146.9

63000 65.1 74.2 70.6 80.4 74.3 78.8 78.9 79.6 88.5 89.8 89.0 77.8 150.3

80000 61.1 76.2 82.7 79.8 73.7 73.9 88.4 90.6 87.5 71.1 65.4 156.9

DBA 110.2 111.4 110.3 110.7 110.9 112.7 114.0 116.7 116.1 127.5 129.2 123.1 116.0

PMLT 122.7 125.8 123.6 125.5 125.0 126.8 127.9 130.1 130.3 140.3 141.3 134.9 129.0

PWL 122.7 124.4 123.6 124.5 125.0 126.8 127.9 130.1 130.3 139.8 140.7 134.9 129.0

NASA SHOCK CELL/COUNT, CONV, ANN, PLUG NOZ, SC-3/NAS3-22514

VEHICLE = ADH111 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLVEL = 400. FPS

IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 RELHUM = 64.0 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = 29.40 NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR = V8 RPM V8 = 2350.2 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR = X0304C TEST PT NO = 0304 NC = 863 CORR FAN SPEED = RPM

RUNPT = 81F-400-0304 TAPE

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0305 X0305C  
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 40 50 60 70 80 90 100 110 120 130 140 150 160

PWL 85.2 84.2 83.0 81.8 81.9 85.5 85.6 87.8 90.4 94.1 94.4 94.6 95.3 131.7

50 88.2 87.8 88.3 88.1 89.4 93.0 92.2 92.6 93.6 101.4 99.0 98.7 99.3 137.0

60 90.5 96.1 91.3 91.1 92.0 94.8 95.4 96.0 96.0 98.7 97.5 100.0 101.6 137.6

100 90.6 96.3 92.1 93.7 94.2 95.6 96.5 97.4 97.0 98.7 100.3 104.0 105.2 140.0

125 87.1 89.4 90.7 92.4 93.5 96.2 96.8 96.7 97.3 101.0 106.4 109.0 142.7

150 86.3 87.3 89.8 90.4 90.2 91.6 94.7 95.6 97.8 102.9 107.5 109.7 111.6 144.1

160 86.3 87.3 89.8 90.4 90.2 91.6 94.7 95.6 97.8 102.9 107.5 109.7 111.6 144.1

200 88.8 87.6 89.6 90.4 91.5 95.6 95.5 97.9 102.3 104.6 108.5 112.7 114.4 146.5

250 88.5 91.8 92.1 93.9 94.0 95.1 97.7 100.6 105.6 111.1 115.0 116.7 116.4 150.7

315 88.3 91.4 91.6 91.9 93.8 97.4 99.3 101.9 106.5 113.4 115.3 117.8 116.7 151.6

400 90.6 92.4 93.1 93.9 94.0 97.6 100.5 104.4 110.9 117.9 119.1 119.5 116.2 154.4

500 90.4 93.2 93.0 94.5 95.4 97.7 100.6 104.5 110.4 118.3 120.2 119.9 116.3 154.9

630 92.1 94.1 94.4 95.9 96.5 98.6 101.5 105.2 110.4 120.2 121.8 120.4 116.6 156.3

800 96.0 95.0 95.8 96.5 97.9 100.0 101.9 105.5 111.6 120.3 122.0 119.7 116.1 156.3

1000 100.5 101.3 100.1 99.4 101.0 103.4 106.1 106.1 106.1 106.1 106.1 106.1 106.1 156.3

1250 99.2 104.3 103.3 103.6 103.4 103.0 103.9 107.1 113.2 120.1 122.5 119.4 114.2 156.5

1500 103.0 101.1 101.6 101.4 101.5 103.1 103.4 108.2 113.4 120.0 122.4 117.5 112.2 156.1

2000 106.2 105.8 103.2 101.9 101.2 103.1 104.7 108.4 113.3 120.9 120.3 115.6 109.9 155.6

2500 104.4 105.5 105.2 105.3 103.6 103.5 105.5 108.3 113.0 120.1 117.9 114.2 109.0 154.5

3150 103.0 104.1 104.1 105.1 105.7 106.3 105.9 108.4 113.7 118.6 117.5 112.9 107.5 153.9

4000 101.5 102.2 102.8 103.8 103.9 106.8 106.7 109.3 112.8 117.2 111.4 107.4 102.9 152.9

5000 99.6 101.2 101.2 102.5 103.2 104.9 106.8 108.8 111.9 115.8 114.0 110.1 106.2 151.8

6300 98.8 101.2 100.6 101.4 102.8 104.8 106.5 108.7 111.2 114.6 113.7 109.7 104.8 151.3

8000 96.8 99.4 100.6 101.1 103.7 105.3 107.2 109.6 112.4 114.0 111.4 108.3 104.6 150.7

10000 96.1 98.5 99.0 100.3 100.8 103.3 104.1 107.2 109.8 112.4 111.2 107.4 103.5 150.3

12500 94.5 96.6 97.9 98.7 102.2 102.4 104.9 108.1 110.5 109.8 105.3 101.3 149.4

15000 91.3 94.6 95.6 96.2 97.3 100.0 100.9 103.7 105.7 106.3 106.4 103.1 148.4

20000 89.1 92.4 93.0 94.1 95.5 99.1 100.4 102.9 106.2 104.2 100.7 96.4 147.8

25000 85.5 89.6 90.1 90.5 92.2 95.8 96.3 99.9 100.5 103.2 100.5 98.8 147.2

31500 80.5 85.8 85.6 87.1 88.6 92.0 93.1 93.8 97.5 101.1 98.3 95.1 147.6

40000 76.1 81.6 82.3 83.5 85.5 89.1 89.3 90.3 95.8 97.1 92.4 85.7 148.9

50000 71.8 79.2 80.7 82.2 86.4 85.5 86.7 93.2 98.0 95.6 90.1 80.6 151.8

63000 66.6 79.6 74.4 81.1 78.1 85.0 82.5 84.0 92.9 97.3 94.9 86.5 156.3

80000 62.8 82.8 73.0 83.2 74.4 85.3 79.4 81.2 91.2 95.9 93.8 85.5 161.8

GASPL 112.7 113.9 113.4 113.9 114.1 115.9 117.1 119.9 124.3 130.7 131.6 129.6 126.6 168.6

PWL 125.8 127.0 126.7 127.4 127.8 129.3 130.2 132.9 137.2 142.8 143.0 139.6 135.6

PFLT 125.8 128.8 126.7 127.4 127.8 129.3 130.2 132.9 137.2 142.8 143.0 139.6 135.6

DBA 113.2 114.1 113.6 114.0 114.0 115.4 116.7 119.5 124.1 130.5 131.2 128.3 124.3

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH093 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVL = 0. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 81.00 PAMB HG = 29.45 RELHUM = 68.7 PCT  
WIND DIR = MIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM = XNH RPM = V8 = 2375.5 FPS AEG = 25.3 SO IN  
FNRAMB = LBS XNLR RPM = XNHR RPM = V18 = FPS AE18 = 0. SO IN  
RUNPT = 81 ER-0305 TAPE = X0305C TEST PT NO = 0305 NC = 863 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0306 X0306C  
 BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 68.7 67.0 62.5 62.8 82.9 84.0 84.1 87.0 80.2 94.1 95.4 95.1 101.3 133.3  
 60 89.5 89.3 88.3 87.3 89.2 90.3 89.2 91.3 93.8 98.9 100.2 99.9 101.8 136.9  
 80 91.3 96.3 90.8 92.1 92.7 95.1 95.7 94.9 95.5 94.9 97.3 97.3 99.5 103.4 137.9  
 100 91.1 95.8 91.4 93.2 93.7 94.9 96.5 97.4 96.5 96.7 98.8 103.5 105.9 139.6  
 125 87.9 88.9 90.4 92.7 93.0 95.4 96.0 95.4 95.5 98.5 104.9 107.5 109.2 142.0  
 150 86.3 83.8 88.3 88.9 89.0 90.3 92.2 94.1 95.8 100.9 105.3 108.2 110.9 142.6  
 160 86.3 83.8 88.3 88.9 89.0 90.3 92.2 94.1 95.8 100.9 105.3 108.2 110.9 142.6  
 200 86.0 86.1 86.8 87.6 89.0 91.8 92.5 95.4 100.0 101.9 106.3 111.0 113.1 144.7  
 250 85.0 87.8 88.3 90.6 91.0 92.3 95.2 98.9 104.1 109.4 113.0 115.2 114.1 148.8  
 315 85.6 87.9 88.4 89.2 90.3 94.1 96.0 99.2 103.5 110.7 113.6 115.5 113.9 149.2  
 400 87.6 88.9 89.4 90.4 91.3 94.9 97.5 101.7 108.4 115.0 117.1 117.3 112.4 151.9  
 500 87.4 90.5 91.0 92.3 92.6 95.3 98.4 102.5 108.0 115.6 118.0 116.9 110.0 152.1  
 630 89.6 91.3 91.6 92.9 93.5 95.9 99.5 103.9 108.7 118.2 120.6 116.7 108.2 154.0  
 800 91.7 91.5 91.8 93.8 94.6 96.8 99.1 103.3 108.9 117.3 120.7 114.9 104.6 153.6  
 1000 96.0 96.3 95.3 96.1 95.9 97.8 100.4 103.8 109.9 117.9 120.7 113.4 103.8 153.7  
 1250 96.5 99.8 98.3 98.6 98.7 99.5 101.2 104.6 110.5 118.1 121.1 112.0 103.7 154.0  
 1500 102.8 100.8 99.8 98.6 98.7 100.8 103.6 106.2 111.1 117.8 121.1 112.0 103.7 154.1  
 2000 103.7 105.3 103.2 101.1 99.5 100.8 103.0 106.1 112.0 119.9 119.8 111.6 104.1 154.4  
 2500 100.7 102.2 102.7 104.3 102.1 101.7 103.1 106.5 111.3 118.3 117.9 109.7 103.0 153.0  
 3150 99.0 100.6 100.3 101.6 102.4 103.6 105.5 107.5 110.8 115.5 114.5 106.9 99.9 150.9  
 4000 97.5 98.7 99.5 99.0 100.4 103.6 105.5 107.5 110.8 115.5 114.5 106.9 99.9 150.9  
 5000 95.9 97.0 97.5 99.0 99.9 101.9 104.5 107.6 110.6 114.5 113.8 105.1 98.4 150.3  
 6300 98.0 97.6 98.1 99.6 102.0 103.8 107.7 112.4 112.2 105.5 97.8 149.4  
 8000 98.0 97.6 98.1 99.6 102.0 103.8 107.7 112.4 112.2 105.5 97.8 149.4  
 10000 94.6 97.7 96.8 97.8 98.3 100.8 102.1 105.7 108.8 110.4 109.7 103.7 97.3 148.5  
 12500 93.0 94.7 96.2 96.2 97.3 99.3 100.7 103.5 107.1 109.3 108.1 102.5 95.4 147.8  
 15000 90.8 92.9 94.4 94.3 94.8 99.2 102.2 105.0 107.1 105.0 100.9 94.7 147.0  
 16000 90.8 92.9 94.4 94.3 94.8 99.2 102.2 105.0 107.1 105.0 100.9 94.7 147.0  
 20000 88.9 90.8 91.6 92.5 92.8 95.6 97.2 99.0 102.7 104.5 103.8 99.5 92.2 146.6  
 25000 84.8 87.8 89.0 88.9 90.1 94.2 94.9 95.3 99.6 101.3 99.6 96.1 88.2 145.7  
 31500 80.6 84.2 84.3 85.3 87.0 91.0 92.2 98.0 97.2 98.0 92.5 83.8 145.6  
 40000 76.3 79.6 81.8 81.8 83.5 86.8 87.5 88.6 93.8 94.1 95.9 88.4 79.7 146.6  
 50000 71.9 75.8 76.5 78.0 83.0 83.0 84.2 86.2 90.0 92.4 91.9 83.6 73.6 147.6  
 63000 65.7 74.0 72.8 76.9 75.2 79.3 79.1 80.6 88.8 88.8 82.0 79.1 69.3 151.9  
 80000 62.2 75.3 71.2 77.4 71.1 77.4 73.8 75.4 88.7 92.9 89.0 74.1 67.3 158.1

GASPL 110.2 111.4 110.9 111.3 111.3 113.4 115.1 118.1 122.4 128.7 130.4 125.9 121.9 166.0  
 PNL 123.1 124.5 124.1 125.1 124.9 127.0 128.4 131.1 135.0 140.9 141.6 135.5 129.8  
 PNL T 123.1 125.8 124.1 125.1 124.9 127.0 128.4 131.1 135.0 141.4 142.1 135.5 129.8  
 DBA 110.5 111.6 111.0 111.3 111.0 114.5 117.6 122.1 128.6 130.1 123.7 116.8

NASA SHOCK CELL/COUNT, CONV. ANN. FLUG NOZ, SC-3/NAS3-22514

VEHICLE = ADH110 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.50 MIKE HT = 29.40 RELHUM = 64.0 PCT  
 WIND DIR = WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

FNINI = LBS XNL = RPM XNH RPM XNHR = RPM V8 = 2391.9 FPS AE8 = 25.3 SQ IN  
 FNFRMB = LBS XNL = RPM XNH RPM XNHR = RPM V8 = 2391.9 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-0306 TAPE = X0306C TEST PT NO = 0306 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
 OF POOR QUALITY

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0306 X0306F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 200  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 250  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 300  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 350  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 400  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 450  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 500  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 550  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 600  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 650  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 700  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 750  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 800  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 850  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 900  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 950  | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |
| 1000 | 92.9 | 94.3 | 93.3 | 93.9 | 92.1 | 94.3 | 94.7 | 96.4 | 106.5 | 112.7 | 114.7 | 115.9 | 113.8 | 150.2 |

|      |       |       |      |      |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1250 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1300 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1350 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1400 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1450 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1500 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1550 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1600 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1650 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1700 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1750 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1800 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1850 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1900 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 1950 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |
| 2000 | 101.2 | 100.7 | 98.8 | 98.6 | 100.4 | 100.3 | 100.5 | 102.6 | 110.1 | 116.5 | 120.5 | 114.7 | 114.1 | 153.7 |

|      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3150 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3200 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3250 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3300 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3350 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3400 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3450 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3500 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3550 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3600 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3650 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3700 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3750 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3800 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3850 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3900 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 3950 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |
| 4000 | 106.1 | 107.2 | 107.0 | 107.7 | 105.7 | 106.8 | 104.2 | 105.4 | 111.6 | 115.8 | 115.3 | 111.0 | 111.4 | 152.4 |

|       |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 20000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 20500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 21000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 21500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 22000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 22500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 23000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 23500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 24000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 24500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 25000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 25500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 26000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 26500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 27000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 27500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 28000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 28500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 29000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 29500 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |
| 30000 | 96.8 | 98.1 | 98.7 | 97.6 | 96.8 | 98.6 | 98.8 | 99.3 | 103.1 | 104.6 | 103.5 | 103.0 | 148.3 |

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA   | 192.0 | 197.6 | 195.6 | 197.3 | 196.8 | 201.2 | 196.9 | 196.9 | 209.3 | 213.0 | 209.7 | 198.1 | 197.9 |
| PNLT  | 132.1 | 131.8 | 128.3 | 128.2 | 127.1 | 128.1 | 128.2 | 129.7 | 135.1 | 139.3 | 140.2 | 136.1 | 135.8 |
| FNLT  | 129.9 | 130.4 | 128.3 | 128.2 | 127.1 | 128.1 | 128.2 | 129.7 | 134.5 | 139.3 | 140.2 | 136.1 | 135.8 |
| GASPL | 116.7 | 116.9 | 115.6 | 114.9 | 114.2 | 115.3 | 115.5 | 117.2 | 122.3 | 127.7 | 129.4 | 126.2 | 124.9 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH110 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 400. FPS  
 IAPLHA = SB59 LEGA = NG PML AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 RELHUM = 64.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2391.9 FPS AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2391.9 FPS AE18 = 0. SQ IN

RUNPT = 100-0306 TAPE = X0306F TEST PI NO = 0306 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

ORIGINAL PAGE IS OF POOR QUALITY

DATPRC - FL1KAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0306 X03061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 71.2 73.8 73.9 73.9 74.8 77.0 78.5 81.3 86.6 92.7 93.7 91.9 85.4 168.0

80 73.0 76.4 76.5 77.0 77.1 78.1 80.2 82.9 87.6 94.6 96.9 91.7 84.2 169.8

100 75.1 77.2 77.1 77.6 78.3 79.0 79.8 82.3 89.0 95.7 97.6 91.5 86.0 170.6

125 77.0 77.2 77.2 78.5 79.1 80.1 81.2 82.9 89.7 96.0 97.9 89.9 85.7 170.9

150 78.7 79.8 79.0 79.6 81.9 81.9 82.0 83.6 90.4 95.7 98.0 89.9 85.6 171.1

200 78.8 83.1 82.0 82.1 81.9 83.3 84.4 85.3 91.4 97.9 96.6 89.4 85.7 171.6

250 86.5 85.1 84.0 82.3 82.7 83.3 83.9 85.3 90.8 96.4 95.0 87.7 84.5 170.9

315 87.1 89.4 87.3 84.7 85.5 84.3 84.0 85.8 94.8 93.9 85.6 81.8 170.6

400 82.2 85.1 86.2 87.7 86.2 87.4 84.8 85.5 90.8 93.8 84.2 80.0 169.8

500 82.1 84.7 84.8 85.7 84.3 86.5 86.9 87.2 90.2 92.4 90.0 81.4 77.0 169.2

630 80.1 82.6 83.8 84.1 83.9 85.0 85.9 87.0 88.6 90.1 88.3 81.8 76.2 168.5

800 77.9 80.4 81.5 83.0 83.3 84.9 85.0 87.0 88.6 90.1 88.0 80.3 75.1 168.1

1000 77.5 81.0 81.3 81.8 81.5 84.5 84.6 85.3 88.3 88.1 85.6 79.4 74.3 167.9

1250 75.8 79.7 81.0 81.2 81.8 83.4 83.1 84.8 86.6 86.8 83.7 77.6 71.0 167.4

1500 74.2 77.4 79.3 80.5 80.5 80.8 81.4 82.1 85.0 85.0 80.8 75.8 69.1 167.0

2000 71.1 75.2 77.9 78.2 77.9 78.2 77.9 80.1 82.6 82.1 79.0 73.0 63.9 166.7

2500 66.8 71.8 74.8 75.2 75.3 77.3 77.2 76.9 79.2 78.3 73.5 67.4 55.5 165.7

3150 60.9 66.6 69.5 71.2 71.7 74.5 73.7 71.7 74.4 73.0 59.1 43.1 165.3

4000 52.5 60.4 64.0 64.7 65.7 67.7 66.6 65.6 68.9 64.9 61.0 46.4 24.7 165.9

5000 37.8 48.5 52.2 54.8 57.2 59.5 58.0 55.9 59.1 55.8 47.3 27.8 166.3

6300 15.2 29.2 37.3 40.1 42.6 45.8 43.5 40.8 46.8 42.2 30.6 0.0 169.9

8000 9.7 16.2 20.7 24.3 21.4 17.9 26.8 19.7 173.3 175.7

10000 8000

12500 10000

15000 12500

16000 15000

20000 20000

25000 25000

31500 31500

40000 40000

50000 50000

63000 63000

80000 80000

QASPL 92.8 94.7 94.4 94.6 94.5 95.6 95.7 97.0 101.4 106.1 106.4 100.4 95.0 183.7

PNL 98.5 101.3 101.1 101.9 101.6 103.1 103.0 104.0 107.3 110.4 109.0 103.2 96.9

PMLT 99.6 102.0 101.8 102.4 101.6 103.1 103.0 104.0 107.3 110.4 109.0 103.2 96.9

DBA 87.7 90.4 91.0 91.5 91.3 92.9 92.8 93.9 96.7 98.5 96.6 89.6 84.8

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH110 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLVEL = 400. FPS  
IAPLHA = SBS9 IEQA = NO PML AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 RELHUM = 64.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR RPM = XN3061 = X03061 TEST PT NO = 0306 NC = 863 CORR FAN SPEED = RPM  
FNFRMB = LBS XNLR RPM XNL RPM XNH XNHR RPM V8 V18 = 2391.9 FPS AE8 AE18 = 25.3 SQ IN

RUNPT = 81F-400-0306 TAPE = X03061 TEST PT NO = 0306 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PRICE IS  
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0309 X0309C  
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.4  | 84.7  | 83.2  | 82.0  | 82.9  | 85.5  | 86.1  | 87.8  | 90.2  | 94.1  | 93.4  | 94.4  | 95.3  | 131.5 |
| 63    | 88.5  | 88.3  | 89.8  | 89.1  | 90.7  | 92.8  | 92.2  | 91.8  | 93.8  | 101.4 | 98.0  | 98.7  | 100.1 | 137.0 |
| 80    | 91.3  | 96.3  | 91.3  | 91.6  | 92.7  | 95.8  | 95.5  | 95.4  | 96.0  | 96.2  | 98.3  | 100.5 | 102.1 | 138.1 |
| 100   | 91.3  | 97.1  | 92.9  | 94.7  | 95.0  | 96.6  | 97.2  | 98.4  | 97.5  | 99.2  | 100.3 | 104.3 | 105.4 | 140.5 |
| 125   | 87.6  | 90.4  | 91.4  | 93.4  | 95.0  | 97.4  | 97.5  | 97.4  | 97.5  | 97.4  | 101.2 | 105.9 | 109.3 | 143.6 |
| 150   | 86.5  | 87.6  | 90.3  | 90.6  | 90.7  | 92.1  | 94.7  | 96.4  | 98.6  | 103.9 | 107.5 | 112.4 | 114.6 | 144.6 |
| 160   | 86.5  | 87.6  | 90.3  | 90.6  | 90.7  | 92.1  | 94.7  | 96.4  | 98.6  | 103.9 | 107.5 | 112.4 | 114.6 | 144.6 |
| 200   | 88.8  | 88.1  | 89.6  | 90.4  | 92.2  | 95.6  | 96.0  | 98.1  | 102.8 | 105.1 | 109.3 | 113.7 | 114.6 | 147.1 |
| 250   | 88.8  | 88.8  | 92.1  | 92.3  | 94.9  | 94.7  | 95.3  | 97.5  | 101.1 | 106.6 | 111.9 | 116.0 | 117.1 | 151.7 |
| 315   | 88.8  | 91.4  | 91.6  | 92.7  | 94.0  | 97.4  | 99.8  | 102.4 | 107.2 | 113.4 | 116.3 | 118.5 | 119.9 | 152.2 |
| 400   | 91.1  | 92.9  | 93.1  | 94.4  | 94.3  | 95.9  | 98.2  | 101.1 | 104.5 | 110.5 | 118.6 | 120.7 | 120.1 | 155.4 |
| 500   | 90.7  | 93.7  | 94.3  | 95.0  | 95.9  | 98.2  | 101.1 | 104.5 | 110.5 | 118.6 | 120.7 | 120.1 | 116.8 | 155.3 |
| 630   | 92.8  | 94.8  | 95.4  | 96.4  | 96.5  | 99.4  | 102.0 | 105.9 | 110.9 | 120.4 | 122.8 | 120.7 | 118.4 | 156.9 |
| 800   | 96.7  | 96.0  | 96.5  | 97.3  | 98.4  | 100.5 | 102.1 | 106.0 | 112.4 | 120.8 | 122.5 | 117.0 | 115.9 | 156.9 |
| 1000  | 100.7 | 101.3 | 100.0 | 100.6 | 99.9  | 103.7 | 107.1 | 113.3 | 120.6 | 122.5 | 120.4 | 116.6 | 115.6 | 156.8 |
| 1250  | 99.0  | 103.5 | 102.5 | 103.0 | 103.1 | 104.0 | 106.8 | 109.3 | 113.7 | 121.1 | 118.4 | 114.0 | 109.2 | 155.1 |
| 1500  | 101.0 | 102.6 | 101.8 | 102.8 | 103.4 | 105.3 | 106.1 | 109.1 | 114.2 | 119.6 | 118.0 | 112.7 | 108.5 | 154.4 |
| 2000  | 100.0 | 101.0 | 101.2 | 102.8 | 102.8 | 106.9 | 109.9 | 113.7 | 117.7 | 115.7 | 111.9 | 107.1 | 103.0 | 153.0 |
| 2500  | 98.9  | 100.4 | 100.2 | 101.7 | 102.7 | 104.6 | 106.5 | 109.6 | 112.9 | 117.0 | 115.0 | 110.5 | 106.7 | 152.6 |
| 3150  | 98.7  | 101.2 | 100.8 | 101.1 | 102.3 | 104.5 | 106.2 | 109.5 | 112.2 | 115.3 | 113.6 | 109.9 | 105.5 | 151.8 |
| 4000  | 97.0  | 99.9  | 100.4 | 101.1 | 103.9 | 105.5 | 108.2 | 111.4 | 114.7 | 112.1 | 108.7 | 103.7 | 103.7 | 150.7 |
| 5000  | 96.2  | 98.4  | 99.9  | 100.7 | 104.1 | 107.4 | 110.2 | 113.3 | 116.3 | 111.3 | 107.3 | 103.7 | 103.7 | 150.7 |
| 6300  | 95.7  | 97.0  | 98.3  | 99.3  | 103.1 | 104.4 | 107.4 | 110.4 | 113.3 | 111.6 | 108.2 | 104.6 | 101.2 | 149.8 |
| 8000  | 94.9  | 97.0  | 98.3  | 99.1  | 100.1 | 102.4 | 103.1 | 104.8 | 108.2 | 111.6 | 110.2 | 105.1 | 101.2 | 149.8 |
| 10000 | 94.9  | 97.0  | 98.3  | 99.1  | 100.1 | 102.4 | 103.1 | 104.8 | 108.2 | 111.6 | 110.2 | 105.1 | 101.2 | 149.8 |
| 12500 | 91.4  | 94.9  | 95.9  | 96.5  | 97.6  | 99.6  | 101.0 | 103.8 | 105.8 | 108.6 | 107.2 | 102.4 | 99.7  | 148.6 |
| 15000 | 89.1  | 92.1  | 93.2  | 94.6  | 95.4  | 97.4  | 98.6  | 100.4 | 103.6 | 106.3 | 104.9 | 100.7 | 96.4  | 148.0 |
| 20000 | 85.1  | 89.7  | 89.9  | 90.6  | 92.3  | 95.4  | 96.6  | 98.5  | 100.3 | 102.9 | 100.1 | 97.9  | 91.7  | 146.9 |
| 25000 | 80.4  | 84.9  | 85.7  | 87.0  | 88.8  | 91.7  | 92.5  | 93.7  | 96.8  | 101.3 | 97.9  | 94.5  | 87.1  | 147.4 |
| 31500 | 75.8  | 80.7  | 82.1  | 83.1  | 85.2  | 88.0  | 89.2  | 90.7  | 94.6  | 97.5  | 96.4  | 91.4  | 83.2  | 148.3 |
| 40000 | 71.5  | 77.2  | 77.2  | 79.5  | 80.6  | 84.6  | 85.5  | 87.2  | 91.9  | 96.6  | 94.1  | 88.8  | 78.1  | 150.7 |
| 50000 | 65.6  | 76.6  | 73.4  | 78.9  | 77.3  | 83.4  | 81.5  | 83.8  | 91.9  | 96.4  | 93.9  | 85.2  | 74.5  | 155.3 |
| 63000 | 61.8  | 78.8  | 71.9  | 80.8  | 73.5  | 83.2  | 78.8  | 80.3  | 90.2  | 97.1  | 92.6  | 83.7  | 70.9  | 161.8 |
| 80000 | 111.3 | 112.9 | 112.7 | 113.4 | 113.8 | 115.8 | 117.5 | 120.4 | 125.0 | 131.4 | 132.0 | 130.1 | 127.2 | 168.8 |
| GASPL | 111.3 | 112.9 | 112.7 | 113.4 | 113.8 | 115.8 | 117.5 | 120.4 | 125.0 | 131.4 | 132.0 | 130.1 | 127.2 | 168.8 |
| PWL   | 124.3 | 125.8 | 125.5 | 126.4 | 126.8 | 128.7 | 130.5 | 133.4 | 137.8 | 143.6 | 142.9 | 139.8 | 136.2 |       |
| PWLT  | 124.3 | 126.4 | 125.5 | 126.9 | 126.8 | 129.3 | 130.5 | 133.4 | 137.8 | 143.6 | 142.9 | 139.8 | 136.2 |       |
| DBA   | 111.4 | 112.7 | 112.5 | 113.2 | 113.4 | 115.2 | 117.1 | 120.1 | 124.7 | 131.3 | 131.5 | 128.6 | 124.9 |       |

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADH095 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.45 RELHUM = 89.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH RPM = V8 = 2406.5 FPS AEB = 25.3 SQ IN  
 FNFRMB = LBS XNLR RPM XNHR RPM = V18 = 2406.5 FPS AE18 = 0. SQ IN  
 RUNPT = 81 ER-0309 TAPE = X0309C TEST PT NO = 0309 NC = 863 CORR FAN SPEED = RPM

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222



962

DATPRC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0309 X03091

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 69.1 72.4 73.7 75.7 76.0 80.0 83.0 86.5 92.4 98.0 98.6 96.3 89.9 172.8

63 68.7 73.2 74.8 76.3 77.6 80.1 82.8 85.8 91.0 98.1 98.7 95.9 89.2 172.7

80 70.7 74.3 75.9 77.7 78.2 81.2 83.7 87.2 91.5 99.9 100.7 96.4 90.7 174.3

100 74.5 75.4 77.0 78.5 80.0 82.3 83.8 87.3 92.8 100.2 100.5 96.2 89.2 174.3

125 78.4 80.6 81.7 81.5 83.2 83.2 86.2 88.2 93.7 99.9 100.2 95.8 88.5 174.2

160 76.5 82.7 83.1 84.1 84.9 85.9 88.8 94.0 100.3 100.0 94.6 86.5 174.3

200 78.3 79.2 81.7 82.7 83.2 84.7 88.1 89.6 93.9 99.7 92.6 83.5 173.7

250 79.6 81.7 82.1 82.2 82.3 84.8 86.0 89.5 94.4 100.3 97.0 90.3 81.3 173.4

315 78.2 80.8 82.0 83.4 83.9 84.9 87.6 89.6 93.3 99.4 95.0 87.9 78.9 172.5

400 77.0 80.5 81.0 82.9 83.9 85.9 86.6 89.1 93.4 97.5 94.0 85.9 77.2 171.8

500 75.5 78.5 80.1 82.5 83.1 85.4 87.2 89.5 91.9 95.2 91.2 84.5 74.7 170.4

630 73.9 77.6 78.7 81.2 82.6 84.7 86.5 89.0 91.4 94.1 90.1 82.4 73.2 170.0

800 73.3 77.9 79.1 80.3 82.0 84.4 85.9 88.6 90.4 92.1 88.2 81.1 71.0 169.2

1000 71.2 76.4 78.4 80.1 80.7 83.6 85.1 87.2 89.4 91.2 86.2 79.3 69.0 168.7

1250 69.9 74.5 77.7 79.8 81.1 83.3 83.5 86.2 88.0 89.4 85.0 77.1 66.6 168.2

1600 67.6 72.5 75.6 77.6 79.3 81.7 82.2 83.3 85.5 87.1 83.0 73.5 61.7 167.3

2000 63.1 69.8 72.8 74.8 76.6 78.8 80.0 82.0 82.7 83.5 79.0 69.2 57.2 166.1

2500 59.1 65.8 69.3 72.2 73.9 76.4 77.0 79.6 79.6 80.0 74.9 64.6 48.9 165.5

3150 51.7 60.9 64.1 66.7 69.3 72.8 73.7 72.6 74.5 74.2 66.7 56.8 35.9 164.4

4000 40.8 51.4 56.1 59.7 62.9 66.2 66.6 66.4 67.2 67.9 58.3 44.5 16.8 164.8

5000 26.4 39.6 46.2 50.5 54.2 58.7 58.0 58.7 56.4 47.1 27.7 1.0 165.8

6300 4.4 22.0 29.3 36.1 39.6 45.1 43.6 43.1 44.8 41.3 27.0 1.0 172.7

8000 179.2

10000

12500

16000

20000

25000

31500

40000

50000

63000

80000

DBA 87.5 90.6 91.8 93.2 94.0 96.0 97.7 100.3 104.3 109.9 109.1 104.5 97.4 186.0

PNL 91.9 95.8 97.4 99.3 100.6 103.0 104.2 106.2 109.5 113.7 111.1 104.7 96.3

PNL 91.9 95.8 97.4 99.3 100.6 103.0 104.2 106.2 109.5 114.2 111.1 105.8 96.3

DBA 81.5 85.4 87.1 88.9 90.1 92.4 93.6 95.9 98.4 101.8 98.4 91.5 82.6

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH095 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.45 RELHUM = 89.0 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2406.5 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 2406.5 FPS AE8 = 25.3 SQ IN

ZER-0309 TAPE = X03091 TEST PT NO = 0309 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY







FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0310 X03101

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40                   | 50                   | 60         | 70               | 80                | 90            | 100       | 110            | 120                  | 130             | 140             | 150                | 160    |       |       |            |              |            |
|---|----------------------|----------------------|------------|------------------|-------------------|---------------|-----------|----------------|----------------------|-----------------|-----------------|--------------------|--------|-------|-------|------------|--------------|------------|
| PWL   | 71.5                 | 74.5                 | 73.9       | 74.4             | 75.1              | 77.7          | 79.2      | 82.0           | 86.8                 | 93.1            | 94.1            | 92.1               | 85.6   |       |       |            |              |            |
| 50  | 71.5                 | 74.5                 | 73.9       | 74.4             | 75.1              | 77.7          | 79.2      | 82.0           | 86.8                 | 93.1            | 94.1            | 92.1               | 85.6   |       |       |            |              |            |
| 50  | 74.0                 | 75.0                 | 75.4       | 77.0             | 77.6              | 78.3          | 80.2      | 82.9           | 88.1                 | 95.7            | 96.9            | 92.2               | 85.3   |       |       |            |              |            |
| 60  | 73.0                 | 75.6                 | 76.5       | 77.0             | 77.6              | 78.3          | 80.2      | 82.9           | 88.1                 | 95.7            | 96.9            | 92.2               | 85.3   |       |       |            |              |            |
| 100   | 74.8                 | 77.2                 | 77.4       | 77.4             | 78.8              | 79.8          | 80.3      | 82.5           | 89.3                 | 97.0            | 98.2            | 92.0               | 87.3   |       |       |            |              |            |
| 125   | 77.3                 | 77.2                 | 77.5       | 78.0             | 79.9              | 80.6          | 81.4      | 83.1           | 90.2                 | 97.0            | 98.2            | 91.5               | 86.8   |       |       |            |              |            |
| 150   | 78.5                 | 79.7                 | 79.7       | 80.0             | 82.9              | 82.9          | 82.5      | 84.2           | 90.9                 | 96.7            | 98.1            | 91.0               | 86.5   |       |       |            |              |            |
| 200   | 79.2                 | 83.9                 | 83.6       | 82.4             | 83.8              | 84.7          | 85.1      | 82.2           | 98.4                 | 96.9            | 90.2            | 86.2               | 81.1   |       |       |            |              |            |
| 250   | 81.1                 | 81.7                 | 82.8       | 82.8             | 82.2              | 83.3          | 84.1      | 85.5           | 90.8                 | 97.2            | 95.0            | 88.8               | 85.1   |       |       |            |              |            |
| 315   | 80.8                 | 82.8                 | 83.2       | 82.4             | 83.8              | 84.7          | 85.5      | 92.1           | 95.5                 | 94.4            | 86.8            | 82.2               | 80.6   |       |       |            |              |            |
| 400   | 80.7                 | 82.5                 | 83.4       | 84.4             | 84.0              | 85.4          | 84.3      | 85.5           | 91.6                 | 94.3            | 91.9            | 84.8               | 80.9   |       |       |            |              |            |
| 500   | 80.4                 | 82.5                 | 83.0       | 83.5             | 83.5              | 85.3          | 85.4      | 86.9           | 90.8                 | 93.1            | 90.3            | 82.0               | 77.8   |       |       |            |              |            |
| 630   | 78.8                 | 80.8                 | 82.0       | 83.2             | 85.0              | 84.9          | 86.3      | 90.2           | 91.8                 | 88.7            | 82.1            | 76.7               | 168.8  |       |       |            |              |            |
| 800   | 78.6                 | 80.7                 | 81.0       | 82.6             | 84.7              | 84.4          | 86.0      | 89.5           | 90.5                 | 86.9            | 80.5            | 75.4               | 168.4  |       |       |            |              |            |
| 1000  | 78.2                 | 82.2                 | 81.6       | 81.6             | 82.5              | 84.0          | 84.1      | 85.6           | 88.8                 | 89.1            | 85.7            | 80.5               | 75.1   |       |       |            |              |            |
| 1250  | 76.1                 | 80.5                 | 81.5       | 81.7             | 82.5              | 84.2          | 82.9      | 84.8           | 86.8                 | 87.5            | 83.7            | 78.4               | 167.8  |       |       |            |              |            |
| 1500  | 74.9                 | 78.1                 | 79.6       | 80.5             | 81.5              | 82.6          | 81.9      | 81.6           | 85.6                 | 85.3            | 81.4            | 75.6               | 167.4  |       |       |            |              |            |
| 2000  | 71.9                 | 75.7                 | 77.6       | 78.5             | 78.6              | 80.3          | 80.1      | 81.1           | 82.9                 | 82.9            | 78.2            | 72.3               | 166.8  |       |       |            |              |            |
| 2500  | 67.0                 | 72.5                 | 74.8       | 75.4             | 76.0              | 78.0          | 76.9      | 77.6           | 79.8                 | 79.1            | 73.8            | 67.9               | 166.2  |       |       |            |              |            |
| 3150  | 61.1                 | 66.6                 | 69.8       | 71.5             | 73.2              | 75.0          | 74.0      | 72.1           | 74.8                 | 74.3            | 67.9            | 58.5               | 165.8  |       |       |            |              |            |
| 4000  | 53.3                 | 60.6                 | 63.8       | 65.0             | 66.2              | 68.4          | 67.3      | 65.6           | 69.5                 | 67.0            | 60.4            | 46.1               | 166.4  |       |       |            |              |            |
| 5000  | 38.3                 | 48.5                 | 53.0       | 54.8             | 58.2              | 60.2          | 58.5      | 56.9           | 60.6                 | 58.3            | 48.3            | 28.0               | 167.7  |       |       |            |              |            |
| 6300  | 15.2                 | 29.5                 | 36.5       | 39.9             | 42.8              | 46.0          | 44.0      | 41.0           | 47.8                 | 44.2            | 30.1            | 1.5                | 170.8  |       |       |            |              |            |
| 8000  | 9.5                  | 15.9                 | 20.9       | 21.9             | 21.9              | 24.1          | 24.1      | 21.9           | 27.3                 | 18.5            |                 |                    | 175.4  |       |       |            |              |            |
| 10000   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    | 173.0  |       |       |            |              |            |
| 12500   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| 15000   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| 20000   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| 25000   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| 31500   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| 40000   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| 50000   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| 63000   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| 80000   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN )                   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)                 |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| DIAMETER RATIO = 7.442                                    |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| FREQ SHIFT = -9   |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514 |                      |                      |            |                  |                   |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |
| VEHICL = ADH109   | TEST DATE = 09-01-81 | LOCAL = C41 ANECH CH | CONFIO = 3 | MODEL = 3        | FLTVEL = 400. FPS | IAPLHA = SB59 | LEGA = NG | WIND VEL = MPH | EXT DIST = 2400.0 FT | EXT CONFIO = SL | MIKE HT = 29.40 | PAMB HG = 64.0 PCT | NBFR = |       |       |            |              |            |
| FNINI =   | LBS XNL =            | RPM =                | XNH =      | RPM =            | V8 =              | FPS AEB =     | AE8 =     | 25.3 SQ IN =   | 0. SQ IN =           | FNRAMB =        | LBS XNLR =      | RPM =              | XNHR = | RPM = | V18 = | FPS AE18 = | 25.3 SQ IN = | 0. SQ IN = |
| RUNPT = 81F-400-0310                                      | TAPE = X03101        | TEST PT NO = 0310    | NC = 863   | CORR FAN SPEED = | RPM =             |               |           |                |                      |                 |                 |                    |        |       |       |            |              |            |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-ZER-0313 X0313C  
BACKGROUND 81F-400-0300

| FREQ  | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.9  | 84.7  | 82.7  | 82.3  | 82.4  | 85.7  | 86.1  | 87.5  | 91.2  | 94.1  | 94.4  | 94.1  | 95.8  |
| 63    | 88.2  | 88.8  | 87.8  | 88.6  | 90.4  | 93.3  | 91.7  | 91.3  | 94.3  | 99.4  | 99.5  | 97.9  | 100.3 |
| 80    | 91.8  | 96.6  | 90.8  | 93.0  | 96.3  | 96.2  | 95.4  | 96.5  | 98.2  | 98.5  | 101.0 | 102.6 | 108.4 |
| 100   | 91.3  | 97.6  | 93.1  | 94.9  | 95.5  | 96.6  | 97.5  | 98.7  | 99.2  | 100.8 | 104.8 | 105.9 | 140.9 |
| 125   | 87.9  | 89.6  | 91.7  | 93.4  | 94.8  | 96.9  | 97.0  | 97.4  | 97.5  | 101.2 | 106.9 | 109.0 | 143.5 |
| 150   | 87.3  | 87.6  | 90.3  | 90.9  | 90.7  | 92.6  | 95.2  | 96.9  | 98.6  | 103.6 | 107.8 | 110.5 | 144.8 |
| 160   | 87.3  | 87.6  | 90.3  | 90.9  | 90.7  | 92.6  | 95.2  | 96.9  | 98.6  | 103.6 | 107.8 | 110.5 | 144.8 |
| 200   | 89.0  | 88.6  | 89.6  | 92.5  | 96.3  | 96.5  | 98.4  | 103.3 | 105.6 | 109.0 | 113.5 | 115.1 | 147.3 |
| 250   | 88.8  | 88.6  | 92.3  | 94.6  | 94.7  | 96.1  | 98.5  | 101.6 | 107.1 | 112.9 | 116.0 | 117.1 | 151.8 |
| 315   | 89.3  | 91.6  | 92.1  | 93.2  | 94.0  | 98.1  | 100.3 | 102.9 | 107.7 | 114.4 | 116.6 | 117.2 | 152.5 |
| 400   | 91.1  | 93.4  | 93.1  | 94.3  | 94.3  | 98.6  | 101.8 | 106.4 | 112.3 | 119.2 | 120.8 | 117.7 | 155.8 |
| 500   | 91.4  | 94.0  | 95.3  | 95.3  | 95.9  | 98.5  | 101.4 | 104.8 | 111.0 | 118.8 | 121.0 | 120.6 | 155.6 |
| 630   | 93.1  | 95.3  | 95.6  | 96.4  | 97.5  | 99.1  | 102.0 | 106.4 | 111.4 | 121.2 | 123.1 | 121.0 | 157.2 |
| 800   | 97.2  | 96.7  | 96.8  | 97.5  | 98.6  | 100.3 | 102.1 | 106.3 | 112.9 | 121.3 | 123.0 | 121.0 | 157.3 |
| 1000  | 100.5 | 100.3 | 99.9  | 100.3 | 99.9  | 101.8 | 104.2 | 107.3 | 114.1 | 121.6 | 123.2 | 120.4 | 157.5 |
| 1250  | 100.5 | 104.8 | 103.5 | 103.1 | 103.2 | 103.5 | 105.2 | 108.3 | 114.7 | 121.6 | 123.2 | 119.2 | 157.4 |
| 1500  | 103.8 | 102.1 | 102.6 | 102.6 | 102.7 | 103.8 | 107.1 | 109.2 | 114.3 | 121.0 | 122.9 | 117.5 | 156.8 |
| 1600  | 103.8 | 102.1 | 102.6 | 102.6 | 102.7 | 103.8 | 107.1 | 109.2 | 114.3 | 121.0 | 122.9 | 117.5 | 156.8 |
| 2000  | 104.2 | 104.6 | 103.7 | 102.9 | 102.0 | 103.6 | 105.7 | 109.4 | 114.8 | 122.2 | 120.8 | 115.9 | 156.5 |
| 2500  | 103.4 | 104.0 | 103.2 | 104.8 | 104.1 | 104.5 | 106.8 | 110.0 | 114.2 | 120.8 | 118.9 | 114.2 | 155.3 |
| 3150  | 102.7 | 103.8 | 103.3 | 103.6 | 104.2 | 106.5 | 107.1 | 109.8 | 114.7 | 119.4 | 118.5 | 112.7 | 154.6 |
| 4000  | 101.2 | 102.0 | 102.7 | 104.0 | 103.3 | 106.1 | 107.9 | 110.5 | 113.8 | 117.9 | 116.4 | 111.6 | 153.5 |
| 5000  | 100.1 | 101.4 | 101.0 | 102.5 | 103.2 | 105.4 | 107.5 | 110.1 | 113.4 | 116.8 | 115.2 | 110.5 | 152.8 |
| 6300  | 99.5  | 102.2 | 101.3 | 102.1 | 103.5 | 105.5 | 107.0 | 110.2 | 112.7 | 115.8 | 114.1 | 109.9 | 152.3 |
| 8000  | 97.8  | 100.4 | 101.6 | 101.6 | 104.6 | 106.5 | 109.2 | 111.6 | 115.2 | 112.3 | 108.3 | 104.5 | 151.7 |
| 10000 | 96.5  | 99.4  | 100.7 | 101.7 | 102.2 | 104.9 | 107.9 | 110.7 | 113.3 | 112.1 | 107.1 | 103.7 | 151.1 |
| 12500 | 95.1  | 97.8  | 99.0  | 99.6  | 101.1 | 102.6 | 103.3 | 105.6 | 109.2 | 111.1 | 109.7 | 105.1 | 149.9 |
| 16000 | 92.4  | 96.1  | 96.9  | 97.3  | 98.4  | 100.9 | 101.7 | 104.8 | 106.8 | 106.7 | 102.9 | 98.7  | 149.1 |
| 20000 | 90.1  | 93.1  | 94.0  | 95.6  | 96.5  | 99.3  | 101.4 | 103.8 | 103.8 | 104.4 | 100.9 | 96.1  | 148.4 |
| 25000 | 85.8  | 90.7  | 91.9  | 93.4  | 93.3  | 96.4  | 97.3  | 101.0 | 103.4 | 103.4 | 100.8 | 97.4  | 147.6 |
| 31500 | 81.4  | 86.6  | 86.6  | 86.4  | 87.5  | 89.5  | 92.9  | 93.5  | 94.7  | 98.3  | 100.1 | 98.2  | 147.5 |
| 40000 | 76.8  | 82.7  | 83.1  | 84.1  | 86.2  | 90.5  | 89.7  | 91.2  | 96.6  | 97.0  | 96.4  | 91.4  | 148.9 |
| 50000 | 72.5  | 81.5  | 78.2  | 81.9  | 78.0  | 88.9  | 82.7  | 85.1  | 92.4  | 97.9  | 84.2  | 82.4  | 156.6 |
| 63000 | 66.6  | 83.1  | 74.7  | 81.9  | 78.0  | 88.9  | 82.7  | 85.1  | 92.4  | 97.9  | 84.2  | 82.4  | 156.6 |
| 80000 | 62.8  | 86.6  | 72.4  | 84.5  | 75.0  | 90.4  | 79.5  | 82.0  | 92.4  | 96.6  | 91.8  | 82.4  | 162.6 |
| GASPL | 112.5 | 113.9 | 113.6 | 114.2 | 114.4 | 116.4 | 118.1 | 121.0 | 125.5 | 131.8 | 132.5 | 130.2 | 127.4 |
| PNL   | 125.6 | 126.9 | 126.5 | 127.2 | 127.5 | 129.6 | 131.3 | 134.0 | 138.3 | 143.7 | 143.4 | 139.8 | 136.7 |
| PNLT  | 125.6 | 127.9 | 126.5 | 127.2 | 127.5 | 129.6 | 131.3 | 134.0 | 138.3 | 143.7 | 143.9 | 139.8 | 136.7 |
| DBA   | 112.9 | 113.9 | 113.5 | 114.0 | 114.1 | 115.8 | 117.7 | 120.7 | 125.3 | 131.6 | 132.1 | 128.7 | 125.1 |

NASA SHOCK CELL/COUNT. CONV. ANN. FLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH096 TEST DATE = 09-01-81  
 IAPLHA = SB59 IEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 LBS XNL RPM XNHR RPM XNHL RPM  
 FNRAMB = LBS XNLR RPM XNHR RPM  
 RUNPT = 9 ZER-0313 TAPE = X0313C TEST PT NO = 0313 NC = 863 CORR FAN SPEED = RPM

CONFIG = C41 ANEGH CH CONFIG = 3  
 PML AREA = FULL SPHERE TAMB F = 76.00  
 EXT DIST = 40.0 FT EXT CONFIG = ARC  
 PML AREA = FULL SPHERE TAMB F = 76.00  
 MODEL = 3  
 PAMB HG = 29.45  
 RELHUM = 89.0 PCT  
 FTVEL = 0 FPS  
 NBFR =

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| FREQ   | ANGLES MEASURED FROM INLET, DEGREES |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        | 40                                  | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |       |
| 200    | 94.2                                | 95.8  | 94.0  | 94.4  | 93.6  | 93.3  | 94.1  | 95.8  | 101.0 | 107.1 | 109.2 | 111.8 | 111.8 | 146.0 |
| 250    | 94.2                                | 95.8  | 94.0  | 94.4  | 92.8  | 94.8  | 95.7  | 97.1  | 107.3 | 113.6 | 115.6 | 117.0 | 114.8 | 151.2 |
| 315    | 94.2                                | 95.8  | 94.0  | 94.4  | 92.8  | 94.8  | 95.7  | 97.1  | 107.3 | 113.6 | 115.6 | 117.0 | 114.8 | 151.2 |
| 400    | 94.0                                | 95.2  | 93.6  | 93.1  | 93.9  | 96.1  | 97.5  | 101.4 | 105.8 | 113.5 | 116.5 | 116.7 | 113.7 | 151.2 |
| 500    | 97.0                                | 96.3  | 95.3  | 95.1  | 95.5  | 96.3  | 97.7  | 100.6 | 107.0 | 115.6 | 119.2 | 117.6 | 114.5 | 153.0 |
| 630    | 97.1                                | 96.2  | 96.0  | 96.4  | 96.9  | 97.0  | 98.8  | 102.2 | 107.7 | 116.5 | 119.6 | 117.1 | 113.8 | 153.3 |
| 800    | 97.8                                | 98.4  | 97.6  | 96.4  | 96.9  | 97.8  | 99.0  | 101.1 | 108.9 | 117.4 | 121.0 | 117.3 | 115.8 | 154.4 |
| 1000   | 98.5                                | 97.7  | 97.8  | 97.7  | 98.0  | 99.2  | 100.1 | 102.3 | 109.6 | 117.5 | 121.5 | 116.9 | 115.4 | 154.6 |
| 1250   | 102.6                               | 102.1 | 99.9  | 99.1  | 101.2 | 100.8 | 103.4 | 110.7 | 117.4 | 121.9 | 116.4 | 115.7 | 115.4 | 154.9 |
| 1500   | 102.6                               | 102.3 | 102.3 | 101.1 | 102.1 | 103.4 | 104.8 | 111.7 | 118.3 | 120.5 | 116.0 | 115.1 | 115.4 | 154.7 |
| 2000   | 106.5                               | 106.6 | 104.7 | 103.0 | 102.1 | 103.1 | 105.2 | 111.3 | 118.1 | 118.9 | 115.0 | 115.1 | 115.4 | 154.1 |
| 2500   | 106.3                               | 107.1 | 104.3 | 105.1 | 104.1 | 103.5 | 104.8 | 112.4 | 116.2 | 116.7 | 112.5 | 112.7 | 115.2 | 152.9 |
| 3150   | 106.5                               | 106.2 | 104.9 | 105.8 | 104.4 | 105.8 | 104.8 | 106.5 | 112.4 | 116.2 | 116.7 | 112.5 | 112.7 | 152.9 |
| 4000   | 106.9                               | 106.8 | 105.3 | 105.5 | 104.1 | 105.9 | 106.2 | 108.0 | 111.7 | 115.5 | 115.4 | 111.0 | 111.3 | 152.4 |
| 5000   | 105.5                               | 106.0 | 105.2 | 104.0 | 105.1 | 106.0 | 107.7 | 112.0 | 113.9 | 114.7 | 110.6 | 110.6 | 110.6 | 151.9 |
| 6300   | 105.8                               | 105.2 | 104.6 | 104.1 | 103.9 | 106.0 | 105.7 | 108.1 | 111.1 | 113.5 | 112.4 | 109.8 | 109.8 | 151.3 |
| 8000   | 105.3                               | 106.3 | 104.6 | 104.1 | 103.4 | 104.7 | 105.5 | 107.6 | 110.8 | 112.7 | 112.1 | 110.2 | 111.1 | 151.4 |
| 10000  | 104.5                               | 104.9 | 103.4 | 103.3 | 104.6 | 104.9 | 106.7 | 109.9 | 111.1 | 111.3 | 108.0 | 109.9 | 109.9 | 151.0 |
| 12500  | 103.4                               | 103.6 | 103.5 | 103.3 | 103.3 | 103.3 | 105.0 | 108.5 | 109.6 | 109.5 | 108.0 | 109.0 | 109.0 | 150.5 |
| 15000  | 101.9                               | 101.8 | 101.9 | 101.2 | 100.4 | 101.3 | 101.9 | 103.9 | 106.5 | 107.7 | 106.9 | 105.8 | 106.2 | 149.9 |
| 20000  | 98.8                                | 99.8  | 98.6  | 98.6  | 99.6  | 99.3  | 100.7 | 104.4 | 105.1 | 104.6 | 104.0 | 103.8 | 103.8 | 149.3 |
| 25000  | 96.0                                | 96.3  | 96.2  | 95.9  | 98.2  | 98.3  | 97.3  | 101.2 | 102.5 | 102.2 | 100.6 | 100.0 | 100.0 | 148.9 |
| 31500  | 91.6                                | 93.6  | 92.9  | 92.3  | 92.8  | 93.5  | 94.1  | 99.9  | 100.2 | 99.9  | 96.8  | 95.2  | 149.2 |       |
| 40000  | 86.1                                | 88.7  | 88.1  | 88.1  | 89.6  | 90.8  | 90.4  | 90.6  | 97.2  | 99.1  | 97.2  | 92.7  | 89.4  | 150.4 |
| 50000  | 84.2                                | 86.0  | 86.0  | 85.3  | 85.3  | 87.7  | 86.0  | 96.7  | 101.0 | 97.7  | 88.8  | 85.2  | 154.5 |       |
| 63000  | 78.8                                | 80.7  | 79.7  | 79.9  | 82.5  | 83.8  | 82.1  | 95.8  | 100.3 | 97.5  | 84.9  | 83.2  | 158.8 |       |
| 80000  | 71.1                                | 76.7  | 74.5  | 76.1  | 80.4  | 81.4  | 78.7  | 78.8  | 86.0  | 90.5  | 87.7  | 75.1  | 73.4  | 156.7 |
| 94000  | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 95000  | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 96000  | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 97000  | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 98000  | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 99000  | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 100000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 101000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 102000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 103000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 104000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 105000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 106000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 107000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 108000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 109000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 110000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 111000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 112000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 113000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 114000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 115000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 116000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 117000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 118000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 119000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 120000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 121000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 122000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 123000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 124000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 125000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 126000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 127000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 128000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 129000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 130000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 131000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 132000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 133000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 134000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 135000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 136000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 137000 | 116.8                               | 116.8 | 115.7 | 115.1 | 114.6 | 115.7 | 115.9 | 117.9 | 122.9 | 128.2 | 130.5 | 127.4 | 126.1 | 167.3 |
| 138000 | 116.8                               | 116.  |       |       |       |       |       |       |       |       |       |       |       |       |



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0314 X03141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 72.0 74.8 74.2 74.4 75.6 78.0 79.2 82.7 86.4 93.0 94.5 92.5 86.2 168.6

63 75.0 75.8 75.9 76.4 77.2 78.2 79.4 81.9 87.5 95.1 97.2 93.3 86.9 170.5

80 74.0 76.6 76.8 77.3 77.6 78.8 80.5 83.5 88.2 92.8 97.5 92.8 86.1 170.8

100 75.7 77.8 78.1 78.9 79.6 80.9 81.7 83.4 89.4 96.8 99.2 92.3 87.3 172.1

125 77.2 77.8 78.1 78.9 79.6 80.9 81.7 83.4 89.4 96.8 99.2 92.3 87.3 172.1

150 80.1 81.3 80.1 80.1 82.6 82.4 82.2 84.4 91.0 96.5 99.4 91.6 87.3 172.3

200 82.1 85.0 83.4 83.1 82.4 83.5 84.7 85.6 91.7 97.2 97.8 90.9 86.2 172.1

250 85.4 85.3 84.5 83.7 83.2 84.1 84.1 85.8 91.1 96.8 95.9 89.4 85.5 171.5

315 82.8 85.4 85.6 84.7 85.9 85.0 84.3 86.3 91.9 95.4 94.9 87.7 83.3 171.1

400 82.8 84.1 84.0 85.9 84.9 86.4 85.3 86.5 91.6 94.1 92.7 85.7 81.3 170.3

500 82.4 84.4 84.2 85.2 84.3 86.3 86.4 87.7 90.6 93.0 91.0 83.6 78.9 169.8

630 81.6 83.1 84.3 84.6 83.9 85.3 85.9 87.1 90.5 91.1 89.8 82.5 77.2 169.3

800 80.4 81.9 82.8 83.3 83.6 85.9 85.5 87.3 89.3 87.0 81.0 75.3 168.7

1000 79.5 82.7 82.6 83.1 83.0 84.5 85.1 86.6 88.8 89.2 86.2 80.7 75.4 168.8

1250 78.1 81.0 82.0 82.2 82.8 84.2 84.4 85.5 87.7 87.2 84.9 78.6 72.8 168.4

1600 76.2 79.1 80.8 82.0 81.5 82.6 82.4 83.5 85.9 85.2 82.2 76.4 69.5 167.9

2000 73.6 76.7 78.9 79.5 79.4 80.6 80.9 82.2 83.4 82.7 78.7 72.5 63.7 167.3

2500 68.8 73.5 75.5 76.2 77.0 78.3 77.7 78.3 80.5 78.8 74.6 68.0 56.4 166.7

3150 62.6 67.6 70.8 72.2 72.9 75.5 75.3 73.3 73.3 75.4 73.7 68.9 59.6 166.4

4000 52.0 60.1 63.3 65.1 66.9 68.4 67.6 66.9 70.3 66.8 60.3 46.8 24.9 166.6

5000 36.7 47.7 52.3 55.4 58.7 60.5 59.5 57.9 61.4 58.1 47.8 29.0 1.0 167.8

6300 17.0 30.7 38.3 41.9 44.3 47.5 45.0 42.5 48.8 45.7 30.6 1.0 172.0

8000 0.6 10.5 17.2 23.4 25.8 23.9 19.4 26.6 20.2 176.3 174.2

10000 17.0 30.7 38.3 41.9 44.3 47.5 45.0 42.5 48.8 45.7 30.6 1.0 172.0

12500 17.0 30.7 38.3 41.9 44.3 47.5 45.0 42.5 48.8 45.7 30.6 1.0 172.0

15000 17.0 30.7 38.3 41.9 44.3 47.5 45.0 42.5 48.8 45.7 30.6 1.0 172.0

FREQ

ANGLE

8000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000  
8000

QASPL 92.6 94.4 94.4 94.8 94.8 95.9 96.1 97.6 102.0 106.6 107.6 101.7 96.4 184.6

PNL 98.2 100.5 101.6 102.3 102.3 103.6 103.7 104.9 108.1 110.8 110.1 103.5 98.0

PMLT 98.2 101.2 102.3 102.9 102.3 103.6 103.7 104.9 108.7 111.5 110.1 104.6 98.0

DBA 88.4 90.7 91.4 92.0 91.8 93.3 93.3 94.6 97.5 99.0 97.7 90.9 86.0

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CQNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH108 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NG PML AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 RELHUM = 64.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FNINI = LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2438.9 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2438.9 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-0314 TAPE = X03141 TEST PT NO = 0314 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0315 X0315C

BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.7  | 85.2  | 83.7  | 84.5  | 84.4  | 85.5  | 85.9  | 88.3  | 90.7  | 94.1  | 93.9  | 94.9  | 95.8  | 131.9 |
| 50    | 89.2  | 89.0  | 89.3  | 91.3  | 92.4  | 92.3  | 92.2  | 92.8  | 94.8  | 100.9 | 99.0  | 98.9  | 100.3 | 137.3 |
| 80    | 91.5  | 96.6  | 91.3  | 92.4  | 93.5  | 95.8  | 95.7  | 98.0  | 99.4  | 98.5  | 99.7  | 101.3 | 106.2 | 141.3 |
| 100   | 91.8  | 97.8  | 93.4  | 95.2  | 95.7  | 96.9  | 98.0  | 99.4  | 98.5  | 99.7  | 101.3 | 106.2 | 110.5 | 144.1 |
| 125   | 88.4  | 90.4  | 91.9  | 94.2  | 95.3  | 97.7  | 97.5  | 97.9  | 98.3  | 101.7 | 107.6 | 109.5 | 110.5 | 144.1 |
| 150   | 87.3  | 88.3  | 90.6  | 91.4  | 91.0  | 92.6  | 94.7  | 96.9  | 99.1  | 104.4 | 108.3 | 110.5 | 112.6 | 145.0 |
| 160   | 87.3  | 88.3  | 90.6  | 91.4  | 91.0  | 92.6  | 94.7  | 96.9  | 99.1  | 104.4 | 108.3 | 110.5 | 112.6 | 145.0 |
| 200   | 89.5  | 88.6  | 91.1  | 93.5  | 93.5  | 97.0  | 98.6  | 103.8 | 106.1 | 109.8 | 113.9 | 121.9 | 123.2 | 157.4 |
| 250   | 89.3  | 89.3  | 92.6  | 94.9  | 95.2  | 96.3  | 98.2  | 102.1 | 107.1 | 113.1 | 116.8 | 118.5 | 117.7 | 152.3 |
| 315   | 89.3  | 89.3  | 91.4  | 91.6  | 93.2  | 94.3  | 98.4  | 100.5 | 102.9 | 108.0 | 115.2 | 117.3 | 118.8 | 153.0 |
| 400   | 91.8  | 93.4  | 93.4  | 94.9  | 95.0  | 98.6  | 101.8 | 106.2 | 112.6 | 119.4 | 120.8 | 120.8 | 117.4 | 156.0 |
| 500   | 91.7  | 94.0  | 94.5  | 95.5  | 95.9  | 98.7  | 101.4 | 105.0 | 110.7 | 119.1 | 121.2 | 120.4 | 117.0 | 155.7 |
| 630   | 93.1  | 95.1  | 95.6  | 96.4  | 97.5  | 99.6  | 102.5 | 106.2 | 111.7 | 120.7 | 123.1 | 120.7 | 117.9 | 157.0 |
| 800   | 97.7  | 96.7  | 96.8  | 97.5  | 98.4  | 100.8 | 102.9 | 106.5 | 112.9 | 121.6 | 123.2 | 120.9 | 116.5 | 157.4 |
| 1000  | 101.2 | 101.3 | 100.5 | 100.6 | 100.4 | 102.4 | 107.6 | 113.8 | 122.1 | 122.5 | 119.7 | 122.5 | 116.3 | 157.2 |
| 1250  | 102.0 | 105.3 | 104.3 | 103.8 | 103.9 | 103.8 | 105.4 | 108.3 | 113.9 | 121.9 | 123.0 | 118.7 | 114.4 | 157.3 |
| 1500  | 106.8 | 104.6 | 104.3 | 104.3 | 102.7 | 104.1 | 106.6 | 109.2 | 114.3 | 121.8 | 122.4 | 116.7 | 112.5 | 156.9 |
| 2000  | 107.2 | 107.3 | 106.2 | 105.6 | 103.5 | 104.3 | 105.7 | 108.9 | 115.0 | 122.4 | 120.3 | 116.1 | 111.1 | 156.5 |
| 2500  | 105.4 | 106.5 | 107.3 | 106.6 | 105.7 | 107.0 | 109.8 | 114.2 | 121.6 | 118.4 | 113.2 | 110.0 | 105.7 | 155.7 |
| 3150  | 104.7 | 106.1 | 105.1 | 105.8 | 106.7 | 108.8 | 107.4 | 110.1 | 114.4 | 120.4 | 118.2 | 111.9 | 108.3 | 155.1 |
| 4000  | 103.0 | 103.7 | 104.5 | 105.3 | 105.3 | 107.8 | 108.9 | 110.5 | 113.8 | 118.4 | 115.9 | 110.9 | 107.1 | 153.8 |
| 5000  | 101.1 | 102.4 | 102.7 | 104.5 | 105.2 | 106.6 | 108.5 | 110.6 | 113.4 | 117.5 | 115.0 | 108.8 | 105.9 | 153.2 |
| 6300  | 100.5 | 100.9 | 101.7 | 102.6 | 103.3 | 106.1 | 107.5 | 110.2 | 111.4 | 115.7 | 112.6 | 107.2 | 104.8 | 152.1 |
| 8000  | 98.3  | 100.9 | 101.7 | 102.6 | 103.3 | 106.1 | 107.5 | 110.2 | 111.4 | 115.7 | 112.6 | 107.2 | 104.8 | 152.1 |
| 10000 | 97.2  | 99.6  | 100.9 | 102.7 | 103.9 | 105.2 | 106.8 | 108.9 | 111.0 | 114.1 | 111.8 | 103.7 | 101.6 | 151.6 |
| 12500 | 96.1  | 98.3  | 99.3  | 100.1 | 101.4 | 103.6 | 104.6 | 106.8 | 109.2 | 112.3 | 110.4 | 103.6 | 101.2 | 150.7 |
| 16000 | 92.9  | 96.4  | 96.9  | 97.5  | 98.9  | 101.1 | 102.5 | 105.5 | 106.8 | 109.8 | 107.3 | 102.2 | 98.9  | 149.6 |
| 20000 | 90.3  | 93.6  | 93.6  | 94.2  | 95.6  | 96.4  | 99.2  | 99.8  | 101.9 | 104.1 | 104.7 | 100.1 | 97.1  | 148.8 |
| 25000 | 86.6  | 90.9  | 92.9  | 93.8  | 96.9  | 96.9  | 98.1  | 98.5  | 101.0 | 104.2 | 104.2 | 99.1  | 92.5  | 148.0 |
| 31500 | 82.2  | 86.6  | 87.2  | 90.0  | 89.5  | 86.4  | 90.5  | 89.9  | 92.7  | 96.1  | 98.0  | 89.9  | 84.7  | 149.3 |
| 40000 | 77.8  | 82.9  | 83.8  | 88.4  | 86.4  | 86.4  | 90.5  | 89.9  | 92.7  | 96.1  | 98.0  | 89.9  | 84.7  | 149.3 |
| 50000 | 73.3  | 81.5  | 78.4  | 88.0  | 82.1  | 89.9  | 85.9  | 88.8  | 93.4  | 97.6  | 94.1  | 87.0  | 79.8  | 151.9 |
| 63000 | 67.6  | 83.6  | 75.4  | 89.4  | 79.0  | 89.7  | 83.7  | 86.8  | 92.9  | 97.7  | 93.2  | 84.2  | 79.2  | 156.9 |
| 80000 | 63.3  | 87.6  | 73.2  | 89.5  | 77.1  | 91.0  | 81.1  | 84.3  | 92.9  | 96.4  | 91.3  | 82.2  | 78.1  | 163.0 |
| QASPL | 114.4 | 115.3 | 115.0 | 115.6 | 115.7 | 117.5 | 118.6 | 121.3 | 125.5 | 132.2 | 132.4 | 129.9 | 127.3 | 169.6 |
| PWL   | 127.3 | 128.5 | 128.0 | 128.8 | 129.2 | 131.0 | 131.9 | 134.2 | 138.2 | 144.3 | 143.3 | 139.2 | 136.3 |       |
| DBA   | 114.9 | 115.6 | 115.2 | 115.6 | 115.6 | 117.1 | 118.2 | 120.9 | 125.2 | 132.1 | 131.8 | 128.2 | 124.8 |       |

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADG097 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CNF1G = 3 MODEL = 3 FLTVL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 89.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF1G = ARC MIKE HT = NBFRR =  
 FNINI = LBS XNL RPM XNH RPM V8 = 2452.0 FPS AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM V18 = FPS AE18 = 0. SQ IN  
 RUNPT = 01 ZER-0315 TAPE = X0315C TEST PT NO = 0315 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0315 X0315F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.7 85.2 83.7 84.5 84.4 85.5 85.9 88.3 90.7 94.1 93.9 94.9 95.8 131.9  
63 89.2 89.0 89.3 91.3 92.4 92.3 92.2 92.8 94.8 100.9 99.0 98.9 100.3 137.3  
80 91.5 96.6 91.3 92.4 93.5 95.8 95.7 99.1 97.0 96.2 98.8 101.0 102.4 138.4  
100 98.4 97.8 93.4 95.2 95.7 96.9 98.0 97.9 98.5 99.7 101.3 105.0 106.2 141.3  
125 98.4 90.4 91.9 94.2 95.3 97.7 97.5 97.9 98.3 101.7 107.6 109.5 110.5 144.1  
160 87.3 88.3 90.6 91.4 91.0 92.6 94.7 96.9 99.1 104.4 108.3 110.5 112.6 145.0  
200 89.5 88.6 90.1 91.1 93.5 96.3 97.0 98.6 103.8 106.1 109.8 113.7 115.4 147.6  
250 89.3 92.6 94.9 95.2 96.3 98.2 102.1 107.1 113.1 116.8 118.5 117.6 152.3  
315 89.3 91.4 91.6 93.2 94.3 98.4 100.5 102.9 108.0 115.2 117.3 118.8 117.7 153.0  
400 91.8 93.4 93.4 94.9 95.0 98.6 101.8 106.2 112.6 119.4 121.1 120.8 117.4 156.0  
500 91.7 94.0 94.5 95.5 95.9 98.7 101.4 105.0 110.7 119.1 121.2 120.4 117.0 155.7  
630 93.1 95.1 95.6 96.4 97.5 99.6 102.5 106.2 111.7 120.7 123.1 120.7 117.9 157.0  
800 97.7 96.7 96.8 97.5 98.4 100.8 102.9 106.5 112.9 121.6 123.2 120.9 116.5 157.4  
1000 101.2 101.3 100.5 100.6 100.5 100.6 104.2 107.6 113.8 122.1 122.5 119.7 116.3 157.2  
1250 102.0 105.3 104.3 103.8 103.9 103.8 104.4 108.3 113.9 121.9 123.0 118.7 114.4 157.3  
1600 106.8 104.6 104.3 103.4 102.7 104.1 106.6 109.2 114.3 121.8 122.4 116.7 112.5 156.9  
2000 107.2 107.3 106.2 103.5 104.3 103.5 104.3 107.0 109.8 115.0 122.4 114.6 111.1 156.5  
2500 105.4 106.5 106.2 107.3 106.6 105.7 107.0 109.8 114.2 121.6 118.4 113.2 110.0 155.7  
3150 104.7 106.1 105.1 105.8 106.7 108.8 107.4 110.1 114.4 120.4 118.2 111.9 108.3 155.1  
4000 103.0 103.7 104.5 105.3 105.3 107.8 108.9 110.5 113.4 117.5 115.9 107.1 103.8  
4500 101.1 102.4 102.7 104.5 105.2 106.6 108.5 110.6 113.4 117.5 115.0 108.8 105.9 153.2  
5000 101.1 102.4 102.7 104.5 105.2 106.6 108.5 110.6 113.4 117.5 115.0 108.8 105.9 153.2  
6300 100.5 102.7 102.3 102.9 104.5 107.0 108.0 110.7 112.5 116.6 114.4 108.4 105.3 152.7  
8000 98.3 100.9 101.7 102.6 103.3 106.1 107.5 110.2 111.4 115.7 112.6 107.2 104.8 152.1  
10000 97.2 99.6 100.9 101.9 102.7 105.2 105.8 108.9 111.0 114.1 111.8 106.6 103.7 151.6  
12500 96.1 98.3 99.3 100.1 101.4 103.6 104.6 106.8 109.2 112.3 110.4 103.6 101.2 150.7  
16000 92.9 96.4 96.9 97.5 98.9 101.1 102.5 105.5 106.8 109.8 107.3 102.2 98.9 149.6  
20000 90.3 93.6 94.2 95.6 96.4 99.2 99.8 101.9 104.1 107.6 104.7 100.2 96.1 148.8  
25000 86.6 90.9 92.9 93.8 96.9 98.1 98.5 101.0 104.2 100.1 97.1 92.5 148.0  
31500 82.2 86.6 87.2 90.0 89.5 93.2 93.5 95.2 98.3 101.1 97.9 93.0 88.4 147.9  
40000 77.8 82.9 83.8 88.4 86.4 90.5 89.9 92.7 96.1 98.0 96.2 89.9 84.7 149.3  
50000 73.3 81.5 78.4 88.0 82.1 89.9 85.9 88.8 93.4 97.6 94.1 87.0 79.8 151.9  
63000 67.6 83.6 83.6 89.4 79.0 89.7 83.7 86.8 92.9 97.7 93.2 84.2 79.2 156.9  
80000 63.3 87.6 87.6 93.2 89.5 77.1 91.0 81.1 84.3 92.9 96.4 91.3 82.2 163.0

GASPL 114.4 115.3 115.0 115.6 115.7 117.5 118.6 121.3 125.5 132.2 132.4 129.9 127.3 169.6  
PNLT 127.3 128.5 128.0 128.8 129.2 131.0 131.9 134.2 138.2 144.3 143.3 139.2 136.3  
PNLT 127.3 129.2 128.0 128.8 129.2 131.0 131.9 134.2 138.2 144.3 143.3 139.2 136.3  
DBA 184.8 207.8 194.0 210.0 197.8 211.3 201.9 205.1 213.4 217.0 212.0 203.0 198.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADG097 TEST DATE = 09-01-81  
IAPLHA = SB59 IEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
LOCAT = C41 ANECH CH CONFIG = 3  
TAMB F = FULL SPHERE  
EXT DIST = 40.0 FT  
EXT CONFIG = ARC  
PAMB HG = 29.40  
RELHUM = 89.0 PCT  
FLTVEL = 0. FPS  
MODEL = 3  
MIKE HT = NBFR

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2452.0 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2452.0 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-ZER-0315 TAPE = X0315F TEST PT NO = 0315 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0315 X03151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130.  | 140.  | 150. | 160.  |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|
| PML   | 69.8 | 72.9 | 74.0 | 76.2 | 76.7 | 80.5 | 83.5 | 87.5 | 93.2 | 99.0  | 99.1  | 96.6 | 69.9  |
| 50    | 69.8 | 72.9 | 74.0 | 76.2 | 76.7 | 80.5 | 83.5 | 87.5 | 93.2 | 99.0  | 99.1  | 96.6 | 69.9  |
| 63    | 69.7 | 73.5 | 75.1 | 76.8 | 77.6 | 80.6 | 83.1 | 86.3 | 91.3 | 98.6  | 99.2  | 96.1 | 89.4  |
| 80    | 71.0 | 74.6 | 76.2 | 77.7 | 79.2 | 81.4 | 84.2 | 87.4 | 92.2 | 100.1 | 101.0 | 96.4 | 90.2  |
| 100   | 75.5 | 76.1 | 77.2 | 78.8 | 80.0 | 82.5 | 84.5 | 87.8 | 93.3 | 101.0 | 101.0 | 96.5 | 88.7  |
| 125   | 79.9 | 80.6 | 80.9 | 81.7 | 82.0 | 84.0 | 85.7 | 88.7 | 94.2 | 101.4 | 100.2 | 95.1 | 88.2  |
| 160   | 79.5 | 84.4 | 84.6 | 84.8 | 85.4 | 85.4 | 86.9 | 89.3 | 94.2 | 101.0 | 100.5 | 93.9 | 86.0  |
| 200   | 84.0 | 83.5 | 84.4 | 84.2 | 85.0 | 85.5 | 87.8 | 90.1 | 94.4 | 100.7 | 99.7  | 91.6 | 83.5  |
| 250   | 84.1 | 86.0 | 86.1 | 86.2 | 84.5 | 85.5 | 86.8 | 89.5 | 94.9 | 101.1 | 97.2  | 89.0 | 81.5  |
| 315   | 81.9 | 84.8 | 85.8 | 87.6 | 87.4 | 86.7 | 87.9 | 90.1 | 93.8 | 99.9  | 95.0  | 87.1 | 79.6  |
| 400   | 80.8 | 84.0 | 84.3 | 85.9 | 87.2 | 89.4 | 87.9 | 90.1 | 93.6 | 98.3  | 94.3  | 85.2 | 76.9  |
| 500   | 78.5 | 83.4 | 85.0 | 85.6 | 88.2 | 89.2 | 89.2 | 92.7 | 96.0 | 91.5  | 83.5  | 74.7 | 171.2 |
| 630   | 76.2 | 79.6 | 81.2 | 83.9 | 86.7 | 88.5 | 90.0 | 91.9 | 94.6 | 90.1  | 80.7  | 72.5 | 170.6 |
| 800   | 75.0 | 79.4 | 80.6 | 82.0 | 84.2 | 86.9 | 87.7 | 89.9 | 90.7 | 93.3  | 88.9  | 79.6 | 170.2 |
| 1000  | 72.4 | 77.4 | 79.7 | 81.6 | 82.9 | 85.9 | 87.1 | 89.4 | 92.2 | 86.7  | 77.8  | 69.0 | 169.6 |
| 1250  | 70.9 | 75.8 | 78.7 | 80.8 | 82.1 | 84.8 | 85.2 | 87.7 | 88.7 | 90.2  | 85.5  | 76.3 | 169.0 |
| 1600  | 68.9 | 75.8 | 76.6 | 78.6 | 80.5 | 83.0 | 83.7 | 85.3 | 86.5 | 87.9  | 83.2  | 72.0 | 168.1 |
| 2000  | 64.7 | 71.3 | 73.8 | 75.8 | 77.9 | 80.3 | 81.5 | 83.8 | 83.7 | 84.7  | 79.0  | 68.9 | 167.1 |
| 2500  | 60.3 | 67.3 | 70.3 | 73.2 | 74.9 | 77.9 | 78.3 | 79.4 | 80.1 | 81.3  | 74.7  | 64.1 | 166.3 |
| 3150  | 53.2 | 62.2 | 65.1 | 68.9 | 70.8 | 74.3 | 75.2 | 74.6 | 75.2 | 75.4  | 66.7  | 56.1 | 165.4 |
| 4000  | 42.6 | 53.2 | 57.6 | 62.7 | 63.6 | 67.7 | 67.6 | 67.9 | 68.7 | 67.6  | 58.3  | 43.0 | 165.4 |
| 5000  | 28.4 | 41.9 | 48.0 | 55.7 | 55.5 | 60.2 | 59.0 | 60.2 | 56.9 | 46.8  | 26.2  |      | 166.7 |
| 6300  | 6.1  | 26.2 | 30.5 | 44.6 | 41.1 | 49.6 | 44.9 | 45.3 | 45.5 | 42.4  | 27.0  |      | 169.3 |
| 8000  |      |      |      |      |      |      |      |      |      |       |       |      | 174.3 |
| 10000 |      |      |      |      |      |      |      |      |      |       |       |      | 180.5 |

ORIGINAL PAGE IS  
 OF POOR QUALITY

VEHICL = ADG097 TEST DATE = 09-01-81  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
 LOCAT = C41 ANECH CH CONFIG = 3  
 MODEL = 3  
 FTLVEL = 0. FPS  
 RELHUM = 89.0 PCT  
 NBFR =  
 MIKE HT =  
 PAMB HG = 29.40  
 AE8 = 2452.0 FPS  
 AE8 = 25.3 SQ IN  
 V8 = 18 RPM  
 XNH = 18 RPM  
 XNHR = 18 RPM  
 XNHLR = 18 RPM  
 LBS XNL = 18 RPM  
 LBS XNLR = 18 RPM  
 FNRAMB = 18 RPM  
 FNINI = 18 RPM  
 TEST PT NO = 0315  
 NC = 863  
 CORR FAN SPEED = RPM  
 RUNPT = 81  
 2-0315 TAPE = X03151

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN)  
 SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)  
 DIAMETER RATIO = 7.442  
 FREQ SHIFT = -9

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0316 X0316C  
BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|            |       |       |        |        |        |        |        |        |        |        |        |        |        |       |
|------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 50         | 89.2  | 87.5  | 84.0   | 83.3   | 84.4   | 85.2   | 85.9   | 87.5   | 90.9   | 94.1   | 96.2   | 95.6   | 99.3   | 133.2 |
| FRQ        | 40.   | 50.   | 60.    | 70.    | 80.    | 90.    | 100.   | 110.   | 120.   | 130.   | 140.   | 150.   | 160.   |       |
| 50         | 88.4  | 86.8  | 83.3   | 82.6   | 83.7   | 84.5   | 86.1   | 89.6   | 92.7   | 94.6   | 96.5   | 98.4   | 100.3  | 137.6 |
| 63         | 90.0  | 88.1  | 84.6   | 83.9   | 85.0   | 86.7   | 89.2   | 92.7   | 94.6   | 96.5   | 98.4   | 100.3  | 102.2  | 145.9 |
| 80         | 92.0  | 90.3  | 86.8   | 86.1   | 87.2   | 88.9   | 91.4   | 94.9   | 96.8   | 98.7   | 100.6  | 102.5  | 104.4  | 149.9 |
| 100        | 91.6  | 89.9  | 86.4   | 85.7   | 86.8   | 88.5   | 91.0   | 94.5   | 96.4   | 98.3   | 100.2  | 102.1  | 104.0  | 150.4 |
| 125        | 88.6  | 86.9  | 83.4   | 82.7   | 83.8   | 85.5   | 88.0   | 91.5   | 93.4   | 95.3   | 97.2   | 99.1   | 101.0  | 155.6 |
| 150        | 87.3  | 85.6  | 82.1   | 81.4   | 82.5   | 84.2   | 86.7   | 89.2   | 91.7   | 94.2   | 96.7   | 99.2   | 101.7  | 155.6 |
| 200        | 87.5  | 85.8  | 82.3   | 81.6   | 82.7   | 84.4   | 86.9   | 89.4   | 91.9   | 94.4   | 96.9   | 99.4   | 101.9  | 155.6 |
| 250        | 86.8  | 85.1  | 81.6   | 80.9   | 82.0   | 83.7   | 86.2   | 88.7   | 91.2   | 93.7   | 96.2   | 98.7   | 101.2  | 155.6 |
| 315        | 86.8  | 85.1  | 81.6   | 80.9   | 82.0   | 83.7   | 86.2   | 88.7   | 91.2   | 93.7   | 96.2   | 98.7   | 101.2  | 155.6 |
| 400        | 89.1  | 87.4  | 83.9   | 83.2   | 84.3   | 86.0   | 88.5   | 91.0   | 93.5   | 96.0   | 98.5   | 101.0  | 103.5  | 155.6 |
| 500        | 88.4  | 86.7  | 83.2   | 82.5   | 83.6   | 85.3   | 87.8   | 90.3   | 92.8   | 95.3   | 97.8   | 100.3  | 102.8  | 155.6 |
| 630        | 90.1  | 88.4  | 84.9   | 84.2   | 85.3   | 87.0   | 89.5   | 92.0   | 94.5   | 97.0   | 99.5   | 102.0  | 104.5  | 155.6 |
| 800        | 92.5  | 90.8  | 87.3   | 86.6   | 87.7   | 89.4   | 91.9   | 94.4   | 96.9   | 99.4   | 101.9  | 104.4  | 106.9  | 155.6 |
| 1000       | 98.2  | 96.5  | 93.0   | 92.3   | 93.4   | 95.1   | 97.6   | 100.1  | 102.6  | 105.1  | 107.6  | 110.1  | 112.6  | 155.6 |
| 1250       | 102.0 | 100.3 | 96.8   | 96.1   | 97.2   | 98.9   | 101.4  | 103.9  | 106.4  | 108.9  | 111.4  | 113.9  | 116.4  | 155.6 |
| 1500       | 106.8 | 105.1 | 101.6  | 100.9  | 102.0  | 103.7  | 106.2  | 108.7  | 111.2  | 113.7  | 116.2  | 118.7  | 121.2  | 155.6 |
| 2000       | 104.2 | 102.5 | 99.0   | 98.3   | 99.4   | 101.1  | 103.6  | 106.1  | 108.6  | 111.1  | 113.6  | 116.1  | 118.6  | 155.6 |
| 2500       | 102.7 | 101.0 | 97.5   | 96.8   | 97.9   | 99.6   | 102.1  | 104.6  | 107.1  | 109.6  | 112.1  | 114.6  | 117.1  | 155.6 |
| 3150       | 102.3 | 100.6 | 97.1   | 96.4   | 97.5   | 99.2   | 101.7  | 104.2  | 106.7  | 109.2  | 111.7  | 114.2  | 116.7  | 155.6 |
| 4000       | 100.0 | 98.3  | 94.8   | 94.1   | 95.2   | 96.9   | 99.4   | 101.9  | 104.4  | 106.9  | 109.4  | 111.9  | 114.4  | 155.6 |
| 5000       | 98.6  | 96.9  | 93.4   | 92.7   | 93.8   | 95.5   | 98.0   | 100.5  | 103.0  | 105.5  | 108.0  | 110.5  | 113.0  | 155.6 |
| 6300       | 96.6  | 94.9  | 91.4   | 90.7   | 91.8   | 93.5   | 96.0   | 98.5   | 101.0  | 103.5  | 106.0  | 108.5  | 111.0  | 155.6 |
| 8000       | 92.6  | 90.9  | 87.4   | 86.7   | 87.8   | 89.5   | 92.0   | 94.5   | 97.0   | 99.5   | 102.0  | 104.5  | 107.0  | 155.6 |
| 10000      | 88.6  | 86.9  | 83.4   | 82.7   | 83.8   | 85.5   | 88.0   | 90.5   | 93.0   | 95.5   | 98.0   | 100.5  | 103.0  | 155.6 |
| 12500      | 82.4  | 80.7  | 77.2   | 76.5   | 77.6   | 79.3   | 81.8   | 84.3   | 86.8   | 89.3   | 91.8   | 94.3   | 96.8   | 155.6 |
| 15000      | 77.6  | 75.9  | 72.4   | 71.7   | 72.8   | 74.5   | 77.0   | 79.5   | 82.0   | 84.5   | 87.0   | 89.5   | 92.0   | 155.6 |
| 20000      | 73.1  | 71.4  | 67.9   | 67.2   | 68.3   | 70.0   | 72.5   | 75.0   | 77.5   | 80.0   | 82.5   | 85.0   | 87.5   | 155.6 |
| 25000      | 67.2  | 65.5  | 62.0   | 61.3   | 62.4   | 64.1   | 66.6   | 69.1   | 71.6   | 74.1   | 76.6   | 79.1   | 81.6   | 155.6 |
| 31500      | 63.2  | 61.5  | 58.0   | 57.3   | 58.4   | 60.1   | 62.6   | 65.1   | 67.6   | 70.1   | 72.6   | 75.1   | 77.6   | 155.6 |
| 40000      | 59.0  | 57.3  | 53.8   | 53.1   | 54.2   | 55.9   | 58.4   | 60.9   | 63.4   | 65.9   | 68.4   | 70.9   | 73.4   | 155.6 |
| 50000      | 55.0  | 53.3  | 49.8   | 49.1   | 50.2   | 51.9   | 54.4   | 56.9   | 59.4   | 61.9   | 64.4   | 66.9   | 69.4   | 155.6 |
| 63000      | 51.0  | 49.3  | 45.8   | 45.1   | 46.2   | 47.9   | 50.4   | 52.9   | 55.4   | 57.9   | 60.4   | 62.9   | 65.4   | 155.6 |
| 80000      | 47.0  | 45.3  | 41.8   | 41.1   | 42.2   | 43.9   | 46.4   | 48.9   | 51.4   | 53.9   | 56.4   | 58.9   | 61.4   | 155.6 |
| 100000     | 43.0  | 41.3  | 37.8   | 37.1   | 38.2   | 39.9   | 42.4   | 44.9   | 47.4   | 49.9   | 52.4   | 54.9   | 57.4   | 155.6 |
| 125000     | 39.0  | 37.3  | 33.8   | 33.1   | 34.2   | 35.9   | 38.4   | 40.9   | 43.4   | 45.9   | 48.4   | 50.9   | 53.4   | 155.6 |
| 150000     | 35.0  | 33.3  | 29.8   | 29.1   | 30.2   | 31.9   | 34.4   | 36.9   | 39.4   | 41.9   | 44.4   | 46.9   | 49.4   | 155.6 |
| 200000     | 31.0  | 29.3  | 25.8   | 25.1   | 26.2   | 27.9   | 30.4   | 32.9   | 35.4   | 37.9   | 40.4   | 42.9   | 45.4   | 155.6 |
| 250000     | 27.0  | 25.3  | 21.8   | 21.1   | 22.2   | 23.9   | 26.4   | 28.9   | 31.4   | 33.9   | 36.4   | 38.9   | 41.4   | 155.6 |
| 315000     | 23.0  | 21.3  | 17.8   | 17.1   | 18.2   | 19.9   | 22.4   | 24.9   | 27.4   | 29.9   | 32.4   | 34.9   | 37.4   | 155.6 |
| 400000     | 19.0  | 17.3  | 13.8   | 13.1   | 14.2   | 15.9   | 18.4   | 20.9   | 23.4   | 25.9   | 28.4   | 30.9   | 33.4   | 155.6 |
| 500000     | 15.0  | 13.3  | 9.8    | 9.1    | 10.2   | 11.9   | 14.4   | 16.9   | 19.4   | 21.9   | 24.4   | 26.9   | 29.4   | 155.6 |
| 630000     | 11.0  | 9.3   | 5.8    | 5.1    | 6.2    | 7.9    | 10.4   | 12.9   | 15.4   | 17.9   | 20.4   | 22.9   | 25.4   | 155.6 |
| 800000     | 7.0   | 5.3   | 1.8    | 1.1    | 2.2    | 3.9    | 6.4    | 8.9    | 11.4   | 13.9   | 16.4   | 18.9   | 21.4   | 155.6 |
| 1000000    | 3.0   | 1.3   | -2.2   | -2.9   | -1.6   | 0.9    | 3.4    | 5.9    | 8.4    | 10.9   | 13.4   | 15.9   | 18.4   | 155.6 |
| 1250000    | 1.0   | -0.7  | -4.2   | -4.9   | -3.6   | -1.1   | 1.4    | 3.9    | 6.4    | 8.9    | 11.4   | 13.9   | 16.4   | 155.6 |
| 1500000    | -1.0  | -2.7  | -6.2   | -6.9   | -5.6   | -3.1   | -0.6   | 1.9    | 4.4    | 6.9    | 9.4    | 11.9   | 14.4   | 155.6 |
| 2000000    | -3.0  | -4.7  | -10.2  | -10.9  | -9.6   | -7.1   | -4.6   | -2.1   | 0.4    | 2.9    | 5.4    | 7.9    | 10.4   | 155.6 |
| 2500000    | -5.0  | -6.7  | -14.2  | -14.9  | -13.6  | -11.1  | -8.6   | -6.1   | -3.6   | -1.1   | 1.4    | 3.9    | 6.4    | 155.6 |
| 3150000    | -7.0  | -8.7  | -18.2  | -18.9  | -17.6  | -15.1  | -12.6  | -10.1  | -7.6   | -5.1   | -2.6   | -0.1   | 2.4    | 155.6 |
| 4000000    | -9.0  | -10.7 | -22.2  | -22.9  | -21.6  | -19.1  | -16.6  | -14.1  | -11.6  | -9.1   | -6.6   | -4.1   | -1.6   | 155.6 |
| 5000000    | -11.0 | -12.7 | -26.2  | -26.9  | -25.6  | -23.1  | -20.6  | -18.1  | -15.6  | -13.1  | -10.6  | -8.1   | -5.6   | 155.6 |
| 6300000    | -13.0 | -14.7 | -30.2  | -30.9  | -29.6  | -27.1  | -24.6  | -22.1  | -19.6  | -17.1  | -14.6  | -12.1  | -9.6   | 155.6 |
| 8000000    | -15.0 | -16.7 | -34.2  | -34.9  | -33.6  | -31.1  | -28.6  | -26.1  | -23.6  | -21.1  | -18.6  | -16.1  | -13.6  | 155.6 |
| 10000000   | -17.0 | -18.7 | -38.2  | -38.9  | -37.6  | -35.1  | -32.6  | -30.1  | -27.6  | -25.1  | -22.6  | -20.1  | -17.6  | 155.6 |
| 12500000   | -19.0 | -20.7 | -42.2  | -42.9  | -41.6  | -39.1  | -36.6  | -34.1  | -31.6  | -29.1  | -26.6  | -24.1  | -21.6  | 155.6 |
| 15000000   | -21.0 | -22.7 | -46.2  | -46.9  | -45.6  | -43.1  | -40.6  | -38.1  | -35.6  | -33.1  | -30.6  | -28.1  | -25.6  | 155.6 |
| 20000000   | -23.0 | -24.7 | -50.2  | -50.9  | -49.6  | -47.1  | -44.6  | -42.1  | -39.6  | -37.1  | -34.6  | -32.1  | -29.6  | 155.6 |
| 25000000   | -25.0 | -26.7 | -54.2  | -54.9  | -53.6  | -51.1  | -48.6  | -46.1  | -43.6  | -41.1  | -38.6  | -36.1  | -33.6  | 155.6 |
| 31500000   | -27.0 | -28.7 | -58.2  | -58.9  | -57.6  | -55.1  | -52.6  | -50.1  | -47.6  | -45.1  | -42.6  | -40.1  | -37.6  | 155.6 |
| 40000000   | -29.0 | -30.7 | -62.2  | -62.9  | -61.6  | -59.1  | -56.6  | -54.1  | -51.6  | -49.1  | -46.6  | -44.1  | -41.6  | 155.6 |
| 50000000   | -31.0 | -32.7 | -66.2  | -66.9  | -65.6  | -63.1  | -60.6  | -58.1  | -55.6  | -53.1  | -50.6  | -48.1  | -45.6  | 155.6 |
| 63000000   | -33.0 | -34.7 | -70.2  | -70.9  | -69.6  | -67.1  | -64.6  | -62.1  | -59.6  | -57.1  | -54.6  | -52.1  | -49.6  | 155.6 |
| 80000000   | -35.0 | -36.7 | -74.2  | -74.9  | -73.6  | -71.1  | -68.6  | -66.1  | -63.6  | -61.1  | -58.6  | -56.1  | -53.6  | 155.6 |
| 100000000  | -37.0 | -38.7 | -78.2  | -78.9  | -77.6  | -75.1  | -72.6  | -70.1  | -67.6  | -65.1  | -62.6  | -60.1  | -57.6  | 155.6 |
| 125000000  | -39.0 | -40.7 | -82.2  | -82.9  | -81.6  | -79.1  | -76.6  | -74.1  | -71.6  | -69.1  | -66.6  | -64.1  | -61.6  | 155.6 |
| 150000000  | -41.0 | -42.7 | -86.2  | -86.9  | -85.6  | -83.1  | -80.6  | -78.1  | -75.6  | -73.1  | -70.6  | -68.1  | -65.6  | 155.6 |
| 200000000  | -43.0 | -44.7 | -90.2  | -90.9  | -89.6  | -87.1  | -84.6  | -82.1  | -79.6  | -77.1  | -74.6  | -72.1  | -69.6  | 155.6 |
| 250000000  | -45.0 | -46.7 | -94.2  | -94.9  | -93.6  | -91.1  | -88.6  | -86.1  | -83.6  | -81.1  | -78.6  | -76.1  | -73.6  | 155.6 |
| 315000000  | -47.0 | -48.7 | -98.2  | -98.9  | -97.6  | -95.1  | -92.6  | -90.1  | -87.6  | -85.1  | -82.6  | -80.1  | -77.6  | 155.6 |
| 400000000  | -49.0 | -50.7 | -102.2 | -102.9 | -101.6 | -99.1  | -96.6  | -94.1  | -91.6  | -89.1  | -86.6  | -84.1  | -81.6  | 155.6 |
| 500000000  | -51.0 | -52.7 | -106.2 | -106.9 | -105.6 | -103.1 | -100.6 | -98.1  | -95.6  | -93.1  | -90.6  | -88.1  | -85.6  | 155.6 |
| 630000000  | -53.0 | -54.7 | -110.2 | -110.9 | -109.6 | -107.1 | -104.6 | -102.1 | -99.6  | -97.1  | -94.6  | -92.1  | -89.6  | 155.6 |
| 800000000  | -55.0 | -56.7 | -114.2 | -114.9 | -113.6 | -111.1 | -108.6 | -106.1 | -103.6 | -101.1 | -98.6  | -96.1  | -93.6  | 155.6 |
| 1000000000 | -57.0 | -58.7 | -118.2 | -118.9 | -117.6 | -115.1 | -112.6 | -110.1 | -107.6 | -105.1 | -102.6 | -100.1 | -97.6  | 155.6 |
| 1250000000 | -59.0 | -60.7 | -122.2 | -122.9 | -121.6 | -119.1 | -116.6 | -114.1 | -111.6 | -109.1 | -106.6 | -104.1 | -101.6 | 155.6 |
| 1500000000 | -61.0 | -62.7 | -126.2 | -126.9 | -125.6 | -123.1 | -120.6 | -118.1 | -115.6 | -113.1 | -110.6 | -108.1 | -105.6 | 155.6 |
| 2000000000 | -63.0 | -64.7 | -130.2 | -130.9 | -129.6 | -127.1 | -124.6 | -122.1 | -119.6 | -117.1 | -114.6 | -112.1 | -109.6 | 155.6 |
| 2500000000 | -65.0 | -66.7 | -134.2 | -134.9 | -133.6 | -131.1 | -128.6 | -126.1 | -123.6 | -121.1 | -118.6 | -116.1 | -113.6 | 155.6 |
| 3150000000 | -67.0 | -68.7 | -138.2 | -138.9 | -137.6 | -135.1 | -132.6 | -130.1 | -127.6 | -125.1 | -122.6 | -120.1 | -117.6 | 155.6 |
| 4000000000 | -69.0 | -70.7 | -142.2 | -142.9 | -141.6 | -139.1 | -136.6 | -134.1 | -131.6 | -129.1 | -126.6 | -124.1 | -121.6 | 155.6 |
| 5000000000 | -71.0 | -72.7 | -146.2 | -146.9 | -145.6 | -143.1 | -140.6 | -138.1 | -135.6 | -133.1 | -130.6 | -128.1 | -125.6 | 155.6 |
| 6300000000 |       |       |        |        |        |        |        |        |        |        |        |        |        |       |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0316 X0316F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 94.7  | 96.5  | 94.5  | 94.9  | 93.3  | 95.3  | 96.4  | 98.1  | 108.3 | 114.4 | 116.1 | 117.6 | 115.4 | 151.8 |
| 250   | 94.7  | 96.5  | 94.5  | 94.9  | 93.3  | 95.3  | 96.4  | 98.5  | 101.7 | 106.3 | 114.5 | 116.8 | 117.5 | 151.8 |
| 315   | 94.7  | 96.5  | 94.5  | 94.9  | 93.3  | 95.3  | 96.4  | 98.5  | 101.7 | 106.3 | 114.5 | 116.8 | 117.5 | 151.8 |
| 400   | 94.5  | 95.5  | 94.1  | 93.3  | 94.6  | 96.4  | 98.5  | 101.7 | 106.3 | 114.5 | 116.8 | 117.5 | 151.8 |       |
| 500   | 96.8  | 96.5  | 96.3  | 95.1  | 95.5  | 96.6  | 98.0  | 101.1 | 107.3 | 116.4 | 119.3 | 118.1 | 153.5 |       |
| 500   | 96.8  | 96.5  | 96.3  | 95.1  | 95.5  | 96.6  | 98.0  | 101.1 | 107.3 | 116.4 | 119.3 | 118.1 | 153.5 |       |
| 600   | 97.7  | 99.0  | 97.9  | 97.2  | 97.4  | 98.3  | 98.7  | 101.4 | 109.6 | 118.6 | 121.6 | 118.5 | 155.2 |       |
| 630   | 96.1  | 99.0  | 97.9  | 97.2  | 97.4  | 98.3  | 98.7  | 101.4 | 109.6 | 118.6 | 121.6 | 118.5 | 155.2 |       |
| 800   | 97.7  | 99.0  | 97.9  | 97.2  | 97.4  | 98.3  | 98.7  | 101.4 | 109.6 | 118.6 | 121.6 | 118.5 | 155.2 |       |
| 1000  | 100.0 | 98.9  | 98.3  | 98.1  | 98.8  | 99.2  | 100.6 | 102.5 | 110.8 | 118.7 | 121.6 | 118.5 | 154.8 |       |
| 1250  | 104.4 | 100.9 | 100.9 | 101.7 | 101.1 | 101.3 | 103.4 | 111.4 | 118.8 | 121.6 | 118.5 | 155.4 |       |       |
| 1500  | 108.8 | 109.9 | 104.8 | 103.3 | 102.2 | 102.6 | 103.6 | 104.7 | 111.9 | 119.5 | 120.7 | 116.5 | 155.4 |       |
| 1600  | 108.8 | 109.9 | 104.8 | 103.3 | 102.2 | 102.6 | 103.6 | 104.7 | 111.9 | 119.5 | 120.7 | 116.5 | 155.4 |       |
| 2000  | 114.0 | 111.8 | 110.2 | 106.4 | 105.8 | 103.6 | 103.1 | 105.4 | 112.0 | 118.5 | 119.0 | 114.8 | 155.0 |       |
| 2500  | 110.0 | 111.5 | 111.4 | 110.1 | 109.5 | 107.6 | 105.2 | 106.6 | 113.1 | 118.3 | 119.0 | 114.3 | 155.1 |       |
| 3150  | 110.3 | 109.8 | 109.4 | 110.2 | 107.5 | 107.3 | 107.5 | 107.4 | 112.9 | 117.1 | 116.6 | 112.3 | 154.2 |       |
| 4000  | 109.8 | 110.0 | 108.4 | 107.5 | 106.1 | 107.1 | 108.9 | 109.5 | 113.4 | 115.9 | 116.1 | 111.3 | 153.6 |       |
| 5000  | 107.5 | 107.7 | 108.2 | 108.4 | 107.0 | 106.9 | 107.7 | 109.6 | 113.5 | 114.7 | 115.2 | 111.2 | 153.1 |       |
| 6300  | 106.1 | 106.4 | 106.6 | 106.4 | 107.0 | 107.5 | 109.6 | 112.8 | 114.0 | 113.3 | 110.0 | 110.7 | 152.4 |       |
| 8000  | 105.6 | 107.3 | 105.6 | 105.8 | 104.4 | 106.2 | 106.8 | 109.0 | 112.4 | 113.4 | 112.7 | 110.2 | 152.3 |       |
| 10000 | 104.0 | 104.9 | 105.0 | 104.6 | 104.6 | 105.8 | 105.6 | 107.8 | 111.0 | 111.9 | 111.5 | 109.6 | 151.7 |       |
| 12500 | 103.2 | 104.1 | 104.0 | 103.5 | 104.1 | 104.3 | 104.2 | 105.9 | 110.0 | 110.3 | 109.6 | 107.9 | 151.1 |       |
| 15000 | 101.9 | 102.3 | 102.7 | 102.0 | 100.4 | 101.8 | 103.0 | 104.9 | 107.2 | 108.3 | 107.4 | 106.6 | 150.5 |       |
| 20000 | 98.5  | 100.1 | 100.2 | 99.6  | 98.6  | 99.6  | 100.1 | 101.8 | 104.9 | 105.8 | 104.5 | 104.7 | 149.7 |       |
| 25000 | 96.0  | 96.8  | 97.1  | 97.2  | 96.9  | 98.4  | 98.3  | 97.8  | 102.5 | 103.5 | 102.1 | 100.4 | 149.5 |       |
| 31500 | 93.9  | 95.3  | 94.2  | 93.1  | 94.8  | 95.0  | 100.6 | 100.7 | 100.5 | 100.7 | 100.5 | 96.3  | 149.9 |       |
| 40000 | 88.9  | 89.9  | 91.0  | 89.8  | 89.7  | 89.8  | 90.7  | 91.5  | 98.5  | 100.1 | 98.7  | 92.7  | 151.4 |       |
| 50000 | 83.7  | 86.0  | 86.7  | 85.6  | 85.1  | 87.0  | 86.5  | 87.5  | 97.9  | 101.0 | 98.7  | 89.1  | 155.0 |       |
| 63000 | 78.3  | 80.5  | 80.2  | 80.1  | 82.5  | 82.6  | 83.6  | 83.1  | 96.5  | 102.5 | 98.2  | 85.6  | 160.3 |       |
| 80000 | 70.8  | 76.7  | 75.3  | 75.3  | 80.7  | 79.7  | 80.2  | 79.6  | 86.7  | 92.7  | 88.4  | 75.8  | 158.0 |       |
| GASPL | 119.5 | 118.5 | 117.8 | 116.8 | 117.4 | 117.3 | 118.9 | 123.9 | 129.1 | 130.7 | 127.9 | 126.5 | 168.2 |       |
| PWL   | 132.0 | 131.3 | 130.9 | 129.7 | 130.7 | 130.1 | 131.4 | 136.2 | 140.7 | 141.7 | 137.8 | 137.5 |       |       |
| PFLT  | 133.6 | 132.0 | 131.3 | 130.9 | 129.7 | 130.7 | 131.4 | 136.2 | 140.7 | 141.7 | 137.8 | 137.5 |       |       |
| DBA   | 193.5 | 198.0 | 197.0 | 196.9 | 201.4 | 200.7 | 201.3 | 200.7 | 210.0 | 215.8 | 211.6 | 199.3 | 194.8 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH107 TEST, DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.43 RELHUM = 64.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFNG = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM = = = XNH RPM = = = XNH RPM = = = XNL RPM = = = XNL RPM = = =  
 FNRAMB = LBS XNLR RPM XNHR RPM = = = XNHR RPM = = = XNHR RPM = = = XNLR RPM = = =  
 CORR FAN SPEED = 863 NC = 863  
 RPM = 25.3 SQ IN AEB FPS = 2448.8 FPS AE18 = 0. SQ IN

ORIGINAL PAGE IS  
 OF POOR QUALITY

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ONEWELL PAGE PRINTING SYSTEM - P118-0

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0316 X03161

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 72.5 75.0 74.7 74.6 76.3 78.2 80.2 83.0 86.9 94.1 94.8 93.3 86.9 169.3

63 74.7 76.0 76.9 76.4 77.2 78.4 79.7 82.4 87.9 95.9 97.3 93.9 87.7 170.9

80 74.0 76.9 77.3 77.5 78.4 80.7 83.5 88.7 96.8 98.1 98.4 87.2 171.4

100 75.6 78.4 78.4 79.1 80.0 80.4 82.6 90.1 98.0 99.4 94.1 88.1 172.6

125 77.7 78.2 78.7 79.2 80.3 80.9 82.2 83.6 91.2 98.0 98.9 92.2 172.3

160 81.9 83.2 81.1 81.0 83.1 82.7 82.7 84.4 91.7 97.9 99.3 92.7 172.8

200 86.1 88.8 84.9 84.1 83.5 84.0 84.9 85.6 92.0 98.4 98.0 91.4 172.9

250 86.1 88.8 84.9 84.1 83.5 84.0 84.9 85.6 92.0 98.4 98.0 91.4 172.9

315 86.5 89.8 90.1 90.4 90.3 88.5 86.0 87.0 92.6 96.6 95.5 87.5 172.5

400 86.3 87.7 88.6 90.2 88.0 90.9 88.0 87.5 92.1 95.0 92.6 85.6 171.6

500 85.4 87.5 87.3 87.2 86.3 87.5 89.1 89.2 92.3 93.4 91.6 83.9 171.0

630 82.6 84.8 86.8 87.9 86.9 87.0 87.7 89.1 92.0 91.8 90.2 83.1 170.6

800 80.6 83.2 84.3 85.8 86.1 86.9 87.2 88.7 91.0 90.7 87.9 81.2 169.9

1000 79.7 83.7 83.6 84.8 84.0 86.0 86.3 88.1 90.4 89.9 86.8 80.8 169.7

1250 77.6 81.0 82.8 83.5 84.0 85.4 85.1 86.7 88.8 88.0 85.1 79.3 169.1

1500 75.9 79.6 81.3 82.0 82.2 83.6 83.4 84.4 87.3 85.8 82.3 76.3 168.6

2000 73.6 77.2 79.6 80.2 79.4 81.1 82.0 83.2 84.2 83.2 79.2 73.3 167.9

2500 68.5 72.8 76.3 77.2 77.0 78.3 78.5 79.3 81.0 79.6 74.5 68.6 167.1

3150 62.6 68.1 71.3 73.2 74.0 75.8 75.4 76.7 78.7 74.7 68.7 59.3 166.9

4000 54.3 61.9 65.3 67.0 67.2 68.9 68.8 67.8 71.0 67.2 60.9 46.3 167.4

5000 39.5 50.0 54.0 57.1 58.9 60.5 62.0 59.1 49.3 29.0 1.3 168.9

6300 16.5 30.7 38.8 42.1 44.1 46.7 45.5 44.0 50.0 45.7 31.6 0.5 177.8

8000 0.4 11.0 17.4 23.4 24.6 24.6 24.4 20.4 27.3 22.4 0.5 175.4

10000  
12500  
15000  
20000  
25000  
31500  
40000  
50000  
63000  
80000

QASPL 95.7 97.4 97.5 97.6 97.1 97.7 97.4 98.6 102.9 107.6 107.8 102.3 96.8 185.5  
PWL 101.2 103.0 104.0 104.4 104.1 105.2 104.8 105.9 109.2 111.6 110.3 103.8 98.3  
PNLT 102.0 103.6 104.7 105.0 104.1 105.2 104.8 105.9 109.8 112.1 111.1 105.0 98.3  
DBA 90.4 92.7 93.6 94.2 93.8 94.8 94.8 95.9 98.8 99.8 98.0 91.2 86.2

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH107 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.43 REIHUM = 64.0 PCT  
FNINI = LBS XNLR = RPM XNHR = RPM XNHR = RPM V8 = = 2448.8 FPS AEB AE18 = = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = = 2448.8 FPS AEB AE18 = = 25.3 SQ IN

RUNPT = 81F-400-0316 TAPE = X03161 TEST PT NO = 0316 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0321 X0321C  
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 40 50 60 70 80 90 100 110 120 130 140 150 160

PWL

87.2 87.0 86.0 84.8 84.1 86.0 86.4 89.5 90.9 94.1 95.2 95.1 96.8 132.6  
50 63 80 100 125 150 160 180 200 250 315 400 500 630 800

101.5 102.0 101.0 101.6 100.4 102.5 104.7 108.1 114.1 122.8 123.7 120.7 117.1 158.1  
1250 1250 104.2 105.2 104.2 104.2 105.2 106.2 108.1 109.8 109.1 108.2 108.0 109.8 109.8 109.7 109.8 109.7 109.8

101.9 104.2 104.2 104.2 105.2 106.2 108.1 109.8 112.1 109.8 110.9 110.0 114.7 111.0 106.4 154.1  
1500 1600 1800 2000 2500 3150 4000 5000 6300 8000 10000 12500 15000 16000 20000 25000 31500 40000 50000 63000 80000

101.5 103.9 104.1 104.6 105.8 108.0 109.0 112.0 113.5 117.1 113.9 110.2 105.0 153.4  
16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000

96.9 99.3 99.8 99.8 100.8 103.1 104.9 105.6 107.1 110.2 112.3 109.4 105.4 101.2 151.1  
40000 42000 44000 46000 48000 50000 52000 54000 56000 58000 60000 62000 64000 66000 68000 70000 72000 74000 76000 78000 80000

116.3 117.0 116.6 117.2 117.1 118.8 119.7 122.0 126.0 132.9 132.8 130.7 128.1 170.6  
80000 82000 84000 86000 88000 90000 92000 94000 96000 98000 100000 102000 104000 106000 108000 110000 112000 114000 116000 118000 120000 122000 124000 126000 128000 130000 132000 134000 136000 138000 140000 142000 144000 146000 148000 150000 152000 154000 156000 158000 160000 162000 164000 166000 168000 170000

129.9 130.6 129.6 130.7 130.6 132.7 133.2 135.0 138.7 145.1 143.5 140.1 136.9  
170000 172000 174000 176000 178000 180000 182000 184000 186000 188000 190000 192000 194000 196000 198000 200000 202000 204000 206000 208000 210000 212000 214000 216000 218000 220000 222000 224000 226000 228000 230000 232000 234000 236000 238000 240000 242000 244000 246000 248000 250000 252000 254000 256000 258000 260000 262000 264000 266000 268000 270000 272000 274000 276000 278000 280000 282000 284000 286000 288000 290000 292000 294000 296000 298000 300000 302000 304000 306000 308000 310000 312000 314000 316000 318000 320000 322000 324000 326000 328000 330000 332000 334000 336000 338000 340000 342000 344000 346000 348000 350000 352000 354000 356000 358000 360000 362000 364000 366000 368000 370000 372000 374000 376000 378000 380000 382000 384000 386000 388000 390000 392000 394000 396000 398000 400000 402000 404000 406000 408000 410000 412000 414000 416000 418000 420000 422000 424000 426000 428000 430000 432000 434000 436000 438000 440000 442000 444000 446000 448000 450000 452000 454000 456000 458000 460000 462000 464000 466000 468000 470000 472000 474000 476000 478000 480000 482000 484000 486000 488000 490000 492000 494000 496000 498000 500000 502000 504000 506000 508000 510000 512000 514000 516000 518000 520000 522000 524000 526000 528000 530000 532000 534000 536000 538000 540000 542000 544000 546000 548000 550000 552000 554000 556000 558000 560000 562000 564000 566000 568000 570000 572000 574000 576000 578000 580000 582000 584000 586000 588000 590000 592000 594000 596000 598000 600000 602000 604000 606000 608000 610000 612000 614000 616000 618000 620000 622000 624000 626000 628000 630000 632000 634000 636000 638000 640000 642000 644000 646000 648000 650000 652000 654000 656000 658000 660000 662000 664000 666000 668000 670000 672000 674000 676000 678000 680000 682000 684000 686000 688000 690000 692000 694000 696000 698000 700000 702000 704000 706000 708000 710000 712000 714000 716000 718000 720000 722000 724000 726000 728000 730000 732000 734000 736000 738000 740000 742000 744000 746000 748000 750000 752000 754000 756000 758000 760000 762000 764000 766000 768000 770000 772000 774000 776000 778000 780000 782000 784000 786000 788000 790000 792000 794000 796000 798000 800000 802000 804000 806000 808000 810000 812000 814000 816000 818000 820000 822000 824000 826000 828000 830000 832000 834000 836000 838000 840000 842000 844000 846000 848000 850000 852000 854000 856000 858000 860000 862000 864000 866000 868000 870000 872000 874000 876000 878000 880000 882000 884000 886000 888000 890000 892000 894000 896000 898000 900000 902000 904000 906000 908000 910000 912000 914000 916000 918000 920000 922000 924000 926000 928000 930000 932000 934000 936000 938000 940000 942000 944000 946000 948000 950000 952000 954000 956000 958000 960000 962000 964000 966000 968000 970000 972000 974000 976000 978000 980000 982000 984000 986000 988000 990000 992000 994000 996000 998000 1000000 1002000 1004000 1006000 1008000 1010000 1012000 1014000 1016000 1018000 1020000 1022000 1024000 1026000 1028000 1030000 1032000 1034000 1036000 1038000 1040000 1042000 1044000 1046000 1048000 1050000 1052000 1054000 1056000 1058000 1060000 1062000 1064000 1066000 1068000 1070000 1072000 1074000 1076000 1078000 1080000 1082000 1084000 1086000 1088000 1090000 1092000 1094000 1096000 1098000 1100000 1102000 1104000 1106000 1108000 1110000 1112000 1114000 1116000 1118000 1120000 1122000 1124000 1126000 1128000 1130000 1132000 1134000 1136000 1138000 1140000 1142000 1144000 1146000 1148000 1150000 1152000 1154000 1156000 1158000 1160000 1162000 1164000 1166000 1168000 1170000 1172000 1174000 1176000 1178000 1180000 1182000 1184000 1186000 1188000 1190000 1192000 1194000 1196000 1198000 1200000 1202000 1204000 1206000 1208000 1210000 1212000 1214000 1216000 1218000 1220000 1222000 1224000 1226000 1228000 1230000 1232000 1234000 1236000 1238000 1240000 1242000 1244000 1246000 1248000 1250000 1252000 1254000 1256000 1258000 1260000 1262000 1264000 1266000 1268000 1270000 1272000 1274000 1276000 1278000 1280000 1282000 1284000 1286000 1288000 1290000 1292000 1294000 1296000 1298000 1300000 1302000 1304000 1306000 1308000 1310000 1312000 1314000 1316000 1318000 1320000 1322000 1324000 1326000 1328000 1330000 1332000 1334000 1336000 1338000 1340000 1342000 1344000 1346000 1348000 1350000 1352000 1354000 1356000 1358000 1360000 1362000 1364000 1366000 1368000 1370000 1372000 1374000 1376000 1378000 1380000 1382000 1384000 1386000 1388000 1390000 1392000 1394000 1396000 1398000 1400000 1402000 1404000 1406000 1408000 1410000 1412000 1414000 1416000 1418000 1420000 1422000 1424000 1426000 1428000 1430000 1432000 1434000 1436000 1438000 1440000 1442000 1444000 1446000 1448000 1450000 1452000 1454000 1456000 1458000 1460000 1462000 1464000 1466000 1468000 1470000 1472000 1474000 1476000 1478000 1480000 1482000 1484000 1486000 1488000 1490000 1492000 1494000 1496000 1498000 1500000 1502000 1504000 1506000 1508000 1510000 1512000 1514000 1516000 1518000 1520000 1522000 1524000 1526000 1528000 1530000 1532000 1534000 1536000 1538000 1540000 1542000 1544000 1546000 1548000 1550000 1552000 1554000 1556000 1558000 1560000 1562000 1564000 1566000 1568000 1570000 1572000 1574000 1576000 1578000 1580000 1582000 1584000 1586000 1588000 1590000 1592000 1594000 1596000 1598000 1600000 1602000 1604000 1606000 1608000 1610000 1612000 1614000 1616000 1618000 1620000 1622000 1624000 1626000 1628000 1630000 1632000 1634000 1636000 1638000 1640000 1642000 1644000 1646000 1648000 1650000 1652000 1654000 1656000 1658000 1660000 1662000 1664000 1666000 1668000 1670000 1672000 1674000 1676000 1678000 1680000 1682000 1684000 1686000 1688000 1690000 1692000 1694000 1696000 1698000 1700000 1702000 1704000 1706000 1708000 1710000 1712000 1714000 1716000 1718000 1720000 1722000 1724000 1726000 1728000 1730000 1732000 1734000 1736000 1738000 1740000 1742000 1744000 1746000 1748000 1750000 1752000 1754000 1756000 1758000 1760000 1762000 1764000 1766000 1768000 1770000 1772000 1774000 1776000 1778000 1780000 1782000 1784000 1786000 1788000 1790000 1792000 1794000 1796000 1798000 1800000 1802000 1804000 1806000 1808000 1810000 1812000 1814000 1816000 1818000 1820000 1822000 1824000 1826000 1828000 1830000 1832000 1834000 1836000 1838000 1840000 1842000 1844000 1846000 1848000 1850000 1852000 1854000 1856000 1858000 1860000 1862000 1864000 1866000 1868000 1870000 1872000 1874000 1876000 1878000 1880000 1882000 1884000 1886000 1888000 1890000 1892000 1894000 1896000 1898000 1900000 1902000 1904000 1906000 1908000 1910000 1912000 1914000 1916000 1918000 1920000 1922000 1924000 1926000 1928000 1930000 1932000 1934000 1936000 1938000 1940000 1942000 1944000 1946000 1948000 1950000 1952000 1954000 1956000 1958000 1960000 1962000 1964000 1966000 1968000 1970000 1972000 1974000 1976000 1978000 1980000 1982000 1984000 1986000 1988000 1990000 1992000 1994000 1996000 1998000 2000000 2002000 2004000 2006000 2008000 2010000 2012000 2014000 2016000 2018000 2020000 2022000 2024000 2026000 2028000 2030000 2032000 2034000 2036000 2038000 2040000 2042000 2044000 2046000 2048000 2050000 2052000 2054000 2056000 2058000 2060000 2062000 2064000 2066000 2068000 2070000 2072000 2074000 2076000 2078000 2080000 2082000 2084000 2086000 2088000 2090000 2092000 2094000 2096000 2098000 2100000 2102000 2104000 2106000 2108000 2110000 2112000 2114000 2116000 2118000 2120000 2122000 2124000 2126000 2128000 2130000 2132000 2134000 2136000 2138000 2140000 2142000 2144000 2146000 2148000 2150000 2152000 2154000 2156000 2158000 2160000 2162000 2164000 2166000 2168000 2170000 2172000 2174000 2176000 2178000 2180000 2182000 2184000 2186000 2188000 2190000 2192000 2194000 2196000 2198000 2200000 2202000 2204000 2206000 2208000 2210000 2212000 2214000 2216000 2218000 2220000 2222000 2224000 2226000 2228000 2230000 2232000 2234000 2236000 2238000 2240000 2242000 2244000 2246000 2248000 2250000 2252000 2254000 2256000 2258000 2260000 2262000 2264000 2266000 2268000 2270000 2272000 2274000 2276000 2278000 2280000 2282000 2284000 2286000 2288000 2290000 2292000 2294000 2296000 2298000 2300000 2302000 2304000 2306000 2308000 2310000 2312000 2314000 2316000 2318000 2320000 2322000 2324000 2326000 2328000 2330000 2332000 2334000 2336000 2338000 2340000 2342000 2344000 2346000 2348000 2350000 2352000 2354000 2356000 2358000 2360000 2362000 2364000 2366000 2368000 2370000 2372000 2374000 2376000 2378000 2380000 2382000 2384000 2386000 2388000 2390000 2392000 2394000 2396000 2398000 2400000 2402000 2404000 2406000 2408000 2410000 2412000 2414000 2416000 2418000 2420000 2422000 2424000 2426000 2428000 2430000 2432000 2434000 2436000 2438000 2440000 2442000 2444000 2446000 2448000 2450000 2452000 2454000 2456000 2458000 2460000 2462000 2464000 2466000 2468000 2470000 2472000 2474000 2476000 2478000 2480000 2482000 2484000 2486000 2488000 2490000 2492000 2494000 2496000 2498000 2500000 2502000 2504000 2506000 2508000 2510000 2512000 2514000 2516000 2518000 2520000 2522000 2524000 2526000 2528000 2530000 2532000 2534000 2536000 2538000 2540000 2542000 2544000 2546000 2548000 2550000 2552000 2554000 2556000 2558000 2560000 2562000 2564000 2566000 2568000 2570000 2572000 2574000 2576000 2578000 2580000 2582000 2584000 2586000 2588000 2590000 2592000 2594000 2596000 2598000 2600000 2602000 2604000 2606000 2608000 2610000 2612000 2614000 2616000 2618000 2620000 2622000 2624000 2626000 2628000 2630000 2632000 2634000 2636000 2638000 2640000 2642000 2644000 2646000 2648000 2650000 2652000 2654000 2656000 2658000 2660000 2662000 2664000 2666000 2668000 2670000 2672000 2674000 2676000 2678000 2680000 2682000 2684000 2686000 2688000 2690000 2692000 2694000 2696000 2698000 2700000 2702000 2704000 2706000 2708000 2710000 2712000 2714000 2716000 2718000 2720000 2722000 2724000 2726000 2728000 2730000 2732000 2734000 2736000 2738000 2740000 2742000 2744000 2746000 2748000 2750000 2752000 2754000 2756000 2758000 2760000 2762000 2764000 2766000 2768000 2770000 2772000 2774000 2776000 2778000 2780000 2782000 2784000 2786000 2788000 2790000 2792000 2794000 2796000 2798000 2800000 2802000 2804000 2806000 2808000 2810000 2812000 2814000 2816000 2818000 2820000 2822000 2824000 2826000 2828000 2830000 2832000 2834000 2836000 2838000 2840000 2842000 2844000 2846000 2848000 2850000 2852000 2854000 2856





FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0321 X03211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |       |       |       |      |       |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|
| 70.6 | 73.6 | 74.7 | 76.7 | 78.0 | 81.5 | 84.5 | 88.2 | 93.9 | 99.2  | 99.3  | 97.3  | 90.6 | 173.9 |
| 50   | 50.6 | 50.6 | 50.6 | 50.6 | 50.6 | 50.6 | 50.6 | 50.6 | 50.6  | 50.6  | 50.6  | 50.6 | 173.7 |
| 63   | 69.9 | 74.0 | 75.1 | 77.1 | 78.3 | 81.1 | 83.6 | 86.3 | 91.8  | 98.8  | 99.9  | 90.2 | 173.7 |
| 80   | 71.7 | 75.6 | 76.9 | 78.2 | 79.4 | 81.7 | 84.4 | 87.4 | 92.5  | 101.4 | 101.2 | 97.4 | 175.2 |
| 100  | 75.5 | 75.9 | 77.5 | 78.8 | 80.5 | 83.3 | 84.8 | 87.8 | 94.1  | 101.5 | 101.3 | 96.7 | 175.2 |
| 125  | 79.2 | 81.0 | 82.7 | 82.0 | 84.2 | 86.2 | 89.2 | 94.5 | 102.1 | 101.4 | 96.1  | 89.0 | 175.6 |
| 150  | 81.8 | 85.4 | 84.8 | 85.6 | 85.4 | 86.1 | 86.9 | 89.6 | 94.7  | 102.3 | 100.8 | 94.4 | 175.4 |
| 200  | 87.5 | 86.7 | 87.4 | 85.7 | 85.7 | 85.5 | 88.6 | 90.6 | 94.4  | 101.4 | 100.2 | 84.0 | 175.0 |
| 250  | 86.6 | 86.5 | 89.1 | 89.2 | 86.5 | 86.3 | 87.5 | 90.5 | 94.9  | 101.6 | 97.0  | 82.0 | 174.4 |
| 315  | 83.2 | 86.5 | 87.5 | 89.1 | 89.9 | 89.2 | 88.9 | 90.4 | 94.3  | 100.9 | 95.2  | 88.1 | 174.0 |
| 400  | 81.8 | 85.0 | 85.5 | 87.1 | 88.9 | 91.9 | 89.9 | 90.6 | 94.1  | 98.8  | 94.5  | 85.9 | 173.2 |
| 500  | 79.8 | 82.7 | 84.6 | 86.7 | 86.8 | 89.4 | 90.9 | 91.5 | 92.9  | 97.0  | 92.0  | 84.7 | 172.2 |
| 630  | 76.9 | 81.3 | 82.7 | 84.7 | 86.1 | 88.2 | 89.7 | 91.5 | 92.6  | 95.6  | 89.8  | 82.9 | 171.5 |
| 800  | 76.0 | 80.7 | 82.3 | 83.8 | 85.5 | 87.9 | 88.7 | 91.1 | 91.7  | 93.8  | 88.4  | 81.4 | 170.9 |
| 1000 | 73.7 | 78.6 | 80.9 | 83.1 | 84.2 | 86.4 | 88.1 | 89.7 | 90.6  | 92.9  | 86.5  | 79.3 | 170.3 |
| 1250 | 72.1 | 76.8 | 79.4 | 82.3 | 83.9 | 86.5 | 88.2 | 90.0 | 90.9  | 93.0  | 85.0  | 77.6 | 169.8 |
| 1600 | 69.6 | 74.8 | 77.1 | 79.3 | 82.3 | 84.7 | 85.6 | 87.5 | 87.9  | 89.2  | 82.2  | 73.8 | 168.5 |
| 2000 | 65.4 | 72.3 | 74.6 | 76.8 | 78.9 | 81.3 | 82.5 | 84.3 | 85.0  | 85.5  | 78.3  | 70.7 | 167.8 |
| 2500 | 61.1 | 68.3 | 71.1 | 73.9 | 76.1 | 78.7 | 79.8 | 80.4 | 81.6  | 81.8  | 74.9  | 65.6 | 167.1 |
| 3150 | 53.7 | 64.2 | 66.4 | 69.2 | 72.1 | 75.8 | 76.2 | 75.3 | 76.0  | 76.2  | 67.2  | 57.3 | 165.3 |
| 4000 | 43.1 | 56.9 | 58.3 | 63.0 | 64.6 | 69.2 | 69.1 | 69.4 | 69.0  | 69.1  | 58.6  | 44.5 | 166.5 |
| 5000 | 28.7 | 47.9 | 48.7 | 55.7 | 56.5 | 61.4 | 60.2 | 60.8 | 60.7  | 58.9  | 46.8  | 27.4 | 167.8 |
| 6300 | 8.9  | 34.7 | 31.3 | 44.6 | 41.8 | 50.1 | 46.4 | 45.8 | 46.5  | 44.1  | 27.7  | 0.7  | 170.7 |
| 8000 |      |      |      |      |      |      |      |      |       |       |       |      | 182.2 |

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|       |      |       |       |       |       |       |       |       |       |       |       |       |      |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| DBA   | 85.9 | 89.2  | 90.7  | 92.5  | 93.6  | 95.8  | 96.5  | 98.0  | 99.7  | 103.3 | 98.8  | 91.7  | 83.0 |
| PWL   | 97.5 | 100.8 | 101.3 | 103.9 | 103.9 | 106.4 | 106.7 | 108.1 | 110.6 | 115.8 | 111.7 | 106.1 | 96.7 |
| GASPL | 92.9 | 95.0  | 95.9  | 97.1  | 97.3  | 99.0  | 99.8  | 101.8 | 105.3 | 111.5 | 109.9 | 105.1 | 98.1 |
| 187.8 |      |       |       |       |       |       |       |       |       |       |       |       |      |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

VASA SHOCK CELL/COUNT, CONV. ANN. FLUG NOZ. SC-3/NAS3-22514

TEST DATE = 09-01-81  
 LGAT = C41 ANECH CH CONFIG = 3  
 PML AREA = FULL SPHERE TAMB F = 76.00  
 EXT DIST = 2400.0 FT  
 EXT CONFIG = SL  
 MODEL = 3  
 PAMB HG = 29.40  
 RELHUM = 89.0 PCT  
 FLTVL = 0. FPS  
 NBFR =

ADH098 =  
 IAPLHA = SB59  
 LEGA = NO  
 DEG WIND VEL = MPH  
 WIND DIR =

LNINI = LBS XNL RPM XNH XNHR RPM =  
 V8 RPM = 2486.5 FPS AEB = 25.3 SQ IN  
 V18 RPM = 2486.5 FPS AE18 = 0. SQ IN

NC = 863 CORR FAN SPEED = RPM  
 TEST PT NO = 0321 X03211  
 R-0321 TAPE =

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0322 X0322C  
BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 89.4  | 88.0  | 84.0  | 84.5  | 85.1  | 86.0  | 86.1  | 89.5  | 93.9  | 97.3  | 96.4  | 105.4 | 100.0 | 137.2 |
| 60    | 92.3  | 96.6  | 92.1  | 92.6  | 93.7  | 95.8  | 95.7  | 95.9  | 97.0  | 97.4  | 98.0  | 105.2 | 103.9 | 139.6 |
| 80    | 93.7  | 94.0  | 94.5  | 95.9  | 98.0  | 100.1 | 104.0 | 110.1 | 119.8 | 122.2 | 117.1 | 108.1 | 155.5 | 155.5 |
| 100   | 97.8  | 97.8  | 97.8  | 97.4  | 99.5  | 101.9 | 105.1 | 111.1 | 120.4 | 122.7 | 115.9 | 107.3 | 155.9 | 155.9 |
| 1250  | 105.5 | 107.0 | 102.3 | 100.7 | 101.5 | 102.7 | 106.1 | 112.0 | 120.6 | 123.0 | 114.5 | 106.7 | 156.6 | 156.6 |
| 1500  | 108.0 | 107.6 | 102.6 | 102.5 | 104.8 | 104.8 | 107.5 | 112.4 | 120.6 | 123.4 | 114.5 | 106.2 | 156.6 | 156.6 |
| 1600  | 106.9 | 106.8 | 107.7 | 108.1 | 105.7 | 104.6 | 107.4 | 112.8 | 121.4 | 121.3 | 113.1 | 106.1 | 156.1 | 156.1 |
| 2000  | 105.9 | 106.8 | 107.7 | 108.1 | 105.7 | 104.6 | 107.4 | 112.8 | 121.4 | 121.3 | 113.1 | 106.1 | 156.1 | 156.1 |
| 2500  | 102.9 | 104.0 | 104.2 | 106.5 | 107.6 | 108.7 | 106.6 | 107.5 | 113.3 | 120.8 | 119.4 | 104.8 | 155.3 | 155.3 |
| 3150  | 102.3 | 102.8 | 103.9 | 105.2 | 109.3 | 109.2 | 110.0 | 112.8 | 117.5 | 116.5 | 109.2 | 101.6 | 153.0 | 153.0 |
| 4000  | 100.5 | 101.0 | 101.6 | 102.8 | 105.8 | 109.2 | 110.0 | 112.8 | 117.5 | 116.5 | 109.2 | 101.6 | 153.0 | 153.0 |
| 5000  | 99.1  | 100.2 | 100.2 | 101.7 | 102.4 | 104.9 | 107.3 | 110.3 | 113.1 | 116.5 | 115.3 | 108.1 | 152.4 | 152.4 |
| 6300  | 98.0  | 100.5 | 100.1 | 100.6 | 102.3 | 104.8 | 106.5 | 110.5 | 112.8 | 116.1 | 114.2 | 107.7 | 152.2 | 152.2 |
| 8000  | 96.6  | 99.0  | 99.5  | 100.4 | 101.1 | 103.7 | 106.0 | 109.5 | 111.9 | 115.3 | 112.4 | 107.0 | 151.6 | 151.6 |
| 8000  | 96.6  | 99.0  | 99.5  | 100.4 | 101.1 | 103.7 | 106.0 | 109.5 | 111.9 | 115.3 | 112.4 | 107.0 | 151.6 | 151.6 |
| 10000 | 96.3  | 97.5  | 98.3  | 99.3  | 101.0 | 103.8 | 104.6 | 108.5 | 111.6 | 113.9 | 111.7 | 106.7 | 151.3 | 151.3 |
| 12500 | 94.5  | 95.7  | 97.2  | 98.2  | 99.0  | 102.0 | 103.2 | 106.0 | 109.9 | 112.0 | 109.9 | 105.8 | 150.3 | 150.3 |
| 15000 | 91.6  | 94.4  | 96.0  | 96.6  | 100.1 | 101.2 | 102.2 | 105.2 | 107.5 | 110.4 | 107.5 | 103.7 | 149.7 | 149.7 |
| 20000 | 89.7  | 92.0  | 92.4  | 94.0  | 94.5  | 97.8  | 99.4  | 102.2 | 105.2 | 108.3 | 105.3 | 103.3 | 149.3 | 149.3 |
| 25000 | 89.7  | 92.0  | 92.4  | 94.0  | 94.5  | 97.8  | 99.4  | 102.2 | 105.2 | 108.3 | 105.3 | 103.3 | 149.3 | 149.3 |
| 31500 | 81.9  | 85.7  | 85.5  | 87.3  | 87.8  | 93.4  | 93.8  | 95.5  | 98.2  | 101.0 | 97.7  | 93.5  | 148.0 | 148.0 |
| 40000 | 76.8  | 83.9  | 85.0  | 85.0  | 85.0  | 94.3  | 89.7  | 91.3  | 96.1  | 98.6  | 96.4  | 89.7  | 149.6 | 149.6 |
| 50000 | 72.1  | 85.5  | 86.3  | 84.7  | 80.0  | 95.0  | 86.3  | 87.0  | 93.8  | 97.9  | 93.9  | 85.1  | 152.6 | 152.6 |
| 63000 | 65.7  | 88.5  | 88.2  | 88.2  | 77.9  | 96.6  | 82.6  | 83.8  | 94.6  | 96.0  | 94.0  | 80.8  | 158.0 | 158.0 |
| 80000 | 62.4  | 92.6  | 71.4  | 91.4  | 76.3  | 97.4  | 80.6  | 81.1  | 96.4  | 96.6  | 95.3  | 75.4  | 166.1 | 166.1 |
| QASPL | 113.8 | 114.7 | 114.2 | 114.7 | 114.6 | 116.8 | 117.8 | 120.2 | 124.3 | 131.0 | 132.2 | 127.9 | 124.1 | 170.0 |
| PWL   | 125.8 | 126.8 | 127.0 | 127.7 | 128.3 | 130.6 | 131.4 | 133.2 | 136.9 | 143.3 | 143.9 | 137.6 | 131.9 |       |
| PML   | 125.8 | 127.3 | 127.0 | 127.7 | 128.3 | 130.6 | 131.4 | 133.2 | 136.9 | 143.3 | 143.9 | 137.6 | 131.9 |       |
| DBA   | 114.4 | 115.0 | 114.6 | 115.1 | 114.7 | 116.6 | 117.5 | 119.7 | 123.8 | 130.9 | 131.9 | 125.7 | 119.3 |       |

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = AD0106 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH C0NF10 = 3 MODEL = 3 FLTVL = 400. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 82.50 MIKE HT = 29.43 RELHUM = 64.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT C0NF10 = ARC NBFR =

FMINI = LBS XNL RPM XNHR RPM = V8 = 2485.1 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNL RPM XNHR RPM = V8 = 2485.1 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-0322 TAPE = X0322C TEST PT NO = 0322 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0322 X0322F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ

50

63

100

125

160

200

250

315

400

500

630

800

1000

1250

1500

2000

2500

3150

4000

5000

6300

8000

|       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 147.0 | 112.8 | 110.2 | 108.1 | 106.5 | 102.0 | 108.1 | 110.2 | 112.8 | 113.3 | 147.0 |
| 152.3 | 117.7 | 116.6 | 115.1 | 116.6 | 117.7 | 116.6 | 115.1 | 116.6 | 117.7 | 152.3 |
| 152.5 | 117.8 | 115.8 | 117.1 | 120.0 | 117.1 | 115.8 | 117.8 | 118.6 | 115.8 | 154.1 |
| 154.1 | 118.6 | 115.8 | 117.1 | 120.0 | 117.1 | 115.8 | 117.8 | 118.6 | 115.8 | 154.1 |
| 154.9 | 110.5 | 110.6 | 109.7 | 110.7 | 108.5 | 111.3 | 109.7 | 110.7 | 110.5 | 154.9 |
| 154.0 | 109.8 | 109.5 | 108.4 | 108.3 | 106.6 | 108.4 | 109.9 | 113.9 | 116.8 | 154.0 |
| 153.5 | 107.4 | 107.5 | 106.5 | 106.4 | 104.7 | 106.5 | 110.3 | 113.6 | 114.8 | 153.5 |
| 153.1 | 106.6 | 106.9 | 106.4 | 106.4 | 104.7 | 106.9 | 110.5 | 112.9 | 115.8 | 153.1 |
| 152.9 | 105.3 | 105.8 | 105.3 | 105.2 | 103.6 | 105.3 | 109.5 | 112.8 | 114.8 | 152.9 |
| 152.3 | 103.7 | 105.4 | 105.0 | 104.9 | 103.1 | 105.0 | 109.7 | 112.2 | 113.3 | 152.3 |
| 152.3 | 103.2 | 103.6 | 103.5 | 103.1 | 101.5 | 103.6 | 110.6 | 108.3 | 109.9 | 152.3 |
| 151.7 | 101.9 | 104.9 | 105.1 | 106.8 | 106.1 | 108.6 | 111.5 | 110.9 | 110.9 | 151.7 |
| 151.7 | 100.9 | 104.9 | 105.1 | 106.8 | 106.1 | 108.6 | 111.5 | 110.9 | 110.9 | 151.7 |
| 150.8 | 99.8  | 100.6 | 97.1  | 95.8  | 97.7  | 100.7 | 102.7 | 100.6 | 97.1  | 150.8 |
| 149.9 | 99.7  | 100.9 | 99.7  | 100.9 | 98.7  | 102.2 | 104.7 | 101.8 | 100.9 | 149.9 |
| 150.1 | 97.5  | 99.6  | 99.2  | 99.3  | 96.6  | 100.8 | 101.0 | 102.4 | 105.1 | 150.1 |
| 150.1 | 97.5  | 99.6  | 99.2  | 99.3  | 96.6  | 100.8 | 101.0 | 102.4 | 105.1 | 150.1 |
| 150.9 | 97.5  | 99.6  | 99.2  | 99.3  | 96.6  | 100.8 | 101.0 | 102.4 | 105.1 | 150.9 |
| 150.8 | 95.0  | 96.6  | 96.1  | 96.7  | 96.4  | 100.4 | 99.3  | 98.7  | 102.2 | 150.8 |
| 150.8 | 95.0  | 96.6  | 96.1  | 96.7  | 96.4  | 100.4 | 99.3  | 98.7  | 102.2 | 150.8 |
| 150.8 | 93.7  | 94.1  | 93.6  | 94.1  | 93.7  | 92.4  | 98.4  | 95.6  | 95.7  | 150.8 |
| 150.8 | 93.7  | 94.1  | 93.6  | 94.1  | 93.7  | 92.4  | 98.4  | 95.6  | 95.7  | 150.8 |
| 152.9 | 88.4  | 89.5  | 89.3  | 89.5  | 89.6  | 97.3  | 91.3  | 91.4  | 98.9  | 152.9 |
| 152.9 | 88.4  | 89.5  | 89.3  | 89.5  | 89.6  | 97.3  | 91.3  | 91.4  | 98.9  | 152.9 |
| 157.4 | 85.0  | 86.8  | 85.4  | 86.8  | 84.6  | 98.0  | 87.2  | 101.1 | 101.8 | 157.4 |
| 157.4 | 85.0  | 86.8  | 85.4  | 86.8  | 84.6  | 98.0  | 87.2  | 101.1 | 101.8 | 157.4 |
| 164.9 | 85.9  | 86.8  | 85.9  | 86.8  | 85.0  | 102.8 | 103.9 | 104.2 | 103.9 | 164.9 |
| 164.9 | 85.9  | 86.8  | 85.9  | 86.8  | 85.0  | 102.8 | 103.9 | 104.2 | 103.9 | 164.9 |
| 166.2 | 86.9  | 86.9  | 86.1  | 86.9  | 86.2  | 93.0  | 94.1  | 93.0  | 94.1  | 166.2 |
| 166.2 | 86.9  | 86.9  | 86.1  | 86.9  | 86.2  | 93.0  | 94.1  | 93.0  | 94.1  | 166.2 |
| 171.3 | 127.2 | 127.2 | 131.3 | 128.3 | 127.2 | 131.3 | 130.1 | 131.3 | 128.3 | 171.3 |
| 171.3 | 127.2 | 127.2 | 131.3 | 128.3 | 127.2 | 131.3 | 130.1 | 131.3 | 128.3 | 171.3 |
| 137.6 | 133.3 | 137.6 | 142.0 | 138.3 | 137.6 | 142.0 | 138.3 | 137.6 | 133.3 | 137.6 |
| 137.6 | 133.3 | 137.6 | 142.0 | 138.3 | 137.6 | 142.0 | 138.3 | 137.6 | 133.3 | 137.6 |
| 137.6 | 134.1 | 132.4 | 131.4 | 131.6 | 130.5 | 131.6 | 131.4 | 132.4 | 134.1 | 137.6 |
| 137.6 | 134.1 | 132.4 | 131.4 | 131.6 | 130.5 | 131.6 | 131.4 | 132.4 | 134.1 | 137.6 |
| 192.2 | 211.2 | 195.4 | 207.9 | 201.6 | 220.8 | 203.2 | 202.5 | 217.4 | 217.2 | 192.2 |
| 192.2 | 211.2 | 195.4 | 207.9 | 201.6 | 220.8 | 203.2 | 202.5 | 217.4 | 217.2 | 192.2 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NGZ. SC-3/NAS3-22514

VEHICL = ADG106 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CNFIG = 3 MODEL = 3 FLTVEL = 400. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.43 RELHUM = 64.0 PCT  
 MIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = 29.43 NBFR =

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RUNPT = -400-0322 TAPE = X0322F TEST PT NO = 032 NC = 863 CORR FAN SPEED = RPM

FNINI = LBS XNL RPM XNH XNHR = RPM XNH XNHR = RPM XNL XNL = LBS XNL RPM XNL  
 FNFRAMB = LBS XNL RPM XNL XNL = LBS XNL RPM XNL XNL = LBS XNL RPM XNL

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-03221 X03221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 73.0 75.5 75.2 75.4 76.3 79.5 81.2 84.7 87.6 94.2 95.9 93.6 88.3 170.0

63 75.2 75.5 76.9 77.7 79.7 78.7 80.3 82.5 88.0 94.3 96.6 98.0 94.3 88.2 171.5

80 74.3 76.6 77.5 77.5 78.6 79.3 81.2 84.2 89.0 97.3 98.6 94.2 88.0 172.0

100 76.1 78.9 78.3 79.4 80.3 80.9 83.1 90.4 98.4 99.9 94.3 89.7 173.1

125 77.8 78.9 78.9 80.6 81.9 82.7 84.2 91.2 98.6 100.0 93.3 88.9 173.2

150 85.3 85.2 83.9 81.7 83.9 83.5 85.2 91.7 98.7 100.3 92.4 88.1 173.6

200 90.0 92.0 87.0 86.1 85.7 84.8 85.7 86.6 92.2 99.4 98.3 91.1 87.9 173.7

2250 92.1 91.7 89.4 88.9 87.1 85.4 86.6 92.8 98.9 96.3 89.5 86.1 173.6

2500 88.0 89.9 91.1 91.4 91.3 87.5 86.7 92.6 97.2 95.8 87.9 82.9 173.0

3000 86.6 88.5 89.0 89.0 91.9 90.2 88.2 92.8 95.7 93.3 86.4 81.7 172.3

3500 85.4 87.0 87.3 88.0 88.8 90.6 89.7 92.7 94.3 91.4 84.2 77.9 171.4

4000 83.1 84.8 86.0 86.9 86.4 88.0 88.7 89.8 92.1 93.6 89.9 83.3 170.9

4500 81.1 83.7 84.3 85.8 86.1 87.7 89.7 91.1 92.6 87.9 82.2 75.1 170.5

5000 79.5 83.5 83.8 84.3 84.8 86.5 87.0 88.5 90.8 91.3 87.1 81.8 170.3

5500 77.3 81.5 82.8 83.7 84.5 86.4 85.5 87.4 89.2 89.4 85.2 80.6 169.8

6000 75.9 79.1 80.8 82.0 82.2 84.4 83.8 84.6 87.0 87.7 82.7 77.8 169.1

6500 75.9 79.1 80.8 82.0 82.2 84.4 83.8 84.6 87.0 87.7 82.7 77.8 168.9

7000 72.6 76.2 78.9 80.2 79.6 82.3 81.7 83.4 84.8 85.6 80.1 76.4 168.9

7500 67.5 73.3 75.3 76.9 77.0 79.5 79.4 80.0 81.2 80.9 74.1 68.9 167.5

8000 61.6 67.9 70.3 72.7 73.5 77.8 76.3 74.8 76.5 75.9 68.4 59.8 167.3

8500 53.5 62.1 64.5 66.5 66.5 72.9 69.7 68.5 71.0 69.2 61.2 47.1 168.2

9000 39.0 50.0 53.5 56.8 58.7 67.0 60.4 58.7 63.1 61.5 49.5 29.4 170.3

9500 15.7 33.5 37.5 43.4 43.6 57.7 47.0 43.8 53.2 46.6 32.9 2.1 174.8

10000 182.4 182.4 182.4 182.4 182.4 182.4 182.4 182.4 182.4 182.4 182.4 182.4 182.4

10500 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

11000 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

11500 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

12000 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

12500 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

13000 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

13500 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

14000 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

14500 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

15000 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

15500 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

16000 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

16500 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

17000 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

17500 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

18000 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

18500 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7 183.7

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VEHICL = ADB0106 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVL = 400. FPS  
IAPLHA = SB059 LEGA = NO EXT DIST = 2400.0 FT PML AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.43 RELHUM = 64.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBR NBR =  
FNINI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 2485.1 FPS AEB = 25.3 SQ IN AE8 = 25.3 SQ IN  
FNFRMB = LBS XNLR = RPM XNH = RPM V18 = 863 = 863 CORR FAN SPEED = RPM

NASA SHOCK CELL/CNT. CONV. ANN. FLUG NOZ. SC-3/NAS3-22514

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

QASPL 97.1 98.5 98.1 98.2 97.9 99.0 98.5 99.2 103.2 108.4 108.4 102.7 97.7 188.6  
PWL 102.0 103.8 104.1 104.8 104.7 106.6 105.7 106.3 109.4 112.8 110.7 104.2 98.9  
PNT 102.5 103.8 104.8 104.8 104.7 107.1 105.7 106.3 109.4 112.8 111.3 105.3 98.9  
DBA 91.0 93.1 93.6 94.4 94.2 95.9 95.7 96.5 99.1 101.1 101.1 98.3 91.9 86.2

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0349 X0349C  
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 81.9 80.7 78.5 78.5 79.1 80.7 80.9 84.5 86.7 84.1 92.9 92.6 93.0 128.3

63 84.5 84.0 83.3 84.8 86.9 88.3 86.7 90.8 91.1 91.1 99.0 97.7 98.6 134.0

80 86.8 91.6 88.0 87.1 88.0 91.1 91.2 90.9 92.5 93.0 94.2 96.8 97.1 133.6

100 87.6 92.6 88.4 90.4 90.7 91.6 92.5 93.4 93.0 94.2 96.8 99.8 101.2 136.1

125 84.4 87.1 88.9 91.2 90.3 93.7 93.5 94.9 94.8 98.2 105.1 105.8 140.5

160 84.0 83.1 86.6 87.9 87.0 89.1 90.7 92.1 93.6 98.4 103.5 107.4 140.0

200 84.8 84.1 86.1 86.9 88.2 91.3 91.5 93.9 98.5 100.6 104.5 108.7 142.4

250 84.5 88.6 88.6 89.6 89.7 91.1 94.5 97.1 100.3 106.1 110.0 112.5 146.1

315 84.8 88.4 88.1 88.9 90.8 94.4 96.0 97.9 102.2 109.2 111.6 113.8 147.7

400 86.6 89.4 89.9 90.9 91.3 94.6 96.5 100.7 107.1 114.2 115.8 116.0 151.0

500 86.7 89.4 89.9 90.3 92.6 95.2 97.9 101.3 106.7 114.1 116.7 115.9 151.2

630 88.1 91.3 91.6 92.4 93.5 96.1 99.0 102.2 106.7 115.4 118.8 117.5 152.9

800 92.2 91.7 92.8 93.5 94.6 97.3 98.4 101.8 107.6 116.1 119.2 114.3 152.6

1000 97.2 97.5 95.5 96.5 99.4 99.8 99.9 103.1 108.6 117.7 116.2 114.3 152.4

1250 95.0 99.8 99.6 99.6 99.4 99.8 101.4 103.6 108.4 115.4 117.7 115.9 152.2

1600 98.5 101.1 102.1 100.9 101.0 102.3 105.8 105.7 109.9 115.5 120.6 117.7 154.1

2000 95.4 97.3 96.0 96.4 96.7 98.8 100.7 103.6 108.5 113.9 115.3 109.4 150.2

2500 95.9 97.2 96.7 97.5 97.1 99.5 101.5 104.3 108.2 113.1 114.2 108.0 149.4

3150 99.5 100.3 98.8 100.1 99.4 101.3 101.4 104.1 108.2 111.6 113.5 110.4 148.9

4000 96.0 97.0 96.7 97.3 97.3 99.3 101.4 104.5 107.8 109.7 111.2 108.4 147.4

5000 95.4 96.4 95.5 97.2 99.1 100.5 103.8 106.6 109.0 109.7 108.0 105.7 146.6

6300 94.7 97.7 95.8 96.1 96.8 99.5 100.5 103.5 106.0 107.3 108.9 107.2 146.1

8000 92.8 95.9 95.9 95.6 96.3 98.4 100.0 102.2 104.6 106.2 106.8 106.2 145.2

10000 91.5 93.6 94.7 95.7 96.2 98.5 98.6 100.9 103.5 104.8 105.6 103.7 144.6

12500 90.1 92.3 93.3 93.6 94.9 96.6 97.8 99.3 101.7 102.3 104.2 103.4 143.7

15000 87.4 90.6 90.9 91.3 92.4 94.6 95.7 98.0 99.3 99.8 101.3 101.2 142.7

20000 84.3 87.6 88.0 89.4 89.9 92.0 93.1 94.9 96.8 97.6 99.2 98.9 142.0

25000 79.8 84.4 85.1 87.3 89.5 90.6 90.5 94.0 93.4 96.3 96.4 90.7 141.2

31500 74.9 80.1 80.4 81.7 82.5 85.9 86.5 89.8 89.8 93.4 92.3 87.1 140.7

40000 70.0 75.4 76.3 77.6 79.2 81.3 82.4 83.2 87.3 85.2 91.2 89.1 83.2 141.4

50000 65.5 72.7 71.2 74.3 73.6 77.9 77.6 77.8 84.4 82.8 87.9 86.5 79.1 142.5

63000 61.3 72.4 67.4 74.9 70.0 75.7 73.5 73.3 83.9 83.9 86.9 84.0 76.7 146.1

80000 59.0 74.3 68.2 76.8 76.8 76.7 68.8 68.8 84.9 84.9 86.8 80.9 75.6 152.7

QASPL 107.3 109.3 108.9 109.3 109.5 111.5 113.2 115.5 119.6 125.4 127.9 126.6 124.5 163.4

PNL 121.2 122.7 121.8 122.7 122.6 124.6 125.7 128.4 132.2 136.6 139.3 137.4 134.8

PNLT 122.4 123.7 123.4 123.7 122.6 125.6 127.3 128.4 132.2 136.6 140.6 138.5 134.8

DBA 107.5 109.3 108.9 109.1 109.2 111.0 112.9 115.2 119.4 124.9 127.5 125.6 123.0

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH099 TEST DATE = 09-01-81 LCAT = C41 ANECH CH CNFIG = 3 MODEL = 3 FLTVL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 89.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM = V8 = 2063.9 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM = V18 = FPS AE18 = 0. SQ IN

RUNPT = 81 7ER-0349 TAPE = X0349C TEST PT NO = 0349 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0349 X03491

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 64.6 68.9 70.5 72.2 73.0 76.5 78.2 82.0 87.7 93.7 93.8 91.8 86.1 168.4

63 64.7 70.0 70.8 73.3 74.3 77.1 79.6 82.6 87.3 93.6 94.7 91.6 85.7 168.6

80 66.0 70.8 72.2 73.7 75.2 77.9 80.7 83.4 87.2 94.9 96.7 93.2 88.2 170.4

100 70.0 71.1 73.2 74.8 76.3 79.0 80.0 83.0 88.1 95.5 96.0 92.2 86.4 170.0

125 74.9 76.8 78.9 77.2 77.7 79.7 81.5 84.2 89.0 95.1 95.4 91.6 86.2 169.8

160 72.5 78.9 79.1 80.6 80.9 81.4 82.9 84.6 88.7 94.5 95.3 91.1 84.7 169.7

200 75.8 80.0 82.2 81.7 82.2 83.7 87.1 86.6 89.9 94.4 97.9 92.6 85.0 171.5

250 72.4 76.0 75.8 77.0 77.8 80.0 81.8 84.2 88.4 92.6 92.2 87.3 79.8 167.6

315 72.4 75.5 76.3 77.9 77.9 80.4 82.4 84.6 87.8 91.4 90.7 85.1 77.6 166.8

400 75.5 78.2 78.0 80.1 79.9 81.9 81.9 84.1 87.4 89.5 89.5 83.7 75.4 166.3

500 71.5 74.5 75.6 77.0 77.6 79.7 81.7 84.2 86.7 87.2 86.7 81.0 74.0 164.8

630 70.4 73.6 74.5 75.9 77.1 79.2 80.5 83.3 85.1 86.1 84.8 79.9 72.2 164.1

800 69.3 74.4 74.1 75.3 76.5 79.4 80.2 82.6 84.2 84.1 83.4 78.4 71.0 163.5

1000 66.9 72.4 73.9 74.6 75.9 78.1 79.6 81.2 82.6 82.7 81.0 76.8 68.5 162.6

1250 65.1 69.8 72.4 74.5 75.6 78.1 78.0 79.7 81.2 80.9 79.2 74.6 66.6 162.1

1600 62.9 67.8 70.6 72.1 74.0 76.0 77.0 77.8 79.0 77.9 77.0 71.8 61.0 161.1

2000 59.2 65.6 67.8 69.5 71.4 73.8 74.7 76.3 76.2 74.7 73.0 67.9 55.4 160.1

2500 54.3 61.3 64.1 66.9 68.4 70.7 71.5 72.4 72.9 71.3 69.2 62.8 47.2 159.4

3150 46.5 55.7 59.1 61.2 64.3 67.3 67.7 66.6 68.2 64.7 63.0 55.3 34.9 158.7

4000 35.3 46.7 50.8 54.5 56.6 60.4 60.6 59.9 60.2 56.4 53.8 42.3 16.8 158.1

5000 20.7 34.4 40.5 45.0 48.2 50.9 51.5 50.5 51.5 44.2 41.8 25.4 158.8

6300 17.5 23.3 30.8 32.6 37.6 37.6 36.6 34.3 36.5 27.6 20.7 159.9

8000 163.6 170.1

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8000  
 6300  
 5000  
 4000  
 3150  
 2500  
 2000  
 1600  
 1250  
 1000  
 8000

QASPL 83.5 87.2 88.1 89.2 89.9 91.9 93.6 95.5 99.1 104.1 105.1 101.1 95.0 180.5  
 PNL 88.3 92.3 93.6 95.0 95.8 98.0 99.6 100.8 103.7 106.6 107.7 102.7 95.0  
 PNLT 88.9 92.8 94.4 95.5 95.8 98.5 100.4 100.8 103.7 106.6 108.7 103.2 95.0  
 DBA 77.5 81.5 82.6 84.0 85.0 87.3 88.4 90.3 92.4 94.1 94.1 89.0 81.6

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH099 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3  
 IAPLHA = SB59 IEGA = NO EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = 29.40 RELHUM = 89.0 PCT  
 WIND DIR = DEG WIND VEL = MPH PML AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 FTLVEL = 0. FPS

FNINI = LBS XNL RPM = XNH RPM V8 = 2063.9 FPS AE8 = 25.3 SQ IN  
 FNAMB = LBS XNLR RPM = XNHR RPM V18 = 2063.9 FPS AE18 = 0. SQ IN

RUNPT = ER-0349 TAPE = X03491 TEST PT NO = 0349 NC = 863 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1301 X1301C

BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |      |      |      |      |      |      |      |       |       |       |       |       |       |       |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.4 | 83.5 | 82.7 | 81.8 | 82.6 | 83.7 | 82.1 | 83.0  | 85.9  | 84.3  | 87.7  | 92.1  | 93.0  | 127.7 |
| 60    | 86.5 | 90.8 | 85.3 | 86.4 | 87.2 | 89.8 | 90.7 | 89.9  | 90.3  | 90.7  | 91.3  | 94.0  | 96.1  | 132.3 |
| 70    | 86.8 | 90.6 | 86.4 | 88.4 | 89.0 | 89.9 | 90.7 | 92.4  | 91.3  | 92.4  | 95.1  | 98.5  | 99.9  | 134.5 |
| 80    | 84.9 | 86.6 | 87.9 | 86.6 | 87.9 | 89.2 | 89.3 | 91.7  | 91.5  | 94.0  | 99.4  | 104.7 | 137.4 |       |
| 90    | 83.4 | 86.8 | 86.1 | 85.4 | 86.5 | 88.1 | 89.2 | 89.6  | 90.6  | 94.4  | 99.8  | 104.2 | 138.5 |       |
| 100   | 84.8 | 86.6 | 86.3 | 87.4 | 88.0 | 89.1 | 91.0 | 93.4  | 96.3  | 96.9  | 101.5 | 107.2 | 109.9 | 141.1 |
| 125   | 84.0 | 86.3 | 86.6 | 87.7 | 88.6 | 89.7 | 92.3 | 94.7  | 96.1  | 97.3  | 101.9 | 108.0 | 112.2 | 145.3 |
| 150   | 87.7 | 89.7 | 89.8 | 90.8 | 91.6 | 93.7 | 95.6 | 97.8  | 101.2 | 107.6 | 113.0 | 117.6 | 116.3 | 150.0 |
| 160   | 88.6 | 90.4 | 89.9 | 90.3 | 92.9 | 95.0 | 97.7 | 101.6 | 107.9 | 112.1 | 115.8 | 115.7 | 148.9 |       |
| 200   | 87.3 | 89.4 | 89.4 | 89.9 | 90.3 | 92.9 | 95.3 | 98.3  | 102.4 | 107.8 | 114.0 | 116.9 | 115.8 | 149.9 |
| 250   | 86.8 | 88.3 | 88.6 | 89.7 | 90.1 | 92.3 | 94.4 | 96.0  | 97.7  | 100.7 | 107.9 | 114.7 | 114.5 | 149.4 |
| 300   | 86.5 | 88.5 | 88.8 | 89.4 | 89.8 | 91.0 | 92.6 | 94.1  | 95.4  | 97.9  | 104.7 | 111.4 | 114.7 | 149.4 |
| 350   | 86.2 | 88.6 | 89.1 | 89.6 | 90.3 | 91.6 | 93.4 | 95.1  | 96.7  | 98.3  | 103.4 | 107.9 | 112.0 | 149.4 |
| 400   | 85.0 | 87.5 | 88.0 | 88.5 | 89.0 | 90.3 | 91.8 | 93.5  | 95.1  | 96.7  | 100.0 | 107.0 | 110.0 | 149.3 |
| 450   | 84.0 | 86.5 | 87.0 | 87.5 | 88.0 | 89.3 | 90.8 | 92.4  | 94.0  | 95.6  | 97.2  | 100.0 | 107.0 | 148.0 |
| 500   | 83.0 | 85.5 | 86.0 | 86.5 | 87.0 | 88.3 | 89.8 | 91.4  | 93.0  | 94.6  | 96.2  | 97.8  | 99.4  | 147.3 |
| 550   | 82.0 | 84.5 | 85.0 | 85.5 | 86.0 | 87.3 | 88.8 | 90.4  | 92.0  | 93.6  | 95.2  | 96.8  | 98.4  | 146.6 |
| 600   | 81.0 | 83.5 | 84.0 | 84.5 | 85.0 | 86.3 | 87.8 | 89.4  | 91.0  | 92.6  | 94.2  | 95.8  | 97.4  | 145.5 |
| 650   | 80.0 | 82.5 | 83.0 | 83.5 | 84.0 | 85.3 | 86.8 | 88.4  | 90.0  | 91.6  | 93.2  | 94.8  | 96.4  | 145.5 |
| 700   | 79.0 | 81.5 | 82.0 | 82.5 | 83.0 | 84.3 | 85.8 | 87.4  | 89.0  | 90.6  | 92.2  | 93.8  | 95.4  | 145.5 |
| 750   | 78.0 | 80.5 | 81.0 | 81.5 | 82.0 | 83.3 | 84.8 | 86.4  | 88.0  | 89.6  | 91.2  | 92.8  | 94.4  | 145.5 |
| 800   | 77.0 | 79.5 | 80.0 | 80.5 | 81.0 | 82.3 | 83.8 | 85.4  | 87.0  | 88.6  | 90.2  | 91.8  | 93.4  | 145.5 |
| 850   | 76.0 | 78.5 | 79.0 | 79.5 | 80.0 | 81.3 | 82.8 | 84.4  | 86.0  | 87.6  | 89.2  | 90.8  | 92.4  | 145.5 |
| 900   | 75.0 | 77.5 | 78.0 | 78.5 | 79.0 | 80.3 | 81.8 | 83.4  | 85.0  | 86.6  | 88.2  | 89.8  | 91.4  | 145.5 |
| 950   | 74.0 | 76.5 | 77.0 | 77.5 | 78.0 | 79.3 | 80.8 | 82.4  | 84.0  | 85.6  | 87.2  | 88.8  | 90.4  | 145.5 |
| 1000  | 73.0 | 75.5 | 76.0 | 76.5 | 77.0 | 78.3 | 79.8 | 81.4  | 83.0  | 84.6  | 86.2  | 87.8  | 89.4  | 145.5 |
| 1100  | 72.0 | 74.5 | 75.0 | 75.5 | 76.0 | 77.3 | 78.8 | 80.4  | 82.0  | 83.6  | 85.2  | 86.8  | 88.4  | 145.5 |
| 1200  | 71.0 | 73.5 | 74.0 | 74.5 | 75.0 | 76.3 | 77.8 | 79.4  | 81.0  | 82.6  | 84.2  | 85.8  | 87.4  | 145.5 |
| 1300  | 70.0 | 72.5 | 73.0 | 73.5 | 74.0 | 75.3 | 76.8 | 78.4  | 80.0  | 81.6  | 83.2  | 84.8  | 86.4  | 145.5 |
| 1400  | 69.0 | 71.5 | 72.0 | 72.5 | 73.0 | 74.3 | 75.8 | 77.4  | 79.0  | 80.6  | 82.2  | 83.8  | 85.4  | 145.5 |
| 1500  | 68.0 | 70.5 | 71.0 | 71.5 | 72.0 | 73.3 | 74.8 | 76.4  | 78.0  | 79.6  | 81.2  | 82.8  | 84.4  | 145.5 |
| 1600  | 67.0 | 69.5 | 70.0 | 70.5 | 71.0 | 72.3 | 73.8 | 75.4  | 77.0  | 78.6  | 80.2  | 81.8  | 83.4  | 145.5 |
| 1700  | 66.0 | 68.5 | 69.0 | 69.5 | 70.0 | 71.3 | 72.8 | 74.4  | 76.0  | 77.6  | 79.2  | 80.8  | 82.4  | 145.5 |
| 1800  | 65.0 | 67.5 | 68.0 | 68.5 | 69.0 | 70.3 | 71.8 | 73.4  | 75.0  | 76.6  | 78.2  | 79.8  | 81.4  | 145.5 |
| 1900  | 64.0 | 66.5 | 67.0 | 67.5 | 68.0 | 69.3 | 70.8 | 72.4  | 74.0  | 75.6  | 77.2  | 78.8  | 80.4  | 145.5 |
| 2000  | 63.0 | 65.5 | 66.0 | 66.5 | 67.0 | 68.3 | 69.8 | 71.4  | 73.0  | 74.6  | 76.2  | 77.8  | 79.4  | 145.5 |
| 2250  | 62.0 | 64.5 | 65.0 | 65.5 | 66.0 | 67.3 | 68.8 | 70.4  | 72.0  | 73.6  | 75.2  | 76.8  | 78.4  | 145.5 |
| 2500  | 61.0 | 63.5 | 64.0 | 64.5 | 65.0 | 66.3 | 67.8 | 69.4  | 71.0  | 72.6  | 74.2  | 75.8  | 77.4  | 145.5 |
| 2750  | 60.0 | 62.5 | 63.0 | 63.5 | 64.0 | 65.3 | 66.8 | 68.4  | 70.0  | 71.6  | 73.2  | 74.8  | 76.4  | 145.5 |
| 3000  | 59.0 | 61.5 | 62.0 | 62.5 | 63.0 | 64.3 | 65.8 | 67.4  | 69.0  | 70.6  | 72.2  | 73.8  | 75.4  | 145.5 |
| 3250  | 58.0 | 60.5 | 61.0 | 61.5 | 62.0 | 63.3 | 64.8 | 66.4  | 68.0  | 69.6  | 71.2  | 72.8  | 74.4  | 145.5 |
| 3500  | 57.0 | 59.5 | 60.0 | 60.5 | 61.0 | 62.3 | 63.8 | 65.4  | 67.0  | 68.6  | 70.2  | 71.8  | 73.4  | 145.5 |
| 3750  | 56.0 | 58.5 | 59.0 | 59.5 | 60.0 | 61.3 | 62.8 | 64.4  | 66.0  | 67.6  | 69.2  | 70.8  | 72.4  | 145.5 |
| 4000  | 55.0 | 57.5 | 58.0 | 58.5 | 59.0 | 60.3 | 61.8 | 63.4  | 65.0  | 66.6  | 68.2  | 69.8  | 71.4  | 145.5 |
| 4250  | 54.0 | 56.5 | 57.0 | 57.5 | 58.0 | 59.3 | 60.8 | 62.4  | 64.0  | 65.6  | 67.2  | 68.8  | 70.4  | 145.5 |
| 4500  | 53.0 | 55.5 | 56.0 | 56.5 | 57.0 | 58.3 | 59.8 | 61.4  | 63.0  | 64.6  | 66.2  | 67.8  | 69.4  | 145.5 |
| 4750  | 52.0 | 54.5 | 55.0 | 55.5 | 56.0 | 57.3 | 58.8 | 60.4  | 62.0  | 63.6  | 65.2  | 66.8  | 68.4  | 145.5 |
| 5000  | 51.0 | 53.5 | 54.0 | 54.5 | 55.0 | 56.3 | 57.8 | 59.4  | 61.0  | 62.6  | 64.2  | 65.8  | 67.4  | 145.5 |
| 5250  | 50.0 | 52.5 | 53.0 | 53.5 | 54.0 | 55.3 | 56.8 | 58.4  | 60.0  | 61.6  | 63.2  | 64.8  | 66.4  | 145.5 |
| 5500  | 49.0 | 51.5 | 52.0 | 52.5 | 53.0 | 54.3 | 55.8 | 57.4  | 59.0  | 60.6  | 62.2  | 63.8  | 65.4  | 145.5 |
| 5750  | 48.0 | 50.5 | 51.0 | 51.5 | 52.0 | 53.3 | 54.8 | 56.4  | 58.0  | 59.6  | 61.2  | 62.8  | 64.4  | 145.5 |
| 6000  | 47.0 | 49.5 | 50.0 | 50.5 | 51.0 | 52.3 | 53.8 | 55.4  | 57.0  | 58.6  | 60.2  | 61.8  | 63.4  | 145.5 |
| 6250  | 46.0 | 48.5 | 49.0 | 49.5 | 50.0 | 51.3 | 52.8 | 54.4  | 56.0  | 57.6  | 59.2  | 60.8  | 62.4  | 145.5 |
| 6500  | 45.0 | 47.5 | 48.0 | 48.5 | 49.0 | 50.3 | 51.8 | 53.4  | 55.0  | 56.6  | 58.2  | 59.8  | 61.4  | 145.5 |
| 6750  | 44.0 | 46.5 | 47.0 | 47.5 | 48.0 | 49.3 | 50.8 | 52.4  | 54.0  | 55.6  | 57.2  | 58.8  | 60.4  | 145.5 |
| 7000  | 43.0 | 45.5 | 46.0 | 46.5 | 47.0 | 48.3 | 49.8 | 51.4  | 53.0  | 54.6  | 56.2  | 57.8  | 59.4  | 145.5 |
| 7250  | 42.0 | 44.5 | 45.0 | 45.5 | 46.0 | 47.3 | 48.8 | 50.4  | 52.0  | 53.6  | 55.2  | 56.8  | 58.4  | 145.5 |
| 7500  | 41.0 | 43.5 | 44.0 | 44.5 | 45.0 | 46.3 | 47.8 | 49.4  | 51.0  | 52.6  | 54.2  | 55.8  | 57.4  | 145.5 |
| 7750  | 40.0 | 42.5 | 43.0 | 43.5 | 44.0 | 45.3 | 46.8 | 48.4  | 50.0  | 51.6  | 53.2  | 54.8  | 56.4  | 145.5 |
| 8000  | 39.0 | 41.5 | 42.0 | 42.5 | 43.0 | 44.3 | 45.8 | 47.4  | 49.0  | 50.6  | 52.2  | 53.8  | 55.4  | 145.5 |
| 8250  | 38.0 | 40.5 | 41.0 | 41.5 | 42.0 | 43.3 | 44.8 | 46.4  | 48.0  | 49.6  | 51.2  | 52.8  | 54.4  | 145.5 |
| 8500  | 37.0 | 39.5 | 40.0 | 40.5 | 41.0 | 42.3 | 43.8 | 45.4  | 47.0  | 48.6  | 50.2  | 51.8  | 53.4  | 145.5 |
| 8750  | 36.0 | 38.5 | 39.0 | 39.5 | 40.0 | 41.3 | 42.8 | 44.4  | 46.0  | 47.6  | 49.2  | 50.8  | 52.4  | 145.5 |
| 9000  | 35.0 | 37.5 | 38.0 | 38.5 | 39.0 | 40.3 | 41.8 | 43.4  | 45.0  | 46.6  | 48.2  | 49.8  | 51.4  | 145.5 |
| 9250  | 34.0 | 36.5 | 37.0 | 37.5 | 38.0 | 39.3 | 40.8 | 42.4  | 44.0  | 45.6  | 47.2  | 48.8  | 50.4  | 145.5 |
| 9500  | 33.0 | 35.5 | 36.0 | 36.5 | 37.0 | 38.3 | 39.8 | 41.4  | 43.0  | 44.6  | 46.2  | 47.8  | 49.4  | 145.5 |
| 9750  | 32.0 | 34.5 | 35.0 | 35.5 | 36.0 | 37.3 | 38.8 | 40.4  | 42.0  | 43.6  | 45.2  | 46.8  | 48.4  | 145.5 |
| 10000 | 31.0 | 33.5 | 34.0 | 34.5 | 35.0 | 36.3 | 37.8 | 39.4  | 41.0  | 42.6  | 44.2  | 45.8  | 47.4  | 145.5 |
| 10250 | 30.0 | 32.5 | 33.0 | 33.5 | 34.0 | 35.3 | 36.8 | 38.4  | 40.0  | 41.6  | 43.2  | 44.8  | 46.4  | 145.5 |
| 10500 | 29.0 | 31.5 | 32.0 | 32.5 | 33.0 | 34.3 | 35.8 | 37.4  | 39.0  | 40.6  | 42.2  | 43.8  | 45.4  | 145.5 |
| 10750 | 28.0 | 30.5 | 31.0 | 31.5 | 32.0 | 33.3 | 34.8 | 36.4  | 38.0  | 39.6  | 41.2  | 42.8  | 44.4  | 145.5 |
| 11000 | 27.0 | 29.5 | 30.0 | 30.5 | 31.0 | 32.3 | 33.8 | 35.4  | 37.0  | 38.6  | 40.2  | 41.8  | 43.4  | 145.5 |
| 11250 | 26.0 | 28.5 | 29.0 | 29.5 | 30.0 | 31.3 | 32.8 | 34.4  | 36.0  | 37.6  | 39.2  | 40.8  | 42.4  | 145.5 |
| 11500 | 25.0 | 27.5 | 28.0 | 28.5 | 29.0 | 30.3 | 31.8 | 33.4  | 35.0  | 36.6  | 38.2  | 39.8  | 41.4  | 145.5 |
| 11750 | 24.0 | 26.5 | 27.0 | 27.5 | 28.0 | 29.3 | 30.8 | 32.4  | 34.0  | 35.6  | 37.2  | 38.8  | 40.4  | 145.5 |
| 12000 | 23.0 | 25.5 | 26.0 | 26.5 | 27.0 | 28.3 | 29.8 | 31.4  | 33.0  | 34.6  | 36.2  | 37.8  | 39.4  | 145.5 |
| 12250 | 22.0 | 24.5 | 25.0 | 25.5 | 26.0 | 27.3 | 28.8 | 30.4  | 32.0  | 33.6  | 35.2  | 36.8  | 38.4  | 145.5 |
| 12500 | 21.0 | 23.5 | 24.0 | 24.5 | 25.0 | 26.3 | 27.8 | 29.4  | 31.0  | 32.6  | 34.2  | 35.8  | 37.4  | 145.5 |
| 12750 | 20.0 | 22.5 | 23.0 | 23.5 | 24.0 | 25.3 | 26.8 | 28.4  | 30.0  | 31.6  | 33.2  | 34.8  | 36.4  | 145.5 |
| 13000 | 19.0 | 21.5 | 22.0 | 22.5 | 23.0 | 24.3 | 25.8 | 27.4  | 29.0  | 30.6  | 32.2  | 33.8  | 35.4  | 145.5 |
| 13250 | 18.0 | 20.5 | 21.0 | 21.5 | 22.0 | 23.3 | 24.8 | 26.4  | 28.0  | 29.6  | 31.2  | 32.8  | 34.4  | 145.5 |
| 13500 | 17.0 | 19.5 | 20.0 | 20.5 | 21.0 | 22.3 | 23.8 | 25.4  | 27.0  | 28.6  | 30.2  | 31.8  | 33.4  | 145.5 |
| 13750 | 16.0 | 18.5 | 19.0 | 19.5 | 20.0 | 21.3 | 22.8 | 24.4  | 26.0  | 27.6  | 29.2  | 30.8  | 32.4  | 145.5 |
| 14000 | 15.0 | 17.5 | 18.0 | 18.5 | 19.0 | 20.3 | 21.8 | 23.4  | 25.0  | 26.6  | 28.2  | 29.8  | 31.4  | 145.5 |
| 14250 | 14.0 | 16.5 | 17.0 | 17.5 | 18.0 |      |      |       |       |       |       |       |       |       |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-1301 X1301F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.4 83.5 82.7 81.8 82.6 83.7 82.1 83.0 85.9 84.3 87.7 92.1 93.0 127.7

63 88.7 89.8 90.3 88.3 89.7 90.8 90.7 90.1 90.6 89.9 89.5 97.7 98.6 133.6

80 86.5 90.8 85.3 86.4 87.2 89.8 90.7 89.9 90.3 90.7 91.3 94.0 96.1 132.3

100 86.8 90.6 86.4 86.4 89.0 89.9 90.7 92.4 91.3 92.4 95.1 98.5 99.9 134.5

125 84.9 86.6 87.9 89.2 89.3 91.7 91.3 90.9 91.5 94.0 99.4 102.8 104.7 137.4

160 84.8 82.6 86.1 85.4 86.5 88.1 89.2 89.6 90.6 94.4 99.8 104.2 107.4 138.5

200 84.3 86.3 86.8 87.4 88.0 90.1 91.0 93.4 96.3 96.9 101.5 107.2 109.9 141.1

250 84.0 86.0 88.3 88.6 89.7 92.3 94.7 96.1 97.3 101.9 108.0 112.2 112.9 145.3

315 85.8 90.1 88.6 91.4 92.3 94.4 96.0 97.7 100.7 110.1 114.0 114.9 147.4

400 86.6 89.4 89.9 90.4 89.9 90.3 92.9 95.0 97.7 101.6 107.9 112.1 115.8 148.9

500 87.7 89.7 89.8 90.8 91.6 93.7 95.6 97.8 101.2 107.6 113.0 117.6 116.3 150.0

630 88.6 91.1 91.4 92.2 93.9 95.5 97.7 100.4 107.9 114.6 117.5 116.9 150.5

800 91.7 91.2 92.0 92.8 93.4 95.3 95.9 98.3 102.4 107.8 114.0 116.9 149.9

1000 97.5 98.8 98.5 97.3 96.2 97.0 97.7 99.6 103.1 107.8 113.0 116.4 149.9

1250 101.0 101.3 98.5 98.8 99.4 99.8 99.4 99.8 100.3 103.4 107.9 112.0 115.7 149.4

1600 109.5 106.3 104.3 101.1 98.2 97.8 99.8 101.2 103.3 107.0 111.4 114.7 114.5 149.4

2000 110.4 109.3 108.2 106.9 103.0 100.1 98.7 100.9 103.3 108.2 109.3 112.9 112.4 149.6

2500 106.9 107.7 107.2 108.0 106.2 102.0 101.8 103.5 107.6 107.9 111.7 110.0 149.3

3150 106.2 106.6 105.1 106.3 106.4 107.8 106.4 102.6 104.4 106.1 107.5 109.4 108.3 148.7

4000 105.0 105.5 105.8 104.0 104.0 104.4 104.6 105.8 106.1 105.3 104.5 107.9 106.6 148.0

5000 103.4 104.7 104.0 104.0 104.4 104.6 104.0 105.8 106.1 105.3 104.5 107.9 106.6 147.3

6300 102.2 104.7 103.8 104.1 104.0 105.0 103.7 105.0 107.0 105.1 103.6 105.9 104.5 147.4

8000 100.5 102.1 102.4 103.1 102.8 103.9 103.5 104.7 103.2 102.1 104.7 103.8 146.6

10000 99.7 100.6 101.7 102.7 102.7 104.0 102.6 102.9 104.5 104.1 102.1 103.3 102.2 146.5

12500 97.6 99.0 100.3 100.6 100.9 102.4 101.3 101.1 102.2 101.8 100.7 101.4 99.2 145.5

16000 95.1 97.4 97.6 98.5 98.4 100.1 99.5 100.5 99.8 99.1 97.8 99.9 97.4 144.7

20000 92.6 94.6 94.7 95.9 95.6 97.6 97.6 97.6 96.3 95.4 99.4 95.1 144.3

25000 88.8 92.7 92.2 92.9 93.8 96.4 95.6 93.3 95.0 92.7 94.4 91.5 143.8

31500 83.9 89.4 87.7 90.5 89.5 92.9 91.5 90.7 91.3 89.1 89.2 89.8 87.6 143.3

40000 79.3 87.7 84.6 87.9 86.2 90.0 88.2 87.2 89.1 84.5 87.2 86.4 83.9 144.3

50000 75.0 87.2 79.7 87.8 81.6 88.1 84.1 82.0 87.2 80.8 84.9 83.5 80.6 146.4

63000 71.3 86.4 76.9 89.7 79.0 88.2 80.7 78.1 88.2 77.4 84.4 80.2 79.7 151.8

80000 69.0 88.6 88.6 86.7 89.5 86.3 87.7 77.3 73.8 89.4 73.4 84.8 77.9 158.5

GASPL 116.2 116.1 115.3 115.4 114.8 115.4 114.6 114.9 116.5 119.2 122.9 126.3 126.1 163.7

PNL 128.7 128.8 128.2 128.6 128.1 128.9 128.2 128.2 129.1 131.3 133.2 136.4 135.8

PNLT 130.0 128.8 129.3 128.6 129.4 128.9 128.2 128.2 129.1 131.3 133.2 136.4 135.8

DBA 189.9 209.0 197.2 210.0 197.2 209.2 198.4 195.1 209.8 194.6 205.3 198.8 199.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT, CONV, ANN, PLUG NOZ, SC-3/NAS3-22514

VEHICL = ADH100 TEST DATE = 09-01-81 LGCAT = C41 ANECH CH CNFIG = 3 MODEL = 3 FLTVL = 0. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 89.0 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NDFR =  
FNINI = LBS XNL RPM XNH RPM V8 = 1666.2 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 1666.2 FPS AE18 = 0. SQ IN  
RUPNT = 8 ER-1301 TAPE = X1301F TEST PT NO = 1301 NC = 863 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

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HONEYWELL PAGE PRINTING SYSTEM - P1188-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1301 X13011

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 64.6 68.9 71.0 71.2 72.0 74.7 76.7 79.0 82.2 87.5 90.1 91.6 88.1 166.3

63 65.7 70.2 70.3 72.1 73.3 75.6 77.3 79.1 81.8 87.1 90.9 93.4 88.7 167.4

80 66.5 70.6 71.7 72.7 73.9 75.7 77.2 78.9 81.0 87.4 92.5 93.2 89.2 167.9

100 69.5 70.6 72.5 74.0 75.0 77.0 77.5 79.5 82.8 87.2 91.8 92.5 87.9 167.3

125 75.2 78.1 78.9 78.4 77.7 78.7 79.2 80.7 83.5 87.1 90.7 91.8 88.7 167.3

150 78.5 80.4 78.8 79.8 80.9 81.4 80.9 81.3 83.7 87.0 89.5 90.9 87.5 166.9

200 67.8 85.2 84.4 82.0 79.5 79.2 81.1 82.1 83.4 85.9 88.7 89.6 85.5 166.8

250 67.4 88.0 88.1 87.5 84.0 81.3 79.8 81.5 83.1 86.8 86.2 87.3 82.8 167.0

315 83.4 86.0 86.8 88.4 88.4 87.2 82.9 82.1 83.0 85.9 84.5 85.6 79.6 166.7

400 82.3 84.5 84.3 86.4 86.9 88.4 86.9 82.6 83.6 84.0 83.5 82.7 76.9 166.1

500 80.5 83.0 84.4 85.5 84.6 85.9 86.9 85.5 83.4 83.0 81.2 80.5 74.2 165.5

630 78.4 81.8 82.5 83.4 84.4 84.7 84.0 85.3 84.6 82.4 79.6 78.4 72.0 164.8

800 76.8 81.4 82.1 83.3 83.7 84.9 83.4 84.1 85.2 81.8 78.2 77.1 70.0 164.8

1000 74.7 78.6 80.4 82.1 82.4 83.6 83.1 82.9 83.6 81.2 76.2 74.8 68.0 164.0

1250 73.4 76.8 79.4 81.5 82.1 83.6 82.0 81.7 82.2 80.2 75.7 73.1 65.1 163.9

1600 70.4 74.5 77.6 79.1 80.0 81.7 80.5 79.6 79.5 77.4 73.5 69.8 59.7 162.9

2000 66.9 72.3 74.6 76.8 77.4 79.3 78.5 78.8 76.7 74.0 69.5 66.7 54.9 162.2

2500 62.6 68.3 70.8 73.4 74.6 77.2 76.0 75.2 73.6 70.0 65.4 63.3 47.7 161.7

3150 55.5 63.9 66.4 68.9 70.8 73.8 72.7 69.3 69.2 63.9 59.2 53.3 35.6 161.2

4000 44.3 55.9 58.1 63.2 63.6 67.4 65.6 63.4 61.7 55.6 49.6 39.8 22.7 160.7

5000 29.9 46.6 48.7 55.2 55.2 59.7 57.2 54.5 53.2 43.4 37.8 22.7 161.8

6300 7.9 32.0 31.8 44.3 40.6 47.9 43.1 38.6 39.3 25.6 17.7 163.8

8000 8.3 7.7 27.0 19.9 30.2 21.6 15.4 18.9

10000 12500 15000 16000

20000 25000 31500 40000 50000 63000 80000

GASFL 92.6 94.0 94.4 95.2 95.0 95.5 94.6 94.4 95.3 97.4 99.9 101.0 96.9 180.9

PNL 97.1 99.4 100.2 101.6 101.7 103.0 101.9 101.5 101.4 101.3 101.2 101.3 96.1

DBA 86.4 89.1 90.1 91.5 91.7 92.8 91.8 91.4 91.5 90.1 88.2 88.1 82.9

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CNT. CONV. ANN. FLUG NGZ. SC-3/NAS3-22514

VEHCL = ADH100 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3

IAPLHA = SB59 WIND DIR = DEG WIND VEL = MPH PML AREA = FULL SPHERE TAMB F = 76.00

FNINI = LBS XNL RPM XNH RPM V8 = 1666.2 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNL RPM XNHR RPM V18 = 1666.2 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-1301 TAPE = X13011 TEST PT NO = 1301 NC = 863

CORR FAN SPEED = RPM

FLTVL = 0. FPS

RELHUM = 89.0 PCT

NBFR =

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1302  
BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

84.9 84.7 79.7 83.3 80.1 83.2 81.1 83.3 84.4 87.8 90.4 95.0 128.4

50 84.9 84.7 79.7 83.3 80.1 83.2 81.1 83.3 84.4 87.8 90.4 95.0 128.4

63 85.5 86.8 85.3 84.7 87.0 86.2 88.1 88.8 90.6 91.7 92.4 95.8 130.9

80 87.0 91.1 86.1 87.4 87.2 89.3 90.0 90.8 90.2 90.8 94.2 98.1 132.5

100 86.8 90.3 86.4 87.4 88.2 89.2 89.1 89.8 90.5 90.4 93.3 98.0 100.4 133.9

125 84.1 86.1 86.7 87.9 88.0 90.2 89.8 89.2 89.5 91.7 97.6 101.5 104.0 136.1

150 81.0 81.3 83.6 83.7 84.8 86.2 86.6 87.3 92.4 97.8 101.7 105.4 136.2

160 81.0 81.3 83.6 83.7 84.8 86.2 86.6 87.3 92.4 97.8 101.7 105.4 136.2

200 81.5 82.8 83.3 83.9 83.7 86.3 87.2 86.9 92.8 93.1 98.5 104.0 107.1 138.0

250 80.8 84.3 83.3 86.1 85.5 87.1 89.5 91.4 93.3 97.9 103.8 107.7 108.4 140.9

315 81.1 84.9 84.6 85.9 86.3 89.6 91.8 93.9 98.3 102.7 106.8 110.0 109.2 143.3

400 82.3 84.9 84.6 86.0 86.4 89.4 91.3 93.4 98.9 104.5 108.6 111.3 107.4 144.2

500 82.2 85.7 84.8 87.0 87.4 89.3 91.6 93.0 99.2 104.6 110.0 111.1 104.5 144.4

630 82.6 85.6 84.9 87.2 87.0 89.1 91.2 93.4 96.4 103.7 110.1 110.5 101.4 143.8

800 89.5 91.0 89.9 89.5 91.6 91.6 94.8 98.4 103.8 109.2 107.9 96.8 142.8

1000 93.2 93.0 89.8 90.3 89.9 91.5 92.9 95.1 99.1 103.4 108.0 104.9 95.3 141.7

1250 103.5 104.5 97.8 95.3 95.2 94.5 95.4 96.6 100.5 103.6 106.8 102.7 95.4 143.0

1500 109.3 107.6 106.8 104.4 99.7 106.3 96.6 97.1 99.8 104.4 106.1 101.0 96.2 146.0

2000 106.7 108.1 108.2 107.6 106.5 102.6 97.5 97.1 99.8 104.4 103.8 98.6 94.1 147.0

2500 103.7 104.0 105.5 107.4 107.5 103.6 99.3 100.5 103.6 102.4 97.0 92.8 146.4

3150 104.3 104.3 103.3 103.1 103.2 106.0 106.4 102.6 101.2 102.9 95.9 91.6 145.1

4000 102.7 103.3 102.5 102.1 102.8 104.0 105.0 103.3 102.2 99.5 94.4 91.4 145.1

5000 101.4 102.0 101.7 102.0 102.2 102.9 101.5 101.5 103.8 105.6 103.0 99.8 94.3 144.8

6300 100.5 102.0 101.4 101.6 101.6 102.5 102.5 103.0 106.3 104.1 99.9 95.2 89.8 145.2

8000 99.3 100.5 100.5 100.6 100.6 101.5 101.5 101.2 103.8 99.7 94.8 90.3 144.4

10000 98.6 99.2 99.6 100.3 100.3 101.8 100.6 101.2 102.8 102.7 94.7 90.1 144.3

12500 96.8 97.7 97.9 98.2 99.0 99.5 99.0 99.5 100.9 98.6 94.3 88.6 143.4

15000 93.6 95.9 96.1 96.5 96.9 98.3 97.7 98.5 98.3 98.1 96.0 87.7 142.8

16000 93.6 95.9 96.1 96.5 96.9 98.3 97.7 98.5 98.3 98.1 96.0 87.7 142.8

20000 91.7 93.3 93.1 94.3 93.6 95.9 95.2 96.0 94.8 93.3 92.8 85.2 142.2

25000 87.3 91.0 90.0 91.2 91.8 94.7 94.2 92.3 93.1 90.8 89.1 87.4 141.8

31500 82.4 87.5 85.5 87.8 87.8 90.7 89.8 89.5 89.2 87.0 85.7 82.8 141.1

40000 77.6 86.4 82.5 85.0 84.5 88.1 86.7 85.8 84.0 81.9 79.2 71.7 142.2

50000 72.9 88.0 76.5 85.0 80.0 82.0 82.0 80.2 84.0 77.4 81.9 74.6 68.4 151.1

63000 66.4 91.0 73.3 88.4 78.7 87.6 87.6 76.1 84.8 72.8 83.5 70.1 68.8 151.1

80000 62.9 95.1 73.4 92.1 72.1 89.9 89.9 72.6 70.1 86.4 69.6 64.6 69.0 161.0

GASPL 114.4 114.7 114.1 113.9 113.6 114.0 113.0 112.8 114.5 116.1 118.6 118.8 116.2 163.1

PWL 128.6 128.4 127.7 126.4 126.9 128.3 128.5 127.4 128.1 128.6 126.9 123.5

DBA 115.1 115.2 114.7 114.3 113.9 114.0 112.9 112.3 113.8 115.2 117.1 115.6 110.2

NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NOZ. SC-3/NA53-22514

VEHICLE = ADH105 TEST DATE = 09-01-81  
IAPLHA = SB59 = NO PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
WIND DIR = DEG WIND VEL = MPH  
FNIINI = LBS XNL RPM XNH XNHR = RPM V8 = 1677.1 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM V18 = 1677.1 FPS AE18 = 0. SQ IN  
CORR FAN SPEED = RPM

RUNPT = 81F-400-1302 TAPE = X1302C TEST PT NO = 1302 NC = 863  
CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM - D188-C





UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1313 X1313C

BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.7  | 84.5  | 83.2  | 82.3  | 82.6  | 83.7  | 83.4  | 84.3  | 105.2 | 84.1  | 89.4  | 92.4  | 93.3  | 137.1 |
| 63    | 90.0  | 89.8  | 88.9  | 88.8  | 88.9  | 90.5  | 90.4  | 89.6  | 99.1  | 90.6  | 92.0  | 97.4  | 98.1  | 135.1 |
| 80    | 87.5  | 91.8  | 87.1  | 87.6  | 88.5  | 91.5  | 91.7  | 90.9  | 98.3  | 91.7  | 92.8  | 95.5  | 97.1  | 134.7 |
| 100   | 88.3  | 92.3  | 87.6  | 89.7  | 90.0  | 91.4  | 92.2  | 94.2  | 97.5  | 93.4  | 96.1  | 99.8  | 101.4 | 136.4 |
| 125   | 85.9  | 88.1  | 89.4  | 90.4  | 91.3  | 92.9  | 93.0  | 92.7  | 96.3  | 95.2  | 100.6 | 104.8 | 106.2 | 139.1 |
| 160   | 86.3  | 83.3  | 86.9  | 87.5  | 89.6  | 90.5  | 90.9  | 95.6  | 95.6  | 95.4  | 100.8 | 105.5 | 108.6 | 139.8 |
| 200   | 84.8  | 87.6  | 88.3  | 88.9  | 89.2  | 91.8  | 92.2  | 94.9  | 95.8  | 98.4  | 102.8 | 108.7 | 111.6 | 142.6 |
| 250   | 85.3  | 92.1  | 89.3  | 90.1  | 90.7  | 93.3  | 95.7  | 96.6  | 96.1  | 102.9 | 108.8 | 113.0 | 114.4 | 146.3 |
| 315   | 87.1  | 91.1  | 89.9  | 92.2  | 92.8  | 95.6  | 98.8  | 98.9  | 95.7  | 106.7 | 110.6 | 115.0 | 116.4 | 148.4 |
| 400   | 88.1  | 90.6  | 91.1  | 91.2  | 91.3  | 94.4  | 96.0  | 98.4  | 95.6  | 108.4 | 113.1 | 116.8 | 116.4 | 149.7 |
| 500   | 88.2  | 92.5  | 91.0  | 91.5  | 92.6  | 95.0  | 96.9  | 98.8  | 95.0  | 108.3 | 114.2 | 118.4 | 117.8 | 151.0 |
| 630   | 90.3  | 92.6  | 92.4  | 92.9  | 94.0  | 94.9  | 97.0  | 98.9  | 95.2  | 109.4 | 115.1 | 118.7 | 117.9 | 151.4 |
| 800   | 93.7  | 92.7  | 93.3  | 93.8  | 94.6  | 96.5  | 97.4  | 100.0 | 95.9  | 109.3 | 115.2 | 118.4 | 117.0 | 151.2 |
| 1000  | 100.5 | 100.8 | 100.3 | 99.3  | 98.7  | 98.5  | 99.4  | 100.8 | 95.8  | 109.6 | 114.7 | 118.4 | 117.8 | 151.5 |
| 1250  | 108.2 | 108.3 | 107.2 | 107.4 | 105.5 | 102.8 | 100.5 | 102.1 | 95.8  | 109.7 | 111.5 | 115.6 | 113.9 | 150.5 |
| 1600  | 109.3 | 106.8 | 104.1 | 100.5 | 99.8  | 101.8 | 106.5 | 102.0 | 96.3  | 109.3 | 113.1 | 117.2 | 116.2 | 151.1 |
| 2000  | 106.2 | 106.2 | 106.2 | 107.0 | 106.3 | 106.5 | 104.5 | 102.5 | 97.2  | 109.3 | 110.4 | 114.0 | 112.2 | 149.8 |
| 2500  | 106.2 | 106.2 | 106.2 | 107.0 | 106.3 | 106.5 | 104.5 | 102.5 | 97.2  | 109.3 | 110.4 | 114.0 | 112.2 | 149.8 |
| 3150  | 105.5 | 106.1 | 105.8 | 105.8 | 105.4 | 107.3 | 106.4 | 104.3 | 97.9  | 108.1 | 110.0 | 112.2 | 109.8 | 149.2 |
| 4000  | 103.7 | 104.5 | 104.7 | 105.5 | 104.6 | 105.6 | 106.2 | 106.5 | 97.8  | 106.9 | 108.2 | 111.1 | 108.3 | 148.4 |
| 5000  | 102.6 | 103.4 | 104.0 | 104.5 | 104.4 | 104.9 | 104.3 | 106.1 | 98.9  | 106.8 | 106.7 | 108.5 | 107.2 | 147.5 |
| 6300  | 101.7 | 104.2 | 103.6 | 104.6 | 104.3 | 105.0 | 104.2 | 105.5 | 99.5  | 106.6 | 105.9 | 108.4 | 105.8 | 147.5 |
| 8000  | 100.5 | 101.9 | 103.1 | 103.1 | 104.6 | 104.0 | 103.9 | 99.4  | 106.9 | 106.9 | 103.8 | 106.7 | 105.3 | 146.9 |
| 10000 | 99.5  | 100.6 | 101.9 | 103.2 | 103.7 | 104.2 | 103.3 | 103.6 | 99.5  | 105.6 | 103.3 | 105.3 | 104.7 | 146.9 |
| 12500 | 97.1  | 99.5  | 100.3 | 100.8 | 102.1 | 103.4 | 102.3 | 101.8 | 98.7  | 103.3 | 102.2 | 103.6 | 101.5 | 146.1 |
| 16000 | 94.4  | 97.4  | 98.1  | 99.0  | 99.4  | 101.1 | 100.2 | 101.0 | 98.0  | 100.6 | 99.5  | 101.9 | 99.9  | 145.5 |
| 20000 | 92.1  | 95.1  | 95.2  | 96.9  | 96.9  | 98.6  | 98.6  | 96.6  | 96.6  | 96.9  | 96.9  | 100.7 | 96.4  | 145.1 |
| 25000 | 88.3  | 93.7  | 92.2  | 93.4  | 94.5  | 96.6  | 96.6  | 95.0  | 96.5  | 94.7  | 94.1  | 96.1  | 89.7  | 144.9 |
| 31500 | 83.4  | 91.1  | 88.2  | 91.5  | 90.5  | 94.2  | 93.0  | 91.7  | 92.6  | 90.8  | 91.4  | 92.3  | 86.6  | 144.6 |
| 40000 | 79.0  | 90.4  | 84.8  | 86.6  | 86.4  | 92.0  | 88.4  | 90.8  | 86.0  | 89.2  | 89.6  | 82.9  | 82.9  | 146.0 |
| 50000 | 74.8  | 90.5  | 80.4  | 89.5  | 82.6  | 90.6  | 84.6  | 83.5  | 89.4  | 83.6  | 87.1  | 87.0  | 79.8  | 148.5 |
| 63000 | 70.1  | 91.4  | 77.4  | 91.7  | 80.5  | 91.0  | 81.7  | 79.8  | 90.9  | 80.4  | 87.9  | 85.0  | 79.0  | 154.3 |
| 80000 | 69.3  | 91.1  | 76.2  | 91.8  | 77.6  | 90.5  | 78.1  | 75.3  | 93.4  | 76.4  | 88.8  | 82.4  | 79.9  | 161.5 |
| QASPL | 115.6 | 115.8 | 115.3 | 115.7 | 115.1 | 115.8 | 115.3 | 115.7 | 112.7 | 120.7 | 124.3 | 128.0 | 127.3 | 165.5 |
| PML   | 127.9 | 128.5 | 128.0 | 128.5 | 127.9 | 129.1 | 128.7 | 129.0 | 123.4 | 132.9 | 135.1 | 138.5 | 137.3 |       |
| PMLT  | 127.9 | 129.1 | 129.1 | 128.5 | 129.1 | 129.1 | 128.7 | 129.0 | 123.4 | 132.9 | 135.1 | 138.5 | 137.3 |       |
| DBA   | 116.3 | 116.1 | 115.6 | 115.8 | 115.0 | 115.4 | 114.9 | 115.1 | 109.1 | 120.2 | 123.5 | 127.1 | 126.0 |       |

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH101 TEST DATE = 09-01-81 LGCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 MIKE HT = 29.40 RELHUM = 89.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1722.9 FPS AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNL RPM XNH XNHR = RPM V8 = 1722.9 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-ZER-1313 TAPE = X1313C TEST PT NO = 1313 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1313 X13131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 66.1 | 70.1 | 71.7 | 72.5 | 73.0 | 76.2 | 77.7 | 79.7 | 76.2 | 88.0 | 91.1 | 92.6 | 88.9  | 167.1 |
| 60    | 68.2 | 72.1 | 72.9 | 74.2 | 75.7 | 76.7 | 78.7 | 80.2 | 75.7 | 87.8 | 92.2 | 94.1 | 90.2  | 168.4 |
| 80    | 68.2 | 72.1 | 72.9 | 74.2 | 75.7 | 76.7 | 78.7 | 80.2 | 75.7 | 87.8 | 92.2 | 94.1 | 90.2  | 168.4 |
| 100   | 71.5 | 72.1 | 73.7 | 75.0 | 76.3 | 78.3 | 79.0 | 81.3 | 76.3 | 88.7 | 93.0 | 94.0 | 89.2  | 168.9 |
| 125   | 78.2 | 80.1 | 80.4 | 80.2 | 80.2 | 81.0 | 81.9 | 76.2 | 88.9 | 92.4 | 93.8 | 89.7 | 168.9 |       |
| 150   | 82.5 | 83.2 | 81.1 | 81.3 | 82.1 | 82.9 | 82.4 | 82.8 | 77.0 | 88.8 | 91.5 | 88.2 | 168.6 |       |
| 200   | 86.5 | 85.7 | 86.4 | 85.0 | 81.7 | 81.2 | 83.1 | 82.8 | 76.4 | 88.2 | 90.4 | 87.3 | 168.5 |       |
| 250   | 85.1 | 87.0 | 87.1 | 88.0 | 86.5 | 84.0 | 81.5 | 82.7 | 75.6 | 88.3 | 88.5 | 90.0 | 84.3  | 167.9 |
| 315   | 82.7 | 84.5 | 85.8 | 87.4 | 87.2 | 87.4 | 85.4 | 86.8 | 76.8 | 87.6 | 87.0 | 87.9 | 81.9  | 167.3 |
| 400   | 81.5 | 84.0 | 84.5 | 85.9 | 85.9 | 87.9 | 86.9 | 84.4 | 77.1 | 86.0 | 86.0 | 85.4 | 78.4  | 166.6 |
| 500   | 79.3 | 82.0 | 83.6 | 85.2 | 84.8 | 85.9 | 86.4 | 86.2 | 76.7 | 84.5 | 83.7 | 83.7 | 76.0  | 165.9 |
| 630   | 77.7 | 80.6 | 82.5 | 83.9 | 84.4 | 85.0 | 84.2 | 85.5 | 77.4 | 83.9 | 81.8 | 80.4 | 73.7  | 164.9 |
| 800   | 76.3 | 80.9 | 81.8 | 83.8 | 84.0 | 84.9 | 83.9 | 84.6 | 77.7 | 83.3 | 80.4 | 79.6 | 71.2  | 165.0 |
| 1000  | 74.7 | 78.4 | 80.7 | 82.1 | 82.7 | 84.4 | 83.6 | 82.9 | 77.4 | 83.4 | 78.0 | 77.3 | 69.5  | 164.4 |
| 1250  | 73.1 | 76.8 | 79.7 | 82.0 | 83.1 | 83.8 | 82.7 | 82.5 | 77.2 | 81.7 | 77.0 | 75.1 | 67.6  | 164.3 |
| 1500  | 69.9 | 75.0 | 77.6 | 79.3 | 81.3 | 80.3 | 79.2 | 78.9 | 75.0 | 78.9 | 75.0 | 72.0 | 62.0  | 163.6 |
| 2000  | 66.2 | 72.3 | 75.1 | 77.3 | 78.4 | 80.3 | 77.3 | 76.2 | 72.6 | 71.8 | 66.9 | 64.6 | 48.9  | 162.5 |
| 2500  | 62.1 | 68.8 | 71.9 | 74.4 | 75.4 | 77.7 | 77.3 | 76.2 | 72.6 | 66.9 | 64.6 | 48.9 | 162.5 |       |
| 3150  | 55.0 | 64.9 | 66.4 | 69.4 | 71.6 | 75.0 | 73.7 | 71.1 | 70.7 | 65.9 | 60.7 | 55.1 | 33.9  | 162.3 |
| 4000  | 43.8 | 57.7 | 58.6 | 64.2 | 64.6 | 68.7 | 67.1 | 64.4 | 63.0 | 57.4 | 51.8 | 42.3 | 16.3  | 162.1 |
| 5000  | 29.7 | 49.4 | 49.0 | 57.0 | 55.5 | 61.7 | 58.0 | 55.8 | 55.0 | 44.9 | 39.8 | 25.9 |       | 163.4 |
| 6300  | 7.6  | 35.2 | 32.5 | 46.1 | 41.6 | 50.4 | 43.6 | 40.1 | 41.5 | 28.4 | 20.0 |      |       | 166.0 |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |       | 171.8 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 178.9 |

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MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH101 TEST DATE = 09-01-81 LGCAT = C41 ANECH CH CNFIG = 3 TAMB F = 76.00 PAMB HG = 29.40 MIKE HT = 3 FLVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT TAMB F = 76.00 PAMB HG = 29.40 MIKE HT = 3 FLVEL = 0. FPS  
MIND DIR = DEG MIND VEL = MPH EXT DIST = 2400.0 FT TAMB F = 76.00 PAMB HG = 29.40 MIKE HT = 3 FLVEL = 0. FPS

FNINI = LBS XNL RPM = XNH RPM = V8 RPM = 1722.9 FPS AEB = 25.3 SQ IN = AE18 = 0. SQ IN

FNRAMB = LBS XNLR RPM = XNHR RPM = V8 RPM = 1722.9 FPS AEB = 25.3 SQ IN = AE18 = 0. SQ IN  
RUNPT = 81F-ZER-1313 TAPE = X13131 TEST PT NO = 1313 NC = 863 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B1F-400-1314 X1314C  
BACKGROUND B1F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ 50 63 80 100 125 160 200 250 315 400 500 630 800 1000 1250 1500 1600 2000 2500 3150 4000 5000 6300 8000

|      |      |      |      |      |      |      |      |       |       |       |       |       |        |     |
|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|--------|-----|
| 86.4 | 90.7 | 80.7 | 83.3 | 82.9 | 83.7 | 84.1 | 87.3 | 85.7  | 100.6 | 91.9  | 102.9 | 97.3  | 135.8  | 50  |
| 85.7 | 90.8 | 84.8 | 89.8 | 88.4 | 89.8 | 89.9 | 88.6 | 90.1  | 100.4 | 92.0  | 102.2 | 97.3  | 136.1  | 63  |
| 88.6 | 93.6 | 87.6 | 88.4 | 89.0 | 91.6 | 92.5 | 90.7 | 92.5  | 90.9  | 92.5  | 102.0 | 98.6  | 136.3  | 80  |
| 88.1 | 91.6 | 87.1 | 88.7 | 89.2 | 90.6 | 91.5 | 91.5 | 97.2  | 94.1  | 100.3 | 101.2 | 135.7 | 100    |     |
| 85.4 | 89.6 | 88.2 | 89.2 | 89.3 | 91.9 | 91.5 | 89.9 | 91.5  | 98.2  | 98.9  | 104.0 | 105.5 | 138.3  | 125 |
| 84.9 | 85.6 | 84.9 | 85.2 | 86.6 | 87.7 | 88.8 | 88.8 | 98.4  | 99.0  | 104.2 | 107.4 | 138.6 | 160    |     |
| 88.3 | 88.3 | 85.6 | 84.9 | 85.7 | 86.1 | 86.6 | 87.7 | 88.1  | 88.8  | 98.4  | 99.0  | 138.8 | 160    |     |
| 88.8 | 88.8 | 85.1 | 84.1 | 85.7 | 86.1 | 86.6 | 87.2 | 88.1  | 88.8  | 94.3  | 99.1  | 139.9 | 160    |     |
| 88.0 | 88.8 | 84.1 | 85.7 | 86.1 | 86.6 | 87.2 | 88.1 | 88.8  | 94.3  | 99.1  | 105.2 | 139.9 | 160    |     |
| 83.0 | 88.8 | 89.1 | 86.1 | 86.2 | 86.6 | 86.6 | 87.1 | 88.1  | 95.3  | 101.4 | 105.5 | 142.2 | 200    |     |
| 82.8 | 89.1 | 86.1 | 86.2 | 86.6 | 86.6 | 86.6 | 87.1 | 88.1  | 95.3  | 101.4 | 105.5 | 142.2 | 250    |     |
| 81.8 | 89.1 | 85.9 | 86.4 | 87.5 | 91.1 | 93.0 | 93.4 | 99.0  | 104.4 | 107.3 | 110.0 | 144.1 | 315    |     |
| 83.6 | 86.6 | 86.1 | 86.7 | 86.8 | 90.4 | 92.3 | 94.8 | 99.9  | 106.2 | 109.8 | 110.8 | 145.0 | 400    |     |
| 83.9 | 86.6 | 87.0 | 87.3 | 88.4 | 90.5 | 92.9 | 94.8 | 100.2 | 106.6 | 110.7 | 111.1 | 145.2 | 500    |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 630    |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 800    |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 1000   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 1250   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 1500   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 2000   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 2500   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 3150   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 4000   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 5000   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 6300   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 8000   |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 10000  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 12500  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 15000  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 20000  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 25000  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 31500  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 40000  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 50000  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 63000  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 80000  |     |
| 84.8 | 86.6 | 87.4 | 87.7 | 88.2 | 90.1 | 92.5 | 94.4 | 97.9  | 106.4 | 111.6 | 110.7 | 145.1 | 100000 |     |

ORIGINAL PAGE IS  
OF POOR QUALITY

VEHICL = ADH104 TEST DATE = 09-01-81  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 LOCAL = C41 ANECH CH CONFIG = 3  
 MODEL = 3  
 FLTVEL = 400. FPS  
 RELHUM = 64.0 PCT  
 NBFR =

NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 DBA 115.0 115.0 115.0 115.2 115.7 114.7 114.9 113.8 112.4 114.9 117.7 118.8 116.6 112.2  
 PNL 126.4 127.1 126.8 127.4 126.8 127.4 126.2 128.6 130.8 130.4 128.3 125.1  
 PNL1 127.9 128.5 129.4 129.9 129.1 129.3 127.4 126.2 128.6 130.8 130.4 128.3 125.1

LOCAT = C41 ANECH CH CONFIG = 3  
 PML AREA = FULL SPHERE  
 TAMB F = 82.50  
 PAMB HG = 29.40  
 RELHUM = 64.0 PCT  
 EXT DIST = 40.0 FT  
 EXT CONFIG = ARC  
 MIKE HT =

CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 DBA 115.0 115.0 115.0 115.2 115.7 114.7 114.9 113.8 112.4 114.9 117.7 118.8 116.6 112.2  
 PNL 126.4 127.1 126.8 127.4 126.8 127.4 126.2 128.6 130.8 130.4 128.3 125.1  
 PNL1 127.9 128.5 129.4 129.9 129.1 129.3 127.4 126.2 128.6 130.8 130.4 128.3 125.1

CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 DBA 115.0 115.0 115.0 115.2 115.7 114.7 114.9 113.8 112.4 114.9 117.7 118.8 116.6 112.2  
 PNL 126.4 127.1 126.8 127.4 126.8 127.4 126.2 128.6 130.8 130.4 128.3 125.1  
 PNL1 127.9 128.5 129.4 129.9 129.1 129.3 127.4 126.2 128.6 130.8 130.4 128.3 125.1

CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 DBA 115.0 115.0 115.0 115.2 115.7 114.7 114.9 113.8 112.4 114.9 117.7 118.8 116.6 112.2  
 PNL 126.4 127.1 126.8 127.4 126.8 127.4 126.2 128.6 130.8 130.4 128.3 125.1  
 PNL1 127.9 128.5 129.4 129.9 129.1 129.3 127.4 126.2 128.6 130.8 130.4 128.3 125.1

CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 DBA 115.0 115.0 115.0 115.2 115.7 114.7 114.9 113.8 112.4 114.9 117.7 118.8 116.6 112.2  
 PNL 126.4 127.1 126.8 127.4 126.8 127.4 126.2 128.6 130.8 130.4 128.3 125.1  
 PNL1 127.9 128.5 129.4 129.9 129.1 129.3 127.4 126.2 128.6 130.8 130.4 128.3 125.1

CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 DBA 115.0 115.0 115.0 115.2 115.7 114.7 114.9 113.8 112.4 114.9 117.7 118.8 116.6 112.2  
 PNL 126.4 127.1 126.8 127.4 126.8 127.4 126.2 128.6 130.8 130.4 128.3 125.1  
 PNL1 127.9 128.5 129.4 129.9 129.1 129.3 127.4 126.2 128.6 130.8 130.4 128.3 125.1

CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 DBA 115.0 115.0 115.0 115.2 115.7 114.7 114.9 113.8 112.4 114.9 117.7 118.8 116.6 112.2  
 PNL 126.4 127.1 126.8 127.4 126.8 127.4 126.2 128.6 130.8 130.4 128.3 125.1  
 PNL1 127.9 128.5 129.4 129.9 129.1 129.3 127.4 126.2 128.6 130.8 130.4 128.3 125.1

CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 DBA 115.0 115.0 115.0 115.2 115.7 114.7 114.9 113.8 112.4 114.9 117.7 118.8 116.6 112.2  
 PNL 126.4 127.1 126.8 127.4 126.8 127.4 126.2 128.6 130.8 130.4 128.3 125.1  
 PNL1 127.9 128.5 129.4 129.9 129.1 129.3 127.4 126.2 128.6 130.8 130.4 128.3 125.1

CONV. ANN. PLUG NOZ. SC-3/NAS3-22514  
 DBA 115.0 115.0 115.0 115.2 115.7 114.7 114.9 113.8 112.4 114.9 117.7 118.8 116.6 112.2  
 PNL 126.4 127.1 126.8 127.4 126.8 127.4 126.2 128.6 130.8 130.4 128.3 125.1  
 PNL1 127.9 128.5 129.4 129.9 129.1 129.3 127.4 126.2 128.6 130.8 130.4 128.3 125.1

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1314 X1314F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 88.2  | 93.4  | 88.4  | 88.3  | 87.3  | 88.6  | 89.3  | 88.5  | 95.5  | 100.1 | 102.4 | 105.6 | 108.3 | 140.4 |
| 250   | 88.2  | 93.4  | 88.4  | 88.3  | 89.3  | 91.3  | 91.7  | 90.6  | 96.6  | 102.1 | 105.4 | 107.1 | 108.8 | 141.9 |
| 315   | 88.2  | 93.4  | 88.4  | 88.3  | 89.3  | 90.6  | 91.0  | 91.4  | 97.7  | 103.2 | 107.0 | 108.6 | 108.1 | 142.8 |
| 400   | 90.3  | 96.0  | 91.1  | 89.9  | 88.2  | 90.6  | 91.0  | 91.4  | 97.7  | 103.2 | 107.0 | 108.6 | 108.1 | 142.8 |
| 500   | 89.0  | 94.2  | 89.8  | 89.3  | 89.9  | 90.8  | 92.0  | 92.6  | 96.6  | 104.6 | 109.8 | 110.8 | 108.3 | 144.5 |
| 630   | 89.3  | 95.1  | 89.7  | 89.9  | 89.7  | 90.5  | 91.9  | 92.8  | 100.0 | 106.6 | 110.4 | 111.1 | 108.2 | 145.2 |
| 800   | 89.8  | 95.0  | 90.7  | 90.0  | 89.2  | 95.0  | 94.6  | 95.5  | 100.2 | 106.2 | 110.2 | 110.5 | 108.1 | 145.2 |
| 1000  | 104.1 | 104.7 | 103.1 | 96.8  | 94.8  | 94.4  | 94.2  | 94.9  | 100.8 | 106.2 | 109.3 | 108.8 | 107.1 | 145.5 |
| 1250  | 111.5 | 111.2 | 111.0 | 110.8 | 106.4 | 108.2 | 108.0 | 105.7 | 107.3 | 106.7 | 105.3 | 106.1 | 105.8 | 146.8 |
| 1500  | 114.6 | 109.1 | 104.6 | 110.2 | 103.4 | 98.6  | 96.5  | 103.2 | 107.7 | 107.3 | 106.5 | 107.0 | 106.9 | 146.8 |
| 1600  | 114.6 | 109.1 | 104.6 | 110.2 | 103.4 | 98.6  | 96.5  | 103.2 | 107.7 | 107.3 | 106.5 | 107.0 | 106.9 | 146.8 |
| 2000  | 117.3 | 114.6 | 115.5 | 114.6 | 110.4 | 109.4 | 103.8 | 99.1  | 104.6 | 107.9 | 107.1 | 105.8 | 106.7 | 153.8 |
| 2500  | 111.5 | 111.2 | 111.0 | 110.8 | 106.4 | 108.2 | 108.0 | 105.7 | 107.3 | 106.7 | 105.3 | 106.1 | 105.8 | 150.8 |
| 3150  | 110.2 | 108.5 | 107.9 | 107.1 | 105.2 | 106.0 | 106.6 | 104.0 | 108.0 | 107.1 | 105.6 | 104.3 | 106.7 | 149.2 |
| 4000  | 108.1 | 108.2 | 107.7 | 107.4 | 106.5 | 104.8 | 105.0 | 108.2 | 106.9 | 104.6 | 104.4 | 105.7 | 149.0 |       |
| 5000  | 108.2 | 107.6 | 107.3 | 107.6 | 105.8 | 104.9 | 104.9 | 107.9 | 107.0 | 104.5 | 104.3 | 105.2 | 149.0 |       |
| 6300  | 107.4 | 107.7 | 106.6 | 106.7 | 105.6 | 104.3 | 103.7 | 106.7 | 107.3 | 103.6 | 104.0 | 104.8 | 148.7 |       |
| 8000  | 106.7 | 107.9 | 106.8 | 106.1 | 104.8 | 103.8 | 103.1 | 106.5 | 107.2 | 104.1 | 105.1 | 105.7 | 148.9 |       |
| 10000 | 105.5 | 107.0 | 106.1 | 105.4 | 103.5 | 104.8 | 103.5 | 102.8 | 104.7 | 106.2 | 103.4 | 104.2 | 148.7 |       |
| 12500 | 105.2 | 106.1 | 105.3 | 105.3 | 103.8 | 104.0 | 102.3 | 101.0 | 102.9 | 106.5 | 101.1 | 104.3 | 148.7 |       |
| 15000 | 103.4 | 104.0 | 103.4 | 103.5 | 101.6 | 102.3 | 100.8 | 100.7 | 100.6 | 105.5 | 98.7  | 103.8 | 148.5 |       |
| 20000 | 100.3 | 102.6 | 100.9 | 100.8 | 99.1  | 101.1 | 99.0  | 97.9  | 95.9  | 97.0  | 94.6  | 97.1  | 147.0 |       |
| 25000 | 97.2  | 99.1  | 97.3  | 99.4  | 96.4  | 100.7 | 96.2  | 93.3  | 91.9  | 90.8  | 87.8  | 87.4  | 146.7 |       |
| 31500 | 95.4  | 98.6  | 95.1  | 98.7  | 93.1  | 98.8  | 92.5  | 89.9  | 92.4  | 86.7  | 89.5  | 88.1  | 146.1 |       |
| 40000 | 89.1  | 95.7  | 89.8  | 97.0  | 89.8  | 97.8  | 89.2  | 86.3  | 91.2  | 83.9  | 88.7  | 83.4  | 149.8 |       |
| 50000 | 84.4  | 94.5  | 85.4  | 96.3  | 86.3  | 98.7  | 86.2  | 81.2  | 93.9  | 81.0  | 79.8  | 86.7  | 154.0 |       |
| 63000 | 78.5  | 95.2  | 80.5  | 96.9  | 85.0  | 99.3  | 86.8  | 77.1  | 96.8  | 83.0  | 94.5  | 77.9  | 160.3 |       |
| 80000 | 70.3  | 96.2  | 77.5  | 97.9  | 84.0  | 98.7  | 88.2  | 74.6  | 87.0  | 73.2  | 84.7  | 68.1  | 166.1 |       |
| DBA   | 193.4 | 216.6 | 198.6 | 218.3 | 204.6 | 219.2 | 208.6 | 195.5 | 210.0 | 196.3 | 207.7 | 191.4 | 202.4 |       |
| PWL   | 135.5 | 133.9 | 135.0 | 134.2 | 131.3 | 130.4 | 128.9 | 126.1 | 129.9 | 130.8 | 130.3 | 129.9 | 130.8 |       |
| GNL   | 134.1 | 132.8 | 134.4 | 129.0 | 127.9 | 128.8 | 127.9 | 126.1 | 129.9 | 130.8 | 130.3 | 129.9 | 130.8 |       |
| GNL   | 122.0 | 121.0 | 119.9 | 119.3 | 117.4 | 117.1 | 115.3 | 113.5 | 117.1 | 119.1 | 119.6 | 119.9 | 119.5 | 168.4 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/COUNT. CONV. ANN. FLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH104 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 MIKE HT = 29.40 RELHUM = 64.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

FNNI = LBS XNL RPM XNH XNHR RPM = V8 V8 = 1727.9 FPS AE8 = 25.3 SQ IN  
FNFRMB = LBS XNLR RPM = X1314F TEST PT NO = 1314 NC = 863 CORR FAN SPEED = RPM

RUNPT = 81F-400-1314 TAPE = X1314F

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - R1F-400-1314 X13141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 60.3 66.9 73.7 70.4 70.6 71.6 72.7 73.7 73.9 77.1 84.1 87.7 86.5 80.7 161.9

50 68.3 75.5 71.7 71.2 69.9 72.5 72.7 72.8 78.3 82.7 85.0 84.4 80.6 160.3

60 67.2 74.5 71.2 71.2 71.3 72.3 73.5 74.0 80.6 86.0 88.3 86.7 80.5 162.7

70 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

80 67.2 74.5 71.2 71.2 71.3 72.3 73.5 74.0 80.6 86.0 88.3 86.7 80.5 162.7

90 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

100 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

110 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

120 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

130 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

140 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

150 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

160 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

170 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

180 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

190 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

200 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

210 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

220 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

230 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

240 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

250 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

260 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

270 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

280 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

290 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

300 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

315 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

330 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

345 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

360 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

375 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

390 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

405 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

420 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

435 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

450 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

465 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

480 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

495 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

510 67.6 74.4 71.2 71.2 70.8 76.8 76.2 76.7 80.7 85.6 88.1 86.1 80.2 162.6

212

212

10000  
12500  
15000  
20000  
25000  
31500  
40000  
50000  
63000  
80000

GASPL 98.5 99.0 99.2 99.1 97.9 97.3 95.4 93.0 95.9 97.0 96.5 94.2 89.3 185.8  
PNL 103.4 104.8 105.6 106.1 104.2 104.8 102.6 100.7 102.2 102.8 98.9 95.8 90.6  
PNLT 104.1 105.3 106.9 107.5 105.3 105.6 103.1 100.7 102.8 102.8 98.9 95.8 90.6  
DBA 91.9 93.6 94.4 95.0 93.8 94.2 92.6 90.8 92.6 92.6 92.1 87.3 84.3 79.5

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH104 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 82.50 PAMB HG = 29.40 RELHUM = 64.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBR

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FNINI = LBS XNL RPM XNH RPM V8 = 1727.9 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM V18 = 1727.9 FPS AE18 = 0. SQ IN

DATPROC - FLTRAN UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1323 X1323C BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

Table with 13 columns and 13 rows of numerical data representing pressure levels at various frequencies and angles.

522

Table with 13 columns and 13 rows of numerical data representing pressure levels at various frequencies and angles.

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Table with 13 columns and 13 rows of numerical data representing pressure levels at various frequencies and angles.

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH102 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.40 RELHUM = 65.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = 29.40 NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1763.1 FPS AEB = 25.3 SO IN  
FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SO IN  
CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - BIF-ZER-1323 X1323F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50  | 84.9  | 84.2  | 83.0  | 82.5  | 82.6  | 83.7  | 83.9  | 84.8  | 91.2  | 85.8  | 93.7  | 100.1 | 94.8  | 132.3 |       |
| 55  | 80.0  | 80.0  | 88.5  | 88.8  | 89.7  | 91.0  | 91.4  | 90.3  | 93.3  | 93.6  | 99.2  | 100.9 | 98.6  | 135.9 |       |
| 60  | 89.0  | 93.3  | 87.8  | 88.9  | 90.0  | 92.3  | 92.1  | 94.5  | 93.2  | 94.5  | 99.7  | 98.6  | 135.4 |       |       |
| 65  | 89.1  | 92.8  | 89.1  | 90.7  | 91.2  | 91.9  | 93.2  | 95.2  | 94.0  | 94.2  | 96.6  | 102.0 | 102.4 | 137.1 |       |
| 70  | 100   | 89.1  | 92.8  | 89.1  | 91.2  | 91.8  | 93.9  | 93.5  | 93.7  | 94.3  | 95.7  | 101.4 | 105.3 | 106.7 | 139.6 |
| 75  | 125   | 86.4  | 89.1  | 90.2  | 91.2  | 91.8  | 93.8  | 93.8  | 93.7  | 94.3  | 96.4  | 102.0 | 106.5 | 140.7 |       |
| 80  | 150   | 86.8  | 83.3  | 87.6  | 88.5  | 89.8  | 91.5  | 91.4  | 92.3  | 96.4  | 102.0 | 109.6 | 140.7 |       |       |
| 85  | 200   | 85.3  | 88.3  | 89.1  | 89.4  | 90.2  | 91.8  | 93.0  | 95.6  | 98.5  | 98.4  | 104.0 | 109.0 | 112.4 | 143.3 |
| 90  | 250   | 86.0  | 92.8  | 90.3  | 90.6  | 91.2  | 93.8  | 96.7  | 97.6  | 99.3  | 103.4 | 109.5 | 114.0 | 115.1 | 147.2 |
| 95  | 315   | 88.1  | 91.4  | 90.4  | 92.4  | 93.8  | 96.1  | 97.3  | 99.4  | 102.3 | 106.9 | 111.1 | 116.0 | 116.7 | 149.1 |
| 100 | 400   | 89.1  | 91.9  | 91.9  | 91.4  | 91.8  | 95.1  | 96.8  | 98.9  | 103.4 | 109.5 | 114.1 | 118.3 | 117.9 | 151.1 |
| 105 | 500   | 89.7  | 93.0  | 91.8  | 92.5  | 93.4  | 95.5  | 97.9  | 99.5  | 103.7 | 110.3 | 115.7 | 119.1 | 118.8 | 152.1 |
| 110 | 600   | 91.8  | 93.1  | 92.6  | 93.7  | 94.2  | 96.1  | 97.7  | 99.9  | 102.7 | 110.4 | 116.5 | 119.9 | 119.8 | 152.6 |
| 115 | 700   | 96.2  | 94.2  | 95.3  | 96.4  | 97.5  | 98.4  | 100.5 | 104.4 | 110.8 | 117.0 | 119.9 | 118.3 | 152.7 |       |
| 120 | 800   | 105.7 | 104.3 | 103.3 | 102.8 | 100.9 | 101.3 | 101.4 | 101.8 | 105.4 | 110.4 | 116.5 | 119.9 | 119.8 | 153.3 |
| 125 | 1250  | 112.2 | 111.0 | 107.3 | 105.3 | 103.4 | 103.0 | 102.7 | 102.3 | 105.7 | 110.1 | 115.5 | 119.4 | 118.2 | 153.3 |
| 130 | 1600  | 114.0 | 111.8 | 112.6 | 111.6 | 108.5 | 104.6 | 103.8 | 104.2 | 106.4 | 110.3 | 114.6 | 118.2 | 117.0 | 153.8 |
| 135 | 2000  | 110.4 | 111.3 | 111.0 | 111.6 | 112.5 | 111.1 | 105.2 | 103.6 | 106.3 | 111.4 | 112.8 | 116.9 | 114.4 | 153.4 |
| 140 | 2500  | 108.9 | 109.5 | 108.0 | 109.0 | 109.4 | 111.7 | 110.8 | 106.0 | 107.0 | 110.6 | 111.7 | 115.2 | 112.5 | 152.5 |
| 145 | 3150  | 108.3 | 108.3 | 108.6 | 107.4 | 109.5 | 110.4 | 109.1 | 108.2 | 109.6 | 112.5 | 113.7 | 110.3 | 151.9 |       |
| 150 | 4000  | 107.2 | 107.2 | 107.0 | 108.0 | 107.6 | 107.7 | 109.8 | 111.1 | 109.3 | 109.0 | 110.6 | 106.9 | 150.6 |       |
| 155 | 5000  | 105.6 | 106.2 | 106.7 | 106.5 | 106.2 | 107.3 | 108.8 | 111.3 | 108.9 | 109.7 | 111.9 | 108.4 | 150.9 |       |
| 160 | 6300  | 104.5 | 106.5 | 105.9 | 106.1 | 106.6 | 107.3 | 107.5 | 110.3 | 109.1 | 107.7 | 109.5 | 105.8 | 150.2 |       |
| 165 | 8000  | 102.8 | 104.7 | 105.0 | 105.6 | 105.4 | 107.2 | 106.3 | 106.7 | 108.5 | 106.4 | 108.3 | 105.1 | 149.6 |       |
| 170 | 10000 | 101.8 | 104.0 | 105.0 | 105.0 | 105.8 | 105.4 | 105.7 | 107.6 | 105.2 | 105.6 | 105.3 | 149.3 |       |       |
| 175 | 12500 | 100.0 | 101.4 | 102.7 | 103.0 | 103.5 | 104.5 | 104.2 | 105.4 | 104.2 | 105.4 | 105.0 | 148.5 |       |       |
| 180 | 15000 | 97.1  | 100.1 | 100.4 | 100.5 | 101.3 | 102.7 | 103.5 | 103.8 | 102.8 | 101.2 | 103.6 | 99.9  | 147.9 |       |
| 185 | 20000 | 94.9  | 97.7  | 97.6  | 99.2  | 99.0  | 101.3 | 100.9 | 100.7 | 101.2 | 100.5 | 99.3  | 97.7  | 147.6 |       |
| 190 | 25000 | 91.5  | 96.0  | 96.4  | 97.0  | 96.9  | 99.1  | 97.3  | 98.8  | 97.0  | 96.3  | 97.6  | 93.4  | 147.3 |       |
| 195 | 31500 | 86.8  | 94.2  | 94.4  | 92.5  | 96.6  | 95.7  | 94.4  | 95.9  | 94.2  | 93.9  | 95.0  | 90.3  | 147.4 |       |
| 200 | 40000 | 83.0  | 93.8  | 88.4  | 93.2  | 90.4  | 95.3  | 92.4  | 91.7  | 94.2  | 90.0  | 92.8  | 91.8  | 149.4 |       |
| 205 | 50000 | 79.8  | 95.7  | 84.9  | 94.9  | 86.1  | 95.1  | 88.7  | 87.6  | 93.2  | 87.8  | 91.6  | 90.3  | 153.1 |       |
| 210 | 63000 | 75.0  | 98.1  | 82.9  | 98.3  | 83.8  | 96.2  | 86.3  | 84.5  | 94.9  | 85.6  | 92.9  | 87.9  | 160.0 |       |
| 215 | 80000 | 71.8  | 100.7 | 82.5  | 100.2 | 81.9  | 97.8  | 83.9  | 81.2  | 97.3  | 81.5  | 93.9  | 85.3  | 87.9  | 168.6 |
| 220 | GASPL | 119.5 | 119.4 | 118.8 | 119.0 | 118.5 | 119.2 | 118.3 | 118.1 | 119.8 | 122.1 | 125.9 | 129.2 | 128.4 | 170.6 |
| 225 | PWL   | 131.1 | 131.2 | 130.9 | 131.2 | 131.3 | 132.2 | 131.9 | 131.7 | 132.9 | 134.3 | 137.1 | 139.7 | 138.0 |       |
| 230 | PFLT  | 131.1 | 131.9 | 132.0 | 131.2 | 132.5 | 132.8 | 131.9 | 131.7 | 132.9 | 134.3 | 137.1 | 139.7 | 138.0 |       |
| 235 | DBA   | 192.9 | 220.9 | 220.1 | 220.5 | 202.7 | 218.1 | 204.8 | 202.3 | 217.6 | 202.7 | 214.2 | 206.3 | 208.4 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH102 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CNF10 = 3 MODEL = 3 FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 MIKE HT = 29.40 RELHUM = 65.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC

FNINI = LBS XNL RPM XNHR = RPM V8 = 1763.1 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1763.1 FPS AE8 = 25.3 SQ IN

RUNPT = 8 IR-1323 TAPE = X1323F TEST PT NO = 1323 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1323 X13231

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 67.1 71.4 72.5 72.3 73.8 75.1 77.3 79.6 80.8 84.3 89.8 93.7 94.9 91.2 169.6

63 67.7 72.6 73.2 74.9 75.9 77.9 79.4 81.2 83.2 89.9 94.5 95.2 91.5 170.0

80 69.7 72.6 73.2 74.9 75.9 77.9 79.4 81.2 83.2 89.9 94.5 95.2 91.5 170.0

100 74.0 73.6 75.8 77.0 78.0 79.3 80.0 81.8 84.9 90.2 94.8 95.5 90.4 170.2

125 83.4 83.6 83.7 83.9 82.5 83.0 83.0 82.9 85.8 89.7 94.2 95.3 91.7 170.7

160 89.8 90.2 87.6 86.3 84.9 84.6 84.1 83.3 86.0 89.3 93.0 94.6 89.7 170.8

200 91.3 90.8 92.7 92.5 89.7 86.0 85.1 86.4 89.2 91.9 93.1 88.0 171.3

250 87.4 90.0 90.8 93.5 93.5 92.3 86.3 84.3 86.1 89.8 91.3 84.8 170.9

315 85.4 87.8 87.5 89.4 90.2 92.7 91.6 86.4 86.6 88.9 88.2 89.1 82.1 169.9

400 84.3 86.2 87.5 88.6 88.0 90.2 89.9 89.1 87.4 87.5 88.5 86.9 78.9 169.3

500 82.8 84.8 85.9 87.8 88.2 87.9 89.5 88.2 86.5 85.3 84.5 76.0 168.4

630 80.7 83.6 84.8 86.2 86.6 87.5 87.2 88.3 89.7 86.4 84.1 82.5 73.5 168.1

800 79.1 83.2 84.1 85.3 86.3 87.2 86.7 86.7 88.5 85.9 82.2 80.7 71.2 167.6

1000 77.0 81.2 83.0 84.6 85.0 86.9 85.7 85.0 80.5 78.8 69.3 167.1

1250 75.4 79.4 81.8 83.9 84.5 86.4 84.8 84.6 85.3 83.3 79.6 76.1 67.1 166.7

1500 72.8 76.9 80.0 81.5 82.7 84.9 83.6 82.7 80.5 77.3 73.6 62.1 165.9

1600 72.8 76.9 80.0 81.5 82.7 84.9 83.6 82.7 80.5 77.3 73.6 62.1 165.9

2000 68.9 75.1 77.3 78.7 80.3 82.5 81.7 81.7 80.7 77.8 73.0 57.4 165.3

2500 64.9 71.4 73.7 76.8 77.4 80.0 79.3 78.3 77.3 74.2 69.3 67.4 165.0

3150 58.2 67.2 68.9 72.4 74.1 77.3 76.2 73.3 73.0 68.3 63.0 56.5 37.6 164.7

4000 47.2 60.7 61.1 67.2 66.6 71.1 69.8 67.2 66.3 60.8 54.3 45.0 20.0 164.8

5000 33.6 52.8 53.5 59.6 59.1 64.9 61.5 59.1 58.4 49.0 43.4 28.1 2.5 164.8

6300 12.6 40.4 40.4 47.0 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

8000 12.6 40.4 40.4 47.0 45.1 54.9 47.7 44.2 45.3 32.5 24.4 2.5 170.5

99.4 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

98.7 96.3 97.5 98.2 99.0 99.6 98.5 97.7 98.5 100.3 102.9 103.8 99.4 187.9

VEHICL = ADH102 TEST DATE = 09-01-81  
IAPLHA = SB59 IEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
FNIN1 = LBS XNLR RPM XNH XNHR =  
FRAMB = LBS XNLR RPM XNH XNHR =  
ADH102 = 3 MODEL = 3  
PAMB HG = 29.40 PML AREA = FULL SPHERE  
RELHUM = 65.5 PCT TAMB F = 82.00  
FLTVL = 0. FPS EXT CNFIG = SL  
NBFR = 0. FPS  
CORR FAN SPEED = 863  
TEST PT NO = 1323 NC = 863  
RUNPT = 81F-ZER-1323 TAPE = X13231  
NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM ( 1400.0 SQ IN ) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

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DATPRGC - FLTRAN UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1324 X1324C BACKGROUND 81F-400-0300 X03000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ 50 63 80 100 125 150 160 180 200 250 315 400 450 500 630 800

86.9 87.2 87.3 88.5 90.1 90.4 91.8 91.2 88.8 93.1 96.4 92.2 103.7 98.1 136.2

85.7 82.5 83.8 83.9 85.0 84.6 85.8 91.9 96.8 92.4 104.1 96.0 135.5

82.8 82.8 86.8 87.1 87.0 88.1 90.2 89.4 91.1 96.6 101.0 108.6 140.0

84.8 84.8 86.3 86.4 87.5 90.1 91.0 93.1 95.1 98.1 102.1 108.0 110.5 112.9 144.7

87.6 87.6 88.8 88.8 89.2 90.1 92.5 94.6 97.0 101.5 107.8 113.4 108.5 147.5

88.2 88.2 89.8 89.8 90.1 92.5 94.6 97.0 101.5 107.8 113.4 108.5 147.5

89.8 89.8 91.4 91.4 92.8 95.2 97.6 102.1 108.4 114.7 121.0 127.3 154.0

90.9 90.9 92.5 92.5 93.9 96.3 98.7 103.2 109.5 115.8 122.1 128.4 155.1

92.5 92.5 94.1 94.1 95.5 97.9 100.3 104.8 111.1 117.4 123.7 130.0 156.2

93.6 93.6 95.2 95.2 96.6 99.0 101.4 105.9 112.2 118.5 124.8 131.1 157.3

94.7 94.7 96.3 96.3 97.7 100.1 102.5 107.0 113.3 119.6 125.9 132.2 158.4

96.3 96.3 97.9 97.9 99.3 101.7 104.1 108.6 114.9 121.2 127.5 133.8 159.5

97.4 97.4 99.0 99.0 100.4 102.8 105.2 109.7 116.0 122.3 128.6 134.9 160.6

98.5 98.5 100.1 100.1 101.5 103.9 106.3 110.8 117.1 123.4 129.7 136.0 161.7

99.6 99.6 101.2 101.2 102.6 105.0 107.4 111.9 118.2 124.5 130.8 137.1 162.8

100.7 100.7 102.3 102.3 103.7 106.1 108.5 113.0 119.3 125.6 131.9 138.2 163.9

101.8 101.8 103.4 103.4 104.8 107.2 109.6 114.1 120.4 126.7 133.0 139.3 165.0

102.9 102.9 104.5 104.5 105.9 108.3 110.7 115.2 121.5 127.8 134.1 140.4 166.1

104.0 104.0 105.6 105.6 107.0 109.4 111.8 116.3 122.6 128.9 135.2 141.5 167.2

105.1 105.1 106.7 106.7 108.1 110.5 112.9 117.4 123.7 130.0 136.3 142.6 168.3

106.2 106.2 107.8 107.8 109.2 111.6 114.0 118.5 124.8 131.1 137.4 143.7 169.4

107.3 107.3 108.9 108.9 110.3 112.7 115.1 119.6 125.9 132.2 138.5 144.8 170.5

108.4 108.4 110.0 110.0 111.4 113.8 116.2 120.7 127.0 133.3 139.6 145.9 171.6

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VEHICL = ADH103 TEST DATE = 09-01-81 LOCAL = CA1 ANEGH CH CONFIG = 3 MODEL = 3 FLVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.40 RELHUM = 65.5 PCT  
FINI = LBS XNL RPM XNH XNHR = RPM V8 = 1767.0 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNH XNHR = RPM V18 = 1767.0 FPS AE18 = 0. SQ IN  
RUNPT = 400-1324 TAPE = X1324C TEST PT NO = 1324 NC = 863 CORR FAN SPEED = RPM

Table with 16 columns (FREQ, PWL, 40-160) and 40 rows of data points.



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1324 X1324F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

FREQ

50

63

80

100

125

150

200

2120

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250   | 91.6  | 93.6  | 91.5  | 91.5  | 90.5  | 91.1  | 91.6  | 91.5  | 97.0  | 101.1 | 105.2 | 108.1 | 110.8 | 142.7 |
| 315   | 91.5  | 93.6  | 91.5  | 91.5  | 90.6  | 92.4  | 92.7  | 93.7  | 99.5  | 105.2 | 110.8 | 111.7 | 110.2 | 144.1 |
| 400   | 91.5  | 93.0  | 91.8  | 91.6  | 90.6  | 92.0  | 92.4  | 93.7  | 99.5  | 105.2 | 110.8 | 111.7 | 110.2 | 145.6 |
| 500   | 93.3  | 93.3  | 92.6  | 92.1  | 92.0  | 92.8  | 93.9  | 95.2  | 100.0 | 106.6 | 112.6 | 112.9 | 110.3 | 146.9 |
| 630   | 93.4  | 94.6  | 93.2  | 93.3  | 94.7  | 96.3  | 94.4  | 95.1  | 103.7 | 107.4 | 113.3 | 113.7 | 109.9 | 147.7 |
| 800   | 97.4  | 97.2  | 97.2  | 96.1  | 101.9 | 98.3  | 97.4  | 102.6 | 107.7 | 113.1 | 112.4 | 110.0 | 147.8 |       |
| 1000  | 108.8 | 107.2 | 106.0 | 104.1 | 97.1  | 96.9  | 96.4  | 96.5  | 102.7 | 106.7 | 111.1 | 110.0 | 108.0 | 147.7 |
| 1250  | 117.2 | 113.4 | 107.0 | 101.5 | 107.7 | 101.6 | 97.2  | 97.6  | 104.3 | 108.1 | 111.7 | 109.2 | 107.8 | 151.4 |
| 1500  | 113.4 | 115.0 | 112.2 | 112.2 | 112.2 | 112.2 | 112.2 | 112.2 | 112.2 | 112.2 | 112.2 | 112.2 | 112.2 | 154.4 |
| 2000  | 115.0 | 115.6 | 116.5 | 118.6 | 108.4 | 110.9 | 108.5 | 103.3 | 106.2 | 109.1 | 108.2 | 106.6 | 107.0 | 155.1 |
| 2500  | 110.3 | 109.9 | 107.8 | 107.4 | 104.0 | 105.8 | 108.8 | 106.5 | 108.0 | 107.7 | 107.8 | 105.8 | 106.2 | 149.9 |
| 3150  | 108.6 | 108.4 | 106.4 | 105.6 | 105.9 | 105.3 | 104.4 | 105.9 | 109.1 | 108.4 | 106.3 | 105.7 | 106.9 | 149.1 |
| 4000  | 107.4 | 107.7 | 107.1 | 107.2 | 104.9 | 105.6 | 105.9 | 105.6 | 109.1 | 107.9 | 105.4 | 104.4 | 105.0 | 149.0 |
| 5000  | 106.8 | 106.7 | 106.3 | 105.5 | 105.1 | 104.6 | 103.9 | 104.1 | 108.3 | 107.8 | 105.2 | 104.6 | 105.0 | 148.4 |
| 6300  | 106.1 | 106.7 | 106.4 | 106.1 | 105.5 | 104.8 | 103.4 | 103.5 | 107.2 | 107.8 | 103.8 | 104.2 | 105.2 | 148.4 |
| 8000  | 105.1 | 105.6 | 105.6 | 104.2 | 104.9 | 103.8 | 102.5 | 106.7 | 106.9 | 104.8 | 104.8 | 105.9 | 148.5 |       |
| 10000 | 105.0 | 106.5 | 105.7 | 105.4 | 105.1 | 105.3 | 102.7 | 102.3 | 104.9 | 106.1 | 104.3 | 104.7 | 104.9 | 148.6 |
| 12500 | 104.7 | 105.6 | 104.7 | 105.3 | 103.6 | 104.3 | 101.8 | 101.0 | 104.3 | 105.2 | 102.3 | 104.5 | 104.5 | 148.6 |
| 15000 | 102.6 | 103.5 | 103.1 | 102.9 | 101.4 | 102.6 | 100.8 | 100.6 | 102.5 | 104.2 | 100.2 | 104.4 | 102.8 | 148.3 |
| 20000 | 99.5  | 101.3 | 100.4 | 100.3 | 99.1  | 100.8 | 99.6  | 98.0  | 98.1  | 98.9  | 97.1  | 99.4  | 96.9  | 147.1 |
| 25000 | 97.0  | 98.1  | 97.8  | 96.9  | 99.9  | 97.3  | 94.8  | 95.0  | 95.5  | 93.9  | 95.4  | 93.1  | 147.1 |       |
| 31500 | 95.4  | 97.6  | 95.3  | 96.7  | 93.8  | 97.9  | 93.4  | 91.6  | 93.0  | 88.1  | 90.2  | 89.2  | 88.4  | 147.7 |
| 40000 | 89.3  | 92.9  | 89.8  | 94.7  | 91.0  | 97.3  | 89.1  | 87.0  | 91.9  | 84.5  | 89.6  | 84.6  | 86.3  | 149.0 |
| 50000 | 84.1  | 90.6  | 85.8  | 94.8  | 88.0  | 98.4  | 84.9  | 81.6  | 94.1  | 81.6  | 91.4  | 81.5  | 87.6  | 153.3 |
| 63000 | 78.4  | 91.1  | 80.8  | 94.8  | 87.4  | 98.7  | 82.2  | 77.7  | 96.7  | 79.9  | 94.4  | 77.3  | 88.8  | 159.3 |
| 80000 | 70.2  | 92.8  | 77.4  | 96.5  | 88.1  | 98.6  | 81.1  | 73.0  | 86.9  | 70.1  | 84.5  | 67.4  | 79.0  | 165.0 |
| GASPL | 122.1 | 121.7 | 120.4 | 121.1 | 120.4 | 118.3 | 116.0 | 114.8 | 118.3 | 119.9 | 121.9 | 121.8 | 120.8 | 167.9 |
| PNL   | 133.1 | 133.4 | 133.0 | 133.8 | 132.2 | 129.6 | 128.7 | 127.4 | 131.1 | 131.9 | 131.8 | 131.2 | 131.4 |       |
| PFLT  | 136.1 | 134.5 | 135.2 | 136.8 | 132.2 | 128.7 | 127.4 | 131.1 | 131.9 | 131.8 | 131.2 | 131.4 |       |       |
| DBA   | 193.3 | 213.1 | 198.6 | 216.8 | 208.5 | 219.0 | 201.8 | 194.4 | 209.9 | 193.4 | 207.6 | 191.0 | 202.1 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/CNT. CONV. ANN. PLUG NGZ. SC-3/NAS3-22514

VEHICL = ADH103 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.40 RELHUM = 65.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 1767.0 FPS AEB = 25.3 SO IN  
FNRAMB = LBS XNLR = RPM XNH RPM V8 = 1767.0 FPS AEB = 25.3 SO IN

RUNPT = 81F-400-1324 TAPE = X1324F TEST PT NO = 1324 NC = 863 CORR FAN SPEED = RPM

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DATPRC - FLTKAN  
FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL  
IDENTIFICATION - 81F-400-1324 X13241  
ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
FREQ

|       |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| 50    | 69.5  | 72.5  | 72.4  | 72.9  | 72.9  | 72.9  | 74.2  | 74.2  | 74.4  | 75.0  | 80.1  | 84.7 | 88.8  | 87.5  | 82.6  | 163.0 |
| 63    | 71.2  | 72.8  | 73.2  | 73.4  | 73.7  | 74.7  | 74.7  | 75.6  | 76.5  | 80.5  | 86.1  | 90.6 | 98.7  | 82.7  | 164.3 |       |
| 80    | 71.3  | 74.1  | 73.8  | 74.5  | 76.3  | 78.1  | 76.0  | 76.3  | 84.2  | 86.9  | 91.2  | 89.4 | 82.2  | 165.1 |       |       |
| 100   | 75.2  | 77.1  | 77.7  | 77.3  | 83.5  | 86.0  | 79.9  | 78.6  | 83.1  | 87.1  | 90.9  | 88.0 | 82.2  | 165.2 |       |       |
| 125   | 86.5  | 86.5  | 86.4  | 85.2  | 78.7  | 78.6  | 77.9  | 77.7  | 83.1  | 86.0  | 88.8  | 85.4 | 79.9  | 165.1 |       |       |
| 150   | 94.7  | 92.5  | 82.5  | 89.1  | 83.2  | 78.7  | 78.6  | 84.6  | 87.2  | 89.2  | 84.4  | 79.4 | 168.9 |       |       |       |
| 200   | 90.7  | 93.9  | 92.3  | 91.5  | 99.5  | 93.8  | 86.0  | 81.6  | 85.1  | 88.6  | 87.5  | 83.7 | 79.9  | 171.8 |       |       |
| 250   | 91.9  | 94.3  | 96.4  | 99.2  | 89.5  | 92.1  | 89.6  | 84.0  | 86.0  | 87.7  | 85.2  | 81.0 | 77.5  | 172.5 |       |       |
| 315   | 86.9  | 88.2  | 87.4  | 87.7  | 84.8  | 86.8  | 89.6  | 86.9  | 87.6  | 86.1  | 84.3  | 79.7 | 75.8  | 167.3 |       |       |
| 400   | 84.6  | 86.3  | 85.6  | 85.6  | 85.5  | 84.9  | 84.9  | 85.9  | 88.3  | 86.3  | 82.3  | 79.0 | 75.5  | 166.5 |       |       |
| 500   | 82.9  | 85.3  | 85.9  | 87.0  | 85.1  | 85.8  | 85.1  | 85.3  | 88.0  | 85.4  | 81.0  | 77.0 | 73.2  | 166.4 |       |       |
| 630   | 81.9  | 83.8  | 84.9  | 85.0  | 84.8  | 83.8  | 83.5  | 86.9  | 84.9  | 80.2  | 76.5  | 71.5 | 165.8 |       |       |       |
| 800   | 80.6  | 83.5  | 84.6  | 85.2  | 84.7  | 83.1  | 82.6  | 85.5  | 84.5  | 78.4  | 75.4  | 70.6 | 165.8 |       |       |       |
| 1000  | 80.2  | 83.4  | 83.7  | 84.6  | 83.7  | 84.7  | 83.3  | 81.5  | 84.7  | 83.4  | 79.0  | 75.3 | 70.1  | 165.9 |       |       |
| 1250  | 78.7  | 82.6  | 83.4  | 84.2  | 84.5  | 84.9  | 82.1  | 81.1  | 82.6  | 82.2  | 77.9  | 74.4 | 67.7  | 166.0 |       |       |
| 1500  | 77.4  | 81.1  | 82.1  | 83.8  | 82.7  | 83.6  | 80.9  | 79.5  | 81.6  | 80.8  | 75.1  | 72.9 | 64.9  | 166.0 |       |       |
| 2000  | 74.4  | 78.4  | 80.1  | 81.2  | 80.4  | 81.8  | 79.8  | 78.9  | 79.5  | 79.1  | 71.9  | 60.3 | 165.8 |       |       |       |
| 2500  | 69.5  | 75.0  | 76.5  | 77.9  | 77.5  | 79.5  | 78.0  | 75.6  | 74.1  | 72.6  | 67.1  | 63.3 | 49.4  | 164.5 |       |       |
| 3150  | 63.6  | 69.3  | 72.0  | 74.7  | 73.9  | 77.3  | 74.4  | 70.8  | 69.2  | 66.8  | 60.6  | 54.3 | 37.3  | 164.5 |       |       |
| 4000  | 55.8  | 64.1  | 65.7  | 69.5  | 67.9  | 72.3  | 67.4  | 64.4  | 63.4  | 54.6  | 50.6  | 39.3 | 18.1  | 165.1 |       |       |
| 5000  | 40.0  | 51.9  | 53.9  | 62.0  | 60.1  | 66.9  | 58.2  | 54.3  | 56.0  | 43.5  | 40.2  | 20.9 |       | 166.4 |       |       |
| 6300  | 16.9  | 35.4  | 37.9  | 47.0  | 47.0  | 58.2  | 43.9  | 38.2  | 46.1  | 26.3  | 24.2  |      |       | 170.7 |       |       |
| 8000  |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 10000 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 12500 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 15000 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 16000 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 20000 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 25000 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 31500 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 40000 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 50000 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 63000 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| 80000 |       |       |       |       |       |       |       |       |       |       |       |      |       |       |       |       |
| DBA   | 91.0  | 93.4  | 94.1  | 95.4  | 94.5  | 94.2  | 92.5  | 91.2  | 93.5  | 92.4  | 88.4  | 85.0 | 79.9  |       |       |       |
| PNL1  | 104.1 | 105.7 | 107.2 | 110.1 | 109.6 | 107.0 | 103.3 | 101.5 | 103.6 | 103.0 | 100.8 | 97.4 | 91.8  |       |       |       |
| DBA   | 91.0  | 93.4  | 94.1  | 95.4  | 94.5  | 94.2  | 92.5  | 91.2  | 93.5  | 92.4  | 88.4  | 85.0 | 79.9  |       |       |       |
| ASPL  | 98.9  | 100.0 | 99.9  | 101.3 | 101.3 | 98.9  | 96.4  | 94.5  | 97.3  | 98.0  | 99.0  | 96.2 | 90.7  | 185.3 |       |       |
| PNL   | 102.5 | 105.1 | 106.1 | 107.9 | 107.3 | 105.7 | 103.3 | 101.5 | 103.6 | 103.0 | 100.8 | 97.4 | 91.8  |       |       |       |
| PNL1  | 104.1 | 105.7 | 107.2 | 110.1 | 109.6 | 107.0 | 103.3 | 101.5 | 103.6 | 103.0 | 100.8 | 97.4 | 91.8  |       |       |       |
| DBA   | 91.0  | 93.4  | 94.1  | 95.4  | 94.5  | 94.2  | 92.5  | 91.2  | 93.5  | 92.4  | 88.4  | 85.0 | 79.9  |       |       |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/CONT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH103 TEST DATE = 09-01-81 LCAT = CA1 ANECH CH CONFIG = 3 MODEL = 3 FLTVL = 400. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.40 MIKE HT = NBRF =  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL  
FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1767.0 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNL RPM XNH XNHR = RPM V8 = 1767.0 FPS AE8 = 25.3 SQ IN  
RUNPT = 400-1324 TAPE = X13241 TEST PT NO = 1327 NC = 863 CORR FAN SPEED = RPM

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DATPROG - FLIKAN  
UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC  
IDENTIFICATION - MODEL 81F-ZER-4303 X4303C  
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 85.2 83.7 81.7 81.0 81.9 83.2 85.4 86.8 89.2 86.6 89.7 94.1 95.0 130.2

60 87.7 87.5 87.8 89.7 91.3 91.4 91.3 91.4 91.3 94.6 89.4 99.2 98.7 100.9 137.0

70 90.5 95.1 90.3 90.6 92.0 94.3 94.5 94.4 95.3 94.4 97.0 99.7 99.8 100.9 137.0

80 90.1 96.3 91.9 93.9 94.2 95.1 97.0 97.7 96.5 98.2 100.1 103.8 104.7 139.8

90 90.7 99.6 90.7 92.7 93.5 96.2 96.8 96.7 97.3 101.0 106.6 108.3 108.7 142.8

100 86.5 86.3 89.3 89.7 91.8 94.0 95.6 97.6 102.6 107.3 109.2 109.2 111.4 143.8

110 86.5 86.3 89.3 89.7 91.8 94.0 95.6 97.6 102.6 107.3 109.2 109.2 111.4 143.8

120 87.6 87.6 90.6 91.7 93.5 96.9 98.5 101.2 106.3 112.4 115.1 117.0 115.9 150.9

130 89.8 89.8 91.6 92.1 92.9 93.5 97.1 99.0 102.9 109.4 116.4 118.1 118.5 153.2

140 89.2 89.2 91.6 92.1 92.9 93.5 97.1 99.0 102.9 109.4 116.4 118.1 118.5 153.2

150 97.5 98.3 99.3 100.1 100.2 102.1 104.8 107.0 112.4 118.3 120.6 117.4 113.7 155.0

160 97.5 98.3 99.3 100.1 100.2 102.1 104.8 107.0 112.4 118.3 120.6 117.4 113.7 155.0

170 99.4 100.1 99.0 98.9 99.5 99.5 102.3 103.2 103.2 107.0 112.4 112.2 110.0 150.0

180 99.9 100.0 99.7 100.8 100.1 102.2 104.5 107.0 111.7 117.8 116.7 112.7 108.8 152.7

190 99.0 100.6 99.7 100.8 100.9 103.3 104.5 107.0 111.3 114.7 114.2 110.9 106.1 150.9

200 96.9 99.2 99.0 100.2 100.9 103.4 104.5 108.1 111.1 114.0 113.5 110.8 105.7 150.7

210 96.8 99.7 99.1 100.1 101.3 103.3 104.5 107.7 112.0 112.8 112.2 110.0 104.6 150.0

220 96.8 99.7 99.5 99.6 100.1 102.4 104.3 107.0 109.2 112.0 109.2 103.3 103.3 149.5

230 95.8 98.7 99.5 100.6 100.8 103.0 104.3 107.0 106.5 108.3 110.2 107.4 103.1 149.1

240 94.5 97.4 98.7 99.2 100.3 101.5 102.0 104.2 107.1 109.0 108.6 105.3 100.6 148.5

250 91.6 93.2 94.6 95.5 96.3 98.0 98.4 100.2 103.2 104.5 106.1 103.0 101.0 147.6

260 91.6 93.2 94.6 95.5 96.3 98.0 98.4 100.2 103.2 104.5 106.1 103.0 101.0 147.6

270 89.6 89.6 93.2 94.6 95.5 96.3 98.0 98.4 100.2 103.2 104.5 106.1 103.0 147.6

280 89.6 89.6 93.2 94.6 95.5 96.3 98.0 98.4 100.2 103.2 104.5 106.1 103.0 147.6

290 85.5 85.5 90.2 91.7 92.4 94.0 96.4 96.4 99.8 100.8 100.6 99.1 91.7 146.7

300 81.3 81.3 86.9 87.2 88.4 90.0 93.0 93.7 93.9 96.4 98.4 94.7 87.3 147.0

31500 80000 40000 50000 63000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000

80000 63.5 74.8 74.8 74.2 75.9 76.8 78.5 80.8 81.1 90.2 93.5 93.8 85.2 68.6 160.3

63000 67.4 75.7 76.8 78.9 80.7 82.6 83.6 84.5 91.0 95.4 94.7 87.5 75.3 155.1

50000 73.0 78.1 79.8 81.1 82.8 86.1 86.6 87.1 92.3 95.7 95.0 90.0 78.7 150.7

40000 77.2 82.5 84.4 84.7 86.6 89.5 89.9 91.0 94.4 96.2 91.8 84.1 148.3

31500 81.3 86.9 87.2 88.4 90.0 93.0 93.7 93.9 96.4 98.7 98.4 94.7 87.3 147.0

25000 85.5 90.2 91.7 92.4 94.0 96.4 96.4 99.8 100.8 100.6 99.1 91.7 146.7

20000 89.6 89.6 93.2 94.6 95.5 96.3 98.0 98.4 100.2 103.2 104.5 106.1 103.0 147.6

16000 91.6 91.6 97.2 98.4 98.4 99.8 100.4 103.2 104.5 106.1 103.0 101.0 98.9 147.6

12500 94.5 97.4 98.7 99.2 100.3 101.5 102.0 104.2 107.1 109.0 108.6 105.3 100.6 148.5

|                      |                      |                        |                    |                  |                   |
|----------------------|----------------------|------------------------|--------------------|------------------|-------------------|
| VEHICLE = ADH086     | TEST DATE = 09-01-81 | LOCAT = CAT ANECH CH   | CONFIG = 3         | MODEL = 3        | FTVEL = 0. FPS    |
| IAPLHA = SB59        | LEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 80.00     | PAMB HG = 29.50  | RELHUM = 68.3 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH                    | EXT DIST = 40.0 FT | EXT CONFIG = ARC | MIKE HT =         |
| FNIN1 =              | LBS XNLR             | RPM                    | XNH                | RPM              | V8                |
| FNAMB =              | LBS XNLR             | RPM                    | XNH                | RPM              | V8                |
| RUNPT = 81F-ZER-4303 | TAPE                 | X4303C                 | TEST PT NO = 4303  | NC               | 863               |
|                      |                      |                        |                    | CORR FAN SPEED = | RPM               |

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DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-4313 X4313C  
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.2 84.7 82.7 82.0 82.1 85.2 85.9 88.3 90.4 94.1 94.2 93.9 95.0 131.6

63 88.5 88.5 88.3 88.8 90.4 93.3 92.4 93.3 93.8 99.6 99.6 99.5 98.9 136.9

100 91.0 96.1 91.3 91.4 92.0 95.3 94.5 95.1 96.3 97.5 97.8 99.7 101.4 137.6

125 87.1 89.9 90.9 92.7 94.0 96.9 97.0 96.9 97.3 101.0 106.6 108.3 109.2 143.0

160 86.8 87.1 89.6 90.1 90.5 92.1 94.5 96.1 98.3 103.1 107.3 109.7 111.9 144.2

200 86.3 87.8 89.3 90.6 92.5 95.3 96.0 98.5 100.9 104.8 110.2 118.1 120.0 119.4 116.3 154.7

250 90.2 93.5 93.8 94.8 96.1 98.5 100.9 104.8 110.2 118.1 120.0 119.4 116.3 154.7

315 88.5 91.8 92.1 94.1 94.2 95.6 98.5 101.1 105.8 111.6 117.2 117.2 116.4 150.9

350 92.5 94.8 94.6 95.4 97.0 98.9 101.7 105.9 111.2 120.2 121.8 120.0 117.7 156.2

400 99.5 103.8 102.1 102.3 102.4 102.5 104.4 107.6 113.7 120.4 121.8 118.7 114.2 156.2

500 100.2 100.8 99.3 99.2 101.0 103.4 106.6 113.6 120.9 121.5 118.9 115.8 115.8 156.4

600 96.2 95.2 95.8 97.9 99.8 102.4 105.8 112.9 120.8 121.7 119.9 116.3 116.3 156.4

700 99.5 103.5 103.0 103.5 103.4 105.4 106.8 109.3 112.6 115.5 113.8 109.6 106.9 152.5

800 102.5 104.3 103.3 103.9 104.2 106.0 105.9 108.9 112.7 117.9 117.0 111.9 107.3 153.3

900 102.5 104.3 103.3 103.9 104.2 106.0 105.9 108.9 112.7 117.9 117.0 111.9 107.3 153.3

1000 103.9 105.0 104.5 105.0 103.3 104.0 105.5 108.5 113.0 119.6 116.9 113.5 108.8 154.0

1100 103.9 105.0 104.5 105.0 103.3 104.0 105.5 108.5 113.0 119.6 116.9 113.5 108.8 154.0

1200 103.9 105.0 104.5 105.0 103.3 104.0 105.5 108.5 113.0 119.6 116.9 113.5 108.8 154.0

1300 99.5 103.9 102.7 101.4 102.6 103.8 105.5 106.5 109.5 111.5 114.3 113.2 109.7 105.3 151.4

1400 98.1 101.7 102.2 102.4 102.6 104.7 106.3 109.0 110.7 113.5 111.4 107.8 104.6 150.9

1500 98.1 101.7 102.2 102.4 102.6 104.7 106.3 109.0 110.7 113.5 111.4 107.8 104.6 150.9

1600 98.1 101.7 102.2 102.4 102.6 104.7 106.3 109.0 110.7 113.5 111.4 107.8 104.6 150.9

1700 98.1 101.7 102.2 102.4 102.6 104.7 106.3 109.0 110.7 113.5 111.4 107.8 104.6 150.9

1800 98.1 101.7 102.2 102.4 102.6 104.7 106.3 109.0 110.7 113.5 111.4 107.8 104.6 150.9

1900 98.1 101.7 102.2 102.4 102.6 104.7 106.3 109.0 110.7 113.5 111.4 107.8 104.6 150.9

VEHICLE = ADH087 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFID = 3 MODEL = 3  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.50 RELHUM = 68.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFID = ARC

NASA SHOCK CELL/COUNT, CONV, ANN, PLUG NOZ, SC-3/NAS3-22514

DBA 113.1 114.2 113.5 113.9 113.9 115.6 116.9 120.0 124.4 130.4 130.5 127.7 124.2

PML 125.7 127.2 126.6 127.1 127.4 129.4 130.5 133.3 137.0 142.5 142.0 139.0 135.6

GNL 112.8 114.3 113.8 114.3 114.5 116.4 117.6 120.5 124.7 130.7 131.1 129.2 126.6 168.9

80000 64.5 83.1 78.7 87.1 80.3 92.7 84.6 84.1 93.9 94.8 92.5 85.9 76.8 163.0

63000 68.9 80.4 80.3 85.6 82.9 93.1 86.9 87.0 94.2 95.9 93.9 87.0 77.8 157.1

50000 75.2 81.6 82.8 85.1 84.8 93.1 88.9 89.1 94.3 96.2 94.7 89.5 79.0 152.3

40000 79.2 85.3 86.7 87.2 89.1 93.3 91.9 93.0 96.7 97.0 96.5 91.8 83.1 149.8

31500 82.8 88.9 89.7 90.7 92.0 95.4 95.0 95.6 98.4 100.2 97.9 94.5 87.0 148.3

25000 87.8 92.5 93.5 94.1 95.5 98.4 98.3 101.1 103.0 100.1 98.4 91.2 148.1

20000 91.6 95.2 96.1 96.0 98.0 100.0 100.4 102.2 103.9 106.2 103.6 101.5 96.7 148.7

16000 93.8 98.1 98.9 99.5 100.3 101.8 102.2 105.0 106.0 108.3 105.7 103.4 99.9 149.1

12500 96.8 99.7 100.9 101.2 102.3 103.8 103.7 106.0 108.4 110.5 108.8 106.0 101.3 149.9

10000 98.1 100.7 101.5 102.8 103.6 104.8 103.7 106.0 110.1 112.2 110.7 106.9 101.3 150.8

8000 98.1 101.7 102.2 102.4 102.6 104.7 106.3 109.0 110.7 113.5 111.4 107.8 104.6 150.9

6300 99.8 102.7 101.4 102.6 103.8 105.5 106.5 109.5 111.5 114.3 113.2 109.7 105.3 151.4

5000 99.9 102.2 101.2 102.7 103.4 105.4 106.8 109.3 112.6 115.5 113.8 109.6 106.9 152.5

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-4313 X4313F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FRQ | 50    | 55.2  | 64.7  | 62.7  | 62.0  | 62.1  | 65.2  | 65.9  | 68.3  | 90.4  | 94.1  | 94.2  | 93.9  | 95.0  | 131.6 |
|     | 63    | 88.5  | 88.5  | 88.3  | 88.8  | 90.4  | 93.3  | 92.4  | 93.3  | 93.8  | 99.6  | 99.6  | 99.5  | 99.6  | 136.9 |
|     | 80    | 91.0  | 96.1  | 91.3  | 91.4  | 92.0  | 95.3  | 95.3  | 95.3  | 96.3  | 97.8  | 99.7  | 101.4 | 137.6 |       |
|     | 100   | 90.8  | 97.3  | 93.1  | 94.4  | 95.0  | 96.1  | 97.5  | 98.7  | 97.5  | 99.2  | 100.6 | 104.3 | 105.9 | 140.6 |
|     | 125   | 87.1  | 89.9  | 90.9  | 92.7  | 94.0  | 96.9  | 97.0  | 96.9  | 97.0  | 96.9  | 97.3  | 101.0 | 106.6 | 108.3 |
|     | 150   | 86.8  | 87.1  | 89.6  | 90.1  | 90.5  | 92.1  | 94.5  | 96.1  | 94.5  | 96.1  | 98.3  | 103.1 | 107.3 | 109.7 |
|     | 160   | 86.8  | 87.1  | 89.6  | 90.1  | 90.5  | 92.1  | 94.5  | 96.1  | 94.5  | 96.1  | 98.3  | 103.1 | 107.3 | 109.7 |
|     | 200   | 88.3  | 87.8  | 89.3  | 90.6  | 92.5  | 95.3  | 96.4  | 102.5 | 107.6 | 113.7 | 120.4 | 121.8 | 118.7 | 114.4 |
|     | 250   | 88.5  | 91.8  | 92.1  | 94.1  | 94.2  | 95.6  | 98.5  | 101.1 | 105.8 | 111.6 | 115.0 | 117.2 | 116.4 | 150.9 |
|     | 315   | 88.8  | 91.6  | 91.1  | 92.7  | 94.0  | 97.9  | 100.0 | 102.7 | 107.5 | 113.7 | 115.8 | 117.8 | 116.4 | 151.8 |
|     | 400   | 90.8  | 92.4  | 93.4  | 94.2  | 95.0  | 98.4  | 101.5 | 105.7 | 111.9 | 117.9 | 120.0 | 119.4 | 116.3 | 154.5 |
|     | 500   | 90.2  | 93.8  | 93.8  | 94.8  | 96.1  | 98.5  | 100.9 | 104.8 | 110.2 | 118.1 | 120.0 | 119.4 | 116.3 | 154.7 |
|     | 630   | 92.6  | 94.8  | 94.6  | 95.4  | 97.0  | 98.9  | 101.7 | 105.9 | 111.2 | 120.2 | 121.8 | 120.0 | 117.7 | 156.2 |
|     | 800   | 96.2  | 95.2  | 95.5  | 96.8  | 97.9  | 99.8  | 102.4 | 105.8 | 112.9 | 120.8 | 121.7 | 119.9 | 116.3 | 156.4 |
|     | 1000  | 100.2 | 100.8 | 99.3  | 99.3  | 101.0 | 103.4 | 106.6 | 113.6 | 120.9 | 121.5 | 118.9 | 115.8 | 156.3 |       |
|     | 1250  | 99.5  | 103.8 | 102.4 | 102.4 | 102.5 | 104.4 | 107.6 | 113.7 | 120.4 | 121.8 | 118.7 | 114.2 | 156.2 |       |
|     | 1500  | 103.9 | 105.0 | 104.5 | 105.0 | 103.3 | 104.0 | 105.5 | 108.5 | 113.0 | 119.6 | 116.9 | 113.5 | 108.8 | 154.0 |
|     | 2000  | 105.7 | 105.1 | 103.5 | 101.9 | 101.2 | 103.3 | 104.7 | 108.6 | 114.3 | 120.4 | 118.8 | 114.9 | 110.1 | 155.0 |
|     | 2500  | 103.9 | 104.3 | 103.3 | 103.9 | 104.2 | 106.0 | 105.9 | 108.9 | 112.7 | 117.9 | 117.0 | 111.9 | 107.3 | 153.3 |
|     | 3150  | 102.5 | 104.3 | 103.3 | 103.9 | 104.2 | 106.0 | 105.9 | 108.9 | 112.7 | 117.9 | 117.0 | 111.9 | 107.3 | 153.3 |
|     | 4000  | 101.2 | 103.0 | 103.0 | 103.5 | 103.9 | 106.6 | 107.0 | 109.3 | 112.6 | 115.5 | 113.8 | 109.6 | 106.2 | 152.5 |
|     | 5000  | 99.9  | 102.7 | 101.4 | 102.6 | 103.8 | 105.5 | 106.5 | 109.5 | 111.5 | 114.3 | 113.2 | 109.7 | 105.3 | 151.4 |
|     | 6300  | 99.8  | 102.7 | 101.4 | 102.6 | 103.8 | 105.5 | 106.5 | 109.5 | 111.5 | 114.3 | 113.2 | 109.7 | 105.3 | 151.4 |
|     | 8000  | 98.1  | 101.7 | 102.2 | 102.4 | 102.6 | 104.7 | 106.3 | 109.0 | 110.7 | 113.5 | 111.4 | 107.8 | 104.6 | 150.9 |
|     | 10000 | 98.1  | 100.7 | 101.5 | 102.8 | 103.8 | 104.8 | 105.0 | 110.0 | 110.7 | 112.2 | 110.7 | 106.9 | 104.3 | 150.8 |
|     | 12500 | 96.8  | 99.7  | 100.9 | 101.2 | 102.3 | 103.8 | 103.7 | 106.0 | 108.4 | 110.5 | 108.8 | 106.0 | 101.3 | 149.9 |
|     | 15000 | 93.8  | 98.1  | 98.9  | 99.5  | 100.3 | 101.8 | 102.2 | 105.0 | 106.0 | 108.3 | 105.7 | 103.4 | 99.9  | 149.1 |
|     | 20000 | 91.6  | 95.2  | 96.1  | 98.0  | 98.0  | 100.0 | 100.4 | 102.2 | 103.9 | 106.2 | 103.6 | 101.5 | 96.7  | 148.7 |
|     | 25000 | 87.5  | 92.5  | 94.1  | 95.5  | 95.4  | 98.4  | 98.3  | 101.1 | 103.0 | 100.1 | 98.4  | 91.2  | 148.1 |       |
|     | 31500 | 82.8  | 88.9  | 89.7  | 90.7  | 92.0  | 95.4  | 95.0  | 98.4  | 100.2 | 97.9  | 94.5  | 87.0  | 148.3 |       |
|     | 40000 | 79.2  | 85.3  | 86.7  | 87.2  | 89.1  | 93.3  | 91.9  | 93.0  | 96.7  | 97.0  | 96.5  | 91.8  | 149.8 |       |
|     | 50000 | 75.2  | 81.6  | 82.8  | 85.1  | 84.8  | 88.9  | 88.9  | 89.1  | 94.3  | 96.2  | 94.7  | 89.5  | 152.3 |       |
|     | 63000 | 68.9  | 80.4  | 80.3  | 85.6  | 82.9  | 93.1  | 86.9  | 87.0  | 94.2  | 95.9  | 93.9  | 87.0  | 157.1 |       |
|     | 80000 | 64.5  | 83.1  | 78.7  | 87.1  | 80.3  | 92.7  | 84.6  | 84.1  | 93.9  | 94.8  | 92.5  | 85.9  | 163.0 |       |
|     | QASPL | 112.8 | 114.3 | 113.8 | 114.3 | 114.5 | 116.4 | 117.6 | 120.5 | 124.7 | 130.7 | 131.1 | 129.2 | 126.6 | 168.9 |
|     | PNL   | 125.7 | 127.2 | 126.6 | 127.1 | 127.4 | 129.4 | 130.5 | 133.3 | 137.0 | 142.5 | 142.0 | 139.0 | 135.6 |       |
|     | PMLT  | 125.7 | 128.7 | 126.6 | 127.1 | 127.4 | 129.4 | 130.5 | 133.3 | 137.0 | 142.5 | 142.0 | 139.0 | 135.6 |       |
|     | DBA   | 186.1 | 203.3 | 199.4 | 207.5 | 201.2 | 213.2 | 205.4 | 205.0 | 214.4 | 215.4 | 213.1 | 206.6 | 197.4 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH087 TEST DATE = 09-01-81  
IAPLHA = SB59 IEQA = NO  
WIND DIR = DEG WIND VEL = MPH  
PWL AREA = FULL SPHERE EXT DIST = 40.0 FT  
LOCAL = C41 ANECH CH CONFIG = 3  
TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 68.3 PCT  
FLTVEL = 0. FPS

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2422.8 FPS AEB = 25.3 SQ IN  
FNNI = LBS XNLR = RPM XNHR = RPM V8 = 2422.8 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-4313 TAPE = X4313F TEST PT NO = 4313 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - B1F-ZER-4313 X43131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50   | 63   | 80   | 100  | 125   | 150   | 160   | 170   | 180   | 190   | 200   | 250   | 315   | 400   | 500   | 630   | 800   | 1000  | 1250  | 1500  | 1600  | 2000  | 2500  | 3150  | 4000  | 5000  | 6300  | 8000  |
| 68.8 | 68.2 | 70.5 | 74.3 | 77.9  | 80.1  | 81.7  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  | 82.5  |
| 71.9 | 73.0 | 74.3 | 76.1 | 77.8  | 79.5  | 81.5  | 83.3  | 84.0  | 84.7  | 85.4  | 86.2  | 86.7  | 87.2  | 87.7  | 88.2  | 88.7  | 89.2  | 89.7  | 90.0  | 90.5  | 90.8  | 91.1  | 91.4  | 91.7  | 92.0  | 92.3  | 92.6  |
| 74.0 | 76.0 | 78.0 | 79.5 | 81.5  | 84.0  | 87.0  | 89.3  | 91.4  | 92.7  | 94.1  | 95.7  | 97.4  | 99.6  | 100.2 | 100.2 | 99.5  | 98.9  | 98.2  | 97.3  | 96.6  | 95.7  | 94.3  | 92.7  | 90.8  | 88.4  | 85.1  | 81.5  |
| 75.5 | 77.0 | 78.7 | 80.3 | 82.2  | 84.2  | 86.7  | 89.3  | 91.9  | 94.5  | 97.1  | 99.7  | 102.3 | 104.9 | 107.5 | 110.1 | 112.7 | 115.3 | 117.9 | 120.5 | 123.1 | 125.7 | 128.3 | 130.9 | 133.5 | 136.1 | 138.7 | 141.3 |
| 76.7 | 78.7 | 80.7 | 82.7 | 84.7  | 86.7  | 88.7  | 90.7  | 92.7  | 94.7  | 96.7  | 98.7  | 100.7 | 102.7 | 104.7 | 106.7 | 108.7 | 110.7 | 112.7 | 114.7 | 116.7 | 118.7 | 120.7 | 122.7 | 124.7 | 126.7 | 128.7 | 130.7 |
| 80.2 | 83.2 | 87.0 | 92.4 | 97.5  | 102.4 | 107.3 | 112.2 | 117.1 | 122.0 | 126.9 | 131.8 | 136.7 | 141.6 | 146.5 | 151.4 | 156.3 | 161.2 | 166.1 | 171.0 | 175.9 | 180.8 | 185.7 | 190.6 | 195.5 | 200.4 | 205.3 | 210.2 |
| 83.2 | 87.0 | 92.4 | 97.5 | 102.4 | 107.3 | 112.2 | 117.1 | 122.0 | 126.9 | 131.8 | 136.7 | 141.6 | 146.5 | 151.4 | 156.3 | 161.2 | 166.1 | 171.0 | 175.9 | 180.8 | 185.7 | 190.6 | 195.5 | 200.4 | 205.3 | 210.2 | 215.1 |

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MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/CNT. CONV. ANN. FLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH087 TEST DATE = 09-01-81 LCAT = C41 ANECH CH CNFIG = 3 MODEL = 3  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 68.3 PCT  
FINI = LBS XNL RPM XNH RPM = = = V8 = 2422.8 FPS AE8 = 25.3 SQ IN  
FRAMB = LBS XNLR RPM XNHR RPM = = = V8 = 2422.8 FPS AE18 = 0. SQ IN  
RUNPT = ER-4313 TAPE = X43131 TEST PT NO = 4313 NC = 863 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-4321 X4321C  
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40 50 60 70 80 90 100 110 120 130 140 150 160 PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.9  | 85.0  | 83.5  | 84.0  | 83.9  | 85.2  | 86.1  | 88.3  | 90.7  | 94.1  | 95.2  | 94.9  | 96.8  | 132.3 |
| 63    | 89.2  | 89.0  | 88.5  | 89.6  | 91.2  | 92.8  | 92.2  | 92.1  | 95.1  | 100.1 | 99.7  | 100.8 | 137.4 | 138.7 |
| 80    | 92.0  | 96.6  | 91.6  | 93.7  | 96.3  | 96.5  | 96.1  | 97.3  | 96.7  | 98.8  | 101.2 | 102.6 | 138.7 | 141.5 |
| 100   | 92.3  | 98.3  | 93.6  | 94.9  | 96.0  | 97.1  | 98.5  | 99.4  | 98.8  | 99.7  | 101.8 | 104.8 | 106.7 | 141.5 |
| 125   | 88.4  | 90.6  | 92.2  | 94.2  | 95.3  | 97.7  | 97.8  | 97.9  | 98.0  | 101.7 | 107.6 | 113.6 | 145.6 | 145.6 |
| 150   | 87.5  | 88.3  | 90.8  | 90.9  | 91.2  | 93.3  | 95.5  | 97.1  | 99.1  | 104.4 | 108.5 | 111.0 | 145.6 | 145.6 |
| 160   | 87.5  | 88.3  | 90.8  | 90.9  | 91.2  | 93.3  | 95.5  | 97.1  | 99.1  | 104.4 | 108.5 | 111.0 | 145.6 | 145.6 |
| 200   | 89.8  | 88.3  | 89.8  | 90.9  | 93.0  | 96.3  | 97.2  | 98.9  | 103.8 | 106.4 | 109.8 | 113.7 | 147.7 | 147.7 |
| 250   | 89.0  | 92.1  | 92.6  | 94.1  | 94.7  | 96.1  | 99.0  | 101.9 | 107.1 | 112.4 | 116.3 | 118.0 | 147.7 | 151.9 |
| 315   | 89.3  | 92.1  | 92.4  | 93.2  | 94.5  | 98.6  | 100.8 | 103.4 | 108.0 | 114.2 | 117.1 | 118.5 | 147.7 | 152.7 |
| 400   | 91.7  | 93.4  | 93.9  | 94.4  | 95.3  | 99.1  | 101.5 | 106.4 | 112.4 | 119.2 | 120.1 | 117.4 | 155.4 | 155.4 |
| 500   | 91.7  | 94.5  | 94.3  | 95.0  | 96.1  | 98.7  | 101.4 | 104.8 | 110.2 | 118.6 | 120.7 | 119.6 | 155.2 | 155.2 |
| 630   | 93.6  | 95.6  | 95.6  | 96.2  | 97.7  | 99.6  | 102.5 | 106.2 | 111.7 | 120.9 | 122.6 | 118.4 | 156.9 | 156.9 |
| 800   | 97.7  | 97.2  | 97.0  | 96.8  | 98.1  | 100.8 | 102.6 | 106.0 | 109.4 | 114.3 | 121.4 | 119.3 | 157.2 | 157.2 |
| 1000  | 101.0 | 102.0 | 100.3 | 99.8  | 99.9  | 102.0 | 104.4 | 107.3 | 113.8 | 121.9 | 122.5 | 119.7 | 157.1 | 157.1 |
| 1250  | 101.2 | 104.8 | 103.8 | 102.8 | 103.2 | 103.5 | 104.7 | 108.3 | 114.2 | 121.6 | 122.5 | 118.2 | 157.0 | 157.0 |
| 1500  | 105.0 | 103.3 | 103.8 | 102.1 | 102.0 | 103.8 | 106.0 | 109.4 | 113.9 | 120.8 | 121.6 | 113.0 | 156.2 | 156.2 |
| 2000  | 104.7 | 105.6 | 104.5 | 103.1 | 102.0 | 103.8 | 106.0 | 109.4 | 114.3 | 121.4 | 119.3 | 115.1 | 156.2 | 156.2 |
| 2500  | 104.4 | 105.2 | 104.5 | 105.0 | 104.8 | 104.7 | 106.8 | 109.5 | 113.7 | 120.3 | 117.9 | 113.7 | 154.8 | 154.8 |
| 3150  | 104.3 | 105.3 | 104.3 | 104.3 | 104.9 | 107.3 | 106.6 | 109.9 | 114.2 | 118.9 | 117.2 | 112.2 | 154.1 | 154.1 |
| 4000  | 103.0 | 104.2 | 104.7 | 104.8 | 104.6 | 106.6 | 108.0 | 110.5 | 113.3 | 117.7 | 115.4 | 110.7 | 153.3 | 153.3 |
| 5000  | 103.0 | 104.2 | 104.7 | 104.8 | 104.6 | 106.6 | 108.0 | 110.5 | 113.3 | 117.7 | 115.4 | 110.7 | 153.3 | 153.3 |
| 6300  | 100.1 | 103.0 | 103.5 | 103.6 | 103.9 | 106.7 | 107.3 | 109.5 | 111.3 | 113.7 | 110.9 | 106.7 | 151.9 | 151.9 |
| 8000  | 100.1 | 103.0 | 103.5 | 103.6 | 103.9 | 106.7 | 107.3 | 109.5 | 111.3 | 113.7 | 110.9 | 106.7 | 151.9 | 151.9 |
| 10000 | 100.1 | 102.2 | 104.0 | 104.3 | 104.3 | 105.3 | 105.7 | 107.0 | 109.4 | 111.8 | 109.8 | 105.5 | 151.0 | 151.0 |
| 12500 | 98.5  | 100.9 | 102.2 | 102.7 | 103.5 | 105.3 | 105.7 | 107.0 | 109.4 | 111.8 | 109.8 | 105.5 | 151.0 | 151.0 |
| 15000 | 98.5  | 100.9 | 102.2 | 102.7 | 103.5 | 105.3 | 105.7 | 107.0 | 109.4 | 111.8 | 109.8 | 105.5 | 151.0 | 151.0 |
| 16000 | 95.8  | 99.4  | 100.4 | 100.7 | 101.1 | 103.3 | 103.7 | 106.0 | 107.3 | 109.1 | 107.0 | 103.4 | 150.2 | 150.2 |
| 20000 | 92.9  | 96.5  | 97.6  | 98.7  | 99.3  | 101.3 | 101.9 | 103.0 | 104.7 | 105.3 | 102.0 | 105.3 | 149.7 | 149.7 |
| 25000 | 89.5  | 94.2  | 94.7  | 95.6  | 96.5  | 99.4  | 100.1 | 99.8  | 101.6 | 103.5 | 100.1 | 98.6  | 149.0 | 149.0 |
| 31500 | 85.1  | 90.9  | 91.2  | 92.4  | 93.0  | 96.4  | 96.5  | 98.9  | 98.6  | 101.7 | 98.7  | 94.7  | 149.4 | 149.4 |
| 40000 | 81.2  | 87.5  | 88.7  | 89.4  | 90.6  | 93.8  | 93.4  | 94.5  | 97.2  | 99.0  | 96.3  | 92.1  | 150.9 | 150.9 |
| 50000 | 77.7  | 86.6  | 86.6  | 86.6  | 86.6  | 87.9  | 88.8  | 89.2  | 95.6  | 99.2  | 94.5  | 89.2  | 153.7 | 153.7 |
| 63000 | 72.4  | 86.2  | 82.5  | 86.9  | 85.7  | 92.6  | 87.9  | 88.8  | 95.2  | 99.2  | 93.7  | 86.3  | 158.6 | 158.6 |
| 80000 | 68.5  | 89.6  | 80.2  | 88.4  | 84.8  | 93.0  | 86.6  | 86.4  | 95.4  | 97.5  | 94.5  | 84.4  | 164.9 | 164.9 |
| QASPL | 113.8 | 115.3 | 115.1 | 115.3 | 115.7 | 117.5 | 118.6 | 121.3 | 125.3 | 131.6 | 131.9 | 129.6 | 170.0 | 170.0 |
| PWL   | 126.9 | 128.2 | 127.8 | 128.1 | 128.3 | 130.3 | 131.4 | 134.1 | 138.5 | 143.4 | 142.5 | 139.3 | 136.5 | 136.5 |
| PWLT  | 126.9 | 129.0 | 127.8 | 128.1 | 128.3 | 130.3 | 131.4 | 134.1 | 138.5 | 143.4 | 142.5 | 139.3 | 136.5 | 136.5 |
| DBA   | 114.0 | 115.2 | 114.8 | 114.8 | 115.1 | 116.7 | 117.9 | 120.8 | 125.0 | 131.4 | 131.4 | 128.0 | 124.9 | 124.9 |

NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADH088 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HG = 29.50 RELHUM = 68.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

FNINI = LBS XNL RPM XNH XNHR RPM = V8 V18 = 2468.3 FPS AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNLR RPM = X4321C TEST FT NO = 4321 NC = 863 CORR FAN SPEED = RPM  
 RUNPT = 81F-ZER-4321 TAPE

ORIGINAL PAGE IS  
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7-2

| FREQ  | 50  | 55                     | 60                 | 65                | 70                | 80    | 90               | 100   | 110        | 120   | 130   | 140   | 150   | 160   | PWL   |
|---|---|------------------------|--------------------|-------------------|-------------------|-------|------------------|-------|------------|-------|-------|-------|-------|-------|-------|
| 50  | 85.9  | 85.0                   | 84.0               | 83.9              | 83.9              | 85.2  | 86.1             | 86.3  | 88.3       | 90.7  | 94.1  | 95.2  | 94.9  | 96.8  | 132.3 |
| 63  | 89.2  | 89.0                   | 88.5               | 89.6              | 91.2              | 92.8  | 92.2             | 92.1  | 95.1       | 100.1 | 100.2 | 99.7  | 100.8 | 137.4 |       |
| 80  | 92.0  | 96.6                   | 91.6               | 91.9              | 93.7              | 96.3  | 96.5             | 96.1  | 97.3       | 96.7  | 98.8  | 101.2 | 102.6 | 138.7 |       |
| 100   | 92.3  | 93.6                   | 94.9               | 96.0              | 97.1              | 98.5  | 99.4             | 98.8  | 99.4       | 98.8  | 101.8 | 104.8 | 106.7 | 141.5 |       |
| 125   | 88.4  | 90.6                   | 92.2               | 94.2              | 95.3              | 97.7  | 97.8             | 97.9  | 98.0       | 101.7 | 107.6 | 109.5 | 110.7 | 144.1 |       |
| 150   | 87.5  | 88.3                   | 90.8               | 90.9              | 91.2              | 93.3  | 95.5             | 97.1  | 99.1       | 104.4 | 108.5 | 111.0 | 113.6 | 145.6 |       |
| 200   | 89.8  | 88.3                   | 89.8               | 90.9              | 93.0              | 96.3  | 97.2             | 98.9  | 103.8      | 106.4 | 109.8 | 113.7 | 115.4 | 147.7 |       |
| 250   | 89.0  | 92.1                   | 92.6               | 94.1              | 94.7              | 96.1  | 99.0             | 101.9 | 107.1      | 112.4 | 116.3 | 118.0 | 117.4 | 151.9 |       |
| 315   | 89.3  | 92.1                   | 92.4               | 93.2              | 94.5              | 98.6  | 100.8            | 103.4 | 108.0      | 114.2 | 117.1 | 118.5 | 117.7 | 152.7 |       |
| 400   | 91.3  | 93.4                   | 93.9               | 94.4              | 95.3              | 99.1  | 101.5            | 106.4 | 112.4      | 119.2 | 120.1 | 120.0 | 117.4 | 155.4 |       |
| 500   | 91.7  | 94.5                   | 94.0               | 96.1              | 98.7              | 101.4 | 104.8            | 110.2 | 118.6      | 122.5 | 119.6 | 117.0 | 115.2 | 155.2 |       |
| 630   | 93.6  | 95.6                   | 96.2               | 97.7              | 99.6              | 102.5 | 106.2            | 111.7 | 120.9      | 122.6 | 120.2 | 118.4 | 116.9 | 156.9 |       |
| 800   | 97.7  | 97.2                   | 97.0               | 96.8              | 98.1              | 100.8 | 102.6            | 106.8 | 113.1      | 121.8 | 122.7 | 120.1 | 116.6 | 157.2 |       |
| 987   | 101.0   | 102.0                  | 100.3              | 99.8              | 99.9              | 102.0 | 104.4            | 107.3 | 113.8      | 121.9 | 122.5 | 119.7 | 116.1 | 157.1 |       |
| 1250  | 101.2   | 104.8                  | 102.8              | 102.0             | 103.2             | 103.5 | 104.8            | 114.2 | 118.9      | 122.5 | 118.2 | 114.9 | 117.0 | 157.0 |       |
| 1600  | 105.0   | 103.3                  | 102.1              | 102.0             | 103.8             | 106.3 | 109.2            | 113.9 | 120.8      | 121.6 | 117.2 | 113.0 | 113.0 | 156.2 |       |
| 2000  | 104.7   | 105.6                  | 103.1              | 102.0             | 103.8             | 106.0 | 109.4            | 114.3 | 121.4      | 119.3 | 115.1 | 111.6 | 111.6 | 155.7 |       |
| 2500  | 104.4   | 105.2                  | 104.5              | 105.0             | 104.8             | 104.7 | 106.8            | 109.5 | 113.7      | 120.3 | 117.9 | 113.7 | 109.8 | 154.8 |       |
| 3150  | 104.3   | 105.3                  | 104.3              | 105.1             | 104.9             | 107.3 | 106.6            | 109.9 | 114.2      | 118.9 | 117.2 | 112.2 | 108.3 | 154.1 |       |
| 4000  | 103.0   | 104.2                  | 104.7              | 104.8             | 104.9             | 106.6 | 108.0            | 110.5 | 113.3      | 117.7 | 115.4 | 110.7 | 107.9 | 153.3 |       |
| 5000  | 101.1   | 103.2                  | 103.2              | 104.5             | 106.9             | 106.9 | 107.3            | 110.1 | 113.4      | 116.8 | 114.5 | 109.3 | 106.2 | 152.8 |       |
| 6300  | 100.8   | 103.7                  | 103.4              | 103.9             | 105.6             | 107.3 | 108.3            | 110.5 | 112.3      | 115.6 | 113.2 | 109.5 | 105.6 | 152.4 |       |
| 8000  | 100.1   | 103.0                  | 103.5              | 103.6             | 103.9             | 106.7 | 107.3            | 110.0 | 111.7      | 114.8 | 111.7 | 108.3 | 105.1 | 151.9 |       |
| 10000   | 100.1   | 102.2                  | 103.3              | 104.0             | 104.3             | 106.3 | 107.1            | 109.5 | 111.3      | 113.7 | 110.9 | 106.7 | 104.6 | 151.8 |       |
| 12500   | 98.5  | 100.9                  | 102.2              | 102.7             | 103.5             | 105.7 | 107.0            | 109.4 | 111.8      | 109.8 | 105.5 | 101.8 | 151.0 |       |       |
| 16000   | 95.8  | 99.4                   | 100.4              | 100.7             | 101.1             | 103.3 | 103.7            | 106.0 | 107.3      | 109.1 | 107.0 | 103.4 | 99.9  | 150.2 |       |
| 20000   | 92.9  | 96.5                   | 97.6               | 98.7              | 99.3              | 101.3 | 101.9            | 103.0 | 104.7      | 107.0 | 105.3 | 102.0 | 98.0  | 149.7 |       |
| 25000   | 89.5  | 94.2                   | 95.6               | 96.5              | 99.4              | 100.1 | 101.8            | 103.5 | 103.5      | 100.1 | 98.6  | 91.2  | 149.0 |       |       |
| 31500   | 85.1  | 90.9                   | 91.2               | 92.4              | 93.0              | 96.4  | 96.5             | 96.9  | 98.6       | 101.7 | 98.7  | 87.3  | 149.4 |       |       |
| 40000   | 81.2  | 87.5                   | 88.7               | 89.4              | 90.6              | 93.8  | 93.4             | 94.5  | 97.2       | 99.0  | 96.3  | 92.1  | 150.9 |       |       |
| 50000   | 77.7  | 85.4                   | 84.3               | 86.6              | 86.6              | 89.9  | 89.9             | 91.3  | 95.6       | 99.2  | 94.5  | 89.2  | 153.7 |       |       |
| 63000   | 72.4  | 86.2                   | 82.5               | 86.9              | 85.7              | 89.6  | 86.8             | 89.2  | 93.7       | 99.2  | 86.3  | 80.0  | 158.6 |       |       |
| 80000   | 68.5  | 89.6                   | 80.2               | 88.4              | 84.8              | 84.8  | 86.6             | 86.4  | 95.4       | 97.5  | 94.5  | 84.4  | 164.9 |       |       |
| GA SPL  | 113.8   | 115.3                  | 115.1              | 115.3             | 115.7             | 117.5 | 118.6            | 121.3 | 125.3      | 131.6 | 131.9 | 129.6 | 127.5 | 170.0 |       |
| PNL   | 126.9   | 128.2                  | 127.8              | 128.1             | 128.3             | 130.3 | 131.4            | 134.1 | 138.0      | 143.4 | 142.5 | 139.3 | 136.5 |       |       |
| PMLT  | 126.9   | 129.0                  | 127.8              | 128.1             | 128.3             | 130.3 | 131.4            | 134.1 | 138.5      | 143.4 | 142.5 | 139.3 | 136.5 |       |       |
| DBA   | 189.8   | 209.8                  | 201.0              | 208.7             | 205.4             | 213.4 | 207.2            | 207.2 | 215.8      | 218.2 | 214.9 | 205.2 | 199.9 |       |       |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000               |   |                        |                    |                   |                   |       |                  |       |            |       |       |       |       |       |       |
| FREE JET VEL (FPS) =                                      | 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES |                        |                    |                   |                   |       |                  |       |            |       |       |       |       |       |       |
| NASA SHOCK CELL/CNT. CONV. ANN. PLUG NGZ. SC-3/NAS3-22514 |   |                        |                    |                   |                   |       |                  |       |            |       |       |       |       |       |       |
| VEHICL = ADH088   | TEST DATE = 09-01-81                                | LOCAT = C41 ANECH CH   | CONFIG = 3         | MODEL = 3         | FTLVEL = 0. FPS   |       |                  |       |            |       |       |       |       |       |       |
| IAPLHA = SB59   | IEGA = NO   | PWL AREA = FULL SPHERE | TAMB F = 80.00     | PAMB HG = 29.50   | RELHUM = 68.3 PCT |       |                  |       |            |       |       |       |       |       |       |
| WIND DIR =  | DEG WIND VEL =                                      | MPH                    | EXT DIST = 40.0 FT | EXT CONFIG = ARC  | MIKE HT =         |       |                  |       |            |       |       |       |       |       |       |
| FNNI =  | LBS XNL   | RPM                    | XNH                | RPM               | V8                | FPS   | AEB              | =     | 25.3 SQ IN |       |       |       |       |       |       |
| FNRAMB =  | LBS XNLR  | RPM                    | XNHR               | RPM               | V18               | FPS   | AEB              | =     | 0. SQ IN   |       |       |       |       |       |       |
| RUNPT =   | ZER-4321  | TAPE                   | = X4321F           | TEST PT NO = 4321 | NC                | = 863 | CORR FAN SPEED = | RPM   |            |       |       |       |       |       |       |

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DATPRGC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-4321 X43211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 69.3  | 72.9 | 74.5 | 75.7 | 77.0 | 81.0 | 83.2 | 87.7 | 92.9 | 98.7  | 98.1  | 95.8  | 89.9  | 172.8 |
| 63    | 69.7 | 74.0 | 74.8 | 76.3 | 77.8 | 80.6 | 83.1 | 86.1 | 89.7  | 95.4  | 89.4  | 172.6 |       |
| 80    | 75.5 | 76.1 | 76.2 | 77.4 | 81.4 | 84.2 | 87.4 | 92.2 | 100.4 | 100.5 | 95.9  | 90.7  | 174.3 |
| 100   | 75.5 | 76.6 | 77.5 | 78.0 | 79.8 | 82.5 | 84.3 | 88.0 | 93.6  | 101.2 | 100.5 | 95.7  | 174.6 |
| 125   | 78.7 | 81.3 | 80.7 | 80.9 | 81.5 | 83.7 | 86.0 | 88.4 | 94.3  | 101.2 | 100.2 | 95.1  | 174.6 |
| 150   | 78.8 | 83.9 | 83.2 | 83.8 | 84.6 | 85.1 | 86.1 | 89.3 | 94.5  | 100.8 | 100.0 | 93.4  | 174.4 |
| 200   | 82.3 | 82.2 | 83.9 | 83.0 | 83.2 | 85.2 | 87.6 | 90.1 | 93.9  | 99.7  | 98.9  | 84.0  | 173.6 |
| 250   | 81.6 | 84.2 | 84.3 | 83.8 | 83.0 | 85.0 | 87.0 | 90.0 | 94.1  | 100.1 | 96.2  | 89.5  | 173.1 |
| 315   | 80.9 | 83.5 | 84.0 | 85.4 | 85.7 | 87.6 | 89.9 | 93.3 | 98.6  | 94.5  | 87.6  | 79.4  | 172.2 |
| 400   | 80.3 | 83.2 | 83.5 | 85.1 | 85.4 | 87.9 | 87.1 | 89.9 | 93.4  | 96.8  | 93.3  | 85.4  | 171.6 |
| 500   | 78.5 | 81.8 | 83.6 | 84.5 | 85.1 | 87.0 | 88.2 | 90.3 | 92.2  | 95.2  | 91.0  | 83.2  | 170.7 |
| 630   | 76.2 | 80.3 | 81.8 | 83.9 | 85.9 | 87.0 | 87.2 | 89.5 | 91.9  | 93.9  | 89.6  | 81.2  | 170.2 |
| 800   | 75.3 | 80.5 | 81.6 | 83.1 | 85.3 | 87.2 | 88.0 | 89.7 | 90.5  | 92.4  | 87.7  | 71.0  | 169.8 |
| 1250  | 73.7 | 78.4 | 81.0 | 82.9 | 83.7 | 85.9 | 86.6 | 88.3 | 89.1  | 89.8  | 84.6  | 76.4  | 169.3 |
| 1600  | 71.3 | 76.4 | 79.5 | 81.2 | 82.7 | 84.6 | 84.9 | 85.5 | 86.7  | 87.3  | 82.6  | 73.9  | 168.4 |
| 2000  | 67.6 | 74.3 | 77.3 | 79.0 | 80.1 | 82.5 | 82.7 | 84.2 | 84.0  | 84.0  | 78.8  | 70.1  | 167.6 |
| 2500  | 62.9 | 70.2 | 73.7 | 76.3 | 77.7 | 80.0 | 80.3 | 80.5 | 80.8  | 80.7  | 75.3  | 65.9  | 167.2 |
| 3150  | 56.2 | 65.5 | 68.9 | 71.7 | 73.6 | 76.8 | 77.2 | 75.8 | 76.0  | 74.8  | 66.7  | 57.5  | 166.4 |
| 4000  | 45.5 | 57.5 | 61.6 | 65.2 | 67.1 | 70.9 | 70.6 | 69.7 | 69.0  | 68.3  | 59.1  | 44.7  | 166.8 |
| 5000  | 31.9 | 46.5 | 52.8 | 56.7 | 59.7 | 63.4 | 62.5 | 61.8 | 61.4  | 58.0  | 46.9  | 28.4  | 168.3 |
| 6300  | 10.5 | 30.1 | 36.4 | 43.1 | 45.6 | 52.3 | 48.9 | 47.9 | 47.7  | 43.9  | 27.3  | 1.4   | 171.2 |
| 8000  | 6.1  | 13.3 | 24.2 | 26.5 | 34.6 | 28.7 | 26.1 | 26.0 | 19.1  |       |       |       | 182.4 |
| 10000 |      |      |      |      |      |      |      |      |       |       |       |       |       |
| 12500 |      |      |      |      |      |      |      |      |       |       |       |       |       |
| 16000 |      |      |      |      |      |      |      |      |       |       |       |       |       |
| 20000 |      |      |      |      |      |      |      |      |       |       |       |       |       |
| 25000 |      |      |      |      |      |      |      |      |       |       |       |       |       |
| 31500 |      |      |      |      |      |      |      |      |       |       |       |       |       |
| 40000 |      |      |      |      |      |      |      |      |       |       |       |       |       |
| 50000 |      |      |      |      |      |      |      |      |       |       |       |       |       |
| 63000 |      |      |      |      |      |      |      |      |       |       |       |       |       |
| 80000 |      |      |      |      |      |      |      |      |       |       |       |       |       |

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MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH088 TEST DATE = 09-01-81  
PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT  
CONFIG = C41 ANECH CH CONFIG = 3  
MODEL = 3  
FLTVL = 0. FPS  
RELHUM = 68.3 PCT  
PAMB HG = 29.50  
MIKE HT =  
RPM XNLR =  
LBS XNL =  
RPM XNHR =  
RPM XNH =  
RPM V8 =  
FPS AE8 =  
FPS AE18 =  
SQ IN =  
SQ IN =  
CORR FAN SPEED =  
RPM =

RUNPT = 81F-ZER-4321 TAPE = X43211  
TEST PT NO = 4321 NC = 863  
CORR FAN SPEED =  
RPM =

DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-5301 X5301C  
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

80.7 80.0 79.7 78.0 78.9 80.2 80.1 81.3 84.2 85.8 87.9 92.1 93.0 126.9

63 83.2 83.8 85.8 83.6 85.2 87.3 86.9 86.3 88.3 93.9 90.7 97.4 97.8 132.2

100 87.1 91.1 85.8 86.1 87.2 89.8 90.2 89.1 91.0 90.9 91.5 94.5 96.1 132.3

125 84.9 86.6 87.9 89.4 89.8 91.7 91.0 90.9 91.0 93.2 99.9 102.8 104.7 137.4

150 84.3 85.1 85.1 86.2 87.8 88.7 88.9 89.8 94.1 99.3 104.0 106.9 138.1

200 82.8 85.1 85.8 86.6 87.7 89.6 90.5 93.1 95.5 96.4 101.0 106.7 140.6

250 83.3 90.1 87.8 88.1 89.2 91.3 94.2 95.1 96.6 100.9 106.8 111.2 144.4

315 85.3 89.1 87.9 90.2 91.3 93.9 95.0 97.2 100.0 104.7 108.6 113.0 146.4

400 86.1 89.6 89.4 89.3 92.6 94.8 96.9 101.4 106.9 111.1 114.8 114.7 147.9

500 86.2 89.7 89.0 90.0 91.1 93.0 95.1 97.5 101.2 106.6 112.0 116.4 149.0

630 88.1 90.3 90.1 91.2 91.7 93.1 94.7 96.9 99.9 107.2 112.8 116.5 149.4

800 91.0 90.5 91.3 92.0 93.1 94.3 95.6 97.8 101.6 107.1 112.5 116.1 149.0

1000 97.7 99.3 97.1 97.3 97.5 97.3 97.3 97.9 99.3 103.0 106.6 110.8 113.7 147.7

1250 97.7 99.3 97.1 97.3 97.5 97.3 97.3 97.9 99.3 103.0 106.6 110.8 113.7 147.7

1500 105.5 102.3 100.8 98.1 96.0 96.3 99.1 100.2 102.9 106.3 109.4 112.2 111.2 147.0

2000 108.2 106.3 105.2 102.9 99.2 97.8 97.5 99.6 102.5 107.2 107.3 109.9 109.9 147.1

2500 105.9 106.5 105.2 106.3 104.1 102.2 100.3 100.0 102.5 106.6 106.4 109.0 107.3 147.2

3150 104.3 104.6 103.8 104.9 104.4 105.5 102.9 101.1 102.9 105.4 106.5 106.9 105.3 146.8

4000 103.0 103.2 102.8 103.0 102.6 103.8 104.5 103.3 103.6 104.4 104.7 106.4 104.9 146.1

5000 101.4 102.2 102.0 101.9 102.2 103.0 103.7 103.0 103.8 104.0 104.0 105.6 104.7 145.7

6300 101.0 102.7 101.9 101.6 101.8 102.5 101.8 103.7 105.0 104.1 103.4 106.2 104.1 145.8

8000 99.3 101.7 102.2 101.9 101.1 102.2 102.0 102.7 104.7 104.5 102.6 104.8 103.6 145.8

10000 99.1 101.0 102.3 101.8 101.1 102.0 103.3 104.2 102.2 104.2 102.5 104.8 102.5 145.8

12500 97.0 99.6 100.2 100.9 100.7 101.7 100.4 99.9 101.3 102.0 101.3 101.8 100.1 145.2

15000 94.5 97.6 98.1 98.4 99.1 100.3 99.2 99.4 100.5 99.0 97.9 99.9 98.6 144.8

20000 92.1 95.2 95.3 96.4 97.0 98.7 97.9 96.9 97.9 96.2 96.0 97.9 95.4 144.4

25000 88.2 91.9 92.1 93.0 94.4 96.6 96.3 95.0 93.4 95.5 94.5 90.8 144.0

31500 83.0 88.1 88.6 89.6 90.4 93.0 92.9 91.3 91.8 90.3 89.8 91.1 86.9 143.8

40000 79.1 83.6 85.3 86.0 87.0 89.6 89.0 88.1 89.3 85.8 86.9 88.4 83.2 144.4

50000 75.1 80.0 80.9 82.4 83.2 85.9 85.0 84.8 85.4 83.0 81.6 83.7 74.7 147.7

63000 64.3 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

80000 63.0 80.6 80.6 82.1 80.8 82.2 81.6 80.2 82.9 80.6 81.6 83.7 70.4 152.0

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VEHICL = ADH091 TEST DATE = 09-01-81 LOCAL = CAT ANECH CH .CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 81.00 PAMB HG = 29.50 RELHUM = 68.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.50 NBRFR =  
FNINI = LBS XNL = RPM XNH = RPM V8 = 1665.7 FPS AEB = 25.3 SO IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1665.7 FPS AE18 = 0. SO IN  
RUNPT = ZER-5301 TAPE = X5301C TEST PT NO = 5301 NC = 863 CORR FAN SPEED = RPM

DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-5301 X5301F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 60.7  | 80.0  | 79.7  | 78.0  | 78.9  | 80.2  | 80.1  | 81.3  | 84.2  | 85.8  | 87.9  | 92.1  | 93.0  | 126.9 |
| 63    | 83.2  | 83.8  | 85.8  | 83.6  | 85.2  | 87.3  | 86.9  | 86.3  | 88.3  | 93.9  | 90.7  | 97.4  | 97.8  | 132.2 |
| 80    | 85.8  | 91.1  | 85.8  | 86.1  | 87.2  | 89.8  | 90.2  | 89.1  | 91.0  | 90.9  | 91.7  | 94.5  | 96.1  | 132.3 |
| 100   | 87.1  | 90.8  | 86.4  | 88.4  | 88.7  | 89.6  | 90.7  | 92.4  | 91.3  | 91.7  | 94.7  | 99.9  | 116.5 | 149.0 |
| 125   | 84.9  | 86.6  | 87.9  | 89.4  | 89.8  | 91.7  | 91.0  | 90.9  | 91.0  | 93.2  | 99.9  | 102.8 | 104.7 | 137.4 |
| 150   | 84.3  | 81.3  | 86.1  | 85.1  | 86.2  | 87.8  | 88.7  | 89.6  | 90.5  | 94.1  | 96.4  | 101.0 | 106.7 | 138.1 |
| 200   | 82.8  | 85.1  | 85.8  | 86.6  | 87.7  | 89.6  | 90.5  | 93.1  | 95.5  | 96.4  | 101.0 | 106.7 | 109.4 | 140.6 |
| 250   | 83.3  | 80.1  | 87.8  | 88.1  | 89.2  | 91.3  | 94.2  | 95.1  | 96.6  | 100.9 | 106.8 | 111.2 | 112.1 | 144.4 |
| 315   | 85.3  | 89.1  | 87.9  | 90.2  | 91.3  | 93.9  | 95.0  | 97.2  | 100.0 | 104.7 | 108.6 | 113.0 | 113.9 | 146.4 |
| 400   | 86.1  | 86.6  | 89.6  | 89.4  | 89.3  | 92.6  | 94.8  | 96.9  | 101.4 | 106.9 | 111.1 | 114.8 | 114.7 | 147.9 |
| 500   | 86.2  | 89.7  | 89.0  | 90.0  | 91.1  | 93.0  | 95.1  | 97.5  | 101.2 | 106.6 | 112.0 | 116.4 | 115.8 | 149.0 |
| 630   | 88.1  | 89.3  | 90.1  | 91.2  | 91.7  | 93.1  | 94.7  | 96.9  | 99.9  | 107.2 | 112.8 | 116.5 | 115.1 | 149.0 |
| 800   | 91.0  | 90.5  | 91.3  | 92.0  | 93.1  | 94.3  | 95.6  | 97.8  | 101.6 | 107.1 | 112.5 | 116.1 | 115.1 | 149.0 |
| 1000  | 96.2  | 97.5  | 97.3  | 96.8  | 95.2  | 96.3  | 97.9  | 99.6  | 102.6 | 106.9 | 111.5 | 114.9 | 114.6 | 148.4 |
| 1250  | 97.7  | 99.3  | 97.1  | 97.3  | 97.9  | 98.5  | 98.9  | 99.3  | 103.0 | 106.6 | 110.8 | 113.7 | 113.4 | 147.7 |
| 1500  | 105.5 | 102.3 | 100.8 | 98.1  | 96.0  | 96.3  | 99.1  | 100.2 | 102.9 | 106.3 | 109.4 | 112.2 | 111.2 | 147.0 |
| 2000  | 108.2 | 106.3 | 105.2 | 102.9 | 99.2  | 97.8  | 99.6  | 99.6  | 102.5 | 107.2 | 107.3 | 107.3 | 108.9 | 147.1 |
| 2500  | 105.9 | 106.5 | 105.2 | 106.3 | 104.1 | 102.2 | 100.3 | 100.0 | 102.5 | 106.6 | 106.4 | 109.0 | 107.3 | 147.2 |
| 3150  | 104.3 | 104.6 | 103.8 | 104.9 | 104.4 | 105.5 | 102.9 | 101.1 | 102.9 | 105.4 | 106.5 | 106.9 | 105.3 | 146.8 |
| 4000  | 103.0 | 103.2 | 102.8 | 103.0 | 102.6 | 103.6 | 103.3 | 104.5 | 103.6 | 104.4 | 104.7 | 106.4 | 104.9 | 146.1 |
| 5000  | 101.4 | 102.2 | 102.0 | 102.2 | 101.9 | 102.4 | 103.0 | 103.6 | 104.4 | 104.0 | 104.0 | 105.6 | 104.2 | 145.7 |
| 6300  | 101.0 | 102.7 | 101.9 | 101.6 | 101.8 | 102.5 | 101.8 | 103.7 | 105.0 | 104.1 | 103.4 | 106.2 | 104.1 | 145.8 |
| 8000  | 99.3  | 101.7 | 102.2 | 101.9 | 101.1 | 102.2 | 102.0 | 102.7 | 104.5 | 102.6 | 104.8 | 103.6 | 103.6 | 145.8 |
| 10000 | 99.1  | 101.0 | 101.0 | 101.0 | 101.8 | 102.3 | 101.1 | 102.0 | 103.3 | 104.2 | 102.2 | 104.2 | 102.5 | 145.6 |
| 12500 | 97.0  | 99.6  | 100.2 | 100.9 | 100.7 | 101.7 | 100.4 | 99.9  | 101.3 | 102.0 | 101.3 | 101.8 | 100.1 | 145.2 |
| 15000 | 94.5  | 97.6  | 98.1  | 98.4  | 99.1  | 100.3 | 99.2  | 99.4  | 100.5 | 99.0  | 97.9  | 99.9  | 98.6  | 144.8 |
| 20000 | 92.1  | 95.2  | 95.3  | 96.4  | 97.4  | 97.9  | 96.7  | 97.9  | 96.2  | 96.0  | 97.9  | 95.4  | 144.4 | 144.4 |
| 25000 | 88.2  | 91.9  | 92.1  | 93.0  | 94.4  | 96.6  | 93.7  | 95.0  | 93.4  | 92.5  | 94.5  | 90.8  | 144.0 | 144.0 |
| 31500 | 83.0  | 88.1  | 88.6  | 89.6  | 90.4  | 93.0  | 92.9  | 91.3  | 91.8  | 90.3  | 89.8  | 91.1  | 86.9  | 143.8 |
| 40000 | 79.1  | 83.6  | 85.3  | 86.0  | 87.0  | 89.6  | 89.0  | 88.3  | 85.8  | 86.9  | 88.4  | 83.2  | 144.4 | 144.4 |
| 50000 | 75.1  | 80.9  | 82.4  | 83.2  | 85.0  | 85.4  | 83.4  | 85.4  | 83.0  | 84.8  | 85.6  | 78.1  | 145.1 | 145.1 |
| 63000 | 69.3  | 78.1  | 78.2  | 82.1  | 80.8  | 82.2  | 81.8  | 80.2  | 82.9  | 80.6  | 81.6  | 83.7  | 74.7  | 147.7 |
| 80000 | 64.3  | 80.6  | 75.5  | 80.9  | 76.9  | 77.9  | 75.4  | 80.2  | 76.6  | 78.3  | 80.3  | 70.4  | 152.0 | 152.0 |
| QASPL | 114.1 | 114.2 | 113.5 | 113.6 | 112.9 | 113.5 | 113.2 | 113.6 | 115.5 | 118.4 | 121.6 | 125.0 | 124.7 | 161.3 |
| PNL   | 126.7 | 127.2 | 126.3 | 126.8 | 126.1 | 126.9 | 126.5 | 126.5 | 127.5 | 130.4 | 132.1 | 134.7 | 133.8 |       |
| PMLT  | 126.7 | 127.8 | 127.4 | 126.8 | 126.1 | 126.9 | 126.5 | 126.5 | 127.9 | 130.4 | 132.1 | 134.7 | 133.8 |       |
| DBA   | 166.0 | 200.9 | 196.4 | 201.5 | 198.1 | 200.7 | 199.1 | 196.9 | 201.1 | 197.8 | 199.4 | 201.3 | 191.7 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH091 TEST DATE = 09-01-81  
IAPLHA = SB59 LEGA = NO EXT AREA = FULL SPHERE  
PWL AREA = 40.0 FT EXT CNFIG = ARC  
CONFIG = C41 ANECH CH TAMB F = 81.00 MIKE HT = 29.50 RELHUM = 68.7 PCT  
MODEL = 3 FLTVL = 0. FPS  
PAMB HG = 29.50 NBFR =

FNIINI = LBS XNLR = RPM XNH = RPM V8 = 1665.7 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1665.7 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-5301 TAFE = X5301F TEST PT NO = 5301 NC = 863 CORR FAN SPEED = RPM

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| FREQ | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150.  | 160.  |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| PWL  | 64.1 | 68.1 | 70.2 | 70.7 | 71.0 | 74.5 | 76.5 | 78.2 | 81.9 | 86.5 | 89.1 | 90.6  | 87.1  |
| 80   | 66.0 | 69.8 | 70.7 | 72.4 | 73.4 | 74.9 | 76.4 | 78.2 | 80.5 | 86.6 | 90.7 | 92.2  | 88.4  |
| 100  | 68.8 | 69.9 | 71.7 | 73.3 | 74.8 | 76.0 | 77.3 | 79.0 | 82.1 | 86.5 | 90.3 | 91.7  | 87.2  |
| 125  | 73.9 | 76.8 | 77.7 | 79.9 | 76.7 | 78.0 | 79.5 | 80.7 | 83.0 | 86.2 | 89.2 | 90.3  | 86.5  |
| 150  | 75.3 | 78.4 | 77.3 | 78.3 | 79.4 | 80.1 | 80.4 | 80.3 | 83.2 | 85.8 | 88.3 | 88.9  | 85.0  |
| 200  | 82.8 | 81.3 | 80.9 | 79.0 | 77.2 | 77.7 | 80.3 | 81.1 | 82.9 | 85.2 | 86.7 | 87.1  | 82.3  |
| 250  | 85.1 | 83.5 | 80.3 | 79.0 | 78.5 | 80.3 | 82.4 | 85.8 | 84.2 | 84.5 | 79.3 | 164.5 | 164.4 |
| 315  | 82.4 | 84.8 | 84.8 | 86.6 | 84.9 | 83.2 | 81.1 | 80.4 | 82.0 | 84.9 | 83.0 | 82.9  | 76.9  |
| 400  | 80.3 | 82.5 | 83.0 | 84.9 | 85.0 | 86.2 | 83.4 | 81.1 | 82.1 | 83.3 | 82.5 | 80.2  | 73.9  |
| 500  | 78.5 | 80.8 | 81.6 | 82.8 | 84.2 | 84.7 | 83.0 | 82.4 | 82.0 | 80.3 | 79.0 | 72.5  | 163.6 |
| 600  | 75.6 | 79.5 | 80.1 | 80.8 | 81.5 | 82.4 | 81.5 | 82.9 | 83.2 | 80.9 | 78.0 | 77.4  | 69.5  |
| 800  | 73.5 | 78.2 | 80.2 | 80.9 | 81.9 | 81.6 | 81.7 | 82.7 | 81.0 | 76.8 | 75.3 | 67.8  | 163.2 |
| 1000 | 72.7 | 77.1 | 81.1 | 81.2 | 81.9 | 80.6 | 80.8 | 81.1 | 80.3 | 75.8 | 73.9 | 65.4  | 163.3 |
| 1250 | 69.8 | 75.2 | 77.5 | 79.4 | 79.9 | 81.1 | 79.6 | 78.4 | 78.7 | 77.5 | 74.1 | 70.1  | 60.6  |
| 1500 | 66.8 | 72.5 | 75.0 | 76.7 | 78.0 | 79.5 | 78.1 | 77.7 | 77.4 | 74.0 | 69.7 | 66.6  | 56.1  |
| 2000 | 66.3 | 72.5 | 75.0 | 76.7 | 78.0 | 79.5 | 78.1 | 77.7 | 77.4 | 74.0 | 69.7 | 66.6  | 56.1  |
| 2500 | 62.1 | 68.9 | 71.4 | 74.0 | 75.4 | 77.4 | 76.3 | 74.5 | 74.0 | 69.9 | 66.0 | 61.9  | 48.0  |
| 3150 | 54.8 | 63.2 | 66.3 | 69.1 | 71.5 | 73.9 | 73.3 | 69.7 | 69.2 | 64.7 | 59.2 | 53.5  | 35.0  |
| 4000 | 43.4 | 54.6 | 59.0 | 62.3 | 64.5 | 67.5 | 67.0 | 64.0 | 62.2 | 56.9 | 50.2 | 41.1  | 16.6  |
| 5000 | 29.7 | 42.6 | 49.4 | 53.3 | 56.1 | 58.3 | 58.1 | 54.4 | 53.4 | 44.8 | 37.5 | 24.7  | 161.8 |
| 6300 | 7.9  | 24.7 | 33.0 | 39.0 | 42.2 | 45.7 | 44.0 | 40.0 | 37.5 | 27.8 | 17.7 | 162.5 | 165.2 |
| 8000 | 8.9  | 19.4 | 21.7 | 24.2 | 22.6 | 17.5 | 13.6 | 0.5  |      |      |      |       | 169.4 |

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IDENTIFICATION - 81F-ZER-5301 X53011 ANGLES MEASURED FROM INLET, DEGREES

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

|            |          |                |          |              |              |            |            |                  |       |            |          |
|------------|----------|----------------|----------|--------------|--------------|------------|------------|------------------|-------|------------|----------|
| VEHICL =   | ADH091   | TEST DATE =    | 09-01-81 | LOCAT =      | C41 ANECH CH | CONFIG =   | 3          | MODEL =          | 3     | FLTVEL =   | 0. FPS   |
| IAPLHA =   | SB59     | LEGA =         | NO       | PWL AREA =   | FULL SPHERE  | TAMB F =   | 81.00      | PAMB HG =        | 29.50 | RELHUM =   | 68.7 PCT |
| WIND DIR = |          | DEG WIND VEL = |          | MPH          |              | EXT DIST = | 2400.0 FT  | EXT CONFIG =     | SL    | MIKE HT =  |          |
| FNINI =    | LBS XNL  | RPM            | XNH      | RPM          |              | V8         | 1665.7 FPS | AE8              |       | 25.3 SQ IN |          |
| FNRAMB =   | LBS XNLR | RPM            | XNHR     | RPM          |              | V8         | 1665.7 FPS | AE18             |       | 0. SQ IN   |          |
| RUNPT =    | ZER-5301 | TAPE           | X53011   | TEST PT NO = | 5301         | NC         | 863        | CORR FAN SPEED = |       | RPM        |          |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-ZER-5313 X5313C  
 BACKGROUND 81F-400-0300

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.9  | 80.7  | 82.3  | 83.1  | 84.0  | 83.9  | 85.0  | 86.9  | 84.1  | 88.7  | 92.6  | 93.8  | 128.3 |
| 63    | 88.7  | 84.5  | 85.3  | 89.6  | 90.8  | 90.7  | 90.8  | 91.6  | 90.9  | 92.0  | 97.4  | 98.6  | 133.6 |
| 80    | 87.5  | 92.1  | 86.6  | 87.6  | 88.5  | 90.8  | 91.2  | 90.6  | 92.0  | 91.4  | 92.5  | 95.2  | 97.4  |
| 100   | 87.8  | 91.6  | 87.4  | 89.2  | 90.0  | 90.9  | 91.7  | 93.4  | 92.5  | 92.7  | 95.6  | 99.8  | 135.5 |
| 125   | 86.1  | 87.4  | 88.9  | 90.2  | 87.5  | 88.8  | 90.5  | 92.4  | 92.2  | 94.7  | 100.1 | 104.0 | 138.5 |
| 160   | 85.8  | 82.6  | 87.3  | 86.9  | 87.5  | 88.8  | 90.5  | 90.1  | 91.3  | 95.4  | 101.0 | 105.2 | 139.6 |
| 200   | 84.0  | 86.3  | 87.3  | 87.9  | 89.0  | 91.1  | 91.5  | 94.6  | 97.0  | 97.9  | 102.3 | 108.0 | 141.8 |
| 250   | 84.8  | 91.3  | 88.8  | 89.1  | 90.2  | 93.1  | 95.0  | 96.1  | 98.1  | 101.9 | 107.5 | 112.0 | 145.5 |
| 315   | 86.3  | 90.1  | 88.9  | 91.4  | 92.3  | 95.1  | 96.0  | 98.2  | 101.5 | 105.9 | 109.6 | 114.5 | 147.6 |
| 400   | 87.3  | 89.9  | 90.1  | 90.4  | 90.5  | 93.9  | 95.0  | 97.9  | 101.9 | 107.7 | 112.1 | 116.3 | 149.1 |
| 500   | 87.7  | 90.7  | 90.0  | 91.0  | 92.1  | 94.2  | 95.9  | 98.3  | 102.7 | 108.1 | 113.2 | 117.1 | 149.8 |
| 630   | 89.1  | 91.3  | 91.4  | 92.2  | 92.7  | 94.6  | 96.5  | 98.2  | 101.2 | 106.4 | 111.6 | 116.0 | 149.8 |
| 800   | 92.2  | 92.5  | 92.8  | 93.3  | 94.1  | 96.0  | 96.4  | 99.0  | 103.4 | 108.3 | 114.2 | 117.9 | 150.5 |
| 1000  | 97.7  | 98.8  | 98.8  | 97.8  | 95.9  | 96.8  | 98.7  | 100.1 | 103.6 | 108.9 | 113.2 | 116.7 | 150.0 |
| 1250  | 102.0 | 102.5 | 99.1  | 98.8  | 99.4  | 100.7 | 100.8 | 104.5 | 108.6 | 112.3 | 116.2 | 119.4 | 149.6 |
| 1500  | 108.3 | 104.6 | 103.1 | 101.1 | 98.5  | 96.6  | 100.6 | 101.2 | 104.1 | 108.0 | 112.1 | 115.2 | 149.4 |
| 2000  | 107.9 | 108.1 | 106.2 | 105.6 | 102.7 | 100.8 | 99.2  | 101.1 | 104.3 | 108.4 | 109.5 | 112.6 | 148.8 |
| 2500  | 106.2 | 106.5 | 105.7 | 106.3 | 105.6 | 105.0 | 102.5 | 101.5 | 103.8 | 108.2 | 111.2 | 108.5 | 148.0 |
| 3150  | 104.5 | 105.8 | 104.8 | 104.5 | 103.1 | 104.6 | 105.2 | 105.1 | 106.0 | 106.3 | 107.4 | 108.4 | 148.0 |
| 4000  | 103.2 | 104.0 | 103.8 | 104.5 | 103.1 | 104.6 | 105.2 | 105.1 | 106.0 | 106.3 | 107.4 | 108.4 | 147.4 |
| 5000  | 102.4 | 103.7 | 103.0 | 103.5 | 103.2 | 103.6 | 103.8 | 105.1 | 106.1 | 106.3 | 107.7 | 108.3 | 147.1 |
| 6300  | 102.0 | 104.5 | 103.9 | 103.8 | 103.3 | 103.3 | 105.2 | 106.5 | 105.3 | 105.7 | 107.7 | 108.3 | 147.5 |
| 8000  | 100.1 | 103.2 | 103.9 | 103.4 | 103.9 | 103.3 | 105.2 | 106.4 | 105.8 | 104.6 | 106.5 | 104.6 | 147.3 |
| 10000 | 99.3  | 101.5 | 102.7 | 103.5 | 102.4 | 102.9 | 104.0 | 105.3 | 105.7 | 103.9 | 105.4 | 104.0 | 147.5 |
| 12500 | 98.0  | 100.4 | 101.7 | 102.2 | 102.5 | 102.4 | 101.7 | 103.3 | 103.5 | 103.1 | 103.5 | 104.6 | 146.9 |
| 15000 | 95.3  | 99.1  | 99.4  | 100.6 | 101.5 | 101.2 | 101.4 | 101.2 | 100.8 | 99.9  | 101.6 | 100.4 | 146.3 |
| 16000 | 95.3  | 99.1  | 99.4  | 100.6 | 101.5 | 101.2 | 101.4 | 101.2 | 100.8 | 99.9  | 101.6 | 100.4 | 146.3 |
| 20000 | 93.1  | 96.2  | 97.0  | 97.9  | 98.5  | 100.0 | 99.6  | 99.1  | 99.4  | 98.7  | 97.7  | 99.4  | 146.0 |
| 25000 | 89.2  | 93.6  | 94.1  | 94.3  | 95.9  | 98.3  | 97.8  | 95.9  | 97.5  | 95.4  | 97.0  | 92.3  | 145.9 |
| 31500 | 84.7  | 89.6  | 90.1  | 91.1  | 92.4  | 94.5  | 93.0  | 94.0  | 92.8  | 92.3  | 94.1  | 88.7  | 145.6 |
| 40000 | 81.1  | 87.0  | 88.5  | 89.0  | 91.4  | 91.0  | 90.1  | 91.5  | 88.8  | 89.6  | 90.9  | 84.4  | 146.5 |
| 50000 | 77.1  | 81.5  | 82.9  | 85.4  | 88.2  | 87.5  | 85.9  | 88.9  | 87.0  | 86.8  | 88.3  | 79.6  | 147.9 |
| 63000 | 72.8  | 79.8  | 81.2  | 87.1  | 83.6  | 85.7  | 85.0  | 82.5  | 88.1  | 83.6  | 85.1  | 87.7  | 151.4 |
| 80000 | 71.6  | 80.4  | 78.7  | 87.2  | 80.7  | 83.5  | 81.7  | 78.7  | 88.5  | 80.6  | 85.5  | 75.4  | 157.0 |
| GASPL | 115.0 | 115.5 | 114.7 | 114.9 | 114.3 | 115.1 | 114.6 | 115.1 | 117.1 | 119.9 | 123.2 | 126.7 | 163.5 |
| PNL   | 127.3 | 128.2 | 127.3 | 127.7 | 127.0 | 128.0 | 127.6 | 128.0 | 129.4 | 132.1 | 133.9 | 136.6 | 135.3 |
| DBA   | 115.6 | 115.7 | 114.7 | 114.8 | 113.8 | 114.3 | 113.8 | 114.2 | 116.3 | 119.3 | 122.2 | 125.5 | 124.2 |

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NASA SHOCK CELL/COUNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH090 TEST DATE = 09-01-81  
 LCAT = C41 ANECH CH CONFIG = 3  
 PML AREA = FULL SPHERE TAMB F = 81.00  
 PML DIR = 40.0 FT EXT DIST = 40.0 FT  
 WIND DIR = SB59 IEGA = NO  
 WIND VEL = MPH  
 FNINI = LBS XNL RPM = XNH XNHR RPM = V8 = 1718.3 FPS AEG = 25.3 SQ IN  
 FNRAMB = LBS XNL RPM = XNH XNHR RPM = V8 = 1718.3 FPS AE18 = 0. SQ IN  
 RUNPT = 81F-ZER-5313 TAPE = X5313C TEST PT NO = 5313 NC = 863 CORR FAN SPEED = RPM

VEHICLE = ADH090 IAPLHA = SB59 IEGA = NO TEST DATE = 09-01-81  
 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS  
 PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = 29.50 RELHUM = 68.7 PCT  
 WIND DIR = DEG WIND VEL = MPH  
 FNIN1 = LBS XNL RPM XNH XNHR = RPM XNHR = RPM  
 FNRAMB = LBS XNLR = RPM XNLR = RPM  
 RUNPT = ZER-5313 TAPE = X5313F TEST PT NO = 5313 NC = 863 CORR FAN SPEED = RPM

NASA SHOCK CELL/CNT, CONV, ANN, PLUG NOZ, SC-3/NAS3-22514

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.9  | 80.7  | 80.2  | 82.3  | 83.1  | 84.0  | 83.9  | 85.0  | 86.9  | 84.1  | 88.7  | 92.6  | 93.8  | 128.3 |
| 63    | 88.7  | 84.5  | 85.3  | 89.6  | 89.7  | 90.8  | 90.7  | 90.8  | 91.6  | 90.9  | 92.0  | 97.4  | 98.6  | 133.6 |
| 80    | 87.5  | 92.1  | 86.6  | 87.6  | 88.5  | 90.8  | 91.2  | 90.6  | 92.0  | 91.4  | 92.5  | 95.2  | 97.4  | 133.4 |
| 100   | 87.8  | 91.6  | 87.4  | 89.2  | 90.5  | 90.9  | 91.7  | 93.4  | 92.7  | 92.5  | 94.7  | 100.1 | 104.0 | 138.5 |
| 125   | 86.1  | 87.4  | 88.9  | 90.2  | 90.5  | 92.4  | 92.3  | 92.5  | 92.7  | 95.6  | 99.8  | 101.2 | 106.0 | 138.5 |
| 150   | 85.8  | 82.6  | 87.3  | 86.9  | 87.5  | 88.8  | 90.5  | 90.1  | 91.3  | 95.4  | 101.0 | 105.2 | 108.6 | 139.6 |
| 200   | 84.0  | 86.3  | 87.3  | 87.9  | 89.0  | 91.1  | 91.5  | 94.6  | 97.0  | 97.9  | 102.3 | 108.0 | 110.4 | 141.8 |
| 250   | 84.8  | 91.3  | 88.8  | 89.1  | 90.2  | 93.1  | 95.0  | 96.1  | 101.9 | 107.5 | 113.9 | 114.5 | 115.9 | 145.5 |
| 315   | 86.3  | 90.1  | 88.9  | 91.4  | 92.3  | 95.1  | 96.0  | 98.2  | 101.5 | 105.9 | 109.6 | 114.5 | 114.9 | 147.6 |
| 400   | 87.3  | 89.9  | 90.1  | 90.4  | 90.5  | 93.9  | 95.0  | 97.9  | 101.9 | 107.7 | 112.1 | 116.3 | 115.9 | 149.1 |
| 500   | 87.7  | 90.7  | 90.0  | 92.1  | 94.2  | 95.9  | 98.3  | 102.7 | 108.1 | 113.2 | 117.1 | 116.0 | 119.8 | 149.8 |
| 630   | 89.1  | 91.3  | 91.4  | 92.2  | 94.6  | 96.5  | 98.2  | 101.2 | 106.4 | 112.1 | 116.2 | 113.2 | 114.4 | 149.6 |
| 800   | 92.2  | 92.5  | 92.8  | 93.3  | 94.1  | 96.0  | 96.4  | 99.0  | 103.4 | 108.3 | 114.2 | 117.9 | 116.3 | 150.5 |
| 1000  | 97.7  | 98.8  | 98.8  | 97.8  | 97.8  | 96.8  | 98.7  | 100.1 | 103.6 | 108.9 | 113.2 | 116.7 | 116.1 | 150.0 |
| 1250  | 102.0 | 102.5 | 99.1  | 98.8  | 99.4  | 100.3 | 100.7 | 100.8 | 104.5 | 108.6 | 112.3 | 115.2 | 114.9 | 149.6 |
| 1500  | 108.3 | 104.6 | 103.1 | 101.1 | 98.5  | 98.6  | 100.6 | 104.1 | 108.0 | 112.1 | 116.2 | 113.2 | 114.4 | 149.4 |
| 2000  | 107.9 | 106.1 | 106.2 | 105.6 | 102.7 | 100.8 | 99.2  | 101.1 | 104.3 | 108.4 | 109.5 | 112.6 | 110.9 | 148.8 |
| 2500  | 106.2 | 106.5 | 105.7 | 106.3 | 105.6 | 102.5 | 102.5 | 103.8 | 108.6 | 108.2 | 111.2 | 108.5 | 108.5 | 148.5 |
| 3150  | 104.5 | 105.8 | 104.8 | 105.4 | 104.4 | 106.0 | 102.9 | 102.9 | 107.4 | 107.4 | 108.2 | 109.2 | 106.8 | 148.0 |
| 4000  | 103.2 | 104.0 | 103.8 | 104.5 | 103.1 | 104.6 | 105.2 | 105.0 | 105.1 | 106.2 | 106.4 | 108.4 | 106.1 | 147.4 |
| 5000  | 102.4 | 103.7 | 103.5 | 103.8 | 103.2 | 103.6 | 103.8 | 105.1 | 106.3 | 107.1 | 106.3 | 107.1 | 105.7 | 147.1 |
| 6300  | 102.0 | 104.5 | 103.9 | 103.9 | 103.8 | 104.3 | 103.3 | 105.2 | 106.5 | 105.3 | 105.7 | 107.7 | 105.3 | 147.5 |
| 8000  | 100.1 | 103.2 | 103.2 | 103.9 | 103.4 | 103.9 | 103.3 | 103.7 | 106.4 | 105.8 | 104.6 | 106.5 | 104.6 | 147.3 |
| 10000 | 99.3  | 101.5 | 102.7 | 103.5 | 103.8 | 104.5 | 102.9 | 104.0 | 105.3 | 105.7 | 103.9 | 105.4 | 104.0 | 147.5 |
| 12500 | 98.0  | 100.4 | 101.7 | 102.2 | 102.5 | 101.5 | 101.2 | 101.4 | 103.3 | 103.5 | 103.5 | 101.6 | 101.6 | 146.9 |
| 15000 | 95.3  | 99.1  | 99.6  | 99.4  | 100.6 | 101.5 | 101.2 | 101.4 | 101.2 | 100.8 | 99.9  | 101.6 | 100.4 | 146.3 |
| 20000 | 93.1  | 96.2  | 97.0  | 97.9  | 98.5  | 100.0 | 99.6  | 99.1  | 99.4  | 98.7  | 97.7  | 99.4  | 97.2  | 146.0 |
| 25000 | 89.2  | 94.1  | 94.3  | 95.8  | 97.8  | 99.5  | 97.5  | 95.4  | 95.4  | 92.8  | 92.3  | 94.1  | 92.7  | 145.9 |
| 31500 | 84.7  | 89.6  | 90.1  | 91.1  | 92.4  | 94.5  | 93.0  | 94.0  | 94.0  | 92.3  | 92.3  | 90.9  | 84.4  | 145.6 |
| 40000 | 81.1  | 85.1  | 87.0  | 88.5  | 89.0  | 91.4  | 91.0  | 91.5  | 88.8  | 89.6  | 89.9  | 90.9  | 84.4  | 145.5 |
| 50000 | 77.1  | 81.5  | 82.9  | 87.2  | 85.4  | 88.2  | 87.5  | 85.9  | 88.9  | 87.0  | 86.8  | 88.3  | 79.6  | 147.9 |
| 63000 | 72.8  | 79.8  | 81.2  | 87.1  | 83.6  | 85.7  | 85.0  | 82.5  | 86.1  | 83.6  | 85.1  | 87.2  | 77.7  | 151.4 |
| 80000 | 71.6  | 80.4  | 78.7  | 87.2  | 83.5  | 81.7  | 78.7  | 88.5  | 80.6  | 82.8  | 85.5  | 75.4  | 157.0 |       |
| QASPL | 115.0 | 115.5 | 114.7 | 114.9 | 114.3 | 115.1 | 114.6 | 115.1 | 117.1 | 119.9 | 123.2 | 126.7 | 125.9 | 163.5 |
| PNL   | 127.3 | 128.2 | 127.3 | 127.7 | 127.0 | 128.0 | 127.6 | 128.0 | 129.4 | 132.1 | 133.9 | 136.6 | 135.3 |       |
| PNL1  | 128.4 | 128.8 | 127.3 | 127.7 | 127.0 | 128.0 | 127.6 | 128.0 | 129.4 | 132.1 | 133.9 | 136.6 | 135.3 |       |
| DBA   | 192.3 | 200.8 | 199.6 | 207.6 | 201.6 | 204.3 | 202.7 | 199.9 | 208.9 | 201.6 | 203.6 | 206.2 | 196.2 |       |

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IDENTIFICATION - 81F-ZER-5313 X5313F  
 FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-5313 X53131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|     |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50  | 65.3 | 69.4 | 70.7 | 71.7 | 72.2 | 75.7 | 76.7 | 79.2 | 82.4 | 87.2 | 90.1 | 92.1 | 88.4 | 166.6 |
| 55  | 65.7 | 70.2 | 70.6 | 72.3 | 73.8 | 76.1 | 77.6 | 79.6 | 83.3 | 87.6 | 91.2 | 92.9 | 88.4 | 167.3 |
| 60  | 67.0 | 70.8 | 71.9 | 73.4 | 74.4 | 76.4 | 78.2 | 79.4 | 81.7 | 87.9 | 92.5 | 93.9 | 89.7 | 168.4 |
| 65  | 67.4 | 71.9 | 73.2 | 74.5 | 75.8 | 77.6 | 78.0 | 80.3 | 83.8 | 87.7 | 92.0 | 93.5 | 88.4 | 168.0 |
| 70  | 67.0 | 70.0 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 75  | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 80  | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 85  | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 90  | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 95  | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 100 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 105 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 110 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 115 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 120 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 125 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 130 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 135 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 140 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 145 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 150 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 155 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 160 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 165 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 170 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 175 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |
| 180 | 67.4 | 70.4 | 71.9 | 73.2 | 74.5 | 77.5 | 78.5 | 80.2 | 81.2 | 84.0 | 88.2 | 90.9 | 88.0 | 167.4 |

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|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  |
| 8500  | 8500  | 8500  | 8500  | 8500  | 8500  | 8500  | 8500  | 8500  | 8500  | 8500  | 8500  | 8500  | 8500  | 8500  |
| 9000  | 9000  | 9000  | 9000  | 9000  | 9000  | 9000  | 9000  | 9000  | 9000  | 9000  | 9000  | 9000  | 9000  | 9000  |
| 9500  | 9500  | 9500  | 9500  | 9500  | 9500  | 9500  | 9500  | 9500  | 9500  | 9500  | 9500  | 9500  | 9500  | 9500  |
| 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 10500 | 10500 | 10500 | 10500 | 10500 | 10500 | 10500 | 10500 | 10500 | 10500 | 10500 | 10500 | 10500 | 10500 | 10500 |
| 11000 | 11000 | 11000 | 11000 | 11000 | 11000 | 11000 | 11000 | 11000 | 11000 | 11000 | 11000 | 11000 | 11000 | 11000 |
| 11500 | 11500 | 11500 | 11500 | 11500 | 11500 | 11500 | 11500 | 11500 | 11500 | 11500 | 11500 | 11500 | 11500 | 11500 |
| 12000 | 12000 | 12000 | 12000 | 12000 | 12000 | 12000 | 12000 | 12000 | 12000 | 12000 | 12000 | 12000 | 12000 | 12000 |
| 12500 | 12500 | 12500 | 12500 | 12500 | 12500 | 12500 | 12500 | 12500 | 12500 | 12500 | 12500 | 12500 | 12500 | 12500 |
| 13000 | 13000 | 13000 | 13000 | 13000 | 13000 | 13000 | 13000 | 13000 | 13000 | 13000 | 13000 | 13000 | 13000 | 13000 |
| 13500 | 13500 | 13500 | 13500 | 13500 | 13500 | 13500 | 13500 | 13500 | 13500 | 13500 | 13500 | 13500 | 13500 | 13500 |
| 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 | 14000 |
| 14500 | 14500 | 14500 | 14500 | 14500 | 14500 | 14500 | 14500 | 14500 | 14500 | 14500 | 14500 | 14500 | 14500 | 14500 |
| 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 |
| 15500 | 15500 | 15500 | 15500 | 15500 | 15500 | 15500 | 15500 | 15500 | 15500 | 15500 | 15500 | 15500 | 15500 | 15500 |
| 16000 | 16000 | 16000 | 16000 | 16000 | 16000 | 16000 | 16000 | 16000 | 16000 | 16000 | 16000 | 16000 | 16000 | 16000 |
| 16500 | 16500 | 16500 | 16500 | 16500 | 16500 | 16500 | 16500 | 16500 | 16500 | 16500 | 16500 | 16500 | 16500 | 16500 |
| 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 |
| 17500 | 17500 | 17500 | 17500 | 17500 | 17500 | 17500 | 17500 | 17500 | 17500 | 17500 | 17500 | 17500 | 17500 | 17500 |
| 18000 | 18000 | 18000 | 18000 | 18000 | 18000 | 18000 | 18000 | 18000 | 18000 | 18000 | 18000 | 18000 | 18000 | 18000 |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH090 TEST DATE = 09-01-81 LOCAL = C41 ANECH CH CONFIG = 3 MODEL = 3 FLTVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO EXT DIST = 2400.0 FT PWL AREA = FULL SPHERE TAMB F = 81.00 PAMB HG = 29.50 RELHUM = 68.7 PCT  
 WIND DIR = DEG WIND VEL = MPH

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1718.3 FPS AEB = 25.3 SQ IN  
 FNRAMB = LBS XNL RPM XNH XNHR = RPM V8 = 1718.3 FPS AEB = 25.3 SQ IN  
 CORR FAN SPEED = RPM

RUNPT = 81F-ZER-5313 TAPE = X53131 TEST PT NO = 5313 NC = 863

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-5323 X5323C  
BACKGROUND 81F-400-0300

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

84.9 83.0 81.2 82.5 83.1 84.5 83.6 85.0 87.4 84.1 89.4 92.9 93.5 128.6

63 89.0 85.8 85.8 89.1 89.9 91.5 90.7 91.6 92.1 91.6 91.7 98.2 98.8 134.0

80 88.0 92.3 86.8 88.1 89.2 91.6 92.7 91.1 92.5 92.4 93.3 95.5 97.6 134.0

100 88.6 92.6 88.4 90.2 90.7 91.6 93.2 94.7 93.0 93.7 95.8 101.9 136.3

125 86.6 87.9 89.7 90.9 91.3 93.7 93.5 92.9 92.5 95.2 101.1 104.8 107.2 139.4

160 86.5 83.6 87.4 88.2 89.3 90.7 90.9 92.1 95.6 101.3 105.7 109.1 140.1

200 85.3 87.3 87.8 88.6 89.7 91.6 92.5 94.7 96.6 103.2 108.8 114.5 151.5

630 90.6 93.1 92.6 92.7 93.5 94.9 96.7 99.2 101.4 109.4 115.8 119.5 152.2

800 93.7 93.5 93.5 94.5 94.9 96.3 97.4 99.5 103.9 109.6 115.5 119.4 151.9

1000 100.5 100.3 99.3 99.1 97.9 98.5 99.4 100.8 104.3 109.1 113.0 117.3 151.4

1250 106.0 105.8 101.3 100.3 100.4 100.8 101.3 105.0 109.1 113.6 117.2 115.9 151.0

1600 110.5 107.8 107.1 105.4 101.7 100.3 101.3 102.0 104.9 109.0 113.1 116.0 114.2 150.8

2000 108.7 109.1 108.0 107.6 106.5 104.3 101.0 102.1 105.0 109.7 110.5 114.4 150.3

2500 107.4 107.7 107.0 107.5 107.3 107.2 105.8 103.0 105.0 108.8 109.7 112.5 109.5 149.9

3150 106.5 107.3 106.1 106.9 106.2 107.5 106.9 104.9 105.9 108.1 109.5 110.7 108.0 149.5

4000 103.9 105.5 104.7 105.2 105.7 106.1 107.0 106.6 107.4 107.7 109.4 106.9 149.0

5000 103.9 105.5 104.7 105.2 105.7 106.1 107.0 106.6 107.4 107.7 109.4 106.9 149.0

6300 102.5 105.0 105.4 105.6 105.5 105.5 107.0 108.3 107.1 107.2 108.5 106.3 149.1

8000 101.3 103.7 104.2 104.6 104.6 105.7 105.0 106.2 107.9 107.0 105.9 107.5 105.3 148.7

10000 100.6 102.4 103.3 104.3 104.8 105.8 104.6 106.0 107.3 106.4 105.2 106.8 104.8 148.8

12500 98.8 101.4 102.2 102.7 104.0 105.3 104.0 103.7 104.9 104.8 103.8 104.8 102.6 148.2

16000 95.8 99.4 100.1 101.0 101.6 102.8 102.2 103.0 103.5 101.8 101.2 102.6 100.9 147.5

20000 93.4 96.5 97.9 98.5 99.0 100.5 101.2 101.2 101.2 99.5 98.6 100.5 98.2 147.0

25000 90.0 94.0 94.5 95.6 96.5 99.1 99.1 97.0 98.6 98.6 98.6 98.3 146.9

31500 85.6 90.4 90.7 91.9 93.0 95.1 95.5 94.4 95.6 94.0 93.2 95.0 89.3 146.7

40000 81.7 86.3 87.7 89.2 90.1 92.3 92.6 90.7 93.4 90.5 91.5 93.3 85.6 147.9

50000 77.7 82.9 83.8 87.1 88.6 90.1 88.6 87.3 90.3 88.4 87.7 90.2 80.5 149.1

63000 74.4 81.4 81.8 87.6 84.9 87.8 85.9 83.5 83.5 83.2 84.9 86.2 88.6 152.6

80000 71.8 83.1 83.1 80.2 87.9 82.9 86.5 83.9 80.6 87.9 82.3 83.8 86.0 158.0

GASPL 116.6 117.0 116.3 116.5 116.2 116.8 116.3 116.6 118.3 120.8 124.5 128.1 127.1 164.8

PFLT 129.9 130.2 128.7 129.2 128.8 130.1 129.3 129.6 130.8 132.8 135.1 137.8 136.3

DBA 117.3 117.3 116.4 116.5 116.0 116.2 115.7 115.7 117.5 120.1 123.5 126.9 125.4

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICLE = ADH089 TEST DATE = 09-01-81  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
CONFIG = C41 ANECH CH CONFIG = 3  
TAMB F = 80.00 MIKE HT = 29.46  
RELHUM = 68.3 PCT FTLVEL = 3  
MODEL = 3

FNINI = LBS XNL RPM XNHR RPM XNH RPM V8 = 1753.5 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM V8 = 1753.5 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-5323 TAPE = X5323C TEST PT NO = 5323 NC = 863 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-5323 X5323F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

84.9 83.0 81.2 82.5 83.1 84.5 83.6 85.0 87.4 84.1 89.4 92.9 93.5 128.6

63 89.0 85.8 85.8 89.1 89.9 91.5 90.7 91.6 92.1 91.6 91.7 98.2 98.8 134.0

80 88.0 92.3 86.8 88.1 89.2 91.8 92.7 91.1 92.5 92.4 93.3 95.5 97.6 134.0

100 88.6 92.6 88.4 90.2 90.7 91.6 93.2 94.7 93.0 93.7 95.8 100.3 101.9 136.3

125 86.6 87.9 89.7 90.9 91.3 93.7 93.5 92.9 92.5 95.2 101.1 104.8 107.2 139.4

160 86.5 83.6 87.6 87.4 88.2 89.3 90.7 90.9 92.1 95.6 101.3 105.7 109.1 140.1

200 85.3 87.3 87.8 88.6 89.7 91.6 92.5 94.9 98.0 98.6 103.3 108.7 111.4 142.7

250 85.8 91.8 89.8 90.1 91.2 93.6 96.0 97.1 98.8 102.6 109.0 113.7 114.6 146.8

315 87.3 90.6 89.6 92.2 93.0 95.1 96.8 98.9 101.8 105.9 110.3 115.9 148.5

400 88.1 90.6 91.4 91.3 94.1 96.0 98.4 100.8 104.3 109.1 115.0 118.4 117.3 150.1

500 88.9 92.0 91.0 91.8 92.9 94.7 96.6 98.8 103.2 108.8 114.5 119.1 117.8 151.5

630 89.6 93.1 92.6 93.5 94.5 96.3 97.4 99.5 103.9 109.6 115.5 119.4 117.6 152.2

660 93.7 93.5 93.5 94.5 94.5 96.3 97.4 99.5 103.9 109.6 115.5 119.4 117.3 151.4

800 105.8 105.8 105.8 105.8 105.8 105.8 105.8 105.8 105.8 105.8 105.8 105.8 105.8 149.9

1000 106.6 106.6 106.6 106.6 106.6 106.6 106.6 106.6 106.6 106.6 106.6 106.6 106.6 148.2

1250 98.8 101.4 102.2 102.7 104.0 105.3 104.0 103.7 104.9 104.8 103.8 104.8 102.6 148.2

1600 95.8 99.4 100.1 101.0 101.6 102.8 102.2 103.0 103.5 101.8 102.6 100.9 147.5

2000 93.4 96.5 97.9 98.5 99.0 100.5 101.2 99.5 98.6 98.8 100.5 98.2 147.0

2500 90.0 94.0 95.6 96.5 97.1 99.1 97.0 98.6 96.3 95.9 98.6 92.7 146.9

3150 85.6 90.4 90.7 91.9 93.0 95.1 95.5 94.4 95.6 94.0 93.2 95.0 146.7

4000 81.7 86.3 87.7 89.2 90.1 92.3 92.6 90.3 92.6 93.4 90.5 93.3 85.6 147.9

5000 77.7 82.9 83.8 87.1 86.6 90.1 88.6 87.3 90.3 88.4 87.7 90.2 80.5 149.1

63000 74.4 81.4 81.8 87.6 84.9 85.9 83.5 89.2 84.9 86.2 88.6 78.5 152.6

80000 71.8 83.1 80.2 87.9 82.9 86.5 83.9 80.6 87.9 82.3 83.8 86.0 75.8 158.0

GASPL 116.6 117.0 116.3 116.5 116.2 116.8 116.3 116.6 118.3 120.8 124.5 128.1 127.1 164.8

PNL 128.8 129.6 128.7 129.2 128.8 129.6 129.3 129.6 130.8 132.8 135.1 137.8 136.3

PFLT 129.9 130.2 128.7 129.2 128.8 129.6 129.3 129.6 130.8 132.8 135.1 137.8 136.3

DBA 192.7 203.4 200.9 208.3 203.6 207.1 204.6 201.6 208.5 203.2 204.6 206.8 196.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/CNT. CONV. ANN. PLUG NOZ. SC-3/NAS3-22514

VEHICL = ADH089 TEST DATE = 09-01-81  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 40.0 FT  
PML AREA = FULL SPHERE  
TAMB F = 80.00  
PAMB HG = 29.46  
RELHUM = 68.3 PCT  
FLTVL = 3  
MODEL = 3  
CONFIG = C41 ANECH CH  
CONFIG = 3  
AE8 = 1753.5 FPS  
AE18 = 25.3 SQ IN  
AE8 = 25.3 SQ IN  
AE18 = 0. SQ IN  
FNRAMB = LBS XNL RPM  
XNH XNHR = RPM  
V8 V18 = RPM  
FPS AE18 = 1753.5 FPS  
SQ IN = 25.3 SQ IN  
RPM =

RUNPT = 81F-ZER-5323 TAPF = X5323F TEST PT NO = 5323 NC = 863 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM - P118-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-5323 X53231

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 66.1 | 70.1 | 71.7 | 72.7 | 73.0 | 76.0 | 77.7 | 79.7 | 82.7 | 88.0 | 91.3 | 93.1 | 89.1  | 167.5 |
| 63    | 66.9 | 71.5 | 71.6 | 73.1 | 74.6 | 76.6 | 78.3 | 80.1 | 83.8 | 88.3 | 92.4 | 94.9 | 90.2  | 168.9 |
| 80    | 68.5 | 72.6 | 73.2 | 73.9 | 75.2 | 76.7 | 78.4 | 80.4 | 82.0 | 88.9 | 93.7 | 95.2 | 90.9  | 169.6 |
| 100   | 71.5 | 72.9 | 74.0 | 75.8 | 76.5 | 78.0 | 80.8 | 84.3 | 89.0 | 93.3 | 95.0 | 89.3 | 169.3 |       |
| 125   | 78.2 | 79.6 | 79.7 | 80.2 | 79.5 | 80.2 | 81.0 | 81.9 | 84.8 | 88.4 | 92.7 | 93.8 | 89.2  | 168.9 |
| 150   | 83.5 | 84.9 | 81.6 | 81.3 | 81.9 | 82.4 | 81.9 | 82.3 | 85.2 | 88.3 | 91.3 | 92.9 | 87.5  | 168.4 |
| 200   | 87.8 | 86.7 | 87.2 | 86.2 | 83.0 | 81.7 | 82.6 | 82.8 | 84.9 | 87.9 | 90.4 | 90.8 | 85.3  | 168.2 |
| 250   | 85.6 | 87.7 | 87.8 | 86.3 | 87.5 | 85.5 | 82.0 | 82.8 | 84.9 | 88.3 | 87.5 | 88.8 | 82.1  | 167.8 |
| 315   | 83.9 | 86.0 | 86.5 | 87.9 | 88.2 | 88.2 | 86.6 | 83.4 | 84.5 | 87.1 | 86.2 | 86.4 | 79.1  | 167.3 |
| 400   | 82.5 | 85.2 | 85.3 | 86.9 | 86.7 | 88.2 | 87.4 | 84.9 | 85.1 | 86.0 | 85.5 | 83.9 | 76.7  | 166.9 |
| 500   | 80.5 | 83.5 | 84.1 | 86.0 | 85.8 | 86.5 | 87.2 | 86.8 | 85.4 | 83.0 | 82.0 | 83.3 | 74.5  | 166.4 |
| 630   | 78.9 | 82.6 | 83.3 | 84.7 | 85.6 | 86.3 | 86.0 | 85.8 | 86.4 | 84.2 | 82.3 | 80.0 | 73.0  | 166.2 |
| 800   | 77.1 | 81.7 | 83.6 | 84.8 | 85.5 | 86.4 | 85.2 | 86.2 | 86.5 | 83.9 | 81.7 | 79.7 | 71.7  | 166.5 |
| 1000  | 75.5 | 80.2 | 82.2 | 83.6 | 84.2 | 85.4 | 84.6 | 85.2 | 85.9 | 83.5 | 80.0 | 78.1 | 69.6  | 166.1 |
| 1250  | 74.2 | 78.9 | 81.0 | 83.1 | 84.2 | 85.4 | 84.1 | 84.8 | 85.1 | 82.6 | 78.8 | 75.9 | 67.6  | 165.2 |
| 1500  | 71.5 | 76.9 | 79.5 | 81.2 | 83.2 | 84.6 | 83.1 | 82.2 | 82.2 | 80.3 | 76.6 | 73.1 | 63.1  | 165.6 |
| 2000  | 67.6 | 74.3 | 77.1 | 79.2 | 80.6 | 82.0 | 81.2 | 81.2 | 80.5 | 76.8 | 73.0 | 69.4 | 58.4  | 165.0 |
| 2500  | 63.4 | 70.2 | 73.9 | 76.0 | 77.4 | 79.2 | 79.6 | 77.8 | 77.3 | 73.2 | 68.8 | 64.4 | 50.8  | 164.4 |
| 3150  | 56.7 | 65.2 | 68.7 | 71.7 | 73.6 | 76.5 | 76.2 | 73.1 | 72.8 | 67.6 | 62.5 | 57.5 | 36.8  | 164.3 |
| 4000  | 46.0 | 57.0 | 61.1 | 64.7 | 67.1 | 69.6 | 69.6 | 67.2 | 66.0 | 60.5 | 53.6 | 45.0 | 19.0  | 164.1 |
| 5000  | 32.4 | 45.3 | 51.8 | 56.5 | 59.2 | 61.9 | 61.7 | 58.0 | 57.6 | 49.5 | 42.1 | 29.6 |       | 165.3 |
| 6300  | 10.5 | 27.6 | 35.9 | 43.6 | 45.6 | 49.8 | 47.6 | 43.9 | 42.4 | 33.2 | 20.6 | 2.4  |       | 166.6 |
| 8000  |      | 1.4  | 12.5 | 25.0 | 25.0 | 25.8 | 26.7 | 20.9 | 20.0 | 4.9  |      |      |       | 170.1 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 175.5 |

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MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/COUNT, CONV. ANN. FLUG NOZ, SC-3/NAS3-22514

VEHICL = ADH089 TEST DATE = 09-01-81 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = 3  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.46 RELHUM = 68.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR = 0. FPS

FNINI = LBS XNL RPM XNH XNHR RPM = V8 RPM V8 = 1753.5 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM = V8 RPM V8 = 1753.5 FPS AE18 = 0. SQ IN  
RUNPT = ZER-5323 TAPE = X53231 TEST PT NO = 532 NC = 863 CORR FAN SPEED = RPM

#### 4.5 Acoustic Data of Model 4

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0401 X0401C

ANGLES MEASURED FROM INLET, DEGREES

|      |     |     |     |     |     |     |      |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.7  | 83.7  | 82.7  | 82.0  | 82.4  | 87.0  | 86.6  | 87.5  | 89.2  | 96.1  | 95.9  | 95.4  | 96.0  | 132.6 |
| 60    | 87.5  | 87.8  | 88.0  | 87.6  | 89.7  | 93.0  | 92.2  | 91.1  | 94.3  | 100.4 | 99.2  | 98.7  | 99.6  | 136.8 |
| 80    | 90.5  | 95.6  | 90.8  | 90.9  | 91.5  | 95.1  | 95.2  | 94.6  | 95.6  | 98.3  | 98.3  | 99.5  | 101.1 | 137.5 |
| 100   | 89.8  | 95.8  | 91.4  | 92.9  | 94.0  | 95.4  | 96.0  | 97.2  | 96.1  | 98.9  | 100.1 | 103.3 | 104.7 | 139.6 |
| 125   | 87.9  | 90.4  | 91.4  | 93.7  | 94.5  | 97.2  | 96.8  | 95.9  | 97.9  | 101.2 | 107.4 | 108.5 | 109.5 | 143.3 |
| 160   | 86.8  | 86.6  | 89.6  | 89.6  | 90.2  | 91.6  | 94.0  | 94.1  | 97.3  | 102.2 | 106.5 | 109.0 | 111.4 | 143.5 |
| 200   | 88.0  | 86.8  | 88.3  | 89.4  | 91.5  | 94.8  | 94.7  | 96.6  | 101.3 | 104.4 | 108.5 | 111.7 | 113.6 | 145.8 |
| 250   | 88.3  | 91.3  | 91.1  | 92.6  | 93.7  | 94.8  | 97.2  | 99.6  | 104.1 | 109.9 | 114.8 | 116.7 | 115.9 | 150.3 |
| 315   | 88.6  | 91.1  | 90.6  | 92.2  | 94.0  | 96.9  | 98.5  | 101.4 | 107.9 | 113.7 | 115.8 | 117.8 | 115.9 | 151.7 |
| 400   | 92.1  | 93.1  | 93.6  | 95.2  | 95.0  | 98.6  | 100.3 | 106.2 | 114.6 | 120.7 | 121.6 | 121.0 | 118.2 | 156.7 |
| 500   | 90.2  | 94.0  | 93.0  | 94.0  | 96.1  | 98.3  | 100.4 | 104.0 | 109.8 | 117.8 | 120.2 | 119.6 | 117.0 | 154.8 |
| 630   | 92.1  | 94.6  | 94.1  | 96.2  | 97.0  | 99.6  | 102.0 | 105.4 | 111.1 | 120.7 | 122.6 | 121.0 | 119.2 | 157.0 |
| 800   | 96.4  | 95.5  | 95.3  | 96.8  | 98.6  | 100.2 | 102.1 | 105.3 | 111.5 | 120.8 | 122.5 | 120.9 | 117.3 | 156.8 |
| 1000  | 101.2 | 101.5 | 100.0 | 99.5  | 99.9  | 101.5 | 103.6 | 106.5 | 112.0 | 120.6 | 122.0 | 120.4 | 117.8 | 156.6 |
| 1250  | 98.7  | 104.0 | 102.6 | 103.2 | 103.3 | 104.7 | 107.1 | 112.5 | 120.3 | 122.0 | 119.9 | 115.9 | 114.7 | 156.4 |
| 1500  | 99.7  | 99.3  | 100.6 | 101.1 | 101.7 | 103.5 | 105.8 | 108.2 | 113.3 | 119.5 | 122.1 | 118.2 | 114.7 | 156.0 |
| 1600  | 102.2 | 102.3 | 100.5 | 99.9  | 100.9 | 102.8 | 104.9 | 108.4 | 113.5 | 119.9 | 119.8 | 116.3 | 112.4 | 155.0 |
| 2000  | 102.2 | 102.3 | 100.5 | 99.9  | 100.9 | 102.8 | 104.9 | 108.4 | 113.5 | 119.9 | 119.8 | 116.3 | 112.4 | 155.0 |
| 2500  | 102.1 | 102.7 | 101.2 | 102.0 | 101.3 | 103.2 | 106.0 | 108.7 | 112.9 | 119.0 | 118.7 | 114.2 | 111.0 | 154.2 |
| 3150  | 101.5 | 102.3 | 101.3 | 102.3 | 102.4 | 104.3 | 106.2 | 109.3 | 112.4 | 116.0 | 115.7 | 112.2 | 107.9 | 153.4 |
| 4000  | 99.5  | 100.2 | 100.0 | 100.8 | 102.6 | 104.3 | 106.2 | 109.3 | 112.4 | 116.0 | 115.7 | 112.2 | 107.9 | 152.2 |
| 5000  | 97.7  | 99.5  | 98.8  | 100.0 | 101.7 | 103.7 | 105.3 | 107.9 | 111.4 | 114.8 | 115.3 | 110.4 | 107.2 | 151.4 |
| 6300  | 96.8  | 98.8  | 98.2  | 99.5  | 101.4 | 103.6 | 105.1 | 107.6 | 110.8 | 113.7 | 113.5 | 108.6 | 106.6 | 150.7 |
| 8000  | 95.2  | 97.9  | 97.8  | 98.2  | 99.5  | 101.5 | 103.6 | 106.5 | 109.9 | 112.9 | 112.9 | 107.7 | 103.3 | 148.1 |
| 10000 | 95.1  | 96.5  | 97.1  | 98.3  | 100.1 | 102.6 | 103.7 | 106.0 | 108.9 | 111.8 | 112.0 | 107.9 | 104.8 | 149.9 |
| 12500 | 92.7  | 94.9  | 95.9  | 96.4  | 98.7  | 100.9 | 101.9 | 104.2 | 107.3 | 110.1 | 110.3 | 105.4 | 101.5 | 148.9 |
| 16000 | 89.7  | 93.1  | 93.6  | 94.2  | 96.3  | 98.2  | 99.9  | 102.7 | 104.8 | 107.9 | 107.9 | 103.3 | 100.5 | 148.1 |
| 20000 | 87.3  | 90.0  | 90.7  | 92.2  | 93.5  | 96.5  | 97.6  | 99.4  | 102.1 | 105.4 | 105.6 | 101.7 | 97.3  | 147.4 |
| 25000 | 83.2  | 87.1  | 87.4  | 88.4  | 91.0  | 94.1  | 95.6  | 96.1  | 99.6  | 104.1 | 104.2 | 100.1 | 93.1  | 147.9 |
| 31500 | 78.2  | 83.1  | 83.4  | 84.5  | 87.0  | 90.6  | 91.7  | 93.7  | 97.6  | 101.1 | 101.3 | 96.4  | 89.4  | 148.1 |
| 40000 | 73.8  | 78.6  | 79.8  | 80.6  | 83.3  | 86.9  | 88.0  | 90.4  | 95.3  | 98.0  | 99.8  | 95.2  | 85.1  | 149.6 |
| 50000 | 69.4  | 74.0  | 74.4  | 76.1  | 78.6  | 82.6  | 83.9  | 86.1  | 92.3  | 98.1  | 97.8  | 91.2  | 80.9  | 152.2 |
| 63000 | 63.9  | 69.8  | 70.1  | 72.3  | 74.6  | 77.5  | 80.0  | 82.2  | 89.8  | 95.4  | 95.3  | 88.0  | 77.5  | 154.7 |
| 80000 | 59.2  | 65.9  | 65.2  | 66.2  | 68.6  | 72.6  | 74.4  | 76.5  | 85.4  | 91.6  | 92.2  | 83.6  | 70.1  | 157.8 |
| 80000 | 59.2  | 65.9  | 65.2  | 66.2  | 68.6  | 72.6  | 74.4  | 76.5  | 85.4  | 91.6  | 92.2  | 83.6  | 70.1  | 157.8 |
| 16000 | 110.8 | 112.3 | 111.4 | 112.1 | 113.2 | 115.1 | 116.8 | 119.6 | 124.2 | 130.6 | 131.9 | 130.1 | 127.6 | 168.0 |
| 20000 | 124.1 | 125.3 | 124.5 | 125.4 | 126.1 | 128.7 | 129.8 | 132.6 | 137.6 | 143.2 | 142.2 | 139.9 | 137.0 |       |
| 25000 | 125.3 | 127.3 | 124.5 | 125.4 | 126.1 | 128.7 | 129.8 | 132.6 | 137.6 | 143.2 | 142.2 | 139.9 | 137.0 |       |
| 31500 | 125.3 | 127.3 | 124.5 | 125.4 | 126.1 | 128.7 | 129.8 | 132.6 | 137.6 | 143.2 | 142.2 | 139.9 | 137.0 |       |
| 40000 | 111.1 | 112.3 | 111.3 | 112.0 | 112.8 | 114.6 | 116.5 | 119.3 | 123.8 | 130.2 | 131.3 | 128.9 | 125.8 |       |
| 50000 | 111.1 | 112.3 | 111.3 | 112.0 | 112.8 | 114.6 | 116.5 | 119.3 | 123.8 | 130.2 | 131.3 | 128.9 | 125.8 |       |
| 63000 | 111.1 | 112.3 | 111.3 | 112.0 | 112.8 | 114.6 | 116.5 | 119.3 | 123.8 | 130.2 | 131.3 | 128.9 | 125.8 |       |
| 80000 | 111.1 | 112.3 | 111.3 | 112.0 | 112.8 | 114.6 | 116.5 | 119.3 | 123.8 | 130.2 | 131.3 | 128.9 | 125.8 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/MAS3-22514

VEHICL = ADH022 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.70 RELHUM = 57.9 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FENI = LBS XNL = RPM XNHR = RPM V8 = 2284.0 FPS AEB = 25.3 SQ IN

FNAMB = LBS XNL = RPM XNHR = RPM V8 = 2284.0 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-0401 TAPE = X0401C TEST PT NO = 0401 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

865

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0401 X0401F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

FREQ 84.7 83.7 82.7 82.0 82.4 87.0 86.6 87.5 89.2 96.1 95.9 95.4 96.0 132.6  
50 84.7 83.7 82.7 82.0 82.4 87.0 86.6 87.5 89.2 96.1 95.9 95.4 96.0 136.8  
50 87.5 87.8 88.0 87.6 89.7 93.0 92.2 91.1 94.3 100.4 99.2 98.7 99.6 136.8  
60 90.5 95.6 90.8 90.9 91.5 95.1 95.2 94.6 95.6 95.9 98.3 99.5 101.1 137.5  
80 90.5 95.6 90.8 90.9 91.5 95.1 95.2 94.6 95.6 95.9 98.3 99.5 101.1 137.5  
100 89.8 95.8 91.4 92.9 94.0 95.4 96.0 97.2 96.1 98.9 100.1 103.3 104.7 139.6  
125 87.9 90.4 91.4 93.7 94.5 97.2 96.8 95.9 97.9 101.2 107.4 108.5 109.5 143.3  
150 86.8 86.6 89.6 89.6 90.2 91.6 94.0 94.1 97.3 102.2 106.5 109.0 111.4 143.5  
200 88.0 86.8 86.3 89.4 91.5 94.8 94.7 96.6 101.3 104.4 108.5 111.7 113.6 145.8  
250 88.3 91.1 91.1 92.6 93.7 94.8 97.2 99.6 104.1 109.9 114.8 116.7 118.9 150.3  
300 88.6 91.3 91.3 93.1 94.0 96.9 98.5 101.4 107.9 113.7 115.8 117.8 119.9 151.7  
350 88.3 91.1 91.1 92.6 93.7 94.8 97.2 99.6 104.1 109.9 114.8 116.7 118.9 150.3  
400 92.1 93.1 93.6 95.2 95.0 98.6 100.3 106.2 114.6 120.7 121.6 121.0 118.2 156.7  
450 92.1 93.1 93.6 95.2 95.0 98.6 100.3 106.2 114.6 120.7 121.6 121.0 118.2 156.7  
500 97.7 99.5 98.8 100.0 101.7 105.3 107.9 111.4 114.8 115.3 110.4 107.2 151.4  
600 96.8 98.8 98.2 99.5 101.4 103.6 105.1 107.6 110.8 113.7 113.5 110.0 106.6 150.7  
800 95.2 97.9 97.9 98.3 100.0 103.1 104.9 106.9 109.4 112.7 111.8 108.4 105.0 149.9  
1000 95.1 96.5 97.1 98.3 100.1 102.6 103.7 106.0 108.9 111.8 112.0 107.9 104.8 149.9  
1250 92.7 94.9 95.9 96.4 98.7 100.9 101.9 104.2 107.3 110.1 110.3 105.4 101.5 148.1  
1500 89.7 93.1 93.6 94.2 96.3 98.2 99.9 102.7 104.8 107.9 107.7 103.3 100.5 148.1  
2000 87.3 90.0 90.7 92.2 93.5 96.5 97.6 99.4 102.1 105.6 105.6 101.7 97.3 147.4  
2500 83.2 87.1 87.4 88.4 89.6 91.1 95.6 96.1 99.6 104.1 104.2 100.1 93.1 147.9  
3000 78.2 83.1 83.4 84.5 87.0 90.6 91.7 93.7 97.6 101.1 101.3 96.4 89.4 148.1  
4000 73.8 78.6 79.8 80.6 83.3 86.9 88.0 90.4 95.3 98.0 99.8 95.2 85.1 149.6  
5000 69.4 74.0 74.4 76.1 78.6 82.6 83.9 86.1 82.3 98.1 97.8 91.2 80.9 152.2  
6000 63.9 69.8 70.1 72.3 74.6 80.0 82.2 89.8 95.4 95.3 95.3 88.0 77.5 154.7  
8000 59.2 65.9 65.2 66.2 68.6 72.6 74.4 76.5 80.0 82.2 89.8 95.4 95.3 88.0 77.5 154.7  
10000 59.2 65.9 65.2 66.2 68.6 72.6 74.4 76.5 80.0 82.2 89.8 95.4 95.3 88.0 77.5 154.7

GASPL 110.8 112.3 111.4 112.1 113.2 115.1 116.8 119.6 124.2 130.6 131.9 130.1 127.6 168.0  
PML 124.1 125.3 124.5 125.4 126.1 128.1 129.8 132.6 136.7 142.2 142.9 139.9 137.0  
DBA 180.8 187.1 186.8 188.1 190.5 194.2 196.1 198.2 206.7 212.7 213.1 204.9 192.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH022 TEST DATE = 08-19-81  
IAPLHA = SB59 LEGA = NO  
MIND DIR = DEG MIND VEL = MPH  
LOCAT = C41 ANECH CH CONFIG = 4  
TAMB F = FULL SPHERE TAMB Hg = 70.00 PAMB Hg = 29.70 RELHUM = 57.9 PCT  
0. FPS FLTVEL = 4  
MODEL = 4  
PMB HT = 29.70  
MIKE HT = 29.70  
NBRFR = 0. FPS

FNINI = LBS XNL RPM XNHR = RPM V8 = 2284.0 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2284.0 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-0401 TAFE = X0401F TEST PT NO = 0401 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE 8  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0401 X04011

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|       |      |      |      |      |      |      |      |      |      |       |       |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|-------|
| 50    | 70.1 | 72.6 | 74.2 | 76.5 | 76.7 | 80.5 | 82.0 | 87.5 | 95.2 | 100.2 | 99.6  | 96.8 | 90.6  | 174.2 |
| 63    | 68.2 | 73.5 | 73.6 | 75.3 | 77.8 | 80.1 | 82.1 | 85.3 | 90.3 | 97.3  | 98.2  | 95.4 | 89.4  | 172.2 |
| 80    | 70.0 | 74.1 | 74.7 | 77.4 | 78.7 | 81.4 | 83.7 | 86.7 | 91.7 | 100.1 | 100.5 | 96.7 | 91.4  | 174.4 |
| 100   | 74.3 | 74.9 | 75.7 | 78.0 | 80.3 | 82.0 | 83.8 | 86.5 | 92.0 | 100.2 | 100.3 | 96.5 | 89.4  | 174.3 |
| 125   | 78.9 | 80.8 | 80.4 | 80.7 | 81.4 | 83.2 | 85.2 | 87.7 | 92.4 | 99.9  | 99.7  | 95.8 | 89.7  | 174.1 |
| 160   | 76.2 | 83.2 | 82.3 | 83.6 | 84.6 | 84.8 | 86.1 | 88.4 | 91.9 | 95.5  | 94.0  | 86.7 | 78.2  | 170.8 |
| 400   | 77.5 | 80.2 | 80.5 | 82.4 | 82.9 | 84.9 | 86.1 | 88.4 | 91.9 | 95.5  | 94.0  | 86.7 | 78.2  | 170.8 |
| 500   | 75.0 | 77.8 | 78.9 | 80.5 | 82.8 | 84.7 | 86.4 | 89.0 | 91.3 | 93.5  | 91.3  | 84.7 | 75.5  | 169.7 |
| 630   | 72.7 | 76.6 | 77.3 | 79.5 | 81.7 | 83.8 | 85.3 | 87.3 | 89.9 | 92.0  | 90.4  | 82.3 | 73.8  | 168.8 |
| 800   | 71.4 | 75.6 | 76.5 | 78.7 | 81.1 | 83.5 | 84.8 | 86.8 | 89.1 | 90.5  | 88.1  | 81.2 | 72.1  | 168.1 |
| 1000  | 69.4 | 74.3 | 75.9 | 77.3 | 79.6 | 82.9 | 84.5 | 85.9 | 87.4 | 89.2  | 86.0  | 79.0 | 69.2  | 167.3 |
| 1250  | 68.7 | 72.7 | 74.8 | 77.1 | 79.5 | 82.2 | 83.1 | 84.8 | 86.7 | 87.9  | 85.6  | 77.6 | 67.6  | 167.3 |
| 1600  | 65.4 | 70.4 | 73.2 | 74.9 | 77.8 | 80.3 | 81.0 | 82.7 | 84.6 | 85.6  | 83.1  | 73.8 | 62.0  | 166.4 |
| 2000  | 61.5 | 68.1 | 70.6 | 72.4 | 75.2 | 77.4 | 78.8 | 80.9 | 81.7 | 82.9  | 82.9  | 79.5 | 70.0  | 165.5 |
| 2500  | 57.3 | 63.7 | 66.8 | 69.8 | 71.9 | 75.2 | 76.0 | 77.0 | 78.2 | 79.1  | 75.6  | 65.6 | 49.9  | 164.8 |
| 3150  | 49.9 | 58.4 | 61.6 | 64.5 | 68.1 | 71.5 | 72.7 | 73.8 | 75.4 | 70.8  | 59.0  | 37.2 | 165.3 |       |
| 4000  | 38.6 | 49.6 | 53.8 | 57.3 | 61.0 | 65.0 | 65.8 | 66.5 | 68.0 | 67.7  | 61.7  | 46.4 | 19.1  | 165.5 |
| 5000  | 24.4 | 37.6 | 43.9 | 48.0 | 52.4 | 56.5 | 57.1 | 57.8 | 59.5 | 57.0  | 50.4  | 31.5 |       | 167.0 |
| 6300  | 2.2  | 18.7 | 26.5 | 32.6 | 37.6 | 42.3 | 42.9 | 42.6 | 44.4 | 42.9  | 30.6  | 3.4  |       | 169.6 |
| 8000  |      |      | 0.8  |      | 9.6  | 15.5 | 19.5 | 20.9 | 19.5 | 15.3  |       |      |       | 172.2 |
| 10000 |      |      |      |      |      |      |      |      |      |       |       |      |       | 175.2 |

ORIGINAL PAGE IS  
OF POOR QUALITY

300

VEHICL = ADH022 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMBF = 70.00 PAMB HG = 29.70 RELHUM = 57.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFR =  
 FNINI = LBS XNL RPM XNH RPM = = = V8 RPM = 2284.0 FPS AEB = 25.3 SQ IN = 0. SQ IN  
 FNRAMB = LBS XNLR = = = XNHR RPM = = = V8 RPM = 2284.0 FPS AE18 = 25.3 SQ IN = 0. SQ IN  
 ER-0401 TAPE = X04011 TEST PT NO = 0401 NC = 861

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514  
 MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0402 X0402C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

86.6 85.3 81.2 81.3 81.4 82.5 82.6 86.8 86.8 87.1 96.4 92.6 96.7 130.9

63 87.7 87.7 88.0 88.0 88.5 87.7 90.1 92.4 90.4 92.4 93.0 96.2 97.9 100.8 136.1

80 89.9 89.3 90.5 91.1 93.4 93.4 93.3 94.4 95.4 94.5 94.9 97.5 102.0 104.1 137.9

100 89.8 94.3 90.0 91.3 92.2 93.3 94.6 94.5 94.2 94.4 96.9 103.6 105.5 107.9 140.6

125 86.5 89.6 89.8 91.7 92.5 94.6 94.6 90.1 90.5 93.0 98.4 103.8 106.2 109.6 140.9

150 85.2 82.9 86.8 86.8 87.1 88.7 90.1 90.5 90.5 93.0 98.4 103.8 106.2 109.6 140.9

200 84.8 84.7 85.3 87.5 88.5 90.8 92.1 94.7 97.1 101.0 106.8 114.6 117.5 115.9 108.3 151.3

250 83.9 87.5 86.9 88.0 89.9 91.0 93.2 95.3 98.8 104.9 110.3 113.2 112.9 146.4

315 84.5 87.5 86.5 87.5 89.2 92.8 94.2 96.8 94.2 96.4 101.1 108.2 111.6 114.3 112.7 147.5

400 87.0 88.8 88.3 89.1 90.7 94.1 96.5 100.4 107.1 113.7 115.6 116.0 111.2 150.5

500 86.7 89.2 89.5 90.8 92.1 94.7 97.1 101.0 106.8 114.6 117.5 115.9 108.3 151.3

630 88.0 90.6 90.6 91.4 93.2 95.1 98.7 102.2 107.6 116.6 119.6 115.5 106.2 152.9

800 90.7 92.0 91.2 92.0 94.1 96.7 98.1 101.8 107.3 116.3 119.7 113.9 102.8 152.5

1000 94.2 95.2 94.0 94.6 95.4 97.3 99.4 102.1 107.5 116.8 120.2 113.2 102.8 152.9

1250 97.4 99.2 99.0 99.8 98.3 99.7 101.5 104.5 109.4 116.1 117.2 110.0 102.5 151.4

1500 97.4 99.2 99.0 99.8 98.3 99.7 101.5 104.5 109.4 116.1 117.2 110.0 102.5 151.4

1750 97.4 99.2 99.0 99.8 98.3 99.7 101.5 104.5 109.4 116.1 117.2 110.0 102.5 151.4

2000 98.9 100.3 98.0 96.6 96.7 99.3 101.2 104.4 110.0 117.2 119.3 111.1 102.9 152.7

2500 97.4 99.2 99.0 99.8 98.3 99.7 101.5 104.5 109.4 116.1 117.2 110.0 102.5 151.4

3000 92.2 94.5 94.0 95.8 96.6 98.6 100.8 102.5 105.3 109.2 113.5 114.0 106.9 99.9 149.3

3500 92.6 94.6 93.5 95.0 96.9 99.4 100.8 104.3 107.8 111.5 111.8 105.5 97.4 147.9

4000 94.0 95.8 95.5 96.8 98.6 100.8 102.5 105.3 109.2 113.5 114.0 106.9 99.9 149.3

4500 92.6 94.6 93.5 95.0 96.9 99.4 100.8 104.3 107.8 111.5 111.8 105.5 97.4 147.9

5000 92.2 94.5 94.0 95.8 96.6 98.6 100.8 102.5 105.3 109.2 113.5 114.0 106.9 99.9 149.3

5500 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

6000 58.1 63.7 63.7 63.8 66.8 69.4 72.5 73.6 74.5 75.8 80.3 86.1 88.8 75.8 65.4 146.7

6500 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

7000 70.0 73.2 73.9 75.9 78.3 81.6 82.5 84.4 88.4 90.4 93.3 84.9 76.8 142.7

7500 74.7 78.6 78.6 78.6 79.7 81.9 85.8 86.9 87.9 91.6 94.8 89.1 81.6 141.9

8000 58.1 63.7 63.7 63.8 66.8 69.4 72.5 73.6 74.5 75.8 80.3 86.1 88.8 75.8 65.4 146.7

8500 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

9000 58.1 63.7 63.7 63.8 66.8 69.4 72.5 73.6 74.5 75.8 80.3 86.1 88.8 75.8 65.4 146.7

9500 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

10000 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

10500 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

11000 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

11500 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

12000 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

12500 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

13000 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

13500 60.6 66.7 66.7 66.8 69.5 70.7 73.5 77.2 78.3 79.1 83.9 88.8 90.3 80.4 70.8 143.9

VEHICLE = ADH039 TEST DATE = 08-19-81  
IAPLHA = SB59 LEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
LBS XNLR = RPM XNHR = RPM XNHL = RPM  
FNRAMB = LBS XNLR = RPM XNHR = RPM XNHL = RPM  
RUNPT = 81F-400-0402 TAPE = X0402C  
TEST PT NO = 0402 NC = 861 CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D FLUG NOZ. SC-4/NAS3-22514  
DBA 106.4 108.1 107.2 108.0 108.9 110.8 112.6 115.4 120.1 126.8 129.8 129.3 123.0 115.6  
PMLT 119.5 121.3 120.7 121.6 122.7 125.1 126.1 128.9 133.6 138.9 140.9 135.0 128.8  
GASPL 106.4 108.3 107.3 108.2 109.2 111.3 113.0 115.8 120.3 126.9 129.5 124.8 120.5 163.8

16000 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
17500 88.9 90.4 91.4 92.4 94.2 96.7 97.9 100.4 104.0 106.8 107.0 100.9 94.7 145.4  
19000 90.6 92.5 92.6 94.3 95.8 98.0 99.6 102.8 105.7 108.8 108.5 102.2 96.3 146.3  
20000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
21500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
23000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
24500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
26000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
27500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
29000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
30500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
32000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
33500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
35000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
36500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
38000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
39500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
41000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
42500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
44000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
45500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
47000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
48500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
50000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
51500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
53000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
54500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
56000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
57500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
59000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
60500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
62000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
63500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
65000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
66500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
68000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
69500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
71000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
72500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
74000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
75500 79.3 82.5 82.5 82.9 83.5 86.1 89.2 91.2 91.4 95.5 97.5 98.5 93.4 85.9 142.3  
77000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0  
78500 85.9 88.4 89.1 89.9 91.5 94.5 95.8 98.8 98.9 101.5 103.9 103.7 98.8 93.3 144.1  
80000 83.8 85.3 86.2 87.2 88.9 91.7 93.1 95.7 98.1 100.5 101.9 95.7 90.6 143.0

ORIGINAL PAGE 3  
OF POOR QUALITY



DATPROC - FL1MAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0402 X04021

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 70.2 73.4 72.0 72.2 74.3 76.2 77.4 80.0 85.2 91.5 93.0 90.8 83.6 166.9

50 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

63 72.7 74.7 73.8 73.8 75.7 76.9 77.8 79.4 80.2 86.0 93.8 95.1 90.9 83.1 168.4

80 72.3 73.6 75.1 75.0 76.9 77.3 79.3 79.4 81.1 86.0 93.6 95.8 90.5 82.4 168.7

100 73.6 76.1 76.1 76.7 78.7 79.6 80.2 81.1 87.5 94.7 97.0 97.0 89.4 84.7 170.1

125 76.1 76.5 76.7 76.7 78.7 79.6 80.2 81.1 87.5 94.7 97.0 97.0 89.4 84.7 170.1

150 77.0 79.0 79.0 78.0 81.7 81.7 81.4 81.2 82.4 88.7 94.0 97.0 97.0 89.4 84.7 170.4

200 77.2 82.6 80.7 81.3 81.0 82.3 83.4 83.6 89.5 95.3 96.4 89.2 84.8 170.4

250 79.6 79.7 79.7 80.4 80.4 79.9 81.8 82.1 83.6 89.2 94.5 94.6 88.4 84.5 169.7

315 81.8 83.9 81.6 80.0 81.7 82.3 82.6 83.9 88.8 92.8 94.1 86.4 82.1 169.2

400 78.9 82.1 82.4 83.2 83.7 83.1 83.8 89.4 92.1 91.3 84.9 80.7 168.6

500 78.9 81.5 81.0 82.7 82.5 83.8 83.9 85.1 88.5 90.5 89.6 82.5 77.9 167.7

630 76.6 79.6 79.8 80.9 81.5 82.8 83.5 84.2 87.5 89.4 88.2 76.2 167.2

800 74.2 78.0 78.7 79.8 80.7 82.2 82.1 83.7 86.2 88.0 85.8 79.4 74.7 166.2

1000 74.0 77.6 77.2 78.7 79.1 81.6 81.5 82.6 85.3 86.6 84.7 78.2 73.5 165.9

1250 72.2 76.4 76.7 77.6 79.3 80.7 80.6 81.9 83.7 84.7 83.1 76.5 70.9 165.4

1500 70.2 74.2 75.1 77.0 77.3 79.0 78.6 79.2 81.7 82.2 79.9 74.0 67.8 164.5

1600 70.2 74.2 75.1 77.0 77.3 79.0 78.6 79.2 81.7 82.2 79.9 74.0 67.8 164.5

2000 67.0 70.9 73.1 74.4 75.1 76.7 76.6 77.8 78.4 78.6 77.5 69.7 62.6 163.6

2500 64.7 69.5 71.2 71.9 72.0 73.4 73.3 73.9 75.1 74.6 72.6 64.8 53.3 162.8

3150 58.5 63.4 65.8 67.1 67.7 69.5 69.8 67.8 70.0 69.8 66.0 56.0 41.2 162.0

4000 47.0 55.1 58.0 59.3 60.6 63.2 62.5 60.9 63.5 61.4 58.7 43.2 22.3 162.0

5000 31.8 42.8 46.6 49.3 51.9 54.2 53.1 51.9 53.0 52.3 45.8 24.5 164.8

6300 8.9 22.8 29.4 34.2 37.0 40.0 38.7 35.6 38.3 36.3 27.3 167.4

8000 2.2 8.9 14.9 17.5 15.9 11.8 13.9 9.3 164.8

10000 167.4

12500 167.4

15000 167.4

16000 167.4

20000 167.4

25000 167.4

31500 167.4

40000 167.4

50000 167.4

63000 167.4

80000 167.4

QASPL 88.7 91.4 90.9 91.5 92.3 93.4 93.7 94.8 99.4 104.5 105.8 99.9 94.1 181.2

PNL 94.3 97.3 97.4 98.3 99.0 100.3 100.3 101.2 105.0 108.3 108.5 101.8 96.4

PFLT 94.3 97.9 98.0 98.8 99.0 100.3 100.3 101.2 105.6 108.9 108.5 101.8 96.4

DBA 83.7 86.9 86.9 88.1 88.7 90.1 90.1 91.1 94.3 96.7 96.2 89.5 84.7

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH039 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CNF1G = 4 MODEL = 4 FLTVL = 400. FPS

IAPLHA = SB59 LEGA = NO WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF1G = SL MIKE HT = 29.60 PAMB HG = 79.00 RELHUM = 47.1 PCT

FNINI = LBS XNL = RPM XNH = RPM XNHR = RPM V18 = 2289.3 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNL = RPM XNH = RPM XNHR = RPM V18 = 2289.3 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-0402 TAPE = X04021 TEST PT NO = 0402 NC = 861 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0403 X0403C  
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.4 84.7 83.0 82.0 82.9 87.2 86.4 87.5 89.2 95.6 95.9 95.6 95.9 95.6 132.6

63 88.0 87.8 88.3 88.3 90.2 93.3 91.7 91.3 95.0 99.9 100.0 98.7 99.8 136.9

80 90.8 95.3 90.3 91.1 92.0 95.6 95.2 94.6 95.8 95.9 101.9 137.7

100 90.8 96.3 92.4 93.9 94.5 96.6 96.7 98.2 96.6 98.9 100.3 103.5 105.4 140.1

125 87.9 90.6 92.2 93.9 95.0 97.2 97.5 96.7 98.2 101.2 107.1 108.5 109.7 143.4

150 87.1 89.6 90.1 90.0 92.3 94.5 94.5 94.9 98.1 102.7 107.3 109.5 111.9 144.0

175 86.8 87.1 89.6 90.1 90.0 92.3 94.5 94.5 94.9 98.1 102.7 107.3 109.5 144.0

200 86.5 88.1 88.8 90.1 92.0 95.3 95.5 97.4 102.1 104.9 108.8 112.7 114.6 146.6

225 88.0 88.0 92.3 91.6 93.1 93.7 95.3 97.7 100.1 103.8 110.7 114.8 116.7 150.5

250 89.1 89.1 91.6 90.9 92.4 94.3 97.4 98.5 101.9 107.6 113.7 116.6 117.8 152.1

275 92.6 93.6 93.9 95.4 96.0 99.4 101.5 107.2 115.1 120.7 122.1 121.0 118.4 157.0

300 90.9 93.5 93.5 94.8 95.9 98.5 100.6 104.8 110.3 118.3 120.7 119.4 116.8 155.0

325 92.8 92.8 95.3 94.6 95.7 97.0 99.4 102.0 105.9 111.9 120.9 122.8 120.7 157.1

350 99.0 104.8 102.5 103.1 103.4 103.5 104.7 108.3 113.5 121.9 123.2 119.7 115.7 157.3

375 100.1 101.7 100.3 100.0 99.9 102.0 103.6 106.8 113.0 121.3 123.2 120.1 117.3 157.3

400 102.4 102.8 101.5 100.9 100.9 103.8 105.4 109.2 114.2 121.7 120.8 116.3 112.1 156.2

425 101.1 102.2 101.5 102.7 102.6 104.2 106.3 109.2 113.4 120.8 119.2 114.2 110.7 155.1

450 100.5 101.8 100.6 101.6 103.2 105.0 105.9 109.3 113.4 119.9 118.7 113.2 108.5 154.6

475 98.5 100.0 99.8 101.0 102.1 104.8 106.5 110.0 113.4 118.2 116.5 112.2 108.4 153.4

500 97.4 99.0 98.3 100.0 101.5 103.9 106.1 109.4 112.1 117.1 115.3 110.4 106.7 152.4

525 97.1 99.6 98.5 100.0 101.2 103.6 105.6 108.8 111.3 115.7 114.5 109.8 105.9 151.7

550 95.0 97.9 97.9 99.0 100.5 103.4 104.9 107.9 110.4 114.7 112.6 108.4 104.7 151.0

575 94.1 96.0 97.1 98.3 100.3 102.8 102.8 102.8 102.8 102.8 102.8 102.8 102.8 150.5

600 89.4 92.6 93.4 93.7 96.3 98.7 100.6 103.4 105.8 109.4 108.0 103.3 100.0 148.8

625 87.0 89.5 89.5 91.7 93.5 96.2 98.1 100.2 102.8 102.8 102.8 102.8 102.8 148.3

650 83.0 86.6 86.6 88.4 91.3 94.8 96.8 98.9 97.1 99.9 105.1 100.3 92.1 148.6

675 73.1 77.9 79.0 79.6 83.3 87.1 88.5 90.7 95.6 99.5 99.3 92.9 84.6 149.8

700 68.6 73.0 73.4 75.6 78.3 82.3 84.1 86.3 91.6 98.9 97.5 90.0 80.2 152.3

725 63.6 68.8 69.1 72.0 74.1 77.3 79.8 82.7 87.0 90.0 95.9 97.0 87.0 155.6

750 59.2 65.6 65.0 65.7 68.6 72.1 74.6 77.5 82.7 86.7 94.3 92.7 81.6 159.4

775 110.7 112.4 112.4 112.4 113.4 115.5 117.2 120.4 124.9 131.9 132.7 130.0 127.6 168.8

800 123.7 125.2 124.4 125.4 126.5 128.6 130.2 133.5 137.4 143.8 143.6 139.8 136.9

825 110.9 112.4 111.5 112.3 113.0 115.0 116.9 120.1 124.5 131.7 132.2 128.6 125.5

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH023 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNFIG = 4 MODEL = 4 FLVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.70 RELHUM = 57.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2335.4 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-0403 TAPE = X0403C TEST PT NG = 0403 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0403 X0403F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.4 84.7 83.0 82.0 82.9 87.2 86.4 87.5 89.2 95.6 95.9 95.6 96.3 132.6

63 88.0 87.8 88.3 88.3 90.2 93.3 91.7 91.3 95.0 99.9 100.0 98.7 99.8 136.9

100 90.8 95.3 90.3 91.1 92.0 95.6 95.6 95.8 98.5 99.5 101.9 137.7

125 97.9 92.2 93.9 95.0 97.2 97.5 96.7 98.2 101.2 107.1 108.5 109.7 143.4

150 86.8 87.1 89.6 90.1 90.0 92.3 94.5 94.9 98.1 102.7 107.3 109.5 144.0

175 88.5 88.1 88.8 90.1 92.0 95.3 95.5 97.4 102.1 104.9 108.8 112.7 146.6

200 88.0 88.0 91.6 93.1 93.7 95.3 97.7 100.1 103.8 110.7 114.8 116.7 150.5

225 89.1 91.6 90.9 92.4 94.3 97.4 98.5 101.9 107.6 113.7 116.6 117.8 152.1

250 101.1 102.2 101.5 102.7 102.6 104.2 106.3 109.2 113.4 120.8 119.2 114.2 110.7 155.1

275 99.0 104.8 102.5 103.1 103.4 103.5 104.7 108.3 113.5 121.9 123.2 119.7 157.5

300 100.7 100.3 101.3 101.6 101.9 103.5 106.8 108.9 113.8 121.5 123.4 117.9 157.2

325 102.4 102.8 101.5 100.9 103.8 105.4 109.1 114.2 121.7 120.8 112.1 115.3 156.2

350 100.5 101.8 100.6 101.6 103.2 105.0 105.9 109.3 113.4 119.9 118.7 113.2 108.5 154.6

375 98.5 97.9 99.0 100.5 103.4 104.9 107.9 110.4 114.7 112.6 108.4 104.7 151.0

400 97.1 99.6 98.5 100.0 101.2 103.6 105.6 108.8 111.3 115.7 114.5 109.8 105.9 151.7

425 97.4 97.4 98.3 100.0 101.5 103.9 106.1 109.4 112.1 117.1 115.3 110.4 106.7 152.4

450 94.1 96.0 97.1 98.3 100.3 102.8 104.8 107.5 110.2 113.4 116.5 112.2 108.4 153.4

475 92.2 94.4 95.4 96.4 98.9 101.7 102.9 105.2 107.5 111.6 110.3 105.4 101.7 149.7

500 89.4 92.6 93.4 93.7 96.3 98.7 100.6 103.4 105.8 109.4 108.0 103.3 100.0 148.8

525 87.0 89.5 89.9 91.7 93.5 96.2 98.1 100.2 102.8 107.4 106.1 101.7 97.1 148.3

550 83.0 86.6 86.6 88.4 91.3 94.8 95.9 97.1 99.9 105.1 105.0 100.3 92.1 148.8

575 78.0 82.6 82.6 84.0 87.0 90.6 92.0 94.2 97.9 102.6 102.0 96.6 88.2 148.8

600 73.1 77.9 79.0 79.6 83.3 87.1 88.5 90.7 95.6 99.5 99.3 92.9 84.6 149.8

625 68.9 73.4 75.6 78.3 82.3 84.1 86.3 91.6 98.9 97.5 90.0 87.0 80.2 152.3

650 63.6 68.8 68.8 69.1 72.0 74.1 77.3 79.8 82.7 90.0 95.9 97.0 87.0 155.6

675 59.2 65.6 65.0 65.7 68.6 72.1 74.6 77.5 86.7 94.3 92.7 81.6 68.8 159.4

700 110.7 112.4 111.6 112.4 113.4 115.5 117.2 120.4 124.9 131.9 132.7 130.0 127.6 168.8

725 123.7 125.2 124.4 125.4 126.5 128.6 130.2 133.5 137.4 143.8 143.6 139.8 136.9

750 180.7 186.7 186.3 187.7 190.3 193.8 196.2 199.1 207.7 215.0 213.9 203.1 191.0

VEHICLE = ADH023 TEST DATE = 08-19-81  
VEGA = NO  
WIND DIR = SB59  
WIND VEL = MPH  
EXT DIST = 40.0 FT  
PML AREA = FULL SPHERE  
TAMB F = 70.00  
CONFIG = 4  
MODEL = 4  
FLTVL = 0. FPS  
RELHUM = 57.9 PCT  
NBRF =

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514  
MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000  
FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00  
REFR CORR YES, TURB CORR YES

|       |                     |     |          |     |                   |     |     |      |       |      |                      |    |    |    |    |
|-------|---------------------|-----|----------|-----|-------------------|-----|-----|------|-------|------|----------------------|----|----|----|----|
| FNIN1 | LBS XNL             | RPM | XNH      | RPM | V8                | AE8 | FPS | AE18 | IN    | 25.3 | SQ                   | IN | 0. | IN | 30 |
| FNAMB | LBS XNL             | RPM | XNHR     | RPM | V8                | AE8 | FPS | AE18 | IN    | 25.3 | SQ                   | IN | 0. | IN | 30 |
| RUNPT | = 81F-ZER-0403 TAPE |     | = X0403F |     | TEST PT NO = 0403 |     | NC  |      | * 861 |      | CORR FAN SPEED * RPM |    |    |    |    |

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DATPROC - FLIRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0403 X04031

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 70.6 73.1 74.5 76.7 77.7 81.2 83.2 88.5 95.7 100.2 100.1 96.8 90.9 174.4 63 68.9 73.0 74.1 76.1 77.6 80.3 82.3 86.1 90.8 97.8 98.7 95.1 89.2 172.5 80 70.7 74.8 75.2 76.9 78.7 81.2 83.7 87.2 92.4 100.4 100.7 96.4 91.2 174.5 100 74.8 75.1 76.5 80.0 82.3 84.3 87.0 92.7 101.2 101.0 96.0 89.2 174.8 125 78.9 81.0 80.7 81.2 81.4 83.7 85.2 87.9 93.4 100.6 100.9 95.6 89.2 174.7 160 76.5 83.9 82.8 84.1 84.8 85.1 86.1 89.3 93.8 101.0 100.8 94.8 87.2 174.9 200 78.0 79.2 81.4 82.4 83.2 85.0 88.1 89.8 93.9 100.4 100.6 92.8 85.0 174.6 250 78.4 81.5 81.3 81.5 82.0 85.0 86.5 89.6 94.1 100.3 97.7 90.8 82.5 173.6 315 77.7 80.5 81.0 83.1 83.4 85.2 87.1 89.6 92.9 99.1 95.7 88.1 80.3 172.6 400 76.5 79.7 79.8 81.6 83.7 85.7 86.4 89.4 92.6 97.8 94.8 86.4 77.2 172.0 500 74.0 77.5 78.6 80.8 82.3 85.2 86.7 89.8 92.3 95.7 84.7 76.0 170.8 630 72.5 76.1 76.8 79.5 81.4 84.0 86.0 88.8 90.7 94.2 82.3 73.3 169.8 800 71.7 76.3 76.7 79.2 80.9 83.5 85.3 88.0 89.6 92.5 89.1 81.0 71.3 169.2 1000 69.1 74.3 75.9 78.0 80.1 83.1 84.5 86.9 88.4 91.2 86.7 79.0 69.0 168.4 1250 67.7 72.2 74.8 77.1 79.7 82.4 83.1 85.8 86.9 89.7 85.6 77.1 67.1 168.0 1600 64.9 69.9 72.7 74.9 78.1 81.0 83.7 84.8 87.3 89.7 83.1 73.8 62.2 167.1 2000 61.2 67.6 70.3 71.9 75.2 77.9 79.6 81.7 82.7 84.4 79.8 70.0 57.5 166.3 2500 57.0 63.2 66.0 69.3 71.9 74.9 76.5 77.8 78.9 81.1 76.1 65.6 49.6 165.7 3150 49.6 57.9 60.8 64.5 68.3 72.2 72.9 73.1 74.1 76.4 71.6 59.2 36.2 166.0 4000 38.4 49.1 53.0 56.8 61.0 65.0 66.0 67.0 68.3 69.2 62.4 46.7 17.8 166.3 5000 23.7 36.8 43.2 47.0 52.4 56.8 57.6 58.0 59.7 58.5 49.9 29.2 167.3 6300 1.7 17.7 25.5 32.1 37.3 42.1 43.1 42.9 43.6 43.6 30.4 2.1 173.0 8000 9300 9700 10000 10500 11000 11500 12000 12500 13000 13500 14000 14500 15000 15500 16000 16500 17000 17500 18000 18500 19000 19500 20000 20500 21000 21500 22000 22500 23000 23500 24000 24500 25000 25500 26000 26500 27000 27500 28000 28500 29000 29500 30000 30500 31000 31500 32000 32500 33000 33500 34000 34500 35000 35500 36000 36500 37000 37500 38000 38500 39000 39500 40000

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QASPL 87.1 90.4 90.8 92.4 93.6 95.9 97.5 100.4 104.4 110.5 109.8 104.5 98.0 186.0  
FNL 91.2 94.8 95.7 97.8 99.8 102.5 103.9 106.3 109.1 114.1 112.2 104.8 97.0  
FNLT 91.7 95.8 95.7 97.8 99.8 102.5 103.9 106.3 109.1 114.8 112.2 105.9 97.0  
DBA 80.3 84.1 85.1 87.2 89.2 91.8 93.2 95.8 97.9 102.0 99.1 91.7 83.4  
MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADHO23 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.70 RELHUM = 57.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM = XNH XNHR RPM = V8 = 2335.4 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM = XNH XNHR RPM = V8 = 2335.4 FPS AE8 = 0. SQ IN

RUNPT = ER-0403 TAPE = X04031 TEST PT NO = 0403 NC = 861 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0404 X0404C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

63 69.0 69.0 68.5 67.3 68.9 60.3 68.9 60.8 64.0 92.6 99.5 94.4 100.1 135.0

80 91.0 95.8 90.3 91.1 92.0 94.6 94.6 94.1 95.3 93.9 97.0 98.5 102.1 137.1

100 90.8 95.6 90.6 91.9 93.2 94.4 95.2 96.2 95.1 95.9 98.1 102.5 104.7 138.6

125 87.4 90.4 90.9 92.7 93.8 95.9 95.5 95.2 95.2 97.7 104.6 106.8 109.0 141.7

150 85.8 84.1 87.6 88.1 88.5 90.1 91.6 94.6 94.5 99.2 104.8 107.7 110.6 142.1

200 85.5 85.8 86.4 88.7 88.7 91.1 92.5 94.4 98.6 100.2 105.3 110.5 114.0 144.0

250 84.0 84.0 87.8 88.9 90.2 91.6 93.7 96.4 99.6 105.2 110.8 114.2 114.1 147.3

315 85.1 87.6 87.6 88.4 89.5 93.4 94.9 96.8 98.9 99.2 103.4 108.0 113.7 148.5

400 87.1 88.9 89.4 89.9 90.8 93.6 94.6 97.5 101.2 107.6 114.7 117.1 117.0 151.7

500 87.2 90.2 90.3 91.8 92.9 95.3 97.6 101.5 107.6 115.3 118.0 116.6 109.8 152.0

630 89.1 91.9 91.4 92.2 93.5 96.4 99.0 102.9 108.4 117.4 120.3 116.8 108.4 153.7

800 91.2 91.2 91.8 93.3 94.9 96.8 98.9 99.9 103.6 108.5 117.3 120.5 114.6 153.4

1000 91.2 91.2 91.8 93.3 94.9 96.8 98.9 99.9 103.6 108.5 117.3 120.5 114.6 153.4

1250 88.9 90.4 91.2 92.9 94.4 97.2 99.4 100.9 104.8 108.3 108.5 101.4 95.5 145.5

16000 86.2 88.6 88.9 89.9 91.7 95.0 96.8 99.7 102.5 105.7 106.2 99.5 94.0 145.6

20000 79.1 85.3 86.2 87.7 89.5 94.1 96.7 99.3 102.7 103.4 96.7 91.1 144.4

25000 73.3 82.2 82.2 84.0 86.1 89.7 91.9 92.9 96.0 99.7 99.5 94.1 86.6 143.5

31500 74.7 78.1 78.4 80.0 81.9 85.8 87.9 89.2 93.4 96.1 96.5 89.6 82.4 143.3

40000 70.0 73.4 74.8 75.9 78.5 81.9 83.5 85.2 90.1 92.4 94.3 85.9 77.8 144.0

50000 66.1 69.5 71.3 73.0 75.5 79.3 80.1 85.2 90.1 92.4 94.3 85.9 77.8 144.0

63000 61.4 66.8 68.2 69.9 72.8 74.9 76.1 85.8 89.4 94.0 94.0 78.0 67.0 151.1

80000 58.4 64.8 65.1 63.9 65.2 67.4 69.2 69.9 81.8 85.2 90.1 92.4 94.3 85.9 77.8 144.0

DBA 106.1 107.7 107.3 108.1 109.1 111.3 113.4 116.5 121.2 128.3 130.2 124.1 117.1

PWL 119.1 120.7 120.4 121.5 122.6 125.1 126.8 130.0 134.2 140.4 142.4 136.2 130.0

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH040 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.60 RELHUM = 47.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2344.7 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2344.7 FPS AEB = 0. SQ IN

RUNPT = 81F-400-0404 TAPE = X0404C TEST PT NO = 0404 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

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DATPRGC - FLIKAN

06/18/82 17.409 PAGE 3

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0404 X0404F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 250 | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 200 | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 150 | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 100 | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 80  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 60  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 50  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 40  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 35  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 30  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 25  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 20  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 15  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 10  | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 5   | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |
| 0   | 91.9 | 94.3 | 92.8 | 92.2 | 91.8 | 91.6 | 91.8 | 92.8 | 98.2 | 104.8 | 107.7 | 110.8 | 111.1 | 144.6 |

|      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |
|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1250 | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 1200 | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 1150 | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 1100 | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 1050 | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 1000 | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 950  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 900  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 850  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 800  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 750  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 700  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 650  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 600  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 550  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 500  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 450  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 400  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 350  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 300  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 250  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |
| 200  | 98.0 | 98.3 | 97.8 | 97.8 | 96.3 | 98.0 | 98.5 | 100.0 | 102.3 | 105.5 | 106.8 | 107.1 | 108.6 | 148.1 |

ORIGINAL PAGE IS OF POOR QUALITY

|      |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 1500 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1450 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1400 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1350 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1300 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1250 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1200 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1150 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1100 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1050 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 1000 | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 950  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 900  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 850  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 800  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 750  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 700  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 650  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 600  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 550  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 500  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 450  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 400  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 350  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 300  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 250  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |
| 200  | 94.9 | 96.1 | 94.9 | 94.4 | 94.1 | 95.5 | 95.7 | 97.1 | 99.4 | 102.9 | 103.4 | 101.4 | 101.4 | 146.1 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 49.00 REFR CORR YES, TURB CORR YES NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NA33-22514

VEHICL = ADH040 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.60 RELHUM = 47.1 PCT  
MIND DIR = DEG MIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =  
FNINI = LBS XNL RPM XNH RPM = RPM XNHR RPM V8 = 2344.7 FPS AEB = 25.3 SQ IN  
FNFRMB = LBS XNLR RPM XNH RPM = RPM XNHR RPM V8 = 2344.7 FPS AEB = 25.3 SQ IN  
RUNPT = 8 70-0404 TAPE = X0404F TEST PT NO = 0404 NC = 861 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0404 X04041

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40                   | 50                     | 60                   | 70         | 80               | 90                | 100             | 110            | 120       | 130            | 140        | 150        | 160   |
|---|----------------------|------------------------|----------------------|------------|------------------|-------------------|-----------------|----------------|-----------|----------------|------------|------------|-------|
| PWL   | 70.8                 | 73.5                   | 73.2                 | 73.1       | 74.3             | 76.7              | 78.5            | 80.7           | 86.3      | 92.4           | 93.6       | 91.7       | 85.1  |
| 50  | 70.8                 | 73.5                   | 73.2                 | 73.1       | 74.3             | 76.7              | 78.5            | 80.7           | 86.3      | 92.4           | 93.6       | 91.7       | 85.1  |
| 63  | 72.7                 | 74.8                   | 74.9                 | 74.6       | 76.5             | 77.4              | 78.4            | 80.8           | 86.9      | 94.5           | 96.1       | 92.5       | 85.6  |
| 80  | 72.8                 | 76.1                   | 75.8                 | 76.5       | 77.1             | 78.6              | 79.7            | 82.0           | 88.8      | 94.7           | 98.7       | 91.5       | 84.5  |
| 100   | 74.6                 | 77.7                   | 77.0                 | 77.2       | 78.0             | 79.6              | 80.3            | 82.6           | 89.1      | 96.1           | 98.1       | 91.7       | 86.9  |
| 125   | 76.6                 | 77.0                   | 77.2                 | 78.0       | 79.7             | 80.3              | 82.6            | 89.1           | 96.1      | 98.1           | 91.7       | 86.9       | 81.2  |
| 150   | 77.8                 | 79.7                   | 79.2                 | 82.4       | 81.9             | 82.2              | 83.2            | 90.0           | 96.0      | 97.1           | 96.4       | 91.6       | 86.3  |
| 200   | 77.3                 | 83.6                   | 81.8                 | 81.5       | 83.0             | 84.2              | 84.6            | 90.7           | 97.1      | 96.9           | 90.6       | 83.8       | 79.2  |
| 250   | 80.4                 | 80.1                   | 81.8                 | 81.7       | 82.3             | 83.4              | 84.6            | 90.3           | 96.1      | 95.7           | 89.5       | 85.1       | 170.8 |
| 315   | 78.9                 | 81.6                   | 81.3                 | 80.7       | 82.5             | 82.8              | 83.6            | 90.3           | 94.6      | 95.2           | 88.0       | 83.9       | 170.5 |
| 400   | 79.3                 | 81.6                   | 81.9                 | 82.7       | 84.4             | 83.3              | 85.1            | 90.5           | 93.5      | 92.5           | 86.5       | 82.4       | 169.7 |
| 500   | 77.9                 | 80.7                   | 80.3                 | 81.7       | 83.8             | 84.7              | 86.4            | 89.5           | 92.3      | 90.6           | 83.8       | 79.2       | 168.8 |
| 630   | 76.8                 | 79.1                   | 80.7                 | 81.2       | 82.8             | 83.8              | 85.2            | 88.2           | 90.8      | 89.6           | 82.6       | 77.4       | 168.1 |
| 800   | 75.4                 | 78.2                   | 78.6                 | 79.6       | 81.2             | 82.8              | 84.9            | 87.1           | 89.5      | 86.7           | 80.4       | 75.6       | 167.2 |
| 1000  | 74.5                 | 78.3                   | 78.2                 | 79.7       | 81.6             | 82.3              | 83.3            | 86.7           | 88.0      | 86.3           | 80.1       | 75.4       | 167.2 |
| 1250  | 72.7                 | 76.9                   | 77.2                 | 78.1       | 79.3             | 81.4              | 82.5            | 84.4           | 86.0      | 84.4           | 76.8       | 71.4       | 166.2 |
| 1500  | 70.7                 | 74.2                   | 75.4                 | 77.3       | 78.2             | 79.5              | 80.1            | 79.7           | 82.4      | 83.6           | 82.0       | 74.4       | 165.6 |
| 1600  | 70.7                 | 74.2                   | 75.4                 | 77.3       | 78.2             | 79.5              | 80.1            | 79.7           | 82.4      | 83.6           | 82.0       | 74.4       | 165.6 |
| 2000  | 69.8                 | 73.2                   | 74.5                 | 76.0       | 75.3             | 77.2              | 78.3            | 79.3           | 80.4      | 78.6           | 73.4       | 65.3       | 163.6 |
| 2500  | 64.9                 | 69.8                   | 71.0                 | 72.0       | 72.5             | 74.2              | 74.7            | 75.5           | 76.6      | 73.4           | 56.2       | 41.7       | 162.9 |
| 3150  | 58.8                 | 63.4                   | 65.8                 | 67.6       | 67.7             | 70.0              | 70.6            | 69.2           | 71.6      | 71.1           | 67.4       | 56.2       | 162.9 |
| 4000  | 47.0                 | 54.8                   | 57.2                 | 59.8       | 60.6             | 63.3              | 63.5            | 62.1           | 65.2      | 63.3           | 59.5       | 44.0       | 163.0 |
| 5000  | 31.8                 | 42.3                   | 46.3                 | 49.5       | 52.2             | 54.5              | 54.1            | 52.6           | 56.0      | 55.0           | 48.3       | 25.7       | 164.6 |
| 6300  | 9.0                  | 23.0                   | 30.3                 | 34.3       | 36.6             | 40.3              | 39.7            | 36.6           | 43.8      | 39.6           | 32.6       | 170.9      | 169.0 |
| 8000  |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 10000   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 12500   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 15000   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 20000   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 25000   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 31500   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 40000   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 50000   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 63000   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| 80000   |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| DASPL   | 88.6                 | 91.3                   | 91.2                 | 91.9       | 92.6             | 93.9              | 94.4            | 95.8           | 100.6     | 105.9          | 106.8      | 101.1      | 95.7  |
| PNL   | 94.1                 | 97.1                   | 97.6                 | 98.8       | 99.3             | 100.8             | 101.3           | 102.2          | 106.1     | 109.8          | 109.5      | 102.9      | 97.6  |
| PNLT  | 94.1                 | 97.7                   | 98.3                 | 99.3       | 99.3             | 100.8             | 101.3           | 102.2          | 106.8     | 110.5          | 109.5      | 102.9      | 97.6  |
| DBA   | 83.8                 | 86.9                   | 87.1                 | 88.2       | 88.8             | 90.5              | 90.9            | 92.1           | 95.3      | 98.2           | 97.3       | 90.7       | 86.0  |
| MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN )               |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)             |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| DIAMETER RATIO = 7.442                                |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| FREQ SHIFT = -9                                       |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 |                      |                        |                      |            |                  |                   |                 |                |           |                |            |            |       |
| VEHICL = ADH040                                       | TEST DATE = 08-19-81 | LOCAL = C41 ANECH CH   | CONFIG = 4           | MODEL = 4  | FLTVL = 400. FPS | RELHUM = 47.1 PCT | PAMB HG = 29.60 | TAMB F = 79.00 | MIKE HT = | EXT CNFIG = SL | MIKE HT =  | NBFR =     |       |
| IAPLHA = SB59   | IEGA =               | PML AREA = FULL SPHERE | EXT DIST = 2400.0 FT | WIND DIR = | WIND VEL =       | MPH =             | VEGA =          | NO =           | VEGA =    | NO =           | VEGA =     | NO =       |       |
| FNINI =   | LBS XNLR =           | RPM XNHR =             | RPM V18 =            | AE8 =      | 25.3 SQ IN       | AE8 =             | 25.3 SQ IN      | FPS AE18 =     | 0. SQ IN  | FNRAMB =       | LBS XNLR = | RPM XNHR = |       |
| RUNPT = 81F-400-0404                                  | TAPE =               | X04041 =               | TEST PT NO = 0404    | NC =       | 861 =            | CORR FAN SPEED =  | RPM =           |                |           |                |            |            |       |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0405 X0405C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.4 85.5 83.2 82.5 83.4 87.5 86.9 87.8 89.7 96.3 96.4 96.4 96.8 133.2

63 88.7 88.5 88.1 90.7 93.5 92.2 91.1 94.8 100.1 99.2 98.4 100.1 136.9

80 91.3 96.6 91.1 91.4 93.0 95.8 96.0 94.9 96.8 96.2 98.8 100.7 138.3

100 91.1 97.3 92.1 94.2 94.7 96.4 97.5 97.9 97.1 99.4 100.3 104.3 140.5

125 87.9 91.1 92.7 94.2 95.5 97.7 98.0 97.4 98.7 101.5 107.6 108.8 143.7

150 87.0 87.3 90.1 90.1 90.1 92.6 92.6 94.5 95.6 98.1 103.2 107.8 109.7 144.5

160 87.0 88.3 88.3 88.8 89.0 90.6 92.2 95.6 95.7 97.4 102.3 105.2 109.3 146.9

200 88.3 88.3 92.1 91.8 93.1 93.7 95.3 97.7 100.1 103.6 110.2 115.3 116.9 150.9

250 88.3 92.1 91.8 93.1 93.7 95.3 97.7 100.1 103.6 110.2 115.3 117.2 152.4

315 89.3 91.9 90.9 92.7 94.3 97.4 99.3 102.2 107.6 114.5 116.3 118.5 152.4

400 91.8 93.9 94.1 95.7 95.8 99.6 102.3 107.2 115.4 121.0 121.6 120.8 156.8

500 90.9 94.2 93.8 95.0 96.6 98.8 101.4 104.8 110.8 118.8 121.0 120.1 155.5

630 93.1 95.3 95.1 96.2 97.2 99.9 102.2 105.9 112.1 120.9 122.8 120.7 157.1

800 96.9 96.0 96.3 97.3 98.9 101.0 102.9 106.3 113.0 121.8 123.2 120.4 157.4

1000 101.5 102.0 100.0 99.5 100.6 102.0 104.6 107.3 113.3 121.8 123.2 120.4 157.5

1250 100.0 103.0 103.0 103.3 103.7 104.0 105.2 108.3 113.8 121.9 123.0 119.2 157.3

1500 103.7 101.5 101.6 102.7 103.8 104.7 105.9 108.7 114.3 121.7 123.6 117.2 157.3

2000 105.2 105.1 103.0 102.4 101.9 104.1 106.2 108.9 115.0 122.7 120.5 115.6 156.6

2500 103.4 104.2 103.7 104.5 104.1 104.2 106.5 109.5 114.1 121.8 118.9 113.7 155.7

3150 101.5 103.3 102.1 103.6 104.9 106.8 107.1 109.6 114.7 118.7 115.5 112.9 154.9

4000 100.5 101.2 100.5 102.5 103.6 106.1 108.1 110.3 116.5 110.9 108.1 106.7 153.0

5000 98.7 100.0 99.8 101.0 102.7 105.2 107.3 109.9 113.1 117.6 115.8 109.6 153.0

6300 97.3 100.1 99.5 100.5 102.4 104.9 106.9 109.6 112.1 116.7 115.0 109.0 152.5

8000 95.8 98.8 98.4 99.5 100.8 103.9 105.9 108.6 111.4 115.2 112.0 106.9 151.5

10000 94.8 96.8 97.3 98.8 101.1 103.8 104.7 107.3 110.4 114.0 112.0 106.9 151.0

12500 92.9 95.1 95.4 96.9 99.7 102.4 103.6 105.2 109.0 112.6 110.8 104.4 150.3

15000 89.9 93.4 93.9 94.7 96.8 100.0 101.4 104.2 106.8 110.4 107.7 102.8 149.5

16000 89.9 93.4 93.9 94.7 96.8 100.0 101.4 104.2 106.8 110.4 107.7 102.8 149.5

20000 87.5 90.0 90.9 92.7 94.7 97.5 98.4 101.4 103.8 107.7 106.1 101.2 148.7

25000 83.2 87.9 87.6 88.4 91.3 95.1 96.9 98.1 101.6 106.1 104.0 99.6 149.0

31500 78.5 83.6 83.4 84.7 87.5 91.1 92.7 94.9 99.1 103.6 103.3 95.9 149.8

40000 74.3 78.6 80.9 84.0 87.1 89.0 91.9 97.1 101.3 101.8 92.2 82.2 151.6

50000 69.7 73.5 74.2 75.8 78.6 83.3 84.6 87.6 94.1 100.6 98.3 90.0 153.7

63000 63.9 68.8 69.4 72.3 73.9 78.5 80.6 83.7 90.8 98.2 96.6 88.5 156.6

80000 58.7 66.2 65.7 66.0 68.4 72.8 75.2 78.8 88.2 93.9 94.7 83.1 160.1

OASPL 112.2 113.5 112.5 113.3 114.3 116.3 118.1 120.7 125.6 132.3 132.7 130.0 127.5 169.2

PWL 125.1 128.1 125.7 126.6 127.7 129.6 131.2 133.7 138.2 144.4 143.6 139.5 136.7

DBA 112.7 113.6 112.6 113.3 114.1 115.8 117.8 120.4 125.2 132.1 132.2 128.4 125.3

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH024 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 0 FPS

IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM = V6 V8 V18 = 2378.9 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR RPM XNHR RPM = = = V18 = 2378.9 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-0405 TAPE = X0405C TEST PT NO = 0405 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0405 X0405F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ   | 40             | 50        | 60         | 70         | 80             | 90     | 100   | 110            | 120   | 130    | 140        | 150      | 160     | PWL      |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
|--|----------------|-----------|------------|------------|----------------|--------|-------|----------------|-------|--------|------------|----------|---------|----------|---------|--------|------------|--------|--------|----------|--------------|---|-----|----------|---|---------|----------|---|-------------|--------|---|-------|---------|---|-------|--------|---|----------|--------|---|------|----------|---|
| 80   | 91.3           | 96.6      | 91.1       | 91.4       | 93.0           | 95.8   | 96.0  | 94.9           | 96.8  | 98.8   | 100.7      | 102.4    | 138.3   | 140.5    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 100  | 91.1           | 97.3      | 92.1       | 94.2       | 95.5           | 97.4   | 97.7  | 96.0           | 97.9  | 99.4   | 100.3      | 105.7    | 140.5   | 143.8    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 125  | 87.9           | 91.1      | 92.7       | 94.2       | 95.5           | 97.7   | 98.0  | 97.4           | 98.7  | 101.5  | 107.6      | 109.7    | 143.7   | 147.0    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 150  | 87.0           | 87.3      | 90.1       | 90.1       | 90.0           | 92.6   | 94.5  | 95.6           | 98.1  | 103.2  | 107.8      | 109.7    | 144.5   | 148.9    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 200  | 88.3           | 88.3      | 88.8       | 90.6       | 92.2           | 95.6   | 95.7  | 97.4           | 102.3 | 105.2  | 109.3      | 113.0    | 146.9   | 150.9    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 250  | 88.3           | 92.1      | 91.8       | 93.7       | 93.7           | 95.3   | 97.7  | 100.1          | 103.6 | 110.2  | 115.3      | 117.5    | 150.9   | 155.9    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 315  | 88.3           | 91.9      | 90.9       | 92.7       | 94.3           | 97.4   | 99.3  | 102.2          | 107.6 | 114.5  | 116.3      | 118.5    | 152.4   | 157.4    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 400  | 91.8           | 93.9      | 94.1       | 95.7       | 95.8           | 99.6   | 102.3 | 107.2          | 115.4 | 121.0  | 121.6      | 120.8    | 155.8   | 159.2    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 500  | 90.9           | 94.2      | 93.8       | 95.0       | 96.6           | 98.8   | 101.4 | 104.8          | 110.8 | 118.8  | 121.0      | 120.1    | 155.8   | 160.1    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 630  | 93.1           | 95.3      | 95.1       | 96.2       | 97.7           | 99.9   | 102.2 | 105.9          | 112.1 | 120.9  | 122.8      | 120.7    | 157.1   | 161.4    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 800  | 96.9           | 96.0      | 96.3       | 97.3       | 98.9           | 101.0  | 102.9 | 106.3          | 113.0 | 121.8  | 123.2      | 120.4    | 157.5   | 161.4    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 1000   | 94.8           | 96.8      | 97.3       | 98.8       | 101.1          | 102.4  | 103.6 | 107.3          | 114.0 | 122.7  | 120.5      | 111.4    | 156.6   | 161.4    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 1250   | 92.9           | 95.1      | 95.4       | 96.9       | 99.2           | 102.7  | 104.4 | 107.2          | 113.1 | 122.7  | 120.5      | 111.4    | 156.6   | 161.4    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 1500   | 89.9           | 93.4      | 93.9       | 94.7       | 96.8           | 100.0  | 102.4 | 104.9          | 109.6 | 116.7  | 115.0      | 109.0    | 152.5   | 161.4    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 2000   | 87.5           | 90.0      | 90.9       | 92.7       | 94.7           | 97.5   | 98.4  | 101.4          | 103.8 | 107.7  | 106.1      | 101.2    | 148.7   | 153.7    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 2500   | 83.2           | 87.6      | 88.4       | 91.3       | 93.6           | 96.9   | 98.9  | 101.6          | 103.6 | 106.1  | 104.0      | 102.9    | 149.0   | 153.7    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 3150   | 78.5           | 83.6      | 83.4       | 84.7       | 87.5           | 91.1   | 92.7  | 94.9           | 99.1  | 103.6  | 103.3      | 101.8    | 149.8   | 153.7    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 4000   | 74.3           | 78.6      | 79.8       | 80.9       | 84.0           | 87.1   | 89.0  | 91.9           | 97.1  | 101.3  | 101.8      | 92.2     | 151.6   | 153.7    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 5000   | 69.7           | 73.5      | 74.2       | 75.8       | 78.6           | 83.3   | 84.6  | 87.6           | 94.1  | 100.6  | 98.3       | 90.0     | 153.7   | 156.6    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 6300   | 63.9           | 68.8      | 69.4       | 72.3       | 73.3           | 80.6   | 83.7  | 83.7           | 90.8  | 98.2   | 96.6       | 88.5     | 156.6   | 160.1    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| 8000   | 58.7           | 66.2      | 65.7       | 66.0       | 68.4           | 72.8   | 75.2  | 78.8           | 88.2  | 93.9   | 94.7       | 83.1     | 160.1   | 161.4    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| GASPL  | 112.2          | 113.5     | 112.5      | 113.3      | 114.3          | 116.3  | 118.1 | 120.7          | 125.6 | 132.3  | 132.7      | 130.0    | 127.5   | 169.2    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| PWL  | 125.1          | 128.1     | 125.7      | 126.6      | 128.2          | 130.2  | 131.2 | 134.3          | 139.3 | 145.1  | 144.2      | 139.5    | 136.7   | 161.4    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| DBA  | 180.5          | 187.2     | 187.0      | 188.0      | 190.2          | 194.7  | 196.8 | 200.3          | 209.1 | 215.1  | 215.5      | 204.6    | 188.6   | 161.4    |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES |                |           |            |            |                |        |       |                |       |        |            |          |         |          |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514  |                |           |            |            |                |        |       |                |       |        |            |          |         |          |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| VEHICL   | = ADH024       | TEST DATE | = 08-19-81 | LOCAT      | = C41 ANECH CH | CONFIG | = 4   | MODEL          | = 4   | FLTVEL | = 0. FPS   | TAMB F   | = 70.00 | PAMB HG  | = 29.60 | RELHUM | = 57.9 PCT | IAPLHA | = SB59 | WIND DIR | =            |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |
| FNINI  | =              | LBS XNL   | =          | RPM XNHR   | =              | RPM V8 | =     | 2378.9 FPS     | AE8   | =      | 25.3 SQ IN | FPS AE18 | =       | 0. SQ IN | FNRAMB  | =      | LBS XNLR   | =      | RPM    | =        | DEG WIND VEL | = | MPH | EXT DIST | = | 40.0 FT | PWL AREA | = | FULL SPHERE | TAMB F | = | 70.00 | PAMB HG | = | 29.60 | RELHUM | = | 57.9 PCT | IAPLHA | = | SB59 | WIND DIR | = |
| RUNPT  | = 81F-ZER-0405 | TAPE      | = X0405F   | TEST PT NG | = 0405         | NC     | = 861 | CORR FAN SPEED | =     | RPM    | =          |          |         |          |         |        |            |        |        |          |              |   |     |          |   |         |          |   |             |        |   |       |         |   |       |        |   |          |        |   |      |          |   |

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - B1F-ZER-0405 X04051

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |      |       |       |      |      |       |
|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|-------|
| 50   | 69.8 | 73.4 | 74.7 | 77.0 | 77.5 | 81.5 | 84.0 | 88.5 | 96.0 | 100.5 | 99.6  | 96.6 | 90.1 | 174.3 |
| 63   | 68.9 | 73.7 | 74.3 | 76.3 | 78.3 | 80.6 | 83.1 | 86.1 | 91.3 | 98.3  | 98.9  | 95.9 | 89.4 | 172.9 |
| 80   | 71.0 | 74.8 | 75.7 | 77.4 | 79.4 | 81.7 | 83.9 | 87.2 | 92.7 | 100.4 | 100.7 | 96.4 | 90.9 | 174.5 |
| 100  | 74.8 | 75.4 | 76.7 | 78.5 | 80.5 | 82.8 | 84.5 | 87.5 | 93.5 | 101.2 | 101.0 | 96.0 | 89.2 | 174.9 |
| 125  | 79.2 | 81.3 | 80.4 | 80.7 | 82.2 | 83.7 | 86.2 | 88.4 | 93.7 | 101.1 | 100.9 | 95.8 | 89.2 | 175.0 |
| 150  | 77.5 | 84.2 | 83.3 | 84.3 | 85.1 | 85.6 | 86.6 | 89.3 | 94.0 | 101.0 | 100.5 | 94.3 | 86.5 | 174.7 |
| 200  | 81.0 | 80.5 | 81.6 | 82.7 | 84.0 | 85.2 | 88.6 | 89.5 | 94.4 | 100.7 | 100.9 | 92.0 | 84.5 | 174.8 |
| 250  | 82.1 | 83.7 | 82.8 | 83.0 | 83.0 | 83.0 | 87.3 | 89.5 | 94.8 | 101.3 | 97.5  | 90.0 | 81.8 | 174.1 |
| 315  | 79.9 | 82.5 | 83.3 | 84.8 | 84.9 | 85.2 | 87.3 | 89.8 | 93.7 | 100.1 | 95.4  | 87.6 | 80.1 | 173.1 |
| 400  | 77.5 | 81.2 | 81.3 | 83.6 | 85.4 | 87.4 | 87.6 | 89.6 | 93.4 | 98.0  | 94.8  | 86.2 | 77.4 | 172.3 |
| 500  | 76.0 | 78.8 | 79.4 | 82.3 | 83.8 | 86.5 | 88.2 | 90.0 | 93.5 | 96.2  | 92.0  | 83.5 | 75.7 | 171.3 |
| 630  | 73.7 | 77.1 | 78.3 | 80.5 | 82.7 | 85.3 | 87.3 | 89.3 | 91.7 | 94.7  | 90.9  | 81.5 | 73.3 | 170.4 |
| 800  | 71.9 | 76.8 | 77.7 | 79.7 | 82.1 | 84.8 | 86.6 | 88.8 | 90.3 | 93.5  | 89.6  | 80.2 | 71.6 | 169.9 |
| 1000 | 69.6 | 74.3 | 76.4 | 78.5 | 80.4 | 83.6 | 85.5 | 87.6 | 89.4 | 91.7  | 87.2  | 78.5 | 68.7 | 169.0 |
| 1250 | 68.4 | 72.9 | 75.1 | 77.6 | 80.5 | 83.4 | 84.1 | 86.1 | 88.2 | 90.2  | 85.6  | 76.6 | 66.6 | 168.4 |
| 1600 | 65.7 | 70.7 | 72.7 | 75.4 | 78.8 | 81.8 | 82.8 | 83.7 | 86.3 | 88.1  | 83.6  | 72.8 | 62.0 | 167.8 |
| 2000 | 61.7 | 68.3 | 70.8 | 72.9 | 75.7 | 79.2 | 80.3 | 82.4 | 83.7 | 85.4  | 79.5  | 69.5 | 56.0 | 166.9 |
| 2500 | 57.5 | 63.7 | 67.0 | 70.3 | 73.1 | 76.2 | 76.8 | 79.0 | 79.9 | 81.4  | 76.1  | 65.1 | 48.1 | 166.1 |
| 3150 | 49.8 | 59.1 | 61.8 | 64.5 | 68.3 | 72.5 | 73.9 | 74.1 | 75.8 | 77.4  | 70.6  | 58.5 | 35.0 | 166.4 |
| 4000 | 38.9 | 50.1 | 53.8 | 57.5 | 61.5 | 65.5 | 66.8 | 67.7 | 69.5 | 70.2  | 63.7  | 45.9 | 16.8 | 167.2 |
| 5000 | 24.9 | 37.6 | 43.9 | 48.2 | 53.1 | 56.8 | 58.1 | 59.3 | 61.2 | 60.2  | 52.4  | 28.5 |      | 169.0 |
| 6300 | 2.5  | 18.2 | 26.3 | 32.4 | 37.6 | 43.1 | 43.6 | 44.1 | 46.2 | 45.4  | 31.1  | 2.2  |      | 171.2 |
| 8000 |      | 0.1  | 9.6  | 14.7 | 20.5 | 21.4 | 21.0 | 21.5 | 18.1 |       |       |      |      | 174.0 |

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|       |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 88.7 | 91.5 | 91.7 | 93.2 | 94.6  | 96.6  | 98.4  | 100.6 | 105.0 | 110.9 | 109.7 | 104.4 | 97.7 | 186.4 |
| PNL   | 92.9 | 96.1 | 97.0 | 98.9 | 100.9 | 103.3 | 104.7 | 106.7 | 110.6 | 115.4 | 113.4 | 104.5 | 96.8 |       |
| PFLT  | 93.4 | 97.0 | 97.0 | 98.9 | 100.9 | 103.3 | 104.7 | 106.7 | 110.6 | 115.4 | 113.4 | 104.5 | 96.8 |       |
| DBA   | 81.8 | 85.2 | 86.1 | 88.2 | 90.2  | 92.8  | 94.2  | 96.2  | 98.9  | 102.6 | 99.2  | 91.1  | 83.1 |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

|          |          |           |            |          |                |            |             |           |         |         |                |   |            |
|----------|----------|-----------|------------|----------|----------------|------------|-------------|-----------|---------|---------|----------------|---|------------|
| VEHICLE  | = ADH024 | TEST DATE | = 08-19-81 | LOCAT    | = C41 ANECH CH | CONFIG     | = 4         | MODEL     | = 4     | FLTVL   | = 0. FPS       |   |            |
| IAPLHA   | = SB59   | LEGA      | = NG       | PML AREA | = FULL SPHERE  | TAMB F     | = 70.00     | PAMB HG   | = 29.60 | RELHUM  | = 57.9 PCT     |   |            |
| WIND DIR | =        | DEG       | WIND VEL   | =        | MPH            | EXT DIST   | = 2400.0 FT | EXT CNFJG | = SL    | MIKE HT | =              |   |            |
| FNRAMB   | =        | LBS       | XNLR       | =        | RPM            | XNHR       | =           | RPM       | V8      | FPS     | AEB            | = | 25.3 SQ IN |
| FNRAMP   | =        | LBS       | XNLR       | =        | RPM            | XNHR       | =           | RPM       | V8      | FPS     | AE18           | = | 0. SQ IN   |
| RUNPT    | = 8      | TR-0405   | TAPE       | =        | X04051         | TEST PT NG | = 0405      | NC        | =       | 861     | CORR FAN SPEED | = | RPM        |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0406 X0406C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 87.9 87.0 82.5 82.5 82.9 84.0 83.6 88.0 89.0 88.1 96.7 93.4 98.8 132.0

63 89.2 89.0 88.3 87.3 89.4 90.3 88.9 90.3 93.5 90.1 99.2 94.2 99.3 134.6

80 91.5 96.1 90.1 91.1 92.7 95.1 95.0 94.4 95.8 94.4 97.3 99.2 102.4 137.5

100 91.3 96.1 91.1 92.9 94.0 94.9 95.7 96.9 95.4 96.2 98.8 103.3 105.7 139.3

125 87.9 90.9 91.7 92.7 93.8 96.4 96.3 95.7 95.9 98.5 105.1 107.3 109.5 142.2

150 87.0 84.6 88.3 88.6 88.7 90.3 91.5 92.1 95.1 99.7 105.0 111.1 142.5

160 87.0 84.6 88.3 88.6 88.7 90.3 91.5 92.1 95.1 99.7 105.0 111.1 142.5

200 86.0 86.1 86.8 86.6 89.0 91.6 92.5 94.9 96.8 100.7 105.8 110.5 144.3

250 84.8 88.3 88.6 89.6 90.7 91.6 94.2 96.9 99.8 105.9 111.3 114.7 147.7

315 85.6 88.4 87.9 88.7 90.0 93.6 95.5 97.4 101.9 109.2 112.6 114.7 148.8

400 88.1 89.1 89.4 91.3 94.9 97.3 100.9 107.1 114.5 116.8 117.3 113.4 151.7

500 87.5 90.5 90.3 91.8 93.9 95.5 98.1 102.0 107.8 115.8 118.7 117.4 152.7

630 89.6 91.9 91.4 92.4 94.2 96.6 99.2 103.4 108.9 117.9 121.1 116.8 154.2

800 92.2 91.7 91.8 93.8 95.4 97.8 99.6 102.5 108.5 118.1 121.0 115.6 154.0

1000 96.0 96.8 95.8 96.3 96.7 99.0 99.7 100.7 103.3 108.8 114.7 105.1 154.5

1250 96.0 96.8 96.8 98.8 98.6 99.7 100.5 101.7 104.6 110.0 119.1 121.7 154.8

1500 96.7 99.8 98.8 98.6 99.7 100.5 101.7 104.6 110.0 119.1 121.7 113.7 154.8

2000 102.3 100.3 99.6 99.6 101.3 104.0 106.0 111.3 118.5 122.6 113.7 104.7 155.2

2500 101.9 103.1 102.5 101.4 100.0 101.6 103.0 106.1 112.0 119.7 121.0 112.6 154.8

3150 98.9 101.0 102.8 103.1 102.7 104.0 106.5 111.4 118.6 118.9 110.7 104.0 153.5

3500 97.0 98.1 98.1 99.9 101.9 104.8 104.1 107.3 111.7 115.7 108.7 101.4 151.4

4000 96.0 96.3 96.8 98.0 99.1 102.8 104.1 107.3 111.7 115.7 108.7 101.4 151.4

5000 94.2 95.5 95.5 96.8 98.2 101.7 104.3 106.9 111.1 115.1 106.4 100.7 150.7

6300 94.4 95.8 95.5 96.2 98.4 101.4 103.4 106.8 110.3 114.2 113.5 106.3 150.1

8000 91.8 93.0 93.6 94.8 97.1 99.6 101.2 104.5 108.2 111.8 110.7 103.4 148.6

10000 92.2 94.1 94.4 95.3 97.1 100.4 102.5 105.9 109.1 112.7 111.8 104.7 149.1

12500 90.4 90.9 92.2 93.2 95.2 98.2 100.1 102.2 106.5 109.3 109.0 101.7 147.5

16000 86.9 89.1 89.6 90.9 92.7 95.2 97.6 101.4 104.3 106.2 99.8 93.8 146.5

20000 84.3 85.3 86.4 88.0 90.5 93.0 95.2 97.2 100.8 103.5 103.9 97.4 145.2

25000 80.3 83.0 83.2 84.3 87.1 90.7 92.4 94.4 97.5 100.7 100.3 94.9 144.4

31500 75.7 78.6 78.9 80.7 82.9 86.5 87.9 90.7 94.4 96.9 98.0 90.4 144.3

40000 71.0 73.9 75.1 76.4 79.5 82.9 84.5 86.7 91.4 93.7 96.1 86.7 145.4

50000 66.8 69.5 71.8 74.8 78.5 81.6 81.6 87.9 93.3 94.3 82.4 72.1 147.8

63000 61.9 67.3 66.4 68.2 71.2 73.3 75.1 77.6 85.6 91.9 93.0 77.8 151.4

80000 58.9 65.3 65.4 63.7 65.7 67.9 69.7 70.4 85.3 86.8 89.8 71.4 154.7

QASPL 108.9 110.0 109.5 110.2 111.1 113.3 114.9 117.6 122.3 129.0 131.1 126.3 122.4 165.9

PWL 121.7 122.9 122.7 123.9 124.7 127.1 128.2 130.7 135.2 141.2 143.1 136.3 130.6

DBA 109.2 110.0 109.7 110.3 111.0 113.0 114.6 117.3 122.2 129.0 131.0 124.5 117.7

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH041 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS

IAPLHA = SB59 IEGA = NG PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.60 RELHUM = 47.1 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH RPM = V8 = 2376.8 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNLR RPM XNHR RPM = V8 = 2376.8 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-0406 TAPE = X0406C TEST PT NO = 0406 NC = 861 CORR FAN SPEED = RPM

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NUMERICAL PAGE PRINTING SYSTEM - P188-02

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0406 X0406F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 92.4  | 93.2  | 92.9  | 92.3  | 91.6  | 92.3  | 93.3  | 98.4  | 104.8 | 107.7 | 111.1 | 112.1 | 145.0 |
| 250   | 92.4  | 94.6  | 93.2  | 92.9  | 91.8  | 93.8  | 94.2  | 94.6  | 105.1 | 111.8 | 113.8 | 115.1 | 149.4 |
| 315   | 92.4  | 94.6  | 93.2  | 92.9  | 91.8  | 93.8  | 94.2  | 94.6  | 105.1 | 111.8 | 113.8 | 115.1 | 149.4 |
| 400   | 93.3  | 94.7  | 92.8  | 92.1  | 93.1  | 95.1  | 96.5  | 99.1  | 105.9 | 113.6 | 116.6 | 114.3 | 151.3 |
| 500   | 95.8  | 95.5  | 94.1  | 93.8  | 95.8  | 95.8  | 97.3  | 100.1 | 106.8 | 115.4 | 118.8 | 113.7 | 152.5 |
| 630   | 95.1  | 96.9  | 95.2  | 95.3  | 96.2  | 97.0  | 98.3  | 101.2 | 106.8 | 116.0 | 119.3 | 116.8 | 152.9 |
| 800   | 97.2  | 98.3  | 96.4  | 95.9  | 97.4  | 98.3  | 98.7  | 100.3 | 107.5 | 117.4 | 120.7 | 117.3 | 154.1 |
| 1000  | 99.9  | 98.2  | 96.8  | 97.4  | 98.3  | 99.7  | 99.9  | 101.3 | 108.9 | 117.7 | 120.9 | 116.5 | 154.3 |
| 1250  | 101.2 | 101.3 | 99.4  | 99.0  | 101.6 | 101.3 | 101.0 | 102.6 | 110.4 | 117.3 | 122.0 | 115.5 | 154.9 |
| 1600  | 102.3 | 104.7 | 102.8 | 101.6 | 102.3 | 103.6 | 104.2 | 111.3 | 118.7 | 120.7 | 116.5 | 115.0 | 154.7 |
| 2000  | 108.7 | 105.6 | 103.6 | 102.5 | 102.1 | 102.9 | 102.8 | 104.7 | 111.2 | 118.1 | 119.2 | 114.5 | 154.1 |
| 2500  | 108.1 | 108.2 | 106.5 | 104.4 | 106.0 | 104.3 | 104.2 | 105.5 | 111.9 | 117.1 | 119.1 | 114.1 | 154.0 |
| 3150  | 106.2 | 107.4 | 106.3 | 106.9 | 105.2 | 106.8 | 104.8 | 105.7 | 112.6 | 116.3 | 116.9 | 113.4 | 153.2 |
| 4000  | 104.6 | 104.7 | 103.7 | 104.3 | 102.8 | 105.4 | 106.4 | 107.3 | 112.1 | 115.7 | 110.8 | 112.7 | 152.3 |
| 5000  | 103.5 | 103.0 | 102.5 | 102.7 | 103.3 | 104.7 | 105.8 | 107.0 | 111.3 | 114.8 | 110.7 | 111.0 | 151.6 |
| 6300  | 104.4 | 104.5 | 103.1 | 102.8 | 102.4 | 104.4 | 104.8 | 106.9 | 110.3 | 113.6 | 113.2 | 109.5 | 151.0 |
| 8000  | 101.6 | 102.4 | 101.2 | 100.9 | 101.6 | 103.4 | 103.9 | 106.0 | 109.6 | 113.0 | 112.5 | 108.6 | 150.6 |
| 10000 | 102.2 | 102.8 | 101.6 | 100.9 | 101.7 | 102.6 | 102.7 | 104.7 | 108.2 | 110.7 | 111.1 | 107.1 | 149.7 |
| 12500 | 101.5 | 101.4 | 100.5 | 99.8  | 99.8  | 101.2 | 101.6 | 102.3 | 106.6 | 109.0 | 108.8 | 105.8 | 148.8 |
| 15000 | 99.5  | 98.8  | 98.6  | 98.0  | 97.3  | 98.2  | 99.1  | 101.6 | 103.7 | 106.2 | 107.2 | 104.2 | 148.0 |
| 20000 | 95.7  | 96.6  | 95.6  | 95.4  | 95.1  | 96.0  | 96.5  | 97.5  | 100.7 | 103.7 | 103.9 | 101.9 | 146.8 |
| 25000 | 92.4  | 92.2  | 91.9  | 91.7  | 91.7  | 93.7  | 94.0  | 93.6  | 98.3  | 100.5 | 102.1 | 97.8  | 146.3 |
| 31500 | 87.6  | 89.1  | 87.8  | 87.5  | 89.5  | 89.4  | 90.8  | 96.0  | 97.8  | 100.7 | 94.4  | 93.4  | 146.7 |
| 40000 | 82.2  | 83.8  | 82.7  | 82.9  | 84.1  | 85.9  | 86.0  | 86.7  | 92.8  | 97.8  | 99.1  | 90.2  | 148.6 |
| 50000 | 77.1  | 78.8  | 78.5  | 78.2  | 79.4  | 81.5  | 81.2  | 81.6  | 91.5  | 97.3  | 98.8  | 86.5  | 151.9 |
| 63000 | 72.0  | 73.4  | 71.9  | 72.7  | 75.8  | 76.6  | 77.6  | 77.4  | 82.9  | 93.7  | 97.0  | 81.6  | 155.1 |
| 80000 | 65.5  | 69.7  | 67.3  | 67.6  | 69.8  | 70.9  | 70.4  | 82.9  | 83.9  | 87.2  | 71.8  | 65.9  | 152.4 |
| QASPL | 115.8 | 115.7 | 114.4 | 114.0 | 114.0 | 115.0 | 115.0 | 116.7 | 122.3 | 128.2 | 130.4 | 127.0 | 125.9 |
| PWL   | 128.5 | 128.7 | 127.4 | 127.5 | 126.9 | 128.1 | 128.1 | 129.4 | 135.0 | 139.9 | 141.5 | 137.5 | 137.4 |
| PFLT  | 129.6 | 128.7 | 127.4 | 127.5 | 126.9 | 128.1 | 128.1 | 129.4 | 135.0 | 139.9 | 141.5 | 137.5 | 137.4 |
| DBA   | 187.7 | 191.0 | 189.0 | 189.3 | 191.6 | 192.7 | 192.9 | 192.7 | 206.0 | 207.4 | 210.4 | 195.5 | 190.1 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH041 TEST DATE = 08-19-81 LGCAT = C41 ANECH CH CNFIG = 4 MODEL = 4 FLTVL = 400. FPS  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.60 RELHUM = 47.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM = XNH RPM = V8 = 2376.8 FPS AEB = 25.3 SQ IN  
 FNAMB = LBS XNLR RPM = XNHR RPM = V18 = 2376.8 FPS AE18 = 0. SQ IN

RUNPT = 00-0406 TAPE = X0406F TEST PT NO = 0406 NC = 861 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM - 8108-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0406 X04061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 71.3 74.3 73.4 73.4 74.8 77.0 78.2 80.4 86.5 93.1 94.6 92.6 86.7 168.7

80 73.0 76.4 75.8 76.5 77.9 79.9 82.8 87.3 95.4 97.2 92.5 85.0 170.3

100 75.1 77.7 76.9 77.1 79.1 80.0 81.5 88.0 96.8 98.5 87.4 171.6

125 77.6 77.5 77.2 78.5 79.1 81.3 81.4 82.4 89.3 97.0 98.6 92.0 86.8 171.7

150 78.7 80.4 79.7 80.0 83.0 82.9 82.5 83.6 90.6 96.4 99.6 91.7 86.7 172.4

200 79.6 83.6 82.9 83.2 83.8 84.9 85.1 91.4 97.6 97.9 90.5 86.0 172.2

250 85.6 84.2 83.5 83.2 83.2 84.1 83.9 85.3 91.0 96.8 88.9 85.7 171.5

315 84.6 86.5 86.1 84.7 86.8 85.3 85.1 85.8 91.5 95.4 95.7 87.9 83.6 171.4

400 82.3 85.3 85.5 86.9 85.7 87.4 85.3 85.8 91.8 94.2 92.9 86.4 82.0 170.6

500 80.1 82.2 82.5 84.0 83.1 85.8 86.7 87.0 90.9 93.2 91.2 83.4 80.3 169.7

630 78.6 80.1 81.1 82.2 83.3 84.8 85.8 86.4 89.8 92.0 89.7 82.6 77.6 169.0

800 79.0 81.3 81.3 81.9 82.2 84.3 84.5 86.1 88.5 90.3 87.8 80.6 76.2 168.4

1000 75.8 78.8 79.2 79.9 81.2 83.1 83.5 85.0 87.6 89.4 86.6 79.2 75.3 168.0

1250 75.8 78.9 79.4 79.8 81.1 82.2 82.1 83.5 86.0 86.9 84.7 76.8 71.7 167.1

1600 74.2 77.0 77.9 78.7 80.5 80.8 80.8 83.9 84.5 81.6 74.2 67.8 166.3

2000 71.3 73.7 75.5 76.3 78.1 79.9 80.7 81.1 79.0 71.0 63.3 165.5

2500 65.7 70.3 71.7 73.0 73.5 74.7 74.9 75.1 76.8 77.4 73.8 65.8 164.2

3150 59.0 63.4 66.1 67.8 68.7 71.0 71.0 69.6 72.5 71.7 68.8 56.7 42.0 163.7

4000 48.0 55.6 58.2 60.1 61.6 64.0 63.5 66.4 64.4 61.1 44.4 23.0 164.1

5000 32.8 42.8 50.3 53.2 55.5 55.1 54.1 57.0 56.8 49.8 26.5 166.0

6300 10.0 23.5 30.6 34.8 38.4 41.3 40.2 38.1 43.6 42.1 31.6 172.6

8000 169.8

1000  
1250  
1500  
2000  
2500  
3150  
4000  
5000  
6300  
8000

QASPL 91.8 93.5 93.4 93.8 94.4 95.5 95.6 96.6 101.5 106.6 107.5 101.5 96.1 183.5  
PWL 97.2 99.5 99.8 100.7 100.9 102.4 102.2 103.1 107.3 110.6 110.2 102.9 98.0  
PNLT 97.8 99.5 100.4 101.2 100.9 102.4 102.2 103.1 107.3 111.4 110.2 102.9 98.0  
DBA 86.8 89.1 89.4 90.1 90.5 92.0 92.2 93.2 96.6 99.1 97.9 90.6 86.2

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH041 TEST DATE = 08-19-81  
IAPLHA = SB59 LEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT  
CONFIG = C41 ANECH CH CONFIG = 4 TAMB F = 79.00 PAMB HG = 29.60 RELHUM = 47.1 PCT  
FLTVEL = 400. FPS NBFR =

FNINI = LBS XNL RPM XNHR = RPM V8 = 2376.8 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2376.8 FPS AEB = 25.3 SQ IN  
CORR FAN SPEED = RPM

RUNPT = 81F-400-0406 TAPE = X04061 TEST PT NO = 0406 NC = 861 CORR FAN SPEED = RPM

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DATPROC - FL:LAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

06/18/82 17.409

PAGE 1

IDENTIFICATION - MODEL 81F-ZER-0407 X0407C  
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PML

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.9  | 85.2  | 83.2  | 82.5  | 83.1  | 87.2  | 87.1  | 88.3  | 90.0  | 96.8  | 96.7  | 96.4  | 97.3  | 133.5 |
| 63    | 89.0  | 88.5  | 89.3  | 88.8  | 90.7  | 93.0  | 91.9  | 91.3  | 95.0  | 99.9  | 99.2  | 98.4  | 100.1 | 136.8 |
| 80    | 90.8  | 96.1  | 90.8  | 91.1  | 92.7  | 95.6  | 95.5  | 94.6  | 96.3  | 95.7  | 98.3  | 99.7  | 101.9 | 137.8 |
| 100   | 91.3  | 97.1  | 92.9  | 94.2  | 95.0  | 96.9  | 97.2  | 98.7  | 97.1  | 98.9  | 100.3 | 104.0 | 105.9 | 140.5 |
| 125   | 87.9  | 91.1  | 93.2  | 94.9  | 95.5  | 97.7  | 97.8  | 97.4  | 98.7  | 101.5 | 107.9 | 109.3 | 110.2 | 144.0 |
| 160   | 87.5  | 87.3  | 89.8  | 90.6  | 90.2  | 92.6  | 94.7  | 95.6  | 98.8  | 103.4 | 107.5 | 110.2 | 112.9 | 144.7 |
| 200   | 88.3  | 88.6  | 89.1  | 89.3  | 90.1  | 93.0  | 95.8  | 95.7  | 97.4  | 102.1 | 104.7 | 109.0 | 113.2 | 147.0 |
| 250   | 88.3  | 92.1  | 91.8  | 93.4  | 94.2  | 95.3  | 98.0  | 98.0  | 100.1 | 103.8 | 110.2 | 116.6 | 119.6 | 150.7 |
| 315   | 89.6  | 91.9  | 90.9  | 92.4  | 94.5  | 97.6  | 99.0  | 101.4 | 107.4 | 113.2 | 116.1 | 118.3 | 117.7 | 152.1 |
| 400   | 92.1  | 93.4  | 94.1  | 95.4  | 95.5  | 99.4  | 102.0 | 106.2 | 113.9 | 120.0 | 120.8 | 118.2 | 116.2 | 156.2 |
| 500   | 90.9  | 94.5  | 94.3  | 95.0  | 96.1  | 99.3  | 100.9 | 105.0 | 111.0 | 119.1 | 120.5 | 117.3 | 115.4 | 155.4 |
| 630   | 93.3  | 95.6  | 95.1  | 96.2  | 98.0  | 99.6  | 102.5 | 106.2 | 112.1 | 121.7 | 122.6 | 121.2 | 119.4 | 157.4 |
| 800   | 97.2  | 96.2  | 96.3  | 97.3  | 99.4  | 101.2 | 103.1 | 106.3 | 113.0 | 121.6 | 122.5 | 120.4 | 117.5 | 157.1 |
| 1000  | 101.2 | 101.5 | 100.0 | 100.3 | 100.6 | 102.0 | 104.4 | 107.3 | 113.8 | 122.1 | 122.7 | 120.6 | 117.8 | 157.5 |
| 1250  | 101.2 | 101.5 | 102.8 | 103.5 | 102.9 | 102.4 | 104.3 | 106.2 | 109.1 | 115.0 | 122.9 | 119.8 | 116.1 | 156.6 |
| 1500  | 103.6 | 104.4 | 104.0 | 104.7 | 104.3 | 104.9 | 107.3 | 109.7 | 114.6 | 121.8 | 118.7 | 114.5 | 111.0 | 155.8 |
| 2000  | 103.6 | 103.6 | 102.3 | 103.8 | 104.9 | 107.0 | 107.1 | 110.1 | 114.4 | 120.1 | 118.0 | 112.9 | 109.0 | 154.8 |
| 2500  | 103.6 | 104.4 | 104.0 | 104.7 | 104.3 | 104.9 | 107.3 | 109.7 | 114.6 | 121.8 | 118.7 | 114.5 | 111.0 | 155.8 |
| 3150  | 102.5 | 103.6 | 102.3 | 103.8 | 104.9 | 107.0 | 107.1 | 110.1 | 114.4 | 120.1 | 118.0 | 112.9 | 109.0 | 154.8 |
| 4000  | 100.7 | 101.2 | 101.3 | 102.3 | 104.1 | 106.3 | 108.0 | 110.5 | 114.4 | 119.2 | 115.7 | 111.7 | 108.6 | 154.0 |
| 5000  | 98.7  | 100.2 | 99.8  | 101.0 | 103.2 | 105.2 | 107.3 | 110.4 | 114.8 | 114.8 | 110.6 | 106.7 | 103.1 | 153.1 |
| 6000  | 95.7  | 98.6  | 97.9  | 99.5  | 101.0 | 102.9 | 105.1 | 106.9 | 109.8 | 112.3 | 113.8 | 110.0 | 105.6 | 152.4 |
| 8000  | 95.7  | 98.6  | 97.9  | 99.5  | 101.3 | 104.4 | 105.9 | 108.6 | 111.1 | 116.0 | 111.8 | 107.9 | 105.0 | 151.6 |
| 10000 | 95.3  | 97.0  | 97.6  | 99.8  | 101.3 | 104.1 | 105.2 | 107.3 | 110.4 | 114.8 | 111.2 | 106.7 | 103.3 | 151.2 |
| 12500 | 93.7  | 95.4  | 96.4  | 97.4  | 99.7  | 101.9 | 103.6 | 105.4 | 109.0 | 112.8 | 109.8 | 104.9 | 101.2 | 150.3 |
| 15000 | 90.2  | 93.6  | 93.6  | 94.7  | 96.8  | 100.0 | 101.1 | 104.4 | 107.0 | 110.4 | 106.7 | 102.8 | 99.0  | 149.4 |
| 20000 | 88.0  | 90.3  | 90.9  | 92.7  | 94.5  | 97.2  | 98.9  | 101.7 | 104.1 | 107.9 | 105.3 | 101.2 | 96.1  | 148.7 |
| 25000 | 83.2  | 87.4  | 87.6  | 88.9  | 88.9  | 91.8  | 96.9  | 97.8  | 101.6 | 103.4 | 100.8 | 95.4  | 91.8  | 148.4 |
| 31500 | 78.7  | 83.6  | 83.6  | 85.2  | 88.0  | 91.1  | 92.5  | 95.7  | 99.1  | 103.4 | 100.8 | 95.4  | 87.2  | 149.2 |
| 40000 | 74.8  | 78.9  | 80.0  | 81.1  | 84.0  | 87.6  | 88.8  | 91.7  | 96.6  | 101.0 | 99.3  | 92.4  | 83.4  | 150.7 |
| 50000 | 69.4  | 73.7  | 74.4  | 76.1  | 79.1  | 83.3  | 84.6  | 87.6  | 93.3  | 101.1 | 96.8  | 90.2  | 77.9  | 153.6 |
| 63000 | 63.6  | 69.5  | 69.6  | 72.3  | 74.6  | 78.3  | 81.3  | 83.7  | 91.1  | 99.2  | 95.6  | 86.0  | 75.0  | 156.9 |
| 80000 | 59.0  | 66.4  | 65.2  | 66.5  | 68.4  | 72.6  | 75.2  | 78.5  | 87.7  | 94.9  | 93.7  | 81.6  | 66.4  | 160.1 |
| QASPL | 112.6 | 113.6 | 112.8 | 114.5 | 116.4 | 118.1 | 120.9 | 125.6 | 132.4 | 132.4 | 132.4 | 132.1 | 130.2 | 169.1 |
| PML   | 125.4 | 126.5 | 125.9 | 126.8 | 127.9 | 131.3 | 133.9 | 138.2 | 144.5 | 142.1 | 143.9 | 139.9 | 137.1 |       |
| PFLT  | 125.4 | 127.1 | 125.9 | 126.8 | 127.9 | 129.9 | 131.3 | 133.9 | 139.0 | 145.1 | 143.6 | 139.9 | 137.1 |       |
| DBA   | 113.1 | 113.8 | 112.9 | 113.5 | 114.3 | 116.1 | 117.8 | 120.6 | 125.4 | 132.3 | 131.6 | 128.8 | 125.7 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH025 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 70.00 MIKE HT = 29.60  
WIND DIR = DEG WIND YEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =  
FNINI = LBS XNLR = RPM XNH = RPM V8 = 2387.2 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNH = RPM V8 = 2387.2 FPS AEB = 25.3 SQ IN  
CORR FAN SPEED = RPM

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IDENTIFICATION - 81F-ZER-0407 X0407F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    | 85.9  | 83.2  | 82.5  | 83.1  | 87.2  | 87.1  | 88.3  | 90.0  | 96.8  | 96.7  | 96.4  | 97.3  | 133.5 |
| 63    | 89.0  | 88.5  | 89.3  | 88.8  | 90.7  | 93.0  | 91.9  | 91.3  | 95.0  | 99.9  | 98.4  | 100.1 | 136.8 |
| 80    | 90.8  | 96.1  | 92.7  | 95.6  | 95.5  | 94.6  | 97.1  | 97.1  | 98.9  | 100.3 | 104.0 | 105.9 | 140.5 |
| 100   | 91.3  | 97.1  | 92.9  | 94.2  | 95.0  | 96.9  | 97.8  | 97.8  | 98.7  | 97.4  | 98.7  | 101.5 | 144.0 |
| 125   | 97.9  | 91.1  | 93.2  | 94.9  | 95.5  | 97.7  | 97.8  | 98.7  | 98.7  | 101.5 | 107.9 | 109.3 | 144.0 |
| 150   | 87.5  | 87.3  | 89.8  | 90.6  | 90.2  | 92.6  | 94.7  | 95.6  | 98.8  | 103.4 | 107.5 | 110.2 | 144.7 |
| 160   | 87.5  | 87.3  | 89.8  | 90.6  | 90.2  | 92.6  | 94.7  | 95.6  | 98.8  | 103.4 | 107.5 | 110.2 | 144.7 |
| 200   | 88.3  | 88.6  | 89.3  | 90.1  | 93.0  | 95.8  | 95.7  | 97.4  | 102.1 | 104.7 | 109.0 | 113.2 | 147.0 |
| 250   | 88.3  | 88.3  | 89.3  | 90.1  | 93.0  | 95.8  | 95.7  | 97.4  | 102.1 | 104.7 | 109.0 | 113.2 | 147.0 |
| 315   | 89.6  | 91.9  | 90.9  | 92.4  | 94.5  | 97.6  | 99.0  | 101.4 | 107.4 | 113.2 | 118.3 | 117.7 | 152.1 |
| 400   | 92.1  | 93.4  | 94.1  | 95.4  | 95.5  | 99.4  | 102.0 | 106.2 | 113.9 | 120.0 | 120.8 | 118.2 | 156.2 |
| 500   | 93.9  | 94.5  | 94.3  | 95.0  | 96.1  | 99.3  | 100.9 | 105.0 | 111.0 | 119.1 | 120.5 | 117.3 | 155.4 |
| 630   | 93.3  | 95.6  | 95.1  | 96.2  | 98.0  | 99.6  | 102.5 | 106.2 | 112.1 | 121.7 | 122.6 | 119.4 | 157.4 |
| 800   | 97.2  | 96.2  | 96.3  | 97.3  | 99.4  | 101.2 | 103.1 | 106.3 | 113.0 | 121.6 | 122.7 | 120.6 | 157.5 |
| 1000  | 101.2 | 101.5 | 100.0 | 100.3 | 102.0 | 104.4 | 107.3 | 113.8 | 122.1 | 122.7 | 120.6 | 117.8 | 157.5 |
| 1250  | 104.7 | 102.3 | 102.1 | 102.3 | 102.9 | 104.0 | 106.8 | 109.2 | 114.8 | 121.7 | 122.4 | 117.9 | 157.0 |
| 1500  | 104.7 | 101.2 | 101.3 | 102.3 | 104.1 | 108.0 | 110.5 | 114.4 | 118.1 | 119.2 | 122.9 | 112.4 | 156.6 |
| 2000  | 105.2 | 103.3 | 103.5 | 102.9 | 102.4 | 104.3 | 106.2 | 109.7 | 114.6 | 121.8 | 118.7 | 114.5 | 155.8 |
| 2500  | 103.6 | 104.4 | 104.0 | 104.7 | 104.3 | 104.9 | 107.1 | 110.1 | 114.4 | 120.1 | 118.0 | 109.0 | 154.8 |
| 3150  | 102.5 | 103.6 | 102.3 | 103.8 | 104.9 | 107.0 | 107.1 | 110.1 | 114.4 | 120.1 | 118.0 | 109.0 | 154.8 |
| 4000  | 100.7 | 101.2 | 101.3 | 104.1 | 105.2 | 107.3 | 109.4 | 110.4 | 114.8 | 111.2 | 106.7 | 103.3 | 151.2 |
| 5000  | 98.7  | 100.2 | 99.8  | 102.9 | 103.2 | 105.2 | 107.3 | 109.4 | 114.8 | 111.2 | 106.7 | 103.3 | 151.2 |
| 6300  | 97.8  | 100.3 | 99.5  | 101.0 | 102.9 | 105.1 | 106.9 | 109.8 | 112.3 | 116.7 | 113.8 | 110.0 | 152.4 |
| 8000  | 95.7  | 98.6  | 97.9  | 99.5  | 101.3 | 104.4 | 105.9 | 108.6 | 111.1 | 116.0 | 111.8 | 107.9 | 151.6 |
| 10000 | 93.3  | 97.0  | 97.6  | 99.8  | 101.3 | 104.1 | 105.2 | 107.3 | 109.4 | 112.8 | 109.8 | 104.9 | 150.3 |
| 12500 | 93.7  | 95.4  | 96.4  | 97.4  | 99.7  | 101.9 | 103.6 | 105.4 | 109.0 | 112.8 | 109.8 | 104.9 | 150.3 |
| 15000 | 90.2  | 93.6  | 93.6  | 94.7  | 96.8  | 100.0 | 101.1 | 104.4 | 107.0 | 110.4 | 106.7 | 102.4 | 149.4 |
| 20000 | 88.0  | 90.3  | 90.9  | 92.7  | 94.5  | 97.2  | 98.9  | 101.7 | 104.1 | 107.9 | 105.3 | 101.2 | 148.7 |
| 25000 | 83.2  | 87.4  | 87.6  | 88.9  | 91.8  | 94.8  | 96.9  | 97.8  | 101.6 | 105.1 | 103.0 | 98.6  | 148.4 |
| 31500 | 78.7  | 83.6  | 83.6  | 85.2  | 88.0  | 91.1  | 92.5  | 95.7  | 99.1  | 103.4 | 100.8 | 95.4  | 149.2 |
| 40000 | 74.8  | 78.9  | 80.0  | 81.1  | 84.0  | 87.6  | 88.8  | 91.7  | 96.6  | 101.0 | 99.3  | 92.4  | 150.7 |
| 50000 | 69.4  | 73.7  | 74.4  | 76.1  | 79.1  | 83.3  | 84.6  | 87.6  | 93.3  | 98.3  | 93.3  | 87.7  | 153.6 |
| 63000 | 63.6  | 69.5  | 69.6  | 72.3  | 74.6  | 78.3  | 81.3  | 83.7  | 91.1  | 99.2  | 95.6  | 86.0  | 156.9 |
| 80000 | 59.0  | 66.4  | 65.2  | 66.5  | 68.4  | 72.6  | 75.2  | 78.5  | 87.7  | 94.9  | 93.7  | 81.6  | 160.1 |
| QASPL | 112.6 | 113.6 | 112.8 | 113.5 | 114.5 | 116.4 | 118.1 | 120.9 | 125.6 | 132.4 | 132.1 | 130.2 | 127.9 |
| PWL   | 125.4 | 126.5 | 125.9 | 126.8 | 127.9 | 129.9 | 131.3 | 133.9 | 138.2 | 144.5 | 142.9 | 139.9 | 137.1 |
| PFLT  | 125.4 | 127.1 | 125.9 | 126.8 | 127.9 | 129.9 | 131.3 | 133.9 | 138.2 | 144.5 | 142.9 | 139.9 | 137.1 |
| DBA   | 180.6 | 187.5 | 186.7 | 188.3 | 190.4 | 194.4 | 197.0 | 200.1 | 208.7 | 216.1 | 214.4 | 203.0 | 189.3 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH025 TEST DATE = 08-19-81  
 IAPLHA = SB59 IEGA = NO WIND VEL = MPH  
 PWL AREA = FULL SPHERE EXT DIST = 40.0 FT  
 CNF10 = 4 TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT  
 MODEL = 4 FLTVEL = 0. FPS  
 CNF10 = 4 EXT CNF10 = ARC MIKE HT = NBR

FNINI = LBS XNL RPM XNH RPM XNHR RPM = = = =  
 FNAMB = LBS XNL RPM = = = =  
 CORR FAN SPEED = RPM = 861 NC = 0407 TEST PT NO = 0407

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HONEYWELL PAGE PRINTING SYSTEM - P108-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0407 X04071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 70.1 72.9 74.7 76.7 77.2 81.2 83.7 87.5 94.5 99.5 98.6 98.4 95.9 89.7 172.8  
 50 70.1 72.9 74.7 76.7 77.2 81.2 83.7 87.5 94.5 99.5 98.6 98.4 95.9 89.7 173.6  
 63 68.9 74.0 74.8 76.3 77.8 81.1 82.6 86.3 91.6 98.6 98.4 95.9 89.7 172.8  
 80 71.2 75.1 75.7 77.4 79.7 81.4 84.2 87.4 92.7 101.1 100.5 96.9 91.7 174.8  
 100 75.0 75.6 76.7 78.5 81.0 83.0 84.8 87.5 93.5 101.0 100.3 96.0 89.7 174.5  
 125 78.9 80.8 80.4 81.4 82.2 83.7 85.9 88.4 94.2 101.4 100.4 96.1 89.7 175.0  
 160 78.0 83.9 83.8 84.6 85.1 87.1 89.3 94.5 101.5 100.5 94.8 87.0 175.0  
 200 82.0 81.2 82.1 83.2 84.2 85.5 88.1 90.0 94.9 100.7 99.6 92.8 84.5 174.4  
 250 82.1 84.0 83.3 83.5 83.5 85.5 87.3 89.7 94.8 101.6 96.7 90.5 82.8 174.1  
 315 80.2 82.8 83.5 85.1 85.1 85.9 88.1 90.1 94.2 100.1 95.2 88.4 80.6 173.2  
 400 78.5 81.5 83.9 85.4 87.7 87.6 90.1 93.6 98.0 94.0 86.2 77.7 172.2  
 500 76.3 78.8 80.1 82.0 84.3 86.7 88.2 90.3 93.3 96.7 91.3 84.2 76.2 171.4  
 630 73.7 77.4 78.3 80.5 83.2 85.3 87.3 89.8 91.9 95.2 89.9 82.5 73.3 170.6  
 800 72.4 77.1 77.7 80.2 82.6 85.0 86.6 89.0 90.6 93.5 88.3 81.2 71.1 169.8  
 1000 69.9 75.1 75.9 78.5 80.9 84.1 85.5 87.6 89.1 92.4 86.0 78.5 69.2 169.0  
 1250 68.9 73.2 75.3 78.6 80.7 83.7 84.6 86.1 88.2 90.9 84.9 76.4 66.1 168.6  
 1600 66.4 70.9 73.7 75.9 78.8 81.3 82.8 83.9 86.3 88.3 82.6 73.3 61.7 167.7  
 2000 62.0 68.6 70.6 72.9 75.7 79.2 80.1 82.7 84.0 85.4 78.5 69.5 56.5 166.8  
 2500 58.0 64.0 67.0 70.3 72.9 75.9 77.3 79.3 80.2 81.6 75.3 65.1 48.6 166.2  
 3150 49.8 58.6 61.8 65.0 68.8 72.2 73.9 73.9 75.8 76.4 69.6 57.5 36.0 165.8  
 4000 39.1 50.1 54.0 58.0 62.0 65.5 66.5 68.5 69.5 61.2 45.4 16.8 166.6  
 5000 25.4 37.8 44.2 48.5 53.1 57.3 57.9 59.0 60.7 60.0 49.9 28.7 2.4 168.1  
 6300 2.3 18.5 26.5 32.6 38.1 43.6 44.1 45.4 45.9 29.6 2.4 171.0

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|       |     |      |      |      |      |      |      |      |      |      |     |       |
|-------|-----|------|------|------|------|------|------|------|------|------|-----|-------|
| 8000  | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 8000  | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 10000 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 12500 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 15000 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 17500 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 20000 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 22500 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 25000 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 27500 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 30000 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 32500 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 35000 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 37500 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 40000 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 42500 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 45000 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 47500 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |
| 50000 | 2.3 | 18.5 | 26.5 | 32.6 | 38.1 | 43.6 | 44.1 | 45.4 | 45.9 | 29.6 | 2.4 | 171.0 |

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|       |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 89.1 | 91.6 | 92.0 | 93.4 | 94.8  | 96.7  | 98.4  | 100.8 | 105.0 | 111.0 | 109.2 | 104.7 | 98.2 | 186.3 |
| PNL   | 93.1 | 96.3 | 97.2 | 99.1 | 101.0 | 103.4 | 104.8 | 106.9 | 110.1 | 114.9 | 111.4 | 104.8 | 97.2 |       |
| PNLT  | 94.2 | 96.3 | 97.2 | 99.1 | 101.0 | 103.4 | 104.8 | 106.9 | 110.1 | 115.6 | 111.4 | 105.9 | 97.2 |       |
| DBA   | 82.2 | 85.4 | 86.3 | 88.5 | 90.5  | 92.9  | 94.3  | 96.4  | 99.0  | 102.9 | 98.4  | 91.6  | 83.5 |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH025 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNF10 = 4 MODEL = 4  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 MIKE HT = SL  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF10 = SL  
 FNIN1 = LBS XNL RPM XNHR = RPM V8 = 2387.2 FPS AEB = 25.3 SQ IN  
 FNFRMB = LBS XNLR RPM XNHR = RPM V8 = 2387.2 FPS AEB = 25.3 SQ IN  
 CORR FAN SPEED = RPM

CONFIDENTIAL - SECURITY INFORMATION - 3781688-11188-02



DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0408 X0408F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  | 200   | 250   | 315   | 400   | 500   | 630   | 800   | 1000  | 1250  | 1500  | 2000  | 2500  | 3150  | 4000  | 5000  | 6300  | 8000  |
| 200   | 94.4  | 93.0  | 93.0  | 92.0  | 91.8  | 92.8  | 93.3  | 98.7  | 105.1 | 108.4 | 111.8 | 112.3 | 145.5 | 153.1 | 153.4 | 154.9 | 155.5 |
| 250   | 92.9  | 94.4  | 93.0  | 92.0  | 91.8  | 92.8  | 93.3  | 98.7  | 105.1 | 108.4 | 111.8 | 112.3 | 145.5 | 153.1 | 153.4 | 154.9 | 155.5 |
| 315   | 92.9  | 94.4  | 93.0  | 92.0  | 91.8  | 92.8  | 93.3  | 98.7  | 105.1 | 108.4 | 111.8 | 112.3 | 145.5 | 153.1 | 153.4 | 154.9 | 155.5 |
| 400   | 93.3  | 95.0  | 93.1  | 92.1  | 93.1  | 95.1  | 96.7  | 100.9 | 107.8 | 112.2 | 117.9 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 500   | 95.9  | 96.2  | 94.5  | 93.8  | 95.5  | 97.5  | 100.1 | 106.8 | 116.0 | 119.2 | 122.5 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 630   | 95.4  | 97.1  | 95.5  | 95.3  | 96.2  | 97.3  | 98.8  | 101.2 | 107.4 | 116.4 | 119.7 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 800   | 97.5  | 98.8  | 97.1  | 96.2  | 97.7  | 98.0  | 98.7  | 100.9 | 107.8 | 112.2 | 117.9 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 1000  | 99.9  | 98.4  | 97.6  | 98.2  | 99.1  | 99.9  | 101.6 | 101.0 | 102.4 | 111.0 | 117.7 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 1250  | 101.5 | 101.0 | 99.2  | 99.1  | 101.9 | 101.6 | 101.0 | 102.4 | 111.0 | 117.7 | 122.5 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 1500  | 102.7 | 105.4 | 102.6 | 101.8 | 102.1 | 102.8 | 103.7 | 104.6 | 112.1 | 119.3 | 120.8 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 2000  | 109.2 | 107.1 | 104.4 | 103.0 | 102.8 | 103.4 | 103.1 | 104.9 | 111.3 | 118.6 | 119.7 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 2500  | 107.9 | 109.1 | 107.2 | 105.6 | 106.8 | 104.8 | 104.3 | 105.8 | 112.2 | 117.9 | 118.7 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 3150  | 107.0 | 107.1 | 106.7 | 107.4 | 106.0 | 107.5 | 105.3 | 106.0 | 113.0 | 116.7 | 117.1 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 4000  | 107.9 | 107.5 | 105.4 | 105.6 | 103.6 | 105.9 | 107.2 | 107.6 | 112.5 | 116.1 | 112.3 | 122.5 | 154.9 | 154.4 | 154.7 | 154.7 | 154.7 |
| 5000  | 103.8 | 103.5 | 103.8 | 103.0 | 104.4 | 105.8 | 104.6 | 104.9 | 107.2 | 110.8 | 114.0 | 113.4 | 110.1 | 110.6 | 151.1 | 151.1 | 151.1 |
| 6300  | 101.9 | 103.0 | 101.9 | 101.9 | 102.9 | 104.6 | 104.9 | 107.2 | 110.8 | 114.0 | 113.4 | 110.1 | 110.6 | 151.1 | 151.1 | 151.1 | 151.1 |
| 8000  | 101.4 | 102.4 | 100.9 | 101.7 | 102.1 | 103.9 | 104.2 | 105.7 | 109.8 | 113.4 | 113.1 | 109.5 | 110.9 | 150.9 | 150.9 | 150.9 | 150.9 |
| 10000 | 102.2 | 102.6 | 102.1 | 100.9 | 101.7 | 103.3 | 103.2 | 105.4 | 108.8 | 111.5 | 111.4 | 108.4 | 109.4 | 150.2 | 150.2 | 150.2 | 150.2 |
| 12500 | 101.2 | 101.2 | 100.8 | 100.7 | 100.3 | 101.2 | 101.2 | 102.8 | 106.7 | 109.7 | 109.2 | 106.7 | 108.8 | 149.3 | 149.3 | 149.3 | 149.3 |
| 15000 | 99.0  | 99.3  | 98.6  | 98.3  | 97.3  | 99.0  | 99.2  | 101.5 | 104.1 | 107.2 | 106.7 | 103.9 | 105.3 | 148.2 | 148.2 | 148.2 | 148.2 |
| 20000 | 95.7  | 96.8  | 95.9  | 95.1  | 95.3  | 96.2  | 96.9  | 97.7  | 101.1 | 105.6 | 103.9 | 102.1 | 101.6 | 147.4 | 147.4 | 147.4 | 147.4 |
| 25000 | 92.2  | 92.7  | 92.4  | 92.3  | 91.4  | 93.9  | 93.8  | 98.7  | 103.0 | 102.0 | 97.7  | 97.2  | 146.9 | 146.9 | 146.9 | 146.9 | 146.9 |
| 31500 | 87.6  | 89.3  | 87.8  | 87.6  | 86.0  | 89.5  | 90.1  | 90.7  | 96.7  | 100.7 | 101.5 | 95.1  | 93.0  | 147.8 | 147.8 | 147.8 | 147.8 |
| 40000 | 81.9  | 84.1  | 82.4  | 82.2  | 84.9  | 85.6  | 86.0  | 86.7  | 93.8  | 101.3 | 99.6  | 90.9  | 88.1  | 150.3 | 150.3 | 150.3 | 150.3 |
| 50000 | 76.9  | 78.7  | 79.0  | 78.7  | 79.9  | 81.5  | 81.5  | 81.6  | 91.7  | 100.3 | 100.8 | 86.8  | 83.3  | 154.0 | 154.0 | 154.0 | 154.0 |
| 63000 | 71.5  | 73.7  | 72.4  | 72.7  | 75.8  | 76.3  | 77.6  | 77.6  | 89.0  | 99.5  | 97.7  | 83.3  | 76.0  | 157.4 | 157.4 | 157.4 | 157.4 |
| 80000 | 65.3  | 70.5  | 67.8  | 67.8  | 67.8  | 70.0  | 71.4  | 72.7  | 79.1  | 89.7  | 87.9  | 73.5  | 66.2  | 154.5 | 154.5 | 154.5 | 154.5 |
| GASPL | 116.2 | 116.3 | 114.8 | 114.5 | 114.5 | 115.4 | 115.5 | 117.0 | 122.7 | 128.7 | 130.7 | 127.8 | 126.7 | 167.0 | 167.0 | 167.0 | 167.0 |
| PNL   | 129.0 | 129.3 | 127.8 | 128.0 | 127.4 | 128.6 | 128.6 | 129.7 | 135.4 | 140.4 | 141.6 | 138.4 | 138.3 | 174.6 | 174.6 | 174.6 | 174.6 |
| PFLT  | 130.3 | 129.3 | 127.8 | 128.0 | 127.4 | 128.6 | 128.6 | 129.7 | 135.4 | 140.4 | 141.6 | 138.4 | 138.3 | 174.6 | 174.6 | 174.6 | 174.6 |
| DBA   | 187.4 | 191.6 | 189.5 | 189.5 | 189.5 | 191.8 | 193.0 | 194.1 | 192.9 | 202.5 | 212.9 | 211.3 | 197.0 | 190.5 | 190.5 | 190.5 | 190.5 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFRR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH042 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS  
 IAPLHA = SB59 IEGA' = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.60 RELHUM = 47.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

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RUNPT = 400-0408 TAPE = X0408F TEST PT NO = 040 NC = 861 CORR FAN SPEED = RPM  
 FNINI = LBS XNL RPM XNH RPM V8 = 2396.5 FPS AE8 = 25.3 SQ IN  
 FNRMB = LBS XNL RPM XNH RPM V18 = 2396.5 FPS AE18 = 0. SQ IN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0408 X04081

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|      |      |      |      |      |      |      |      |      |      |      |       |      |       |       |
|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|
| 50   | 71.3 | 74.5 | 73.7 | 73.4 | 74.8 | 77.0 | 78.4 | 80.9 | 86.8 | 93.4 | 94.6  | 93.1 | 86.7  | 168.9 |
| 63   | 73.8 | 75.7 | 75.1 | 75.1 | 77.2 | 77.2 | 79.2 | 81.4 | 87.4 | 95.5 | 97.1  | 93.5 | 86.6  | 170.5 |
| 80   | 73.3 | 76.6 | 76.5 | 77.9 | 79.1 | 80.4 | 82.5 | 87.9 | 95.8 | 97.6 | 93.4  | 86.2 | 170.9 |       |
| 100  | 75.3 | 78.2 | 77.6 | 77.4 | 79.3 | 79.8 | 80.8 | 81.4 | 82.9 | 89.8 | 97.3  | 98.6 | 87.9  | 172.0 |
| 125  | 77.6 | 77.7 | 78.0 | 78.0 | 79.8 | 80.8 | 81.4 | 82.9 | 89.8 | 97.3 | 99.2  | 87.3 | 172.3 |       |
| 150  | 79.0 | 80.2 | 79.5 | 80.1 | 83.4 | 83.2 | 82.5 | 83.4 | 91.3 | 96.9 | 100.0 | 88.4 | 172.9 |       |
| 200  | 80.0 | 84.3 | 82.6 | 83.4 | 84.3 | 84.9 | 85.4 | 92.2 | 98.2 | 98.1 | 91.7  | 87.0 | 172.6 |       |
| 250  | 86.2 | 85.8 | 84.3 | 83.7 | 83.9 | 84.6 | 84.1 | 85.6 | 91.2 | 97.2 | 96.6  | 89.7 | 172.1 |       |
| 315  | 84.5 | 87.4 | 86.8 | 86.0 | 87.6 | 85.8 | 85.1 | 86.1 | 91.8 | 96.3 | 95.3  | 89.1 | 171.8 |       |
| 400  | 83.1 | 85.0 | 85.9 | 87.5 | 86.5 | 88.2 | 85.8 | 86.0 | 92.2 | 94.6 | 93.1  | 86.9 | 171.1 |       |
| 500  | 83.4 | 85.0 | 84.2 | 85.4 | 83.8 | 86.3 | 87.5 | 87.3 | 91.4 | 93.7 | 84.8  | 80.2 | 170.4 |       |
| 630  | 78.8 | 80.6 | 81.3 | 82.9 | 83.0 | 84.6 | 85.8 | 86.9 | 90.4 | 92.3 | 90.1  | 83.6 | 169.5 |       |
| 800  | 76.4 | 79.7 | 80.1 | 82.7 | 84.5 | 84.6 | 86.4 | 89.0 | 90.8 | 88.0 | 81.3  | 76.1 | 168.6 |       |
| 1000 | 75.5 | 78.8 | 78.9 | 80.7 | 81.7 | 83.6 | 83.8 | 84.8 | 87.8 | 89.8 | 87.3  | 80.0 | 168.3 |       |
| 1250 | 75.8 | 78.7 | 79.9 | 79.8 | 81.1 | 82.9 | 82.6 | 84.2 | 86.5 | 87.6 | 85.0  | 78.1 | 167.7 |       |
| 1500 | 75.8 | 78.7 | 79.9 | 79.8 | 81.1 | 82.9 | 82.6 | 84.2 | 86.5 | 87.6 | 85.0  | 78.1 | 167.7 |       |
| 1600 | 74.0 | 76.7 | 78.1 | 79.2 | 79.4 | 80.5 | 80.3 | 81.3 | 84.1 | 85.2 | 81.9  | 75.0 | 166.7 |       |
| 2000 | 70.8 | 74.2 | 75.5 | 76.5 | 76.3 | 78.2 | 78.2 | 79.3 | 81.3 | 82.1 | 78.5  | 70.7 | 165.6 |       |
| 2500 | 65.7 | 70.6 | 72.0 | 72.7 | 73.7 | 74.9 | 75.3 | 77.2 | 79.3 | 73.9 | 66.0  | 54.2 | 164.8 |       |
| 3150 | 58.8 | 63.9 | 66.6 | 68.3 | 68.5 | 71.3 | 71.0 | 72.9 | 74.2 | 68.6 | 55.7  | 41.4 | 164.3 |       |
| 4000 | 48.0 | 55.8 | 58.2 | 60.3 | 62.1 | 64.0 | 64.2 | 63.5 | 67.1 | 67.3 | 61.9  | 45.1 | 165.2 |       |
| 5000 | 32.6 | 43.1 | 46.6 | 49.5 | 54.0 | 55.3 | 55.0 | 54.0 | 58.0 | 60.3 | 50.3  | 27.2 | 167.7 |       |
| 6300 | 9.7  | 23.5 | 31.1 | 35.3 | 38.9 | 41.3 | 40.5 | 38.1 | 43.8 | 45.1 | 33.6  |      | 174.8 |       |
| 8000 |      |      |      |      |      |      |      |      |      |      |       |      |       | 172.0 |

ORIGINAL PAGE IS  
OF POOR QUALITY

80000  
50000  
40000  
31500  
25000  
20000  
15000  
12500  
10000  
8000

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH042 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS  
WIND DIR = ALPHA = SB59 EXT DIST = 2400.0 FT PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.60 RELHUM = 47.1 PCT  
MIND DIR = DEG WIND VEL = MPH LEGA/ = NO

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2396.5 FPS AEB = 25.3 SQ IN  
FNFRMB = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2396.5 FPS AEB = 25.3 SQ IN

RUNPT = 81F-400-0408 TAPE = X04081 TEST PT NO = 0408 NC = 861 CORR FAN SPEED = RPM

DATPROC - FLIRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0411 X0411C  
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.2 85.5 83.0 82.8 83.4 88.0 87.9 88.8 90.0 96.8 96.9 95.9 97.3 133.6

63 89.0 88.8 88.8 90.7 93.0 92.4 91.3 95.0 100.1 99.0 97.9 100.1 136.8

80 91.0 96.1 90.8 91.4 93.2 95.8 96.0 95.1 96.6 96.2 98.5 100.2 138.2

100 91.3 97.8 92.9 94.2 95.2 96.9 97.5 98.7 97.6 99.7 100.6 104.5 140.9

125 88.1 90.9 92.7 94.4 95.5 98.2 98.0 97.9 98.9 101.7 107.9 109.3 144.1

160 87.8 87.6 90.6 90.0 92.8 95.0 95.9 98.8 102.9 107.3 110.2 113.1 144.8

200 89.3 88.6 89.3 90.9 93.2 95.8 96.2 98.1 102.3 105.2 108.8 113.0 151.1

250 88.5 92.3 92.6 93.6 94.5 95.6 97.7 100.1 104.3 110.2 114.3 117.2 150.6

315 89.6 92.1 91.4 92.9 94.5 98.1 99.8 101.7 107.4 113.7 118.5 117.7 152.2

400 92.1 93.6 93.9 95.2 95.8 99.1 101.3 106.9 114.1 119.2 120.3 117.9 155.8

500 91.4 94.5 94.3 94.8 96.1 99.0 101.6 105.0 111.3 118.8 120.2 117.8 155.4

630 93.6 95.6 95.6 96.7 98.0 99.6 102.5 106.4 112.6 121.2 122.3 120.7 157.1

800 97.2 96.7 96.3 97.5 99.4 101.5 103.4 106.8 113.0 121.8 122.5 121.1 157.3

1000 101.5 102.2 100.5 100.9 102.5 104.6 107.5 113.8 122.1 122.7 120.4 117.6 157.5

1250 100.2 104.8 103.3 103.1 103.9 104.3 105.4 108.6 114.8 122.4 122.2 119.4 157.4

1600 104.7 102.6 102.6 102.7 104.3 107.5 109.7 114.6 121.5 122.1 114.6 117.9 156.8

2000 105.2 105.3 104.0 103.1 102.7 104.6 106.7 109.4 115.2 123.2 119.5 116.1 156.8

2500 103.4 104.2 104.0 104.7 104.6 105.4 107.5 110.2 114.6 122.0 117.9 114.5 155.8

3150 102.2 103.3 102.6 103.8 105.2 107.0 107.4 109.6 114.4 120.4 117.5 113.4 154.8

4000 100.5 101.8 102.5 103.4 106.3 108.7 111.0 114.7 119.2 115.5 112.4 108.4 154.1

5000 98.7 100.5 100.0 101.5 103.2 105.7 107.6 110.1 113.6 117.8 114.8 110.6 153.1

6300 97.6 100.1 100.0 101.0 102.9 105.4 106.9 110.6 113.1 116.5 113.8 110.5 152.5

8000 96.0 98.6 99.5 101.5 104.1 106.4 109.4 112.4 115.7 112.0 107.4 104.1 151.4

10000 94.8 97.0 97.8 99.6 101.6 104.3 105.2 108.3 110.7 114.5 112.0 108.2 151.7

12500 93.7 95.6 96.4 97.7 99.9 102.7 104.1 105.7 109.0 112.8 109.8 105.2 150.4

15000 90.4 93.4 94.4 94.7 97.5 100.0 101.6 104.9 107.3 110.9 106.7 103.3 149.8

16000 90.4 93.4 94.4 94.7 97.5 100.0 101.6 104.9 107.3 110.9 106.7 103.3 149.8

20000 88.0 90.5 91.2 92.7 94.7 97.7 98.9 101.7 104.6 107.9 104.8 100.7 148.8

25000 83.7 87.6 87.9 89.2 91.5 93.6 97.1 98.6 102.1 106.1 103.0 98.8 149.0

31500 79.0 83.6 83.9 85.0 88.0 91.8 93.2 95.4 99.9 103.6 101.3 95.4 149.5

40000 74.3 78.4 80.0 81.4 84.5 87.9 89.5 92.7 98.1 100.5 99.8 92.2 151.0

50000 69.7 73.5 74.4 76.6 79.3 83.8 85.6 89.3 94.6 99.6 96.8 89.0 153.0

63000 63.6 69.5 69.6 72.1 74.9 78.8 81.6 86.5 92.8 99.2 96.3 85.8 157.3

80000 59.0 66.4 65.5 66.3 68.7 72.8 75.7 80.0 90.2 94.6 93.7 80.1 160.4

DBA 113.0 113.8 113.2 113.6 114.4 116.3 118.2 120.9 125.6 132.3 131.3 128.8 125.7

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH026 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60

MIND DIR = DEG MIND'VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2406.7 FPS AEB = 25.3 SQ IN

RUNPT = F-ZER-0411 TAPE = X0411C TEST PT NO = 0411 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0411 X0411F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.2  | 85.5  | 83.0  | 82.8  | 83.4  | 88.0  | 87.9  | 88.8  | 90.0  | 96.8  | 96.9  | 95.9  | 97.3  | 133.6 |
| 63    | 89.0  | 88.8  | 88.8  | 88.8  | 88.8  | 90.7  | 93.0  | 92.4  | 91.3  | 95.0  | 100.1 | 99.0  | 100.1 | 136.8 |
| 80    | 91.0  | 96.1  | 90.8  | 91.4  | 93.2  | 95.8  | 96.0  | 95.1  | 96.6  | 96.2  | 98.5  | 100.2 | 102.6 | 138.2 |
| 100   | 91.3  | 97.8  | 92.9  | 94.2  | 95.2  | 96.9  | 97.5  | 98.7  | 99.6  | 99.7  | 107.9 | 109.3 | 110.5 | 140.9 |
| 125   | 88.1  | 90.9  | 92.7  | 94.4  | 95.5  | 98.2  | 98.0  | 97.9  | 98.9  | 98.9  | 101.7 | 107.9 | 110.5 | 144.1 |
| 150   | 87.8  | 87.6  | 90.3  | 90.6  | 90.0  | 92.8  | 95.0  | 98.9  | 98.8  | 102.9 | 113.1 | 114.8 | 114.8 | 144.8 |
| 160   | 87.8  | 87.6  | 90.3  | 90.6  | 90.0  | 92.8  | 95.0  | 98.9  | 98.8  | 102.9 | 113.1 | 114.8 | 114.8 | 144.8 |
| 200   | 89.3  | 88.3  | 90.9  | 93.2  | 95.8  | 96.2  | 98.1  | 102.3 | 105.2 | 108.8 | 113.0 | 115.1 | 115.1 | 147.0 |
| 250   | 88.5  | 88.3  | 92.6  | 93.6  | 94.5  | 95.6  | 97.7  | 100.1 | 104.3 | 110.2 | 114.3 | 117.2 | 116.9 | 150.6 |
| 315   | 89.6  | 92.1  | 91.4  | 92.9  | 94.5  | 98.1  | 99.8  | 101.7 | 107.4 | 113.7 | 115.8 | 118.5 | 117.7 | 152.2 |
| 400   | 92.1  | 93.6  | 93.9  | 95.2  | 95.8  | 99.1  | 101.3 | 106.9 | 114.1 | 119.2 | 120.3 | 120.5 | 117.9 | 155.8 |
| 500   | 91.4  | 94.5  | 94.3  | 94.8  | 96.1  | 99.0  | 101.6 | 105.0 | 111.3 | 118.8 | 120.2 | 120.4 | 117.8 | 155.4 |
| 630   | 93.6  | 95.6  | 95.6  | 96.7  | 98.0  | 99.6  | 102.5 | 106.4 | 112.6 | 121.6 | 122.3 | 120.7 | 119.2 | 157.1 |
| 800   | 97.2  | 96.3  | 97.5  | 99.4  | 101.5 | 103.4 | 106.8 | 109.4 | 114.6 | 121.5 | 122.1 | 122.7 | 120.4 | 157.5 |
| 1000  | 101.5 | 102.2 | 100.5 | 100.5 | 100.9 | 102.5 | 104.6 | 107.5 | 113.8 | 122.1 | 122.7 | 120.4 | 117.6 | 157.5 |
| 1250  | 100.2 | 104.8 | 103.3 | 103.1 | 103.9 | 104.3 | 105.4 | 108.6 | 114.8 | 122.4 | 122.2 | 119.4 | 115.7 | 157.4 |
| 1500  | 104.7 | 102.5 | 102.6 | 102.6 | 102.9 | 104.3 | 107.5 | 109.7 | 114.6 | 121.5 | 122.1 | 117.9 | 113.7 | 156.8 |
| 1600  | 104.7 | 102.5 | 102.6 | 102.6 | 102.9 | 104.3 | 107.5 | 109.7 | 114.6 | 121.5 | 122.1 | 117.9 | 113.7 | 156.8 |
| 2000  | 105.2 | 103.3 | 104.0 | 104.0 | 102.7 | 104.6 | 107.5 | 110.2 | 114.6 | 122.0 | 117.9 | 114.5 | 111.0 | 155.8 |
| 2500  | 103.4 | 104.2 | 104.0 | 104.7 | 104.6 | 105.4 | 107.5 | 110.2 | 114.6 | 122.0 | 117.9 | 114.5 | 111.0 | 155.8 |
| 3150  | 102.2 | 103.3 | 102.6 | 103.8 | 105.2 | 107.0 | 107.4 | 109.6 | 114.4 | 120.4 | 117.5 | 112.4 | 109.3 | 154.8 |
| 4000  | 100.5 | 101.5 | 103.2 | 103.2 | 105.7 | 107.6 | 110.1 | 113.6 | 117.8 | 114.8 | 110.6 | 107.2 | 103.1 | 153.1 |
| 4500  | 100.5 | 101.5 | 103.2 | 103.2 | 105.7 | 107.6 | 110.1 | 113.6 | 117.8 | 114.8 | 110.6 | 107.2 | 103.1 | 153.1 |
| 5000  | 98.7  | 100.5 | 100.0 | 101.0 | 102.9 | 105.4 | 106.9 | 110.6 | 113.1 | 116.5 | 113.8 | 108.2 | 105.0 | 152.5 |
| 6300  | 97.6  | 100.1 | 100.0 | 101.0 | 102.9 | 105.4 | 106.9 | 110.6 | 113.1 | 116.5 | 113.8 | 108.2 | 105.0 | 151.7 |
| 8000  | 96.0  | 98.6  | 98.9  | 99.5  | 101.5 | 104.3 | 106.4 | 109.4 | 112.4 | 115.7 | 112.1 | 108.2 | 105.0 | 151.7 |
| 10000 | 97.0  | 97.8  | 99.6  | 101.6 | 104.3 | 105.2 | 108.3 | 110.7 | 114.5 | 112.0 | 107.4 | 104.1 | 101.4 | 150.4 |
| 12500 | 93.7  | 95.6  | 96.4  | 97.7  | 99.9  | 102.7 | 104.1 | 105.7 | 109.0 | 112.8 | 109.8 | 105.2 | 102.2 | 150.4 |
| 15000 | 90.4  | 93.4  | 94.4  | 94.7  | 97.5  | 100.0 | 101.6 | 104.9 | 107.3 | 110.9 | 106.7 | 103.9 | 100.0 | 149.8 |
| 16000 | 90.4  | 93.4  | 94.4  | 94.7  | 97.5  | 100.0 | 101.6 | 104.9 | 107.3 | 110.9 | 106.7 | 103.9 | 100.0 | 149.8 |
| 20000 | 88.0  | 90.5  | 92.7  | 94.7  | 98.9  | 101.7 | 104.6 | 107.9 | 110.7 | 114.6 | 107.9 | 104.8 | 100.7 | 148.8 |
| 25000 | 83.7  | 87.6  | 89.2  | 91.5  | 95.6  | 97.1  | 98.6  | 102.1 | 106.1 | 103.0 | 98.8  | 92.1  | 149.0 |       |
| 31500 | 79.0  | 83.6  | 83.9  | 85.0  | 88.0  | 91.8  | 93.2  | 95.4  | 99.9  | 103.6 | 101.3 | 95.4  | 149.5 |       |
| 40000 | 74.3  | 78.4  | 80.0  | 81.4  | 84.5  | 87.9  | 89.5  | 92.7  | 98.5  | 100.5 | 99.8  | 92.2  | 151.0 |       |
| 50000 | 63.6  | 69.5  | 72.1  | 74.9  | 78.8  | 81.6  | 86.5  | 92.8  | 99.2  | 96.3  | 85.8  | 74.3  | 157.3 |       |
| 63000 | 63.6  | 69.5  | 72.1  | 74.9  | 78.8  | 81.6  | 86.5  | 92.8  | 99.2  | 96.3  | 85.8  | 74.3  | 157.3 |       |
| 80000 | 59.0  | 66.4  | 65.5  | 66.3  | 68.7  | 72.8  | 75.7  | 80.0  | 90.2  | 94.6  | 93.7  | 80.1  | 160.4 |       |
| QASPL | 112.5 | 113.7 | 113.0 | 113.6 | 116.7 | 118.5 | 121.2 | 125.8 | 132.4 | 131.8 | 130.2 | 127.9 | 169.2 |       |
| PNL   | 125.3 | 126.5 | 126.1 | 126.9 | 128.0 | 130.0 | 131.7 | 134.3 | 138.4 | 144.5 | 142.6 | 140.0 | 137.1 |       |
| PMLT  | 125.3 | 127.2 | 126.1 | 126.9 | 128.0 | 130.5 | 131.7 | 134.9 | 139.2 | 144.5 | 143.3 | 140.0 | 137.1 |       |
| DBA   | 180.6 | 187.5 | 186.9 | 186.9 | 190.7 | 194.8 | 197.5 | 201.9 | 211.1 | 215.8 | 214.5 | 201.8 | 190.6 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADHOZ6 TEST DATE = 08-19-81  
IAPLHA = SB59 IEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
EXT AREA = FULL SPHERE PWL AREA = 40.0 FT  
EXT DIST = 40.0 FT  
EXT CNFIG = ARC  
TAMB F = 70.00 MIKE HT =  
PAMB HG = 29.60 RELHUM = 57.9 PCT  
MODEL = 4 CNFIG = 4  
FLVEL = 0. FPS  
NBFR =

FNINI = FNRAMB = LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2406.7 FPS AEB = 25.3 SO IN  
RPM V8 = 2406.7 FPS AEB = 25.3 SO IN  
CORR FAN SPEED = RPM

RUNPT = 81F-ZER-0411 TAPE = X0411F TEST PT NG = 0411 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PROBLEM  
OF POOR QUALITY

HONEYWELL PAGE PRINTING SYSTEM - P1188-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0411 X04111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.1 73.1 74.5 76.5 77.5 81.0 83.0 88.2 94.7 98.7 98.3 96.3 90.4 173.2

63 69.4 74.0 74.8 76.1 77.8 80.8 83.3 86.3 91.8 98.3 98.2 96.1 90.2 172.8

80 71.5 75.1 77.9 79.7 81.4 84.2 87.7 93.2 100.6 100.2 96.4 91.4 174.5

100 75.0 76.7 78.8 81.0 83.3 85.0 88.0 93.5 101.2 100.3 96.7 89.9 174.8

125 79.2 81.5 80.9 81.7 82.4 84.2 86.2 88.7 94.2 101.4 100.4 95.8 89.5 174.9

160 77.7 83.9 83.5 84.1 85.3 85.8 86.8 89.6 95.0 101.5 99.8 87.2 174.8

200 82.0 81.5 82.6 83.4 84.2 85.7 86.8 89.8 94.6 100.4 99.4 92.8 84.8 174.2

250 82.1 84.0 83.8 83.7 83.8 85.8 87.8 90.5 95.1 101.8 96.5 90.5 82.0 174.2

315 79.9 82.5 83.5 85.1 85.4 86.4 88.3 90.6 94.2 100.4 94.4 88.4 80.6 173.2

400 78.3 81.2 81.8 83.9 85.7 87.7 87.9 89.6 93.6 98.3 93.5 86.7 77.9 172.3

500 76.0 79.0 80.6 82.3 83.6 86.7 88.9 90.8 93.5 96.7 91.0 85.0 76.0 171.5

630 73.7 77.6 78.6 81.0 83.2 85.8 87.5 89.6 92.2 95.0 89.9 82.5 73.8 170.5

800 72.2 76.8 78.2 80.2 82.6 85.3 86.6 89.8 91.3 93.2 88.3 81.7 71.6 170.0

1000 70.1 75.1 76.9 78.5 81.1 83.9 86.0 88.4 89.4 92.2 86.2 78.7 69.2 169.1

1250 68.4 73.2 75.6 78.4 81.0 83.9 84.6 87.1 88.4 90.7 85.6 77.1 66.9 168.9

1600 66.4 71.2 73.7 76.2 79.1 82.0 83.3 84.2 86.3 88.3 82.6 73.6 62.7 167.8

2000 62.2 68.3 71.3 72.9 76.5 79.2 80.6 83.2 84.2 85.9 78.5 70.0 57.5 167.2

2500 58.0 64.2 67.3 70.3 73.1 76.4 77.3 79.3 80.7 81.6 74.8 64.6 49.1 166.2

3150 50.3 58.9 62.1 65.2 68.6 73.0 74.2 74.6 76.3 77.4 69.6 57.7 36.2 166.4

4000 39.4 50.1 54.3 57.8 62.0 66.3 67.3 68.2 70.2 70.2 61.7 45.4 17.1 167.0

5000 24.9 48.7 44.2 48.7 53.6 57.5 58.6 60.0 62.2 59.5 50.4 28.5 1.2 168.4

6300 2.5 18.2 26.5 33.1 38.3 43.6 44.6 45.9 46.7 44.4 29.6 1.2 170.5

8000 0.3 9.4 15.7 20.8 22.4 23.8 23.5 19.1 174.8

10000 177.8

12500

15000

20000

25000

31500

40000

50000

63000

80000

QASPL 89.0 91.7 92.3 93.5 94.9 97.0 98.7 101.1 105.2 111.0 108.9 104.6 98.2 186.4

PNL 93.1 96.3 97.4 99.2 101.2 103.6 105.1 107.3 110.3 115.0 111.1 104.9 97.2

PFLT 93.1 96.3 97.4 99.2 101.2 103.6 105.1 107.3 110.3 115.6 112.2 106.0 97.2

DBA 82.0 85.4 86.7 88.5 90.6 93.2 94.7 96.9 99.2 102.9 98.2 91.8 83.6

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH026 TEST DATE = 08-19-81

LOCAT = C41 ANECH CH CNF10 = 4

MODEL = 4 PAMB HG = 29.60 MIKE HT = SL

FLVEL = 0. FPS RELHUM = 57.9 PCT

WIND DIR = SB59 IEGA = NO

PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT

WIND VEL = MPH

LNHR = XNH RPM XNHR = XNH RPM

V8 = 2406.7 FPS AE8 = 25.3 SQ IN

AE18 = 0. SQ IN

CGRR FAN SPEED = 861

NC = 041

TEST PT NO = 041

X04111

ZER-0411 TAPE

RUNPT =

ORIGINAL PAGE IS  
OF POOR QUALITY



226

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0412 X0412C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 68.9  | 67.5  | 63.2  | 63.3  | 83.4  | 84.2  | 86.4  | 87.5  | 89.2  | 95.8  | 97.2  | 96.1  | 99.3  | 133.6 |
| 60    | 89.5  | 88.8  | 88.1  | 89.9  | 90.8  | 91.7  | 91.1  | 94.3  | 100.4 | 99.7  | 98.9  | 98.9  | 100.3 | 136.9 |
| 80    | 91.8  | 90.6  | 91.9  | 93.0  | 95.6  | 95.5  | 94.6  | 96.3  | 95.4  | 97.8  | 99.7  | 99.7  | 102.6 | 137.9 |
| 100   | 91.1  | 96.3  | 91.6  | 92.9  | 93.5  | 95.1  | 96.5  | 96.9  | 96.1  | 96.9  | 99.1  | 103.5 | 105.4 | 139.5 |
| 125   | 88.6  | 91.4  | 92.2  | 93.4  | 94.8  | 97.2  | 96.8  | 97.7  | 96.4  | 99.0  | 105.9 | 108.3 | 110.2 | 143.0 |
| 160   | 87.0  | 84.8  | 88.6  | 88.9  | 88.7  | 90.6  | 92.2  | 92.4  | 95.6  | 100.4 | 105.3 | 108.5 | 111.6 | 142.9 |
| 200   | 86.5  | 86.8  | 86.8  | 87.1  | 89.7  | 92.1  | 93.2  | 95.6  | 99.3  | 101.2 | 106.0 | 111.0 | 113.6 | 144.8 |
| 250   | 85.0  | 88.8  | 88.3  | 90.1  | 90.7  | 92.6  | 94.7  | 97.1  | 99.6  | 106.2 | 111.0 | 114.5 | 115.4 | 147.9 |
| 315   | 86.1  | 88.6  | 88.9  | 90.8  | 93.9  | 96.3  | 97.7  | 102.1 | 110.0 | 113.3 | 116.3 | 115.4 | 149.5 |       |
| 400   | 88.6  | 89.6  | 90.1  | 90.4  | 91.8  | 94.9  | 97.3  | 101.4 | 107.6 | 114.7 | 117.1 | 118.0 | 113.9 | 152.1 |
| 500   | 88.2  | 90.5  | 90.8  | 92.0  | 93.4  | 96.0  | 98.6  | 102.0 | 108.0 | 116.3 | 119.0 | 117.9 | 111.8 | 153.0 |
| 600   | 89.8  | 92.8  | 92.0  | 92.5  | 93.8  | 95.1  | 97.8  | 103.3 | 108.8 | 118.8 | 121.2 | 116.4 | 106.3 | 154.5 |
| 800   | 92.2  | 92.0  | 92.5  | 93.8  | 95.1  | 97.8  | 103.3 | 108.8 | 118.8 | 121.2 | 116.4 | 106.3 | 154.5 |       |
| 1000  | 96.5  | 97.0  | 96.0  | 96.6  | 96.7  | 98.8  | 101.4 | 104.1 | 109.3 | 119.1 | 121.7 | 115.4 | 106.1 | 154.8 |
| 1250  | 98.2  | 101.0 | 99.0  | 98.8  | 99.9  | 100.8 | 101.9 | 105.8 | 110.8 | 119.1 | 122.5 | 114.4 | 105.9 | 155.3 |
| 1500  | 103.3 | 102.3 | 101.6 | 100.4 | 100.2 | 101.8 | 104.5 | 106.2 | 112.1 | 119.5 | 122.9 | 114.4 | 105.7 | 155.7 |
| 2000  | 101.7 | 103.8 | 103.7 | 102.9 | 101.2 | 101.6 | 103.2 | 106.1 | 113.0 | 120.4 | 121.3 | 113.1 | 106.4 | 155.4 |
| 2500  | 98.9  | 101.0 | 101.0 | 103.0 | 103.3 | 103.2 | 104.5 | 107.0 | 111.9 | 119.1 | 119.4 | 112.2 | 104.7 | 154.0 |
| 3150  | 97.0  | 99.3  | 98.6  | 100.1 | 102.5 | 105.5 | 105.2 | 106.6 | 111.9 | 118.4 | 118.7 | 110.2 | 103.6 | 153.5 |
| 4000  | 96.7  | 97.3  | 98.0  | 98.0  | 99.9  | 103.1 | 105.7 | 108.0 | 112.2 | 117.0 | 116.7 | 108.9 | 102.4 | 152.3 |
| 5000  | 95.2  | 96.3  | 95.8  | 97.5  | 99.0  | 101.7 | 104.3 | 107.9 | 111.4 | 115.8 | 115.1 | 107.9 | 100.7 | 151.3 |
| 6300  | 94.1  | 96.6  | 95.7  | 97.0  | 98.9  | 101.6 | 103.4 | 107.3 | 110.6 | 114.5 | 114.3 | 107.1 | 99.7  | 150.6 |
| 8000  | 92.2  | 94.4  | 95.8  | 97.6  | 97.6  | 100.6 | 103.2 | 106.4 | 104.8 | 113.8 | 112.6 | 106.0 | 99.0  | 150.0 |
| 10000 | 92.3  | 93.6  | 95.3  | 96.6  | 100.1 | 101.4 | 104.8 | 109.2 | 112.3 | 111.5 | 104.2 | 98.3  | 149.3 |       |
| 12500 | 90.5  | 92.2  | 93.0  | 93.2  | 95.7  | 99.0  | 100.2 | 103.0 | 106.8 | 110.4 | 109.1 | 95.8  | 148.1 |       |
| 15000 | 87.5  | 89.7  | 89.9  | 90.7  | 93.1  | 95.5  | 97.4  | 101.5 | 104.8 | 108.3 | 106.8 | 100.3 | 94.6  | 147.3 |
| 20000 | 85.1  | 86.7  | 87.3  | 88.6  | 90.1  | 93.3  | 95.5  | 98.1  | 101.7 | 105.6 | 105.7 | 97.8  | 92.2  | 146.7 |
| 25000 | 80.7  | 83.6  | 83.6  | 84.4  | 87.0  | 91.0  | 92.8  | 94.0  | 98.3  | 103.4 | 102.2 | 95.3  | 87.5  | 146.1 |
| 31500 | 75.9  | 79.5  | 79.8  | 80.9  | 82.8  | 86.9  | 88.8  | 90.8  | 95.8  | 100.3 | 99.0  | 91.3  | 83.5  | 146.1 |
| 40000 | 71.2  | 75.1  | 76.3  | 76.6  | 79.5  | 83.3  | 84.7  | 87.6  | 92.6  | 97.6  | 97.5  | 87.3  | 79.0  | 147.5 |
| 50000 | 67.5  | 71.2  | 72.5  | 72.5  | 74.9  | 78.6  | 80.5  | 82.2  | 88.6  | 97.8  | 94.8  | 83.3  | 73.0  | 150.2 |
| 63000 | 62.5  | 68.7  | 67.2  | 69.5  | 71.5  | 73.9  | 76.7  | 78.2  | 86.7  | 96.8  | 79.4  | 67.3  | 54.4  |       |
| 80000 | 59.5  | 66.8  | 66.1  | 64.5  | 66.0  | 68.9  | 71.7  | 71.7  | 84.1  | 89.6  | 88.0  | 73.6  | 59.3  | 154.9 |
| GASPL | 109.4 | 110.9 | 110.3 | 110.7 | 111.6 | 113.6 | 115.3 | 118.1 | 122.8 | 129.7 | 131.5 | 126.9 | 123.1 | 166.6 |
| PML   | 121.9 | 123.6 | 123.3 | 124.3 | 125.7 | 128.3 | 128.7 | 131.2 | 135.7 | 141.9 | 143.0 | 137.1 | 131.4 |       |
| DBA   | 109.7 | 110.9 | 110.5 | 110.9 | 111.5 | 113.4 | 115.1 | 117.8 | 122.7 | 129.7 | 131.4 | 125.1 | 118.6 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH043 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4  
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.60 PAMB HG = 29.60  
 WIND DIR = DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC  
 FNIN1 = LBS XNL RPM XNH RPM XNHR RPM V8 = 2410.3 FPS AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNL RPM XNH RPM V8 = 2410.3 FPS AE8 = 25.3 SQ IN  
 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0412 X0412F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 92.9  | 95.3  | 93.3  | 93.4  | 92.3  | 92.6  | 92.8  | 93.5  | 98.7  | 105.6 | 108.4 | 111.8 | 112.8 | 145.7 |
| 250   | 92.9  | 95.3  | 93.3  | 93.4  | 92.6  | 94.1  | 94.9  | 94.9  | 94.9  | 105.5 | 111.9 | 114.0 | 115.7 | 149.8 |
| 315   | 92.9  | 95.3  | 93.3  | 93.4  | 92.6  | 95.1  | 96.5  | 99.6  | 106.2 | 114.2 | 116.9 | 117.3 | 114.8 | 151.7 |
| 400   | 93.8  | 95.0  | 93.1  | 92.3  | 93.6  | 95.1  | 96.5  | 99.6  | 106.2 | 114.2 | 116.9 | 117.3 | 114.8 | 151.7 |
| 1250  | 101.5 | 101.3 | 99.4  | 99.1  | 101.6 | 101.3 | 103.2 | 111.2 | 118.3 | 122.4 | 117.4 | 116.2 | 115.5 | 155.5 |
| 1500  | 103.4 | 105.4 | 102.6 | 101.5 | 102.1 | 102.8 | 104.1 | 104.5 | 112.4 | 119.7 | 121.2 | 116.5 | 117.3 | 155.6 |
| 2000  | 109.9 | 107.8 | 105.8 | 103.3 | 103.3 | 102.9 | 103.1 | 104.7 | 111.7 | 118.7 | 119.8 | 115.8 | 116.2 | 154.8 |
| 2500  | 107.5 | 108.7 | 107.7 | 105.8 | 106.3 | 104.8 | 104.8 | 106.0 | 112.2 | 118.4 | 119.4 | 115.4 | 114.7 | 154.7 |
| 3150  | 106.5 | 107.6 | 106.4 | 107.2 | 105.7 | 107.5 | 105.8 | 106.0 | 113.1 | 117.5 | 117.8 | 114.3 | 114.3 | 154.0 |
| 4000  | 104.6 | 106.0 | 104.2 | 104.5 | 103.6 | 105.7 | 106.9 | 108.0 | 112.3 | 116.4 | 116.1 | 112.2 | 112.5 | 152.9 |
| 5000  | 104.3 | 104.0 | 103.8 | 102.7 | 103.0 | 104.7 | 105.8 | 108.0 | 111.6 | 115.1 | 115.4 | 111.5 | 111.6 | 152.1 |
| 6300  | 102.6 | 103.0 | 101.6 | 102.4 | 103.0 | 104.6 | 104.8 | 107.4 | 111.3 | 114.6 | 113.9 | 110.6 | 111.1 | 151.6 |
| 8000  | 101.4 | 103.1 | 101.4 | 101.7 | 102.2 | 103.6 | 104.7 | 106.5 | 110.6 | 113.4 | 113.1 | 109.2 | 110.8 | 151.1 |
| 10000 | 102.2 | 103.1 | 101.7 | 101.5 | 101.2 | 103.1 | 102.9 | 104.9 | 108.4 | 111.7 | 110.9 | 108.2 | 108.5 | 150.0 |
| 12500 | 102.0 | 102.0 | 100.5 | 100.7 | 100.3 | 101.7 | 103.1 | 107.1 | 107.2 | 109.4 | 109.4 | 106.3 | 108.0 | 149.5 |
| 15000 | 99.6  | 100.1 | 99.4  | 98.1  | 97.1  | 98.5  | 98.9  | 101.7 | 104.4 | 107.9 | 108.7 | 104.1 | 106.0 | 148.9 |
| 20000 | 93.4  | 94.9  | 94.2  | 94.1  | 94.7  | 96.3  | 97.0  | 98.2  | 101.4 | 106.1 | 105.3 | 101.7 | 101.3 | 147.7 |
| 25000 | 93.3  | 93.5  | 92.7  | 92.4  | 91.6  | 94.0  | 94.3  | 94.1  | 99.6  | 103.6 | 102.6 | 98.0  | 97.3  | 147.5 |
| 31500 | 88.0  | 89.7  | 88.2  | 87.5  | 87.4  | 89.9  | 90.3  | 90.8  | 97.1  | 101.7 | 101.9 | 94.7  | 93.4  | 146.3 |
| 40000 | 82.3  | 84.8  | 83.6  | 83.1  | 84.1  | 86.3  | 86.1  | 87.6  | 93.5  | 102.3 | 99.6  | 91.1  | 87.7  | 150.8 |
| 50000 | 77.3  | 80.0  | 79.7  | 78.4  | 79.5  | 81.6  | 81.9  | 82.2  | 92.6  | 102.2 | 99.6  | 88.1  | 83.0  | 154.7 |
| 63000 | 72.6  | 75.1  | 73.6  | 73.4  | 76.1  | 76.9  | 78.2  | 78.2  | 91.5  | 96.5  | 93.3  | 83.8  | 76.5  | 155.3 |
| 80000 | 66.1  | 71.1  | 68.2  | 68.9  | 70.0  | 71.9  | 73.2  | 71.7  | 81.7  | 86.7  | 85.4  | 74.0  | 66.7  | 152.6 |
| GNAPL | 116.0 | 116.3 | 114.9 | 114.4 | 114.3 | 115.3 | 115.7 | 117.3 | 122.8 | 128.9 | 130.9 | 127.7 | 126.9 | 166.9 |
| PNL   | 128.5 | 129.2 | 127.8 | 127.3 | 128.6 | 128.6 | 130.0 | 135.5 | 140.8 | 142.0 | 138.1 | 138.2 |       |       |
| PMLT  | 129.9 | 129.2 | 127.9 | 127.8 | 128.6 | 128.6 | 130.0 | 135.5 | 140.8 | 142.0 | 138.1 | 138.2 |       |       |
| DBA   | 188.3 | 192.4 | 190.1 | 190.4 | 191.9 | 193.5 | 194.7 | 193.8 | 204.9 | 210.4 | 209.0 | 197.6 | 190.8 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH043 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFRR =

FNINI = LBS XNL RPM XNH XNHR = RPM VI8 = 2410.3 FPS AE8 = 25.3 SQ IN  
 FNFRAMB = LBS XNLR RPM XNHR = RPM VI8 = 2410.3 FPS AE8 = 25.3 SQ IN

RUNPT = 400-0412 TAPE = X0412F TEST PT NO = 041 NC = 861 CORR FAN SPEED = RPR

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OF POOR QUALITY

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0412 X04121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 71.8 | 74.5  | 73.7  | 73.6  | 75.3  | 77.0  | 78.2  | 79.5  | 81.5  | 87.7  | 95.6  | 96.9  | 93.1  | 87.2  | 169.1 |
| 63    | 74.1 | 75.5  | 75.6  | 75.1  | 77.0  | 78.2  | 79.5  | 81.5  | 87.7  | 95.6  | 96.9  | 93.1  | 87.2  | 170.4 |       |
| 80    | 73.8 | 76.3  | 76.3  | 76.8  | 79.1  | 80.5  | 87.6  | 87.6  | 93.3  | 97.6  | 93.3  | 86.1  | 170.9 |       |       |
| 100   | 75.3 | 78.2  | 77.6  | 77.4  | 78.8  | 80.0  | 80.1  | 82.3  | 88.6  | 97.2  | 98.9  | 93.8  | 88.5  | 172.1 |       |
| 125   | 77.6 | 77.7  | 78.0  | 78.5  | 79.8  | 81.1  | 82.2  | 83.2  | 90.1  | 97.1  | 99.6  | 92.7  | 88.2  | 172.4 |       |
| 150   | 79.0 | 80.4  | 79.7  | 80.1  | 83.1  | 83.2  | 82.7  | 84.2  | 91.4  | 97.5  | 99.9  | 92.6  | 87.7  | 173.0 |       |
| 200   | 80.6 | 84.3  | 82.6  | 82.3  | 83.4  | 85.4  | 85.4  | 92.5  | 98.6  | 98.6  | 91.4  | 88.4  | 173.0 |       |       |
| 250   | 86.8 | 86.4  | 85.6  | 84.0  | 84.4  | 84.1  | 84.2  | 85.4  | 91.6  | 97.4  | 96.7  | 90.3  | 86.6  | 172.2 |       |
| 315   | 84.1 | 87.0  | 87.2  | 86.2  | 87.1  | 85.8  | 85.6  | 86.3  | 91.7  | 96.7  | 96.0  | 88.3  | 85.0  | 172.1 |       |
| 400   | 82.6 | 85.5  | 85.6  | 87.2  | 86.2  | 86.2  | 86.3  | 86.0  | 92.3  | 95.4  | 93.9  | 86.6  | 82.9  | 171.4 |       |
| 500   | 80.1 | 83.5  | 83.0  | 84.2  | 83.8  | 86.1  | 87.2  | 87.8  | 91.2  | 93.9  | 91.7  | 84.8  | 80.2  | 170.3 |       |
| 630   | 79.3 | 81.1  | 82.3  | 82.3  | 83.0  | 84.8  | 85.8  | 87.4  | 90.1  | 92.3  | 90.5  | 83.4  | 78.2  | 169.6 |       |
| 800   | 77.2 | 79.7  | 79.8  | 81.6  | 82.7  | 84.5  | 84.6  | 86.6  | 89.5  | 91.3  | 88.5  | 81.8  | 76.6  | 169.0 |       |
| 1000  | 75.5 | 79.6  | 79.4  | 80.7  | 81.7  | 83.4  | 84.3  | 85.5  | 88.6  | 89.8  | 87.3  | 79.7  | 75.1  | 168.5 |       |
| 1250  | 75.8 | 79.2  | 79.4  | 80.3  | 80.6  | 82.7  | 82.4  | 83.8  | 86.2  | 87.8  | 84.6  | 77.9  | 71.3  | 167.5 |       |
| 1500  | 74.7 | 77.5  | 77.9  | 79.2  | 79.5  | 81.3  | 80.8  | 81.6  | 84.4  | 85.8  | 82.1  | 74.7  | 68.5  | 167.0 |       |
| 1600  | 74.7 | 77.5  | 77.9  | 79.2  | 79.5  | 81.3  | 80.8  | 81.6  | 84.4  | 85.8  | 82.1  | 74.7  | 68.5  | 167.0 |       |
| 2000  | 71.4 | 75.0  | 76.3  | 76.3  | 76.1  | 77.8  | 77.9  | 79.9  | 81.3  | 82.9  | 80.5  | 70.9  | 63.5  | 166.3 |       |
| 2500  | 63.4 | 68.6  | 70.3  | 71.7  | 73.1  | 75.0  | 75.4  | 75.8  | 77.5  | 79.8  | 75.3  | 65.6  | 53.9  | 165.1 |       |
| 3150  | 59.9 | 64.8  | 66.9  | 68.4  | 68.6  | 71.4  | 71.3  | 70.1  | 73.8  | 74.9  | 69.2  | 56.9  | 41.5  | 164.9 |       |
| 4000  | 48.4 | 56.2  | 58.6  | 60.2  | 61.5  | 64.4  | 64.3  | 63.6  | 67.5  | 68.3  | 62.3  | 44.8  | 23.0  | 165.8 |       |
| 5000  | 33.0 | 43.7  | 47.8  | 50.4  | 53.1  | 55.9  | 55.2  | 55.0  | 57.7  | 61.2  | 50.2  | 27.4  |       | 168.2 |       |
| 6300  | 10.1 | 24.7  | 31.8  | 35.0  | 38.5  | 41.4  | 40.9  | 38.8  | 44.7  | 47.0  | 32.5  | 0.3   |       | 172.1 |       |
| 8000  |      | 4.4   | 10.7  | 17.0  | 18.9  | 19.0  | 15.5  | 22.2  | 16.4  |       |       |       |       | 172.7 |       |
| 10000 |      |       |       |       |       |       |       |       |       |       |       |       |       |       | 170.0 |
| 12500 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 15000 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 20000 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 25000 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 31500 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 40000 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50000 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63000 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80000 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| QASPL | 92.1 | 94.2  | 94.0  | 94.2  | 94.8  | 95.8  | 96.0  | 97.1  | 102.1 | 107.4 | 108.0 | 102.2 | 97.3  | 184.2 |       |
| PWL   | 97.7 | 100.0 | 100.3 | 101.0 | 101.2 | 102.8 | 102.6 | 103.5 | 107.9 | 111.7 | 110.7 | 103.7 | 99.1  |       |       |
| PNT   | 98.4 | 100.0 | 100.9 | 101.0 | 101.2 | 102.8 | 102.6 | 103.5 | 108.4 | 112.6 | 110.7 | 104.8 | 99.1  |       |       |
| DBA   | 86.9 | 89.5  | 89.7  | 90.4  | 90.8  | 92.4  | 92.5  | 93.7  | 97.2  | 100.0 | 98.5  | 91.4  | 87.0  |       |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH043 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CNFIG = 4 MODEL = 4 FLTVEL = 400. FPS

IAPLHA = SB59 LEGA / = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT WIND DIR = MIBR = 4

FNINI = LBS XNL RPM XNHR = RPM V8 = 2410.3 FPS AEB = 25.3 SQ IN

FNRMB = LBS XNL RPM XNHR = RPM V8 = 2410.3 FPS AEB = 25.3 SQ IN

RUNPT = 81F-400-0412 TAPE \* X04121 TEST PT NO \* 0412 NC = 861 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0413 X0413C  
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 86.2 85.7 83.0 82.5 83.6 88.0 87.1 88.8 90.0 97.1 97.2 96.4 97.0 133.7

50 89.0 88.8 88.5 89.6 91.2 93.0 91.9 91.3 95.3 99.9 99.5 98.2 100.3 136.9

80 92.0 96.8 91.3 92.1 93.2 96.3 96.0 95.4 96.6 96.4 98.5 101.0 103.1 138.6

100 92.1 98.1 93.1 94.4 95.7 97.1 98.0 98.9 97.4 99.7 100.8 105.0 106.7 141.2

125 88.4 91.4 92.7 94.4 95.5 98.4 98.0 97.7 98.9 97.7 98.8 109.8 110.7 144.4

160 87.8 87.8 89.8 90.9 90.7 93.3 95.0 95.9 98.6 103.2 108.0 110.2 113.4 145.0

200 89.3 88.3 89.3 90.6 93.0 96.1 96.5 97.9 102.6 105.2 109.3 113.5 115.6 147.4

250 88.8 92.8 92.1 94.1 94.5 95.8 98.0 98.0 100.6 104.1 110.4 115.3 117.6 151.1

315 90.1 91.9 91.9 92.4 94.5 97.9 100.0 101.9 106.9 113.5 116.1 118.8 118.2 152.4

400 92.1 93.9 93.9 94.7 95.5 98.9 101.3 105.7 113.1 118.7 120.6 120.5 118.4 155.7

500 91.7 94.0 95.5 97.1 98.8 101.4 104.8 111.0 118.6 121.0 120.6 117.8 115.6

630 93.3 95.6 95.1 96.4 97.7 99.9 102.2 106.4 112.4 121.2 122.8 119.4 117.8 157.3

800 97.7 96.5 96.5 97.5 99.4 101.5 103.6 106.3 113.0 121.6 122.7 121.4 117.8 157.4

1000 101.7 101.7 100.3 99.8 100.9 102.8 104.9 107.5 114.0 121.8 123.2 120.6 117.3 157.6

1250 100.7 105.3 103.5 103.3 103.8 103.9 107.0 109.4 114.3 122.1 123.2 119.4 115.4 157.3

1600 105.2 102.8 102.6 103.1 102.9 104.3 107.0 109.4 115.1 122.2 122.6 118.2 113.9 157.3

2000 105.2 105.6 104.2 103.6 102.9 104.6 106.4 109.4 115.7 122.9 120.5 116.6 112.6 157.0

2500 103.6 104.2 104.2 105.0 105.3 105.4 107.0 110.0 114.6 122.8 118.9 113.2 111.0 156.4

3150 102.5 103.1 102.3 103.6 105.2 107.0 107.1 110.1 114.9 120.6 118.0 113.4 109.5 155.1

4000 100.7 101.5 101.3 102.8 103.6 106.3 108.2 110.8 114.7 119.5 116.0 112.2 108.6 154.2

5000 99.4 100.7 100.5 101.5 103.2 105.7 107.3 109.9 113.6 117.8 114.8 110.9 107.5 153.1

6300 97.8 100.6 100.6 102.9 105.6 106.9 110.1 112.6 117.0 113.8 110.5 108.1 152.6

8000 96.8 98.6 98.9 99.6 101.5 104.4 106.7 108.9 111.4 116.2 112.1 108.4 105.0 151.9

10000 95.3 97.0 98.3 99.8 101.1 103.8 104.7 108.0 110.2 115.0 111.5 107.4 104.1 151.4

12500 93.4 95.6 96.7 97.7 100.2 102.4 103.9 105.4 109.3 113.3 110.1 105.4 101.5 150.6

16000 90.4 93.6 94.4 95.7 97.3 99.7 101.9 104.4 107.0 110.9 107.0 102.8 99.5 149.7

20000 88.3 90.8 91.7 93.4 94.7 98.0 99.6 101.7 104.3 108.7 105.6 100.2 96.6 149.2

25000 84.2 87.9 87.9 89.4 92.3 95.8 97.1 97.6 101.6 106.1 102.7 98.6 92.6 148.8

31500 79.2 83.6 84.1 85.0 88.5 91.8 93.0 95.7 99.4 103.6 101.3 95.1 88.2 149.4

40000 74.6 78.9 80.5 81.4 84.3 87.9 89.5 92.4 97.1 101.5 99.0 92.7 84.4 151.0

50000 69.9 74.0 74.7 76.6 79.1 84.1 85.1 88.1 94.1 101.1 97.8 90.2 78.4 153.9

63000 63.9 69.5 69.6 72.3 75.6 79.0 80.8 84.0 92.1 99.4 96.3 86.8 74.3 157.3

80000 58.7 65.9 65.5 66.3 69.4 74.3 76.2 79.5 90.2 94.4 93.7 83.9 66.6 160.3

GASPL 112.8 113.8 113.1 113.7 114.7 116.7 118.3 121.0 125.8 132.5 132.4 130.4 128.2 169.3

PNL 125.6 127.0 126.2 126.2 127.0 128.1 130.5 131.5 134.1 139.2 144.9 143.7 140.4 137.3

DBA 113.3 113.9 113.2 113.8 114.6 116.3 117.9 120.7 125.6 132.5 131.9 129.1 125.9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH027 TEST DATE = 08-19-81 LGCAT = C41 ANECH CH CNF1G = 4 MODEL = 4 FLTVL = 0. FPS

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 70.00 MIKE HG = 29.60 RELHUM = 57.9 PCT

WIND DIR = DEG WIND YEL = MPH MPH = 40.0 FT EXT DIST = 40.0 FT EXT CNF1G = ARC NBFR =

FNINI = LBS XNL = RPM XNH = RPM XNR = RPM V8 = 2417.9 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNL = RPM XNH = RPM V8 = 2417.9 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-0413 TAPE = X0413C TEST PT NO = 0413 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0413 X0413F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.2  | 85.7  | 83.0  | 82.5  | 83.6  | 88.0  | 87.1  | 88.8  | 90.0  | 97.1  | 97.2  | 96.4  | 97.0  | 133.7 |
| 63    | 89.0  | 88.8  | 88.5  | 89.6  | 91.2  | 93.0  | 91.9  | 91.3  | 95.3  | 99.9  | 99.5  | 98.2  | 100.3 | 136.9 |
| 80    | 92.0  | 96.8  | 91.3  | 92.1  | 93.2  | 96.3  | 96.0  | 95.4  | 96.6  | 98.4  | 98.5  | 101.0 | 103.1 | 138.6 |
| 100   | 92.1  | 98.1  | 93.1  | 94.4  | 95.7  | 97.1  | 98.0  | 98.9  | 97.4  | 99.7  | 100.8 | 105.0 | 106.7 | 141.2 |
| 125   | 88.4  | 91.4  | 92.7  | 94.4  | 95.5  | 98.4  | 98.0  | 97.7  | 98.9  | 102.0 | 108.1 | 109.8 | 110.7 | 144.4 |
| 150   | 87.8  | 87.8  | 89.8  | 90.9  | 90.7  | 93.3  | 95.0  | 95.9  | 98.6  | 103.2 | 108.0 | 113.4 | 115.0 | 145.0 |
| 200   | 89.3  | 89.3  | 89.6  | 93.0  | 94.5  | 96.1  | 96.5  | 97.9  | 102.6 | 105.2 | 109.3 | 113.5 | 115.6 | 147.4 |
| 250   | 88.8  | 88.8  | 92.1  | 94.1  | 94.5  | 95.8  | 98.0  | 100.6 | 104.1 | 110.4 | 115.3 | 117.5 | 117.6 | 151.1 |
| 315   | 90.1  | 91.9  | 92.4  | 94.5  | 97.9  | 100.0 | 101.9 | 106.9 | 113.5 | 116.1 | 118.8 | 118.2 | 118.2 | 152.4 |
| 400   | 92.1  | 93.9  | 93.9  | 94.7  | 95.5  | 98.9  | 101.3 | 105.7 | 113.1 | 118.7 | 120.6 | 118.4 | 115.7 | 155.7 |
| 500   | 91.7  | 94.2  | 94.0  | 95.5  | 97.1  | 98.8  | 101.4 | 104.8 | 111.0 | 118.6 | 121.0 | 117.8 | 115.5 | 155.6 |
| 630   | 93.3  | 95.6  | 95.1  | 96.4  | 97.7  | 99.9  | 102.2 | 106.4 | 112.4 | 121.2 | 122.8 | 121.2 | 119.4 | 157.3 |
| 800   | 97.7  | 96.5  | 96.5  | 97.5  | 99.4  | 101.5 | 103.6 | 106.3 | 113.0 | 121.6 | 122.7 | 121.4 | 117.8 | 157.4 |
| 1000  | 101.7 | 100.3 | 99.8  | 100.9 | 102.8 | 104.9 | 107.5 | 114.0 | 121.8 | 123.2 | 120.6 | 117.3 | 115.7 | 157.6 |
| 1250  | 100.7 | 105.3 | 103.5 | 103.3 | 103.9 | 103.8 | 105.7 | 108.3 | 114.3 | 122.1 | 123.2 | 119.4 | 115.4 | 157.6 |
| 1500  | 100.7 | 105.2 | 102.8 | 102.6 | 103.1 | 102.9 | 104.3 | 107.0 | 109.4 | 115.1 | 122.2 | 118.2 | 113.9 | 157.3 |
| 1600  | 105.2 | 102.8 | 102.6 | 103.1 | 102.9 | 104.3 | 107.0 | 109.4 | 115.1 | 122.2 | 122.6 | 118.2 | 113.9 | 157.3 |
| 2000  | 105.2 | 105.6 | 102.9 | 103.6 | 102.9 | 104.6 | 106.4 | 109.4 | 115.7 | 122.9 | 122.6 | 116.6 | 112.6 | 157.0 |
| 2500  | 103.6 | 104.2 | 104.2 | 105.0 | 105.3 | 105.4 | 107.0 | 110.0 | 114.6 | 122.8 | 118.9 | 111.0 | 109.5 | 156.4 |
| 3150  | 102.5 | 103.1 | 102.3 | 103.6 | 105.2 | 107.0 | 107.1 | 110.1 | 114.9 | 120.6 | 118.0 | 113.4 | 109.5 | 155.1 |
| 4000  | 100.7 | 101.5 | 101.3 | 102.8 | 103.6 | 108.2 | 109.3 | 113.6 | 117.8 | 114.8 | 110.9 | 107.5 | 107.5 | 153.1 |
| 5000  | 99.4  | 100.7 | 100.5 | 102.9 | 102.9 | 105.6 | 106.9 | 110.1 | 112.6 | 117.0 | 113.8 | 110.5 | 106.1 | 152.6 |
| 6300  | 97.8  | 100.6 | 100.2 | 100.5 | 102.9 | 105.6 | 106.9 | 110.1 | 112.6 | 117.0 | 113.8 | 110.5 | 106.1 | 152.6 |
| 8000  | 96.2  | 98.6  | 98.9  | 99.8  | 101.5 | 104.4 | 106.7 | 108.9 | 111.4 | 116.2 | 112.1 | 108.4 | 105.0 | 151.9 |
| 10000 | 95.3  | 97.0  | 98.8  | 101.1 | 103.8 | 108.0 | 110.2 | 115.0 | 114.7 | 119.5 | 116.0 | 112.2 | 108.6 | 154.2 |
| 12500 | 93.4  | 95.6  | 96.7  | 97.7  | 100.2 | 102.8 | 103.9 | 109.3 | 113.3 | 110.1 | 105.4 | 101.5 | 150.6 |       |
| 15000 | 90.4  | 93.6  | 94.4  | 95.7  | 97.3  | 99.7  | 101.9 | 104.4 | 107.0 | 110.9 | 107.0 | 102.8 | 99.5  | 149.7 |
| 20000 | 88.3  | 90.8  | 91.7  | 93.4  | 94.7  | 98.0  | 99.6  | 101.7 | 104.3 | 108.7 | 105.6 | 100.2 | 96.6  | 149.2 |
| 25000 | 84.2  | 87.9  | 87.9  | 89.4  | 92.3  | 95.8  | 97.1  | 97.6  | 101.6 | 106.1 | 102.7 | 98.6  | 92.6  | 148.8 |
| 31500 | 79.2  | 83.6  | 84.1  | 85.0  | 88.5  | 91.8  | 93.0  | 95.7  | 99.4  | 103.6 | 101.3 | 95.1  | 88.2  | 149.4 |
| 40000 | 74.6  | 78.9  | 80.5  | 81.4  | 84.3  | 87.9  | 89.5  | 92.4  | 97.1  | 101.5 | 99.0  | 92.7  | 84.4  | 151.0 |
| 50000 | 69.9  | 74.0  | 74.7  | 76.6  | 79.1  | 84.1  | 85.1  | 88.0  | 92.1  | 94.1  | 101.1 | 97.8  | 78.4  | 153.9 |
| 63000 | 63.9  | 69.5  | 69.6  | 72.3  | 75.6  | 79.0  | 80.8  | 84.0  | 88.1  | 92.1  | 96.3  | 86.8  | 74.3  | 157.3 |
| 80000 | 58.7  | 65.9  | 65.5  | 66.3  | 69.4  | 74.3  | 76.2  | 79.5  | 90.2  | 94.4  | 93.7  | 83.9  | 66.6  | 160.3 |
| QASPL | 112.8 | 113.8 | 113.1 | 113.7 | 114.7 | 116.7 | 118.3 | 121.0 | 125.8 | 132.5 | 132.4 | 130.4 | 128.2 | 169.3 |
| FNL   | 125.6 | 126.5 | 126.2 | 127.0 | 128.1 | 130.0 | 131.5 | 134.1 | 138.5 | 144.9 | 143.1 | 140.4 | 137.3 |       |
| FNL T | 125.6 | 127.2 | 126.2 | 127.0 | 128.1 | 130.5 | 131.5 | 134.1 | 139.2 | 144.9 | 143.7 | 140.4 | 137.3 |       |
| DBA   | 180.5 | 187.1 | 186.9 | 188.2 | 191.3 | 195.9 | 197.6 | 200.9 | 210.9 | 215.7 | 214.6 | 204.8 | 189.2 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADHOZ7 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNFIG = 4 MODEL = 4 FLVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT WIND DIR = DEG WIND VEL = MPH  
FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2417.9 FPS AEB = 25.3 SQ IN AE8 = 0. SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V8 = 2417.9 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-0413 TAPE = X0413F TEST PT NO = 0413 NC = 861 CORR FAN SPEED = RPM

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DATPRC - FLIKAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0413 X04131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.1 73.4 74.5 76.0 77.2 80.7 83.0 87.0 93.7 98.2 98.6 96.3 90.9 173.1

63 69.7 73.7 74.6 76.8 78.8 80.6 83.1 86.1 91.6 98.1 98.9 96.4 90.2 173.0

80 71.2 75.7 77.7 79.4 81.7 83.9 87.7 92.9 100.6 100.7 96.9 91.7 174.8

100 75.5 75.9 77.0 78.8 81.0 83.3 85.3 87.5 93.5 101.0 100.5 97.0 89.9 174.8

125 79.4 81.0 80.7 80.9 82.4 84.4 86.4 88.7 94.4 101.1 100.9 96.1 89.2 175.0

160 78.2 84.4 83.8 84.3 85.3 85.3 87.1 89.3 94.5 101.2 100.8 94.6 87.0 175.0

200 82.5 81.7 82.6 83.9 84.2 85.7 88.3 90.3 95.1 101.2 99.9 93.0 85.0 174.8

250 82.1 84.2 84.1 84.2 84.0 85.8 87.5 90.0 95.6 101.6 97.5 91.0 83.0 174.4

315 80.2 82.5 83.8 85.3 86.1 86.4 87.8 90.3 94.2 101.1 95.4 89.1 80.6 173.9

400 78.5 81.0 81.5 83.6 85.7 87.7 87.6 90.1 94.1 98.5 94.0 86.7 78.2 172.6

500 76.3 79.0 80.1 82.5 83.8 86.7 88.4 90.5 93.5 97.0 91.5 84.7 76.2 171.7

630 74.5 77.9 79.1 81.0 83.2 85.8 87.3 89.3 92.2 95.0 89.9 82.8 74.0 170.5

800 72.4 77.3 78.5 79.7 82.6 85.5 86.6 89.3 90.8 93.7 88.3 81.7 71.6 170.0

1000 70.4 75.1 76.9 78.8 81.1 84.1 86.3 87.9 89.4 92.7 86.2 79.0 69.2 169.3

1250 68.9 73.2 76.1 78.6 80.5 83.4 84.1 86.8 87.9 91.2 85.1 77.1 66.9 168.8

1500 66.2 71.2 74.0 76.2 79.3 81.8 83.0 83.9 86.6 88.8 82.8 73.8 62.0 168.1

1600 62.2 68.6 71.3 73.9 76.2 78.9 80.8 82.7 84.0 85.9 78.7 69.5 57.0 167.1

2000 58.3 64.5 67.8 71.0 73.1 76.7 78.0 79.3 80.4 82.4 75.6 64.1 49.1 166.6

2500 55.8 61.1 65.1 68.5 71.8 75.2 76.7 77.9 79.3 81.8 83.0 83.9 86.6 166.1

3150 50.8 59.1 62.1 65.5 69.3 73.2 74.2 73.6 75.8 77.4 69.3 57.5 36.7 166.2

4000 39.6 50.1 54.5 57.8 62.5 66.3 67.0 68.5 69.8 70.2 61.7 45.2 17.8 166.9

5000 25.2 37.8 48.7 53.4 57.5 58.6 59.8 61.2 60.5 49.7 29.0 2.4

6300 2.8 18.7 26.8 33.1 38.1 43.8 44.1 44.6 46.2 45.9 30.6

8000 0.3 9.6 16.5 21.0 21.7 21.3 22.8 19.3

10000 174.8

12500 177.8

16000

20000

25000

31500

40000

50000

63000

80000

DBA 82.3 85.5 86.8 88.7 90.6 93.1 94.5 96.6 99.2 103.2 98.7 92.0 83.7

PML 93.3 97.0 97.6 99.4 101.3 104.1 105.0 107.0 110.4 115.9 111.6 106.2 97.2

PNL 93.3 96.5 97.6 99.4 101.3 103.6 105.0 107.0 110.4 115.2 111.6 105.0 97.2

GNPL 89.3 91.8 92.3 93.7 95.0 97.0 98.5 100.9 105.2 111.0 109.4 104.9 98.4 186.5

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NA53-22514

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

VEHICL = ADH027 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNHR = RPM V8 = 2417.9 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR = RPM V8 = 2417.9 FPS AEB = 25.3 SQ IN

ZER-0413 TAPE = X04131 TEST PT NO = 0413 NC = 861 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0414 X0414C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 88.9 87.7 83.5 83.5 84.5 86.9 87.8 89.5 96.3 97.7 96.9 99.0 133.9

63 90.0 89.8 88.1 89.9 90.8 91.7 91.8 94.3 100.1 100.0 99.2 100.6 137.0

80 92.6 91.6 92.6 94.0 96.3 96.2 95.4 96.6 95.9 98.5 100.5 103.6 138.7

100 91.6 96.3 92.1 93.2 94.0 95.6 96.7 97.7 96.4 97.2 99.1 103.8 105.7 139.8

125 88.6 91.6 91.9 93.4 94.8 96.9 96.8 96.9 97.2 99.2 105.6 108.3 110.2 142.9

150 67.5 84.8 88.3 89.2 91.1 92.2 93.1 93.2 95.9 99.3 101.2 106.0 111.2 145.0

200 86.5 86.8 87.1 87.6 89.5 92.1 93.2 95.9 99.3 101.2 106.0 111.2 145.0

250 86.5 86.8 87.1 87.6 89.5 92.1 93.3 95.0 97.4 100.1 106.4 112.0 115.2 148.4

315 86.3 89.1 88.6 89.4 91.3 94.4 96.5 98.2 102.4 110.2 113.8 116.5 115.4 149.8

400 88.6 90.1 90.7 91.8 95.4 98.0 101.4 107.4 114.5 117.6 118.0 113.9 152.2

500 88.5 90.5 91.0 92.0 94.1 96.0 98.9 102.5 108.3 116.3 119.2 117.6 111.8 153.1

630 90.3 92.6 92.4 93.2 94.7 97.4 99.7 103.9 109.4 118.7 121.6 117.5 109.9 154.8

800 92.7 92.7 93.0 93.8 95.3 98.3 99.4 104.8 109.3 118.8 121.2 116.1 106.8 154.5

1000 96.5 97.8 96.8 96.8 97.7 99.5 101.7 104.8 110.0 119.3 122.2 115.4 106.3 155.2

1250 98.7 102.0 99.5 100.1 100.9 101.3 102.4 105.6 111.0 120.1 122.7 114.9 105.7 155.8

1500 103.3 102.8 101.8 101.4 100.4 102.3 104.3 107.0 112.1 119.7 123.4 113.9 106.0 156.1

2000 101.4 104.3 103.7 102.9 102.0 102.1 103.7 107.1 113.2 120.9 121.8 113.9 106.1 155.9

2500 99.4 101.0 101.2 103.0 103.8 104.2 105.0 107.3 112.6 119.8 119.2 112.0 105.0 154.4

3150 97.0 99.1 98.3 100.4 102.0 105.8 105.7 107.1 112.7 117.0 116.2 108.9 102.1 152.3

4000 96.7 97.3 97.3 98.6 99.9 103.6 105.7 108.4 111.9 116.1 115.3 107.4 100.7 151.6

5000 94.9 96.8 96.5 97.5 99.5 101.9 104.3 108.4 111.9 116.1 115.3 107.4 100.7 151.6

6300 93.9 96.3 96.3 97.0 99.4 102.1 104.4 107.6 111.4 115.0 114.3 107.3 99.9 151.0

8000 92.8 94.9 94.9 96.3 97.6 101.1 103.2 106.7 109.7 112.6 111.6 105.0 98.3 149.7

10000 92.1 93.6 94.3 95.6 97.1 101.1 102.2 105.5 109.7 112.6 111.6 105.0 98.3 149.7

12500 90.0 91.7 93.0 93.5 96.2 99.2 100.7 103.2 107.6 110.4 109.9 103.2 96.5 148.5

15000 87.3 90.4 91.0 93.3 96.3 98.2 101.8 105.6 107.3 107.3 101.1 94.1 147.7

20000 85.4 86.4 86.4 89.1 90.8 94.1 96.2 98.6 99.2 105.6 105.0 98.8 91.9 146.7

25000 80.4 83.9 84.1 85.4 86.5 91.8 93.6 96.6 99.4 103.4 101.4 96.0 87.8 146.2

31500 76.1 79.5 79.8 81.1 83.8 87.7 89.8 91.6 96.6 101.6 99.0 91.8 83.3 146.9

40000 72.0 74.9 76.3 77.1 81.0 84.0 86.0 88.1 94.1 97.9 97.8 87.8 79.0 148.0

50000 67.2 71.2 70.6 67.9 69.2 71.7 74.6 77.9 79.1 88.4 95.0 93.3 79.3 153.3

63000 68.1 68.6 67.9 69.2 71.7 74.6 77.9 79.1 88.4 95.0 93.3 79.3 68.0 153.3

80000 59.3 67.2 65.7 64.8 66.6 69.3 72.4 73.8 85.9 92.7 90.4 73.7 59.4 157.6

DBA 109.7 111.3 110.7 111.2 111.9 113.9 115.4 118.2 123.2 130.1 131.7 125.2 118.6

PWL 122.9 124.0 123.5 124.4 126.0 128.5 128.9 131.5 136.1 142.3 143.9 137.2 131.5

GASPL 109.5 111.2 110.5 111.0 111.9 114.1 115.6 118.5 123.3 130.0 131.8 127.0 123.2 167.1

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH044 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 80.00 MIKE HT = 29.90 RELHUM = 44.4 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = 29.90 NBFR = 400. FPS

FNINI = LBS XNL RPM = XNH RPM = XNHR RPM = V8 = 2423.0 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM = X0414C TEST PT NO = 0414 NC = 661 CORR FAN SPEED = RPM

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JONESWELL PAGE PRINTING SYSTEM-

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0414 X0414F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160  
PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 93.4  | 95.8  | 93.5  | 93.7  | 92.8  | 93.3  | 93.1  | 93.8  | 98.9  | 105.8 | 108.9 | 112.1 | 112.8 | 145.9 |
| 250   | 93.4  | 95.8  | 93.5  | 93.7  | 93.1  | 94.6  | 95.2  | 95.4  | 105.3 | 111.7 | 114.6 | 115.8 | 114.3 | 149.9 |
| 315   | 93.4  | 95.8  | 93.5  | 93.7  | 93.1  | 94.6  | 95.2  | 95.4  | 105.3 | 111.7 | 114.6 | 115.8 | 114.3 | 149.9 |
| 400   | 94.0  | 95.5  | 93.6  | 92.8  | 93.6  | 95.6  | 97.2  | 99.6  | 106.4 | 114.1 | 117.0 | 114.8 | 151.7 |       |
| 500   | 96.3  | 95.5  | 95.1  | 96.0  | 96.3  | 98.0  | 98.0  | 98.0  | 107.3 | 116.3 | 119.4 | 117.5 | 114.7 | 153.3 |
| 630   | 96.1  | 96.9  | 96.0  | 95.5  | 96.7  | 97.8  | 98.8  | 98.5  | 101.6 | 108.8 | 118.0 | 121.5 | 116.6 | 155.0 |
| 800   | 98.0  | 99.0  | 97.4  | 96.7  | 97.9  | 98.8  | 98.5  | 101.6 | 108.8 | 118.0 | 121.5 | 116.6 | 115.6 | 155.0 |
| 1000  | 100.4 | 99.2  | 98.1  | 97.4  | 99.3  | 100.9 | 100.9 | 100.9 | 118.7 | 121.9 | 117.5 | 115.8 | 153.3 |       |
| 1250  | 101.6 | 102.2 | 100.4 | 99.5  | 102.6 | 102.1 | 101.8 | 103.6 | 111.1 | 118.5 | 122.8 | 116.8 | 116.4 | 155.8 |
| 1500  | 103.8 | 106.3 | 103.0 | 102.7 | 102.4 | 103.3 | 103.9 | 105.2 | 112.6 | 120.0 | 121.6 | 117.1 | 116.9 | 155.9 |
| 1600  | 103.8 | 106.3 | 103.0 | 102.7 | 102.4 | 103.3 | 103.9 | 105.2 | 112.6 | 120.0 | 121.6 | 117.1 | 116.9 | 155.9 |
| 2000  | 109.7 | 108.1 | 105.9 | 104.3 | 104.1 | 103.6 | 105.7 | 112.4 | 119.4 | 119.4 | 115.8 | 116.4 | 155.0 |       |
| 2500  | 107.1 | 109.1 | 107.6 | 105.8 | 106.8 | 105.8 | 105.3 | 106.2 | 112.9 | 118.3 | 120.0 | 114.4 | 114.6 | 154.9 |
| 3150  | 107.0 | 107.6 | 106.7 | 107.2 | 105.8 | 107.8 | 106.3 | 106.5 | 113.6 | 117.5 | 117.3 | 113.3 | 114.0 | 153.9 |
| 4000  | 107.4 | 108.0 | 105.6 | 105.9 | 103.6 | 106.2 | 106.9 | 108.0 | 112.7 | 116.5 | 116.2 | 111.5 | 112.3 | 153.1 |
| 5000  | 104.3 | 103.0 | 103.2 | 103.5 | 104.9 | 105.8 | 108.5 | 112.3 | 115.6 | 115.4 | 111.7 | 111.8 | 152.4 |       |
| 6300  | 102.4 | 103.5 | 102.4 | 102.4 | 104.0 | 105.1 | 105.8 | 107.7 | 111.0 | 114.7 | 113.7 | 109.8 | 110.3 | 151.6 |
| 8000  | 104.0 | 105.2 | 103.6 | 102.8 | 102.2 | 104.1 | 104.7 | 106.7 | 111.1 | 113.6 | 113.3 | 109.9 | 110.7 | 151.5 |
| 10000 | 102.7 | 103.6 | 102.2 | 102.0 | 101.7 | 104.1 | 103.7 | 105.7 | 109.2 | 111.7 | 111.8 | 108.6 | 109.4 | 150.6 |
| 12500 | 101.7 | 102.0 | 101.3 | 101.0 | 100.8 | 102.2 | 102.2 | 103.4 | 107.7 | 110.3 | 109.6 | 106.8 | 107.3 | 149.8 |
| 15000 | 99.1  | 99.6  | 99.4  | 98.3  | 97.9  | 99.3  | 99.7  | 101.9 | 104.9 | 108.0 | 108.0 | 105.2 | 105.8 | 148.9 |
| 20000 | 96.0  | 97.4  | 96.5  | 95.5  | 95.4  | 97.1  | 97.7  | 98.8  | 102.5 | 106.1 | 104.7 | 102.6 | 101.8 | 148.1 |
| 25000 | 93.5  | 93.3  | 93.0  | 92.9  | 93.1  | 94.8  | 95.1  | 94.6  | 100.3 | 104.8 | 102.5 | 98.3  | 96.8  | 148.1 |
| 31500 | 87.7  | 90.0  | 88.7  | 88.5  | 88.4  | 90.7  | 91.3  | 91.6  | 98.6  | 102.0 | 102.2 | 95.2  | 93.4  | 148.8 |
| 40000 | 82.6  | 84.8  | 83.6  | 83.4  | 85.6  | 87.0  | 87.4  | 88.1  | 95.7  | 102.7 | 100.5 | 91.8  | 87.9  | 151.6 |
| 50000 | 78.0  | 79.7  | 79.7  | 78.9  | 80.5  | 82.6  | 82.9  | 83.0  | 94.3  | 100.4 | 99.1  | 88.1  | 83.7  | 153.7 |
| 63000 | 72.3  | 75.1  | 73.1  | 73.6  | 75.8  | 77.6  | 79.3  | 79.1  | 93.3  | 99.6  | 97.6  | 84.0  | 76.6  | 157.8 |
| 80000 | 69.0  | 68.7  | 67.2  | 67.5  | 71.1  | 72.3  | 73.8  | 73.8  | 83.5  | 89.8  | 87.8  | 74.2  | 66.8  | 155.0 |
| GASPL | 116.4 | 117.0 | 115.4 | 114.8 | 114.8 | 115.9 | 116.0 | 117.6 | 123.2 | 129.2 | 131.1 | 127.7 | 126.8 | 167.4 |
| PWL   | 129.0 | 129.7 | 128.1 | 127.6 | 129.0 | 128.8 | 130.2 | 135.9 | 140.9 | 142.3 | 138.1 | 138.0 |       |       |
| PFLT  | 130.4 | 129.7 | 128.1 | 127.6 | 129.0 | 128.8 | 130.2 | 135.9 | 140.9 | 142.3 | 138.1 | 138.0 |       |       |
| DBA   | 190.3 | 190.8 | 189.3 | 189.5 | 192.6 | 194.0 | 195.5 | 195.4 | 206.7 | 213.0 | 211.1 | 197.7 | 191.0 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH044 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.90 RELHUM = 44.4 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 4 NBFR =  
FNINI = LBS XNL RPM XNHR XNH RPM = V8 = 2423.0 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR XNH RPM = V8 = 2423.0 FPS AEB = 25.3 SQ IN  
CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0414 X04141

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150   | 160   |
|-------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 72.0 | 75.0 | 74.2 | 74.1 | 75.3 | 77.5 | 78.9 | 80.9 | 87.0 | 93.6 | 95.0  | 92.8  |
| 63    | 74.2 | 76.0 | 75.7 | 75.4 | 77.7 | 78.2 | 79.7 | 81.9 | 87.9 | 95.8 | 97.4  | 93.2  |
| 80    | 74.0 | 76.4 | 76.5 | 76.8 | 79.6 | 80.4 | 82.8 | 88.1 | 96.3 | 97.6 | 93.1  | 86.7  |
| 100   | 75.8 | 78.4 | 77.9 | 77.9 | 79.6 | 80.5 | 82.4 | 83.9 | 89.3 | 97.4 | 93.8  | 88.7  |
| 125   | 78.1 | 78.5 | 78.5 | 80.9 | 81.8 | 82.4 | 83.9 | 90.3 | 98.0 | 99.6 | 93.0  | 87.8  |
| 150   | 79.1 | 81.4 | 80.7 | 80.5 | 84.1 | 83.7 | 83.2 | 84.6 | 91.4 | 97.7 | 100.3 | 87.9  |
| 200   | 81.1 | 85.3 | 83.1 | 83.5 | 84.8 | 85.2 | 86.1 | 86.1 | 92.7 | 99.0 | 98.8  | 88.0  |
| 250   | 86.7 | 86.8 | 85.8 | 84.9 | 85.1 | 86.6 | 86.3 | 86.3 | 92.3 | 98.1 | 96.4  | 86.8  |
| 315   | 83.6 | 87.4 | 87.1 | 86.2 | 87.6 | 86.8 | 86.1 | 86.6 | 92.4 | 96.6 | 96.5  | 84.2  |
| 400   | 83.1 | 85.5 | 85.9 | 87.2 | 86.3 | 88.5 | 86.8 | 86.5 | 92.8 | 95.4 | 93.3  | 86.5  |
| 500   | 82.9 | 85.5 | 84.5 | 85.6 | 83.8 | 86.6 | 87.2 | 87.8 | 91.6 | 94.1 | 84.1  | 79.9  |
| 630   | 79.3 | 81.1 | 81.6 | 82.7 | 83.5 | 85.1 | 85.7 | 87.9 | 90.9 | 92.7 | 90.4  | 83.6  |
| 800   | 76.9 | 80.2 | 81.6 | 83.7 | 85.0 | 86.6 | 86.9 | 89.2 | 91.4 | 88.3 | 81.0  | 75.7  |
| 1000  | 78.1 | 81.6 | 81.7 | 81.8 | 81.7 | 83.9 | 84.3 | 85.7 | 89.1 | 90.0 | 87.5  | 80.4  |
| 1250  | 76.3 | 79.7 | 79.9 | 80.8 | 81.1 | 83.7 | 83.1 | 84.5 | 87.0 | 87.9 | 85.4  | 78.3  |
| 1500  | 74.5 | 77.5 | 78.6 | 79.5 | 80.0 | 81.6 | 81.3 | 81.9 | 85.1 | 85.9 | 82.4  | 75.2  |
| 1600  | 74.5 | 77.5 | 78.6 | 79.5 | 80.0 | 81.6 | 81.3 | 81.9 | 85.1 | 85.9 | 82.4  | 75.2  |
| 2000  | 70.9 | 74.5 | 76.4 | 76.6 | 76.9 | 78.5 | 78.6 | 80.1 | 81.9 | 82.9 | 79.7  | 71.9  |
| 2500  | 66.0 | 71.1 | 72.5 | 73.0 | 73.8 | 75.8 | 76.2 | 76.3 | 78.6 | 79.8 | 74.7  | 66.5  |
| 3150  | 60.1 | 64.6 | 67.2 | 68.9 | 70.1 | 72.2 | 72.1 | 70.7 | 74.5 | 76.1 | 69.2  | 57.3  |
| 4000  | 48.1 | 56.5 | 59.1 | 61.2 | 62.5 | 65.7 | 65.3 | 64.3 | 69.0 | 68.5 | 62.6  | 45.3  |
| 5000  | 33.2 | 43.8 | 47.8 | 50.7 | 54.6 | 56.7 | 56.5 | 55.4 | 59.9 | 61.7 | 51.2  | 28.1  |
| 6300  | 10.9 | 24.5 | 31.8 | 35.5 | 39.5 | 42.4 | 41.9 | 39.5 | 46.3 | 45.1 | 31.9  | 0.3   |
| 8000  | 3.8  | 10.9 | 16.6 | 19.6 | 20.2 | 16.4 | 24.1 | 19.5 |      |      |       |       |
| 10000 |      |      |      |      |      |      |      |      |      |      |       | 172.5 |
| 12500 |      |      |      |      |      |      |      |      |      |      |       | 175.3 |
| 15000 |      |      |      |      |      |      |      |      |      |      |       | 171.2 |
| 17500 |      |      |      |      |      |      |      |      |      |      |       | 169.0 |
| 20000 |      |      |      |      |      |      |      |      |      |      |       | 166.3 |
| 25000 |      |      |      |      |      |      |      |      |      |      |       | 165.5 |
| 31500 |      |      |      |      |      |      |      |      |      |      |       | 165.5 |
| 40000 |      |      |      |      |      |      |      |      |      |      |       | 165.5 |
| 50000 |      |      |      |      |      |      |      |      |      |      |       | 165.5 |
| 63000 |      |      |      |      |      |      |      |      |      |      |       | 165.5 |
| 80000 |      |      |      |      |      |      |      |      |      |      |       | 165.5 |

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MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH044 TEST DATE = 08-19-81  
 IAPLHA = SB59  
 WIND DIR = DEG WIND VEL = MPH  
 PML AREA = FULL SPHERE  
 TAMB F = 80.00  
 PAMB HG = 29.90  
 RELHUM = 44.4 PCT  
 FLVEL = 400. FPS  
 MODEL = 4  
 CONFIG = 4  
 C01 ANECH CH  
 LOCAT = C01 ANECH CH  
 TEST PT NO = 0414  
 NC = 861  
 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0415 X0415C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.2 85.5 83.7 83.0 83.6 88.2 87.4 88.8 90.5 96.8 97.2 96.6 97.5 133.8

63 89.5 89.3 89.3 91.4 93.3 91.6 91.6 99.6 99.5 99.5 99.2 100.6 137.1

80 92.0 91.6 92.1 94.0 96.8 96.5 95.6 97.3 96.4 99.0 101.0 103.1 138.9

100 91.8 98.6 93.4 94.9 95.7 97.1 98.2 99.2 97.9 99.4 101.1 105.0 106.9 141.3

125 88.1 91.4 92.9 94.7 96.3 98.4 98.0 97.4 98.9 101.7 107.9 109.5 111.0 144.3

160 88.3 87.8 90.6 90.6 93.3 95.5 95.9 98.6 103.2 107.8 111.0 113.6 145.3

200 89.0 88.8 89.8 90.9 93.2 96.3 96.5 98.4 102.8 105.4 109.5 113.5 115.6 147.5

250 88.8 82.8 92.1 93.9 95.0 96.1 98.2 100.6 103.8 110.9 115.3 118.0 117.6 151.4

315 89.8 91.9 91.4 92.7 94.8 97.9 94.8 97.9 100.0 101.7 107.1 113.5 116.6 152.6

400 92.1 93.6 93.6 95.2 95.3 99.1 101.5 105.2 112.6 119.0 120.1 120.5 118.4 155.5

500 91.9 95.0 94.5 95.5 96.9 99.3 101.4 104.8 111.3 119.1 121.0 120.6 118.3 155.8

630 93.8 95.8 96.4 98.2 99.9 102.7 106.2 112.9 121.7 122.6 120.7 119.4 157.3

800 97.7 96.0 97.5 97.5 101.5 101.5 103.4 106.8 113.0 122.1 123.2 120.1 116.8 157.6

1000 101.7 102.2 100.8 100.8 100.9 102.8 104.6 108.0 113.8 122.1 123.2 120.1 116.8 157.6

1250 106.0 103.5 103.8 102.8 102.7 105.0 107.5 109.7 115.1 122.5 122.9 117.4 111.9 157.5

1500 105.9 105.8 105.0 104.1 103.2 104.8 106.2 109.6 116.0 123.4 120.5 116.1 111.9 157.2

2000 103.9 102.0 103.0 104.1 107.1 109.0 110.8 114.9 119.2 116.5 112.2 108.1 154.3

2500 102.2 103.6 103.3 104.1 105.4 107.8 107.9 110.8 114.9 120.9 118.7 113.4 109.0 155.5

3150 102.2 103.6 103.3 104.1 105.4 107.8 107.9 110.8 114.9 119.2 116.5 112.2 108.1 154.3

4000 102.0 102.0 103.0 104.1 107.1 109.0 110.8 114.9 119.2 116.5 112.2 108.1 154.3

5000 99.2 100.5 100.8 101.8 103.2 105.7 108.1 110.6 114.1 118.6 115.3 110.9 106.2 153.7

6300 98.3 101.1 100.5 101.5 103.4 105.9 107.4 110.6 112.8 116.7 114.3 110.8 105.6 152.7

8000 96.5 97.5 98.6 100.0 101.8 104.6 106.2 109.6 111.6 112.5 108.4 104.5 152.2

10000 95.6 97.5 98.6 100.1 101.8 104.6 106.2 109.6 111.2 115.0 112.5 107.4 103.8 151.8

12500 93.9 96.1 96.9 98.2 100.7 103.2 104.4 108.5 109.9 109.8 113.3 111.1 105.2 100.7 151.0

15000 90.7 94.4 94.9 95.4 97.5 100.2 102.4 105.4 107.8 110.9 108.2 102.8 98.3 150.1

20000 88.5 90.8 92.2 93.7 95.0 100.1 102.2 105.1 108.7 105.8 99.9 95.8 149.4

25000 84.2 87.6 87.9 89.7 93.0 96.1 97.6 98.8 102.6 106.4 103.5 98.3 149.3

31500 79.7 83.6 84.4 85.7 88.2 92.3 93.7 95.9 99.9 103.9 102.0 95.1 88.2 149.9

40000 74.8 79.4 80.8 81.4 84.8 88.4 90.0 93.4 98.6 102.5 100.3 91.4 82.9 152.0

50000 70.4 73.7 75.2 76.6 79.3 84.1 85.9 88.6 95.8 101.6 98.1 87.0 77.4 154.5

63000 63.6 69.5 70.4 73.1 75.6 78.8 82.1 84.5 93.3 99.9 95.3 85.0 72.8 157.6

80000 58.5 66.4 66.4 67.3 69.9 73.8 76.4 80.5 90.2 95.1 93.5 82.4 66.1 160.6

QASPL 113.2 114.1 113.6 114.2 115.0 117.1 118.7 121.3 126.0 132.7 132.5 130.2 128.1 169.5

PNL 125.8 127.6 126.9 127.5 128.3 130.5 131.9 134.3 138.6 144.8 143.5 140.1 137.0

DBA 113.6 114.3 113.7 114.2 114.9 116.7 118.3 121.1 125.8 132.7 132.0 128.7 125.6

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH028 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4

IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR = 0. FPS

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2434.7 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM V18 = 2434.7 FPS AE18 = 0. SQ IN

RUNPT = P11-ZER-0415 TAPE = X0415C TEST PT NO = 0415 NC = 861 CORR FAN SPEED = RPM

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DATPROC - FLTRAN  
FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0415 X0415F

ANGLES MEASURED FROM INLET, DEGREES

| 40.   | 50.                  | 60.                    | 70.            | 80.              | 90.               | 100.        | 110.       | 120.      | 130.       | 140.   | 150.  | 160.  |       |
|---|----------------------|------------------------|----------------|------------------|-------------------|-------------|------------|-----------|------------|--------|-------|-------|-------|
| 50  | 66.2                 | 65.5                   | 63.7           | 63.0             | 63.6              | 68.2        | 87.4       | 88.8      | 90.5       | 96.8   | 97.2  | 96.6  | 133.8 |
| 53  | 89.5                 | 89.3                   | 89.3           | 89.3             | 91.4              | 93.5        | 91.9       | 91.6      | 95.3       | 99.6   | 99.5  | 100.6 | 137.1 |
| 63  | 89.5                 | 89.3                   | 89.3           | 89.3             | 91.4              | 93.5        | 91.9       | 91.6      | 95.3       | 99.6   | 99.5  | 100.6 | 137.1 |
| 80  | 92.0                 | 97.1                   | 91.6           | 92.1             | 94.0              | 96.8        | 96.5       | 95.6      | 97.3       | 96.4   | 99.0  | 103.1 | 138.9 |
| 100   | 91.8                 | 98.6                   | 93.4           | 94.7             | 95.7              | 97.1        | 98.2       | 99.2      | 97.9       | 99.4   | 101.1 | 105.0 | 141.3 |
| 125   | 88.1                 | 91.4                   | 92.9           | 94.7             | 96.3              | 98.4        | 98.0       | 97.4      | 98.9       | 101.7  | 107.9 | 109.5 | 144.3 |
| 160   | 88.3                 | 87.8                   | 90.6           | 90.6             | 90.5              | 93.3        | 95.5       | 95.9      | 98.6       | 103.2  | 107.8 | 113.6 | 145.3 |
| 200   | 69.0                 | 68.8                   | 69.9           | 69.2             | 68.3              | 68.5        | 68.4       | 68.2      | 68.8       | 69.5   | 70.5  | 71.5  | 147.5 |
| 250   | 68.8                 | 62.8                   | 62.1           | 63.9             | 65.0              | 66.1        | 68.2       | 70.6      | 73.8       | 78.0   | 81.8  | 87.6  | 151.4 |
| 315   | 69.8                 | 91.9                   | 91.4           | 92.7             | 94.8              | 97.9        | 100.0      | 101.7     | 107.1      | 113.5  | 116.6 | 119.0 | 152.6 |
| 400   | 92.1                 | 93.6                   | 95.2           | 95.3             | 99.1              | 101.5       | 105.2      | 112.6     | 119.0      | 120.1  | 120.5 | 118.4 | 155.5 |
| 500   | 91.9                 | 95.5                   | 94.5           | 95.5             | 96.9              | 99.3        | 101.4      | 104.8     | 111.3      | 119.1  | 121.0 | 120.6 | 155.8 |
| 630   | 93.8                 | 95.8                   | 95.6           | 96.4             | 98.2              | 99.9        | 102.7      | 106.2     | 112.9      | 121.7  | 122.6 | 120.7 | 157.3 |
| 800   | 97.7                 | 96.0                   | 96.5           | 97.5             | 99.4              | 101.5       | 103.4      | 106.8     | 113.0      | 122.1  | 123.2 | 120.9 | 157.6 |
| 1000  | 101.7                | 102.2                  | 100.8          | 100.8            | 102.8             | 104.6       | 108.0      | 114.3     | 122.1      | 123.2  | 120.1 | 116.8 | 157.6 |
| 1250  | 101.2                | 105.3                  | 103.8          | 103.3            | 104.2             | 104.0       | 105.4      | 108.6     | 114.3      | 122.6  | 123.0 | 119.4 | 157.7 |
| 1600  | 106.0                | 103.5                  | 102.8          | 102.7            | 105.0             | 107.5       | 109.7      | 115.1     | 122.5      | 122.9  | 117.4 | 113.4 | 157.5 |
| 2000  | 105.9                | 105.8                  | 105.0          | 104.1            | 103.2             | 104.7       | 107.8      | 110.2     | 114.9      | 122.3  | 118.9 | 114.5 | 156.2 |
| 2500  | 103.9                | 104.7                  | 104.2          | 105.7            | 105.8             | 105.7       | 107.8      | 110.2     | 114.9      | 122.3  | 118.9 | 114.5 | 156.2 |
| 3150  | 102.2                | 103.6                  | 103.3          | 104.1            | 105.4             | 107.8       | 107.9      | 110.3     | 114.9      | 120.9  | 118.7 | 113.4 | 155.5 |
| 4000  | 100.7                | 102.0                  | 102.0          | 103.0            | 104.1             | 107.1       | 109.0      | 110.8     | 114.9      | 119.2  | 116.5 | 112.2 | 154.3 |
| 5000  | 99.2                 | 101.8                  | 101.8          | 103.2            | 105.7             | 108.1       | 110.6      | 112.1     | 114.3      | 110.9  | 106.2 | 102.2 | 153.7 |
| 6300  | 98.3                 | 101.1                  | 100.5          | 101.5            | 103.4             | 105.9       | 107.4      | 110.6     | 112.8      | 116.7  | 114.3 | 110.6 | 152.7 |
| 8000  | 96.5                 | 98.9                   | 99.7           | 100.0            | 101.8             | 104.9       | 106.2      | 109.6     | 111.6      | 116.2  | 113.1 | 108.4 | 152.2 |
| 10000   | 95.6                 | 97.5                   | 98.6           | 100.1            | 101.8             | 104.6       | 105.4      | 108.5     | 111.2      | 115.0  | 112.5 | 107.4 | 151.8 |
| 12500   | 93.9                 | 96.9                   | 98.2           | 100.7            | 103.2             | 104.4       | 105.9      | 109.8     | 113.3      | 117.1  | 115.2 | 105.2 | 151.0 |
| 16000   | 90.7                 | 94.4                   | 94.9           | 95.4             | 97.5              | 100.2       | 102.4      | 105.4     | 107.8      | 110.9  | 108.2 | 102.8 | 150.1 |
| 20000   | 88.5                 | 90.8                   | 92.2           | 93.7             | 95.2              | 98.0        | 100.1      | 102.2     | 105.1      | 108.7  | 105.8 | 99.9  | 149.4 |
| 25000   | 84.2                 | 87.6                   | 89.0           | 91.6             | 93.0              | 96.1        | 97.6       | 98.8      | 102.6      | 106.4  | 103.5 | 98.3  | 149.3 |
| 31500   | 79.7                 | 83.6                   | 84.4           | 85.7             | 88.2              | 92.3        | 93.7       | 95.9      | 99.9       | 103.9  | 102.0 | 95.1  | 149.9 |
| 40000   | 74.8                 | 79.4                   | 80.8           | 81.4             | 84.8              | 88.4        | 90.0       | 93.4      | 98.6       | 102.5  | 100.3 | 91.4  | 152.0 |
| 50000   | 70.4                 | 73.7                   | 75.2           | 76.6             | 79.3              | 84.1        | 85.9       | 88.6      | 95.8       | 101.6  | 98.1  | 87.0  | 154.5 |
| 63000   | 63.6                 | 69.5                   | 70.4           | 73.1             | 75.6              | 82.1        | 84.5       | 88.5      | 93.3       | 99.9   | 95.3  | 85.0  | 157.6 |
| 80000   | 58.5                 | 66.4                   | 66.2           | 67.3             | 69.9              | 73.8        | 76.4       | 80.5      | 90.2       | 95.1   | 93.5  | 82.4  | 160.6 |
| QASPL   | 113.2                | 114.1                  | 113.6          | 114.1            | 115.0             | 117.1       | 118.7      | 121.3     | 126.0      | 132.7  | 132.5 | 130.2 | 169.5 |
| PNL   | 125.8                | 126.9                  | 126.5          | 127.5            | 128.9             | 131.0       | 131.9      | 134.3     | 138.6      | 144.8  | 143.5 | 140.1 | 137.0 |
| PFLT  | 125.8                | 127.6                  | 127.5          | 127.5            | 128.9             | 131.0       | 131.9      | 134.3     | 139.2      | 144.8  | 144.1 | 140.1 | 137.0 |
| DBA   | 180.4                | 187.5                  | 187.6          | 189.0            | 191.7             | 195.5       | 198.1      | 201.8     | 211.2      | 216.4  | 214.2 | 203.2 | 188.3 |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000           |                      |                        |                |                  |                   |             |            |           |            |        |       |       |       |
| FREE JET VEL (FPS) =                                  | 0.                   |                        |                |                  |                   |             |            |           |            |        |       |       |       |
| DIAM (IN) =   | 48.00                |                        |                |                  |                   |             |            |           |            |        |       |       |       |
| REFR CORR YES, TURB CORR YES                          |                      |                        |                |                  |                   |             |            |           |            |        |       |       |       |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ, SC-4/MAS3-22514 |                      |                        |                |                  |                   |             |            |           |            |        |       |       |       |
| VEHICL = ADH028                                       | TEST DATE = 08-19-81 | LOCAT = C41 ANECH CH   | CONFIG = 4     | MODEL = 4        | FLTVL = 0. FPS    |             |            |           |            |        |       |       |       |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 70.00 | PAMB HG = 29.60  | RELHUM = 57.9 PCT |             |            |           |            |        |       |       |       |
| WIND DIR =  | DEG                  | WIND VEL =             | MPH            | EXT DIST =       | 40.0 FT           | EXT CNFIG = | ARC        | MIKE HT = |            | NBFR = |       |       |       |
| FNINI =   | LBS                  | XNLR =                 | RPM            | XNH =            | RPM               | V8 =        | 2434.7 FPS | AE8 =     | 25.3 SO IN |        |       |       |       |
| FNRAMB =  | LBS                  | XNLR =                 | RPM            | XNHR =           | RPM               | V18 =       |            | AE18 =    | 0. SO IN   |        |       |       |       |
| RUNPT = 81F-ZER-0415                                  | TAPE = X0415F        | TEST PT NO = 0415      | NC = 661       | CORR FAN SPEED = | RPM               |             |            |           |            |        |       |       |       |

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0415 X04151

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.1 73.1 74.2 76.5 77.0 81.0 83.2 86.5 93.2 98.5 98.1 96.3 90.9 173.0

60 71.7 75.3 76.2 77.7 79.9 81.7 84.4 87.4 93.4 101.1 100.5 96.4 91.7 174.8

100 75.5 75.4 77.0 78.8 81.0 83.3 85.0 88.0 93.5 101.5 101.0 96.5 89.4 175.0

125 79.4 81.5 81.2 81.9 82.4 84.4 86.2 89.2 94.2 101.4 100.9 95.6 88.7 175.0

150 78.7 84.4 84.0 84.3 85.6 85.6 86.8 89.6 94.5 101.7 100.5 94.6 86.5 175.1

200 83.3 82.5 83.7 84.0 86.5 88.8 90.5 95.1 101.4 100.1 92.3 84.5 174.9

250 82.9 84.5 84.8 84.7 86.0 87.3 89.2 95.8 102.1 97.5 90.5 82.3 174.6

315 80.4 83.0 83.8 86.1 86.6 86.7 88.6 90.6 94.4 100.6 95.4 88.4 80.3 173.6

400 78.3 81.5 82.5 84.1 85.9 88.4 88.4 90.4 94.1 98.8 94.8 86.7 77.7 172.9

500 76.3 79.5 80.9 82.8 84.3 87.5 89.2 90.5 93.8 96.7 92.0 84.7 75.7 171.8

630 74.2 77.6 79.3 81.2 83.2 85.8 88.0 90.1 92.7 95.7 90.4 82.8 72.8 171.1

800 72.9 77.8 78.7 79.0 81.4 83.1 85.8 87.1 89.8 91.1 93.5 88.8 82.0 170.2

1000 70.6 75.3 77.7 79.0 81.4 84.6 85.8 88.6 89.6 92.7 87.2 79.0 68.7 169.6

1250 69.2 73.7 76.3 78.9 81.2 84.2 84.8 87.3 88.9 91.2 88.1 77.1 66.6 169.3

1600 66.7 71.7 74.2 76.7 79.8 82.5 83.5 84.4 87.1 88.8 83.8 73.6 61.2 168.4

2000 62.5 69.3 71.8 73.7 76.5 79.4 81.3 83.7 84.7 85.9 80.0 69.5 55.7 167.6

2500 58.5 64.5 68.3 71.3 73.6 76.7 78.5 79.8 81.2 82.4 75.8 63.8 48.4 166.8

3150 50.8 58.9 62.1 65.7 70.1 73.5 74.7 74.9 76.8 77.6 70.1 57.2 36.5 166.8

4000 40.1 50.1 54.8 58.5 62.3 66.8 67.8 68.7 70.3 70.4 62.4 45.2 17.8 167.3

5000 25.4 38.3 44.9 48.7 53.0 58.0 59.1 60.8 62.7 61.5 50.9 27.7 169.5

6300 3.3 18.5 27.3 33.1 38.3 43.8 44.9 45.1 47.9 46.4 30.9 171.9

8000 175.0 175.0 178.0

10000 175.0

12500 175.0

15000 175.0

936  
 8000  
 63000  
 50000  
 40000  
 31500  
 25000  
 20000  
 16000  
 12500  
 10000  
 8000

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|       |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| QASPL | 89.7 | 92.1 | 92.8 | 94.0 | 95.3  | 97.4  | 98.9  | 101.2 | 105.3 | 111.3 | 109.5 | 104.6 | 98.2 | 186.7 |
| PNL   | 93.7 | 96.8 | 98.0 | 99.9 | 101.6 | 104.1 | 105.4 | 107.5 | 111.1 | 116.0 | 111.9 | 104.7 | 96.7 |       |
| PMLT  | 93.7 | 96.8 | 98.0 | 99.9 | 101.6 | 104.1 | 105.4 | 107.5 | 111.1 | 116.0 | 111.9 | 104.7 | 96.7 |       |
| DBA   | 82.6 | 85.9 | 87.3 | 89.1 | 91.0  | 93.6  | 94.9  | 97.1  | 99.5  | 103.3 | 99.1  | 91.8  | 83.2 |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH028 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNF1G = 4 MODEL = 4 FLTVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 70.00 PAMB HG = 29.60 RELHUM = 57.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF1G = SL MIKE HT = NBRF =

FNINI = LBS XNLR RPM XNH XNHR = RPM V8 = 2434.7 FPS AEB = 25.3 SQ IN  
 FNRAMB = LBS XNLR RPM XNH XNHR = RPM V8 = 2434.7 FPS AE18 = 0. SQ IN

RUNPT = ER-0415 TAPE = X04151 TEST PT NO = 0415 NC = 861 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-416 X0416C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 59.4 88.0 83.7 83.0 83.6 84.5 87.1 88.3 89.7 96.3 97.9 96.9 99.8 134.2

63 90.2 90.0 89.3 88.3 90.2 90.8 91.9 91.6 94.5 99.9 99.7 98.9 100.6 135.9

80 92.0 96.6 90.8 92.1 93.5 95.6 95.7 94.6 96.1 95.4 97.8 99.7 102.9 138.0

100 92.1 96.6 92.1 93.4 94.0 96.1 97.0 98.2 96.6 97.4 99.6 104.5 106.4 140.3

125 88.9 91.9 92.4 93.7 95.0 97.4 97.0 96.7 96.7 99.5 105.9 108.5 110.5 143.2

160 87.8 84.8 88.8 89.4 89.0 91.3 92.5 93.6 96.1 101.2 106.0 109.0 112.4 143.6

200 87.0 87.1 86.8 87.6 90.0 92.3 93.5 96.1 99.8 101.9 106.8 112.0 114.4 145.6

250 85.5 89.3 89.1 90.4 91.5 93.1 95.2 97.9 100.6 106.9 112.5 115.7 115.9 148.9

315 86.6 88.9 88.6 89.2 91.3 94.4 95.8 98.2 102.9 110.2 113.8 116.8 115.7 150.0

400 88.6 89.6 90.1 90.7 91.8 95.6 97.8 101.4 107.6 114.5 117.8 114.3 114.4 152.4

500 88.5 91.2 91.3 92.5 93.9 96.0 98.9 102.3 108.3 116.8 119.2 118.6 112.3 153.5

630 88.5 91.2 91.3 92.5 93.9 96.0 98.9 102.3 108.3 116.8 119.2 118.6 112.3 153.5

800 93.0 93.0 93.3 94.3 96.1 98.3 99.9 103.5 109.8 119.3 121.7 119.3 106.8 155.6

1000 96.5 97.5 96.3 96.8 97.7 101.4 104.6 110.0 119.8 122.7 115.4 106.6 155.6

1250 100.0 102.8 100.0 99.8 100.7 101.5 102.2 105.6 111.3 120.4 123.0 115.2 106.7 156.0

1600 103.8 103.3 102.6 101.9 100.7 102.8 104.3 106.7 112.3 120.0 123.6 114.9 106.2 156.4

2000 101.9 104.6 104.2 102.5 102.6 104.2 106.6 113.5 120.9 121.5 113.9 106.1 155.8

2500 99.9 101.7 103.3 104.6 104.5 104.8 107.5 112.1 119.8 119.2 112.0 105.2 154.3

3150 97.8 99.3 99.1 100.4 102.7 106.0 106.2 107.4 112.7 118.9 119.2 110.9 103.6 154.0

4000 96.7 98.3 98.0 99.3 100.6 102.2 108.5 112.9 117.5 116.3 115.8 107.9 101.0 151.8

5000 95.7 98.8 98.8 99.7 102.4 106.2 108.4 111.9 116.3 115.8 107.9 101.0 151.8

6300 94.4 97.3 96.7 97.2 99.9 102.1 104.1 107.8 111.8 115.2 114.8 107.3 100.4 151.3

8000 93.0 95.2 95.9 96.6 97.8 101.4 103.5 106.9 110.6 114.0 112.6 105.5 99.5 150.3

10000 92.3 94.1 94.1 96.1 97.6 100.6 102.2 106.0 109.7 112.8 112.3 105.2 99.1 150.0

12500 91.0 92.2 93.2 94.0 96.7 99.5 100.9 103.7 108.1 110.9 110.1 103.5 96.5 148.9

16000 87.8 90.5 90.4 91.5 93.6 96.3 98.7 102.2 105.6 108.8 107.0 100.8 95.3 147.8

20000 84.9 87.2 88.1 89.3 91.3 93.8 96.2 98.8 103.0 106.1 105.5 98.3 92.4 147.1

25000 80.9 84.6 85.6 86.5 88.5 91.8 93.6 95.0 99.6 103.9 102.2 95.8 88.0 146.7

31500 76.4 80.0 80.1 81.9 84.3 87.9 89.3 92.1 96.8 101.1 99.7 91.5 83.5 146.9

40000 72.0 75.9 76.5 77.8 81.0 84.0 85.5 88.4 94.3 98.6 98.0 88.1 79.3 148.4

50000 67.7 71.2 71.4 73.0 75.7 79.9 81.2 83.7 90.6 98.2 97.0 94.9 79.6 154.9

63000 62.5 68.4 67.7 69.5 71.8 74.9 77.2 78.7 88.2 97.0 94.9 79.6 68.3 154.9

80000 59.5 67.0 66.1 65.2 66.7 69.4 72.0 73.5 85.3 94.6 91.5 75.6 60.0 158.9

QASPL 110.0 111.6 110.9 111.5 112.3 114.3 115.8 118.6 123.4 130.3 132.1 127.5 123.6 167.5

PNL 122.3 124.3 123.9 124.8 125.9 128.1 129.2 131.8 136.3 142.5 143.5 137.5 131.8

DBA 110.2 111.8 111.2 111.7 112.3 114.1 115.5 118.3 123.3 130.3 132.0 125.6 119.0

NASA SHOCK CELL/ANNUAL C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH045 TEST DATE = 08-19-81 LOCAL = CAT ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =  
FNINI = LBS XNL = RPM XNH = RPM V8 = 2443.1 FPS AEG = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2443.1 FPS AE18 = 0. SQ IN  
RUNPT = 81F-400-416 TAPE = X0416C TEST PT NO = 0416 NC = 861 CORR FAN SPEED = RPM

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gfc

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250   | 93.4  | 95.8  | 94.0  | 93.7  | 93.1  | 93.1  | 93.3  | 94.3  | 99.4  | 105.8 | 108.9 | 112.3 | 113.1 |
| 315   | 93.4  | 95.8  | 94.0  | 93.7  | 93.1  | 94.6  | 94.4  | 95.4  | 105.5 | 111.6 | 114.6 | 115.9 | 114.6 |
| 400   | 94.3  | 95.3  | 93.6  | 92.6  | 93.6  | 95.9  | 97.0  | 99.6  | 106.5 | 114.7 | 117.2 | 118.1 | 115.3 |
| 500   | 96.3  | 96.0  | 95.1  | 94.1  | 95.8  | 96.3  | 98.1  | 100.5 | 107.9 | 116.6 | 120.0 | 118.1 | 115.5 |
| 630   | 96.1  | 97.6  | 96.2  | 96.0  | 96.7  | 97.5  | 98.8  | 102.0 | 108.1 | 117.3 | 120.1 | 118.2 | 114.3 |
| 800   | 98.0  | 98.8  | 97.6  | 96.9  | 98.2  | 98.8  | 99.0  | 101.4 | 108.8 | 119.4 | 121.9 | 118.1 | 116.7 |
| 1000  | 100.6 | 99.4  | 98.3  | 97.9  | 99.3  | 99.9  | 100.6 | 102.5 | 110.2 | 119.0 | 122.3 | 117.9 | 117.0 |
| 1250  | 101.6 | 102.0 | 99.9  | 99.5  | 102.4 | 102.3 | 101.5 | 103.7 | 111.4 | 118.8 | 123.1 | 117.9 | 116.7 |
| 1500  | 105.8 | 107.6 | 103.8 | 102.5 | 102.6 | 103.8 | 103.9 | 105.0 | 112.9 | 120.1 | 121.3 | 117.1 | 116.9 |
| 1600  | 105.8 | 107.6 | 103.8 | 102.5 | 102.6 | 103.8 | 103.9 | 105.0 | 112.9 | 120.1 | 121.3 | 117.1 | 116.9 |
| 2000  | 110.2 | 108.6 | 106.7 | 104.8 | 104.6 | 103.9 | 104.1 | 105.3 | 112.0 | 119.5 | 119.5 | 115.8 | 116.7 |
| 2500  | 107.4 | 109.2 | 108.0 | 107.0 | 107.5 | 106.1 | 105.0 | 106.5 | 112.9 | 118.8 | 115.0 | 115.2 | 155.1 |
| 3150  | 107.5 | 108.3 | 107.2 | 107.4 | 106.5 | 108.0 | 106.8 | 106.7 | 113.8 | 118.0 | 117.7 | 114.0 | 154.4 |
| 4000  | 108.1 | 108.2 | 106.4 | 105.9 | 104.3 | 105.9 | 107.4 | 108.5 | 112.7 | 116.8 | 116.7 | 112.1 | 153.5 |
| 5000  | 104.3 | 103.8 | 104.0 | 103.8 | 105.4 | 108.8 | 105.8 | 105.8 | 115.8 | 115.9 | 111.7 | 112.3 | 152.8 |
| 6300  | 103.1 | 103.5 | 102.6 | 102.9 | 104.0 | 105.1 | 105.6 | 107.9 | 111.8 | 114.9 | 114.0 | 111.2 | 152.0 |
| 8000  | 101.7 | 103.9 | 102.4 | 101.9 | 102.4 | 104.4 | 105.0 | 107.0 | 111.1 | 113.9 | 113.9 | 110.3 | 151.7 |
| 10000 | 102.9 | 103.8 | 102.2 | 102.2 | 103.8 | 103.7 | 106.2 | 109.7 | 112.1 | 111.9 | 109.7 | 108.6 | 150.9 |
| 12500 | 102.0 | 102.5 | 101.0 | 101.5 | 101.3 | 102.5 | 102.4 | 103.8 | 107.9 | 110.8 | 109.7 | 106.9 | 150.1 |
| 15000 | 100.1 | 100.1 | 99.6  | 98.8  | 98.2  | 99.3  | 100.2 | 102.5 | 105.6 | 108.4 | 108.4 | 104.6 | 149.3 |
| 20000 | 96.5  | 97.9  | 96.5  | 96.0  | 95.9  | 96.8  | 97.7  | 98.7  | 102.7 | 106.6 | 105.3 | 102.1 | 148.4 |
| 25000 | 93.0  | 94.0  | 93.5  | 93.2  | 93.1  | 94.8  | 95.0  | 95.1  | 100.5 | 104.3 | 103.3 | 98.1  | 148.1 |
| 31500 | 88.2  | 90.4  | 89.2  | 88.7  | 88.9  | 90.9  | 90.8  | 92.1  | 98.9  | 102.7 | 102.4 | 95.5  | 149.3 |
| 40000 | 82.8  | 85.3  | 83.9  | 84.1  | 85.6  | 87.0  | 86.9  | 88.4  | 95.5  | 102.5 | 100.6 | 92.1  | 151.5 |
| 50000 | 78.0  | 79.7  | 79.9  | 79.7  | 80.3  | 82.9  | 82.7  | 83.7  | 92.7  | 102.5 | 100.6 | 88.4  | 155.3 |
| 63000 | 72.9  | 75.1  | 73.9  | 73.9  | 76.4  | 77.9  | 78.7  | 78.7  | 92.7  | 101.5 | 98.8  | 85.8  | 159.2 |
| 80000 | 66.1  | 70.8  | 68.7  | 68.9  | 71.2  | 72.4  | 73.4  | 73.4  | 82.9  | 91.7  | 88.9  | 76.0  | 156.3 |
| GASPL | 116.8 | 117.3 | 115.8 | 115.2 | 115.2 | 116.0 | 116.1 | 117.8 | 123.5 | 129.5 | 131.4 | 128.2 | 127.3 |
| PNL   | 129.5 | 130.0 | 128.6 | 128.4 | 128.1 | 129.2 | 129.0 | 130.5 | 136.1 | 141.3 | 142.4 | 138.6 | 138.4 |
| PFLT  | 130.7 | 130.0 | 128.6 | 128.4 | 128.1 | 129.2 | 129.0 | 130.5 | 136.1 | 141.3 | 142.4 | 138.6 | 138.4 |
| DBA   | 188.4 | 192.3 | 190.5 | 190.6 | 192.8 | 194.2 | 195.0 | 195.2 | 206.2 | 214.9 | 212.2 | 199.4 | 191.5 |

RUNPT = 400-416 TAPE = X0416F TEST PT NG = 0411 NC = 861 CORR FAN SPEED = RPM  
 FNNI = LBS XNLR RPM XNH RPM XNH = V8 = 2443.1 FPS AE8 = 25.3 SQ IN  
 FNAMB = LBS XNLR RPM XNH RPM XNH = V8 = 2443.1 FPS AE8 = 25.3 SQ IN  
 VEHICL = ADH045 TEST DATE = 08-19-81 LCAT = C41 ANECH CH CONFIG = 4 MODEL = 4  
 IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.60 PAMB HG = 44.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBRM = 400. FPS  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514  
 MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC  
 IDENTIFICATION - B1F-400-416 X0416F  
 ANGLES MEASURED FROM INLET, DEGREES  
 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-416 X04161

ANGLES MEASURED FROM INLET, DEGREES

PWL

|       |      |      |      |      |      |      |      |      |      |       |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|-------|
| 50    | 72.3 | 74.8 | 74.2 | 73.9 | 75.3 | 77.7 | 78.7 | 80.9 | 87.1 | 94.2  | 95.2 | 93.9 | 87.8  | 169.7 |
| 63    | 74.2 | 75.5 | 75.7 | 75.4 | 77.5 | 78.2 | 79.8 | 81.8 | 88.5 | 96.1  | 97.9 | 93.8 | 87.9  | 171.2 |
| 80    | 74.0 | 77.1 | 76.8 | 77.3 | 79.3 | 80.5 | 83.2 | 88.6 | 96.8 | 98.8  | 98.0 | 93.8 | 86.6  | 171.4 |
| 100   | 75.8 | 78.2 | 78.1 | 79.8 | 80.5 | 80.6 | 82.6 | 89.3 | 97.8 | 99.8  | 99.8 | 93.7 | 88.9  | 172.7 |
| 125   | 78.3 | 78.7 | 79.0 | 80.9 | 81.6 | 82.2 | 83.7 | 90.6 | 98.3 | 100.0 | 93.4 | 88.9 | 173.1 |       |
| 150   | 79.1 | 81.1 | 80.2 | 80.5 | 83.8 | 83.0 | 84.7 | 91.7 | 98.0 | 100.6 | 93.0 | 88.2 | 173.6 |       |
| 200   | 83.1 | 86.5 | 83.9 | 83.4 | 85.3 | 85.2 | 85.9 | 93.0 | 99.0 | 98.6  | 92.0 | 88.0 | 173.3 |       |
| 250   | 87.2 | 87.3 | 86.5 | 85.4 | 85.6 | 85.1 | 85.1 | 86.1 | 91.8 | 98.1  | 96.5 | 90.3 | 87.1  | 172.6 |
| 315   | 83.9 | 87.5 | 87.6 | 87.4 | 88.3 | 87.0 | 85.8 | 86.8 | 92.4 | 97.2  | 96.4 | 88.9 | 84.8  | 172.6 |
| 400   | 83.6 | 86.2 | 86.4 | 87.5 | 87.0 | 88.7 | 87.3 | 86.8 | 93.0 | 95.9  | 93.8 | 87.2 | 82.8  | 171.8 |
| 500   | 83.7 | 85.8 | 85.2 | 85.6 | 84.6 | 86.3 | 87.7 | 88.2 | 91.6 | 94.3  | 92.3 | 84.6 | 80.2  | 170.9 |
| 630   | 79.3 | 82.1 | 82.3 | 83.4 | 83.7 | 85.6 | 85.7 | 87.9 | 91.4 | 93.0  | 90.9 | 83.6 | 78.8  | 170.2 |
| 800   | 77.7 | 80.2 | 80.8 | 82.1 | 83.7 | 85.0 | 85.3 | 87.1 | 90.1 | 91.6  | 88.6 | 82.4 | 77.2  | 169.4 |
| 1000  | 75.8 | 80.4 | 80.4 | 80.9 | 81.6 | 83.5 | 83.1 | 85.0 | 87.5 | 88.3  | 85.5 | 78.4 | 72.0  | 168.3 |
| 1250  | 76.5 | 80.0 | 80.9 | 81.0 | 81.6 | 83.5 | 83.1 | 85.0 | 87.5 | 88.3  | 85.5 | 78.4 | 72.0  | 168.3 |
| 1500  | 74.7 | 78.0 | 78.4 | 80.0 | 80.5 | 81.8 | 81.6 | 82.3 | 85.2 | 86.3  | 82.4 | 75.3 | 69.3  | 167.6 |
| 2000  | 71.9 | 75.0 | 76.6 | 77.1 | 77.2 | 78.5 | 79.2 | 80.7 | 82.6 | 83.3  | 80.2 | 71.3 | 63.7  | 166.8 |
| 2500  | 66.5 | 71.6 | 72.5 | 73.5 | 74.3 | 75.5 | 76.2 | 76.3 | 78.8 | 80.3  | 75.3 | 66.1 | 54.3  | 165.8 |
| 3150  | 59.6 | 65.3 | 67.7 | 69.2 | 70.1 | 72.2 | 72.1 | 71.1 | 74.7 | 75.6  | 69.9 | 57.0 | 41.2  | 165.6 |
| 4000  | 48.6 | 57.0 | 59.6 | 61.5 | 63.0 | 64.8 | 64.8 | 63.3 | 69.3 | 62.8  | 45.5 | 28.4 | 0.6   |       |
| 5000  | 33.5 | 44.2 | 48.0 | 51.4 | 54.6 | 56.7 | 56.0 | 55.7 | 59.7 | 61.5  | 51.2 | 28.4 | 0.6   |       |
| 6300  | 10.9 | 25.5 | 32.0 | 36.2 | 39.3 | 42.7 | 41.6 | 40.3 | 46.2 | 47.2  | 33.5 | 0.6  |       |       |
| 8000  |      |      | 4.6  | 11.2 | 17.2 | 19.9 | 19.5 | 16.0 | 23.5 | 21.4  | 1.0  |      |       |       |
| 10000 |      |      |      |      |      |      |      |      |      |       |      |      |       | 173.8 |
| 12500 |      |      |      |      |      |      |      |      |      |       |      |      |       | 176.8 |
| 15000 |      |      |      |      |      |      |      |      |      |       |      |      |       |       |
| 20000 |      |      |      |      |      |      |      |      |      |       |      |      |       |       |
| 25000 |      |      |      |      |      |      |      |      |      |       |      |      |       |       |
| 31500 |      |      |      |      |      |      |      |      |      |       |      |      |       |       |
| 40000 |      |      |      |      |      |      |      |      |      |       |      |      |       |       |
| 50000 |      |      |      |      |      |      |      |      |      |       |      |      |       |       |
| 63000 |      |      |      |      |      |      |      |      |      |       |      |      |       |       |
| 80000 |      |      |      |      |      |      |      |      |      |       |      |      |       |       |

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MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH045 TEST DATE = 08-19-81  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 2400.0 FT  
PWL AREA = FULL SPHERE  
TAMB F = 60.00  
PAMB HG = 29.60  
RELHUM = 44.5 PCT  
FLTVL = 400. FPS  
MODEL = 4  
CONFIG = 4  
C41 ANECH CH  
CONFIG = 4

FNINI = LBS XNL RPM XNH XNHR = RPM  
V8 = 2443.1 FPS AE8 = 25.3 SQ IN  
V18 = 2443.1 FPS AE18 = 0. SQ IN  
FRAMB = LBS XNLR =

RUNPT = 81F-400-416 TAPE = X04161  
TEST PT NO = 0416 NC = 861  
CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0419 X0419C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. FWL

86.9 86.0 84.0 83.5 84.1 88.2 88.1 89.3 90.5 97.3 97.4 97.1 98.3 134.2

63 69.2 69.3 69.5 69.6 91.7 93.5 92.4 91.1 95.5 100.1 100.8 98.7 100.8 137.3

80 91.5 96.6 91.3 92.1 93.5 96.6 96.5 94.9 96.8 96.4 98.8 101.0 102.6 138.6

100 91.6 96.6 93.4 94.9 96.2 97.1 98.7 99.2 97.9 99.9 101.6 105.3 106.9 141.5

125 88.6 91.9 92.9 94.7 96.5 98.4 98.0 97.7 98.7 101.7 108.1 109.8 111.2 144.5

150 88.3 88.1 90.6 90.9 91.0 93.6 95.5 96.1 95.3 110.7 108.3 113.9 145.9

200 89.8 88.8 89.8 90.6 93.2 96.8 97.0 98.4 102.8 105.4 109.8 114.0 147.9

250 89.3 92.8 92.6 94.4 94.7 95.8 98.2 101.1 104.1 110.9 115.5 118.0 149.9

315 89.3 92.1 91.9 92.9 94.9 94.8 98.1 100.0 101.4 106.4 113.7 116.3 152.5

400 92.1 93.9 93.9 94.4 95.0 98.6 101.0 104.7 111.9 118.5 120.3 120.8 155.5

500 91.9 94.5 94.5 95.5 96.9 99.0 101.4 104.8 111.3 119.6 121.5 121.1 156.2

630 93.6 95.8 95.9 96.4 98.0 100.4 103.2 106.7 112.1 121.7 123.3 121.7 157.8

800 97.5 96.5 97.0 97.8 99.4 101.5 103.6 107.0 113.0 122.1 123.2 123.0 157.8

1000 101.7 102.8 101.3 101.1 100.9 103.0 104.6 107.8 113.8 122.1 123.5 123.5 157.8

1250 102.2 105.8 104.0 103.8 104.2 104.8 105.4 108.8 114.8 122.6 123.7 119.7 158.0

1500 107.3 105.3 104.3 103.6 103.2 104.6 107.3 109.7 114.8 122.7 122.9 117.7 157.6

2000 106.4 107.1 106.5 105.4 104.2 104.2 105.1 106.5 109.9 115.5 123.4 120.5 157.3

2500 104.9 105.9 105.2 106.5 106.8 107.2 107.8 110.2 115.1 122.5 119.2 114.7 156.5

3150 102.7 104.3 103.8 104.9 106.4 109.3 108.4 110.9 114.4 120.9 118.7 113.2 155.5

4000 101.5 103.0 102.8 103.8 104.9 107.6 109.7 111.5 114.9 119.5 116.5 111.9 154.6

5000 100.4 102.0 101.8 102.8 104.2 106.7 108.3 111.1 114.1 118.3 115.6 110.8 153.7

6300 99.3 101.8 101.7 102.5 104.1 106.1 107.8 111.3 113.1 117.2 114.7 109.8 153.2

8000 97.4 99.8 100.4 101.5 102.8 105.6 107.2 109.6 112.6 116.4 112.8 107.4 152.3

10000 96.5 98.5 99.5 100.5 102.7 105.2 107.8 109.2 111.3 115.5 112.2 107.4 152.3

12500 94.6 96.5 97.8 98.8 101.3 103.3 104.8 106.3 109.9 113.9 110.5 105.4 151.3

15000 91.3 94.7 95.2 96.3 98.4 101.1 102.7 105.3 107.1 111.3 108.3 103.4 150.3

20000 88.9 91.4 92.7 94.0 96.0 98.8 99.9 102.5 104.6 106.9 103.3 99.4 149.7

25000 84.8 88.4 88.9 89.7 93.1 96.4 97.9 98.4 101.7 106.9 103.3 99.4 149.4

31500 80.1 84.7 84.8 86.4 89.1 92.4 93.8 96.6 100.0 104.2 101.9 95.5 150.1

40000 75.9 80.4 81.3 82.4 85.6 89.2 90.8 93.2 98.1 102.6 100.4 94.2 152.1

50000 71.6 75.4 76.0 80.8 85.2 87.6 89.5 96.1 101.9 98.5 92.1 78.6 155.0

63000 65.3 71.4 72.5 74.8 77.9 81.3 84.1 87.0 93.7 101.4 97.7 87.0 159.2

80000 60.9 68.4 68.2 69.6 72.2 76.6 79.2 82.6 91.9 97.9 95.1 82.8 162.8

GASPL 113.9 115.0 114.4 114.8 115.7 117.7 119.0 121.6 125.8 132.8 132.7 130.6 128.3 170.2

PMLT 126.6 127.9 127.3 128.2 129.1 131.4 132.4 134.7 138.5 145.0 143.6 140.2 137.3

DBA 114.4 115.3 114.6 115.0 115.6 117.4 118.6 121.4 125.7 132.7 132.2 129.1 125.9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH029 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 75.00 PAMB HG = 29.60

MIND DIR = DEG MIND'VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2447.2 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2447.2 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-0419 TAPE = X0419C TEST PT NO = 0419 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0419 X0419F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 86.9 86.0 84.0 83.5 84.1 88.2 88.1 89.3 90.5 97.3 97.4 97.1 98.3 134.2

50 86.9 86.0 84.0 83.5 84.1 88.2 88.1 89.3 90.5 97.3 97.4 97.1 98.3 134.2

63 89.2 89.3 89.5 89.6 91.7 93.5 92.4 91.1 95.5 100.1 98.7 100.8 137.3

80 91.5 96.6 91.3 92.1 93.5 96.6 96.5 94.9 95.8 96.4 98.8 101.0 102.6 138.6

100 91.6 96.6 93.4 94.9 96.2 97.1 98.7 99.2 99.9 99.9 101.6 105.3 106.9 141.5

125 88.6 91.9 92.9 94.7 96.5 98.4 98.0 97.7 98.7 101.7 108.1 109.8 111.2 144.5

150 88.3 88.1 90.6 90.9 91.0 93.6 95.5 96.1 99.3 103.7 108.3 110.7 113.9 145.5

200 89.8 89.8 89.8 90.6 93.2 96.8 97.0 98.4 102.8 105.4 109.8 114.0 117.9 147.9

250 89.3 82.8 92.8 94.4 96.4 98.2 101.1 104.1 110.9 115.5 118.0 117.9 151.5

315 89.3 92.1 91.9 92.9 94.8 98.1 100.0 104.4 106.4 113.7 116.3 118.4 152.5

400 92.1 93.9 93.9 94.4 95.0 98.6 101.0 104.7 111.9 118.5 120.3 120.8 155.5

500 91.9 94.5 94.5 95.5 96.9 99.0 101.4 104.8 111.3 119.6 121.5 121.1 156.2

630 93.6 95.8 95.9 96.4 98.0 100.4 103.2 106.7 112.1 121.7 123.3 121.7 157.8

800 97.5 96.5 97.0 97.8 99.4 101.5 103.1 107.0 113.0 122.1 123.2 101.3 157.8

1000 101.7 102.8 101.3 101.1 100.9 103.0 104.6 107.8 113.8 122.1 123.5 120.6 157.8

1250 102.2 105.8 104.0 103.8 104.2 104.8 105.4 108.8 114.8 122.6 123.7 119.7 158.0

1500 107.3 105.3 104.3 103.6 103.2 104.6 107.3 109.7 114.8 122.7 122.9 117.7 157.6

1600 107.3 105.3 104.3 103.6 103.2 104.6 107.3 109.7 114.8 122.7 122.9 117.7 157.6

2000 106.4 107.1 106.5 105.4 104.2 105.2 106.5 109.9 114.5 123.4 120.5 116.4 157.3

2500 104.9 105.9 105.2 106.5 106.8 107.2 107.8 110.2 115.1 122.5 119.2 114.7 156.5

3150 102.7 104.3 103.8 104.9 106.4 109.3 108.4 110.9 114.4 120.9 118.7 118.2 155.5

4000 101.5 103.0 102.8 103.8 104.9 107.6 109.7 111.5 114.9 119.5 116.5 111.9 154.6

5000 100.4 102.0 101.8 102.8 104.2 106.7 108.3 111.1 114.1 118.3 115.6 110.8 153.7

6300 99.3 101.8 101.7 102.5 104.1 106.1 107.8 110.2 115.1 122.5 119.2 114.7 153.2

8000 97.4 99.8 100.4 101.5 102.8 105.6 107.2 109.6 111.6 112.8 112.8 107.9 152.3

10000 96.5 98.5 100.5 102.7 105.2 107.7 109.3 109.9 113.9 110.5 105.4 101.2 151.3

12500 94.6 96.5 97.8 98.8 101.3 103.3 104.8 106.3 109.9 113.9 110.5 105.4 151.3

15000 91.3 94.7 95.2 96.3 98.4 101.1 102.7 105.3 107.1 111.3 108.3 103.4 150.3

20000 88.9 91.4 92.7 94.0 96.0 98.8 99.9 102.5 104.6 109.0 106.4 101.0 149.7

25000 84.8 88.4 89.7 93.1 96.4 97.9 98.4 101.7 106.9 103.3 99.4 91.9 149.4

31500 80.1 84.7 84.8 86.4 89.1 92.4 93.8 96.6 100.0 104.2 101.9 95.5 150.1

40000 75.9 80.4 81.3 82.4 85.6 89.2 90.8 93.2 98.1 102.6 100.4 94.2 152.1

50000 71.6 75.4 76.4 78.0 80.8 85.2 87.6 89.5 96.1 101.9 98.5 92.1 155.0

63000 65.3 71.4 72.5 74.8 77.9 81.3 84.1 87.0 93.7 101.4 97.7 87.0 159.2

80000 60.9 68.4 68.2 69.6 72.2 76.6 79.2 82.6 91.9 97.9 95.1 82.8 162.8

GASPL 113.9 115.0 114.4 114.8 115.7 117.7 119.0 121.6 125.8 132.8 132.7 130.6 128.3 170.2

PNL 126.6 127.9 127.3 128.2 129.1 131.4 132.4 134.7 138.5 145.0 143.6 140.2 137.3

DBA 182.5 189.4 189.6 191.2 193.8 198.0 200.6 203.9 212.6 218.8 215.9 204.1 190.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH029 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIO = 4 MODEL = 4 FLTVL = 0. FPS

IAPLHA = SB59 LEGA = NG WIND VEL = MPH EXT AREA = FULL SPHERE TAMB F = 75.00 PAMB HG = 29.60 RELHUM = 55.0 PCT

FNINI = LBS XNL XNLR = RPM XNH XNHR = RPM V8 = 2447.2 FPS AE8 = 25.3 SO IN

FNRAMB = LBS XNL XNLR = RPM XNH XNHR = RPM V8 = 2447.2 FPS AE8 = 25.3 SO IN

RUNPT = 81F-ZER-0419 TAPE = X0419F TEST PT NO = 0419 NC = 861 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM - P188-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0419 X04191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 70.1 73.4 74.5 75.7 76.7 80.5 82.7 86.0 92.5 98.0 98.3 96.6 90.6 172.9  
63 69.9 74.0 75.1 76.8 78.6 80.8 83.1 86.1 91.8 99.1 99.4 96.9 90.7 173.6  
80 71.5 75.3 76.4 77.7 79.7 82.2 84.9 87.9 92.7 101.1 101.2 97.4 91.9 175.2  
100 75.3 75.9 77.5 79.0 81.0 83.3 84.8 88.3 93.5 101.5 101.0 97.2 90.2 175.2  
125 79.4 82.1 81.7 82.2 82.4 84.7 86.2 88.9 94.2 101.4 101.2 96.1 89.5 175.2  
150 79.8 84.9 84.3 84.8 85.6 86.3 86.8 89.8 95.1 101.8 101.3 94.8 86.7 175.5  
200 84.5 84.2 84.4 84.4 84.5 86.0 86.6 89.5 94.9 101.7 100.1 92.5 84.8 175.0  
250 83.4 85.7 86.3 86.0 85.3 86.3 87.5 90.5 95.3 102.1 97.5 90.8 83.0 174.7  
315 81.4 84.3 84.8 86.8 87.6 88.2 88.6 90.6 94.7 100.9 95.7 88.6 80.6 173.9  
400 78.8 82.2 83.0 84.9 86.9 88.9 90.9 93.6 98.8 94.8 86.4 77.4 173.0  
500 77.0 80.5 81.6 83.5 85.1 88.0 89.9 91.3 93.8 97.0 92.0 84.5 75.7 172.0  
630 75.5 79.1 80.3 82.2 84.2 86.8 88.3 90.6 92.6 95.5 90.6 82.7 73.5 171.2  
800 73.9 78.5 79.9 81.6 83.8 86.0 87.5 90.5 91.3 93.9 89.3 81.0 71.5 170.6  
1000 71.6 76.3 78.4 80.5 82.3 85.3 86.7 88.6 89.6 92.9 86.9 78.4 68.5 169.7  
1250 70.1 74.6 77.3 79.3 82.2 84.9 85.3 88.0 89.1 91.6 85.8 77.1 66.3 169.6  
1500 67.3 72.1 75.2 77.3 80.5 82.7 83.9 84.8 87.3 89.5 83.2 73.7 61.6 168.7  
1600 67.3 72.1 75.2 77.3 80.5 82.7 83.9 84.8 87.3 89.5 83.2 73.7 61.6 168.7  
2000 63.1 69.7 72.2 74.6 77.4 80.3 81.7 83.6 84.1 86.2 80.1 70.1 56.9 167.7  
2500 58.9 65.1 68.8 71.6 74.5 77.5 78.4 80.1 80.7 82.7 76.4 64.9 48.7 167.1  
3150 51.4 59.7 63.1 65.8 70.1 73.8 75.0 74.4 75.9 78.2 69.9 58.3 36.1 166.8  
4000 40.5 51.3 55.1 59.1 63.2 66.9 67.9 69.3 70.4 70.7 62.3 45.5 17.7 167.5  
5000 26.5 39.4 45.5 49.8 54.7 58.8 59.9 60.6 62.3 61.6 51.0 30.6 169.6  
6300 4.4 20.2 28.5 34.6 39.7 45.0 46.5 46.1 48.1 46.7 31.4 4.3 172.4  
8000 3.2 12.2 18.7 23.3 24.9 24.3 24.3 23.3 23.3 24.9 24.3 21.4 176.6  
8000 180.3

276

|       |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| QASPL | 90.4 | 93.1 | 93.6 | 94.8  | 96.0  | 98.0  | 99.2  | 101.5 | 105.2 | 111.4 | 109.8 | 105.1 | 98.5 | 187.4 |
| PNL   | 94.4 | 97.8 | 99.0 | 100.6 | 102.3 | 104.9 | 105.8 | 107.7 | 110.4 | 115.5 | 112.0 | 105.1 | 97.2 |       |
| PNLT  | 94.4 | 97.8 | 99.0 | 100.6 | 102.3 | 104.9 | 105.8 | 107.7 | 111.0 | 116.0 | 112.0 | 106.3 | 97.2 |       |
| DBA   | 83.4 | 86.9 | 88.2 | 89.9  | 91.9  | 94.3  | 95.4  | 97.5  | 99.5  | 103.5 | 99.2  | 91.8  | 83.5 |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/ANNULAR C-D PLUG NGZ. SC-4/NAS3-22514

VEHICL = ADH029 TEST DATE = 08-19-81  
IAPLHA = SB59 IEQA = NO  
WIND DIR = DEG WIND VEL = MPH  
LOCAL = C41 ANECH CH CONFIG = 4  
PML AREA = FULL SPHERE TAMB F = 75.00  
EXT DIST = 2400.0 FT EXT CONFIG = SL  
MODEL = 4 PAMB HG = 29.60  
FLVEL = 0. FPS REFHUM = 55.0 PCT  
NBRFR =  
FNINI = LBS XNL RPM XNHR =  
FNRAMB = LBS XNL RPM XNHR =  
V8 RPM V8 = 2447.2 FPS  
AE8 FPS AE18 = 25.3 SQ IN  
O. SQ IN  
CORR FAN SPEED = RPM = 861 NC = 0411 TEST PT NG = 0411  
ZER-0419 TAPE = X04191

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DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0420 X0420C BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 89.7 91.2 83.7 83.5 83.9 84.7 86.4 87.8 89.5 94.8 96.9 96.1 99.3 133.6

63 90.0 92.0 89.5 88.8 90.4 91.0 91.9 91.8 94.8 100.9 100.5 99.4 100.6 137.5

80 92.5 95.3 91.6 92.9 94.0 95.8 96.2 95.6 97.1 97.9 98.3 100.2 103.6 138.5

100 92.6 94.3 92.4 93.9 95.2 96.4 97.5 98.4 97.4 97.7 99.8 104.8 106.7 140.6

125 89.1 90.9 92.7 93.9 95.3 97.2 97.3 96.7 99.5 106.1 108.8 111.0 143.4

160 88.0 89.8 89.3 89.5 91.3 93.0 93.4 93.0 96.3 101.4 106.3 109.5 143.9

200 87.3 89.1 87.9 89.2 93.1 94.0 96.1 99.8 101.9 107.0 112.2 114.9 146.0

250 85.5 87.8 89.1 90.1 91.7 93.3 95.7 97.9 100.6 107.2 112.3 115.7 148.9

315 86.8 88.4 88.6 89.4 91.5 94.4 97.0 98.2 102.9 110.7 114.3 117.3 150.4

400 89.1 90.6 90.6 91.7 92.5 96.1 98.0 101.9 108.4 115.7 118.3 118.8 153.1

500 88.7 90.5 91.8 92.0 94.4 96.3 98.9 102.3 108.3 116.8 119.5 118.4 153.5

630 90.1 92.9 92.1 93.4 95.0 97.4 100.2 104.2 109.4 118.9 121.8 118.0 155.1

800 93.2 94.5 93.3 94.5 96.6 98.8 100.4 103.8 109.3 119.6 122.5 116.4 155.4

1000 97.7 99.3 97.3 97.3 99.9 99.8 101.9 105.1 110.5 120.3 122.7 115.7 155.8

1250 101.0 103.3 100.5 100.3 100.9 101.8 102.7 105.6 112.0 120.9 123.2 114.9 156.8

1600 104.5 106.6 103.8 102.9 101.2 102.8 104.8 106.7 112.6 120.7 123.9 115.6 156.8

2000 102.7 103.8 104.5 105.1 103.7 103.1 104.5 107.1 114.2 121.7 122.0 113.9 156.4

2500 100.4 102.2 102.2 104.0 105.1 105.7 105.3 107.8 113.1 120.3 120.4 113.0 155.5

3150 100.8 100.1 99.6 101.1 103.7 106.8 109.3 112.9 117.5 117.2 109.9 102.6 153.0

4000 97.2 98.8 97.8 100.0 100.9 104.6 107.0 109.3 112.9 117.5 117.2 109.9 153.0

5000 96.2 98.3 97.3 99.0 100.7 103.2 105.8 108.9 112.6 116.8 116.3 108.4 152.4

6300 95.6 97.8 97.2 98.5 100.2 102.9 104.9 109.1 112.1 115.2 115.0 107.8 151.6

8000 94.2 95.9 96.2 97.1 99.1 102.4 104.5 107.2 110.9 114.5 112.9 106.2 150.7

10000 92.6 94.3 95.3 96.6 98.8 101.3 103.2 106.3 109.9 113.3 111.8 105.2 150.2

12500 91.5 92.4 93.7 94.7 97.2 99.0 100.0 101.7 103.7 108.1 111.4 110.3 149.2

16000 88.0 90.7 91.2 92.2 94.6 96.4 99.3 99.4 103.0 106.1 109.8 107.8 148.6

20000 85.6 88.6 89.8 91.8 93.8 95.1 96.7 99.6 102.5 107.1 105.7 98.8 147.6

25000 81.4 84.8 85.4 89.0 92.5 94.6 95.8 99.8 104.4 101.7 96.0 88.5 146.9

31500 76.4 80.0 80.3 81.9 85.1 88.4 88.4 90.3 92.6 96.6 101.8 99.5 147.2

40000 72.0 76.3 77.8 81.5 85.0 86.5 89.1 95.3 98.6 97.5 88.1 79.5 148.6

50000 68.0 74.5 71.7 73.2 76.7 80.4 82.7 84.0 91.8 97.6 95.5 83.0 150.8

63000 62.7 74.9 68.0 70.5 73.0 75.9 78.7 79.9 90.9 96.3 95.6 79.9 153.2

80000 59.7 75.8 66.1 65.5 67.7 70.4 73.2 74.5 87.6 93.4 91.5 73.9 158.5

80000 59.7 75.8 66.1 65.5 67.7 70.4 73.2 74.5 87.6 93.4 91.5 73.9 158.5

80000 59.7 75.8 66.1 65.5 67.7 70.4 73.2 74.5 87.6 93.4 91.5 73.9 158.5

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VEHICLE = ADH046 TEST DATE = 08-19-81  
IAPLHA = SB59 LEGA = NO  
WIND DIR = SB59 DEG WIND/VEL = MPH  
LOCAT = C41 ANECH CH EXT DIST = 40.0 FT  
CONFIG = 4 TAMB F = FULL SPHERE  
PAMB HG = 29.60 MIKE HT = ARC  
FLVEL = 400. FPS RELHUM = 44.5 PCT  
NBFR =

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

DBA 111.0 112.8 111.7 112.5 113.0 114.8 116.2 118.8 123.8 128.8 132.3 132.3 125.8 119.3

PWL 123.0 125.8 124.3 125.5 126.5 129.4 129.8 132.3 136.6 142.9 143.9 137.9 132.1

QASPL 110.7 112.5 111.4 112.2 113.0 115.0 116.4 119.1 123.8 130.7 132.4 127.6 124.0 167.8

40000 72.0 76.3 77.8 81.5 85.0 86.5 89.1 95.3 98.6 97.5 88.1 79.5 148.6

50000 68.0 74.5 71.7 73.2 76.7 80.4 82.7 84.0 91.8 97.6 95.5 83.0 150.8

63000 62.7 74.9 68.0 70.5 73.0 75.9 78.7 79.9 90.9 96.3 95.6 79.9 153.2

80000 59.7 75.8 66.1 65.5 67.7 70.4 73.2 74.5 87.6 93.4 91.5 73.9 158.5



DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

06/18/82 17.409 PAGE 4

IDENTIFICATION - 81F-400-0420 X04201

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |      |      |       |      |       |       |
|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|
| 50   | 72.5 | 74.3 | 74.2 | 74.1 | 76.1 | 78.2 | 78.9 | 81.4 | 87.1 | 94.2 | 95.4  | 93.6 | 87.7  | 169.6 |
| 63   | 74.7 | 76.5 | 76.2 | 76.4 | 78.0 | 78.4 | 79.8 | 81.7 | 88.0 | 96.1 | 97.7  | 93.8 | 88.0  | 171.1 |
| 80   | 74.3 | 76.4 | 77.3 | 76.8 | 78.3 | 79.6 | 81.0 | 83.3 | 88.1 | 96.9 | 98.7  | 93.2 | 87.0  | 171.7 |
| 100  | 75.6 | 78.7 | 77.6 | 78.1 | 80.3 | 81.0 | 81.1 | 82.8 | 89.8 | 98.3 | 99.8  | 93.9 | 89.1  | 172.9 |
| 125  | 78.3 | 80.0 | 78.6 | 79.2 | 81.1 | 82.1 | 82.7 | 84.2 | 91.3 | 98.8 | 100.2 | 93.8 | 88.8  | 173.4 |
| 150  | 80.8 | 83.0 | 81.1 | 80.9 | 84.1 | 84.2 | 83.5 | 84.7 | 92.2 | 98.7 | 100.9 | 93.0 | 89.0  | 174.0 |
| 200  | 84.4 | 87.2 | 84.5 | 83.9 | 84.4 | 85.3 | 85.7 | 85.9 | 93.6 | 99.7 | 99.0  | 91.8 | 88.1  | 173.8 |
| 250  | 88.3 | 90.9 | 86.5 | 86.9 | 85.6 | 85.4 | 86.3 | 86.3 | 92.7 | 96.9 | 96.9  | 88.9 | 85.1  | 172.8 |
| 315  | 84.1 | 86.5 | 87.7 | 88.4 | 88.8 | 88.3 | 86.3 | 87.1 | 92.7 | 96.9 | 96.9  | 88.9 | 85.1  | 172.8 |
| 400  | 84.1 | 86.7 | 88.2 | 87.5 | 89.5 | 87.8 | 87.5 | 87.5 | 93.0 | 95.9 | 94.3  | 87.5 | 83.1  | 172.1 |
| 500  | 81.9 | 84.3 | 84.0 | 85.2 | 84.8 | 87.6 | 88.4 | 89.0 | 92.3 | 94.8 | 92.7  | 85.0 | 80.3  | 171.3 |
| 630  | 79.8 | 82.6 | 82.1 | 84.2 | 84.7 | 86.3 | 87.2 | 88.4 | 91.6 | 92.9 | 91.1  | 84.0 | 78.5  | 170.4 |
| 800  | 78.2 | 81.7 | 81.3 | 83.1 | 83.9 | 85.8 | 86.1 | 88.3 | 92.1 | 88.8 | 82.1  | 77.6 | 169.9 | 169.3 |
| 1000 | 77.0 | 80.9 | 80.9 | 82.2 | 83.2 | 85.1 | 85.5 | 86.3 | 89.3 | 90.8 | 87.4  | 80.6 | 75.5  | 169.3 |
| 1250 | 77.8 | 80.7 | 81.2 | 81.5 | 82.9 | 84.0 | 84.1 | 85.2 | 87.5 | 88.8 | 85.9  | 79.0 | 72.9  | 168.8 |
| 1500 | 75.0 | 78.2 | 79.6 | 80.5 | 81.0 | 82.3 | 82.3 | 82.4 | 85.6 | 87.1 | 82.9  | 75.2 | 69.0  | 168.0 |
| 2000 | 72.4 | 75.2 | 77.1 | 77.8 | 78.2 | 79.5 | 79.9 | 81.4 | 81.9 | 84.1 | 80.1  | 71.5 | 62.8  | 167.1 |
| 2500 | 66.7 | 71.9 | 73.3 | 74.3 | 74.8 | 76.8 | 76.6 | 77.2 | 79.0 | 80.8 | 74.8  | 66.4 | 54.9  | 166.2 |
| 3150 | 60.4 | 65.0 | 68.2 | 69.7 | 70.6 | 72.9 | 73.1 | 71.9 | 74.5 | 76.3 | 69.7  | 57.3 | 41.7  | 165.9 |
| 4000 | 49.1 | 56.7 | 59.9 | 61.2 | 63.8 | 65.8 | 65.3 | 70.3 | 69.3 | 62.3 | 45.5  | 23.5 | 166.8 | 166.8 |
| 5000 | 33.5 | 44.2 | 48.3 | 51.4 | 55.1 | 57.7 | 57.0 | 56.5 | 60.9 | 61.0 | 50.9  | 27.1 | 168.8 | 173.0 |
| 6300 | 10.9 | 26.2 | 31.8 | 36.2 | 40.3 | 43.2 | 43.1 | 40.5 | 48.9 | 46.5 | 34.2  | 0.8  | 173.0 | 173.5 |
| 8000 |      |      | 4.9  | 11.4 | 18.5 | 20.9 | 21.0 | 17.2 | 25.7 | 20.2 | 1.0   |      |       |       |

ORIGINAL VALUE OF POOR QUALITY

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH046 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
 IAPLHA = SB59 LEGA = NG PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2463.4 FPS AEB = 25.3 SQ IN  
 FNRAMB = LBS XNL RPM = RPM V8 = 2463.4 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-0420 TAPE = X04201 TEST PT NO = 0420 NC = 861 CORR FAN SPEED = RPM

DATPRCC - FLI,MAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0421 X0421C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.7 86.0 84.0 86.8 84.1 88.2 88.1 88.8 90.2 97.3 97.2 96.9 97.5 134.1

63 89.5 89.8 89.8 91.6 91.9 92.8 92.8 92.9 91.6 99.7 98.7 100.3 99.7 137.4

80 92.3 97.3 91.8 92.4 94.0 94.0 97.1 96.7 95.9 97.3 96.7 99.0 101.5 139.0

100 92.6 98.6 93.9 95.9 95.7 97.9 98.5 98.5 99.4 98.6 100.2 101.6 105.5 141.8

125 89.1 91.6 93.4 95.2 96.3 98.9 98.5 98.2 99.2 102.2 108.1 110.0 111.5 144.8

150 88.3 89.6 90.8 91.1 91.0 93.6 95.5 96.4 98.8 103.7 108.5 111.2 114.4 145.8

160 88.3 89.6 90.1 91.6 93.7 97.3 97.2 98.4 103.1 105.4 109.8 114.5 116.1 148.1

200 89.8 89.6 90.1 91.6 93.7 97.3 97.2 98.5 101.1 104.1 110.9 115.8 118.4 151.9

250 89.5 93.1 92.8 94.4 95.2 96.8 96.8 98.5 101.1 104.1 110.9 115.8 118.4 151.9

315 90.1 92.4 91.9 93.2 95.0 98.9 100.0 101.9 107.6 114.2 117.3 119.8 118.7 153.3

400 92.8 94.4 94.9 96.3 99.6 101.8 105.9 112.9 119.0 120.8 121.0 118.9 118.9 156.0

500 92.7 95.2 94.8 95.5 97.4 99.8 102.1 105.3 111.5 119.3 121.5 121.4 118.5 156.2

630 94.1 96.6 95.9 96.9 98.0 100.9 103.5 107.2 112.6 121.9 123.6 122.2 120.2 158.1

800 98.0 97.0 97.5 98.0 99.6 101.8 103.6 107.3 113.0 122.1 123.7 122.1 118.0 158.1

1000 102.5 103.0 101.3 101.1 101.6 103.8 105.6 114.0 122.8 123.7 121.1 117.8 117.8 158.3

1250 104.0 106.5 104.0 104.1 104.7 104.8 106.4 109.1 115.3 123.4 123.2 119.7 114.9 158.2

1500 109.8 107.5 104.8 104.8 104.4 105.1 107.4 110.4 115.6 123.0 123.1 117.9 112.4 158.0

2000 108.4 109.3 108.7 107.1 106.5 105.6 107.2 110.4 116.0 123.9 121.0 116.1 112.4 157.8

2500 106.4 107.4 107.2 108.2 108.8 108.7 108.5 111.0 115.1 122.3 119.4 115.0 111.2 156.6

3150 105.0 106.6 105.3 106.1 107.9 111.0 109.6 111.4 115.2 121.1 119.7 117.0 112.2 155.1

4000 104.2 104.7 104.3 105.0 106.4 108.8 110.7 112.3 115.4 119.7 119.2 113.2 108.6 155.1

5000 102.2 104.0 103.5 104.0 105.7 107.7 109.8 112.1 114.6 118.8 115.8 111.1 106.7 154.4

6300 100.8 103.5 103.5 104.5 105.9 107.8 108.8 112.3 113.8 117.7 115.0 110.0 105.6 153.9

8000 98.9 101.8 103.0 104.5 106.6 108.4 110.3 111.6 112.6 116.4 103.9 103.9 103.9 152.9

10000 98.0 100.5 100.7 102.0 104.5 106.5 107.3 109.7 111.8 115.5 112.7 107.4 103.5 152.6

12500 96.3 98.0 99.3 99.8 102.6 104.8 105.8 107.3 110.4 113.4 111.0 104.9 100.7 151.6

16000 93.1 96.2 96.5 97.0 99.9 102.4 103.5 106.8 108.6 111.5 108.1 103.2 99.1 151.0

20000 90.9 93.1 93.7 95.3 97.5 99.8 100.9 103.5 106.1 109.5 106.4 101.2 96.9 150.4

25000 86.8 90.2 90.4 91.5 94.1 97.7 99.2 99.6 102.9 107.4 103.5 99.9 91.2 150.2

31500 81.9 86.5 86.0 87.6 90.6 94.4 94.8 97.6 101.3 105.5 101.9 95.8 87.5 151.1

40000 77.4 81.9 82.6 83.9 87.3 90.9 92.1 95.2 99.4 101.9 93.7 84.4 152.7

50000 73.1 77.9 78.4 80.0 82.3 87.2 89.3 91.8 96.8 101.2 99.5 89.6 79.1 155.1

63000 67.8 73.8 74.0 77.1 79.4 82.8 85.8 89.0 96.2 99.7 98.7 87.2 75.9 159.1

80000 62.1 69.6 69.7 72.8 73.9 78.3 80.7 85.1 94.2 97.9 96.6 86.3 68.5 163.8

QASPL 115.8 116.7 115.9 116.1 117.1 118.8 119.9 122.4 126.4 133.1 133.0 131.0 128.6 170.6

PWL 129.4 130.1 128.9 129.5 130.4 132.7 133.3 135.4 139.0 145.1 144.0 140.5 137.5

DBA 116.4 117.1 116.3 116.3 117.1 118.6 119.6 122.1 126.2 133.1 132.5 129.4 126.1

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH030 TEST DATE = 08-19-81 LOCALAT = C41 ANECH CH CNF10 = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT. TAMB F = 75.00 PAMB HG = 29.60 RELHUM = 55.0 PCT

WIND DIR = SB59 DEG WIND/VEL = MPH EXT DIST = 40.0 FT. EXT CNF10 = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2481.0 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2481.0 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-0421 TAPE = X0421C TEST PT NO = 0421 NC = 861 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0421 X0421F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.                  | 60.        | 70.         | 80.             | 90.                  | 100.           | 110.            | 120.              | 130.            | 140.        | 150.               | 160.            |            |          |
|---|---|----------------------|------------|-------------|-----------------|----------------------|----------------|-----------------|-------------------|-----------------|-------------|--------------------|-----------------|------------|----------|
| 50  | 86.7  | 86.0                 | 84.0       | 86.8        | 84.1            | 88.2                 | 88.1           | 88.8            | 90.2              | 97.3            | 97.2        | 96.9               | 97.5            |            |          |
| 63  | 89.5  | 89.8                 | 89.8       | 91.6        | 91.9            | 94.3                 | 92.9           | 91.6            | 95.3              | 100.1           | 99.7        | 100.3              | 137.4           |            |          |
| 80  | 92.3  | 97.3                 | 91.8       | 92.4        | 94.0            | 97.1                 | 96.7           | 95.9            | 97.3              | 96.7            | 99.0        | 101.5              | 139.0           |            |          |
| 100   | 92.6  | 98.6                 | 93.9       | 95.9        | 95.7            | 97.9                 | 98.5           | 99.4            | 98.6              | 100.2           | 101.6       | 105.5              | 141.8           |            |          |
| 125   | 89.1  | 91.6                 | 93.4       | 95.2        | 96.3            | 98.9                 | 98.5           | 98.2            | 99.2              | 102.2           | 108.1       | 110.0              | 144.8           |            |          |
| 150   | 88.3  | 88.6                 | 90.8       | 91.1        | 91.0            | 93.6                 | 95.5           | 96.4            | 98.8              | 103.7           | 108.5       | 111.2              | 145.8           |            |          |
| 200   | 89.8  | 89.6                 | 90.1       | 91.6        | 93.7            | 97.3                 | 97.2           | 98.4            | 103.1             | 105.4           | 109.8       | 114.5              | 148.1           |            |          |
| 250   | 89.5  | 93.1                 | 92.8       | 94.4        | 95.2            | 96.8                 | 98.5           | 101.1           | 104.1             | 110.9           | 115.8       | 118.4              | 151.9           |            |          |
| 315   | 90.1  | 92.4                 | 91.9       | 93.2        | 95.0            | 98.9                 | 100.0          | 101.9           | 114.2             | 117.3           | 119.8       | 118.7              | 153.3           |            |          |
| 400   | 92.8  | 94.4                 | 94.9       | 96.3        | 99.6            | 101.8                | 105.9          | 112.9           | 119.0             | 120.8           | 121.0       | 118.9              | 156.0           |            |          |
| 500   | 92.7  | 95.2                 | 94.8       | 95.5        | 97.4            | 99.8                 | 102.1          | 108.3           | 111.5             | 119.3           | 121.5       | 118.5              | 156.2           |            |          |
| 630   | 94.1  | 96.6                 | 95.9       | 96.9        | 98.0            | 100.9                | 103.5          | 107.2           | 112.6             | 121.9           | 123.6       | 122.2              | 158.1           |            |          |
| 800   | 98.0  | 97.0                 | 98.0       | 99.6        | 101.8           | 103.6                | 107.3          | 113.0           | 122.1             | 123.7           | 122.1       | 118.0              | 158.1           |            |          |
| 1000  | 102.5                                       | 103.0                | 101.3      | 101.1       | 101.6           | 103.8                | 105.6          | 108.6           | 114.0             | 122.8           | 123.7       | 121.1              | 158.3           |            |          |
| 1250  | 104.0                                       | 106.5                | 104.0      | 104.1       | 104.7           | 104.8                | 106.4          | 109.1           | 115.3             | 123.4           | 123.2       | 119.7              | 158.2           |            |          |
| 1600  | 109.8                                       | 107.5                | 108.7      | 107.1       | 106.5           | 105.6                | 107.2          | 110.4           | 116.0             | 123.9           | 121.0       | 116.1              | 157.8           |            |          |
| 2000  | 108.4                                       | 109.3                | 108.7      | 107.1       | 106.5           | 105.6                | 107.2          | 110.4           | 116.0             | 123.9           | 121.0       | 116.1              | 157.8           |            |          |
| 2500  | 106.4                                       | 107.4                | 107.2      | 108.2       | 108.8           | 108.7                | 108.5          | 111.0           | 115.1             | 122.3           | 119.4       | 115.0              | 156.6           |            |          |
| 3150  | 105.0                                       | 106.6                | 105.3      | 106.1       | 107.9           | 111.0                | 109.6          | 111.4           | 115.2             | 121.1           | 119.2       | 108.8              | 156.1           |            |          |
| 4000  | 104.2                                       | 104.7                | 104.3      | 105.0       | 106.4           | 110.7                | 112.3          | 115.4           | 119.7             | 117.0           | 112.2       | 108.6              | 155.1           |            |          |
| 5000  | 102.2                                       | 104.0                | 103.5      | 104.0       | 105.7           | 107.7                | 109.8          | 112.1           | 114.6             | 118.8           | 115.8       | 111.1              | 154.4           |            |          |
| 6300  | 100.8                                       | 103.5                | 103.5      | 104.5       | 105.9           | 107.8                | 108.8          | 112.3           | 113.8             | 117.7           | 115.0       | 110.0              | 153.9           |            |          |
| 8000  | 98.9  | 101.8                | 103.0      | 104.5       | 106.6           | 108.4                | 109.3          | 112.6           | 116.2             | 113.3           | 108.1       | 103.9              | 152.9           |            |          |
| 10000   | 98.0  | 100.5                | 100.7      | 102.0       | 104.5           | 106.5                | 107.3          | 109.7           | 111.8             | 115.5           | 112.7       | 107.4              | 152.6           |            |          |
| 12500   | 96.3  | 98.0                 | 99.8       | 99.8        | 102.6           | 104.8                | 105.8          | 107.3           | 110.4             | 113.4           | 111.0       | 104.9              | 151.6           |            |          |
| 16000   | 93.1  | 96.2                 | 96.5       | 97.0        | 99.9            | 102.4                | 103.5          | 106.8           | 108.6             | 111.5           | 108.1       | 103.2              | 151.0           |            |          |
| 20000   | 90.9  | 93.1                 | 93.7       | 95.3        | 97.5            | 99.8                 | 100.9          | 103.5           | 106.1             | 109.5           | 106.4       | 101.2              | 150.4           |            |          |
| 25000   | 86.8  | 90.2                 | 90.4       | 91.5        | 94.1            | 97.2                 | 99.2           | 99.6            | 102.9             | 107.4           | 103.5       | 99.9               | 150.2           |            |          |
| 31500   | 81.9  | 86.5                 | 86.0       | 87.6        | 90.6            | 94.4                 | 94.8           | 97.6            | 101.3             | 105.5           | 101.9       | 95.8               | 151.1           |            |          |
| 40000   | 77.4  | 81.9                 | 82.6       | 83.9        | 87.3            | 90.9                 | 92.1           | 95.2            | 99.4              | 101.6           | 93.7        | 84.4               | 152.7           |            |          |
| 50000   | 73.1  | 77.9                 | 78.4       | 80.0        | 82.3            | 87.2                 | 89.3           | 91.8            | 96.8              | 101.2           | 99.5        | 89.6               | 155.1           |            |          |
| 63000   | 67.8  | 73.2                 | 74.0       | 77.1        | 79.4            | 82.8                 | 85.8           | 89.0            | 96.2              | 99.7            | 98.7        | 87.2               | 159.1           |            |          |
| 80000   | 62.1  | 69.6                 | 69.7       | 72.8        | 73.9            | 78.3                 | 80.7           | 85.1            | 94.2              | 97.9            | 96.6        | 86.3               | 163.8           |            |          |
| QASPL   | 115.8                                       | 116.7                | 115.9      | 116.1       | 117.1           | 118.8                | 119.9          | 122.4           | 126.4             | 133.1           | 133.0       | 131.0              | 128.6           |            |          |
| PNL   | 128.2                                       | 129.4                | 128.9      | 129.5       | 130.4           | 132.7                | 133.3          | 135.4           | 139.0             | 145.1           | 144.0       | 140.5              | 137.5           |            |          |
| PFLT  | 129.4                                       | 130.1                | 128.9      | 129.5       | 130.4           | 133.2                | 133.3          | 135.4           | 139.6             | 145.1           | 144.0       | 140.5              | 137.5           |            |          |
| DBA   | 184.0                                       | 190.8                | 191.1      | 194.1       | 195.5           | 199.7                | 202.2          | 206.3           | 214.9             | 218.6           | 217.4       | 206.9              | 190.9           |            |          |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000           | FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 |                      |            |             |                 |                      |                |                 |                   |                 |             |                    |                 |            |          |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 |   |                      |            |             |                 |                      |                |                 |                   |                 |             |                    |                 |            |          |
| VEHICL = ADH030                                       | TEST DATE = 08-19-81                        | LOCAT = C41 ANECH CH | CONFIG = 4 | MODEL = 4   | FLTVEL = 0. FPS | TAMB F = FULL SPHERE | TAMB F = 75.00 | PAMB HG = 29.60 | RELHUM = 55.0 PCT | WIND DIR = SB59 | LEGA = NG   | EXT DIST = 40.0 FT | EXT CNFIG = ARC | MIKE HT =  | NBRF =   |
| IAPLHA =  | WIND VEL = MPH                              | PWL AREA =           | EXT DIST = | EXT CNFIG = | MIKE HT =       | RELHUM =             | FLTVEL =       | VEHICL =        | LEGA =            | EXT DIST =      | EXT CNFIG = | MIKE HT =          | NBRF =          | WIND DIR = | IAPLHA = |
| FNRAMB =  | LBS XNL                                     | RPM                  | XNH        | RPM         | V8              | AE8                  | FPS            | AE8             | FPS               | AE18            | FPS         | AE18               | FPS             | AE18       | FPS      |
| FNINI =   | LBS XNL                                     | RPM                  | XNH        | RPM         | V8              | AE8                  | FPS            | AE8             | FPS               | AE18            | FPS         | AE18               | FPS             | AE18       | FPS      |
| TEST PT NO = 0421                                     | NC = 861                                    | CORR FAN SPEED =     | RPM        |             |                 |                      |                |                 |                   |                 |             |                    |                 |            |          |
| RUNPT = 81F-ZER-0421                                  | TAPE = X0421F                               |                      |            |             |                 |                      |                |                 |                   |                 |             |                    |                 |            |          |

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0421 X04211

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130   | 140   | 150  | 160   |
|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|
| PWL  | 70.8 | 73.9 | 75.0 | 76.2 | 78.0 | 81.5 | 83.5 | 87.2 | 93.5 | 98.5  | 98.8  | 96.8 | 91.4  |
| 50   | 70.7 | 74.7 | 75.3 | 76.8 | 79.1 | 81.6 | 83.8 | 86.6 | 92.1 | 98.8  | 99.4  | 97.1 | 90.9  |
| 63   | 70.7 | 74.7 | 75.3 | 76.8 | 79.1 | 81.6 | 83.8 | 86.6 | 92.1 | 98.8  | 99.4  | 97.1 | 90.9  |
| 80   | 72.0 | 76.1 | 76.4 | 78.2 | 79.7 | 82.7 | 85.2 | 88.4 | 93.2 | 101.4 | 101.5 | 97.9 | 92.4  |
| 100  | 75.8 | 76.4 | 78.0 | 79.3 | 81.3 | 83.5 | 85.3 | 88.5 | 93.5 | 101.5 | 101.5 | 97.7 | 90.2  |
| 125  | 80.2 | 82.3 | 81.7 | 82.2 | 83.2 | 85.5 | 87.2 | 89.7 | 94.4 | 102.1 | 101.4 | 96.6 | 89.7  |
| 150  | 81.5 | 85.7 | 84.3 | 85.1 | 86.1 | 86.3 | 87.8 | 90.1 | 95.6 | 102.5 | 100.8 | 94.8 | 86.5  |
| 200  | 87.0 | 86.5 | 86.9 | 85.7 | 85.7 | 86.5 | 89.1 | 91.3 | 95.7 | 101.9 | 100.4 | 92.8 | 85.0  |
| 250  | 85.4 | 88.0 | 88.6 | 87.7 | 87.5 | 86.8 | 88.3 | 91.0 | 95.8 | 102.6 | 98.0  | 90.5 | 82.8  |
| 315  | 82.9 | 85.8 | 86.8 | 86.6 | 89.6 | 89.7 | 89.3 | 91.3 | 94.7 | 100.6 | 95.9  | 88.9 | 80.8  |
| 400  | 81.0 | 84.5 | 84.5 | 86.1 | 88.4 | 91.7 | 90.1 | 91.4 | 94.4 | 99.0  | 95.3  | 86.4 | 77.4  |
| 500  | 79.8 | 82.3 | 83.1 | 84.8 | 86.6 | 89.2 | 90.9 | 92.0 | 94.3 | 97.2  | 92.5  | 84.7 | 76.2  |
| 630  | 77.2 | 81.1 | 82.0 | 83.5 | 85.7 | 87.8 | 89.8 | 91.6 | 93.1 | 96.0  | 90.9  | 83.0 | 73.3  |
| 800  | 75.4 | 80.3 | 81.7 | 83.6 | 85.6 | 87.7 | 88.5 | 91.5 | 92.0 | 94.4  | 89.6  | 81.2 | 71.0  |
| 1000 | 73.1 | 78.3 | 79.9 | 82.0 | 84.1 | 86.3 | 88.0 | 89.4 | 90.6 | 92.9  | 87.4  | 78.7 | 68.2  |
| 1250 | 71.6 | 76.6 | 78.5 | 78.8 | 80.8 | 83.9 | 86.8 | 88.5 | 89.6 | 91.6  | 86.3  | 77.1 | 66.3  |
| 1600 | 69.1 | 73.6 | 76.7 | 78.3 | 81.7 | 84.2 | 84.9 | 85.8 | 87.8 | 89.0  | 83.7  | 73.2 | 61.1  |
| 2000 | 64.9 | 71.2 | 73.4 | 75.3 | 78.9 | 81.6 | 82.5 | 85.1 | 85.6 | 86.5  | 79.9  | 69.9 | 56.6  |
| 2500 | 60.9 | 66.8 | 69.8 | 72.9 | 76.0 | 78.5 | 79.4 | 81.1 | 82.2 | 83.2  | 76.4  | 65.2 | 49.5  |
| 3150 | 53.4 | 61.5 | 64.6 | 67.5 | 71.1 | 75.1 | 76.2 | 75.7 | 77.1 | 78.7  | 70.2  | 58.8 | 35.3  |
| 4000 | 42.3 | 53.0 | 56.4 | 60.4 | 64.7 | 68.9 | 68.9 | 70.3 | 71.6 | 72.0  | 62.3  | 45.8 | 17.2  |
| 5000 | 28.0 | 40.9 | 46.7 | 51.3 | 56.4 | 60.6 | 61.2 | 62.6 | 63.5 | 60.8  | 52.2  | 30.1 | 1.8   |
| 6300 | 5.9  | 22.7 | 30.5 | 36.6 | 41.2 | 47.0 | 48.3 | 48.3 | 48.9 | 45.9  | 32.4  | 0.9  | 176.5 |
| 8000 |      |      |      | 4.7  | 14.4 | 20.2 | 24.8 | 26.7 | 26.9 | 19.6  | 0.9   |      | 181.2 |

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VEHICL = ADH030 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS  
 IAPLHA = SB59 LEGA' = NO PWL AREA = FULL SPHERE TAMB F = 75.00 PAMB HG = 29.60 RELHUM = 55.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFNG = SL MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH RPM = = XNH RPM = = XNH RPM = = XNL RPM = = XNL RPM = =  
 FNFRAMB = LBS XNLR RPM XNHR RPM = = XNHR RPM = = XNHR RPM = = XNLR RPM = =  
 RUNPT = -ZER-0421 TAPE = X04211 TEST PT NO = 042 NC = 861 CORR FAN SPEED = RPF

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0422 X0422C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

89.9 88.5 84.0 83.8 83.9 85.0 86.9 88.0 89.7 94.1 97.2 96.1 100.0 133.7

50 90.5 90.8 90.3 88.8 90.7 91.3 92.4 92.3 95.0 99.6 101.0 99.9 101.1 137.5

63 90.5 90.8 90.3 88.8 90.7 91.3 92.4 92.3 95.0 99.6 101.0 99.9 101.1 137.5

80 92.5 97.6 92.1 92.9 94.2 96.8 96.5 96.6 98.0 98.4 97.1 97.7 99.8 105.0 107.2 140.9

100 92.6 97.6 92.9 93.9 95.5 96.5 96.6 98.0 98.4 97.1 97.7 99.8 105.0 107.2 140.9

125 89.4 92.4 92.7 94.9 96.0 98.2 98.0 97.4 97.7 100.0 106.6 109.3 111.0 143.9

150 88.3 85.6 90.1 90.0 91.8 93.5 94.1 97.1 101.7 106.8 109.7 113.4 144.4

160 88.3 85.6 90.1 90.0 91.8 93.5 94.1 97.1 101.7 106.8 109.7 113.4 144.4

200 87.5 87.8 87.8 86.1 91.0 93.1 94.2 96.4 100.3 102.2 107.3 112.5 115.1 146.2

250 85.8 89.6 89.1 91.1 91.7 93.8 96.0 98.4 101.3 107.4 113.0 116.6 149.4

315 87.1 89.9 88.4 90.2 91.5 94.9 97.3 98.9 103.4 110.7 114.6 117.8 150.8

400 89.8 90.6 90.9 91.9 93.3 96.6 98.3 102.2 109.4 115.7 118.6 119.0 153.4

500 89.2 91.7 91.8 93.0 94.4 96.8 99.4 103.0 109.0 117.3 120.5 119.1 154.3

630 89.2 91.7 91.8 93.0 94.4 96.8 99.4 103.0 109.0 117.3 120.5 119.1 154.3

800 94.2 93.1 93.7 95.5 97.6 100.7 104.9 110.1 119.4 122.6 119.0 111.7 155.8

1000 94.2 93.1 93.7 95.5 97.6 100.7 104.9 110.1 119.4 122.6 119.0 111.7 155.8

1250 104.9 106.8 107.0 107.9 106.7 104.6 105.0 107.6 113.4 121.7 122.3 113.9 156.7

1500 107.8 105.1 102.9 103.8 105.5 107.5 113.1 114.2 121.7 122.3 113.9 156.7

2000 104.9 106.8 107.0 107.9 106.7 104.6 105.0 107.6 113.4 121.7 122.3 113.9 156.7

2500 101.9 103.5 103.2 105.5 107.6 108.7 106.8 108.8 113.4 121.1 120.2 113.0 155.6

3150 100.5 102.3 102.1 105.0 109.0 108.9 113.9 113.7 118.5 117.7 109.9 103.9 153.9

4000 100.5 101.0 101.0 102.3 102.4 105.6 108.7 110.3 113.7 118.5 117.7 109.9 153.9

5000 98.9 100.6 100.3 102.2 104.2 106.8 110.1 113.4 117.1 116.6 108.1 102.5 152.9

6300 97.9 100.6 99.5 100.7 101.9 104.6 106.1 109.6 112.3 115.5 107.6 101.2 152.3

8000 61.0 68.8 67.1 67.2 69.0 71.6 75.2 76.7 88.3 95.4 91.8 75.4 159.9

80000 61.0 68.8 67.1 67.2 69.0 71.6 75.2 76.7 88.3 95.4 91.8 75.4 159.9

QASPL 113.1 114.3 113.5 114.0 114.7 116.5 117.6 119.9 124.4 131.2 132.9 128.1 124.6 168.5

PNL 125.4 126.7 126.3 127.1 128.3 130.5 131.2 133.2 137.8 143.4 144.9 138.1 132.8

DBA 113.7 114.7 113.9 114.4 114.9 116.5 117.4 119.6 124.3 131.2 132.8 126.2 120.1

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH047 TEST DATE = 08-19-81 LGCAT = C41 ANECH CH CONFIG = 4 MODEL = 4  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.60  
WIND DIR = SB59 DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR = 400 FPS  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2483.7 FPS AE18 = 25.3 SQ IN  
FLVEL = 400 FPS RELHUM = 44.5 PCT

RUNPT = 81F-400-0422 TAPE = X0422C TEST PT NO = 0422 NC = 861 CORR FAN SPEED = RPM  
FNINI = LBS XNLR = RPM XNH XNHR = RPM V18 = 2483.7 FPS AE18 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2483.7 FPS AE18 = 25.3 SQ IN

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0422 X0422F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ  
50  
63  
80  
100  
125  
160  
200  
250  
315  
400  
500  
630  
800  
1000

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1250  | 105.4 | 104.6 | 101.2 | 100.7 | 104.0 | 103.1 | 102.5 | 103.9 | 112.1 | 120.0 | 123.8 | 118.0 | 117.6 | 156.9 |
| 1500  | 111.7 | 112.0 | 106.4 | 104.1 | 104.8 | 105.1 | 105.7 | 113.6 | 120.8 | 122.0 | 117.0 | 117.6 | 156.8 |       |
| 1600  | 111.7 | 112.0 | 106.4 | 104.1 | 104.8 | 105.1 | 105.7 | 113.6 | 120.8 | 122.0 | 117.0 | 117.6 | 156.8 |       |
| 2000  | 114.7 | 113.1 | 111.3 | 108.2 | 108.8 | 105.9 | 104.8 | 106.2 | 113.1 | 120.6 | 116.6 | 117.0 | 156.6 |       |
| 2500  | 109.8 | 111.1 | 110.6 | 110.7 | 110.5 | 110.3 | 107.0 | 107.2 | 114.1 | 119.6 | 115.4 | 115.9 | 156.4 |       |
| 3150  | 109.5 | 110.1 | 108.7 | 109.7 | 108.8 | 111.0 | 109.5 | 108.2 | 114.6 | 119.0 | 118.8 | 114.4 | 115.8 | 155.7 |
| 4000  | 110.9 | 111.2 | 108.9 | 107.6 | 106.1 | 108.2 | 109.9 | 110.3 | 114.3 | 117.6 | 117.6 | 112.4 | 114.2 | 154.9 |
| 5000  | 108.0 | 107.7 | 106.8 | 107.0 | 106.3 | 107.2 | 108.3 | 110.2 | 113.3 | 116.8 | 116.6 | 111.8 | 112.9 | 153.9 |
| 6300  | 106.4 | 107.5 | 105.9 | 105.1 | 106.0 | 107.6 | 107.6 | 109.7 | 112.7 | 115.7 | 114.5 | 110.7 | 111.9 | 153.1 |
| 8000  | 105.2 | 107.1 | 105.2 | 105.4 | 104.1 | 106.4 | 106.9 | 108.7 | 111.8 | 114.6 | 114.3 | 110.1 | 112.0 | 152.8 |
| 10000 | 102.9 | 104.6 | 103.4 | 103.8 | 104.1 | 105.8 | 105.7 | 107.7 | 110.4 | 113.1 | 112.8 | 108.8 | 109.8 | 151.9 |
| 12500 | 101.7 | 103.2 | 102.6 | 103.3 | 104.0 | 104.1 | 104.8 | 109.0 | 111.1 | 110.6 | 107.1 | 108.5 | 150.9 |       |
| 15000 | 101.6 | 102.6 | 101.6 | 100.8 | 100.4 | 101.5 | 101.4 | 104.1 | 106.0 | 109.0 | 108.9 | 105.1 | 106.0 | 150.3 |
| 20000 | 98.5  | 99.9  | 99.0  | 98.0  | 97.4  | 99.1  | 99.0  | 99.9  | 103.8 | 107.6 | 105.5 | 101.8 | 100.8 | 149.4 |
| 25000 | 95.3  | 95.8  | 95.2  | 94.9  | 94.3  | 96.5  | 96.7  | 96.8  | 101.8 | 105.3 | 104.0 | 98.8  | 97.3  | 149.3 |
| 31500 | 90.0  | 91.9  | 90.5  | 90.2  | 90.4  | 92.7  | 92.8  | 93.8  | 100.6 | 104.5 | 103.4 | 96.0  | 94.1  | 150.7 |
| 40000 | 84.6  | 87.0  | 86.1  | 85.4  | 87.3  | 88.8  | 88.9  | 90.4  | 98.5  | 103.0 | 101.8 | 93.1  | 89.5  | 152.7 |
| 50000 | 79.5  | 82.2  | 81.7  | 80.9  | 82.8  | 84.6  | 85.2  | 85.7  | 96.3  | 103.2 | 102.4 | 89.9  | 85.0  | 156.6 |
| 63000 | 74.6  | 77.1  | 76.1  | 76.1  | 79.1  | 80.4  | 81.4  | 82.2  | 95.7  | 102.3 | 99.0  | 85.6  | 78.2  | 160.1 |
| 80000 | 68.1  | 72.8  | 71.0  | 71.4  | 73.6  | 74.6  | 76.7  | 76.7  | 85.9  | 92.4  | 89.2  | 75.8  | 68.4  | 157.3 |
| GASPL | 120.1 | 120.2 | 118.3 | 117.7 | 117.6 | 118.3 | 118.1 | 119.2 | 124.4 | 130.4 | 132.2 | 128.7 | 128.2 | 169.0 |
| PWL   | 132.6 | 132.7 | 130.9 | 130.6 | 130.5 | 131.6 | 131.1 | 131.9 | 137.0 | 142.2 | 143.2 | 139.0 | 139.6 |       |
| PFLT  | 134.0 | 132.7 | 130.9 | 130.6 | 130.5 | 131.6 | 131.1 | 131.9 | 137.0 | 142.2 | 143.2 | 139.0 | 139.6 |       |
| DBA   | 190.3 | 194.3 | 192.7 | 193.0 | 195.3 | 196.4 | 198.1 | 198.4 | 209.1 | 215.6 | 212.6 | 199.4 | 192.5 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADHO47 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4  
 IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBR =

FINI = LBS XNL RPM XNH RPM = V8 = 2483.7 FPS AEB = 25.3 SQ IN  
 FRAMB = LBS XNLR RPM XNHR RPM = V18 = 2483.7 FPS AE18 = 0. SQ IN  
 RUNPT = 8 TAFE = X0422F TEST PT NO = 0422 NC = 861 CORR FAN SPEED = RPM

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CONTINUED PAGE PRINTING SYSTEM - P118-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0422 X04221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 50   | 72.8 | 75.8 | 73.9 | 74.9 | 76.8 | 78.7 | 79.2 | 81.6 | 87.9 | 94.7  | 96.4  | 94.4  | 88.8  | 170.5 |
| 63   | 75.5 | 76.5 | 76.4 | 76.6 | 78.0 | 78.9 | 82.5 | 88.8 | 96.7 | 98.6  | 94.9  | 89.0  | 172.0 | 172.0 |
| 80   | 74.8 | 77.6 | 77.3 | 77.8 | 79.1 | 79.8 | 81.5 | 84.1 | 89.1 | 97.6  | 99.4  | 94.4  | 88.4  | 172.5 |
| 100  | 76.6 | 78.6 | 78.4 | 78.4 | 80.2 | 81.0 | 81.1 | 83.1 | 90.6 | 99.2  | 100.2 | 94.6  | 90.5  | 173.6 |
| 125  | 78.8 | 79.2 | 78.9 | 79.6 | 81.8 | 82.8 | 83.7 | 84.7 | 91.8 | 98.8  | 101.0 | 94.1  | 89.6  | 174.0 |
| 150  | 82.9 | 83.7 | 81.5 | 81.7 | 85.4 | 84.0 | 84.7 | 84.9 | 92.4 | 99.2  | 101.3 | 93.2  | 89.2  | 174.4 |
| 200  | 89.0 | 91.0 | 86.5 | 84.9 | 86.2 | 86.4 | 86.6 | 86.6 | 93.7 | 99.7  | 99.3  | 91.9  | 88.7  | 174.2 |
| 250  | 91.7 | 91.8 | 91.1 | 88.9 | 89.9 | 87.1 | 85.9 | 86.8 | 93.0 | 99.2  | 97.3  | 91.1  | 87.4  | 174.0 |
| 315  | 86.3 | 89.4 | 90.2 | 91.1 | 91.3 | 87.3 | 87.8 | 88.0 | 93.7 | 97.9  | 97.3  | 89.3  | 85.5  | 173.8 |
| 400  | 85.6 | 88.0 | 87.9 | 89.7 | 89.3 | 91.7 | 90.0 | 88.2 | 93.8 | 96.9  | 94.8  | 87.6  | 84.4  | 173.1 |
| 500  | 86.4 | 88.8 | 87.7 | 87.4 | 86.3 | 88.6 | 90.2 | 90.0 | 93.1 | 95.1  | 93.1  | 85.0  | 81.9  | 172.3 |
| 630  | 83.1 | 84.9 | 85.3 | 86.4 | 86.2 | 87.3 | 88.3 | 89.7 | 91.8 | 93.9  | 91.6  | 83.7  | 79.4  | 171.3 |
| 800  | 80.9 | 84.3 | 85.7 | 84.3 | 85.7 | 87.5 | 87.3 | 88.8 | 91.0 | 92.5  | 89.1  | 81.8  | 77.3  | 170.5 |
| 1000 | 79.3 | 83.6 | 83.2 | 84.4 | 83.7 | 86.1 | 86.5 | 87.7 | 89.8 | 91.1  | 88.5  | 80.7  | 76.3  | 170.2 |
| 1250 | 76.5 | 80.7 | 81.2 | 82.7 | 83.6 | 85.5 | 85.1 | 86.5 | 88.2 | 89.2  | 86.4  | 78.5  | 72.6  | 169.3 |
| 1600 | 74.5 | 78.7 | 81.1 | 82.5 | 83.3 | 83.3 | 83.3 | 83.3 | 86.6 | 86.6  | 83.4  | 75.4  | 69.0  | 168.3 |
| 2000 | 73.4 | 77.5 | 78.6 | 79.4 | 80.8 | 80.4 | 82.4 | 83.0 | 84.0 | 80.7  | 71.8  | 63.5  | 167.7 | 167.7 |
| 2500 | 68.5 | 73.6 | 75.0 | 75.5 | 77.8 | 77.8 | 77.4 | 77.5 | 79.9 | 81.3  | 75.5  | 65.7  | 63.4  | 166.8 |
| 3150 | 61.9 | 67.0 | 69.4 | 70.9 | 71.4 | 73.9 | 73.8 | 76.0 | 76.6 | 70.7  | 57.8  | 46.0  | 23.8  | 166.2 |
| 4000 | 50.4 | 58.5 | 60.9 | 64.5 | 67.2 | 66.6 | 66.6 | 71.0 | 71.0 | 63.8  | 46.0  | 23.8  | 166.2 | 166.2 |
| 5000 | 35.2 | 46.0 | 50.3 | 52.7 | 56.4 | 58.0 | 57.7 | 62.7 | 62.0 | 52.4  | 29.4  | 170.1 | 170.1 | 170.1 |
| 6300 | 12.4 | 27.0 | 33.8 | 37.5 | 41.8 | 44.4 | 44.1 | 48.0 | 48.0 | 35.2  | 2.1   | 174.0 | 174.0 | 174.0 |
| 8000 | 6.9  | 13.4 | 20.0 | 22.4 | 22.3 | 19.5 | 26.5 | 22.2 | 1.2  | 174.8 | 174.8 | 174.8 | 174.8 | 174.8 |

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|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| GASPL | 96.5  | 98.2  | 97.4  | 97.6  | 98.1  | 98.8  | 98.3  | 98.9  | 103.6 | 108.9 | 109.3 | 103.3 | 98.7  | 186.3 |
| PNL   | 101.6 | 103.5 | 103.3 | 104.0 | 104.5 | 105.8 | 105.1 | 105.6 | 109.6 | 113.1 | 111.8 | 104.5 | 100.0 | 100.0 |
| PFLT  | 102.3 | 103.5 | 103.9 | 104.0 | 104.5 | 105.8 | 105.1 | 105.6 | 109.6 | 113.8 | 112.7 | 105.7 | 100.0 | 100.0 |
| DBA   | 90.6  | 93.2  | 93.0  | 93.7  | 93.9  | 95.4  | 95.2  | 95.9  | 98.8  | 101.4 | 99.6  | 92.1  | 88.1  | 88.1  |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH047 TEST DATE = 08-19-81  
IAPLHA = SB59 IEGA = NO  
WIND DIR = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNLR = RPM XNHR = RPM XNH = RPM V8 = 2483.7 FPS AE8 = 25.3 SQ IN  
FNIINI = LBS XNL = RPM XNH = RPM V8 = 2483.7 FPS AE8 = 25.3 SQ IN  
CORR FAN SPEED = RPM

RUNPT = 81F-400-0422 TAPE = X04221 TEST PT NO = 0422 NC = 861 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0423 X0423C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 87.4 86.5 84.5 86.8 84.1 88.5 88.4 89.8 91.5 97.1 97.4 96.9 98.3 134.3

63 90.7 91.3 90.5 91.6 92.4 93.8 92.9 92.1 96.3 100.4 100.2 98.7 101.6 137.9

80 93.3 98.1 92.6 93.1 95.0 97.6 97.5 96.1 98.3 97.4 100.3 102.0 104.4 139.9

100 92.6 99.3 94.1 95.4 97.0 98.4 99.2 100.2 98.9 100.9 102.1 106.3 107.9 142.4

125 89.6 92.6 93.9 95.7 97.5 99.4 99.5 98.9 99.7 103.0 108.9 110.8 112.0 145.4

160 89.0 89.3 91.3 91.9 91.5 94.1 96.7 97.6 100.6 104.9 109.5 112.5 115.1 146.8

200 90.5 90.3 91.1 92.1 95.0 97.8 97.7 99.1 103.8 106.7 110.5 115.5 117.1 149.0

250 90.3 93.8 93.8 94.9 96.0 97.1 99.0 101.9 104.8 111.4 116.8 119.5 119.1 152.7

315 90.8 93.6 92.9 93.9 96.0 99.4 100.8 102.4 107.6 115.0 117.8 120.5 119.9 154.1

400 93.1 95.1 94.9 95.7 96.5 99.9 102.3 106.2 113.4 119.5 121.3 122.5 119.7 156.8

500 92.7 95.5 95.8 96.5 97.9 100.0 102.6 106.0 112.0 120.6 122.5 122.5 119.5 157.3

630 94.6 96.6 96.6 97.7 99.2 101.1 103.7 107.4 113.6 122.9 124.1 122.7 120.4 158.8

800 99.2 97.5 97.8 98.8 100.4 102.8 104.1 107.8 114.8 123.3 124.2 122.4 118.8 158.8

1000 104.2 103.8 102.3 102.3 101.9 104.3 106.1 109.1 115.5 123.6 124.5 121.6 117.3 159.0

1250 106.5 105.8 105.8 106.8 106.8 105.4 105.8 108.5 111.2 116.8 124.1 119.2 113.2 159.9

1500 103.7 105.0 105.0 106.0 107.1 109.8 112.2 113.5 116.9 120.5 117.2 114.2 108.6 156.6

2000 108.4 110.1 109.2 109.4 108.5 107.6 108.0 112.4 117.5 125.2 121.0 117.1 112.9 158.9

2500 106.9 107.7 107.0 109.2 110.3 111.2 109.5 111.7 116.6 124.5 119.7 115.2 111.5 158.2

3150 105.5 106.6 105.8 106.9 107.4 111.5 111.6 112.4 116.4 122.1 119.2 113.2 109.3 156.9

4000 103.7 105.0 105.0 106.0 107.1 109.8 112.2 113.5 116.9 120.5 117.2 114.2 108.6 156.0

5000 101.9 103.5 103.0 104.5 106.7 109.2 110.6 113.4 116.1 119.8 116.6 111.3 107.2 155.4

6300 100.8 103.0 103.2 104.2 106.3 110.1 113.1 114.8 118.9 114.7 110.5 106.1 104.6 154.6

8000 98.9 101.1 102.1 103.0 104.8 109.7 111.8 113.5 117.7 113.5 108.9 108.1 103.5 153.8

10000 98.0 100.2 101.0 102.8 105.0 107.2 108.1 110.7 112.6 116.7 112.7 108.1 103.5 153.8

12500 96.3 98.5 99.3 100.6 103.1 105.1 107.0 108.6 111.7 114.7 111.5 106.1 101.4 152.6

16000 92.8 96.7 97.0 97.8 100.6 102.9 104.2 107.0 109.6 113.0 108.8 103.4 99.1 151.9

20000 91.1 93.4 94.0 95.8 98.0 100.6 102.2 104.0 106.4 109.7 106.2 101.5 96.9 150.7

25000 86.5 90.2 90.7 92.2 94.8 98.7 99.7 100.6 104.4 107.7 103.8 99.1 91.9 150.7

31500 81.6 86.2 86.5 88.1 91.1 94.9 96.3 98.6 102.3 105.7 102.4 95.8 87.5 151.6

40000 77.6 81.7 83.6 84.4 87.6 91.4 93.6 95.5 100.4 102.9 101.4 94.5 83.2 153.3

50000 73.3 77.4 78.2 80.3 83.5 87.5 90.1 92.3 98.3 103.2 100.6 90.4 79.1 156.6

63000 67.1 73.2 73.7 78.3 80.1 83.8 87.1 90.0 96.7 102.2 98.9 88.2 75.2 160.5

80000 61.6 70.1 70.5 73.6 74.7 79.6 83.7 86.1 95.4 98.1 96.9 81.8 69.3 164.3

QASPL 116.5 117.3 116.6 117.1 118.0 119.8 121.0 123.3 127.6 134.3 133.5 131.8 129.3 171.5

PNL 128.7 129.9 130.5 131.5 133.5 134.5 136.4 140.3 146.6 144.3 141.1 137.9

DBA 117.1 117.7 117.0 117.4 118.1 119.8 120.7 123.0 127.5 134.3 133.0 130.1 126.6

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH031 TEST DATE = 08-19-81 LGCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 75.00 PAMB HG = 29.60 RELHUM = 55.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2532.9 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-0423 TAPE = X0423C TEST PT NO = 0423 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0423 X0423F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 63 80 100 125 150 200 250 315 400 500 630 800 1000 1250 1500 2000 2500 3150 4000 5000 6300 8000

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 87.4  | 86.5  | 84.5  | 86.8  | 84.1  | 88.5  | 88.4  | 89.8  | 91.5  | 97.1  | 97.4  | 96.9  | 98.3  | 134.3 |
| 67.4  | 66.8  | 66.8  | 66.8  | 66.8  | 66.8  | 66.8  | 66.8  | 66.8  | 66.8  | 66.8  | 66.8  | 66.8  | 66.8  |
| 128.7 | 129.9 | 129.2 | 130.5 | 131.5 | 133.5 | 134.5 | 136.4 | 140.3 | 146.6 | 144.3 | 141.1 | 137.9 | 128.7 |
| 129.8 | 130.5 | 129.2 | 130.5 | 132.1 | 134.0 | 134.5 | 136.4 | 140.9 | 146.6 | 144.8 | 141.1 | 137.9 | 129.8 |
| 183.6 | 191.2 | 191.6 | 194.9 | 196.3 | 200.8 | 204.7 | 207.2 | 216.1 | 219.2 | 217.6 | 203.7 | 191.1 | 183.6 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH031 TEST DATE = 08-19-81  
LAPLHA = SB59 IEGA / MPH  
WIND DIR = DEG WIND VEL =  
PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
TAMB F = 75.00 EXT CNFIG = ARC  
MODEL = 4 PAMB HG = 29.60 MIKE HT =  
FLVEL = 4 RELHUM = 55.0 PCT NBFR =

FNIN1 = LBS XNL RPM XNH XNHR RPM =  
FNRMB = LBS XNLR RPM =

RUNPT = 81F-ZER-0423 TAPE = X0423F TEST PT NO = 0423 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - RIF-ZER-0423 X04231

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 71.1 74.6 75.5 77.0 78.2 81.7 84.0 87.5 94.0 99.0 99.3 98.3 92.1 174.2

63 72.7 75.0 76.3 77.8 79.6 81.8 84.3 87.3 92.6 100.1 100.4 98.4 91.9 174.8

100 77.0 76.9 78.2 80.0 82.0 84.5 85.6 89.0 95.2 102.7 102.0 98.0 90.9 176.3

125 81.9 83.1 82.7 83.4 86.0 87.7 90.2 95.9 102.9 102.2 97.1 89.2 176.4

160 84.0 87.4 86.1 85.6 86.3 87.1 88.1 90.8 96.6 103.3 101.8 95.3 87.2 176.5

200 88.0 88.2 88.9 86.7 87.2 89.8 92.0 96.9 103.2 100.9 93.5 85.3 176.4

250 85.4 88.7 89.1 89.0 89.5 88.8 89.0 92.0 97.3 103.8 98.0 91.5 83.3 176.2

315 83.4 86.0 86.5 89.6 91.1 92.2 90.3 92.1 96.2 102.9 96.2 89.1 81.1 175.6

400 81.5 84.5 85.0 86.9 88.9 92.2 92.1 92.4 95.6 100.0 95.3 87.4 77.9 174.3

500 79.3 82.5 83.9 85.8 87.3 90.2 92.4 93.3 95.8 98.0 92.8 85.7 76.2 173.4

630 77.0 80.6 81.5 84.0 86.7 89.3 90.5 92.8 94.6 97.0 91.6 83.2 73.8 172.8

800 75.4 79.8 81.4 83.4 86.1 88.2 89.8 92.2 93.0 95.7 89.3 81.7 71.5 172.1

1000 73.1 77.6 80.1 82.0 84.3 87.3 89.2 90.9 91.6 94.1 87.7 79.4 69.2 171.3

1250 71.6 76.3 78.8 81.6 84.4 86.9 87.5 89.5 90.4 92.8 86.3 77.8 66.3 170.9

1600 69.1 74.1 76.7 79.1 82.2 84.4 86.2 87.1 89.0 90.2 84.2 74.5 61.9 170.0

2000 64.6 71.7 73.9 76.1 79.6 82.1 83.2 85.3 86.6 88.0 80.6 70.1 56.6 169.4

2500 61.1 67.1 70.1 73.4 76.5 79.2 80.6 81.6 82.5 83.4 76.1 65.4 49.5 168.2

3150 53.2 61.5 64.9 68.3 71.9 76.1 76.7 76.7 78.6 78.9 70.4 58.1 36.1 168.2

4000 42.0 52.8 56.9 60.9 65.2 69.4 70.4 71.3 72.6 72.2 62.8 45.8 17.2 169.1

5000 28.2 40.7 47.7 51.8 56.7 61.1 62.7 62.8 64.5 61.8 52.0 30.8 170.7

6300 6.2 22.2 30.2 36.8 42.5 47.2 49.0 48.8 50.4 47.9 33.6 2.6 174.1

8000 6.2 22.2 30.2 36.8 42.5 47.2 49.0 48.8 50.4 47.9 33.6 2.6 174.1

8000 6.2 22.2 30.2 36.8 42.5 47.2 49.0 48.8 50.4 47.9 33.6 2.6 174.1

8000 6.2 22.2 30.2 36.8 42.5 47.2 49.0 48.8 50.4 47.9 33.6 2.6 174.1

VEHICL = ADH031 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 0. FPS  
IAPLHA = SB59 IEQA / = NO PML AREA = FULL SPHERE TAMB F = 75.00 PAMB HG = 29.60 RELHUM = 55.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBRFR =  
FNNI = LBS XNLR = RPM XNHR = RPM V8 = 2532.9 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2532.9 FPS AE18 = 0. SQ IN  
RUPNT = ER-0423 TAPE = X04231 TEST PT NO = 0423 NC = 861 CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514  
MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

DBA 85.6 88.9 90.1 92.1 94.2 96.6 97.7 99.4 101.4 104.9 99.8 92.6 83.9  
PMLT 97.7 100.1 101.1 102.9 104.8 107.1 108.0 109.5 112.3 117.6 113.5 107.4 97.7  
PNL 97.1 100.1 101.1 102.9 104.8 107.1 108.0 109.5 112.3 116.9 112.7 106.0 97.7  
GASPL 93.1 95.5 95.9 97.1 98.3 100.2 101.1 103.1 106.9 112.8 110.6 106.2 99.3 188.7

|      |      |      |      |      |      |      |      |      |       |       |       |      |       |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|
| 8000 | 6.2  | 22.2 | 30.2 | 36.8 | 42.5 | 47.2 | 49.0 | 48.8 | 50.4  | 47.9  | 33.6  | 2.6  | 174.1 |
| 6300 | 6.2  | 22.2 | 30.2 | 36.8 | 42.5 | 47.2 | 49.0 | 48.8 | 50.4  | 47.9  | 33.6  | 2.6  | 174.1 |
| 5000 | 28.2 | 40.7 | 47.7 | 51.8 | 56.7 | 61.1 | 62.7 | 62.8 | 64.5  | 61.8  | 52.0  | 30.8 | 170.7 |
| 4000 | 28.2 | 40.7 | 47.7 | 51.8 | 56.7 | 61.1 | 62.7 | 62.8 | 64.5  | 61.8  | 52.0  | 30.8 | 170.7 |
| 3150 | 53.2 | 61.5 | 64.9 | 68.3 | 71.9 | 76.1 | 76.7 | 76.7 | 78.6  | 78.9  | 70.4  | 58.1 | 36.1  |
| 2500 | 42.0 | 52.8 | 56.9 | 60.9 | 65.2 | 69.4 | 70.4 | 71.3 | 72.6  | 72.2  | 62.8  | 45.8 | 17.2  |
| 2000 | 61.1 | 67.1 | 70.1 | 73.4 | 76.5 | 79.2 | 80.6 | 81.6 | 82.5  | 83.4  | 76.1  | 65.4 | 49.5  |
| 1600 | 69.1 | 74.1 | 76.7 | 79.1 | 82.2 | 84.4 | 86.2 | 87.1 | 89.0  | 90.2  | 84.2  | 74.5 | 61.9  |
| 1250 | 71.6 | 76.3 | 78.8 | 81.6 | 84.4 | 86.9 | 87.5 | 89.5 | 90.4  | 92.8  | 86.3  | 77.8 | 66.3  |
| 1000 | 73.1 | 77.6 | 80.1 | 82.0 | 84.3 | 87.3 | 89.2 | 90.9 | 91.6  | 94.1  | 87.7  | 79.4 | 69.2  |
| 800  | 75.4 | 79.8 | 81.4 | 83.4 | 86.1 | 88.2 | 89.8 | 92.2 | 93.0  | 95.7  | 89.3  | 81.7 | 71.5  |
| 630  | 77.0 | 80.6 | 81.5 | 84.0 | 86.7 | 89.3 | 90.5 | 92.8 | 94.6  | 97.0  | 91.6  | 83.2 | 73.8  |
| 500  | 79.3 | 82.5 | 83.9 | 85.8 | 87.3 | 90.2 | 92.4 | 93.3 | 95.8  | 98.0  | 92.8  | 85.7 | 76.2  |
| 400  | 81.5 | 84.5 | 85.0 | 86.9 | 88.9 | 92.2 | 92.1 | 92.4 | 95.6  | 100.0 | 95.3  | 87.4 | 77.9  |
| 315  | 83.4 | 86.0 | 86.5 | 89.6 | 91.1 | 92.2 | 90.3 | 92.1 | 96.2  | 102.9 | 96.2  | 89.1 | 81.1  |
| 250  | 85.4 | 88.7 | 89.1 | 89.0 | 89.5 | 88.8 | 89.0 | 92.0 | 97.3  | 103.8 | 98.0  | 91.5 | 83.3  |
| 200  | 88.0 | 88.2 | 88.9 | 86.7 | 87.2 | 89.8 | 92.0 | 96.9 | 103.2 | 100.9 | 93.5  | 85.3 | 176.4 |
| 160  | 84.0 | 87.4 | 86.1 | 85.6 | 86.3 | 87.1 | 88.1 | 90.8 | 96.6  | 103.3 | 101.8 | 95.3 | 87.2  |
| 125  | 81.9 | 83.1 | 82.7 | 83.4 | 86.0 | 87.7 | 90.2 | 95.9 | 102.9 | 102.2 | 97.1  | 89.2 | 176.4 |
| 100  | 77.0 | 76.9 | 78.2 | 80.0 | 84.5 | 85.6 | 89.0 | 95.2 | 102.7 | 102.0 | 98.0  | 90.9 | 176.3 |
| 80   | 72.5 | 76.1 | 77.2 | 78.9 | 82.9 | 85.4 | 88.7 | 94.2 | 102.4 | 102.0 | 98.4  | 92.7 | 176.2 |
| 63   | 70.7 | 75.0 | 76.3 | 77.8 | 80.9 | 84.3 | 87.3 | 92.6 | 100.1 | 100.4 | 98.4  | 91.9 | 174.8 |
| 50   | 71.1 | 74.6 | 75.5 | 77.0 | 78.2 | 81.7 | 84.0 | 87.5 | 94.0  | 99.0  | 99.3  | 98.3 | 92.1  |

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DATPRG - FLIRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0424 X0424C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 90.9  | 89.7  | 85.0  | 84.9  | 87.7  | 87.4  | 89.0  | 90.2  | 95.3  | 97.7  | 97.1  | 100.5 | 134.5 |
| 400   | 90.1  | 91.4  | 92.4  | 93.8  | 97.9  | 99.8  | 103.7 | 110.1 | 116.5 | 119.8 | 120.0 | 116.4 | 152.4 |
| 500   | 89.7  | 92.7  | 93.0  | 94.0  | 95.6  | 100.0 | 103.8 | 109.0 | 118.3 | 121.2 | 120.1 | 114.3 | 155.2 |
| 630   | 91.8  | 93.9  | 94.7  | 96.0  | 98.6  | 101.5 | 105.7 | 110.9 | 120.4 | 123.3 | 120.3 | 112.9 | 156.7 |
| 800   | 96.0  | 95.5  | 95.0  | 95.8  | 98.1  | 99.5  | 101.6 | 105.3 | 110.5 | 120.8 | 123.5 | 119.1 | 109.6 |
| 1000  | 103.7 | 103.3 | 99.8  | 100.4 | 101.5 | 103.2 | 106.6 | 111.5 | 117.2 | 123.7 | 117.2 | 109.1 | 157.1 |
| 1250  | 107.7 | 109.5 | 104.3 | 103.1 | 103.4 | 104.2 | 107.3 | 114.3 | 122.2 | 124.4 | 116.2 | 107.5 | 158.0 |
| 1500  | 108.0 | 109.3 | 109.3 | 108.4 | 105.2 | 104.6 | 106.5 | 108.5 | 114.3 | 122.2 | 124.4 | 116.2 | 107.5 |
| 2000  | 105.9 | 107.8 | 107.5 | 109.1 | 109.5 | 107.3 | 106.2 | 109.1 | 115.0 | 123.4 | 122.5 | 114.9 | 157.8 |
| 2500  | 103.2 | 105.0 | 104.2 | 106.3 | 108.1 | 110.2 | 108.5 | 109.8 | 114.6 | 122.8 | 120.2 | 111.9 | 156.8 |
| 3150  | 102.3 | 103.6 | 102.3 | 103.6 | 105.5 | 109.0 | 110.4 | 110.1 | 114.4 | 121.4 | 120.2 | 111.9 | 156.0 |
| 4000  | 100.7 | 101.8 | 102.0 | 103.0 | 104.4 | 106.6 | 109.5 | 111.8 | 115.2 | 119.5 | 117.7 | 110.7 | 154.7 |
| 5000  | 99.2  | 100.5 | 100.0 | 101.3 | 103.2 | 105.7 | 107.1 | 111.6 | 114.6 | 118.6 | 117.1 | 108.6 | 154.0 |
| 6300  | 98.4  | 100.2 | 103.2 | 103.2 | 104.7 | 107.1 | 108.8 | 113.8 | 117.2 | 115.5 | 108.8 | 101.4 | 153.2 |
| 8000  | 96.2  | 98.7  | 98.9  | 99.6  | 101.1 | 104.6 | 106.5 | 109.7 | 113.1 | 116.3 | 114.4 | 107.2 | 152.6 |
| 10000 | 95.6  | 96.8  | 97.3  | 99.3  | 101.1 | 103.6 | 105.7 | 108.5 | 111.7 | 115.1 | 113.5 | 106.0 | 152.0 |
| 12500 | 93.2  | 94.7  | 95.5  | 96.5  | 99.0  | 102.0 | 103.2 | 106.0 | 109.8 | 112.9 | 112.1 | 104.5 | 150.9 |
| 15000 | 90.3  | 93.2  | 94.2  | 96.3  | 99.5  | 101.2 | 104.7 | 108.3 | 110.8 | 109.3 | 102.3 | 95.6  | 150.1 |
| 16000 | 90.3  | 93.0  | 93.2  | 94.2  | 96.3  | 99.5  | 101.2 | 104.7 | 108.3 | 110.8 | 109.3 | 102.3 | 150.1 |
| 20000 | 87.6  | 88.9  | 90.6  | 91.8  | 93.3  | 97.1  | 98.5  | 101.3 | 105.5 | 107.8 | 106.5 | 99.8  | 149.0 |
| 25000 | 82.7  | 86.4  | 86.1  | 89.6  | 90.7  | 93.8  | 96.1  | 97.8  | 102.3 | 106.4 | 103.4 | 97.3  | 148.9 |
| 31500 | 78.4  | 82.0  | 84.4  | 86.6  | 89.7  | 92.1  | 94.6  | 99.8  | 103.6 | 103.6 | 101.5 | 93.3  | 149.3 |
| 40000 | 74.2  | 77.9  | 78.3  | 80.1  | 83.2  | 87.0  | 89.0  | 91.6  | 97.6  | 101.1 | 99.5  | 90.1  | 150.9 |
| 50000 | 70.0  | 73.7  | 76.5  | 78.9  | 83.4  | 85.2  | 87.5  | 94.8  | 100.3 | 97.5  | 86.0  | 75.0  | 153.4 |
| 63000 | 64.7  | 70.4  | 70.0  | 75.0  | 78.9  | 81.2  | 83.7  | 92.9  | 99.8  | 97.1  | 81.6  | 70.1  | 157.8 |
| 80000 | 60.7  | 68.8  | 67.4  | 70.7  | 70.0  | 73.6  | 76.2  | 79.0  | 91.1  | 92.6  | 75.4  | 61.8  | 162.0 |
| GASPL | 114.5 | 116.0 | 114.8 | 115.4 | 116.0 | 117.6 | 118.7 | 121.1 | 125.4 | 132.4 | 133.3 | 129.2 | 125.5 |
| PNL1  | 126.2 | 129.4 | 128.3 | 130.3 | 131.9 | 132.4 | 134.5 | 138.9 | 144.9 | 144.9 | 144.6 | 139.0 | 133.6 |
| DBA   | 115.0 | 116.4 | 115.3 | 115.9 | 116.4 | 117.6 | 118.6 | 120.9 | 125.3 | 132.6 | 133.1 | 127.4 | 120.9 |

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NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH048 TEST DATE = 08-19-81  
IAPLHA = SB59 IEGA = NO  
WIND DIR = DEG WIND, VEL = MPH  
EXT AREA = FULL SPHERE EXT DIST = 40.0 FT  
PWL AREA = C41 ANECH CH CONFIG = 4  
TAMB F = 80.00 MIKE HT = 29.60  
RELHUM = 44.5 PCT NBFR = 400. FPS  
FLTVL = 4

FNINI = LBS XNL RPM = XNH RPM = V8 = 2537.2 FPS AEB = 25.3 SO IN  
FNFRMB = LBS XNLR RPM = XNHR RPM = V18 = FPS AE18 = 0. SO IN  
RUNPT = 81F-400-0424 TAPE = X0424C TEST PT NO = 0424 NC = 861 CORR FAN SPEED = RPM

DATPRGC - FL11MAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0424 X0424F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |       |
| 250   | 95.2  | 97.3  | 94.8  | 95.2  | 94.6  | 94.6  | 94.8  | 95.8  | 100.9 | 107.3 | 110.7 | 114.3 | 115.3 | 148.0 |
| 315   | 95.2  | 97.3  | 94.8  | 95.2  | 94.1  | 96.6  | 96.7  | 96.6  | 106.0 | 113.6 | 116.7 | 117.7 | 116.6 | 152.0 |
| 400   | 95.8  | 96.8  | 95.1  | 94.3  | 95.6  | 98.1  | 99.0  | 101.8 | 107.3 | 116.3 | 119.2 | 117.3 | 154.0 |       |
| 500   | 97.8  | 97.8  | 96.3  | 95.8  | 97.5  | 98.3  | 99.4  | 102.0 | 109.1 | 118.3 | 121.5 | 120.5 | 117.9 | 155.6 |
| 630   | 97.4  | 99.1  | 98.0  | 97.5  | 98.0  | 99.0  | 100.6 | 103.6 | 109.0 | 119.0 | 122.1 | 120.7 | 117.3 | 156.1 |
| 800   | 99.5  | 100.5 | 98.9  | 98.2  | 100.0 | 100.0 | 100.8 | 103.2 | 110.5 | 120.6 | 123.2 | 120.6 | 119.5 | 157.1 |
| 1000  | 102.1 | 100.9 | 99.4  | 98.9  | 102.1 | 102.2 | 102.4 | 104.6 | 112.2 | 121.0 | 123.8 | 119.9 | 118.5 | 157.4 |
| 1250  | 110.7 | 109.0 | 104.1 | 102.7 | 105.3 | 104.1 | 103.5 | 105.4 | 113.4 | 121.0 | 123.8 | 119.0 | 117.8 | 157.5 |
| 1500  | 115.0 | 115.6 | 109.0 | 107.3 | 107.1 | 105.6 | 106.1 | 106.7 | 114.3 | 122.4 | 122.4 | 117.9 | 118.2 | 158.0 |
| 2000  | 114.6 | 114.7 | 113.5 | 111.3 | 110.9 | 108.6 | 108.6 | 108.7 | 114.6 | 122.2 | 120.1 | 116.9 | 117.4 | 157.7 |
| 2500  | 111.9 | 113.2 | 112.0 | 112.6 | 111.0 | 111.8 | 108.7 | 108.6 | 114.6 | 121.2 | 120.6 | 115.7 | 116.4 | 157.3 |
| 3150  | 110.8 | 111.6 | 109.7 | 110.4 | 108.7 | 111.0 | 111.0 | 109.4 | 116.0 | 119.9 | 118.7 | 115.0 | 116.1 | 156.4 |
| 4000  | 109.8 | 110.2 | 107.9 | 108.0 | 108.1 | 109.2 | 110.7 | 111.7 | 115.4 | 118.9 | 117.7 | 112.3 | 112.9 | 155.4 |
| 5000  | 108.3 | 108.5 | 107.8 | 107.7 | 107.3 | 108.7 | 109.0 | 111.6 | 114.7 | 117.7 | 116.4 | 112.9 | 112.8 | 154.7 |
| 6300  | 106.6 | 107.2 | 105.9 | 106.1 | 107.2 | 108.4 | 108.6 | 110.9 | 114.2 | 116.8 | 115.3 | 111.3 | 111.9 | 154.0 |
| 8000  | 105.7 | 105.4 | 104.9 | 105.7 | 107.6 | 109.7 | 112.9 | 115.9 | 114.8 | 110.5 | 111.7 | 105.3 | 105.5 | 153.5 |
| 10000 | 106.2 | 107.3 | 106.2 | 105.2 | 105.7 | 106.6 | 107.1 | 108.6 | 111.3 | 113.6 | 109.2 | 109.6 | 109.6 | 152.9 |
| 12500 | 105.2 | 105.2 | 104.3 | 104.7 | 103.6 | 105.0 | 105.1 | 106.0 | 110.4 | 112.4 | 111.3 | 107.6 | 108.2 | 152.1 |
| 16000 | 102.3 | 102.6 | 101.9 | 101.3 | 100.9 | 102.5 | 102.6 | 104.8 | 107.9 | 109.9 | 109.0 | 105.6 | 106.2 | 151.0 |
| 20000 | 99.0  | 100.4 | 99.2  | 98.7  | 97.9  | 100.1 | 99.9  | 101.4 | 105.3 | 108.8 | 106.2 | 103.1 | 101.8 | 150.4 |
| 25000 | 95.8  | 95.8  | 96.0  | 95.7  | 95.3  | 96.8  | 97.5  | 97.8  | 103.5 | 106.8 | 105.0 | 99.8  | 98.3  | 150.5 |
| 31500 | 90.0  | 92.4  | 90.7  | 92.7  | 91.2  | 93.7  | 93.5  | 94.6  | 102.1 | 105.2 | 103.9 | 97.5  | 94.6  | 151.6 |
| 40000 | 84.8  | 87.3  | 85.9  | 86.6  | 87.8  | 90.0  | 90.4  | 91.6  | 99.8  | 104.8 | 102.3 | 93.8  | 89.7  | 153.9 |
| 50000 | 80.3  | 82.7  | 81.7  | 81.9  | 83.5  | 86.4  | 86.7  | 87.5  | 98.8  | 105.2 | 102.9 | 90.4  | 85.8  | 158.1 |
| 63000 | 75.1  | 77.6  | 76.1  | 77.4  | 79.9  | 81.9  | 82.7  | 83.7  | 98.5  | 104.5 | 100.3 | 85.6  | 79.0  | 162.2 |
| 80000 | 68.4  | 72.8  | 71.0  | 74.4  | 74.6  | 76.6  | 77.7  | 78.9  | 88.7  | 94.7  | 90.4  | 75.8  | 69.2  | 159.4 |
| DBA   | 190.7 | 194.4 | 192.7 | 195.5 | 196.2 | 198.3 | 199.2 | 200.4 | 211.8 | 217.9 | 213.8 | 199.5 | 193.3 |       |
| PWL   | 133.3 | 133.8 | 132.1 | 131.5 | 132.3 | 132.2 | 133.2 | 138.8 | 143.4 | 143.4 | 139.7 | 139.9 |       |       |
| PNT   | 133.3 | 135.6 | 133.1 | 132.1 | 131.5 | 132.3 | 132.2 | 133.2 | 138.8 | 143.4 | 143.4 | 139.7 | 139.9 |       |
| DBA   | 190.7 | 194.4 | 192.7 | 195.5 | 196.2 | 198.3 | 199.2 | 200.4 | 211.8 | 217.9 | 213.8 | 199.5 | 193.3 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH048 TEST DATE = 08-19-81  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 LOCAL = C41 ANECH CH CONFIG = 4  
 PML AREA = FULL SPHERE TAMB F = 80.00  
 EXT DIST = 40.0 FT  
 EXT CNFIG = ARC  
 MIKE HT = 29.60  
 RELHUM = 44.5 PCT  
 NBFR =

FNINI = LBS XNL RPM  
 XNHR = RPM  
 V8 = RPM  
 AE8 = 2537.2 FPS  
 AE18 = 0.50 IN  
 CORR FAN SPEED = RPM  
 TEST PT NO = 0424  
 NC = 861  
 X0424F =

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0424 X04241

ANGLES MEASURED FROM INLET, DEGREES

FREQ 73.8 76.3 75.7 75.6 77.3 80.0 80.7 83.1 87.9 95.8 97.2 95.4 89.8 171.4  
50 73.8 76.3 75.7 75.6 77.3 80.0 80.7 83.1 87.9 95.8 97.2 95.4 89.8 171.4  
63 75.7 77.3 79.6 79.6 81.1 83.3 89.7 98.5 98.3 99.4 96.3 89.6 173.1  
80 75.3 78.6 78.5 78.8 79.6 80.8 82.3 84.9 89.5 98.5 100.0 96.3 89.6 173.5  
100 77.3 79.9 79.4 79.4 81.6 81.8 82.4 84.4 90.9 100.0 101.0 96.2 91.6 174.6  
125 79.9 80.2 79.8 80.1 83.6 83.8 84.0 85.8 92.6 100.3 101.5 95.3 90.4 174.8  
150 88.2 88.1 83.7 83.7 86.7 85.7 85.0 86.4 93.6 100.2 101.3 94.2 89.4 175.0  
200 92.3 94.5 89.1 87.1 88.4 87.0 87.4 87.6 94.4 101.4 99.4 92.7 89.3 175.4  
250 91.6 93.4 92.0 92.9 89.8 87.1 88.3 94.1 100.9 97.1 91.3 87.9 175.1  
315 88.4 91.5 92.9 91.8 92.8 89.5 89.0 94.1 99.5 97.2 89.6 86.0 174.7  
400 86.8 89.5 86.9 87.5 89.2 91.7 91.5 89.5 95.2 97.9 94.7 88.2 84.7 173.8  
500 85.4 87.8 86.8 87.7 88.3 89.6 90.9 91.5 94.2 96.4 93.2 84.8 80.5 172.8  
630 83.3 85.6 86.3 87.2 88.8 89.0 91.1 93.3 94.8 91.5 84.8 79.4 172.1  
800 81.2 84.0 84.1 85.3 86.9 88.3 90.1 93.6 94.8 82.5 77.3 171.5  
1000 79.8 83.4 83.4 83.9 85.2 87.4 87.5 88.7 90.9 88.9 81.0 76.0 171.0  
1250 79.8 83.5 83.9 84.0 85.1 86.2 86.6 87.4 89.1 87.2 78.9 72.5 170.4  
1600 78.0 80.7 81.6 83.2 82.7 83.3 84.5 87.7 87.9 84.1 76.0 68.7 169.5  
2000 74.1 77.5 78.8 79.6 79.9 81.6 83.1 84.9 84.8 80.8 72.3 63.6 168.5  
2500 69.0 74.1 75.3 76.3 76.3 78.8 79.4 79.0 81.4 82.5 76.2 67.0 54.3 167.9  
3150 62.4 67.0 70.2 71.7 72.4 74.2 74.5 73.8 77.7 78.1 71.7 58.8 42.4 167.9  
4000 50.4 59.0 61.1 65.5 65.3 68.2 67.6 67.3 72.5 71.8 64.3 47.5 24.3 169.1  
5000 35.5 46.2 50.0 53.9 56.9 59.7 59.5 59.0 63.9 63.7 52.9 30.1 171.3  
6300 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
8000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
10000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
12500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
15000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
17500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
20000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
25000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
31500 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
40000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
50000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
63000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6  
80000 13.1 27.5 33.8 38.5 42.5 46.2 45.6 44.0 50.9 50.0 35.7 2.6 179.6

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA   | 91.6  | 94.2  | 94.0  | 94.7  | 95.1  | 96.3  | 96.2  | 97.1  | 100.0 | 102.6 | 99.8  | 92.7  | 88.2  |
| PMLT  | 102.4 | 105.9 | 105.4 | 105.4 | 105.5 | 106.5 | 106.3 | 106.8 | 110.8 | 115.1 | 113.0 | 106.4 | 100.5 |
| PNL   | 102.4 | 105.0 | 104.8 | 105.4 | 105.5 | 106.5 | 106.3 | 106.8 | 110.8 | 114.4 | 112.1 | 105.3 | 100.5 |
| QASPL | 97.9  | 100.1 | 98.8  | 99.1  | 99.4  | 99.9  | 99.4  | 100.1 | 104.6 | 110.1 | 109.7 | 104.5 | 99.4  |
| 187.5 |       |       |       |       |       |       |       |       |       |       |       |       |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NA3-22514

VEHICL = ADH048 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CNFIGN = 4 MODEL = 4 FLTVL = 400. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIGN = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2537.2 FPS AEB = 25.3 SQ IN  
FNFRMB = LBS XNLR RPM V8 = 2537.2 FPS AEB = 25.3 SQ IN  
CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0449 X0449C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PYL

50 82.4 81.7 79.5 79.3 80.1 80.7 81.1 86.3 87.2 86.3 95.7 112.6 95.5 141.8

60 84.7 85.3 86.0 85.1 86.2 88.0 87.4 89.8 92.8 90.9 99.0 108.4 98.3 138.8

80 87.0 92.3 87.8 87.4 88.0 90.8 91.7 91.1 92.3 91.9 94.5 111.2 97.6 141.0

100 87.1 92.6 87.9 90.2 91.0 91.6 92.5 93.4 93.1 95.7 96.8 106.5 101.2 138.4

125 84.4 87.9 89.2 90.4 91.3 93.2 93.3 93.2 94.2 97.2 103.4 110.3 105.5 141.7

150 83.8 83.6 86.6 86.4 87.0 88.3 90.0 90.6 93.3 98.2 102.8 106.2 107.6 140.0

160 84.8 84.8 86.1 86.6 89.0 91.3 91.2 94.1 98.8 101.4 105.5 107.5 110.1 142.4

200 84.8 84.8 86.1 86.6 89.0 91.3 91.2 94.7 97.6 100.3 106.9 111.0 109.5 112.6 145.9

250 85.3 89.6 88.8 89.6 90.5 92.1 94.7 97.6 102.9 106.6 100.3 106.9 111.0 109.5 112.6 145.9

315 85.6 89.2 89.2 91.5 94.4 96.0 97.4 98.4 102.9 109.2 112.3 112.0 113.4 147.2

400 86.1 89.9 90.4 90.9 91.5 94.6 97.3 100.2 107.1 114.7 116.8 112.0 113.9 150.8

500 87.5 91.2 90.8 92.0 93.9 95.8 98.4 101.3 107.5 114.8 117.5 112.9 114.3 151.3

630 89.1 92.3 92.1 93.2 93.2 95.0 96.9 99.2 102.9 107.9 116.7 119.8 114.2 153.5

800 93.0 93.2 93.5 94.3 95.9 98.0 99.6 103.0 108.0 116.6 118.5 113.6 115.3 152.5

1000 97.7 98.8 97.3 97.1 97.2 98.8 101.2 103.6 108.8 115.8 119.2 114.4 115.8 152.9

1250 95.7 100.3 98.8 99.3 100.2 100.8 102.2 104.3 108.8 115.6 118.9 114.9 116.0 152.4

1600 97.6 98.5 98.5 99.0 98.3 100.5 102.5 105.3 108.9 113.6 114.7 115.5 111.7 150.8

2000 97.2 99.1 97.5 97.6 98.2 100.3 102.0 104.9 109.7 114.4 115.5 114.9 112.6 151.2

2500 97.6 98.5 98.5 99.0 98.3 100.5 102.5 105.3 108.9 113.6 114.7 115.5 111.7 150.8

3150 100.0 101.1 99.8 101.1 99.8 101.9 102.3 105.4 109.2 112.1 114.7 115.9 116.2 150.8

4000 97.2 98.2 97.5 98.3 98.9 100.6 102.7 105.3 108.7 110.5 112.5 116.2 108.1 149.9

5000 96.4 98.2 96.8 97.5 98.7 100.9 101.8 104.9 107.9 109.3 111.1 116.1 108.0 149.4

6300 96.1 99.0 97.7 98.9 100.1 101.8 104.3 106.8 107.9 110.2 118.3 110.6 150.3

8000 96.1 99.0 97.7 98.9 100.1 101.8 104.3 106.8 107.9 110.2 118.3 110.6 150.3

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|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA   | 108.3 | 109.9 | 109.2 | 109.8 | 110.5 | 112.3 | 114.0 | 116.2 | 120.2 | 125.5 | 128.0 | 127.6 | 124.8 |
| PMLT  | 123.1 | 123.5 | 122.7 | 123.5 | 123.9 | 126.8 | 128.3 | 129.2 | 133.0 | 137.1 | 140.5 | 141.5 | 137.6 |
| PNL   | 121.9 | 123.5 | 122.7 | 123.5 | 123.9 | 126.8 | 128.3 | 129.2 | 133.0 | 137.1 | 139.5 | 140.9 | 136.6 |
| CASPL | 108.1 | 110.1 | 109.4 | 109.9 | 110.8 | 112.6 | 114.2 | 116.4 | 120.4 | 125.9 | 128.5 | 130.3 | 125.9 |
|       | 108.3 | 109.9 | 109.2 | 109.8 | 110.5 | 112.3 | 114.0 | 116.2 | 120.2 | 125.5 | 128.0 | 127.6 | 124.8 |

VEHICL = ADH035 TEST DATE = 08-19-81  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 LOCAT = C41 ANECH CH CCONFIG = 4  
 PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
 TAMB F = 78.00 EXT CCONFIG = ARC  
 MIKE HT = MODEL = 4  
 PAMB HG = 29.60 RELHUM = 51.5 PCT  
 NBFR = 0. FPS

FNINI = LBS XNL RPM XNH RPM = = =  
 FNRAMB = LBS XNLR RPM XNHR RPM = = =  
 RPM = 2048.1 FPS AE8 = 25.3 SQ IN  
 CORR FAN SPEED = RPM = 861

RUNPT = 81F-ZER-0449 TAPE = X0449C  
 TEST PT NO = 0449 NC = 861  
 RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0449 X0449F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 82.4 81.7 79.5 79.3 80.1 80.7 81.1 86.3 87.2 86.3 85.7 112.6 95.5 141.8

63 84.7 85.3 86.0 85.1 86.2 88.0 87.4 89.8 92.8 90.9 99.0 108.4 98.3 138.8

80 87.0 92.3 87.8 87.4 88.0 90.8 91.7 92.3 91.9 94.5 111.2 97.6 141.0

100 87.1 92.6 87.9 90.2 91.0 91.6 92.5 93.4 93.1 95.7 96.8 106.5 101.2 138.4

125 84.4 87.9 89.2 90.4 91.3 93.2 93.3 93.2 94.2 97.2 103.4 110.3 105.5 141.7

150 83.8 83.6 86.6 86.4 87.0 88.3 90.0 90.6 93.3 98.2 102.8 106.2 107.6 140.0

200 84.8 86.1 86.6 89.0 91.3 91.2 94.1 96.8 101.3 107.5 114.8 112.9 114.3 151.3

250 84.8 86.6 86.6 89.6 91.3 91.2 94.7 96.6 100.3 106.9 111.0 109.5 112.6 145.9

315 85.6 88.9 88.6 89.2 91.5 94.4 96.0 97.7 102.9 109.2 112.3 110.0 113.4 147.2

400 88.1 89.9 90.4 90.9 91.5 94.6 97.3 100.2 107.1 114.7 116.8 112.9 113.9 150.8

500 87.5 91.2 90.8 93.9 95.8 98.4 101.3 107.5 114.8 117.5 112.9 114.3 114.3 151.3

630 89.1 92.3 92.1 93.2 95.0 96.9 99.2 102.9 107.9 116.7 119.8 114.2 117.9 153.5

800 93.0 93.2 93.5 94.3 95.9 98.0 99.6 103.0 108.0 116.6 118.5 113.6 115.3 152.5

1000 97.1 98.8 97.3 97.1 97.2 98.8 101.2 103.6 108.8 115.8 119.2 114.4 115.8 152.9

1250 95.7 100.3 98.8 99.3 100.2 100.8 102.2 104.3 108.8 115.6 118.0 114.9 114.9 152.4

1500 97.6 98.5 98.5 99.0 98.3 100.5 102.5 105.3 108.9 113.6 114.7 115.5 111.7 150.8

2000 97.2 99.1 97.6 98.2 100.3 102.0 104.9 109.7 114.4 115.5 114.9 115.9 112.6 151.2

2500 97.6 98.5 98.5 99.0 98.3 100.5 102.5 105.3 108.9 113.6 114.7 115.5 111.7 150.8

3150 95.7 100.3 98.8 99.3 100.2 100.8 102.2 104.3 108.8 115.6 118.0 114.9 114.9 152.4

4000 97.2 98.2 97.5 98.3 98.9 100.6 102.7 105.3 108.7 110.5 112.5 108.1 149.9

5000 96.4 98.4 97.5 98.2 98.7 100.9 101.8 104.9 107.9 109.3 111.1 116.1 108.0 149.4

6300 96.1 99.0 97.7 97.7 98.9 100.1 101.8 104.3 106.8 107.9 110.2 118.3 106.6 150.3

8000 94.2 97.3 96.9 97.3 97.3 99.8 101.2 103.4 105.3 106.9 108.3 115.1 105.4 150.1

10000 93.3 95.7 95.7 96.5 96.6 98.3 99.3 100.6 103.4 103.9 106.5 119.1 102.9 151.5

12500 91.1 94.3 94.8 95.1 96.6 98.3 99.3 100.6 103.4 103.9 106.5 119.1 102.9 151.5

15000 88.1 92.2 92.0 92.8 94.1 96.6 97.5 99.8 101.1 100.8 103.3 119.4 100.6 152.7

20000 85.4 89.1 89.7 90.0 91.8 94.6 95.2 96.0 98.1 98.2 100.9 119.0 97.9 153.8

25000 81.6 85.9 86.2 87.0 88.8 92.2 92.7 95.4 95.4 98.5 118.9 93.7 156.0

31500 76.9 81.8 82.9 85.4 88.5 92.9 92.6 96.6 96.6 98.5 116.1 90.6 156.3

40000 73.0 77.6 78.5 79.6 81.7 84.6 85.2 86.4 88.8 88.8 94.5 113.1 87.8 157.3

50000 68.6 72.8 73.5 74.8 80.3 80.5 81.3 82.6 86.1 87.0 93.8 110.4 82.6 159.0

63000 63.0 69.5 69.3 71.3 73.8 76.2 77.8 78.5 83.0 84.3 91.7 107.7 78.6 161.6

80000 59.4 66.7 67.1 68.4 68.9 71.3 72.4 73.9 80.8 80.6 88.5 104.5 72.7 165.2

QASPL 108.1 110.1 109.4 109.9 110.8 112.6 114.2 116.4 120.4 125.9 128.5 130.3 125.9 169.9

PNL 121.9 123.5 122.7 123.5 123.9 126.6 126.8 129.2 133.0 137.1 139.5 140.9 136.6

PFLT 123.1 123.5 122.7 123.5 123.9 126.8 128.3 129.2 133.0 137.1 140.5 141.5 137.6

DBA 180.7 187.7 188.0 187.9 190.4 192.8 194.0 195.3 201.6 201.7 209.4 225.5 194.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH035 TEST DATE = 08-19-81  
IAPLHA = SB59 IEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
LOCAT = C41 ANECH CH CONFIG = 4  
PWL AREA = FULL SPHERE TAMB F = 78.00  
EXT DIST = 40.0 FT EXT CNF19 = ARC  
PAMB HG = 29.60 RELHUM = 51.5 PCT  
FLTVEL = 0. FPS

FNINI = LBS XNL RPM XNHR = RPM V8 = 2048.1 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNL RPM XNHR = RPM V8 = 2048.1 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-0449 TAPE = X0449F TEST PT NO = 0449 NC = 861 CORR FAN SPEED = RPM

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UNITED STATES GOVERNMENT PRINTING SYSTEM - D1182-02

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0449 X04491

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 66.1 69.4 71.0 72.2 73.2 76.5 79.0 81.5 87.7 94.2 94.8 87.8 86.4 168.2

63 65.4 70.7 71.3 73.3 75.6 77.6 80.1 82.6 88.1 94.3 95.4 88.6 86.7 168.7

80 67.0 71.8 72.7 74.4 76.7 78.7 80.9 84.2 88.4 96.1 97.7 89.9 90.2 170.9

100 70.8 72.6 74.0 75.5 77.5 79.8 81.3 84.3 88.5 96.0 96.3 89.2 87.4 170.0

125 75.4 78.1 77.7 78.2 78.7 80.5 82.7 84.7 88.5 96.2 95.1 96.9 89.8 87.7 170.3

150 73.3 79.4 79.1 80.3 81.6 82.4 83.6 85.3 89.1 94.8 95.5 90.1 86.5 169.8

200 75.3 76.7 79.9 80.7 83.0 85.5 87.8 87.3 90.9 95.2 97.1 90.8 87.0 171.3

250 74.1 77.7 77.3 78.2 79.3 81.5 83.0 85.5 89.6 93.1 92.5 89.3 83.0 168.6

315 74.2 76.8 78.0 79.4 79.1 81.4 83.3 85.6 88.4 91.9 91.2 89.4 81.4 168.2

400 76.0 79.0 79.0 81.1 81.5 82.9 83.2 85.4 88.4 90.0 90.8 89.2 78.2 168.2

500 72.8 75.8 76.4 78.0 79.1 81.0 83.0 85.0 87.5 88.0 88.0 88.7 75.8 167.3

630 71.5 75.4 75.3 77.0 78.7 81.8 84.3 86.4 86.5 86.1 88.0 88.0 74.5 166.9

800 70.6 75.8 75.9 76.9 78.6 80.0 81.6 83.5 85.0 84.7 84.8 89.5 72.0 167.7

1000 68.3 73.8 74.9 76.3 76.8 79.6 80.7 82.4 83.4 83.4 88.7 88.7 69.7 167.5

1250 66.9 71.8 73.5 75.3 77.4 79.5 81.3 82.4 81.8 81.3 88.8 88.7 68.1 168.5

1500 63.8 69.8 72.1 73.6 75.7 78.4 79.1 80.7 79.5 79.2 87.5 87.5 63.4 169.0

2000 59.9 67.2 68.9 71.1 73.1 75.8 76.5 78.1 78.1 75.7 75.1 86.1 58.1 170.2

2500 55.4 62.8 65.8 67.6 70.2 73.2 73.6 73.6 74.2 71.9 70.9 82.9 50.5 171.3

3150 48.2 57.2 60.4 63.0 65.9 69.6 70.0 68.7 69.6 66.7 65.2 77.8 37.8 173.4

4000 37.3 48.3 52.2 55.7 59.5 63.0 63.2 62.4 62.9 59.3 56.6 66.1 20.3 173.7

5000 23.6 36.6 42.6 46.9 50.8 54.2 54.3 53.7 53.9 47.7 45.1 49.4 174.7

6300 1.4 17.5 25.5 31.4 36.3 40.3 40.3 39.1 38.2 31.8 26.7 22.6 179.0

8000 0.0 8.6 14.7 18.2 18.7 15.8 13.7 4.2 179.0

10000 182.7

12500

15000

20000

25000

31500

40000

50000

63000

80000

QASPL 84.3 87.8 88.5 89.8 91.1 93.1 94.7 96.4 99.9 104.7 105.6 101.4 96.6 187.3

PNL 89.2 93.3 94.2 96.0 97.3 99.6 100.8 102.1 104.7 107.3 108.1 108.5 97.0

PFLT 89.8 93.3 94.2 96.0 97.3 100.2 101.5 102.1 104.7 108.0 108.6 109.7 97.0

DBA 78.6 82.8 83.6 85.2 86.6 88.7 89.7 91.4 93.4 94.7 94.9 97.4 83.8

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH035 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.60 RELHUM = 51.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = 29.60

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2048.1 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM V8 = 2048.1 FPS AE8 = 25.3 SQ IN

ZER-0449 TAPE = X04491 TEST PT NO = 0441 NC = 861 CORR FAN SPEED = RPM

RUNPT =

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0451 X0451C BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.                          | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|---|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50  | 83.2                         | 82.7  | 79.2  | 80.3  | 88.4  | 82.2  | 82.1  | 83.5  | 87.7  | 87.3  | 93.2  | 90.6  | 91.3  |
| 63  | 85.2                         | 85.5  | 86.0  | 85.6  | 87.9  | 89.0  | 87.9  | 86.6  | 92.8  | 90.4  | 94.2  | 92.7  | 95.3  |
| 80  | 88.0                         | 93.3  | 88.6  | 88.1  | 88.2  | 92.1  | 92.5  | 93.3  | 92.4  | 95.8  | 97.0  | 98.6  | 134.8 |
| 100   | 87.6                         | 88.6  | 88.6  | 90.4  | 90.5  | 92.4  | 93.2  | 94.2  | 93.6  | 95.9  | 97.8  | 100.5 | 101.7 |
| 125   | 84.6                         | 88.4  | 88.9  | 90.7  | 91.0  | 94.2  | 94.3  | 93.7  | 95.2  | 98.0  | 103.9 | 106.2 | 140.0 |
| 160   | 84.3                         | 84.3  | 86.8  | 86.8  | 88.8  | 88.8  | 90.7  | 91.4  | 94.8  | 99.2  | 103.8 | 105.7 | 140.5 |
| 200   | 85.8                         | 85.1  | 86.8  | 87.4  | 89.5  | 92.1  | 92.5  | 94.9  | 99.6  | 102.4 | 106.0 | 109.2 | 143.4 |
| 250   | 85.3                         | 89.1  | 89.1  | 90.1  | 90.2  | 92.1  | 94.7  | 97.1  | 101.6 | 107.9 | 112.0 | 113.0 | 147.3 |
| 315   | 86.1                         | 89.1  | 88.4  | 89.4  | 90.3  | 94.4  | 96.0  | 98.2  | 103.6 | 110.5 | 112.8 | 113.5 | 148.4 |
| 400   | 88.8                         | 90.6  | 90.6  | 91.4  | 91.3  | 95.1  | 97.5  | 101.7 | 108.9 | 116.0 | 117.3 | 116.8 | 152.3 |
| 500   | 87.7                         | 91.5  | 91.0  | 92.0  | 93.6  | 96.3  | 98.6  | 102.0 | 109.0 | 116.1 | 118.2 | 116.6 | 152.6 |
| 630   | 89.6                         | 92.6  | 92.6  | 93.2  | 94.2  | 97.4  | 100.0 | 103.7 | 109.1 | 117.9 | 120.3 | 118.0 | 154.4 |
| 800   | 93.5                         | 93.7  | 94.0  | 94.3  | 96.1  | 98.5  | 100.1 | 103.5 | 109.0 | 118.1 | 119.5 | 117.6 | 154.0 |
| 1000  | 99.2                         | 100.0 | 97.5  | 97.3  | 96.9  | 99.3  | 101.9 | 104.1 | 109.8 | 117.6 | 120.0 | 117.4 | 154.1 |
| 1250  | 96.0                         | 101.8 | 100.0 | 100.3 | 99.4  | 101.0 | 102.4 | 104.6 | 109.8 | 116.6 | 119.7 | 117.4 | 153.8 |
| 1500  | 98.3                         | 98.3  | 99.3  | 99.8  | 100.4 | 102.8 | 105.8 | 108.7 | 111.3 | 117.3 | 120.4 | 116.7 | 154.3 |
| 2000  | 97.4                         | 99.1  | 97.5  | 97.4  | 99.5  | 101.1 | 102.7 | 105.1 | 110.7 | 116.2 | 117.8 | 114.9 | 152.4 |
| 2500  | 96.6                         | 98.9  | 97.7  | 99.0  | 99.3  | 101.2 | 103.3 | 105.5 | 109.9 | 115.3 | 116.4 | 113.2 | 151.5 |
| 3150  | 98.7                         | 100.1 | 98.1  | 99.6  | 99.2  | 102.3 | 103.1 | 105.6 | 109.7 | 111.7 | 113.5 | 111.7 | 149.8 |
| 4000  | 97.5                         | 98.5  | 97.3  | 98.0  | 99.1  | 101.1 | 102.7 | 106.0 | 109.7 | 111.6 | 113.5 | 111.7 | 149.5 |
| 5000  | 96.7                         | 98.2  | 96.8  | 97.5  | 102.0 | 100.4 | 102.3 | 105.6 | 108.6 | 111.6 | 112.6 | 110.1 | 149.0 |
| 6300  | 95.8                         | 99.0  | 97.5  | 97.7  | 99.9  | 101.1 | 102.8 | 105.3 | 107.6 | 110.4 | 111.7 | 110.3 | 148.6 |
| 8000  | 93.9                         | 97.3  | 96.9  | 97.3  | 99.5  | 100.7 | 101.3 | 104.0 | 108.0 | 109.7 | 107.6 | 105.2 | 147.6 |
| 10000   | 92.8                         | 96.2  | 96.5  | 97.3  | 99.5  | 100.6 | 101.3 | 104.0 | 108.0 | 109.7 | 107.6 | 105.2 | 146.6 |
| 12500   | 91.1                         | 94.5  | 94.8  | 95.6  | 99.1  | 99.8  | 100.0 | 102.1 | 104.7 | 105.9 | 107.7 | 105.1 | 146.6 |
| 15000   | 88.1                         | 92.7  | 92.7  | 93.3  | 96.6  | 97.4  | 98.5  | 101.0 | 102.9 | 103.8 | 102.7 | 100.1 | 145.8 |
| 16000   | 88.1                         | 92.7  | 92.7  | 93.3  | 96.6  | 97.4  | 98.5  | 101.0 | 102.9 | 103.8 | 102.7 | 100.1 | 145.8 |
| 20000   | 85.9                         | 89.6  | 90.2  | 91.3  | 94.5  | 96.6  | 97.8  | 99.9  | 100.7 | 103.2 | 100.5 | 97.7  | 145.1 |
| 25000   | 81.8                         | 87.2  | 86.7  | 87.5  | 93.3  | 93.7  | 94.4  | 93.9  | 96.4  | 97.9  | 100.3 | 98.9  | 144.8 |
| 31500   | 76.9                         | 83.0  | 82.5  | 83.9  | 89.8  | 89.4  | 90.6  | 91.8  | 94.3  | 95.0  | 98.7  | 94.8  | 145.1 |
| 40000   | 73.1                         | 78.2  | 79.1  | 79.7  | 88.2  | 83.3  | 85.7  | 88.2  | 92.1  | 91.1  | 97.1  | 92.2  | 146.6 |
| 50000   | 68.6                         | 73.9  | 74.1  | 75.8  | 82.2  | 83.3  | 83.8  | 88.8  | 90.4  | 94.8  | 89.4  | 81.1  | 148.6 |
| 63000   | 62.8                         | 69.6  | 70.0  | 72.6  | 89.1  | 78.0  | 79.3  | 80.2  | 85.9  | 88.7  | 94.9  | 86.5  | 152.9 |
| 80000   | 58.6                         | 66.3  | 66.3  | 67.8  | 88.6  | 73.0  | 74.4  | 75.1  | 82.9  | 83.3  | 90.4  | 83.0  | 156.4 |
| QASPL   | 108.2                        | 110.4 | 109.3 | 110.0 | 111.5 | 113.0 | 114.7 | 117.1 | 121.4 | 127.4 | 129.5 | 127.4 | 125.5 |
| PNL   | 121.5                        | 123.3 | 122.0 | 122.9 | 124.2 | 125.8 | 127.2 | 129.8 | 133.9 | 138.7 | 140.6 | 138.2 | 136.0 |
| PMLT  | 123.0                        | 125.0 | 122.0 | 122.9 | 124.2 | 126.4 | 128.3 | 129.8 | 133.9 | 138.7 | 141.1 | 138.2 | 136.0 |
| DBA   | 108.3                        | 110.2 | 109.1 | 109.7 | 110.7 | 112.4 | 114.3 | 116.7 | 121.1 | 127.0 | 129.1 | 126.6 | 124.2 |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 |                              |       |       |       |       |       |       |       |       |       |       |       |       |
| VEHICL  | ADH034                       |       |       |       |       |       |       |       |       |       |       |       |       |
| IAPLHA  | = SB59                       |       |       |       |       |       |       |       |       |       |       |       |       |
| WIND DIR  | = DEG                        |       |       |       |       |       |       |       |       |       |       |       |       |
| WIND VEL  | = MPH                        |       |       |       |       |       |       |       |       |       |       |       |       |
| TEST DATE   | = 08-19-81                   |       |       |       |       |       |       |       |       |       |       |       |       |
| LOCAT   | = C41 ANECH CH               |       |       |       |       |       |       |       |       |       |       |       |       |
| EXT DIST  | = 40.0 FT                    |       |       |       |       |       |       |       |       |       |       |       |       |
| PML AREA  | = FULL SPHERE                |       |       |       |       |       |       |       |       |       |       |       |       |
| TAMB F  | = 75.00                      |       |       |       |       |       |       |       |       |       |       |       |       |
| EXT CNFIG   | = ARC                        |       |       |       |       |       |       |       |       |       |       |       |       |
| MODEL   | = 4                          |       |       |       |       |       |       |       |       |       |       |       |       |
| FLVEL   | = 0. FPS                     |       |       |       |       |       |       |       |       |       |       |       |       |
| RELHUM  | = 55.0 PCT                   |       |       |       |       |       |       |       |       |       |       |       |       |
| NBFR  | =                            |       |       |       |       |       |       |       |       |       |       |       |       |
| MIKE HT   | =                            |       |       |       |       |       |       |       |       |       |       |       |       |
| AEB   | = 25.3 SQ IN                 |       |       |       |       |       |       |       |       |       |       |       |       |
| AE18  | = 0. SQ IN                   |       |       |       |       |       |       |       |       |       |       |       |       |
| FPS   | = 2155.0                     |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM   | =                            |       |       |       |       |       |       |       |       |       |       |       |       |
| V8  | =                            |       |       |       |       |       |       |       |       |       |       |       |       |
| V18   | =                            |       |       |       |       |       |       |       |       |       |       |       |       |
| NC  | = 861                        |       |       |       |       |       |       |       |       |       |       |       |       |
| TEST PT NO  | = 0451                       |       |       |       |       |       |       |       |       |       |       |       |       |
| CORR FAN SPEED  | = RPM                        |       |       |       |       |       |       |       |       |       |       |       |       |
| RUNPT   | = 81F-ZER-0451 TAPE = X0451C |       |       |       |       |       |       |       |       |       |       |       |       |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - B1F-ZER-0451 X0451F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PWL

|        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50     | 63.2  | 62.7  | 79.2  | 60.3  | 68.4  | 62.2  | 62.1  | 63.5  | 67.7  | 67.3  | 93.2  | 90.6  | 91.3  | 128.9 |
| 63     | 85.2  | 85.5  | 86.0  | 85.6  | 87.9  | 89.0  | 87.9  | 86.6  | 92.8  | 90.4  | 94.2  | 92.7  | 95.3  | 131.9 |
| 80     | 88.0  | 93.3  | 88.6  | 88.1  | 88.2  | 92.1  | 93.3  | 92.4  | 95.8  | 97.0  | 98.6  | 98.6  | 134.8 |       |
| 100    | 87.6  | 93.6  | 88.6  | 90.4  | 90.5  | 92.4  | 93.2  | 94.2  | 93.6  | 95.9  | 97.8  | 100.5 | 101.7 | 136.8 |
| 125    | 84.6  | 88.4  | 88.9  | 90.7  | 91.0  | 94.2  | 94.3  | 93.7  | 95.2  | 98.0  | 103.9 | 105.0 | 106.2 | 140.0 |
| 150    | 84.3  | 84.3  | 86.8  | 86.9  | 88.5  | 88.8  | 90.7  | 91.4  | 94.8  | 99.2  | 103.8 | 105.7 | 108.4 | 140.5 |
| 200    | 65.8  | 65.1  | 86.8  | 87.4  | 89.5  | 92.1  | 92.5  | 94.9  | 99.6  | 102.4 | 106.0 | 109.2 | 110.9 | 143.4 |
| 250    | 65.3  | 69.1  | 86.1  | 89.0  | 90.1  | 90.2  | 92.1  | 94.7  | 97.1  | 101.6 | 107.9 | 112.0 | 113.0 | 147.3 |
| 315    | 66.1  | 69.1  | 86.4  | 89.4  | 90.3  | 94.4  | 96.0  | 98.2  | 103.6 | 110.5 | 112.8 | 113.5 | 113.9 | 148.4 |
| 400    | 68.8  | 90.6  | 91.4  | 91.3  | 95.1  | 97.5  | 101.7 | 108.9 | 116.0 | 117.3 | 116.8 | 114.4 | 114.4 | 152.3 |
| 500    | 67.7  | 91.5  | 91.0  | 92.0  | 93.6  | 96.3  | 98.6  | 102.0 | 109.0 | 116.1 | 118.2 | 116.6 | 114.5 | 152.6 |
| 630    | 89.6  | 92.6  | 92.6  | 93.2  | 94.2  | 97.4  | 100.0 | 103.7 | 109.1 | 117.9 | 120.3 | 118.0 | 116.7 | 154.4 |
| 800    | 93.5  | 93.7  | 94.0  | 94.3  | 96.1  | 98.5  | 100.1 | 103.5 | 109.0 | 116.1 | 119.5 | 117.6 | 115.0 | 154.0 |
| 1000   | 96.2  | 100.0 | 97.5  | 97.3  | 96.9  | 99.3  | 101.9 | 104.1 | 109.8 | 117.6 | 120.0 | 117.4 | 115.1 | 154.1 |
| 1250   | 96.0  | 100.3 | 99.4  | 100.3 | 99.4  | 101.0 | 102.4 | 104.6 | 109.8 | 116.6 | 119.7 | 117.4 | 114.7 | 153.8 |
| 1500   | 96.0  | 99.8  | 99.3  | 99.8  | 100.4 | 102.8 | 105.8 | 106.7 | 111.3 | 117.5 | 120.4 | 116.7 | 114.2 | 154.3 |
| 2000   | 97.4  | 99.1  | 97.5  | 97.4  | 99.5  | 101.1 | 102.7 | 105.1 | 110.2 | 116.2 | 117.8 | 114.9 | 111.6 | 152.4 |
| 2500   | 96.6  | 98.9  | 97.7  | 99.0  | 99.3  | 101.2 | 103.3 | 105.5 | 109.9 | 115.3 | 116.4 | 113.2 | 110.5 | 151.5 |
| 3150   | 98.7  | 100.1 | 98.1  | 99.6  | 99.2  | 102.3 | 103.1 | 105.6 | 109.9 | 113.6 | 116.0 | 112.2 | 109.3 | 150.8 |
| 4000   | 97.5  | 98.5  | 97.3  | 98.0  | 101.1 | 102.7 | 106.0 | 109.7 | 111.7 | 113.5 | 111.7 | 108.9 | 107.7 | 149.0 |
| 5000   | 96.7  | 98.2  | 96.8  | 97.5  | 102.0 | 100.4 | 102.3 | 105.6 | 108.6 | 111.6 | 112.6 | 110.1 | 107.7 | 149.0 |
| 6300   | 95.8  | 99.0  | 97.5  | 97.7  | 99.9  | 101.1 | 102.8 | 105.3 | 107.6 | 110.4 | 111.7 | 110.3 | 107.4 | 148.6 |
| 8000   | 93.9  | 97.3  | 96.9  | 97.3  | 98.3  | 100.6 | 102.4 | 104.4 | 106.6 | 109.4 | 110.0 | 108.6 | 105.9 | 147.7 |
| 10000  | 92.8  | 96.5  | 96.5  | 97.3  | 99.5  | 100.7 | 101.3 | 104.0 | 105.8 | 107.7 | 105.9 | 107.7 | 105.1 | 146.6 |
| 12500  | 91.1  | 94.5  | 94.8  | 95.6  | 99.1  | 99.8  | 100.0 | 102.1 | 104.7 | 105.9 | 107.7 | 105.1 | 102.2 | 146.6 |
| 15000  | 88.1  | 92.7  | 92.7  | 93.3  | 96.6  | 97.4  | 98.5  | 101.0 | 102.9 | 103.8 | 104.8 | 102.7 | 100.1 | 145.8 |
| 20000  | 85.9  | 89.6  | 90.2  | 91.3  | 94.5  | 95.6  | 96.7  | 97.8  | 99.9  | 100.7 | 103.2 | 100.5 | 97.7  | 145.1 |
| 25000  | 81.8  | 87.2  | 86.7  | 87.5  | 93.3  | 93.4  | 93.9  | 96.4  | 97.9  | 100.3 | 98.9  | 92.9  | 94.8  | 144.8 |
| 31500  | 76.9  | 83.0  | 82.5  | 83.9  | 89.8  | 89.4  | 90.6  | 91.8  | 94.3  | 95.0  | 98.7  | 94.8  | 88.5  | 145.1 |
| 40000  | 73.1  | 78.2  | 79.1  | 79.7  | 88.3  | 85.7  | 87.1  | 88.2  | 92.1  | 91.1  | 97.1  | 92.2  | 85.7  | 146.6 |
| 50000  | 68.6  | 73.9  | 74.1  | 75.8  | 88.2  | 82.2  | 83.8  | 88.8  | 90.4  | 94.8  | 89.4  | 81.1  | 148.6 |       |
| 63000  | 62.8  | 69.6  | 70.0  | 72.6  | 89.1  | 78.0  | 79.3  | 80.2  | 85.9  | 88.7  | 94.9  | 86.5  | 77.7  | 152.9 |
| 80000  | 58.6  | 66.3  | 66.4  | 67.8  | 88.6  | 73.0  | 74.4  | 75.1  | 82.9  | 83.3  | 90.4  | 83.0  | 70.0  | 156.4 |
| 100000 | 58.6  | 66.3  | 66.4  | 67.8  | 88.6  | 73.0  | 74.4  | 75.1  | 82.9  | 83.3  | 90.4  | 83.0  | 70.0  | 156.4 |
| DBA    | 180.1 | 187.5 | 187.6 | 189.2 | 209.1 | 194.5 | 195.9 | 196.6 | 203.9 | 204.8 | 211.5 | 204.1 | 192.4 |       |
| PWL    | 121.5 | 123.3 | 122.0 | 122.9 | 124.2 | 125.8 | 127.2 | 129.8 | 133.9 | 138.7 | 140.6 | 138.2 | 136.0 |       |
| PNL    | 123.0 | 125.0 | 122.0 | 122.9 | 124.2 | 126.4 | 128.3 | 129.8 | 133.9 | 138.7 | 141.1 | 138.2 | 136.0 |       |
| DBA    | 180.1 | 187.5 | 187.6 | 189.2 | 209.1 | 194.5 | 195.9 | 196.6 | 203.9 | 204.8 | 211.5 | 204.1 | 192.4 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ, SC-4/NAS3-22514

VEHICL = ADH034 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 PAMB HG = 29.70 RELHUM = 55.0 PCT FLTVEL = 0. FPS

IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 75.00 EXT CONFIG = ARC MIKE HT = 29.70 NBFR = 0. FPS

FNNI = LBS XNL RPM XNHR XNH RPM = V8 = 2155.0 FPS AE8 = 25.3 SQ IN = 0. SQ IN

FRAMB = LBS XNL RPM XNHR XNH RPM = V8 = 2155.0 FPS AE8 = 25.3 SQ IN = 0. SQ IN

TEST PT NO = 0451 NC = 861 CORR FAN SPEED = RPM

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DATPRC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0451 X04511

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50   | 66.8 | 70.1 | 71.2 | 72.7 | 73.0 | 77.0 | 79.2 | 83.0 | 89.5 | 95.5 | 95.3 | 92.6 | 86.9  | 169.7 |
| 63   | 65.7 | 71.0 | 71.6 | 73.3 | 73.3 | 78.1 | 80.3 | 83.3 | 89.6 | 95.6 | 92.4 | 86.9 | 170.1 |       |
| 80   | 67.5 | 72.1 | 73.2 | 74.4 | 75.9 | 79.2 | 81.7 | 84.9 | 89.7 | 97.4 | 98.2 | 93.7 | 88.9  | 171.9 |
| 100  | 71.3 | 73.1 | 74.5 | 75.5 | 77.6 | 80.3 | 81.8 | 84.8 | 89.5 | 97.5 | 97.3 | 93.2 | 87.2  | 171.4 |
| 125  | 76.9 | 79.3 | 77.9 | 78.4 | 78.4 | 81.0 | 83.4 | 85.2 | 90.2 | 96.9 | 97.7 | 92.8 | 87.0  | 171.5 |
| 150  | 73.5 | 80.9 | 80.3 | 81.3 | 80.8 | 82.6 | 83.8 | 85.6 | 90.1 | 95.8 | 97.3 | 92.6 | 86.2  | 171.2 |
| 200  | 75.5 | 77.2 | 79.4 | 80.7 | 81.7 | 84.2 | 87.1 | 87.5 | 91.4 | 96.4 | 97.6 | 91.5 | 85.3  | 171.3 |
| 250  | 74.4 | 77.7 | 77.3 | 78.0 | 80.5 | 82.3 | 83.8 | 85.7 | 90.6 | 94.8 | 94.7 | 89.3 | 82.0  | 169.9 |
| 315  | 73.2 | 77.3 | 77.3 | 79.3 | 80.1 | 82.2 | 84.1 | 85.8 | 89.4 | 93.6 | 92.9 | 87.1 | 80.1  | 168.9 |
| 400  | 74.8 | 78.0 | 77.3 | 79.6 | 79.7 | 82.9 | 83.6 | 85.6 | 89.1 | 91.5 | 92.0 | 84.2 | 76.5  | 166.9 |
| 500  | 73.0 | 76.0 | 76.1 | 77.8 | 79.3 | 81.5 | 82.9 | 85.8 | 88.5 | 89.2 | 89.0 | 84.2 | 76.5  | 166.9 |
| 630  | 71.7 | 75.4 | 75.3 | 77.0 | 81.9 | 82.3 | 85.1 | 87.1 | 88.7 | 87.6 | 82.0 | 74.3 | 166.4 |       |
| 800  | 70.4 | 75.8 | 75.7 | 76.9 | 79.6 | 81.0 | 82.5 | 84.5 | 85.8 | 87.2 | 86.3 | 81.5 | 72.8  | 166.0 |
| 1000 | 68.1 | 73.8 | 74.9 | 76.3 | 77.8 | 80.3 | 82.0 | 83.4 | 84.6 | 85.9 | 84.2 | 79.2 | 70.2  | 165.2 |
| 1250 | 66.4 | 72.3 | 74.3 | 76.1 | 78.9 | 80.4 | 82.8 | 83.8 | 84.1 | 83.3 | 77.3 | 68.1 | 165.0 |       |
| 1500 | 65.4 | 72.3 | 74.3 | 76.1 | 78.9 | 80.4 | 82.8 | 83.8 | 84.1 | 83.3 | 77.3 | 68.1 | 165.0 |       |
| 2000 | 59.9 | 67.7 | 69.7 | 71.6 | 75.6 | 77.5 | 79.3 | 79.8 | 81.5 | 73.5 | 73.5 | 62.6 | 164.0 |       |
| 2500 | 55.9 | 63.3 | 66.3 | 68.9 | 73.0 | 74.2 | 75.1 | 75.4 | 76.0 | 74.4 | 73.1 | 64.4 | 50.2  | 162.6 |
| 3150 | 48.4 | 58.5 | 60.9 | 63.5 | 70.4 | 71.1 | 71.5 | 69.9 | 70.6 | 69.2 | 66.9 | 57.8 | 37.1  | 162.2 |
| 4000 | 37.3 | 49.5 | 52.9 | 56.6 | 63.9 | 64.7 | 64.6 | 63.9 | 64.7 | 64.6 | 59.1 | 44.8 | 18.2  | 162.5 |
| 5000 | 23.7 | 37.2 | 43.2 | 47.0 | 57.4 | 55.3 | 56.2 | 55.6 | 56.3 | 50.1 | 47.7 | 28.5 | 1.6   | 164.0 |
| 6300 | 1.4  | 18.7 | 26.2 | 32.3 | 47.2 | 42.0 | 42.3 | 40.3 | 40.9 | 35.2 | 27.6 | 1.6  |       | 170.4 |
| 8000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 173.8 |

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MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH034 TEST DATE = 08-19-81 LOCAL AREA = C41 ANECH CH CONFIG = 4 TAMB F = 75.00 PAMB HG = 29.70 RELHUM = 55.0 PCT  
 IAPLHA = SB59 LEGA = NG EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBRF = 0. FPS  
 FNLN1 = LBS XNLR = RPM XNHR = RPM V8 = 2155.0 FPS AEB = 25.3 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2155.0 FPS AEB = 25.3 SQ IN  
 RUNPT = 81F-ZER-0451 TAPE = X04511 TEST PT NO = 0451 NC = 861 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-0452 X0452C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160  
PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.2  | 84.0  | 80.7  | 80.3  | 80.6  | 82.0  | 82.1  | 86.3  | 87.5  | 87.3  | 96.2  | 91.4  | 97.3  | 130.7 |
| 63    | 86.5  | 86.3  | 85.1  | 86.9  | 88.5  | 87.2  | 89.8  | 89.8  | 92.3  | 90.4  | 98.7  | 92.4  | 98.3  | 133.5 |
| 80    | 88.5  | 88.6  | 88.9  | 89.5  | 92.3  | 93.0  | 93.8  | 92.7  | 93.8  | 92.7  | 95.0  | 96.7  | 100.4 | 135.2 |
| 100   | 88.1  | 92.8  | 88.4  | 90.2  | 91.0  | 93.4  | 93.5  | 92.7  | 93.4  | 96.5  | 102.4 | 104.0 | 106.0 | 139.1 |
| 125   | 85.4  | 88.9  | 89.2  | 90.2  | 91.0  | 93.4  | 93.5  | 92.7  | 93.4  | 96.5  | 102.4 | 104.0 | 106.0 | 139.1 |
| 150   | 83.8  | 82.6  | 85.9  | 86.5  | 86.5  | 86.6  | 88.5  | 88.9  | 91.8  | 88.9  | 97.2  | 102.3 | 105.0 | 139.3 |
| 200   | 83.8  | 82.6  | 85.9  | 86.5  | 86.5  | 86.6  | 88.5  | 88.9  | 91.8  | 88.9  | 97.2  | 102.3 | 105.0 | 139.3 |
| 250   | 83.0  | 86.3  | 85.6  | 87.1  | 88.2  | 89.6  | 92.0  | 94.1  | 97.6  | 104.9 | 109.0 | 112.0 | 110.6 | 144.8 |
| 315   | 83.3  | 86.4  | 86.1  | 86.9  | 88.3  | 91.6  | 93.3  | 95.2  | 99.4  | 107.0 | 110.3 | 112.5 | 109.4 | 145.8 |
| 400   | 86.1  | 87.9  | 87.6  | 88.7  | 89.5  | 93.1  | 95.8  | 98.9  | 105.4 | 113.0 | 115.1 | 114.3 | 108.4 | 149.5 |
| 500   | 85.5  | 88.2  | 88.5  | 89.8  | 91.4  | 94.3  | 96.1  | 99.8  | 105.0 | 112.6 | 115.5 | 113.4 | 104.5 | 149.2 |
| 630   | 87.1  | 90.1  | 89.1  | 89.9  | 92.0  | 94.4  | 97.7  | 100.9 | 105.9 | 114.9 | 113.5 | 102.4 | 151.1 |       |
| 800   | 89.2  | 89.2  | 89.8  | 91.3  | 93.1  | 95.5  | 97.6  | 100.3 | 105.5 | 114.6 | 118.0 | 110.6 | 99.3  | 150.7 |
| 1000  | 92.2  | 93.0  | 92.0  | 93.3  | 93.9  | 95.8  | 98.4  | 100.8 | 105.8 | 114.1 | 118.0 | 109.7 | 99.6  | 150.5 |
| 1250  | 91.0  | 95.8  | 94.0  | 94.3  | 95.9  | 97.3  | 98.9  | 101.8 | 106.5 | 113.1 | 117.2 | 108.4 | 99.4  | 149.9 |
| 1500  | 92.5  | 92.6  | 94.3  | 94.9  | 95.7  | 98.1  | 100.8 | 102.5 | 107.1 | 112.7 | 116.4 | 107.7 | 99.0  | 149.4 |
| 2000  | 91.7  | 92.8  | 92.2  | 93.1  | 94.7  | 97.3  | 99.2  | 102.9 | 107.7 | 112.7 | 114.8 | 107.1 | 98.6  | 148.6 |
| 2500  | 91.4  | 92.5  | 92.5  | 93.5  | 95.1  | 97.2  | 99.8  | 102.5 | 106.9 | 111.8 | 112.7 | 105.2 | 98.0  | 147.3 |
| 3150  | 92.3  | 93.6  | 92.9  | 94.4  | 96.4  | 97.8  | 99.6  | 102.4 | 106.7 | 110.1 | 112.0 | 103.9 | 96.8  | 146.5 |
| 4000  | 92.2  | 92.7  | 92.8  | 93.5  | 94.6  | 97.3  | 99.5  | 102.5 | 106.4 | 109.0 | 109.5 | 103.2 | 96.1  | 145.4 |
| 5000  | 91.9  | 92.2  | 92.5  | 93.0  | 94.5  | 96.7  | 98.6  | 102.4 | 105.6 | 108.3 | 108.8 | 101.6 | 95.2  | 144.9 |
| 6300  | 91.1  | 93.3  | 93.2  | 93.7  | 94.6  | 97.1  | 98.8  | 101.6 | 104.8 | 106.7 | 106.7 | 101.3 | 95.1  | 144.0 |
| 8000  | 88.9  | 90.8  | 91.6  | 92.3  | 93.5  | 96.6  | 97.9  | 100.1 | 103.3 | 105.9 | 105.7 | 99.9  | 93.7  | 143.2 |
| 10000 | 89.3  | 90.2  | 90.2  | 91.7  | 93.5  | 96.2  | 96.8  | 99.4  | 101.8 | 104.0 | 104.7 | 99.6  | 94.0  | 142.6 |
| 12500 | 87.8  | 89.0  | 89.3  | 90.1  | 92.1  | 94.3  | 95.0  | 97.3  | 101.2 | 101.9 | 102.5 | 98.4  | 92.4  | 141.7 |
| 16000 | 84.8  | 86.7  | 87.2  | 87.5  | 89.6  | 92.1  | 93.2  | 96.8  | 98.4  | 99.8  | 99.8  | 93.9  | 90.6  | 140.8 |
| 20000 | 82.9  | 84.4  | 84.7  | 85.5  | 87.3  | 90.1  | 91.2  | 93.8  | 95.6  | 96.5  | 97.2  | 93.0  | 88.4  | 139.8 |
| 25000 | 80.7  | 81.4  | 82.0  | 83.1  | 84.1  | 87.4  | 88.4  | 89.4  | 91.9  | 93.2  | 93.8  | 90.9  | 83.4  | 138.8 |
| 31500 | 73.7  | 77.0  | 77.1  | 77.9  | 80.1  | 83.2  | 84.4  | 85.9  | 88.3  | 89.0  | 90.2  | 85.8  | 78.3  | 138.0 |
| 40000 | 68.5  | 71.8  | 73.2  | 73.8  | 76.5  | 79.5  | 80.2  | 81.6  | 84.5  | 84.0  | 87.8  | 81.6  | 73.8  | 138.3 |
| 50000 | 64.6  | 67.8  | 68.2  | 69.1  | 71.5  | 75.5  | 76.1  | 76.6  | 79.9  | 79.5  | 82.1  | 76.9  | 67.8  | 137.7 |
| 63000 | 60.3  | 65.2  | 64.5  | 66.8  | 68.1  | 70.2  | 71.3  | 71.2  | 75.7  | 74.8  | 79.2  | 71.5  | 61.6  | 139.0 |
| 80000 | 57.9  | 63.7  | 64.8  | 65.4  | 64.2  | 65.0  | 65.7  | 65.1  | 72.0  | 72.0  | 69.3  | 73.5  | 64.5  | 141.0 |
| QASPL | 103.4 | 105.3 | 104.7 | 105.5 | 106.8 | 109.2 | 111.1 | 113.8 | 118.0 | 123.9 | 126.8 | 122.3 | 117.9 | 160.8 |
| PWL   | 116.3 | 117.8 | 117.3 | 118.1 | 119.3 | 122.6 | 123.9 | 126.6 | 131.2 | 135.8 | 137.2 | 131.5 | 125.7 |       |
| DBA   | 102.8 | 104.3 | 104.0 | 104.7 | 106.1 | 108.5 | 110.6 | 113.4 | 117.7 | 123.4 | 126.2 | 119.8 | 112.3 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH036 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.60 RELHUM = 51.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =  
FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2159.5 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2159.5 FPS AE18 = 0. SQ IN  
RUNPT = 81F-400-0452 TAPE = X0452C TEST PT NO = 0452 NC = 861 CORR FAN SPEED = RPM

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DATPROC - FLIPLAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-0452 X0452F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PML

200  
150  
125  
100  
80  
63  
50  
400 91.0 92.7 91.1 90.3 90.1 91.4 93.4 94.8 96.8 102.6 109.7 112.6 112.2 109.6 147.2  
250 90.4 92.4 90.3 90.3 90.1 91.8 92.3 90.1 90.5 96.4 103.0 105.9 108.5 107.2 142.2  
315 90.4 92.4 90.3 90.3 90.1 91.8 92.3 90.1 90.5 96.4 103.0 105.9 108.5 107.2 142.2  
400 91.0 92.7 91.1 90.3 90.1 91.4 93.4 94.8 96.8 102.6 109.7 112.6 112.2 109.6 147.2  
500 93.8 94.3 92.6 92.1 93.3 94.6 95.1 97.5 103.5 112.1 115.3 112.9 106.7 148.9  
630 93.1 94.6 93.5 93.3 94.0 94.8 96.7 98.5 103.5 112.1 115.8 111.1 106.0 148.9  
800 94.7 96.5 94.1 93.4 95.2 96.0 96.6 97.9 104.4 112.4 116.8 111.9 109.4 149.8  
1000 96.9 95.7 94.8 94.9 95.8 96.4 97.6 98.7 105.3 111.6 116.4 111.0 109.5 149.3  
1250 98.0 98.1 96.2 96.4 98.1 98.3 99.9 106.1 111.5 115.8 110.5 109.4 149.2  
1500 97.7 101.6 98.8 97.8 98.2 99.2 100.4 107.1 111.8 114.6 110.4 109.5 149.0  
2000 99.3 99.4 97.6 97.1 98.0 98.8 100.0 101.5 107.0 110.3 112.9 108.3 108.8 147.7  
2500 99.3 99.4 97.6 97.1 98.0 98.8 100.0 101.5 107.0 110.3 112.9 108.3 108.8 147.7  
3150 99.0 99.1 97.9 97.7 99.8 99.8 100.3 101.8 107.5 109.8 110.9 108.1 108.5 147.2  
4000 99.8 100.2 97.9 97.2 99.3 99.9 100.7 102.6 106.7 109.1 110.2 106.4 107.5 146.7  
5000 99.8 99.5 98.5 98.2 98.5 99.7 100.1 102.6 106.3 107.9 108.7 106.6 107.9 146.3  
6300 99.4 100.0 98.3 97.9 98.7 99.7 100.1 100.5 101.9 104.8 107.2 107.5 105.3 106.5 145.7  
8000 98.4 99.9 98.9 98.4 97.6 99.6 99.5 100.4 104.1 106.1 107.5 105.8 107.4 145.7  
10000 96.1 97.1 96.8 97.5 99.2 98.7 100.2 103.9 104.5 105.7 104.9 106.1 145.1  
12500 96.1 96.4 95.5 96.0 96.1 97.3 97.1 98.3 102.0 103.2 103.8 103.0 104.8 144.3  
15000 94.2 94.6 94.0 93.8 93.7 95.1 95.5 98.1 99.7 100.1 101.1 100.0 102.3 143.4  
20000 88.2 88.9 88.4 88.2 88.7 90.4 90.6 90.5 92.9 93.4 95.3 94.3 94.2 141.4  
25000 88.2 88.9 88.4 88.2 88.7 90.4 90.6 90.5 92.9 93.4 95.3 94.3 94.2 141.4  
31500 84.9 86.8 86.1 85.1 84.7 86.2 86.3 86.5 89.7 88.9 93.3 90.6 90.2 141.1  
40000 80.2 82.3 80.8 80.1 81.1 82.6 81.8 82.0 85.3 84.7 87.8 86.1 84.5 140.4  
50000 74.6 76.7 76.6 75.7 76.1 78.5 77.6 76.8 81.8 80.5 85.3 80.9 78.6 140.7  
63000 69.7 71.7 70.7 70.0 72.7 73.2 72.8 71.3 79.4 76.2 80.7 74.8 70.6 141.6  
80000 63.9 67.6 65.5 66.2 68.2 68.0 67.1 65.1 69.6 66.4 70.9 64.9 60.8 140.9

GASPL 110.1 110.8 109.4 109.0 109.4 110.7 111.2 112.8 117.8 122.6 125.6 122.3 120.7 160.5  
PNL 122.5 123.1 121.3 121.0 121.5 122.9 123.6 125.3 130.3 133.8 136.0 132.7 132.4  
PNLT 122.5 124.1 121.3 121.0 121.5 122.9 123.6 125.3 130.3 134.4 136.0 132.7 132.4  
DBA 185.9 189.0 187.3 187.6 189.6 189.7 188.9 187.2 193.0 194.5 189.0 185.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH036 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 400. FPS  
IAPLHA = SB59 LEGA, = NO PML AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.60 RELHUM = 51.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM XNH RPM V8 = 2159.5 FPS AE8 = 25.3 SQ IN  
FNFRMB = LBS XNLR = RPM XNHR = RPM V8 = 2159.5 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-0452 TAPE = X0452F TEST PT NO = 0452 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-0452 X04521

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

69.0 72.3 71.7 71.6 73.1 75.2 76.5 78.1 83.2 89.2 90.6 88.0 79.6 164.5

63 71.7 73.8 73.2 73.4 75.0 76.4 76.8 78.8 84.1 91.6 83.3 88.6 79.1 166.4

80 71.0 74.1 74.0 74.5 75.6 76.6 76.6 78.3 79.8 84.1 91.6 83.7 86.8 78.3 166.3

100 72.6 75.9 74.6 74.6 76.8 77.8 78.3 79.1 84.8 91.8 87.5 81.5 167.2

125 74.6 75.0 75.2 76.0 77.3 78.1 79.1 79.8 85.7 90.9 86.4 81.4 166.8

150 75.6 77.2 76.4 77.4 79.5 79.7 79.7 80.9 86.4 90.7 93.3 85.7 166.6

200 74.9 80.5 78.9 78.6 79.4 80.5 81.7 81.6 87.2 90.8 91.9 85.2 166.4

250 77.1 77.7 79.4 79.3 78.4 79.8 80.1 82.1 86.6 90.1 90.0 83.5 165.6

315 75.8 77.7 77.1 77.5 78.8 79.8 80.8 81.8 86.6 88.6 89.4 82.2 165.2

400 75.1 77.0 77.1 77.7 78.2 80.4 80.8 81.8 86.7 87.7 87.0 81.3 164.6

500 75.4 77.7 76.8 77.0 78.5 80.3 81.0 82.4 85.5 86.6 85.7 79.0 164.2

630 74.8 76.6 77.0 77.6 78.5 79.8 80.0 82.0 84.8 85.1 83.7 78.5 163.7

800 73.9 76.7 76.6 77.0 78.4 80.0 80.2 81.1 83.1 84.0 82.1 76.5 163.1

1000 72.5 76.3 76.9 77.4 78.4 79.3 79.1 79.4 82.1 82.5 81.6 76.3 163.1

1250 73.4 74.9 75.6 77.0 78.9 79.0 78.2 79.0 81.6 80.6 79.3 74.6 162.5

1600 68.7 73.4 72.8 72.8 74.5 75.3 76.7 76.3 78.2 79.3 78.7 76.5 161.8

2000 65.9 71.9 69.6 71.0 72.6 74.3 74.5 76.4 76.6 75.0 72.9 66.7 160.8

2500 60.7 65.6 67.6 68.4 69.8 71.7 72.0 72.8 72.4 71.1 68.6 63.0 160.0

3150 54.8 60.2 62.6 64.3 65.8 67.6 67.6 66.5 67.1 64.7 62.0 53.3 158.8

4000 45.3 53.3 56.4 57.8 58.8 60.7 60.3 59.3 60.0 55.5 53.7 40.6 158.6

5000 30.8 41.2 45.0 47.5 50.2 52.2 50.9 49.4 43.6 38.5 22.4 19.9 157.9

6300 7.4 21.4 28.7 32.2 35.1 38.3 36.6 33.4 25.2 18.2 159.0 158.2

8000 8000

63000

50000

40000

31500

25000

20000

16000

12500

10000

8000

6300

5000

4000

3150

2500

2000

1600

1250

1000

800

FREQ

69.0

71.7

73.8

73.2

73.4

75.0

76.4

76.8

78.8

84.1

91.6

83.3

88.6

79.1

164.5

166.4

163.7

163.1

163.1

160.0

160.8

158.8

158.6

157.9

158.2

159.0

158.3

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158.3

36

ORIGINAL PAGE IS  
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VEHICL = ADH036 TEST DATE = 08-19-81  
IAPLHA = SB59 LEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
CONFIG = C41 ANECH CH CONFIG = 4  
MODEL = 4  
FLVEL = 400. FPS  
RELHUM = 51.5 PCT  
NBFR =

NASA SHOCK CELL/ANNULAR C-D FLUG NOZ. SC-4/NAS3-22514  
MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN )  
SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)  
DIAMETER RATIO = 7.442  
FREQ SHIFT = -9

GASPL 66.0 88.6 88.4 88.8 89.8 91.2 91.7 92.8 97.0 101.0 102.6 96.4 90.3 177.7  
PML 91.0 94.0 94.6 96.6 96.5 98.2 99.4 102.5 104.2 104.5 98.1 92.6  
DBA 81.3 84.0 84.5 85.1 85.9 87.6 87.7 88.8 91.6 92.6 92.2 86.1 81.5

8000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000  
8000

Table with 16 columns and 16 rows of numerical data. The data is organized into a grid with a central vertical label 'ORIGINAL PAGE IS OF POOR QUALITY'.

VEHICL = ADH036 TEST DATE = 08-19-81  
IAPLHA = SB59 LEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
CONFIG = C41 ANECH CH CONFIG = 4  
MODEL = 4  
FLVEL = 400. FPS  
RELHUM = 51.5 PCT  
NBFR =

NASA SHOCK CELL/ANNULAR C-D FLUG NOZ. SC-4/NAS3-22514  
MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN )  
SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)  
DIAMETER RATIO = 7.442  
FREQ SHIFT = -9

GASPL 66.0 88.6 88.4 88.8 89.8 91.2 91.7 92.8 97.0 101.0 102.6 96.4 90.3 177.7  
PML 91.0 94.0 94.6 96.6 96.5 98.2 99.4 102.5 104.2 104.5 98.1 92.6  
DBA 81.3 84.0 84.5 85.1 85.9 87.6 87.7 88.8 91.6 92.6 92.2 86.1 81.5

8000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000  
8000

DATPRC - FLI,AN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-0453 X0453C  
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 88.4  | 88.0  | 85.7  | 87.3  | 85.4  | 88.7  | 88.9  | 90.5  | 92.5  | 97.6  | 98.2  | 97.9  | 99.5  | 135.1 |
| 63    | 91.7  | 91.8  | 91.8  | 93.1  | 93.4  | 95.0  | 93.9  | 92.3  | 96.5  | 101.1 | 100.7 | 99.7  | 102.3 | 138.6 |
| 80    | 94.3  | 93.3  | 93.3  | 94.4  | 96.2  | 98.8  | 98.5  | 97.6  | 99.3  | 98.4  | 101.3 | 103.2 | 105.9 | 141.1 |
| 100   | 94.1  | 100.6 | 95.6  | 97.4  | 98.0  | 99.6  | 100.7 | 101.4 | 100.1 | 101.9 | 103.3 | 107.5 | 109.4 | 143.7 |
| 125   | 90.9  | 93.4  | 95.2  | 96.7  | 98.5  | 100.2 | 100.8 | 99.9  | 100.7 | 103.7 | 109.9 | 111.8 | 113.7 | 146.6 |
| 150   | 89.8  | 90.3  | 93.3  | 92.9  | 92.7  | 95.3  | 97.5  | 98.6  | 101.3 | 106.2 | 110.8 | 113.7 | 116.6 | 148.2 |
| 160   | 89.8  | 91.3  | 93.3  | 93.3  | 92.9  | 92.7  | 95.3  | 97.5  | 98.6  | 101.3 | 106.2 | 110.8 | 113.7 | 148.2 |
| 200   | 91.8  | 91.3  | 92.3  | 93.9  | 96.2  | 98.8  | 99.2  | 100.4 | 104.8 | 107.2 | 111.8 | 116.5 | 120.7 | 150.3 |
| 250   | 91.3  | 94.3  | 95.1  | 96.1  | 97.0  | 98.1  | 100.2 | 102.9 | 105.8 | 112.4 | 117.5 | 120.7 | 120.1 | 153.8 |
| 315   | 92.3  | 94.4  | 93.6  | 94.9  | 96.8  | 99.9  | 101.8 | 103.9 | 108.6 | 116.2 | 118.8 | 121.3 | 120.7 | 155.0 |
| 400   | 94.1  | 95.6  | 95.6  | 96.4  | 97.3  | 100.6 | 103.3 | 106.9 | 113.4 | 120.0 | 122.3 | 123.3 | 120.9 | 157.6 |
| 500   | 94.4  | 96.7  | 96.5  | 97.3  | 99.1  | 101.0 | 103.6 | 106.8 | 112.8 | 121.3 | 123.7 | 123.4 | 120.8 | 158.3 |
| 630   | 96.1  | 98.1  | 97.9  | 98.4  | 99.7  | 102.1 | 105.0 | 108.2 | 114.9 | 123.7 | 125.6 | 124.0 | 121.2 | 159.9 |
| 800   | 100.2 | 98.7  | 98.8  | 99.3  | 101.4 | 103.8 | 105.1 | 109.0 | 115.5 | 124.3 | 125.5 | 123.1 | 119.3 | 159.9 |
| 1000  | 103.5 | 104.5 | 102.8 | 102.6 | 103.1 | 105.0 | 107.1 | 110.1 | 116.3 | 125.3 | 125.5 | 121.9 | 118.6 | 160.0 |
| 1250  | 104.7 | 105.8 | 105.7 | 105.6 | 106.2 | 107.6 | 109.2 | 112.1 | 118.5 | 125.7 | 121.3 | 117.9 | 113.9 | 159.1 |
| 1500  | 105.4 | 106.4 | 105.2 | 105.5 | 106.8 | 108.4 | 110.5 | 113.0 | 117.6 | 125.3 | 120.7 | 116.2 | 112.2 | 158.8 |
| 2000  | 105.7 | 106.3 | 105.6 | 106.1 | 106.9 | 109.5 | 110.6 | 113.4 | 117.7 | 123.1 | 120.2 | 114.9 | 110.0 | 157.6 |
| 2500  | 105.4 | 106.3 | 105.6 | 106.0 | 106.6 | 109.1 | 111.0 | 113.5 | 117.7 | 121.7 | 118.2 | 112.9 | 108.6 | 156.6 |
| 3150  | 104.7 | 106.3 | 105.6 | 106.1 | 106.9 | 109.5 | 110.6 | 113.4 | 117.7 | 123.1 | 120.2 | 114.9 | 110.0 | 157.6 |
| 4000  | 103.5 | 104.5 | 104.8 | 106.0 | 106.6 | 109.1 | 111.0 | 113.5 | 117.7 | 121.7 | 118.2 | 112.9 | 108.6 | 156.6 |
| 5000  | 101.7 | 103.5 | 103.8 | 105.0 | 106.7 | 108.7 | 110.1 | 112.9 | 116.9 | 120.8 | 116.8 | 111.6 | 107.2 | 155.9 |
| 6300  | 100.6 | 103.5 | 103.0 | 104.5 | 106.6 | 109.3 | 110.3 | 112.8 | 115.8 | 119.9 | 116.0 | 111.5 | 106.4 | 155.4 |
| 8000  | 100.6 | 103.5 | 103.0 | 104.5 | 106.6 | 109.3 | 110.3 | 112.8 | 115.8 | 119.9 | 116.0 | 111.5 | 106.4 | 155.4 |
| 10000 | 98.5  | 100.7 | 101.2 | 103.0 | 104.7 | 108.0 | 108.6 | 111.0 | 113.8 | 118.0 | 112.2 | 116.2 | 106.1 | 154.4 |
| 12500 | 96.3  | 98.8  | 100.1 | 100.8 | 103.3 | 106.1 | 107.3 | 109.1 | 112.2 | 116.2 | 112.2 | 106.1 | 101.9 | 153.5 |
| 15000 | 93.8  | 97.0  | 97.5  | 98.0  | 101.1 | 103.6 | 104.5 | 108.3 | 110.6 | 113.8 | 109.3 | 103.7 | 100.1 | 152.7 |
| 20000 | 91.6  | 94.1  | 95.0  | 96.5  | 98.3  | 101.6 | 102.9 | 105.0 | 107.6 | 111.5 | 107.2 | 102.0 | 97.2  | 152.0 |
| 25000 | 87.5  | 91.4  | 93.0  | 95.3  | 97.4  | 99.3  | 102.4 | 105.4 | 108.4 | 105.5 | 100.9 | 91.4  | 85.1  | 151.8 |
| 31500 | 82.9  | 87.2  | 87.5  | 89.1  | 91.6  | 95.9  | 96.6  | 99.1  | 103.3 | 106.5 | 103.2 | 96.5  | 87.5  | 152.4 |
| 40000 | 78.6  | 82.7  | 84.3  | 85.9  | 88.8  | 92.4  | 93.8  | 97.0  | 101.6 | 103.1 | 101.4 | 94.5  | 83.7  | 153.9 |
| 50000 | 74.6  | 79.7  | 81.8  | 84.5  | 89.2  | 90.8  | 93.5  | 99.1  | 103.9 | 98.8  | 91.4  | 78.3  | 75.0  | 157.0 |
| 63000 | 68.6  | 73.9  | 76.0  | 78.6  | 81.4  | 84.8  | 88.1  | 91.0  | 98.4  | 103.2 | 98.2  | 87.0  | 73.7  | 161.3 |
| 80000 | 62.1  | 70.4  | 71.5  | 74.3  | 76.4  | 81.3  | 84.9  | 87.3  | 96.4  | 98.9  | 96.6  | 83.0  | 67.3  | 164.9 |
| GASPL | 114.7 | 116.2 | 115.6 | 116.2 | 117.5 | 119.7 | 121.2 | 123.8 | 128.5 | 135.2 | 134.5 | 132.5 | 130.3 | 172.3 |
| FNL   | 127.7 | 129.2 | 128.7 | 129.4 | 130.4 | 132.7 | 134.2 | 136.8 | 141.2 | 147.5 | 145.2 | 141.9 | 138.7 |       |
| PFLT  | 127.7 | 130.7 | 128.7 | 129.4 | 130.9 | 132.7 | 134.2 | 136.8 | 141.2 | 147.5 | 145.2 | 141.9 | 138.7 |       |
| DBA   | 115.0 | 116.2 | 115.7 | 116.1 | 117.2 | 119.2 | 120.8 | 123.5 | 128.4 | 135.2 | 133.9 | 130.8 | 127.4 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH033 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE EXT DIST = 40.0 FT TAMB F = 75.00  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.60  
FNRAMB = LBS XNLR = RPM XNH = RPM V18 = FPS AE18 = 25.3 SQ IN  
FNRAMP = LBS XNLR = RPM XNH = RPM V18 = FPS AE18 = 25.3 SQ IN

RUNPT = 81F-ZER-0453 TAPE = X0453C TEST PT NO = 0453 NC = 861 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-0453 X0453F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 80000 | 62.1  | 70.4  | 71.5  | 74.3  | 76.4  | 81.3  | 84.9  | 87.3  | 96.4  | 98.9  | 96.6  | 83.0  | 67.3  | 164.9 |
| 63000 | 68.6  | 73.9  | 76.0  | 78.6  | 81.4  | 84.8  | 88.1  | 91.0  | 98.4  | 103.2 | 98.2  | 87.0  | 73.7  | 161.3 |
| 50000 | 74.6  | 78.7  | 79.7  | 81.8  | 84.5  | 89.2  | 90.8  | 93.5  | 99.1  | 103.9 | 98.8  | 91.4  | 78.3  | 157.0 |
| 40000 | 78.6  | 82.7  | 84.3  | 85.9  | 88.8  | 92.4  | 93.8  | 97.0  | 101.6 | 103.1 | 101.4 | 94.5  | 83.7  | 153.9 |
| 31500 | 82.9  | 87.1  | 89.1  | 91.6  | 95.3  | 99.4  | 100.7 | 102.4 | 108.4 | 105.5 | 100.9 | 96.5  | 87.5  | 152.4 |
| 25000 | 87.5  | 91.4  | 93.0  | 95.3  | 99.4  | 102.9 | 102.4 | 103.3 | 106.5 | 103.2 | 96.5  | 91.4  | 81.8  | 151.8 |
| 20000 | 91.6  | 94.1  | 95.0  | 96.5  | 98.3  | 101.6 | 102.9 | 105.0 | 107.6 | 111.5 | 107.2 | 102.0 | 97.2  | 152.0 |
| 16000 | 93.8  | 97.0  | 97.5  | 98.0  | 101.1 | 103.6 | 104.5 | 108.3 | 110.6 | 113.8 | 109.3 | 103.7 | 100.1 | 152.7 |
| 12500 | 96.3  | 98.8  | 100.1 | 103.3 | 107.3 | 109.3 | 112.2 | 116.2 | 118.2 | 122.2 | 116.1 | 104.9 | 101.9 | 153.5 |
| 10000 | 98.5  | 100.7 | 101.2 | 103.0 | 104.7 | 108.0 | 108.6 | 111.0 | 113.8 | 118.0 | 113.9 | 108.1 | 104.0 | 154.4 |
| 8000  | 98.9  | 102.1 | 101.9 | 103.2 | 105.0 | 108.3 | 109.7 | 111.3 | 114.6 | 118.2 | 114.8 | 109.4 | 105.4 | 154.4 |
| 6300  | 100.6 | 103.6 | 103.5 | 104.5 | 106.6 | 109.3 | 110.3 | 112.8 | 115.8 | 119.9 | 116.0 | 111.5 | 106.4 | 155.4 |
| 5000  | 101.7 | 103.5 | 103.8 | 105.0 | 106.7 | 109.7 | 110.1 | 112.9 | 116.9 | 120.8 | 116.8 | 111.6 | 107.2 | 155.9 |
| 4000  | 103.5 | 104.5 | 104.8 | 106.0 | 106.6 | 109.1 | 111.0 | 113.5 | 117.7 | 121.7 | 118.2 | 112.9 | 108.6 | 156.6 |
| 3150  | 104.7 | 106.3 | 105.6 | 106.1 | 106.9 | 109.5 | 113.4 | 117.7 | 123.1 | 128.2 | 124.9 | 119.4 | 110.0 | 157.6 |
| 2500  | 105.4 | 106.4 | 105.2 | 105.5 | 106.8 | 110.4 | 110.5 | 113.0 | 117.6 | 125.3 | 120.7 | 116.2 | 112.2 | 158.8 |
| 2000  | 105.7 | 105.8 | 105.7 | 105.6 | 106.2 | 107.6 | 109.2 | 112.1 | 118.5 | 125.7 | 121.3 | 117.9 | 113.9 | 159.1 |
| 1600  | 104.7 | 105.5 | 105.6 | 105.8 | 105.4 | 106.8 | 109.5 | 112.2 | 117.8 | 125.2 | 124.1 | 119.4 | 114.9 | 159.6 |
| 1250  | 104.7 | 107.5 | 105.8 | 104.8 | 105.2 | 106.5 | 107.9 | 110.8 | 117.3 | 124.9 | 125.0 | 120.7 | 115.9 | 159.7 |
| 1000  | 103.5 | 104.5 | 102.8 | 102.6 | 103.1 | 105.0 | 107.1 | 110.1 | 116.3 | 125.1 | 125.5 | 121.9 | 118.6 | 160.0 |
| 800   | 100.2 | 98.7  | 98.8  | 99.3  | 101.4 | 103.8 | 105.1 | 109.0 | 115.5 | 124.3 | 125.5 | 123.1 | 119.3 | 159.9 |
| 630   | 96.1  | 98.1  | 97.9  | 98.4  | 99.7  | 102.1 | 105.0 | 108.2 | 114.9 | 123.7 | 125.6 | 124.0 | 121.2 | 159.9 |
| 500   | 94.4  | 96.7  | 96.5  | 97.3  | 99.1  | 101.0 | 103.6 | 106.8 | 112.8 | 121.3 | 123.7 | 123.4 | 120.8 | 158.3 |
| 400   | 94.1  | 95.9  | 95.6  | 96.4  | 97.3  | 100.6 | 103.3 | 106.9 | 113.4 | 120.0 | 122.3 | 123.3 | 120.9 | 157.6 |
| 315   | 92.3  | 94.4  | 93.6  | 94.9  | 96.8  | 99.9  | 101.8 | 103.9 | 108.6 | 116.2 | 118.8 | 121.3 | 120.7 | 155.0 |
| 250   | 91.3  | 94.3  | 95.1  | 96.1  | 97.0  | 98.1  | 100.2 | 102.9 | 105.8 | 112.4 | 117.5 | 120.7 | 120.1 | 153.8 |
| 200   | 91.8  | 91.3  | 92.3  | 93.3  | 96.2  | 98.8  | 99.2  | 100.4 | 104.8 | 107.2 | 111.8 | 116.5 | 118.9 | 150.3 |
| 160   | 89.8  | 90.3  | 93.3  | 92.9  | 92.7  | 95.3  | 97.5  | 98.6  | 101.3 | 106.2 | 110.8 | 113.7 | 116.6 | 148.2 |
| 125   | 90.9  | 93.4  | 95.2  | 96.7  | 98.5  | 100.2 | 100.8 | 99.9  | 100.7 | 103.7 | 109.9 | 111.8 | 113.7 | 146.6 |
| 100   | 94.1  | 100.6 | 95.6  | 97.4  | 98.0  | 99.6  | 100.7 | 101.4 | 100.1 | 101.9 | 103.3 | 107.5 | 109.4 | 143.7 |
| 80    | 94.3  | 99.3  | 93.3  | 94.4  | 96.2  | 98.8  | 98.5  | 97.6  | 99.3  | 98.4  | 101.3 | 103.2 | 105.9 | 141.1 |
| 63    | 91.7  | 91.8  | 93.1  | 93.4  | 95.0  | 93.9  | 92.3  | 96.5  | 101.1 | 100.7 | 99.7  | 102.3 | 138.6 |       |
| 50    | 88.4  | 88.0  | 85.7  | 87.3  | 85.4  | 88.7  | 88.9  | 90.5  | 92.5  | 97.6  | 98.2  | 97.9  | 99.5  | 135.1 |
| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PML   |

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OF POOR QUALITY

VEHICL = ADH033 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 75.00 PAMB HG = 29.60 MIKE HT = 0. FPS  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR = 0. FPS  
 FNINI = LBS XNL RPM XNH RPM XNHR RPM V8 = 2609.9 FPS AEB = 25.3 SQ IN  
 FNFRMB = LBS XNLR RPM XNHR RPM V8 = 2609.9 FPS AEB = 25.3 SQ IN  
 RUNPT = ZER-0453 TAPE = X0453F TEST PT NO = 0453 NC = 861 CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514  
 MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

GASPL 114.7 116.2 115.6 116.2 117.5 119.7 121.2 123.8 128.5 135.2 134.5 132.5 130.3 172.3  
 PNL 127.7 129.2 129.4 130.4 132.7 134.2 136.8 141.2 147.5 145.2 141.9 138.7  
 DBA 184.4 191.6 192.9 195.6 197.9 202.4 205.9 208.4 217.1 220.0 217.3 204.3 189.4

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-0453 X04531

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 72.1 75.4 76.2 77.7 79.0 82.5 85.0 88.2 94.0 99.5 100.3 99.1 93.4 175.0

63 72.4 76.2 77.1 78.6 80.8 82.8 85.3 88.1 93.3 100.8 101.7 99.1 93.2 175.7

80 74.0 77.6 79.7 81.4 83.9 86.7 89.4 92.4 95.4 103.1 103.5 99.7 93.4 177.3

100 78.0 78.1 79.2 80.5 83.0 85.5 86.8 90.3 96.0 103.7 103.3 98.7 91.4 177.3

125 81.2 83.8 83.2 83.7 84.7 86.7 88.7 91.2 96.7 104.4 103.2 97.3 90.5 177.5

160 82.3 86.7 86.1 85.8 87.6 89.1 89.3 91.8 97.6 104.0 102.5 95.8 87.5 177.2

200 83.0 84.2 85.7 86.7 88.2 90.8 93.0 97.9 104.2 101.4 94.3 86.0 177.0

250 82.6 84.5 85.6 86.2 87.3 88.8 90.3 92.7 98.3 104.3 98.2 92.3 84.3 176.6

315 81.9 84.8 84.8 85.8 87.6 89.4 91.3 93.3 97.2 103.6 97.2 90.1 81.8 176.2

400 80.8 84.2 84.8 86.1 87.4 90.2 91.1 93.4 96.9 101.0 96.3 88.2 78.7 175.0

500 79.0 82.0 83.6 85.8 86.8 89.5 91.2 93.3 96.5 99.2 93.8 85.5 76.2 174.1

630 76.7 80.6 82.3 84.5 86.7 88.8 90.0 92.3 95.4 98.0 91.9 83.5 73.8 173.3

800 75.1 80.3 81.2 83.6 86.3 89.2 90.0 92.0 94.0 96.7 90.6 82.7 71.8 172.9

1000 73.1 78.6 79.9 82.3 84.6 88.1 89.2 90.4 92.6 94.6 88.9 79.9 69.7 171.8

1250 72.1 76.8 79.0 81.8 84.2 87.6 88.0 89.8 91.6 94.1 87.5 77.8 66.8 171.8

1500 69.1 74.3 77.4 79.3 82.5 85.4 86.4 87.6 89.5 91.7 85.0 74.5 62.4 170.9

1600 69.1 74.3 77.4 79.3 82.5 85.4 86.4 87.6 89.5 91.7 85.0 74.5 62.4 170.9

2000 65.6 71.9 74.4 76.3 80.1 82.8 83.5 86.6 87.6 88.7 81.1 70.4 57.6 170.1

2500 61.6 67.8 71.1 74.1 76.7 80.2 81.4 82.6 83.7 85.2 77.1 65.9 49.7 169.4

3150 54.2 62.7 65.9 69.0 72.4 76.8 77.7 78.4 79.4 79.7 72.2 59.8 35.6 169.2

4000 43.3 53.8 57.9 61.9 65.7 70.4 70.7 71.8 73.6 73.0 63.6 46.5 17.2 169.8

5000 29.2 41.7 48.5 53.3 57.9 62.1 62.9 64.3 65.8 62.1 52.0 30.8 3.6 174.4

6300 7.4 23.5 31.7 38.3 43.5 49.0 49.8 50.1 51.1 48.7 31.6 3.6 174.4

8000 178.7 178.7 178.7 178.7 178.7 178.7 178.7 178.7 178.7 178.7 178.7 178.7 178.7 178.7

10000 182.3 182.3 182.3 182.3 182.3 182.3 182.3 182.3 182.3 182.3 182.3 182.3 182.3 182.3

12500 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9

15000 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9

17500 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9

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31500 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9

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63000 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9

80000 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9 106.9

OASPL 91.1 94.1 94.8 96.0 97.7 99.9 101.4 103.6 107.9 113.7 111.6 106.9 100.2 189.5

PNL 95.1 99.0 100.2 101.9 104.1 106.9 108.2 110.2 113.3 117.8 113.5 106.6 98.3 98.3

DBA 84.5 88.3 89.6 91.6 93.8 96.6 97.7 99.6 102.3 105.9 100.6 93.2 84.6

VEHICL = ADH033 TEST DATE = 08-19-81  
LCLAT = C41 ANECH CH CNFIO = 4  
PML AREA = FULL SPHERE TAMB F = 75.00  
EXT DIST = 2400.0 FT  
WIND DIR = SB59  
DEG WIND VEL = NO  
RPM XNLR = =  
LBS XNL = =  
RPM XNHR = =  
V8 = 2609.9 FPS  
FPS AE18 = =  
25.3 SQ IN = =  
0. SQ IN = =  
RPM = =  
CORR FAN SPEED = =  
NC = 861  
TEST PT NO = 0453  
X04531 = =  
TAPF = 81F-ZER-0453  
RUNPT =

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN )  
SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)  
DIAMETER RATIO = 7.442  
FREQ SHIFT = -9

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DATPROC - FLIRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

06/18/82 17.409 PAGE 1

IDENTIFICATION - MODEL 81F-400-0454 X0454C BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ PWL

50 92.2 91.0 85.5 85.8 85.9 88.2 88.1 89.8 91.5 96.6 98.9 97.6 101.5 135.5

63 93.0 93.3 91.8 90.8 92.7 94.5 92.7 92.3 95.5 100.6 101.5 100.7 103.6 138.8

80 94.8 99.1 93.3 94.4 96.0 98.3 98.0 96.9 99.3 97.7 100.3 102.2 105.6 140.6

100 95.1 99.6 94.6 96.2 97.7 99.1 100.2 100.9 99.6 99.7 101.6 106.8 109.4 143.1

125 91.6 93.9 94.9 96.7 98.3 99.9 100.0 99.2 99.4 102.0 108.1 111.0 113.2 145.7

150 90.8 87.3 91.6 91.4 92.0 94.3 95.5 95.6 99.3 99.3 104.2 108.5 115.6 146.6

200 89.8 90.1 89.6 90.6 92.7 95.6 96.0 98.6 102.1 103.9 109.0 115.0 117.6 148.6

250 88.0 91.8 91.3 93.4 93.7 95.6 98.0 100.6 102.8 109.4 115.0 118.5 118.9 151.6

315 88.6 91.4 90.4 91.2 93.0 97.1 98.5 100.4 105.1 112.7 116.8 119.7 153.1

400 91.1 91.6 92.1 93.7 94.8 97.9 100.3 103.7 110.1 117.5 120.1 121.3 118.4 155.2

500 90.7 92.7 93.3 94.5 96.1 101.1 104.8 110.5 118.8 122.0 121.6 116.3 156.2

630 92.8 94.9 94.6 95.2 97.0 99.1 101.7 105.9 111.5 120.9 124.3 121.8 115.7 157.7

800 96.2 96.0 95.8 96.5 98.4 100.5 102.6 106.0 111.5 122.1 124.7 120.1 112.1 157.9

1000 101.0 101.3 99.8 99.6 99.9 101.8 104.4 107.3 112.5 122.8 125.0 119.4 111.3 158.3

1250 102.2 105.8 103.3 103.3 103.4 104.0 104.9 108.1 114.5 123.9 125.0 118.4 110.4 158.8

1600 103.0 103.3 104.3 104.9 104.4 105.1 107.3 115.6 124.0 125.4 117.9 109.7 159.1

2000 101.9 103.3 102.7 103.4 105.5 106.1 106.7 110.1 116.2 124.7 123.3 115.9 109.1 158.6

2500 102.2 103.0 102.0 103.3 104.1 106.5 108.5 111.0 115.9 123.8 121.2 114.2 108.0 157.5

3150 101.0 102.6 101.8 102.4 103.5 106.5 108.7 110.9 115.9 122.4 121.0 111.9 106.1 156.7

4000 100.2 101.3 102.8 103.6 105.2 107.6 111.6 115.4 119.8 117.3 109.6 103.7 154.8

5000 98.9 100.8 100.8 101.8 104.0 105.2 107.6 111.6 115.4 119.8 117.3 109.6 103.7 154.8

6300 97.9 100.3 99.7 101.0 103.4 105.6 107.9 110.8 114.6 118.2 116.8 109.6 102.4 154.0

8000 96.2 98.7 98.7 99.6 101.6 104.1 105.9 109.0 112.9 116.6 114.0 106.7 100.8 153.3

10000 95.6 96.8 96.8 97.6 99.3 101.3 104.1 105.9 109.0 112.9 116.6 114.0 106.7 153.3

12500 94.0 95.7 95.7 96.2 97.5 100.2 103.2 104.4 107.0 110.8 114.4 112.6 105.0 151.9

16000 91.0 93.2 93.2 94.5 97.3 100.0 101.7 105.7 109.1 112.5 109.5 102.3 96.8 151.1

20000 88.4 89.7 89.6 92.6 94.6 97.1 99.3 99.2 102.3 103.0 103.1 107.4 103.7 150.8

25000 83.9 86.9 87.1 88.6 91.7 95.3 97.1 99.5 103.1 107.4 103.7 97.5 89.5 149.8

31500 79.9 83.0 82.8 84.4 87.6 91.4 93.6 96.3 100.6 105.6 101.2 94.0 85.3 150.5

40000 75.0 79.1 80.0 81.3 85.0 87.8 90.2 93.4 99.8 103.1 100.5 90.3 81.3 152.6

50000 71.5 75.0 75.2 77.2 79.9 84.6 86.2 89.2 96.6 102.6 98.8 86.8 76.0 155.3

63000 66.2 71.4 71.7 74.3 76.8 80.7 83.0 86.4 95.2 101.5 97.1 83.1 70.6 159.3

80000 61.7 69.3 68.1 69.2 71.5 75.6 77.7 82.0 93.8 98.6 93.3 77.9 62.8 163.2

GASPL 111.9 113.5 112.7 113.6 114.9 116.8 118.8 121.7 126.4 133.6 134.2 130.5 127.3 170.7

PWL 124.7 126.1 125.5 126.4 127.6 129.9 131.9 134.9 139.4 146.0 145.4 140.0 135.3

PNL1 124.7 127.3 125.5 126.4 128.2 130.4 131.9 134.9 139.4 146.0 145.9 140.0 135.3

DBA 111.9 113.4 112.7 113.6 114.6 116.4 118.5 121.5 126.4 133.8 134.0 128.7 122.8

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH049 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT

MIND DIR = DEG MIND WEL = MPH EXT DIST = 40.0 FT EXT CNFNG = ARC MIKE HT = NBFR

FNINI = LBS XNL RPM XNH RPM XNHR RPM V8 = 2620.2 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR RPM XNHR RPM V18 = 861 CORR FAN SPEED = RPM

RUNPT = 81F-400-0454 TAPE = X0454C TEST PT NO = 0454 NC = 861

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DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1405 BACKGROUND 0000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 40 50 60 70 80 90 100 110 120 130 140 150 160

|   |              |                |          |            |              |             |       |           |       |                  |            |          |       |           |       |          |          |        |     |      |   |          |
|---|--------------|----------------|----------|------------|--------------|-------------|-------|-----------|-------|------------------|------------|----------|-------|-----------|-------|----------|----------|--------|-----|------|---|----------|
| 50  | 84.7         | 81.5           | 78.7     | 79.5       | 80.9         | 82.2        | 82.1  | 86.5      | 88.2  | 87.1             | 95.2       | 94.6     | 95.3  | 130.4     |       |          |          |        |     |      |   |          |
| 63  | 88.2         | 85.8           | 84.0     | 85.3       | 86.4         | 88.5        | 87.9  | 92.3      | 92.6  | 92.9             | 100.5      | 98.9     | 100.1 | 135.4     |       |          |          |        |     |      |   |          |
| 80  | 88.5         | 92.8           | 87.6     | 88.6       | 89.5         | 91.8        | 92.5  | 91.4      | 91.8  | 92.2             | 94.0       | 95.7     | 98.1  | 134.2     |       |          |          |        |     |      |   |          |
| 100   | 87.6         | 91.8           | 88.4     | 89.9       | 90.7         | 91.9        | 92.2  | 92.7      | 92.5  | 94.2             | 96.1       | 100.0    | 101.4 | 136.0     |       |          |          |        |     |      |   |          |
| 125   | 86.4         | 88.4           | 90.2     | 90.9       | 91.8         | 93.4        | 93.0  | 92.7      | 92.0  | 95.2             | 101.4      | 104.3    | 106.5 | 139.1     |       |          |          |        |     |      |   |          |
| 150   | 85.8         | 82.8           | 87.3     | 86.6       | 88.2         | 89.3        | 90.2  | 90.6      | 91.6  | 95.9             | 101.5      | 105.2    | 108.9 | 139.8     |       |          |          |        |     |      |   |          |
| 160   | 85.8         | 82.8           | 87.3     | 86.6       | 88.2         | 89.3        | 90.2  | 90.6      | 91.6  | 95.9             | 101.5      | 105.2    | 108.9 | 139.8     |       |          |          |        |     |      |   |          |
| 200   | 84.3         | 86.6           | 87.6     | 89.7       | 91.3         | 91.7        | 95.4  | 96.5      | 98.7  | 104.3            | 108.7      | 111.4    | 142.7 |           |       |          |          |        |     |      |   |          |
| 250   | 85.0         | 91.6           | 89.3     | 89.4       | 91.2         | 93.6        | 95.7  | 96.9      | 98.3  | 103.7            | 109.8      | 113.2    | 144.6 | 146.8     |       |          |          |        |     |      |   |          |
| 315   | 87.1         | 89.9           | 89.1     | 91.4       | 93.0         | 94.9        | 96.5  | 98.9      | 101.3 | 107.5            | 112.1      | 115.5    | 149.0 |           |       |          |          |        |     |      |   |          |
| 400   | 87.6         | 90.4           | 91.6     | 90.4       | 91.3         | 94.4        | 96.0  | 98.7      | 103.4 | 110.2            | 114.6      | 117.3    | 150.6 |           |       |          |          |        |     |      |   |          |
| 500   | 88.4         | 92.0           | 91.3     | 91.5       | 93.1         | 95.2        | 96.9  | 99.0      | 103.0 | 110.8            | 116.0      | 119.6    | 152.3 |           |       |          |          |        |     |      |   |          |
| 630   | 90.1         | 92.1           | 91.9     | 92.7       | 94.5         | 96.6        | 97.5  | 99.7      | 102.2 | 110.7            | 116.6      | 119.2    | 152.4 |           |       |          |          |        |     |      |   |          |
| 800   | 93.7         | 92.5           | 93.3     | 94.0       | 95.9         | 97.2        | 97.9  | 100.5     | 103.9 | 110.8            | 117.2      | 119.4    | 152.4 |           |       |          |          |        |     |      |   |          |
| 1000  | 102.0        | 100.7          | 100.8    | 98.8       | 99.3         | 100.1       | 101.3 | 104.6     | 110.3 | 116.5            | 119.4      | 119.6    | 152.8 |           |       |          |          |        |     |      |   |          |
| 1250  | 104.0        | 103.5          | 100.5    | 100.1      | 100.9        | 102.3       | 102.4 | 104.4     | 110.4 | 115.7            | 118.9      | 118.2    | 152.3 |           |       |          |          |        |     |      |   |          |
| 1500  | 104.0        | 103.5          | 100.5    | 100.1      | 100.9        | 102.3       | 102.4 | 104.4     | 110.4 | 115.7            | 118.9      | 118.2    | 152.3 |           |       |          |          |        |     |      |   |          |
| 1600  | 108.0        | 106.0          | 105.3    | 103.8      | 101.4        | 100.0       | 102.3 | 103.2     | 105.3 | 110.0            | 114.9      | 117.9    | 151.9 |           |       |          |          |        |     |      |   |          |
| 2000  | 106.7        | 107.1          | 106.5    | 105.9      | 106.4        | 104.8       | 101.2 | 102.4     | 105.3 | 110.9            | 112.8      | 115.1    | 151.3 |           |       |          |          |        |     |      |   |          |
| 2500  | 104.6        | 104.9          | 104.7    | 105.2      | 105.3        | 105.9       | 104.3 | 103.0     | 105.0 | 109.3            | 111.4      | 113.0    | 150.3 |           |       |          |          |        |     |      |   |          |
| 3150  | 102.7        | 104.1          | 103.3    | 104.2      | 104.2        | 106.2       | 105.4 | 104.6     | 105.9 | 109.1            | 111.2      | 113.7    | 149.3 |           |       |          |          |        |     |      |   |          |
| 4000  | 102.5        | 102.7          | 103.0    | 102.8      | 102.9        | 104.1       | 104.5 | 105.8     | 105.3 | 107.7            | 109.0      | 111.7    | 148.2 |           |       |          |          |        |     |      |   |          |
| 5000  | 100.7        | 102.0          | 101.8    | 102.0      | 102.7        | 103.1       | 104.9 | 105.9     | 106.8 | 108.6            | 110.1      | 107.0    | 147.4 |           |       |          |          |        |     |      |   |          |
| 6300  | 99.8         | 101.8          | 101.5    | 102.0      | 102.6        | 103.1       | 102.6 | 104.1     | 105.8 | 106.2            | 106.8      | 109.0    | 147.0 |           |       |          |          |        |     |      |   |          |
| 8000  | 97.7         | 99.9           | 100.4    | 100.0      | 101.5        | 102.8       | 102.9 | 104.1     | 105.0 | 104.8            | 107.2      | 104.5    | 146.0 |           |       |          |          |        |     |      |   |          |
| 10000   | 97.1         | 98.8           | 99.5     | 100.0      | 101.0        | 102.5       | 101.1 | 102.2     | 102.8 | 104.0            | 105.9      | 104.8    | 145.8 |           |       |          |          |        |     |      |   |          |
| 12500   | 95.4         | 97.1           | 97.9     | 98.4       | 99.9         | 100.9       | 99.6  | 100.6     | 100.8 | 101.8            | 102.5      | 104.2    | 144.9 |           |       |          |          |        |     |      |   |          |
| 16000   | 92.4         | 95.1           | 96.1     | 95.6       | 97.5         | 98.9        | 97.1  | 99.9      | 100.0 | 99.1             | 99.4       | 102.0    | 144.2 |           |       |          |          |        |     |      |   |          |
| 20000   | 90.2         | 92.2           | 92.9     | 93.9       | 95.1         | 96.9        | 95.0  | 97.1      | 96.9  | 96.4             | 96.5       | 98.3     | 143.4 |           |       |          |          |        |     |      |   |          |
| 25000   | 86.1         | 89.3           | 89.3     | 90.3       | 92.7         | 94.8        | 92.5  | 93.7      | 95.1  | 93.8             | 97.7       | 93.8     | 143.2 |           |       |          |          |        |     |      |   |          |
| 31500   | 81.6         | 85.7           | 85.5     | 86.4       | 89.1         | 91.2        | 88.9  | 90.8      | 91.2  | 90.7             | 90.2       | 94.5     | 142.8 |           |       |          |          |        |     |      |   |          |
| 40000   | 77.4         | 81.2           | 81.9     | 82.7       | 85.4         | 87.2        | 84.4  | 87.0      | 88.6  | 85.3             | 87.6       | 91.8     | 143.3 |           |       |          |          |        |     |      |   |          |
| 50000   | 73.5         | 76.0           | 76.7     | 77.9       | 80.9         | 83.1        | 79.7  | 84.2      | 81.9  | 83.4             | 88.3       | 85.6     | 143.4 |           |       |          |          |        |     |      |   |          |
| 63000   | 68.7         | 71.1           | 72.6     | 74.1       | 76.4         | 78.1        | 75.4  | 77.0      | 80.3  | 77.4             | 80.3       | 85.6     | 144.8 |           |       |          |          |        |     |      |   |          |
| 80000   | 66.5         | 66.2           | 67.5     | 68.0       | 70.4         | 72.4        | 68.9  | 70.3      | 74.2  | 70.3             | 73.7       | 81.1     | 146.0 |           |       |          |          |        |     |      |   |          |
| CASPL   | 114.2        | 114.4          | 113.9    | 113.7      | 114.2        | 114.9       | 114.4 | 115.3     | 117.0 | 121.5            | 125.9      | 128.9    | 128.1 | 163.3     |       |          |          |        |     |      |   |          |
| PNL   | 126.3        | 126.9          | 126.6    | 126.7      | 127.1        | 128.4       | 127.9 | 128.7     | 129.8 | 133.6            | 136.5      | 139.6    | 138.0 |           |       |          |          |        |     |      |   |          |
| DBA   | 114.8        | 114.8          | 114.3    | 114.0      | 114.3        | 114.8       | 114.2 | 114.8     | 116.5 | 121.0            | 125.1      | 128.1    | 127.0 |           |       |          |          |        |     |      |   |          |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 |              |                |          |            |              |             |       |           |       |                  |            |          |       |           |       |          |          |        |     |      |   |          |
| VEHICL =  | ADH054       | TEST DATE =    | 08-20-81 | LOCAT =    | C41 ANECH CH | CONFIG =    | 4     | MODEL =   | 4     | FLTVEL =         | 0. FPS     | TAMB F = | 68.50 | PAMB HG = | 29.62 | RELHUM = | 61.2 PCT | NBFR = |     |      |   |          |
| IAPLHA =  | SB59         | LEGA =         | NO       | EXT DIST = | 40.0 FT      | EXT CNFIG = | ARC   | MIKE HT = |       |                  |            |          |       |           |       |          |          |        |     |      |   |          |
| WIND DIR =  |              | DEG WIND VEL = |          | MPH        |              |             |       |           |       |                  |            |          |       |           |       |          |          |        |     |      |   |          |
| FNINI =   | LBS XNL      | RPM            | XNH      | RPM        | XNHR         | RPM         | V8    | FPS       | AE8   | =                | 25.3 SQ IN | FNRAMB = |       | LBS XNLR  | =     |          | RPM      | V18    | FPS | AE18 | = | 0. SQ IN |
| RUNPT =   | 81F-ZER-1405 | TAPE           | =        | X1405C     | TEST PT NO = | 1405        | NC    | =         | 862   | CORR FAN SPEED = |            | RPM      |       |           |       |          |          |        |     |      |   |          |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-1405 X1405F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 84.7 81.5 78.7 79.5 80.9 82.2 82.1 86.5 88.2 87.1 95.2 94.6 95.3 130.4

63 88.2 85.8 84.0 85.3 86.4 88.5 87.9 92.3 92.6 92.9 100.5 98.9 100.1 135.4

80 88.5 92.8 87.6 88.6 89.5 91.8 92.5 91.4 91.8 92.2 94.0 95.7 98.1 134.2

100 87.6 91.8 88.4 89.9 90.7 91.9 92.2 94.2 92.0 92.7 94.0 95.2 101.4 136.0

125 86.4 88.4 90.2 90.9 91.8 93.4 93.0 92.7 92.0 95.2 101.4 104.3 106.5 139.1

150 85.8 82.8 87.3 86.6 88.2 89.3 90.2 90.6 91.6 95.9 101.5 105.2 108.9 139.8

200 84.3 86.8 87.6 89.7 91.3 91.7 95.4 96.5 98.7 104.3 108.7 111.4 142.7

250 85.0 91.8 89.3 89.4 91.2 93.6 95.7 96.9 98.3 103.7 109.8 113.2 146.8

315 87.1 89.9 89.1 91.4 93.0 94.9 96.5 98.9 101.3 107.5 112.1 115.5 149.0

400 87.6 90.4 91.6 90.4 91.3 94.4 96.0 98.7 103.4 110.2 114.6 117.3 150.6

500 88.4 92.0 91.3 95.0 93.1 95.2 96.9 99.0 103.0 110.8 116.0 119.6 152.3

630 90.1 92.1 91.9 92.7 94.5 95.6 97.5 99.7 102.2 110.7 116.6 119.2 152.4

800 93.7 92.5 93.3 94.0 95.9 97.2 97.9 100.5 103.9 110.8 117.2 119.4 152.4

1000 102.0 100.7 100.8 98.8 99.3 100.1 101.3 104.6 110.3 116.5 119.6 119.6 152.8

1250 104.0 103.5 100.5 100.1 100.9 102.4 102.3 104.4 110.4 115.7 118.9 118.2 152.3

1600 108.0 106.0 105.3 103.8 101.4 100.0 102.3 103.2 105.3 110.0 114.9 117.9 151.9

2000 106.7 107.1 106.5 105.9 106.4 104.8 101.2 102.4 105.3 110.9 112.8 116.8 151.3

2500 104.6 104.9 104.7 105.2 105.3 105.9 104.3 104.0 105.0 110.3 111.4 115.7 113.0 150.3

3150 102.7 104.1 103.3 103.3 104.2 106.2 105.4 104.3 103.0 104.6 109.1 111.2 113.7 149.5

4000 102.5 102.7 103.0 102.8 102.9 104.1 104.5 105.8 105.3 107.7 109.0 111.7 109.4 148.2

5000 100.7 101.8 102.0 102.0 102.7 103.1 104.9 105.9 106.8 108.1 110.1 107.0 147.4

6000 99.8 101.8 101.5 102.0 102.6 103.1 104.1 105.8 106.8 108.2 109.0 105.9 147.0

8000 97.7 99.9 100.4 100.0 101.5 102.8 102.9 104.1 105.0 104.8 107.2 104.5 146.0

10000 97.1 98.8 99.5 100.0 101.0 102.5 101.1 102.2 102.8 104.0 105.9 104.8 145.8

12500 95.4 97.1 97.9 98.4 99.9 100.6 99.9 100.6 100.8 101.8 102.5 104.2 144.9

16000 92.4 95.1 96.1 95.6 97.5 98.9 97.1 99.9 100.0 99.1 99.4 102.0 144.2

20000 90.2 92.2 92.9 93.9 95.1 96.9 95.0 97.1 96.9 96.4 96.5 99.6 143.4

25000 86.1 89.5 89.3 90.3 92.7 94.8 92.5 95.1 93.8 93.4 97.7 93.8 143.2

31500 81.6 85.5 85.5 86.4 89.1 91.2 88.9 90.8 91.2 90.7 90.2 94.5 90.6 142.8

40000 77.4 81.2 81.9 82.7 85.4 87.2 84.4 87.0 88.6 85.3 87.6 91.8 86.2 143.3

50000 73.5 76.0 76.7 77.9 80.9 83.1 79.7 81.7 84.2 81.9 83.4 88.3 82.0 143.4

63000 68.7 71.1 72.6 74.1 76.4 78.4 75.4 77.0 80.3 77.4 80.3 85.6 78.1 144.8

80000 66.5 66.5 67.5 68.0 70.4 72.4 68.9 70.3 74.2 70.3 73.7 81.1 70.2 146.0

80000 66.5 66.5 67.5 68.0 70.4 72.4 68.9 70.3 74.2 70.3 73.7 81.1 70.2 146.0

114.2 114.4 113.9 113.7 114.2 114.9 114.4 115.3 117.0 121.5 125.9 128.9 128.1 163.3

126.3 127.9 127.9 126.7 128.1 128.4 127.9 128.7 129.8 133.6 136.5 139.6 138.0

126.3 127.9 127.9 126.7 128.1 128.4 127.9 128.7 129.8 133.6 136.5 139.6 138.0

187.4 187.8 189.1 189.9 192.3 194.2 191.0 192.5 196.1 192.6 195.7 202.4 192.8

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH054 TEST DATE = 08-20-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 68.50 MIKE HT = 29.62 RELHUM = 61.2 PCT

MIND DIR = DEG MIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1694.3 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR RPM XNHR = RPM V8 = 1694.3 FPS AEB = 25.3 SQ IN

ZER-1405 TAPE = X1405F TEST PT NO = 1405 NC = 862 CORR FAN SPEED = RPM

RUNPT =

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1405 X14051

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50   | 65.6 | 69.9 | 72.2 | 71.7 | 73.0 | 76.2 | 77.7 | 80.0 | 84.0 | 89.7 | 92.6 | 93.1 | 89.4  | 168.1 |
| 63   | 66.4 | 71.5 | 72.8 | 74.8 | 77.1 | 78.6 | 80.3 | 83.6 | 83.6 | 90.3 | 93.9 | 95.4 | 90.7  | 169.7 |
| 80   | 68.0 | 71.6 | 72.4 | 73.9 | 76.2 | 77.4 | 79.2 | 80.9 | 82.7 | 90.1 | 94.5 | 94.9 | 90.9  | 169.8 |
| 100  | 71.5 | 71.9 | 73.7 | 75.2 | 77.5 | 79.0 | 79.5 | 81.7 | 84.3 | 90.2 | 95.0 | 95.0 | 89.7  | 169.9 |
| 125  | 79.7 | 80.0 | 81.2 | 79.9 | 80.2 | 80.9 | 81.7 | 82.4 | 85.0 | 89.6 | 94.2 | 94.8 | 91.5  | 170.3 |
| 150  | 81.5 | 82.7 | 80.8 | 81.1 | 82.3 | 83.8 | 83.8 | 83.3 | 84.7 | 89.5 | 93.3 | 94.1 | 89.7  | 169.7 |
| 200  | 85.3 | 85.0 | 85.4 | 84.7 | 82.7 | 81.5 | 83.6 | 84.0 | 85.4 | 88.9 | 92.1 | 92.8 | 88.0  | 169.3 |
| 250  | 83.6 | 85.7 | 86.3 | 86.5 | 87.5 | 86.0 | 82.3 | 83.0 | 85.1 | 89.6 | 89.7 | 91.3 | 85.5  | 168.7 |
| 315  | 81.2 | 83.3 | 84.3 | 85.6 | 86.1 | 86.9 | 85.1 | 83.3 | 84.5 | 88.6 | 87.9 | 89.6 | 82.6  | 167.8 |
| 400  | 78.8 | 82.0 | 82.5 | 83.4 | 84.7 | 86.9 | 85.9 | 84.6 | 85.1 | 87.0 | 87.3 | 86.9 | 79.4  | 166.9 |
| 500  | 78.0 | 80.3 | 81.9 | 82.5 | 83.1 | 84.5 | 84.7 | 85.5 | 84.2 | 85.2 | 84.5 | 84.2 | 77.0  | 165.7 |
| 630  | 75.7 | 79.1 | 80.3 | 81.5 | 82.7 | 83.0 | 83.0 | 84.3 | 84.4 | 83.6 | 82.0 | 73.5 | 164.9 |       |
| 800  | 74.4 | 78.6 | 79.7 | 81.1 | 82.4 | 83.0 | 82.3 | 84.1 | 83.0 | 81.3 | 80.2 | 71.3 | 164.4 |       |
| 1000 | 71.9 | 76.3 | 78.4 | 79.0 | 81.1 | 82.6 | 81.8 | 81.9 | 82.1 | 81.4 | 79.0 | 68.7 | 163.4 |       |
| 1250 | 70.7 | 74.9 | 77.3 | 78.9 | 80.5 | 82.2 | 80.6 | 81.1 | 80.6 | 77.6 | 75.6 | 67.6 | 163.2 |       |
| 1500 | 68.2 | 72.6 | 75.2 | 76.9 | 79.1 | 78.8 | 79.1 | 78.1 | 77.3 | 75.3 | 72.5 | 62.7 | 162.3 |       |
| 2000 | 64.2 | 70.0 | 73.0 | 73.9 | 76.4 | 76.0 | 76.0 | 76.9 | 74.1 | 71.2 | 68.7 | 57.4 | 161.6 |       |
| 2500 | 60.2 | 65.9 | 68.9 | 71.5 | 73.6 | 75.6 | 73.5 | 74.7 | 73.0 | 70.1 | 66.5 | 63.5 | 50.8  | 160.9 |
| 3150 | 52.8 | 60.8 | 63.5 | 66.4 | 69.7 | 72.1 | 69.6 | 69.8 | 65.4 | 60.0 | 56.7 | 37.9 | 160.6 |       |
| 4000 | 42.0 | 52.3 | 55.9 | 59.1 | 63.2 | 65.7 | 62.9 | 63.6 | 61.6 | 57.3 | 50.6 | 44.6 | 20.2  | 160.3 |
| 5000 | 28.0 | 40.2 | 46.0 | 50.1 | 54.5 | 56.9 | 53.5 | 54.4 | 52.8 | 44.3 | 38.3 | 28.1 | 160.7 |       |
| 6300 | 6.3  | 20.8 | 28.8 | 34.5 | 39.9 | 42.9 | 38.7 | 38.2 | 36.3 | 26.7 | 16.2 | 0.5  | 160.8 |       |
| 8000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 163.4 |

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|       |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| QASPL | 90.8 | 92.5 | 93.2 | 93.7 | 94.5  | 95.3  | 94.6  | 95.0  | 96.1  | 100.0 | 102.9 | 103.5 | 99.0 | 180.4 |
| PNL   | 94.8 | 97.5 | 98.7 | 99.5 | 100.9 | 102.2 | 101.1 | 101.6 | 101.6 | 103.4 | 104.3 | 104.3 | 98.6 |       |
| PNL1  | 94.8 | 97.5 | 99.3 | 99.5 | 101.4 | 102.2 | 101.1 | 101.6 | 101.6 | 103.4 | 105.4 | 105.6 | 98.6 |       |
| DBA   | 83.8 | 86.7 | 88.1 | 89.1 | 90.5  | 91.6  | 90.6  | 91.1  | 91.0  | 91.7  | 91.5  | 91.5  | 85.3 |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH054 TEST DATE = 08-20-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 68.50 PAMB HG = 29.62 RELHUM = 61.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFRR =  
FNINI = LBS XNL RPM XNH RPM XNHR = = = = V8 = 1694.3 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNH RPM XNHR = = = = V8 = 1694.3 FPS AEB = 25.3 SQ IN  
RUMPT = 81F-ZER-1405 TAPE = X14051 TEST PT NO = 1405 NC = 862 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1406 X1406C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40 50 60 70 80 90 100 110 120 130 140 150 160

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.2  | 83.4  | 79.7  | 79.3  | 79.2  | 80.4  | 79.4  | 80.6  | 84.1  | 90.9  | 90.3  | 93.5  | 127.0 |       |
| 60    | 86.7  | 85.8  | 84.2  | 85.4  | 87.4  | 87.4  | 89.7  | 89.8  | 90.1  | 91.3  | 94.5  | 97.7  | 132.6 |       |
| 100   | 87.2  | 91.0  | 86.7  | 88.5  | 88.4  | 89.2  | 90.3  | 92.3  | 89.9  | 90.7  | 93.9  | 100.7 | 134.4 |       |
| 125   | 84.7  | 87.8  | 88.6  | 89.2  | 91.3  | 91.2  | 90.3  | 90.2  | 92.3  | 98.8  | 102.3 | 104.6 | 137.0 |       |
| 160   | 82.4  | 80.5  | 84.7  | 84.2  | 84.8  | 85.6  | 86.8  | 87.4  | 87.7  | 93.1  | 99.5  | 102.7 | 137.2 |       |
| 200   | 81.9  | 82.2  | 83.5  | 83.2  | 84.4  | 87.0  | 88.0  | 90.4  | 92.4  | 94.5  | 99.8  | 105.5 | 138.9 |       |
| 250   | 81.2  | 85.4  | 84.2  | 85.7  | 86.3  | 88.1  | 90.6  | 92.7  | 94.5  | 99.9  | 106.0 | 109.7 | 142.6 |       |
| 315   | 81.2  | 84.9  | 84.9  | 85.7  | 86.6  | 89.9  | 92.6  | 95.3  | 99.2  | 104.2 | 108.8 | 110.7 | 144.9 |       |
| 400   | 83.5  | 85.0  | 85.7  | 86.1  | 86.7  | 90.0  | 91.9  | 95.1  | 99.8  | 106.4 | 111.3 | 108.9 | 146.4 |       |
| 500   | 83.4  | 86.2  | 86.2  | 87.0  | 88.1  | 90.5  | 93.1  | 96.0  | 100.2 | 106.8 | 112.0 | 106.3 | 146.2 |       |
| 630   | 84.5  | 86.6  | 86.6  | 88.2  | 90.1  | 92.2  | 95.4  | 97.9  | 106.2 | 112.3 | 112.3 | 102.1 | 145.9 |       |
| 800   | 92.9  | 96.0  | 95.8  | 91.5  | 97.1  | 92.5  | 95.1  | 96.3  | 99.6  | 106.6 | 112.0 | 110.1 | 145.4 |       |
| 1000  | 95.0  | 94.0  | 91.3  | 90.8  | 91.4  | 92.5  | 94.1  | 96.8  | 100.1 | 105.9 | 110.5 | 106.9 | 143.8 |       |
| 1250  | 102.5 | 103.5 | 98.8  | 95.8  | 94.2  | 93.5  | 94.7  | 97.3  | 100.7 | 105.6 | 109.5 | 103.9 | 144.0 |       |
| 1600  | 104.5 | 104.6 | 106.6 | 107.6 | 104.7 | 104.6 | 99.5  | 98.1  | 100.5 | 105.0 | 108.4 | 102.2 | 146.5 |       |
| 2000  | 100.9 | 102.6 | 102.2 | 103.4 | 104.7 | 104.6 | 99.5  | 98.1  | 100.5 | 105.9 | 105.5 | 99.6  | 145.0 |       |
| 2500  | 99.2  | 99.7  | 99.5  | 100.3 | 100.1 | 103.2 | 104.3 | 100.5 | 101.0 | 105.3 | 104.4 | 98.0  | 144.0 |       |
| 3150  | 99.0  | 99.6  | 98.6  | 98.6  | 97.9  | 100.5 | 101.4 | 102.1 | 101.7 | 104.2 | 97.2  | 90.8  | 143.1 |       |
| 4000  | 98.2  | 99.0  | 98.8  | 98.3  | 97.1  | 96.6  | 99.7  | 102.0 | 101.8 | 102.7 | 102.2 | 90.3  | 142.3 |       |
| 5000  | 97.7  | 98.8  | 97.5  | 97.8  | 97.2  | 97.9  | 97.6  | 100.1 | 102.7 | 102.3 | 100.6 | 89.4  | 141.7 |       |
| 6300  | 97.4  | 98.8  | 97.7  | 98.5  | 97.9  | 98.1  | 97.3  | 99.1  | 101.8 | 102.0 | 99.5  | 88.4  | 141.6 |       |
| 8000  | 96.0  | 97.1  | 97.0  | 96.0  | 97.4  | 97.8  | 97.4  | 98.1  | 99.3  | 100.7 | 97.6  | 86.8  | 140.7 |       |
| 10000 | 95.6  | 96.3  | 96.3  | 96.8  | 96.5  | 96.0  | 96.4  | 97.2  | 98.1  | 98.3  | 96.5  | 86.8  | 140.4 |       |
| 12500 | 93.1  | 94.1  | 94.6  | 94.9  | 95.4  | 96.4  | 95.8  | 95.6  | 96.5  | 95.8  | 94.8  | 89.9  | 139.6 |       |
| 16000 | 90.4  | 92.6  | 92.6  | 92.4  | 92.7  | 94.4  | 94.1  | 95.1  | 94.7  | 93.4  | 91.7  | 88.5  | 139.0 |       |
| 20000 | 88.3  | 89.3  | 89.6  | 89.9  | 90.9  | 92.2  | 91.8  | 92.4  | 92.0  | 90.2  | 89.1  | 85.6  | 138.2 |       |
| 25000 | 86.3  | 86.0  | 86.0  | 85.9  | 87.8  | 89.4  | 89.6  | 89.6  | 89.5  | 87.0  | 85.9  | 80.5  | 137.5 |       |
| 31500 | 79.0  | 82.6  | 82.4  | 82.2  | 84.0  | 86.5  | 86.2  | 86.4  | 86.1  | 83.4  | 82.3  | 79.4  | 137.3 |       |
| 40000 | 74.2  | 78.2  | 78.6  | 78.6  | 80.5  | 82.2  | 82.8  | 82.8  | 77.9  | 79.6  | 75.9  | 74.8  | 137.5 |       |
| 50000 | 70.0  | 74.1  | 73.2  | 74.3  | 75.8  | 78.5  | 78.1  | 77.8  | 74.0  | 74.0  | 72.1  | 67.8  | 137.5 |       |
| 63000 | 64.7  | 72.8  | 72.8  | 68.4  | 70.2  | 72.2  | 73.7  | 74.6  | 73.0  | 74.6  | 69.2  | 71.8  | 138.8 |       |
| 80000 | 61.6  | 72.3  | 72.3  | 61.6  | 67.6  | 68.3  | 64.8  | 68.8  | 64.7  | 64.7  | 64.7  | 64.7  | 139.3 |       |
| GASPL | 110.5 | 111.5 | 111.2 | 111.6 | 111.2 | 111.1 | 110.6 | 111.2 | 113.0 | 117.1 | 120.7 | 120.6 | 117.1 | 157.3 |
| PNL   | 122.5 | 123.3 | 123.6 | 124.1 | 123.7 | 124.3 | 124.7 | 124.8 | 125.9 | 128.9 | 130.4 | 128.4 | 123.9 |       |
| PMLT  | 124.4 | 125.3 | 126.3 | 126.9 | 126.1 | 125.8 | 126.0 | 124.8 | 125.9 | 128.9 | 130.4 | 128.4 | 123.9 |       |
| DBA   | 111.0 | 111.8 | 111.6 | 112.1 | 111.6 | 111.2 | 110.6 | 110.9 | 112.5 | 116.4 | 119.3 | 117.4 | 111.0 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH084 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1691.3 FPS AEB = 25.3 SO IN  
 FNRAMB = LBS XNLR = RPM X1406C TEST PT NO = 1406 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1406 X1406F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

250 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0  
200 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0  
150 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0  
125 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0  
100 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0  
80 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0  
63 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0  
50 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0  
40 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0

500 91.0 91.3 90.6 89.5 90.0 90.8 92.4 94.3 96.7 104.7 111.0 113.0 107.4 145.7  
400 88.9 91.3 88.8 89.1 88.5 90.3 91.1 92.5 92.9 98.4 104.4 109.4 110.3 143.3  
315 88.3 91.3 88.7 88.8 88.4 90.1 91.3 92.5 92.5 97.1 102.9 107.3 110.3 143.3  
250 88.3 91.3 88.7 88.8 87.8 88.1 88.6 89.1 95.8 99.8 103.9 107.3 108.1 141.0

1250 102.0 99.7 95.6 93.7 96.2 94.3 94.1 95.6 100.5 104.3 108.4 105.7 104.6 143.4  
1600 110.1 109.9 103.8 99.4 107.3 105.9 99.9 97.3 101.6 105.8 106.0 105.9 103.0 147.3  
2000 109.7 109.0 110.2 110.4 107.3 105.9 99.9 97.3 101.6 105.8 106.0 105.9 103.0 147.3  
2500 107.7 108.8 107.2 107.1 102.9 104.8 105.3 100.4 102.6 104.8 105.7 102.2 103.4 147.7

3150 105.8 105.7 104.5 104.2 100.7 102.5 102.6 102.1 103.7 104.3 104.4 101.6 103.6 145.9  
4000 103.9 104.0 102.5 101.9 100.3 101.2 101.6 102.9 104.4 103.8 102.6 100.6 102.6 145.0  
5000 103.1 103.5 102.8 101.8 100.8 100.9 99.7 101.0 103.7 103.5 101.7 100.4 101.7 144.8  
6300 102.6 103.4 101.8 101.6 101.6 101.1 99.5 100.0 101.9 103.1 100.6 99.5 101.7 144.3

8000 102.6 103.8 102.3 102.5 99.8 100.8 99.8 99.4 101.4 101.5 100.4 97.5 101.3 144.5  
10000 101.4 102.3 102.1 101.0 100.5 101.0 98.8 98.9 100.4 99.6 99.3 97.8 99.8 144.1  
12500 101.6 101.8 101.2 100.8 99.4 99.4 98.3 97.4 99.3 98.1 97.0 97.1 98.4 144.1  
16000 99.5 99.7 99.3 98.6 96.7 97.4 96.5 97.1 96.7 94.9 94.3 93.8 95.6 143.3

20000 96.2 97.7 96.8 95.7 95.0 95.2 94.1 94.0 95.1 92.7 91.7 92.7 93.1 142.7  
25000 93.6 93.8 92.6 91.9 92.4 92.0 91.5 92.6 90.2 85.6 88.1 87.9 87.5 141.6  
31500 87.9 89.4 88.9 87.8 88.0 89.5 88.7 88.4 90.2 85.6 88.1 87.9 87.5 141.6  
40000 82.7 85.6 84.5 83.3 84.5 85.8 84.7 84.9 86.4 81.7 83.5 84.3 82.9 141.7

50000 77.6 80.8 80.3 79.3 79.8 81.5 80.5 79.7 82.9 77.6 81.0 80.7 79.1 141.8  
63000 72.4 75.7 73.9 74.1 76.8 76.7 77.0 74.8 78.5 72.2 75.3 75.3 73.7 142.5  
80000 68.4 75.3 69.4 69.6 68.9 70.6 70.7 66.4 68.7 62.4 65.5 65.5 63.9 143.2

GASPL 116.6 116.8 115.4 114.9 113.8 112.9 111.7 111.2 113.7 116.5 119.6 120.0 117.6 158.8  
PNL 128.3 129.0 127.8 127.4 125.7 125.3 124.9 124.2 126.6 128.2 129.4 128.1 128.1  
PNLT 130.3 131.6 130.6 130.0 128.2 126.8 126.2 124.2 126.6 128.2 129.4 128.1 128.1  
DBA 189.7 195.9 191.0 191.1 191.5 192.6 192.6 189.4 192.3 186.2 189.3 189.2 187.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH084 TEST DATE = 08-24-81  
IAPLHA = SB59 IEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
CONFIG = C41 ANECH CH CONFIG = 4  
TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT  
FLTVEL = 400. FPS NBFR =

FNIINI = LBS XNL RPM XNH XNHR = RPM V8 = 1691.3 FPS AEB = 25.3 SO IN  
FNRAMB = LBS XNLR = RPM V18 = 1691.3 FPS AE18 = 0. SO IN  
RUNPT = 81F-400-1406 TAPE = X1406F TEST PT NO = 1406 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1406 X14061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 66.9 70.6 70.4 70.4 70.2 72.1 72.8 74.2 79.0 83.9 87.4 87.4 80.8 162.1

63 69.0 70.8 71.2 70.8 71.7 72.6 74.1 75.6 77.3 84.2 89.0 88.7 79.8 163.1

80 69.0 72.1 71.7 71.7 72.3 73.2 75.1 79.0 84.7 89.0 87.8 88.3 78.3 162.8

100 69.2 71.8 72.0 71.1 80.9 74.8 76.0 75.7 79.9 84.5 88.3 85.8 78.5 162.2

125 80.4 83.2 82.1 76.6 74.6 74.8 75.1 76.3 80.3 84.0 87.0 82.6 77.0 162.0

160 79.5 78.9 75.9 74.7 77.6 75.9 75.6 76.6 80.8 83.4 85.9 80.9 76.2 160.9

200 87.3 88.8 83.9 80.2 89.1 82.5 77.6 80.7 84.7 83.4 78.6 75.3 164.7

250 87.7 87.7 86.6 80.0 91.0 88.3 87.1 81.0 77.9 81.7 84.6 82.8 77.4 166.5

315 84.2 87.1 86.7 87.5 83.7 85.8 86.1 80.8 82.1 83.2 82.2 76.1 73.1 165.1

400 81.9 83.6 83.7 84.2 81.2 83.2 83.1 82.2 82.9 82.2 80.5 74.8 72.2 163.4

500 79.4 81.6 81.4 81.7 80.5 81.5 81.9 82.6 83.3 81.3 78.2 73.0 70.2 162.4

630 78.2 80.7 81.4 81.3 80.7 81.0 79.7 80.5 82.2 80.6 76.7 72.3 68.2 162.0

800 77.1 80.2 80.8 81.3 81.0 79.2 79.2 80.1 79.8 75.2 70.7 67.1 161.7

1000 76.7 80.3 80.3 81.5 79.4 80.6 79.3 78.4 79.5 78.0 74.6 70.0 65.6 161.9

1250 75.0 78.4 79.8 79.8 79.9 80.6 78.2 77.8 78.2 75.7 73.0 67.5 62.7 161.6

1500 74.3 77.4 78.5 79.3 78.6 78.7 77.4 75.9 76.7 73.6 69.8 65.5 58.9 161.5

2000 71.2 74.6 76.3 76.9 75.7 75.5 73.6 73.6 73.6 69.8 66.1 60.6 53.1 160.7

2500 66.2 71.4 72.9 73.3 73.4 73.9 72.5 71.6 71.2 66.4 61.7 56.6 49.4 160.1

3150 60.2 65.1 67.5 68.6 68.9 69.8 69.1 67.5 66.8 61.5 56.6 49.4 34.6 159.6

4000 48.3 55.9 59.3 60.6 62.1 64.0 62.7 61.2 60.6 52.1 48.5 37.9 17.2 159.1

5000 33.3 44.6 48.7 50.7 53.6 55.5 53.8 52.2 50.6 40.7 34.2 20.6

6300 10.4 25.5 32.4 35.9 38.8 41.2 39.5 36.3 35.0 22.4 13.9

8000 159.9 159.3

10000 160.7

12500

15000

20000

25000

31500

40000

50000

63000

80000

GASPL 93.0 94.9 94.7 94.9 94.5 93.4 92.0 90.9 92.8 94.8 96.6 94.5 87.6 176.0

PWL 97.7 100.1 101.0 101.4 100.5 100.1 99.1 98.0 99.0 98.7 97.6 93.9 87.7

PWLT 98.7 101.4 102.4 102.7 101.8 100.8 99.8 98.0 99.5 98.7 97.6 93.9 87.7

DBA 86.9 89.5 89.9 90.5 89.5 89.8 88.5 87.7 88.5 87.5 85.1 80.3 76.2

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH084 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FNNI = LBS XNL RPM XNH = RPM V8 = 1691.3 FPS AE8 = 25.3 SQ IN  
FNAMB = LBS XNL RPM XNHR = RPM V8 = 1691.3 FPS AE8 = 25.3 SQ IN

RUNPT = 8 70-1406 TAPE = X14061 TEST PT NO = 1406 NC = 862 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1411 X1411C  
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 82.9  | 81.7  | 81.2  | 80.3  | 81.6  | 86.5  | 85.1  | 86.8  | 87.4  | 85.3  | 95.2  | 94.1  | 94.8  |
| 63    | 86.2  | 86.3  | 87.0  | 85.1  | 87.7  | 92.8  | 91.9  | 92.1  | 92.1  | 92.1  | 100.5 | 98.4  | 99.6  |
| 80    | 88.5  | 93.1  | 87.8  | 88.1  | 90.2  | 92.6  | 92.5  | 91.4  | 92.3  | 93.2  | 94.5  | 96.5  | 98.4  |
| 100   | 88.3  | 92.3  | 88.4  | 89.9  | 91.0  | 92.1  | 92.7  | 95.2  | 93.0  | 93.9  | 96.6  | 100.0 | 102.4 |
| 125   | 87.1  | 88.9  | 90.4  | 90.9  | 92.3  | 93.9  | 93.3  | 93.2  | 92.3  | 96.0  | 101.9 | 105.0 | 107.2 |
| 160   | 86.0  | 83.6  | 87.6  | 86.6  | 88.5  | 90.1  | 91.2  | 91.6  | 92.3  | 96.7  | 102.0 | 105.7 | 109.1 |
| 200   | 84.5  | 87.3  | 88.1  | 88.1  | 90.2  | 91.6  | 92.5  | 95.6  | 96.8  | 98.9  | 104.3 | 109.0 | 111.9 |
| 250   | 84.8  | 92.1  | 89.6  | 89.4  | 91.5  | 93.3  | 96.0  | 97.1  | 98.1  | 103.9 | 109.5 | 113.5 | 115.1 |
| 315   | 87.3  | 90.6  | 89.6  | 91.9  | 93.5  | 95.6  | 96.5  | 98.7  | 101.5 | 107.5 | 111.6 | 116.0 | 119.7 |
| 400   | 88.1  | 91.6  | 91.9  | 90.9  | 91.8  | 94.9  | 96.3  | 98.9  | 103.1 | 111.0 | 114.8 | 117.5 | 117.7 |
| 500   | 88.7  | 92.7  | 91.5  | 91.6  | 93.6  | 95.7  | 97.4  | 99.8  | 103.2 | 111.1 | 116.2 | 119.4 | 118.3 |
| 630   | 90.1  | 92.3  | 92.9  | 92.9  | 94.7  | 96.1  | 98.0  | 99.7  | 102.7 | 111.4 | 117.6 | 119.5 | 118.9 |
| 800   | 94.9  | 93.2  | 93.8  | 94.3  | 96.4  | 97.5  | 97.9  | 100.5 | 104.4 | 111.6 | 117.5 | 119.4 | 118.0 |
| 1000  | 102.2 | 102.5 | 101.8 | 99.8  | 100.1 | 100.3 | 100.9 | 101.5 | 102.3 | 110.6 | 117.0 | 119.9 | 120.1 |
| 1250  | 104.7 | 104.5 | 102.2 | 102.2 | 102.2 | 102.7 | 102.8 | 105.4 | 110.6 | 116.0 | 118.9 | 117.9 | 152.4 |
| 1600  | 108.2 | 105.5 | 106.1 | 104.6 | 102.4 | 100.8 | 102.5 | 103.7 | 105.6 | 110.7 | 115.4 | 117.4 | 152.3 |
| 2000  | 106.4 | 106.6 | 105.7 | 105.6 | 106.9 | 105.6 | 101.4 | 103.1 | 105.8 | 111.1 | 113.3 | 116.8 | 151.4 |
| 2500  | 104.4 | 104.2 | 105.0 | 105.0 | 105.9 | 104.8 | 104.8 | 105.2 | 110.5 | 112.4 | 115.2 | 113.0 | 150.4 |
| 3150  | 103.7 | 103.8 | 103.3 | 103.9 | 105.5 | 104.9 | 104.6 | 105.4 | 109.4 | 112.0 | 113.2 | 110.8 | 149.4 |
| 4000  | 102.2 | 102.5 | 102.8 | 102.5 | 102.4 | 103.6 | 104.5 | 105.8 | 106.1 | 108.0 | 109.5 | 111.7 | 109.1 |
| 5000  | 100.7 | 102.0 | 101.5 | 102.0 | 102.5 | 102.9 | 103.1 | 104.9 | 105.9 | 107.1 | 108.8 | 109.4 | 147.4 |
| 6300  | 98.8  | 101.6 | 102.0 | 102.4 | 102.9 | 102.6 | 102.1 | 105.6 | 106.2 | 107.5 | 108.8 | 106.4 | 147.0 |
| 8000  | 96.0  | 99.6  | 100.6 | 100.3 | 102.3 | 102.2 | 102.9 | 104.3 | 105.5 | 107.2 | 105.5 | 146.1 |       |
| 10000 | 97.6  | 98.5  | 99.5  | 100.0 | 101.0 | 102.0 | 101.6 | 102.2 | 102.8 | 104.3 | 104.7 | 105.0 | 145.9 |
| 12500 | 95.9  | 97.1  | 97.9  | 99.7  | 99.9  | 98.7  | 100.6 | 100.6 | 101.1 | 102.5 | 103.4 | 102.0 | 145.0 |
| 16000 | 92.7  | 94.8  | 95.6  | 95.9  | 97.7  | 98.7  | 98.8  | 99.9  | 99.7  | 99.6  | 99.7  | 101.2 | 144.3 |
| 20000 | 90.5  | 91.7  | 93.4  | 93.9  | 95.1  | 96.9  | 96.5  | 97.4  | 96.9  | 97.8  | 99.1  | 97.8  | 143.8 |
| 25000 | 86.4  | 89.3  | 89.5  | 90.1  | 92.9  | 94.5  | 95.0  | 94.0  | 93.6  | 97.5  | 93.8  | 143.5 |       |
| 31500 | 81.9  | 85.5  | 85.8  | 86.4  | 88.6  | 91.5  | 91.4  | 90.8  | 91.7  | 91.0  | 90.7  | 94.0  | 143.2 |
| 40000 | 77.4  | 80.7  | 82.1  | 82.7  | 85.1  | 88.0  | 87.9  | 88.0  | 89.1  | 86.3  | 87.9  | 91.8  | 143.9 |
| 50000 | 72.8  | 75.5  | 76.7  | 77.9  | 80.2  | 83.4  | 83.2  | 82.4  | 85.0  | 82.4  | 84.9  | 87.8  | 143.9 |
| 63000 | 66.4  | 70.6  | 72.4  | 74.1  | 76.2  | 78.6  | 78.6  | 77.7  | 81.1  | 77.1  | 80.8  | 84.8  | 145.2 |
| 80000 | 60.5  | 66.2  | 67.2  | 68.0  | 70.2  | 73.1  | 73.2  | 70.5  | 75.0  | 71.8  | 76.0  | 79.4  | 146.3 |
| GASPL | 114.4 | 114.3 | 114.0 | 113.8 | 114.3 | 114.9 | 114.9 | 115.5 | 117.2 | 122.0 | 126.3 | 129.0 | 128.4 |
| PNL   | 126.5 | 126.0 | 127.9 | 126.7 | 128.2 | 128.1 | 127.9 | 128.8 | 130.0 | 133.9 | 137.0 | 139.4 | 138.3 |
| DBA   | 115.0 | 114.7 | 114.3 | 114.0 | 114.4 | 114.7 | 114.3 | 115.1 | 116.8 | 121.4 | 125.5 | 128.1 | 127.2 |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH056 TEST DATE = 08-20-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 0. FPS  
 IAPLHA = SB59 IEGA = NG PML AREA = FULL SPHERE TAMB F = 68.50 PAMB HG = 29.62 RELHUM = 61.2 PCT  
 WIND DIR = DEG WIND YEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =  
 FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1715.8 FPS AEB = 25.3 SQ IN  
 FNRAMB = LBS XNL RPM = X1411C TEST PT NO = 1411 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-1411 X1411F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 94.6  | 94.1  | 94.6  | 94.1  | 94.6  | 94.1  | 94.6  | 94.1  | 94.6  | 94.1  | 94.6  | 94.1  |
| 50    | 82.9  | 81.7  | 81.2  | 80.3  | 81.6  | 86.5  | 85.1  | 86.6  | 87.4  | 85.3  | 95.2  | 94.1  |
| 63    | 86.2  | 86.3  | 87.0  | 85.1  | 87.7  | 92.8  | 91.9  | 92.1  | 92.1  | 92.1  | 100.5 | 98.4  |
| 80    | 88.5  | 93.1  | 87.8  | 88.1  | 90.2  | 92.6  | 92.5  | 91.4  | 92.3  | 93.2  | 94.5  | 98.4  |
| 100   | 88.3  | 92.3  | 88.4  | 89.9  | 91.0  | 92.7  | 93.0  | 93.0  | 93.0  | 93.2  | 96.6  | 100.0 |
| 125   | 87.1  | 88.9  | 90.4  | 89.9  | 92.3  | 93.9  | 93.3  | 93.2  | 92.3  | 92.3  | 96.0  | 101.9 |
| 150   | 86.0  | 89.6  | 87.6  | 88.5  | 90.1  | 91.2  | 91.6  | 91.6  | 92.3  | 92.3  | 96.7  | 102.0 |
| 200   | 84.5  | 87.3  | 88.1  | 88.1  | 90.2  | 91.6  | 92.5  | 95.6  | 96.8  | 98.9  | 104.3 | 109.0 |
| 250   | 84.8  | 92.1  | 89.6  | 89.4  | 91.5  | 93.3  | 96.0  | 97.1  | 103.9 | 109.5 | 113.5 | 117.0 |
| 315   | 87.3  | 90.6  | 89.6  | 91.9  | 93.5  | 95.6  | 96.5  | 98.7  | 101.5 | 107.5 | 111.6 | 116.7 |
| 400   | 88.1  | 91.6  | 91.9  | 90.9  | 91.8  | 94.9  | 96.3  | 98.9  | 103.1 | 111.0 | 114.8 | 117.5 |
| 500   | 88.7  | 92.7  | 91.5  | 91.8  | 93.6  | 95.7  | 97.4  | 99.8  | 103.2 | 111.1 | 116.2 | 119.4 |
| 630   | 90.1  | 92.3  | 92.9  | 94.7  | 96.1  | 98.0  | 99.7  | 102.7 | 107.2 | 111.4 | 117.6 | 122.9 |
| 800   | 94.9  | 93.2  | 93.8  | 94.3  | 96.4  | 97.5  | 97.9  | 100.5 | 104.4 | 111.6 | 117.5 | 119.4 |
| 1000  | 102.2 | 102.5 | 101.8 | 99.8  | 100.1 | 100.3 | 101.5 | 102.3 | 101.5 | 105.3 | 110.9 | 117.9 |
| 1250  | 104.8 | 104.4 | 104.2 | 105.0 | 102.4 | 102.9 | 104.8 | 105.2 | 104.0 | 105.2 | 110.5 | 118.9 |
| 1500  | 98.0  | 99.6  | 100.6 | 100.3 | 101.0 | 102.3 | 102.2 | 102.9 | 104.3 | 105.5 | 107.2 | 105.5 |
| 2000  | 90.5  | 91.7  | 93.4  | 93.9  | 95.1  | 96.9  | 97.4  | 97.4  | 97.4  | 96.9  | 97.8  | 99.1  |
| 2500  | 86.4  | 89.3  | 89.5  | 90.1  | 92.9  | 94.5  | 95.0  | 94.0  | 93.6  | 97.5  | 97.5  | 94.0  |
| 3150  | 81.9  | 85.5  | 85.8  | 86.4  | 88.6  | 91.5  | 91.4  | 90.8  | 91.7  | 91.0  | 90.7  | 94.0  |
| 4000  | 72.4  | 80.7  | 82.1  | 82.7  | 85.1  | 88.0  | 87.9  | 88.0  | 89.1  | 86.3  | 87.9  | 91.8  |
| 5000  | 72.8  | 75.5  | 76.7  | 77.9  | 80.2  | 83.4  | 83.2  | 82.4  | 85.0  | 82.4  | 84.9  | 87.8  |
| 6300  | 66.4  | 70.6  | 72.4  | 74.1  | 76.2  | 78.6  | 78.6  | 77.7  | 81.1  | 77.1  | 80.8  | 84.8  |
| 8000  | 60.5  | 66.2  | 67.2  | 68.0  | 70.2  | 73.1  | 73.2  | 70.5  | 75.0  | 71.8  | 76.0  | 79.4  |
| GASPL | 114.4 | 114.3 | 114.0 | 113.8 | 114.6 | 115.5 | 117.2 | 122.0 | 126.3 | 129.0 | 128.4 | 163.5 |
| PNL   | 126.5 | 126.0 | 126.7 | 126.5 | 127.1 | 128.1 | 127.9 | 128.8 | 130.0 | 133.9 | 137.0 | 139.4 |
| DBA   | 182.6 | 187.6 | 188.9 | 189.9 | 192.0 | 194.9 | 194.9 | 196.9 | 193.0 | 193.6 | 197.4 | 194.2 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH056 TEST DATE = 08-20-81  
 IAPLHA = SB59 LEGA = NG  
 WIND DIR = DEG WIND VEL = MPH  
 LBS XNLR RPM XNH XNHR RPM =  
 LBS XNL RPM XNH XNHR RPM =  
 FNINI = LBS XNL RPM XNH XNHR RPM =  
 FNRAMB = LBS XNLR RPM XNH XNHR RPM =

ZER-1411 TAPE = X1411F TEST PT NO = 141 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H.; STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1411 X14111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 66.1 71.1 72.5 72.2 73.5 76.7 78.0 80.2 83.7 90.5 92.8 93.3 90.1 168.5

63 66.7 72.2 72.1 73.1 75.3 77.6 79.1 81.1 83.8 90.6 94.2 95.1 90.7 169.7

80 68.0 71.8 73.4 74.2 76.4 77.9 79.7 80.9 83.2 90.9 95.5 95.2 91.2 170.3

100 72.8 72.6 74.2 75.5 78.0 79.3 79.5 81.7 84.8 91.0 95.3 95.0 90.2 170.1

125 79.9 81.8 82.2 80.9 81.7 81.9 82.4 82.7 85.7 89.9 94.7 95.3 92.0 170.8

150 82.2 83.9 81.8 81.6 83.6 84.1 83.8 85.7 89.7 93.5 94.1 89.5 169.9

200 85.5 84.5 86.1 85.4 83.7 82.2 83.8 84.5 85.7 89.7 92.6 93.0 88.5 169.7

250 83.4 85.2 86.2 88.0 86.8 82.5 83.7 85.6 89.8 90.2 91.3 85.5 168.9

315 80.9 82.8 83.8 85.3 85.9 86.9 85.6 84.3 84.8 88.9 88.9 89.1 82.6 167.8

400 79.8 81.7 82.5 83.4 84.4 86.2 85.4 84.6 84.6 87.3 88.0 86.4 79.4 166.8

500 77.8 80.0 81.6 82.3 82.6 84.0 84.7 85.5 84.9 85.5 85.0 84.2 76.7 165.7

630 75.7 79.1 80.0 81.5 82.4 83.0 83.0 84.3 84.4 84.2 83.9 81.3 74.0 164.8

800 74.4 78.3 79.7 81.1 82.1 82.7 82.3 83.8 83.0 82.1 80.0 71.8 164.4

1000 72.1 76.1 78.7 79.3 80.6 82.1 81.8 81.9 82.4 81.9 79.5 77.7 69.7 163.6

1250 71.2 74.6 77.3 78.9 80.5 81.7 81.1 80.8 80.4 78.3 75.4 67.9 163.3

1500 68.7 72.6 75.2 76.4 78.8 80.0 79.8 79.1 78.4 78.0 75.8 71.8 62.4 162.4

2000 64.4 69.8 72.5 74.1 76.7 77.9 77.8 78.1 76.7 74.6 71.5 68.0 57.4 161.7

2500 60.5 65.4 69.4 71.5 73.6 75.6 75.0 73.5 70.6 70.6 67.8 63.0 50.3 161.2

3150 53.0 60.6 63.7 66.1 70.0 71.9 72.1 70.5 69.6 65.3 60.3 56.4 37.9 161.0

4000 42.3 52.0 56.2 59.1 62.7 65.9 65.4 63.6 62.1 57.5 51.1 44.1 20.7 160.6

5000 28.0 39.7 46.3 50.1 54.2 57.6 57.0 55.4 53.3 45.3 38.5 28.1 161.4

6300 5.6 20.3 28.8 34.5 39.1 43.2 42.2 39.0 37.1 27.2 17.7 161.4

8000 10000 11000 12500 15000 20000 25000 31500 40000 50000 63000 80000

QASPL 91.0 92.5 93.3 93.8 94.7 95.3 94.8 95.2 96.4 100.4 103.4 103.6 99.3 180.6  
PNL 95.1 97.3 98.5 99.5 101.1 101.9 101.5 101.7 101.8 103.8 104.3 98.9  
FNL 95.1 97.9 99.2 99.5 101.6 101.9 101.5 101.7 102.3 103.8 104.8 104.3 98.9  
DBA 84.0 86.5 88.0 89.1 90.3 91.3 90.9 91.1 91.1 92.0 92.1 91.4 85.5

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH056 TEST DATE = 08-20-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 68.50 PAMB HG = 29.62 RELHUM = 61.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNLR = RPM XNH = RPM V8 = 1715.8 FPS AE8 = 25.3 SQ IN  
FNFRMB = LBS XNLR = RPM XNHR = RPM V18 = 1715.8 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-1411 TAPE = X14111 TEST PT NO = 1411 NC = 862 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1412 X1412C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.2 84.7 81.7 80.0 80.1 81.0 81.4 82.5 89.9 97.1 92.2 91.4 97.5 131.8

63 86.2 85.0 85.1 85.7 87.5 87.4 87.6 90.6 107.1 91.5 91.9 97.3 138.7

80 88.8 93.3 88.1 88.9 89.0 91.6 92.0 91.6 92.5 92.9 93.8 96.0 98.9 134.4

100 87.8 91.8 87.6 88.7 89.0 90.1 91.0 92.7 91.3 91.4 94.6 99.3 101.4 135.1

125 85.1 87.6 88.4 89.2 89.8 91.9 91.8 91.2 91.3 93.5 99.4 103.0 105.5 137.7

160 83.0 81.3 86.1 85.5 86.3 88.2 88.1 88.1 90.1 84.2 99.8 103.7 106.9 138.0

200 83.5 83.6 85.3 84.1 85.5 88.3 89.2 91.6 94.5 95.4 101.0 106.5 108.9 140.1

250 82.8 85.8 85.3 86.6 87.5 89.3 91.7 94.1 95.8 100.7 107.0 111.0 110.9 143.9

315 82.6 85.4 86.1 86.7 87.8 90.9 93.3 95.7 99.8 105.0 109.1 113.0 111.7 145.8

400 83.8 85.9 86.6 86.9 87.3 89.4 92.5 95.7 100.4 107.0 111.8 114.5 110.4 147.2

500 83.7 87.0 86.8 88.0 88.9 91.0 93.6 96.8 100.7 107.6 113.0 113.9 107.1 147.2

630 85.1 87.4 87.6 87.9 89.0 91.4 93.0 95.9 98.7 106.9 113.1 113.0 103.4 146.6

800 92.7 94.7 92.1 96.4 94.0 95.4 97.8 101.4 107.6 113.2 110.6 99.3 146.4

1000 97.7 97.5 92.3 91.8 92.2 93.5 95.2 97.1 100.9 106.9 111.5 107.7 97.6 144.8

1250 102.5 104.5 100.8 98.3 95.4 94.3 95.4 97.3 101.2 106.4 110.5 104.9 95.7 145.0

1500 102.5 103.6 107.4 106.5 101.8 97.8 97.8 98.7 101.4 106.5 108.9 102.7 94.5 146.6

2000 99.2 101.1 101.4 103.2 104.8 100.7 98.9 101.3 106.7 106.8 100.4 93.4 144.9

2500 98.2 99.3 99.6 101.7 103.6 101.3 101.8 106.1 104.9 99.2 92.3 143.9

3150 99.0 99.3 98.1 97.6 98.0 99.5 100.7 102.4 102.2 105.1 105.0 98.0 91.3 143.2

4000 98.2 98.5 98.3 97.4 98.0 99.0 101.6 102.4 103.7 103.0 96.9 91.1 142.4

5000 96.7 98.0 97.8 98.0 98.2 97.8 97.8 100.1 102.9 103.1 101.8 95.9 90.0 142.0

6300 96.6 98.1 98.2 97.7 98.7 98.9 97.6 99.3 101.6 102.5 100.5 95.6 89.4 141.8

8000 95.2 97.1 96.8 96.5 98.1 97.7 98.6 99.9 101.2 98.8 93.7 92.4 87.8 141.1

10000 94.8 95.8 96.8 97.0 97.5 98.0 96.6 97.7 98.9 99.3 97.3 95.5 90.9 140.9

12500 92.9 94.1 95.6 94.6 95.9 97.2 95.6 96.4 97.3 97.3 95.5 90.9 85.2 140.1

16000 89.9 92.9 93.3 92.9 93.5 95.0 94.1 95.6 96.2 94.4 92.2 88.8 84.0 139.6

20000 87.5 89.0 90.4 91.4 93.0 92.6 92.7 94.2 91.9 90.3 86.6 81.1 139.1

25000 83.3 86.2 87.0 86.3 88.8 86.8 91.2 90.7 89.9 90.3 88.2 86.5 84.4 138.5

31500 79.0 82.4 82.7 82.8 84.5 86.6 86.5 87.0 86.9 84.2 83.4 80.4 73.4 137.8

40000 74.5 77.7 79.4 79.4 81.3 83.4 83.0 83.7 83.6 79.4 76.9 76.9 69.8 138.3

50000 70.1 73.9 74.6 76.5 79.2 79.1 78.6 79.6 79.6 74.8 72.2 72.9 64.8 138.3

63000 64.8 72.6 71.0 71.2 73.4 74.8 74.8 73.8 75.7 70.4 72.1 68.5 63.1 139.7

80000 61.2 73.0 69.9 67.3 68.5 69.6 69.3 67.6 69.6 66.6 66.7 63.4 61.2 142.3

GASPL 109.8 111.2 110.9 111.3 111.3 111.3 110.7 111.7 113.7 118.3 121.6 121.5 118.3 158.0

PNL 122.1 123.0 123.3 123.7 124.3 124.5 125.2 126.5 130.0 131.2 129.3 124.9

PMLT 122.1 124.5 125.8 127.0 126.0 126.1 124.5 125.2 126.5 130.0 131.2 129.3 124.9

DBA 110.2 111.4 111.1 111.6 111.5 111.2 110.5 111.2 113.1 117.3 120.2 118.3 112.2

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH063 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH RPM = V8 = 1713.9 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNLR RPM XNHR RPM = V18 = 1713.9 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-1412 TAPE = X1412C TEST PT NO = 1412 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1412 X14121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 68.3 71.3 71.7 71.4 70.8 72.5 72.9 74.3 79.6 84.7 88.4 88.4 81.6 163.0

63 69.1 71.6 72.0 71.6 72.5 73.2 74.6 76.3 78.1 84.9 89.7 89.4 80.9 163.9

80 69.3 72.9 72.3 72.8 72.6 73.6 74.1 75.6 80.7 85.6 90.2 88.2 79.6 163.7

100 70.3 73.0 73.0 72.6 72.6 73.3 74.1 75.6 80.8 85.6 90.2 88.2 80.4 163.2

125 75.3 78.2 79.0 75.6 75.4 75.9 76.2 76.6 80.9 84.8 88.1 83.7 78.3 162.1

160 82.6 81.8 77.2 76.0 78.7 76.7 76.4 76.7 81.0 84.9 86.4 81.4 76.9 161.9

200 89.7 89.7 82.5 82.5 84.3 84.3 78.8 78.8 84.5 84.5 79.1 75.9 165.5

250 85.5 87.6 89.9 89.9 87.0 87.0 82.1 78.5 82.1 85.0 82.9 78.2 74.8 166.4

315 83.4 86.0 85.9 85.7 83.2 84.3 85.2 81.2 82.2 83.7 82.5 76.3 73.1 164.4

400 80.5 82.8 82.5 83.1 81.2 82.2 82.1 82.0 83.1 82.9 80.9 75.5 72.6 162.9

500 79.9 81.5 80.9 80.6 80.8 81.3 81.0 81.9 83.3 81.8 79.2 73.7 70.5 162.4

630 78.1 80.1 81.4 81.3 81.8 81.3 79.9 80.3 82.1 81.3 77.9 73.2 69.3 162.2

800 77.2 80.4 81.1 81.6 82.3 81.8 79.5 80.5 80.5 80.2 76.3 71.3 67.8 162.3

1000 77.0 80.4 81.2 80.0 80.9 79.6 78.9 80.0 80.0 78.7 75.5 70.0 66.4 162.3

1250 74.9 78.9 80.2 79.8 81.0 80.7 78.5 78.2 78.6 76.8 73.3 68.2 63.0 162.0

1500 74.4 77.4 79.4 79.8 79.1 79.5 77.2 76.5 78.1 74.5 70.2 65.7 60.2 162.1

2000 71.0 74.6 77.3 76.6 76.5 77.2 75.8 76.0 71.7 67.8 62.4 54.8 161.4

2500 65.8 71.8 73.7 73.8 73.9 74.6 73.5 72.1 71.7 67.3 62.6 57.5 46.3 160.7

3150 59.5 64.9 68.3 69.2 69.9 71.5 70.0 67.5 67.6 62.1 57.4 50.2 35.6 160.2

4000 48.2 56.6 60.3 61.0 62.6 64.1 63.0 61.7 61.4 53.0 49.1 38.5 21.4 159.7

5000 33.3 44.4 49.0 51.2 54.4 56.0 54.6 53.0 51.5 41.6 35.5 23.2 13.4 159.9

6300 10.6 25.0 33.1 36.6 40.1 42.0 40.5 37.1 35.8 23.2 13.4 7.8 160.7

8000 10.6 25.0 33.1 36.6 40.1 42.0 40.5 37.1 35.8 23.2 13.4 7.8 160.7

10000 10.6 25.0 33.1 36.6 40.1 42.0 40.5 37.1 35.8 23.2 13.4 7.8 160.7

12500 10.6 25.0 33.1 36.6 40.1 42.0 40.5 37.1 35.8 23.2 13.4 7.8 160.7

15000 10.6 25.0 33.1 36.6 40.1 42.0 40.5 37.1 35.8 23.2 13.4 7.8 160.7

17500 10.6 25.0 33.1 36.6 40.1 42.0 40.5 37.1 35.8 23.2 13.4 7.8 160.7

20000 10.6 25.0 33.1 36.6 40.1 42.0 40.5 37.1 35.8 23.2 13.4 7.8 160.7

22500 10.6 25.0 33.1 36.6 40.1 42.0 40.5 37.1 35.8 23.2 13.4 7.8 160.7

80000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000  
8000

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MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH083 TEST DATE = 08-24-81  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
LOCAT = C41 ANECH CH CONFIG = 4  
TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT  
FLTVEL = 400. FPS

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1713.9 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1713.9 FPS AEB = 25.3 SQ IN

RUNPT = 400-1412 TAPE = X14121 TEST PT NO = 1412 NC = 862 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1413 X1413C  
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 85.7  | 81.5  | 80.5  | 84.3  | 85.1  | 85.7  | 85.4  | 86.0  | 78.2  | 85.6  | 94.9  | 94.1  | 95.0  |
| 80    | 80.5  | 85.5  | 86.0  | 89.8  | 90.9  | 92.3  | 91.7  | 91.1  | 92.3  | 91.9  | 99.5  | 98.4  | 99.1  |
| 80    | 89.0  | 93.3  | 88.3  | 89.1  | 90.0  | 92.3  | 93.2  | 92.4  | 92.3  | 93.4  | 94.8  | 96.7  | 98.9  |
| 100   | 88.3  | 92.6  | 88.6  | 89.9  | 91.0  | 92.6  | 93.0  | 94.9  | 93.5  | 94.7  | 97.1  | 100.8 | 102.7 |
| 125   | 87.1  | 89.1  | 89.9  | 91.9  | 92.8  | 94.4  | 94.0  | 93.4  | 93.0  | 96.2  | 102.1 | 105.0 | 107.5 |
| 150   | 86.0  | 83.3  | 87.6  | 87.1  | 89.0  | 89.8  | 91.2  | 91.6  | 92.1  | 96.4  | 101.8 | 105.7 | 109.1 |
| 160   | 86.0  | 83.3  | 87.6  | 87.1  | 89.0  | 89.8  | 91.2  | 91.6  | 92.1  | 96.4  | 101.8 | 105.7 | 109.1 |
| 200   | 84.8  | 87.8  | 88.1  | 88.6  | 90.5  | 92.6  | 93.2  | 95.6  | 97.0  | 98.9  | 104.5 | 109.5 | 112.1 |
| 250   | 86.3  | 92.3  | 90.3  | 92.7  | 94.8  | 97.0  | 97.9  | 98.6  | 104.4 | 110.3 | 114.2 | 115.1 | 147.5 |
| 315   | 87.6  | 90.9  | 90.1  | 92.4  | 93.8  | 96.1  | 97.3  | 99.7  | 102.5 | 107.7 | 112.3 | 115.8 | 149.4 |
| 400   | 88.6  | 91.4  | 92.1  | 91.4  | 92.8  | 95.6  | 97.3  | 99.7  | 103.6 | 111.2 | 115.3 | 118.3 | 151.5 |
| 500   | 89.7  | 93.1  | 93.6  | 93.9  | 95.5  | 96.6  | 97.9  | 100.5 | 103.7 | 111.8 | 117.0 | 119.9 | 152.9 |
| 630   | 90.8  | 93.1  | 93.6  | 93.9  | 95.5  | 96.6  | 97.9  | 100.5 | 103.7 | 111.8 | 117.0 | 119.9 | 152.9 |
| 800   | 97.2  | 94.2  | 94.5  | 95.5  | 97.1  | 98.2  | 99.1  | 101.8 | 105.4 | 111.8 | 117.2 | 119.9 | 152.9 |
| 1000  | 109.2 | 103.7 | 101.3 | 102.0 | 102.4 | 102.8 | 102.1 | 102.8 | 106.1 | 111.6 | 117.7 | 121.4 | 154.8 |
| 1250  | 105.2 | 106.5 | 103.8 | 102.1 | 102.5 | 101.9 | 103.3 | 106.2 | 111.4 | 116.0 | 118.4 | 117.2 | 152.8 |
| 1500  | 106.5 | 105.3 | 106.3 | 105.8 | 104.9 | 102.8 | 103.0 | 104.2 | 105.8 | 111.0 | 114.9 | 117.2 | 152.8 |
| 2000  | 105.2 | 105.6 | 105.2 | 106.1 | 108.9 | 110.3 | 103.4 | 103.6 | 105.8 | 111.9 | 113.0 | 116.6 | 151.9 |
| 2500  | 103.6 | 104.2 | 103.7 | 103.5 | 104.1 | 105.5 | 104.7 | 105.5 | 110.8 | 112.2 | 113.5 | 113.5 | 150.6 |
| 3150  | 103.2 | 104.1 | 103.3 | 102.8 | 103.7 | 104.7 | 105.8 | 106.2 | 109.6 | 112.2 | 113.7 | 111.0 | 149.7 |
| 4000  | 101.5 | 102.7 | 102.8 | 102.8 | 102.6 | 103.8 | 104.5 | 106.3 | 108.5 | 110.2 | 112.4 | 109.6 | 148.7 |
| 5000  | 100.4 | 102.5 | 102.3 | 102.3 | 102.7 | 102.4 | 103.3 | 105.4 | 107.6 | 109.1 | 110.9 | 107.7 | 147.9 |
| 6300  | 99.8  | 101.8 | 102.0 | 102.6 | 102.8 | 104.3 | 106.3 | 108.3 | 108.7 | 108.0 | 106.6 | 106.6 | 147.5 |
| 8000  | 98.0  | 100.6 | 101.1 | 100.8 | 102.0 | 102.7 | 103.6 | 104.6 | 105.5 | 105.6 | 108.2 | 105.2 | 146.6 |
| 10000 | 97.1  | 99.0  | 100.3 | 100.8 | 102.0 | 102.8 | 101.9 | 103.0 | 103.8 | 104.5 | 104.7 | 106.4 | 146.4 |
| 12500 | 95.9  | 97.1  | 98.6  | 98.6  | 99.9  | 100.2 | 100.9 | 101.4 | 101.6 | 102.0 | 103.0 | 104.7 | 145.5 |
| 15000 | 93.2  | 95.8  | 96.4  | 96.2  | 99.4  | 99.3  | 100.6 | 100.0 | 99.9  | 100.2 | 101.2 | 100.7 | 144.8 |
| 16000 | 93.2  | 95.8  | 96.4  | 96.2  | 99.4  | 99.3  | 100.6 | 100.0 | 99.9  | 100.2 | 101.2 | 100.7 | 144.8 |
| 20000 | 91.0  | 92.7  | 94.1  | 94.4  | 96.1  | 97.4  | 97.5  | 97.6  | 98.2  | 97.1  | 97.3  | 99.6  | 144.3 |
| 25000 | 87.4  | 90.0  | 90.5  | 90.6  | 92.9  | 95.8  | 95.5  | 94.5  | 94.5  | 94.5  | 94.9  | 97.7  | 144.1 |
| 31500 | 82.6  | 86.0  | 87.0  | 87.6  | 89.4  | 92.2  | 91.9  | 91.8  | 92.2  | 91.5  | 91.4  | 94.0  | 143.7 |
| 40000 | 78.4  | 82.0  | 83.6  | 84.0  | 86.6  | 88.0  | 88.1  | 88.0  | 89.6  | 88.6  | 88.9  | 92.3  | 144.5 |
| 50000 | 74.0  | 76.8  | 78.5  | 79.2  | 81.4  | 84.4  | 84.0  | 83.2  | 85.7  | 82.7  | 84.9  | 89.0  | 144.8 |
| 63000 | 69.7  | 71.8  | 73.6  | 75.8  | 77.9  | 79.3  | 79.6  | 78.5  | 82.1  | 77.9  | 82.3  | 86.1  | 146.2 |
| 80000 | 66.5  | 66.9  | 68.0  | 70.8  | 72.7  | 74.1  | 73.9  | 71.8  | 75.5  | 72.3  | 77.5  | 81.4  | 147.7 |
| QASPL | 114.8 | 114.6 | 114.2 | 114.2 | 115.2 | 116.1 | 115.3 | 116.2 | 117.7 | 122.5 | 126.6 | 128.9 | 164.1 |
| PWL   | 126.4 | 127.1 | 126.6 | 126.7 | 127.2 | 129.7 | 131.3 | 128.5 | 129.4 | 130.4 | 134.3 | 137.3 | 140.1 |
| FNL1  | 129.3 | 128.3 | 126.7 | 127.2 | 129.7 | 131.3 | 128.5 | 129.4 | 130.4 | 134.3 | 137.3 | 140.1 | 139.7 |
| DBA   | 115.2 | 114.9 | 114.4 | 114.4 | 115.3 | 116.0 | 114.9 | 115.8 | 117.3 | 121.9 | 125.7 | 128.7 | 127.7 |

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VEHICL = ADH057 TEST DATE = 08-20-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 68.50 PAMB HG = 29.62 RELHUM = 61.2 PCT  
 WIND DIR = DEG WIND YEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFRR =  
 FNINI = LBS XNL RPM XNH RPM V8 = 1720.4 FPS AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM V8 = 1720.4 FPS AE8 = 25.3 SQ IN  
 RUNPT = 81F-ZER-1413 TAPE = X1413C TEST PT NO = 1413 NC = 862 CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - BIF-ZER-1413 X1413F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40 50 60 70 80 90 100 110 120 130 140 150 160

PML 50 55.7 61.5 60.5 64.3 65.1 65.7 65.4 66.0 76.2 65.6 94.9 94.1 95.0 130.3

63 90.5 85.5 86.0 89.8 90.9 92.3 91.7 91.1 92.3 91.9 99.5 98.4 99.1 135.4

80 89.0 93.3 88.3 89.1 90.0 92.3 93.2 93.2 94.8 93.8 96.7 98.9 134.9

100 88.3 92.6 88.6 89.9 91.0 92.6 93.0 94.9 93.5 93.5 94.7 97.1 100.8 102.7 136.9

125 87.1 89.1 90.9 91.9 92.8 94.4 94.0 93.4 93.0 96.2 102.1 105.0 107.5 139.9

150 86.0 83.3 87.6 87.1 89.0 89.8 91.2 91.6 92.1 96.4 101.8 105.7 109.1 140.2

200 84.8 87.8 88.1 88.6 90.5 92.6 93.2 95.6 97.0 98.9 104.5 109.5 112.1 143.4

250 86.3 92.3 90.3 90.1 92.7 94.8 97.0 97.9 98.6 104.4 110.3 114.2 115.1 147.5

315 87.6 90.9 90.1 92.4 93.8 96.1 97.3 99.7 102.5 107.7 112.3 115.8 117.2 149.4

400 88.6 91.4 92.1 91.4 92.8 95.6 97.3 99.7 103.6 111.2 115.3 118.3 117.7 151.5

500 89.7 93.2 92.0 94.1 96.7 97.9 100.5 103.7 111.8 117.0 119.9 118.8 152.9

630 90.8 93.1 93.6 93.9 95.5 96.6 98.5 100.7 102.7 112.4 118.3 120.2 119.2 153.5

800 97.2 94.2 94.5 95.5 97.1 98.2 99.1 101.8 105.4 111.6 117.2 119.9 118.3 152.9

1000 109.2 103.7 102.0 102.4 102.8 102.1 103.3 106.2 111.6 117.4 121.2 121.8 154.8

1250 105.2 106.5 103.8 102.1 102.2 102.5 101.9 103.3 106.2 111.4 116.0 119.2 118.2 152.8

1500 106.5 105.3 106.3 105.8 104.9 102.8 103.0 104.2 105.8 111.0 114.9 118.4 117.2 152.3

2000 105.2 105.6 105.1 106.9 110.3 103.4 103.6 105.8 111.9 113.0 116.6 115.1 151.9

2500 103.6 104.2 103.7 103.5 104.1 105.4 106.5 104.7 105.5 110.8 112.2 116.0 113.5 150.6

3150 103.2 104.1 103.3 102.8 103.7 104.7 105.1 105.8 106.2 109.6 112.2 113.7 111.0 149.7

4000 101.5 102.7 102.8 102.6 103.8 104.5 106.3 106.3 108.5 110.2 112.4 109.6 148.7

5000 100.4 102.3 102.3 102.3 103.4 104.4 106.4 106.4 109.3 110.9 112.4 107.9 147.9

6300 99.8 101.8 101.7 102.0 103.4 104.3 106.3 106.3 109.5 106.6 107.5 106.6 147.5

8000 98.0 100.6 101.1 100.8 102.0 102.8 102.7 103.6 104.6 105.5 105.6 108.2 105.2 146.6

10000 97.1 99.0 100.3 100.6 101.8 102.8 101.9 103.0 104.8 104.7 106.4 105.3 146.4

12500 95.9 97.1 98.6 98.9 100.2 102.1 100.9 101.4 101.6 102.0 103.0 104.7 102.5 145.5

15000 93.2 95.8 96.6 96.4 98.2 99.4 99.3 100.6 100.6 99.9 100.2 101.2 100.7 144.8

20000 91.0 92.7 94.1 94.4 96.1 97.4 97.5 97.6 98.2 97.1 97.3 99.6 98.0 144.3

25000 82.4 90.6 90.5 92.9 93.8 95.5 95.9 94.5 94.9 97.7 94.8 144.1

31500 82.6 86.0 87.0 87.6 89.4 92.2 91.9 91.8 92.2 91.5 91.4 94.0 89.8 143.7

40000 78.4 82.0 83.6 84.0 86.6 88.0 88.1 88.0 89.6 86.6 86.6 88.9 92.3 87.7 144.5

50000 74.0 76.8 78.5 79.2 81.4 84.4 84.0 84.0 85.7 82.7 82.7 84.9 89.0 83.3 144.8

63000 69.7 71.8 73.6 75.8 77.9 79.3 79.6 78.5 82.1 77.9 82.3 86.1 77.3 146.2

80000 66.5 66.9 68.0 70.8 72.7 74.1 73.9 71.8 75.5 72.3 77.5 81.4 73.4 147.7

QASPL 114.8 114.6 114.2 114.2 115.2 116.1 115.3 116.2 117.7 122.5 126.6 129.6 128.9 164.1

PMLT 129.3 128.3 126.7 127.2 129.7 131.3 128.5 129.4 130.4 134.3 137.3 140.1 139.7

DBA 187.6 188.5 189.8 192.3 194.3 195.8 195.7 194.0 197.5 194.1 198.9 202.7 194.8

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NA53-22514

VEHICL = ADH057 TEST DATE = 08-20-81  
IAPLHA = SB59 IEGA = NO  
MIND DIR = DEG MIND VEL = MPH  
LOCAT = C41 ANECH CH CONFIG = 4  
PWL AREA = FULL SPHERE TAMB F = 68.50  
EXT AREA = 40.0 FT  
EXT DIST = 40.0 FT  
EXT CONFIG = ARC  
MODEL = 4  
FLVEL = 0. FPS  
RELHUM = 61.2 PCT  
NBFR =

FNINI = LBS XNL RPM XNH RPM = = =  
FNRMB = LBS XNL RPM XNHR RPM = = =  
V8 = 1720.4 FPS AEB = 25.3 SQ IN  
V18 = 1720.4 FPS AEB = 0. SQ IN  
CGRF FAN SPEED = RPM

ZER-1413 TAPE = X1413F TEST PT NO = 1413 NC = 862  
CGRF FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1413 X14131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 66.6 70.9 72.7 72.7 74.5 77.5 79.0 81.0 84.2 90.7 93.3 94.1 90.1 168.9

63 67.7 72.7 72.6 73.6 75.8 78.6 79.6 81.8 84.3 91.3 94.2 95.6 91.2 170.3

80 68.7 72.6 74.2 75.2 77.2 78.4 80.2 81.9 83.2 91.9 96.2 96.2 91.4 171.0

100 75.0 73.6 75.0 76.7 78.8 80.0 80.8 83.0 85.8 91.2 95.0 95.5 90.4 170.4

125 66.9 83.0 81.7 83.2 83.9 84.4 83.7 83.9 86.5 90.9 95.4 96.8 93.7 172.2

160 82.7 85.7 84.0 83.1 83.6 84.1 83.3 84.3 86.4 90.5 93.5 94.3 89.7 170.2

200 83.8 84.2 86.4 86.7 86.2 84.2 84.3 85.0 85.9 89.9 92.1 93.3 88.3 169.8

250 82.1 84.2 85.1 86.7 90.0 91.5 84.5 84.2 85.6 90.6 90.0 91.0 85.5 169.3

315 80.2 83.8 83.8 84.9 86.4 87.3 85.1 85.0 89.1 88.7 89.9 83.1 168.0

400 79.3 82.5 82.5 82.9 84.2 85.4 85.6 85.9 85.4 87.5 88.3 86.9 79.7 167.1

500 77.0 80.3 81.6 82.5 82.8 84.2 84.7 86.0 85.2 86.0 85.8 85.0 77.2 166.1

630 75.5 79.6 80.8 81.7 82.7 82.5 83.3 84.8 84.9 84.7 84.1 82.8 74.3 165.3

800 74.4 78.6 79.9 81.1 82.4 83.2 82.6 83.5 84.6 83.5 82.6 80.7 72.1 164.9

1000 72.1 77.1 79.2 79.8 81.6 82.6 82.6 82.6 82.6 81.9 79.7 78.7 69.5 164.1

1250 70.7 75.1 78.1 79.6 81.5 82.4 81.3 81.8 81.6 80.6 78.3 76.1 68.1 163.9

1600 68.7 72.6 76.0 77.4 79.3 81.5 80.0 79.9 78.9 77.5 75.8 73.0 62.9 163.0

2000 64.9 70.8 73.5 74.6 77.2 78.7 78.3 78.9 76.9 74.8 72.0 68.0 58.2 162.2

2500 61.0 66.4 70.2 72.0 74.6 76.1 76.0 75.2 74.3 70.8 67.3 63.5 50.6 161.7

3150 54.0 61.3 64.7 66.6 70.0 73.1 72.6 70.5 70.1 65.8 61.5 56.7 38.9 161.5

4000 43.0 52.5 57.4 60.4 63.4 66.7 65.9 64.6 62.6 58.0 51.8 44.1 19.5 161.2

5000 29.0 40.9 47.8 51.3 55.7 57.6 57.2 55.4 53.8 45.6 39.5 28.6 161.9

6300 6.8 21.5 30.6 35.7 40.4 44.2 42.9 39.7 37.8 27.4 17.7 1.2 162.2

8000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000

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12500 12500 12500 12500 12500 12500 12500 12500 12500 12500 12500 12500 12500 12500

15000 15000 15000 15000 15000 15000 15000 15000 15000 15000 15000 15000 15000 15000

18000 18000 18000 18000 18000 18000 18000 18000 18000 18000 18000 18000 18000 18000

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63000 63000 63000 63000 63000 63000 63000 63000 63000 63000 63000 63000 63000 63000

80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000 80000

DBA 83.6 86.8 88.4 89.4 90.9 92.1 91.4 91.8 91.7 92.3 92.2 92.0 85.9

PNL 96.1 97.8 98.8 98.8 100.5 102.9 104.6 102.1 102.4 102.8 104.3 106.0 106.3 100.4

PWL 94.7 97.3 98.8 98.8 100.0 102.2 103.6 102.1 102.4 102.2 104.3 104.9 105.0 99.8

DBA 83.6 86.8 88.4 89.4 90.9 92.1 91.4 91.8 91.7 92.3 92.2 92.0 85.9

PNL 96.1 97.8 98.8 98.8 100.5 102.9 104.6 102.1 102.4 102.8 104.3 106.0 106.3 100.4

PWL 94.7 97.3 98.8 98.8 100.0 102.2 103.6 102.1 102.4 102.2 104.3 104.9 105.0 99.8

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

VEHICL = ADH057 TEST DATE = 08-20-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 0. FPS  
IAPLHA = SBS9 LEGA = NO PML AREA = FULL SPHERE TAMB F = 68.50 PAMB HG = 29.62 RELHUM = 61.2 PCT  
MIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM XNH RPM V8 = 1720.4 FPS AEB = 25.3 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V8 = 1720.4 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-1413 TAPE = X14131 TEST PT NO = 1413 NC = 862 CORR FAN SPEED = RPM

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DATPRG - FLTRAN  
UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC  
IDENTIFICATION - MODEL B1F-400-1414 X1414C  
BACKGROUND B1F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.4  | 85.0  | 81.5  | 80.3  | 80.4  | 81.5  | 81.4  | 82.8  | 85.4  | 97.8  | 92.2  | 91.1  | 96.8  | 131.7 |
| 63    | 86.2  | 86.8  | 88.5  | 84.8  | 85.9  | 87.0  | 86.7  | 86.8  | 89.6  | 108.6 | 91.5  | 91.2  | 97.6  | 139.9 |
| 80    | 87.3  | 92.8  | 87.6  | 88.1  | 88.2  | 89.6  | 91.7  | 90.9  | 91.5  | 92.7  | 92.8  | 96.0  | 98.6  | 133.9 |
| 100   | 87.6  | 87.6  | 88.7  | 88.2  | 89.2  | 89.9  | 91.0  | 92.2  | 91.8  | 91.2  | 91.0  | 93.7  | 95.1  | 135.0 |
| 125   | 85.4  | 87.6  | 88.2  | 89.2  | 89.8  | 92.2  | 91.8  | 91.2  | 91.0  | 93.7  | 99.6  | 103.3 | 105.5 | 137.8 |
| 150   | 83.3  | 81.8  | 85.8  | 85.4  | 85.7  | 86.6  | 88.0  | 88.1  | 89.1  | 93.9  | 104.0 | 107.1 | 138.2 |       |
| 200   | 83.8  | 83.1  | 84.3  | 84.1  | 86.0  | 88.3  | 89.2  | 91.6  | 94.3  | 95.7  | 101.3 | 106.5 | 109.1 | 140.3 |
| 250   | 83.0  | 86.1  | 85.6  | 86.6  | 87.2  | 89.3  | 91.5  | 93.9  | 95.3  | 100.7 | 106.8 | 110.7 | 111.1 | 143.8 |
| 315   | 82.3  | 85.9  | 86.1  | 86.9  | 87.8  | 89.9  | 93.3  | 96.2  | 99.8  | 104.7 | 109.8 | 113.0 | 111.7 | 146.0 |
| 400   | 84.6  | 85.6  | 86.4  | 87.2  | 87.3  | 89.9  | 92.8  | 95.4  | 100.9 | 107.0 | 112.1 | 114.8 | 110.9 | 147.4 |
| 500   | 84.2  | 87.5  | 87.3  | 88.3  | 88.9  | 91.0  | 93.4  | 96.8  | 100.5 | 107.6 | 113.0 | 114.6 | 107.6 | 147.5 |
| 630   | 85.6  | 87.6  | 87.9  | 89.0  | 91.4  | 93.0  | 95.7  | 98.9  | 101.9 | 107.2 | 113.3 | 103.2 | 146.8 |       |
| 800   | 94.0  | 95.5  | 96.0  | 93.1  | 97.4  | 94.5  | 95.6  | 100.1 | 101.9 | 108.3 | 113.0 | 111.7 | 146.6 |       |
| 1000  | 99.7  | 98.3  | 94.0  | 92.8  | 92.4  | 94.0  | 95.2  | 97.6  | 101.4 | 106.9 | 111.7 | 107.7 | 145.1 |       |
| 1250  | 102.7 | 105.5 | 102.1 | 99.8  | 95.9  | 95.0  | 95.7  | 98.1  | 101.5 | 106.9 | 110.8 | 104.9 | 145.5 |       |
| 1500  | 102.0 | 103.3 | 105.6 | 107.4 | 103.0 | 98.6  | 99.5  | 101.6 | 106.5 | 110.1 | 102.5 | 94.7  | 147.1 |       |
| 2000  | 99.4  | 100.6 | 100.5 | 100.9 | 103.0 | 105.6 | 102.2 | 99.4  | 101.8 | 106.9 | 107.5 | 100.9 | 145.3 |       |
| 2500  | 98.7  | 99.5  | 98.7  | 99.3  | 98.6  | 101.7 | 104.3 | 102.3 | 101.8 | 106.3 | 105.9 | 99.5  | 144.3 |       |
| 3150  | 99.5  | 100.3 | 98.6  | 98.6  | 98.2  | 100.3 | 100.7 | 103.1 | 102.9 | 105.1 | 105.7 | 98.2  | 143.8 |       |
| 4000  | 99.2  | 99.5  | 99.3  | 98.8  | 97.9  | 98.8  | 99.0  | 102.3 | 103.1 | 104.5 | 103.2 | 97.4  | 143.0 |       |
| 5000  | 98.2  | 99.5  | 99.0  | 98.5  | 98.2  | 98.7  | 98.3  | 100.6 | 103.7 | 103.8 | 102.1 | 96.1  | 142.7 |       |
| 6300  | 98.1  | 100.1 | 98.5  | 98.7  | 98.9  | 99.1  | 98.9  | 100.1 | 102.4 | 103.0 | 101.3 | 95.8  | 142.6 |       |
| 8000  | 96.5  | 98.6  | 98.7  | 98.0  | 97.5  | 98.6  | 98.7  | 99.1  | 100.6 | 101.5 | 98.8  | 94.2  | 141.6 |       |
| 10000 | 95.8  | 96.8  | 97.1  | 96.3  | 97.8  | 99.3  | 97.6  | 99.6  | 99.6  | 99.5  | 98.0  | 92.9  | 141.6 |       |
| 12500 | 93.9  | 95.4  | 96.1  | 95.9  | 96.9  | 97.9  | 97.1  | 96.9  | 97.6  | 97.0  | 96.0  | 91.7  | 140.9 |       |
| 15000 | 90.7  | 93.4  | 93.3  | 93.4  | 94.0  | 96.0  | 95.3  | 96.4  | 96.2  | 94.4  | 93.2  | 89.3  | 140.2 |       |
| 16000 | 90.7  | 93.4  | 93.3  | 93.4  | 94.0  | 96.0  | 95.3  | 96.4  | 96.2  | 94.4  | 93.2  | 89.3  | 140.2 |       |
| 20000 | 88.3  | 90.7  | 91.2  | 90.7  | 93.5  | 93.3  | 93.7  | 91.9  | 90.6  | 90.6  | 88.6  | 81.3  | 139.4 |       |
| 25000 | 84.3  | 87.5  | 88.0  | 89.1  | 90.9  | 91.7  | 90.9  | 91.3  | 88.5  | 86.5  | 84.9  | 77.4  | 139.2 |       |
| 31500 | 79.5  | 83.2  | 83.0  | 84.0  | 84.7  | 87.6  | 87.7  | 88.0  | 88.1  | 84.5  | 83.9  | 80.7  | 138.7 |       |
| 40000 | 74.5  | 78.5  | 79.6  | 80.1  | 81.3  | 83.6  | 84.0  | 84.4  | 81.9  | 79.5  | 81.4  | 77.4  | 139.0 |       |
| 50000 | 70.8  | 74.3  | 75.9  | 76.8  | 80.0  | 80.1  | 79.9  | 81.1  | 76.0  | 76.9  | 73.6  | 65.0  | 139.2 |       |
| 63000 | 65.0  | 72.6  | 71.2  | 72.4  | 73.1  | 75.3  | 75.8  | 74.8  | 76.7  | 71.4  | 73.6  | 69.5  | 140.4 |       |
| 80000 | 61.7  | 72.8  | 69.9  | 67.6  | 69.0  | 70.9  | 70.5  | 68.6  | 71.4  | 66.8  | 68.0  | 65.4  | 143.0 |       |
| QASPL | 110.4 | 111.9 | 111.3 | 111.6 | 111.7 | 112.0 | 111.4 | 112.3 | 114.1 | 118.6 | 121.9 | 121.8 | 118.5 | 158.4 |
| PNL   | 122.7 | 123.8 | 123.5 | 124.2 | 124.2 | 124.9 | 125.1 | 125.8 | 127.0 | 130.3 | 131.7 | 129.5 | 125.1 |       |
| PFLT  | 122.7 | 125.4 | 125.9 | 127.3 | 126.7 | 126.9 | 125.1 | 127.0 | 127.0 | 130.3 | 131.7 | 129.5 | 125.1 |       |
| DBA   | 110.7 | 112.0 | 111.5 | 111.9 | 111.9 | 111.9 | 111.2 | 111.9 | 113.6 | 117.5 | 120.6 | 118.5 | 112.4 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH082 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 2 FLTVL = 400 FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINI = LBS XNL RPM XNH RPM = V8 = 1716.3 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM = V18 = 1716.3 FPS AE18 = 0. SQ IN  
CORR FAN SPEED = RPM

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OF POOR QUALITY

303



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1414 X1414F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

250 89.9 91.6 90.1 89.6 88.7 89.3 89.6 90.3 96.3 100.3 104.9 108.6 109.1 142.1  
315 89.9 91.6 90.1 89.6 89.6 92.1 91.9 91.8 97.6 102.9 107.6 111.1 109.8 144.1  
400 90.0 92.3 91.1 90.3 89.1 91.1 91.5 92.7 98.6 105.0 110.2 113.1 109.4 145.8  
500 92.1 91.9 91.3 90.6 90.8 91.3 92.7 95.0 97.7 105.7 112.0 114.0 108.4 146.7  
630 91.7 93.8 92.2 91.7 90.9 91.8 92.4 94.1 100.6 106.8 112.0 112.7 106.2 146.2  
800 92.5 93.5 92.6 91.2 98.9 95.0 94.9 98.1 100.7 106.1 111.7 111.0 108.0 145.9  
1000 99.0 99.7 99.4 95.5 94.2 94.7 94.6 95.9 100.7 106.0 110.6 108.2 106.4 144.9  
1250 107.2 104.5 98.9 97.8 95.8 96.2 96.4 95.8 100.9 105.6 110.0 105.8 105.5 145.4  
1500 109.0 109.4 110.5 111.1 105.6 106.9 102.6 98.5 102.2 106.5 106.9 104.0 104.8 149.4  
1750 110.1 111.7 106.8 103.1 109.6 104.3 98.5 97.9 101.7 106.7 108.0 104.9 105.4 148.9  
2000 109.0 109.4 110.5 111.1 105.6 106.9 102.6 98.5 102.2 106.5 106.9 104.0 104.8 149.4  
2500 107.1 107.1 105.8 104.9 101.2 103.3 105.1 101.8 103.4 105.4 106.7 102.7 104.0 147.0  
3150 104.3 104.6 102.8 100.9 102.3 101.6 102.8 105.0 102.8 104.5 105.6 102.6 104.1 145.7  
4000 104.8 105.0 102.6 101.9 101.4 100.7 102.8 105.2 105.0 103.8 103.3 103.3 145.5  
5000 104.4 104.2 103.4 102.4 101.8 101.7 100.4 104.3 104.6 103.5 101.5 103.2 145.4  
6300 103.2 104.3 103.5 102.6 102.1 101.1 103.2 103.8 101.9 100.7 102.7 145.4  
8000 103.2 105.0 103.0 102.7 101.3 101.6 101.0 100.5 102.8 102.7 101.8 100.2 102.4 145.4  
10000 101.9 103.8 103.3 102.0 101.8 102.3 100.1 100.4 101.4 100.9 100.6 99.6 100.9 145.4  
12500 102.7 102.9 102.3 102.6 101.0 100.9 99.6 98.7 100.9 99.1 98.6 97.9 99.8 145.4  
15000 102.7 102.9 102.3 102.6 101.0 100.9 99.6 98.7 100.9 99.1 98.6 97.9 99.8 145.4  
17500 100.2 101.0 100.8 99.6 98.0 99.0 97.8 98.3 98.8 97.1 96.5 95.8 97.6 144.7  
20000 96.6 98.5 97.6 96.7 95.7 96.5 95.8 95.4 97.1 94.4 94.3 95.1 94.8 143.9  
25000 93.6 94.6 94.4 93.9 93.1 93.9 94.2 92.9 94.4 90.9 91.2 91.6 91.6 143.4  
31500 88.8 91.3 90.1 89.9 88.6 90.2 89.8 92.0 86.7 89.4 89.1 88.5 84.4 143.0  
40000 83.2 86.1 85.0 85.1 85.3 86.6 86.5 86.3 88.4 83.3 85.1 85.5 84.4 142.9  
50000 77.8 81.0 81.3 80.8 81.4 83.0 82.4 81.6 84.6 79.3 82.3 81.8 80.1 143.3  
63000 76.0 76.3 76.8 76.8 77.2 78.3 78.2 76.4 80.6 75.9 77.8 78.8 74.2 144.5  
80000 65.9 72.8 72.8 70.5 70.7 73.1 73.9 72.8 70.0 70.8 66.1 68.0 69.0 64.4 144.7

DBA 189.4 194.4 192.5 192.6 194.4 195.3 194.4 192.1 194.3 189.6 191.6 192.5 188.3  
PNLT 128.2 130.4 130.6 128.7 127.8 125.2 124.7 127.4 129.3 130.5 129.0 129.0  
CASPL 116.8 117.4 115.9 115.2 114.4 113.7 112.3 112.1 114.7 117.5 120.7 120.9 118.7 159.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ, SC-4/NAS3-22514

VEHICL = ADH082 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.74 RELHUM = 41.6 PCT  
MIND DIR = DEG MIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM XNH RPM V8 = 1716.3 FPS AE8 = 25.3 SQ IN  
FNFRMB = LBS XNLR = RPM XNHR = RPM V8 = 1716.3 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-1414 TAPE = X1414F TEST PT NO = 1414 NC = 862 CORR FAN SPEED = RPM

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OF POOR QUALITY

056

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1414 X14141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

50 60 70 80 90 100 110 120 130 140 150 160

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

50 60 70 80 90 100 110 120 130 140 150 160

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

68.0 71.8 71.7 71.6 70.8 73.0 73.2 74.0 79.2 84.6 88.2 88.9 81.8 163.2

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PLT

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

VEHICL = ADH082 TEST DATE = 08-24-81  
IAPLHA = SB59 LEGA = NO  
MIND DIR = DEG WIND VEL = MPH  
FNRAMB = LBS XNLR = RPM XNHR = RPM  
FNINI = LBS XNL = RPM XNH = RPM V8 = 1716.3 FPS AEB AE18 = 25.3 SQ IN = 0. SQ IN  
RPNPT # 6 00-1414 TAPE = X14141 TEST PT NG = 1414 NC = 862 CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514  
MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

|       |      |       |       |       |       |       |       |      |       |      |      |      |      |
|-------|------|-------|-------|-------|-------|-------|-------|------|-------|------|------|------|------|
| DBA   | 87.2 | 90.2  | 90.5  | 90.9  | 90.3  | 90.6  | 89.3  | 88.6 | 89.6  | 88.6 | 86.4 | 81.3 | 77.2 |
| PFLT  | 97.9 | 101.8 | 102.7 | 103.6 | 102.8 | 102.1 | 100.3 | 99.7 | 100.6 | 99.7 | 99.0 | 94.9 | 88.9 |
| PNL   | 97.9 | 101.1 | 101.6 | 102.1 | 101.5 | 101.1 | 99.8  | 99.2 | 100.0 | 99.7 | 99.0 | 94.9 | 88.9 |
| OASPL | 93.2 | 95.5  | 95.1  | 95.3  | 95.0  | 94.3  | 92.6  | 91.8 | 93.7  | 95.8 | 97.8 | 95.5 | 88.6 |
| 8000  |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 10000 |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 12500 |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 15000 |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 20000 |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 25000 |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 31500 |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 40000 |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 50000 |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 63000 |      |       |       |       |       |       |       |      |       |      |      |      |      |
| 80000 |      |       |       |       |       |       |       |      |       |      |      |      |      |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-1415 X1415C  
BACKGROUND 81F-400-0400  
ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.2  | 82.5  | 80.5  | 80.3  | 84.4  | 85.2  | 85.1  | 85.0  | 87.7  | 97.1  | 89.9  | 94.1  | 93.3  |
| 63    | 85.5  | 85.5  | 84.8  | 89.3  | 84.8  | 89.9  | 91.0  | 91.4  | 90.8  | 92.3  | 107.1 | 92.0  | 97.6  |
| 80    | 88.3  | 93.1  | 87.8  | 88.6  | 89.5  | 91.3  | 92.7  | 91.6  | 92.3  | 92.9  | 93.8  | 96.2  | 97.9  |
| 100   | 89.1  | 92.8  | 88.6  | 90.4  | 91.0  | 91.9  | 93.0  | 94.4  | 92.8  | 93.9  | 96.8  | 100.8 | 101.9 |
| 125   | 86.4  | 89.1  | 89.9  | 90.7  | 91.3  | 93.2  | 93.3  | 92.7  | 93.0  | 95.7  | 101.4 | 104.5 | 106.5 |
| 160   | 85.8  | 83.3  | 87.6  | 87.1  | 88.2  | 89.6  | 91.5  | 91.1  | 91.8  | 95.9  | 101.5 | 106.0 | 108.4 |
| 200   | 84.8  | 87.8  | 88.6  | 88.1  | 90.0  | 92.3  | 92.7  | 95.1  | 97.5  | 98.9  | 104.3 | 109.5 | 111.6 |
| 250   | 86.0  | 92.3  | 90.3  | 90.6  | 92.0  | 93.6  | 96.5  | 97.4  | 98.8  | 104.1 | 109.8 | 114.0 | 114.9 |
| 315   | 88.1  | 91.4  | 90.4  | 92.4  | 93.5  | 95.4  | 97.5  | 99.2  | 102.0 | 107.7 | 112.6 | 116.3 | 116.2 |
| 400   | 88.8  | 92.6  | 92.9  | 91.9  | 92.8  | 95.6  | 97.3  | 99.7  | 103.6 | 111.0 | 116.1 | 119.0 | 117.7 |
| 500   | 89.9  | 93.7  | 92.5  | 92.8  | 94.1  | 95.8  | 98.1  | 100.3 | 104.0 | 111.6 | 117.7 | 120.9 | 119.0 |
| 630   | 91.3  | 93.6  | 93.1  | 94.2  | 95.2  | 96.6  | 98.5  | 100.4 | 103.2 | 111.7 | 118.3 | 120.5 | 118.9 |
| 800   | 98.2  | 95.2  | 95.5  | 95.8  | 96.9  | 98.0  | 99.9  | 101.5 | 105.6 | 111.8 | 117.5 | 119.6 | 118.1 |
| 1000  | 110.0 | 106.0 | 104.3 | 104.1 | 102.4 | 103.3 | 104.2 | 103.6 | 106.1 | 111.4 | 117.5 | 122.4 | 122.6 |
| 1250  | 105.7 | 107.0 | 104.5 | 103.1 | 101.9 | 101.5 | 102.7 | 104.0 | 106.9 | 110.5 | 115.4 | 117.9 | 117.4 |
| 1500  | 106.5 | 105.6 | 106.6 | 107.4 | 105.2 | 103.6 | 104.0 | 106.9 | 110.5 | 115.4 | 117.9 | 116.5 | 152.3 |
| 2000  | 105.2 | 105.3 | 104.7 | 106.4 | 110.0 | 111.6 | 106.0 | 103.4 | 106.3 | 111.7 | 113.3 | 116.6 | 115.1 |
| 2500  | 103.9 | 104.0 | 103.2 | 104.3 | 103.6 | 105.2 | 106.3 | 105.3 | 106.2 | 111.1 | 112.2 | 115.5 | 113.2 |
| 3150  | 103.8 | 104.3 | 103.6 | 103.4 | 102.6 | 103.3 | 104.2 | 105.6 | 107.1 | 108.5 | 109.7 | 112.2 | 110.1 |
| 4000  | 102.5 | 103.0 | 103.3 | 103.3 | 102.6 | 103.4 | 104.2 | 106.0 | 107.1 | 108.5 | 109.7 | 112.2 | 110.1 |
| 5000  | 100.9 | 103.0 | 103.0 | 102.8 | 102.4 | 102.6 | 103.0 | 105.1 | 107.1 | 107.8 | 109.8 | 110.3 | 107.9 |
| 6300  | 100.8 | 102.7 | 102.7 | 103.2 | 103.1 | 103.3 | 102.8 | 104.0 | 106.5 | 108.9 | 108.8 | 108.8 | 147.7 |
| 8000  | 98.9  | 100.8 | 101.9 | 101.7 | 103.0 | 103.3 | 103.3 | 105.0 | 106.1 | 105.7 | 107.6 | 105.6 | 146.8 |
| 10000 | 97.7  | 99.6  | 100.4 | 101.1 | 102.4 | 102.9 | 102.5 | 103.1 | 103.9 | 104.3 | 104.3 | 104.4 | 146.5 |
| 12500 | 96.2  | 98.1  | 99.1  | 99.1  | 100.4 | 101.7 | 101.4 | 100.9 | 102.5 | 102.5 | 103.3 | 104.4 | 145.7 |
| 15000 | 93.6  | 96.2  | 97.2  | 97.6  | 99.1  | 99.1  | 99.6  | 100.0 | 99.4  | 100.0 | 99.6  | 144.8 |       |
| 16000 | 93.6  | 96.2  | 97.2  | 97.6  | 99.1  | 99.1  | 99.6  | 100.0 | 99.4  | 100.0 | 99.6  | 144.8 |       |
| 20000 | 91.3  | 92.9  | 94.5  | 94.8  | 95.1  | 96.9  | 97.3  | 97.6  | 97.9  | 96.5  | 97.7  | 100.1 | 96.6  |
| 25000 | 87.0  | 90.1  | 90.8  | 90.9  | 93.1  | 95.2  | 94.3  | 95.2  | 93.7  | 94.4  | 97.6  | 92.9  | 143.7 |
| 31500 | 82.0  | 86.3  | 87.1  | 87.5  | 89.2  | 91.6  | 91.7  | 91.7  | 92.2  | 90.2  | 91.2  | 88.2  | 143.4 |
| 40000 | 78.1  | 81.8  | 83.5  | 83.9  | 86.0  | 87.6  | 88.3  | 88.2  | 89.5  | 85.9  | 88.8  | 91.0  | 85.2  |
| 50000 | 73.9  | 77.4  | 79.6  | 81.0  | 84.0  | 84.3  | 83.6  | 83.4  | 83.4  | 86.0  | 86.0  | 89.9  | 82.4  |
| 63000 | 67.3  | 73.5  | 75.6  | 76.4  | 78.9  | 80.5  | 80.8  | 79.6  | 82.8  | 80.1  | 83.7  | 88.5  | 78.9  |
| 80000 | 61.8  | 71.1  | 73.0  | 72.4  | 75.4  | 76.3  | 76.4  | 75.2  | 79.2  | 75.1  | 79.6  | 83.7  | 73.6  |
| GASPL | 115.3 | 115.1 | 114.6 | 115.0 | 115.3 | 116.3 | 115.6 | 116.1 | 118.1 | 122.5 | 126.8 | 129.8 | 128.8 |
| PNL   | 126.8 | 127.5 | 127.1 | 128.6 | 129.8 | 128.6 | 129.2 | 130.9 | 134.5 | 137.4 | 139.9 | 141.0 | 139.9 |
| PFLT  | 129.8 | 129.1 | 128.4 | 128.7 | 130.4 | 132.2 | 128.6 | 129.2 | 130.9 | 134.5 | 137.4 | 141.0 | 139.9 |
| DBA   | 115.7 | 115.4 | 114.8 | 115.2 | 115.5 | 116.5 | 115.4 | 115.7 | 117.8 | 121.8 | 125.9 | 128.9 | 127.7 |

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NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH060 TEST DATE = 08-24-81 LCAT = C1 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.71 RELHUM = 57.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =  
 FNINI = LBS XNLR RPM XNHR RPM XNHL RPM V8 = 1712.5 FPS AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM V8 = 1712.5 FPS AE18 = 0. SQ IN  
 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-1415 X1415F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.2  | 82.5  | 80.5  | 80.3  | 84.4  | 85.2  | 85.1  | 85.0  | 87.7  | 97.1  | 89.9  | 94.1  | 93.3  | 131.3 |
| 50    | 83.2  | 82.5  | 80.5  | 80.3  | 84.4  | 85.2  | 85.1  | 85.0  | 87.7  | 97.1  | 89.9  | 94.1  | 93.3  | 131.3 |
| 63    | 85.5  | 85.5  | 85.3  | 84.8  | 89.9  | 91.0  | 91.4  | 90.8  | 92.3  | 107.1 | 92.0  | 98.4  | 97.6  | 139.2 |
| 63    | 85.5  | 85.5  | 85.3  | 84.8  | 89.9  | 91.0  | 91.4  | 90.8  | 92.3  | 107.1 | 92.0  | 98.4  | 97.6  | 139.2 |
| 80    | 88.3  | 87.8  | 88.6  | 88.5  | 91.3  | 92.7  | 91.6  | 92.3  | 92.7  | 97.9  | 93.8  | 96.2  | 97.9  | 134.3 |
| 80    | 88.3  | 87.8  | 88.6  | 88.5  | 91.3  | 92.7  | 91.6  | 92.3  | 92.7  | 97.9  | 93.8  | 96.2  | 97.9  | 134.3 |
| 100   | 89.1  | 92.8  | 88.6  | 89.4  | 91.0  | 91.9  | 93.0  | 94.4  | 92.8  | 93.9  | 96.8  | 100.8 | 101.9 | 136.5 |
| 100   | 89.1  | 92.8  | 88.6  | 89.4  | 91.0  | 91.9  | 93.0  | 94.4  | 92.8  | 93.9  | 96.8  | 100.8 | 101.9 | 136.5 |
| 125   | 86.4  | 89.1  | 89.9  | 90.7  | 91.3  | 93.2  | 93.3  | 92.7  | 93.0  | 95.7  | 101.4 | 104.5 | 106.5 | 139.2 |
| 125   | 86.4  | 89.1  | 89.9  | 90.7  | 91.3  | 93.2  | 93.3  | 92.7  | 93.0  | 95.7  | 101.4 | 104.5 | 106.5 | 139.2 |
| 150   | 85.8  | 83.3  | 87.6  | 87.1  | 88.2  | 89.6  | 91.5  | 91.1  | 91.8  | 95.9  | 101.5 | 106.0 | 108.4 | 139.9 |
| 150   | 85.8  | 83.3  | 87.6  | 87.1  | 88.2  | 89.6  | 91.5  | 91.1  | 91.8  | 95.9  | 101.5 | 106.0 | 108.4 | 139.9 |
| 200   | 84.8  | 87.8  | 88.6  | 88.1  | 90.0  | 92.3  | 92.7  | 95.1  | 97.5  | 98.9  | 104.3 | 109.5 | 111.6 | 143.1 |
| 200   | 84.8  | 87.8  | 88.6  | 88.1  | 90.0  | 92.3  | 92.7  | 95.1  | 97.5  | 98.9  | 104.3 | 109.5 | 111.6 | 143.1 |
| 250   | 86.0  | 92.3  | 90.3  | 90.6  | 92.0  | 93.6  | 96.5  | 97.4  | 98.8  | 104.1 | 109.8 | 114.0 | 114.9 | 147.2 |
| 250   | 86.0  | 92.3  | 90.3  | 90.6  | 92.0  | 93.6  | 96.5  | 97.4  | 98.8  | 104.1 | 109.8 | 114.0 | 114.9 | 147.2 |
| 315   | 88.1  | 91.4  | 90.4  | 92.4  | 93.5  | 95.4  | 97.5  | 99.2  | 102.0 | 107.7 | 112.6 | 116.3 | 116.2 | 149.4 |
| 315   | 88.1  | 91.4  | 90.4  | 92.4  | 93.5  | 95.4  | 97.5  | 99.2  | 102.0 | 107.7 | 112.6 | 116.3 | 116.2 | 149.4 |
| 400   | 88.8  | 92.6  | 92.9  | 91.9  | 92.8  | 95.6  | 97.3  | 99.7  | 103.6 | 111.0 | 116.1 | 119.0 | 117.7 | 152.0 |
| 400   | 88.8  | 92.6  | 92.9  | 91.9  | 92.8  | 95.6  | 97.3  | 99.7  | 103.6 | 111.0 | 116.1 | 119.0 | 117.7 | 152.0 |
| 500   | 89.9  | 93.7  | 92.5  | 92.8  | 94.1  | 95.8  | 98.1  | 100.3 | 104.0 | 111.6 | 117.7 | 120.9 | 119.0 | 153.5 |
| 500   | 89.9  | 93.7  | 92.5  | 92.8  | 94.1  | 95.8  | 98.1  | 100.3 | 104.0 | 111.6 | 117.7 | 120.9 | 119.0 | 153.5 |
| 630   | 91.3  | 93.6  | 93.1  | 94.2  | 95.2  | 96.6  | 98.5  | 100.4 | 103.2 | 111.7 | 118.3 | 120.5 | 118.9 | 153.5 |
| 630   | 91.3  | 93.6  | 93.1  | 94.2  | 95.2  | 96.6  | 98.5  | 100.4 | 103.2 | 111.7 | 118.3 | 120.5 | 118.9 | 153.5 |
| 800   | 92.0  | 95.5  | 95.8  | 96.9  | 98.0  | 99.9  | 101.5 | 105.6 | 111.7 | 117.5 | 119.5 | 122.4 | 119.5 | 152.9 |
| 800   | 92.0  | 95.5  | 95.8  | 96.9  | 98.0  | 99.9  | 101.5 | 105.6 | 111.7 | 117.5 | 119.5 | 122.4 | 119.5 | 152.9 |
| 1000  | 110.0 | 106.0 | 104.3 | 104.1 | 102.4 | 103.3 | 104.2 | 103.6 | 106.1 | 111.4 | 112.5 | 117.4 | 115.4 | 152.5 |
| 1000  | 110.0 | 106.0 | 104.3 | 104.1 | 102.4 | 103.3 | 104.2 | 103.6 | 106.1 | 111.4 | 112.5 | 117.4 | 115.4 | 152.5 |
| 1250  | 105.7 | 107.0 | 104.5 | 103.1 | 101.9 | 101.7 | 103.0 | 103.1 | 103.3 | 105.0 | 106.1 | 105.7 | 107.6 | 146.8 |
| 1250  | 105.7 | 107.0 | 104.5 | 103.1 | 101.9 | 101.7 | 103.0 | 103.1 | 103.3 | 105.0 | 106.1 | 105.7 | 107.6 | 146.8 |
| 1500  | 93.6  | 96.2  | 97.1  | 97.2  | 97.6  | 99.1  | 99.7  | 100.5 | 100.0 | 99.4  | 100.0 | 102.1 | 99.6  | 144.8 |
| 1500  | 93.6  | 96.2  | 97.1  | 97.2  | 97.6  | 99.1  | 99.7  | 100.5 | 100.0 | 99.4  | 100.0 | 102.1 | 99.6  | 144.8 |
| 16000 | 61.8  | 71.1  | 73.0  | 72.4  | 75.4  | 76.3  | 76.4  | 75.2  | 79.2  | 75.1  | 79.6  | 83.7  | 73.6  | 150.3 |
| 16000 | 61.8  | 71.1  | 73.0  | 72.4  | 75.4  | 76.3  | 76.4  | 75.2  | 79.2  | 75.1  | 79.6  | 83.7  | 73.6  | 150.3 |
| 20000 | 91.3  | 92.9  | 94.5  | 94.8  | 95.1  | 96.9  | 97.3  | 97.6  | 97.9  | 96.5  | 97.7  | 100.1 | 96.6  | 144.1 |
| 20000 | 91.3  | 92.9  | 94.5  | 94.8  | 95.1  | 96.9  | 97.3  | 97.6  | 97.9  | 96.5  | 97.7  | 100.1 | 96.6  | 144.1 |
| 25000 | 87.0  | 90.1  | 90.8  | 90.9  | 93.1  | 95.2  | 95.2  | 94.3  | 95.2  | 93.7  | 94.4  | 97.6  | 92.9  | 143.7 |
| 25000 | 87.0  | 90.1  | 90.8  | 90.9  | 93.1  | 95.2  | 95.2  | 94.3  | 95.2  | 93.7  | 94.4  | 97.6  | 92.9  | 143.7 |
| 31500 | 82.0  | 86.3  | 87.1  | 87.5  | 89.2  | 91.6  | 91.7  | 91.7  | 92.2  | 90.2  | 91.2  | 93.7  | 88.2  | 143.4 |
| 31500 | 82.0  | 86.3  | 87.1  | 87.5  | 89.2  | 91.6  | 91.7  | 91.7  | 92.2  | 90.2  | 91.2  | 93.7  | 88.2  | 143.4 |
| 40000 | 78.1  | 81.8  | 83.5  | 83.9  | 86.0  | 87.6  | 88.3  | 88.2  | 89.5  | 85.9  | 88.8  | 91.0  | 85.2  | 144.1 |
| 40000 | 78.1  | 81.8  | 83.5  | 83.9  | 86.0  | 87.6  | 88.3  | 88.2  | 89.5  | 85.9  | 88.8  | 91.0  | 85.2  | 144.1 |
| 50000 | 67.3  | 73.5  | 75.6  | 76.4  | 78.9  | 80.5  | 80.8  | 79.6  | 82.8  | 80.1  | 83.7  | 88.5  | 78.9  | 147.7 |
| 50000 | 67.3  | 73.5  | 75.6  | 76.4  | 78.9  | 80.5  | 80.8  | 79.6  | 82.8  | 80.1  | 83.7  | 88.5  | 78.9  | 147.7 |
| 63000 | 73.9  | 77.4  | 79.6  | 81.0  | 84.0  | 84.3  | 83.6  | 85.9  | 83.4  | 86.0  | 89.9  | 82.4  | 145.1 |       |
| 63000 | 73.9  | 77.4  | 79.6  | 81.0  | 84.0  | 84.3  | 83.6  | 85.9  | 83.4  | 86.0  | 89.9  | 82.4  | 145.1 |       |
| 80000 | 61.8  | 71.1  | 73.0  | 72.4  | 75.4  | 76.3  | 76.4  | 75.2  | 79.2  | 75.1  | 79.6  | 83.7  | 73.6  | 150.3 |
| 80000 | 61.8  | 71.1  | 73.0  | 72.4  | 75.4  | 76.3  | 76.4  | 75.2  | 79.2  | 75.1  | 79.6  | 83.7  | 73.6  | 150.3 |
| DBA   | 183.8 | 192.0 | 193.9 | 193.6 | 196.5 | 197.6 | 197.7 | 196.5 | 200.3 | 196.6 | 200.8 | 205.0 | 195.2 |       |
| DBA   | 183.8 | 192.0 | 193.9 | 193.6 | 196.5 | 197.6 | 197.7 | 196.5 | 200.3 | 196.6 | 200.8 | 205.0 | 195.2 |       |
| PWL   | 126.8 | 127.5 | 127.0 | 127.1 | 128.6 | 129.8 | 128.6 | 129.2 | 130.9 | 134.5 | 137.4 | 139.9 | 138.3 |       |
| PWL   | 126.8 | 127.5 | 127.0 | 127.1 | 128.6 | 129.8 | 128.6 | 129.2 | 130.9 | 134.5 | 137.4 | 139.9 | 138.3 |       |
| PNL   | 129.8 | 129.1 | 128.4 | 128.7 | 130.4 | 132.2 | 128.6 | 129.2 | 130.9 | 134.5 | 137.4 | 141.0 | 139.9 |       |
| PNL   | 129.8 | 129.1 | 128.4 | 128.7 | 130.4 | 132.2 | 128.6 | 129.2 | 130.9 | 134.5 | 137.4 | 141.0 | 139.9 |       |
| GASPL | 115.3 | 115.1 | 114.6 | 115.0 | 115.3 | 116.3 | 115.6 | 116.1 | 118.1 | 122.5 | 126.8 | 129.8 | 128.8 | 164.3 |
| GASPL | 115.3 | 115.1 | 114.6 | 115.0 | 115.3 | 116.3 | 115.6 | 116.1 | 118.1 | 122.5 | 126.8 | 129.8 | 128.8 | 164.3 |

ORIGINAL PAGE IS  
OF POOR QUALITY

VEHICLE = ADH060 TEST DATE = 08-24-81  
 IAPLHA = SB59 IEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 LOCAL = C41 ANECH CH CONFIG = 4  
 MODEL = 4  
 PAMB HG = 29.71  
 RELHUM = 57.6 PCT  
 NBFR =

TEST PT NO = 1415 NC = 862 CORR FAN SPEED = RPM

LNLR = XNLR LBS XNHR = RPM XNHR = RPM  
 LNLR = XNLR LBS XNHR = RPM XNHR = RPM  
 LNLR = XNLR LBS XNHR = RPM XNHR = RPM

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ, SC-4/NAS3-22514

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1415 X14151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.                  | 50.       | 60.                  | 70.                  | 80.                  | 90.                  | 100.                 | 110.                 | 120.                 | 130.                 | 140.                 | 150.                 | 160.                 |
|---|----------------------|-----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 50  | 66.8                 | 72.1      | 73.5                 | 73.2                 | 74.5                 | 77.5                 | 79.0                 | 81.0                 | 84.2                 | 90.5                 | 94.1                 | 94.8                 | 90.1                 |
| 63  | 67.9                 | 73.2      | 73.1                 | 74.1                 | 75.8                 | 77.6                 | 79.8                 | 81.7                 | 84.6                 | 91.1                 | 95.7                 | 96.6                 | 91.4                 |
| 80  | 69.2                 | 73.1      | 73.7                 | 75.4                 | 76.9                 | 78.4                 | 80.2                 | 81.7                 | 83.7                 | 91.2                 | 96.2                 | 96.2                 | 91.2                 |
| 100   | 76.0                 | 74.6      | 77.0                 | 77.0                 | 78.5                 | 79.8                 | 81.5                 | 82.8                 | 86.1                 | 91.2                 | 95.3                 | 95.2                 | 90.2                 |
| 125   | 87.7                 | 85.3      | 84.7                 | 85.2                 | 84.0                 | 85.0                 | 85.7                 | 84.7                 | 86.5                 | 90.7                 | 95.2                 | 97.8                 | 94.5                 |
| 160   | 83.3                 | 86.2      | 84.8                 | 83.4                 | 83.1                 | 84.1                 | 84.1                 | 84.1                 | 87.0                 | 90.3                 | 93.3                 | 93.9                 | 89.0                 |
| 200   | 83.8                 | 84.5      | 86.7                 | 86.2                 | 86.5                 | 85.0                 | 84.6                 | 84.8                 | 86.9                 | 89.4                 | 92.7                 | 92.8                 | 87.8                 |
| 250   | 82.1                 | 84.0      | 84.6                 | 87.0                 | 91.0                 | 92.8                 | 87.0                 | 84.0                 | 86.1                 | 90.3                 | 90.2                 | 91.0                 | 85.5                 |
| 315   | 80.4                 | 82.3      | 84.6                 | 84.4                 | 86.2                 | 87.1                 | 85.6                 | 85.8                 | 89.4                 | 88.7                 | 89.4                 | 82.9                 | 167.9                |
| 400   | 79.8                 | 82.2      | 82.8                 | 83.4                 | 83.4                 | 85.2                 | 85.4                 | 85.6                 | 87.8                 | 88.5                 | 86.7                 | 79.9                 | 167.1                |
| 500   | 78.0                 | 80.5      | 82.1                 | 83.0                 | 82.8                 | 83.7                 | 84.4                 | 85.8                 | 85.9                 | 86.0                 | 85.3                 | 84.7                 | 166.1                |
| 630   | 76.0                 | 80.1      | 81.5                 | 82.2                 | 82.4                 | 82.8                 | 83.0                 | 84.5                 | 85.7                 | 84.9                 | 84.8                 | 82.2                 | 165.5                |
| 800   | 75.4                 | 79.5      | 80.9                 | 82.3                 | 82.8                 | 83.2                 | 84.8                 | 83.6                 | 82.5                 | 81.2                 | 74.5                 | 165.2                | 165.2                |
| 1000  | 73.0                 | 77.2      | 79.0                 | 80.9                 | 81.3                 | 82.8                 | 82.7                 | 83.0                 | 82.6                 | 79.9                 | 78.1                 | 69.9                 | 164.2                |
| 1250  | 71.3                 | 75.7      | 78.1                 | 80.0                 | 81.8                 | 82.5                 | 81.9                 | 81.7                 | 80.4                 | 77.9                 | 76.5                 | 67.2                 | 164.0                |
| 1600  | 68.9                 | 73.6      | 76.4                 | 77.6                 | 79.6                 | 81.0                 | 80.5                 | 79.4                 | 79.9                 | 78.0                 | 72.8                 | 62.2                 | 163.1                |
| 2000  | 65.3                 | 71.1      | 74.1                 | 75.5                 | 76.6                 | 78.3                 | 78.7                 | 77.0                 | 74.3                 | 71.8                 | 68.9                 | 57.1                 | 162.2                |
| 2500  | 61.2                 | 66.6      | 70.6                 | 72.4                 | 73.6                 | 75.6                 | 75.2                 | 73.9                 | 70.2                 | 67.7                 | 64.0                 | 49.1                 | 161.5                |
| 3150  | 53.7                 | 61.4      | 65.0                 | 67.0                 | 70.1                 | 72.5                 | 72.2                 | 70.4                 | 69.4                 | 65.0                 | 61.1                 | 56.6                 | 37.1                 |
| 4000  | 42.4                 | 52.8      | 57.4                 | 60.2                 | 63.3                 | 66.1                 | 65.8                 | 64.4                 | 62.6                 | 56.7                 | 51.6                 | 43.7                 | 17.9                 |
| 5000  | 28.7                 | 40.8      | 47.6                 | 51.2                 | 55.1                 | 57.3                 | 57.4                 | 55.5                 | 53.6                 | 44.9                 | 39.4                 | 27.3                 | 161.8                |
| 6300  | 6.7                  | 22.2      | 31.2                 | 36.1                 | 40.0                 | 43.8                 | 43.3                 | 40.1                 | 38.0                 | 28.2                 | 18.9                 | 2.1                  | 162.6                |
| 8000  |                      |           | 6.3                  | 13.7                 | 19.8                 | 22.5                 | 21.7                 | 16.9                 | 13.6                 | 0.1                  |                      |                      | 167.7                |
| 10000   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 165.1                |
| 12500   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 167.7                |
| 15000   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 167.7                |
| 20000   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 167.7                |
| 25000   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 167.7                |
| 31500   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 167.7                |
| 40000   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 167.7                |
| 50000   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 167.7                |
| 63000   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 167.7                |
| 80000   |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 167.7                |
| QASPL   | 92.2                 | 93.3      | 94.0                 | 95.1                 | 95.9                 | 97.0                 | 96.0                 | 95.8                 | 97.3                 | 100.8                | 103.9                | 104.6                | 99.9                 |
| PNL   | 95.3                 | 97.6      | 99.2                 | 100.6                | 102.5                | 103.9                | 102.4                | 102.3                | 102.7                | 104.2                | 105.1                | 105.4                | 100.0                |
| PFLT  | 96.6                 | 98.4      | 99.9                 | 101.4                | 103.4                | 105.1                | 102.4                | 102.3                | 102.7                | 104.8                | 105.1                | 105.9                | 100.8                |
| DBA   | 84.1                 | 87.2      | 88.7                 | 90.1                 | 91.0                 | 92.1                 | 91.6                 | 91.6                 | 92.1                 | 92.4                 | 92.3                 | 91.9                 | 85.8                 |
| MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN )               |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)             |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| DIAMETER RATIO = 7.442                                |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| FREQ SHIFT = -9                                       |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 |                      |           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| VEHICLE = ADH060                                      | TEST DATE = 08-24-81 | LEGA = NO | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT |
| IAPLHA = SB59   | TEST DATE = 08-24-81 | LEGA = NO | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT |
| WIND DIR = SB59                                       | TEST DATE = 08-24-81 | LEGA = NO | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT | EXT DIST = 2400.0 FT |
| FNI1 = LBS XNL  | RPM                  | XNH       | RPM                  | V8                   | = 1712.5 FPS         | AE8                  | = 25.3 SQ IN         | AE18                 | = 0. SQ IN           | NBR                  | = 0. FPS             | RELHUM               | = 57.6 PCT           |
| FNRAMB = LBS XNLR                                     | RPM                  | XNHR      | RPM                  | V18                  | = 1712.5 FPS         | AE18                 | = 25.3 SQ IN         | AE18                 | = 0. SQ IN           | NBR                  | = 0. FPS             | RELHUM               | = 57.6 PCT           |
| RUNPT = 81F-ZER-1415                                  | TAPE                 | = X14151  | TEST PT NO = 1415    | NC                   | = 862                | CORR FAN SPEED =     | RPM                  |                      |                      |                      |                      |                      |                      |

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 OF POOR QUALITY

DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1416 X1416C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.2  | 84.5  | 80.5  | 83.4  | 84.5  | 84.1  | 85.5  | 87.7  | 98.6  | 92.7  | 92.4  | 96.0  | 132.4 |
| 63    | 85.7  | 86.5  | 86.0  | 84.8  | 90.2  | 91.3  | 91.8  | 108.4 | 92.7  | 92.2  | 96.8  | 140.0 |       |
| 80    | 89.3  | 93.8  | 88.6  | 88.9  | 89.0  | 91.6  | 93.0  | 92.4  | 92.5  | 94.0  | 96.5  | 134.7 |       |
| 100   | 88.3  | 92.6  | 88.1  | 89.7  | 90.0  | 90.6  | 91.7  | 93.4  | 91.5  | 91.9  | 95.1  | 135.5 |       |
| 125   | 86.4  | 88.4  | 88.9  | 90.2  | 90.8  | 92.4  | 92.5  | 91.7  | 91.8  | 94.2  | 99.9  | 138.1 |       |
| 160   | 83.8  | 82.3  | 85.9  | 86.5  | 87.3  | 89.0  | 88.9  | 89.8  | 94.7  | 100.8 | 104.5 | 138.7 |       |
| 200   | 83.8  | 83.6  | 85.1  | 86.7  | 87.1  | 89.1  | 92.6  | 94.8  | 95.9  | 101.0 | 107.2 | 140.6 |       |
| 250   | 83.5  | 87.1  | 86.3  | 87.4  | 88.7  | 90.1  | 92.5  | 94.6  | 96.3  | 101.4 | 108.3 | 144.9 |       |
| 315   | 83.3  | 86.4  | 86.4  | 87.4  | 88.8  | 91.9  | 94.0  | 96.7  | 99.8  | 105.5 | 112.4 | 146.4 |       |
| 400   | 85.1  | 86.6  | 87.1  | 87.7  | 88.3  | 91.1  | 93.3  | 95.7  | 100.4 | 107.5 | 114.5 | 147.4 |       |
| 500   | 85.0  | 87.5  | 88.8  | 90.1  | 92.0  | 94.1  | 96.5  | 100.7 | 108.1 | 113.5 | 114.6 | 147.8 |       |
| 630   | 86.3  | 88.4  | 88.1  | 88.7  | 90.0  | 91.9  | 93.8  | 96.7  | 98.9  | 108.4 | 114.1 | 147.6 |       |
| 800   | 94.7  | 96.7  | 94.1  | 98.6  | 96.0  | 97.6  | 102.6 | 108.3 | 113.5 | 111.6 | 99.8  | 147.1 |       |
| 1000  | 101.7 | 99.5  | 95.8  | 94.3  | 93.4  | 94.5  | 95.9  | 97.6  | 101.1 | 107.1 | 108.2 | 145.8 |       |
| 1250  | 103.7 | 106.3 | 103.6 | 101.3 | 97.7  | 95.5  | 96.2  | 98.1  | 101.5 | 107.1 | 110.5 | 145.8 |       |
| 1500  | 102.8 | 103.6 | 109.4 | 109.2 | 104.8 | 99.3  | 99.2  | 102.3 | 107.3 | 109.9 | 103.5 | 148.1 |       |
| 2000  | 100.4 | 101.1 | 100.7 | 101.9 | 103.7 | 106.3 | 103.0 | 99.9  | 102.3 | 107.4 | 107.5 | 145.8 |       |
| 2500  | 99.9  | 100.2 | 99.5  | 99.8  | 102.2 | 105.1 | 103.0 | 102.5 | 107.3 | 105.9 | 100.2 | 145.0 |       |
| 3150  | 100.3 | 101.3 | 99.6  | 99.4  | 99.5  | 99.8  | 101.4 | 103.1 | 103.4 | 106.1 | 105.5 | 144.2 |       |
| 4000  | 100.0 | 100.3 | 99.8  | 99.8  | 99.2  | 102.3 | 103.6 | 103.7 | 103.2 | 98.2  | 91.9  | 143.4 |       |
| 5000  | 99.7  | 100.3 | 99.5  | 99.5  | 99.4  | 99.1  | 100.6 | 103.7 | 104.3 | 102.8 | 96.6  | 143.3 |       |
| 6300  | 99.4  | 100.6 | 99.5  | 100.2 | 99.9  | 99.9  | 99.8  | 102.9 | 103.5 | 101.5 | 96.1  | 143.2 |       |
| 8000  | 97.2  | 98.8  | 98.4  | 98.8  | 99.0  | 99.6  | 99.6  | 101.7 | 99.1  | 94.7  | 89.0  | 142.2 |       |
| 10000 | 96.8  | 97.5  | 97.3  | 99.0  | 99.6  | 98.6  | 99.2  | 99.6  | 100.0 | 98.5  | 93.7  | 142.2 |       |
| 12500 | 95.2  | 95.6  | 96.6  | 98.2  | 98.2  | 97.9  | 97.6  | 98.6  | 98.0  | 96.0  | 91.9  | 141.6 |       |
| 15000 | 91.7  | 93.6  | 94.1  | 94.6  | 95.0  | 96.5  | 96.3  | 97.1  | 96.7  | 95.2  | 93.2  | 140.9 |       |
| 20000 | 89.5  | 91.3  | 91.4  | 91.9  | 92.7  | 94.2  | 94.5  | 92.4  | 90.6  | 87.9  | 82.6  | 140.2 |       |
| 25000 | 85.5  | 87.7  | 87.4  | 88.3  | 90.3  | 92.2  | 91.8  | 91.2  | 89.0  | 87.5  | 85.1  | 139.8 |       |
| 31500 | 80.8  | 83.9  | 83.2  | 84.0  | 86.2  | 88.3  | 89.0  | 88.2  | 88.4  | 85.5  | 84.6  | 139.4 |       |
| 40000 | 76.0  | 79.2  | 80.1  | 80.4  | 82.8  | 84.6  | 85.3  | 84.7  | 85.1  | 80.5  | 81.6  | 139.7 |       |
| 50000 | 71.1  | 75.4  | 75.1  | 76.4  | 78.3  | 81.0  | 81.3  | 79.9  | 81.1  | 76.5  | 77.7  | 139.9 |       |
| 63000 | 66.0  | 73.4  | 71.7  | 73.2  | 75.9  | 77.0  | 77.6  | 75.8  | 77.2  | 74.3  | 70.7  | 141.1 |       |
| 80000 | 61.9  | 73.3  | 71.1  | 68.6  | 74.0  | 73.2  | 73.8  | 69.3  | 71.9  | 67.6  | 69.0  | 144.9 |       |
| QASPL | 111.5 | 112.5 | 112.1 | 113.0 | 113.1 | 112.7 | 112.1 | 112.6 | 114.4 | 119.1 | 122.2 | 118.9 | 159.0 |
| PNL   | 123.6 | 124.6 | 124.3 | 125.6 | 125.7 | 125.6 | 125.8 | 126.0 | 127.4 | 131.0 | 131.8 | 129.8 | 125.6 |
| PNLT  | 123.6 | 126.2 | 126.8 | 129.0 | 128.6 | 127.9 | 125.8 | 126.0 | 127.4 | 131.0 | 131.8 | 129.8 | 125.6 |
| DBA   | 111.7 | 112.7 | 112.4 | 113.4 | 113.3 | 112.7 | 111.8 | 112.1 | 113.9 | 118.1 | 120.9 | 118.9 | 112.8 |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH081 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT  
 WIND DIR = MIND WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRFR =  
 FNINI = LBS XNL RPM XNH RPM XNHR = V8 RPM V8 = 1726.9 FPS AEB = 25.3 SQ IN  
 FNRAMB = LBS XNLR = X1416C TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1416 X1416F

ANGLES MEASURED FROM INLET, DEGREES

| FRQZ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   | 90.7  | 93.0  | 90.9  | 90.5  | 90.2  | 90.1  | 90.6  | 91.0  | 96.3  | 101.1 | 104.9 | 109.1 | 142.6 |
| 250   | 90.7  | 93.0  | 90.9  | 90.5  | 90.6  | 92.1  | 92.7  | 93.9  | 97.1  | 103.4 | 107.6 | 109.8 | 144.1 |
| 315   | 90.7  | 93.0  | 90.9  | 90.5  | 90.6  | 91.4  | 92.0  | 93.9  | 98.9  | 105.6 | 110.8 | 113.2 | 146.1 |
| 400   | 91.0  | 92.8  | 90.1  | 91.4  | 92.0  | 93.4  | 92.0  | 94.8  | 97.6  | 106.8 | 112.7 | 114.4 | 147.3 |
| 500   | 92.3  | 92.7  | 91.9  | 91.0  | 92.0  | 92.3  | 93.4  | 94.8  | 97.6  | 106.8 | 112.7 | 114.4 | 147.3 |
| 550   | 92.3  | 92.7  | 91.9  | 91.0  | 92.0  | 92.3  | 93.4  | 94.8  | 97.6  | 106.8 | 112.7 | 114.4 | 147.3 |
| 630   | 92.6  | 93.9  | 92.5  | 92.3  | 91.9  | 92.3  | 93.1  | 95.0  | 101.5 | 107.0 | 112.6 | 113.6 | 147.0 |
| 680   | 93.2  | 92.8  | 92.0  | 92.6  | 92.5  | 95.2  | 97.8  | 100.3 | 106.2 | 112.6 | 111.4 | 108.2 | 146.5 |
| 800   | 93.2  | 92.8  | 92.0  | 92.6  | 92.5  | 95.2  | 97.8  | 100.3 | 106.2 | 112.6 | 111.4 | 108.2 | 146.5 |
| 1000  | 99.7  | 101.0 | 101.0 | 96.6  | 95.8  | 95.2  | 95.3  | 95.9  | 100.7 | 106.3 | 110.4 | 108.8 | 145.3 |
| 1250  | 112.0 | 108.0 | 102.2 | 98.5  | 99.5  | 96.3  | 95.7  | 96.5  | 101.5 | 106.5 | 109.8 | 106.9 | 147.3 |
| 1500  | 112.0 | 108.0 | 102.2 | 98.5  | 99.5  | 96.3  | 95.7  | 96.5  | 101.5 | 106.5 | 109.8 | 106.9 | 147.3 |
| 1600  | 111.0 | 112.4 | 108.2 | 104.5 | 111.7 | 99.0  | 97.7  | 97.4  | 107.4 | 108.2 | 105.8 | 105.7 | 150.0 |
| 2000  | 110.4 | 111.8 | 106.4 | 103.2 | 106.4 | 103.4 | 99.0  | 97.7  | 103.0 | 107.6 | 107.0 | 104.9 | 150.7 |
| 2500  | 108.1 | 107.6 | 106.1 | 105.9 | 101.8 | 103.8 | 102.7 | 104.0 | 106.5 | 106.6 | 103.6 | 104.8 | 147.6 |
| 3150  | 105.1 | 105.0 | 103.6 | 103.1 | 102.2 | 101.8 | 102.4 | 102.8 | 105.1 | 105.9 | 103.5 | 104.7 | 146.1 |
| 3500  | 105.1 | 105.0 | 103.6 | 103.1 | 102.2 | 101.8 | 102.4 | 102.8 | 105.1 | 105.9 | 103.5 | 104.7 | 146.1 |
| 4000  | 106.0 | 106.3 | 103.7 | 102.7 | 101.8 | 101.4 | 101.0 | 102.9 | 105.2 | 105.5 | 104.6 | 103.8 | 146.1 |
| 5000  | 105.4 | 105.1 | 104.2 | 103.4 | 103.0 | 102.4 | 101.1 | 101.3 | 104.7 | 105.0 | 103.7 | 101.7 | 146.1 |
| 6300  | 104.6 | 105.0 | 103.9 | 103.4 | 103.6 | 102.9 | 101.0 | 100.8 | 103.1 | 104.2 | 102.3 | 101.4 | 145.9 |
| 8000  | 104.6 | 105.6 | 104.0 | 104.2 | 103.0 | 102.6 | 101.3 | 100.6 | 102.9 | 103.2 | 102.4 | 101.0 | 146.3 |
| 8000  | 104.6 | 105.6 | 104.0 | 104.2 | 103.0 | 102.6 | 101.3 | 100.6 | 102.9 | 103.2 | 102.4 | 101.0 | 146.3 |
| 12500 | 103.7 | 103.7 | 102.5 | 103.3 | 102.2 | 101.2 | 100.3 | 99.4  | 101.4 | 99.9  | 98.7  | 98.7  | 146.1 |
| 15000 | 103.7 | 103.7 | 102.5 | 103.3 | 102.2 | 101.2 | 100.3 | 99.4  | 101.4 | 99.9  | 98.7  | 98.7  | 146.1 |
| 16000 | 101.5 | 101.2 | 101.3 | 100.6 | 99.0  | 99.5  | 98.8  | 99.1  | 99.3  | 97.2  | 95.9  | 96.2  | 145.4 |
| 20000 | 97.6  | 98.8  | 98.4  | 98.0  | 96.7  | 97.2  | 96.4  | 95.9  | 97.2  | 94.6  | 93.9  | 94.8  | 144.5 |
| 25000 | 94.9  | 95.9  | 95.1  | 94.6  | 94.4  | 95.2  | 94.7  | 92.8  | 95.0  | 92.3  | 92.4  | 92.6  | 144.3 |
| 31500 | 90.1  | 91.5  | 90.6  | 90.2  | 90.3  | 91.3  | 91.5  | 90.2  | 92.5  | 88.1  | 90.1  | 90.1  | 143.8 |
| 40000 | 84.5  | 86.9  | 85.3  | 85.1  | 86.8  | 87.6  | 87.7  | 86.7  | 88.7  | 84.3  | 86.4  | 86.6  | 143.7 |
| 50000 | 79.3  | 81.8  | 81.1  | 82.9  | 80.0  | 83.8  | 81.7  | 85.6  | 80.7  | 83.7  | 83.7  | 83.7  | 144.3 |
| 63000 | 76.2  | 79.3  | 77.5  | 77.3  | 80.5  | 80.0  | 77.6  | 81.5  | 77.3  | 79.7  | 79.4  | 75.6  | 145.9 |
| 80000 | 69.7  | 75.8  | 72.7  | 72.6  | 78.3  | 76.2  | 76.0  | 70.8  | 71.7  | 67.5  | 69.9  | 65.8  | 147.6 |
| GASPL | 118.5 | 118.3 | 116.9 | 116.7 | 115.8 | 114.4 | 113.0 | 112.3 | 115.1 | 118.1 | 121.1 | 121.4 | 119.2 |
| PML   | 129.6 | 129.6 | 129.3 | 129.5 | 127.6 | 126.4 | 125.8 | 124.8 | 127.6 | 129.8 | 130.7 | 129.6 | 129.5 |
| PMLT  | 131.9 | 130.7 | 130.9 | 132.2 | 130.6 | 128.7 | 125.8 | 124.8 | 127.6 | 129.8 | 130.7 | 129.6 | 129.5 |
| DBA   | 191.7 | 196.9 | 194.2 | 194.0 | 199.1 | 197.4 | 197.2 | 193.0 | 195.2 | 191.0 | 193.4 | 193.2 | 189.7 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ, SC-4/NAS3-22514

VEHICL = ADH081 TEST DATE = 08-24-81  
 IAPLHA = SB59 IEGA = NG  
 WIND DIR = DEG WIND VEL = MPH  
 PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
 LOCAT = C41 ANECH CH CONFIG = 4  
 TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT  
 FNLTVL = 400. FPS  
 FNRAMB = LBS XNL = RPM XNHR = RPM V8 = 1726.9 FPS AEB = 25.3 SQ IN  
 FNRAMB = LBS XNL = RPM XNHR = RPM V8 = 1726.9 FPS AE18 = 0. SQ IN  
 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - B1F-400-1416 X14161

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 69.0 72.3 71.9 72.1 71.8 73.2 73.7 74.3 79.5 85.2 86.8 89.0 82.2 163.5

63 70.2 72.2 72.5 72.3 73.7 74.2 75.1 76.1 78.2 86.3 90.7 90.2 81.3 164.7

80 70.5 73.4 73.5 73.5 74.1 74.7 76.2 82.0 86.5 90.5 89.3 80.1 164.4

100 71.1 73.7 73.3 73.2 81.8 78.3 76.8 79.0 80.8 85.6 90.4 87.0 80.3 163.9

125 77.4 80.3 81.4 77.7 77.3 76.9 76.8 77.0 81.1 85.6 88.1 84.2 78.6 162.7

150 89.6 87.2 82.5 79.5 80.9 77.9 77.1 77.5 81.7 85.6 87.4 82.1 77.7 164.7

200 88.3 91.3 88.3 85.4 92.9 87.3 80.3 78.5 82.5 86.3 80.6 76.9 167.4

250 87.4 88.8 91.7 93.9 87.5 88.8 84.5 79.8 82.9 86.3 84.0 79.3 76.1 168.1

315 84.6 86.0 85.6 86.2 82.7 84.8 86.7 83.0 83.6 84.8 83.1 77.5 74.4 165.1

400 81.2 82.9 82.8 83.1 82.7 82.5 82.9 82.8 84.3 83.9 81.1 76.7 73.3 163.6

500 81.5 83.8 82.6 82.4 82.0 81.8 81.2 82.6 84.0 83.0 80.1 74.4 71.4 163.6

630 80.4 82.2 82.8 82.8 82.6 81.1 80.8 83.2 82.2 78.8 73.6 70.0 163.5

800 79.1 81.7 82.1 82.6 83.3 82.8 80.8 79.9 81.3 81.0 76.9 72.6 68.5 163.3

1000 78.7 82.0 82.0 83.2 82.5 82.4 80.9 79.7 80.9 79.7 76.5 71.5 67.0 163.7

1250 77.0 80.7 81.3 81.9 82.5 82.4 80.5 79.7 80.0 77.8 74.1 69.5 64.0 163.5

1500 76.4 79.2 79.9 81.8 81.3 80.5 79.4 77.9 78.7 75.4 71.4 67.1 60.7 163.5

2000 73.3 76.1 78.3 78.9 78.0 78.7 77.8 77.4 76.2 72.1 67.7 63.0 55.3 162.8

2500 67.6 72.5 74.5 75.6 75.2 75.9 74.8 73.5 73.3 68.3 63.9 58.7 47.4 161.9

3150 61.5 67.1 69.3 70.7 71.4 72.5 71.7 68.9 69.2 63.6 59.0 51.6 36.8 161.7

4000 50.5 58.1 61.0 63.0 64.4 65.8 65.5 63.0 62.9 54.6 50.5 40.2 19.3 161.2

5000 35.1 45.9 49.4 52.5 55.9 57.2 56.8 54.0 52.9 43.3 37.0 23.0 161.1

6300 12.1 26.5 33.9 37.6 41.9 43.8 42.8 38.3 37.7 25.4 16.6 161.7

8000 163.3 163.3 165.0

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900

MONITOR FLIGHT PRINTING SYSTEM - D1188-02

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

OASPL 95.0 96.4 96.2 96.8 96.5 95.0 93.2 92.0 94.1 96.4 98.2 96.0 89.1 177.8  
PWL 100.3 102.4 103.3 104.9 104.5 102.9 100.5 99.6 101.0 100.4 99.4 95.5 89.4  
DBA 88.5 90.9 91.3 92.1 91.6 91.2 89.9 88.9 90.0 89.2 86.6 81.9 77.7

VEHICLE = ADH081 TEST DATE = 08-24-81  
VEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
IAPLHA = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNL RPM XNHR = V8 RPM  
FNINI = LBS XNL RPM XNHR = 1726.9 FPS AE8 = 25.3 SQ IN  
RUMPT = 81 0-1416 TAPE = X14161 TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM

VEHICLE = ADH081 TEST DATE = 08-24-81  
VEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
IAPLHA = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNL RPM XNHR = V8 RPM  
FNINI = LBS XNL RPM XNHR = 1726.9 FPS AE8 = 25.3 SQ IN  
RUMPT = 81 0-1416 TAPE = X14161 TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM

VEHICLE = ADH081 TEST DATE = 08-24-81  
VEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
IAPLHA = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNL RPM XNHR = V8 RPM  
FNINI = LBS XNL RPM XNHR = 1726.9 FPS AE8 = 25.3 SQ IN  
RUMPT = 81 0-1416 TAPE = X14161 TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM

VEHICLE = ADH081 TEST DATE = 08-24-81  
VEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
IAPLHA = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNL RPM XNHR = V8 RPM  
FNINI = LBS XNL RPM XNHR = 1726.9 FPS AE8 = 25.3 SQ IN  
RUMPT = 81 0-1416 TAPE = X14161 TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM

VEHICLE = ADH081 TEST DATE = 08-24-81  
VEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
IAPLHA = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNL RPM XNHR = V8 RPM  
FNINI = LBS XNL RPM XNHR = 1726.9 FPS AE8 = 25.3 SQ IN  
RUMPT = 81 0-1416 TAPE = X14161 TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM

VEHICLE = ADH081 TEST DATE = 08-24-81  
VEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
IAPLHA = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNL RPM XNHR = V8 RPM  
FNINI = LBS XNL RPM XNHR = 1726.9 FPS AE8 = 25.3 SQ IN  
RUMPT = 81 0-1416 TAPE = X14161 TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM

VEHICLE = ADH081 TEST DATE = 08-24-81  
VEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
IAPLHA = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNL RPM XNHR = V8 RPM  
FNINI = LBS XNL RPM XNHR = 1726.9 FPS AE8 = 25.3 SQ IN  
RUMPT = 81 0-1416 TAPE = X14161 TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM

VEHICLE = ADH081 TEST DATE = 08-24-81  
VEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
IAPLHA = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNL RPM XNHR = V8 RPM  
FNINI = LBS XNL RPM XNHR = 1726.9 FPS AE8 = 25.3 SQ IN  
RUMPT = 81 0-1416 TAPE = X14161 TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM

VEHICLE = ADH081 TEST DATE = 08-24-81  
VEGA = NO PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
IAPLHA = SB59 DEG WIND VEL = MPH  
FNRAMB = LBS XNL RPM XNHR = V8 RPM  
FNINI = LBS XNL RPM XNHR = 1726.9 FPS AE8 = 25.3 SQ IN  
RUMPT = 81 0-1416 TAPE = X14161 TEST PT NO = 1416 NC = 862 CORR FAN SPEED = RPM



DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

06/18/82 17.411 PAGE 1

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 81F-ZER-1419 X1419C  
BACKGROUND 81F-400-0400

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.7  | 82.2  | 80.0  | 84.3  | 83.6  | 95.0  | 85.1  | 85.3  | 87.4  | 98.6  | 94.2  | 93.6  | 94.3  | 133.5 |
| 63    | 90.0  | 84.8  | 83.5  | 89.1  | 89.4  | 91.2  | 91.8  | 92.3  | 108.4 | 99.2  | 98.4  | 98.6  | 140.5 |       |
| 80    | 87.8  | 93.1  | 88.1  | 87.9  | 89.0  | 91.3  | 93.0  | 91.6  | 91.5  | 92.9  | 93.3  | 96.0  | 97.9  | 134.2 |
| 100   | 88.6  | 92.6  | 89.4  | 90.4  | 90.7  | 91.4  | 92.2  | 94.4  | 93.3  | 94.4  | 97.6  | 100.8 | 101.9 | 136.6 |
| 125   | 86.4  | 89.4  | 90.2  | 90.9  | 91.5  | 93.7  | 93.5  | 92.9  | 93.3  | 96.2  | 101.6 | 105.0 | 106.2 | 139.4 |
| 160   | 86.0  | 84.3  | 88.1  | 87.6  | 88.5  | 89.8  | 91.5  | 91.4  | 92.6  | 96.7  | 102.5 | 106.0 | 108.4 | 140.1 |
| 200   | 85.3  | 87.3  | 88.8  | 89.1  | 90.7  | 92.8  | 93.7  | 95.9  | 97.8  | 99.4  | 104.8 | 109.5 | 111.6 | 143.3 |
| 250   | 86.3  | 92.8  | 90.6  | 91.1  | 92.2  | 94.3  | 97.5  | 98.1  | 99.8  | 104.4 | 110.3 | 114.0 | 114.9 | 147.4 |
| 315   | 88.6  | 91.4  | 90.9  | 92.9  | 94.3  | 95.9  | 98.3  | 99.9  | 102.8 | 107.5 | 112.1 | 116.5 | 115.9 | 149.3 |
| 400   | 90.1  | 92.6  | 93.1  | 92.7  | 93.3  | 95.9  | 98.0  | 100.9 | 104.1 | 111.5 | 115.8 | 119.5 | 117.7 | 152.2 |
| 500   | 90.7  | 94.7  | 93.5  | 94.0  | 95.1  | 97.0  | 99.4  | 101.5 | 105.0 | 112.3 | 118.0 | 120.9 | 118.5 | 153.6 |
| 630   | 92.3  | 94.6  | 95.2  | 96.0  | 97.4  | 99.5  | 102.2 | 104.7 | 109.1 | 113.2 | 119.1 | 120.8 | 118.9 | 154.0 |
| 800   | 102.2 | 99.2  | 96.8  | 97.0  | 98.4  | 99.0  | 100.9 | 102.5 | 106.9 | 113.1 | 118.5 | 120.6 | 118.6 | 153.9 |
| 1000  | 113.7 | 110.3 | 104.5 | 104.6 | 105.2 | 104.8 | 104.9 | 104.1 | 106.6 | 112.4 | 119.7 | 125.7 | 125.3 | 158.2 |
| 1250  | 105.7 | 108.3 | 105.5 | 104.6 | 102.7 | 102.5 | 102.4 | 104.1 | 107.2 | 112.1 | 116.0 | 118.7 | 116.9 | 152.7 |
| 1600  | 106.3 | 105.8 | 107.3 | 107.3 | 106.8 | 104.8 | 104.7 | 107.3 | 111.5 | 115.4 | 117.9 | 117.1 | 114.9 | 152.6 |
| 2000  | 105.2 | 106.6 | 105.5 | 106.9 | 111.7 | 115.3 | 108.2 | 104.9 | 107.0 | 111.9 | 114.3 | 117.1 | 114.9 | 153.5 |
| 2500  | 104.4 | 105.0 | 104.5 | 104.8 | 106.0 | 107.3 | 106.5 | 107.2 | 111.3 | 112.7 | 115.7 | 113.7 | 113.7 | 151.1 |
| 3150  | 104.3 | 104.8 | 104.6 | 103.9 | 104.8 | 105.6 | 107.1 | 107.7 | 110.7 | 112.7 | 113.9 | 111.8 | 110.4 | 150.3 |
| 4000  | 103.2 | 104.0 | 104.3 | 103.4 | 105.1 | 104.2 | 106.5 | 107.1 | 108.7 | 110.2 | 112.9 | 110.4 | 109.3 | 149.3 |
| 5000  | 101.6 | 103.7 | 103.5 | 103.4 | 103.6 | 103.8 | 105.4 | 107.9 | 108.0 | 109.8 | 110.8 | 108.4 | 108.6 | 148.6 |
| 6300  | 101.0 | 103.0 | 103.0 | 103.4 | 104.3 | 104.1 | 103.8 | 104.5 | 107.3 | 107.1 | 108.0 | 107.6 | 107.6 | 148.3 |
| 8000  | 98.9  | 101.3 | 102.2 | 102.8 | 103.8 | 103.3 | 103.0 | 104.0 | 106.3 | 106.3 | 107.3 | 105.1 | 105.1 | 147.2 |
| 10000 | 98.7  | 99.8  | 100.9 | 101.4 | 102.6 | 103.9 | 103.0 | 103.3 | 104.9 | 104.3 | 105.5 | 107.3 | 105.1 | 147.1 |
| 12500 | 96.7  | 98.1  | 99.4  | 99.6  | 100.9 | 102.4 | 102.4 | 101.6 | 102.3 | 103.0 | 103.5 | 105.4 | 102.5 | 146.2 |
| 16000 | 94.1  | 96.4  | 96.9  | 97.2  | 98.6  | 99.8  | 100.2 | 100.7 | 100.8 | 99.9  | 100.3 | 102.6 | 100.4 | 145.3 |
| 20000 | 91.8  | 93.4  | 95.6  | 95.9  | 97.7  | 97.8  | 97.3  | 98.6  | 97.2  | 97.7  | 97.9  | 97.1  | 144.6 |       |
| 25000 | 87.8  | 90.6  | 91.1  | 91.7  | 93.6  | 95.7  | 95.9  | 94.8  | 95.9  | 94.2  | 94.7  | 90.9  | 144.2 |       |
| 31500 | 83.0  | 86.8  | 87.3  | 88.0  | 89.7  | 91.8  | 92.5  | 91.9  | 92.7  | 90.4  | 91.7  | 89.0  | 143.9 |       |
| 40000 | 78.8  | 82.6  | 84.0  | 84.1  | 87.0  | 88.6  | 89.0  | 88.7  | 90.2  | 85.9  | 86.8  | 82.0  | 144.7 |       |
| 50000 | 74.9  | 78.2  | 78.9  | 80.6  | 82.8  | 85.8  | 85.1  | 84.3  | 86.9  | 83.4  | 85.8  | 88.7  | 145.6 |       |
| 63000 | 70.6  | 75.3  | 76.1  | 77.9  | 79.6  | 82.3  | 82.1  | 80.8  | 84.8  | 79.9  | 83.2  | 88.5  | 148.5 |       |
| 80000 | 68.1  | 72.4  | 74.0  | 75.4  | 76.2  | 78.3  | 77.4  | 75.7  | 80.2  | 76.6  | 80.1  | 84.0  | 151.2 |       |
| QASPL | 117.0 | 116.5 | 115.4 | 115.6 | 116.8 | 118.5 | 116.5 | 116.9 | 118.9 | 123.2 | 127.5 | 130.8 | 129.6 | 165.2 |
| PNL   | 127.5 | 128.3 | 127.8 | 128.0 | 130.0 | 132.2 | 129.5 | 130.2 | 131.6 | 134.9 | 137.8 | 142.5 | 139.3 |       |
| PMLT  | 131.7 | 130.4 | 129.0 | 129.3 | 132.5 | 135.7 | 130.5 | 130.2 | 131.6 | 134.9 | 137.8 | 142.5 | 141.8 |       |
| DBA   | 117.2 | 116.8 | 115.7 | 115.8 | 117.1 | 119.0 | 116.4 | 116.6 | 118.5 | 122.5 | 126.6 | 130.1 | 128.8 |       |

VEHICLE = ADH061 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.71 RELHUM = 57.6 PCT  
MIND DIR = DEG MIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR = 0. FPS  
FNINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 1721.2 FPS AEB = 25.3 SO IN  
FNRAMB = LBS XNLR = XNHR RPM V8 = 1721.2 FPS AEB = 25.3 SO IN  
CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/MAS3-22514

ORIGINAL PART IS  
OF POOR QUALITY

4.0

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-1419 X1419F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PML   | 94.3  | 94.2  | 94.2  | 94.2  | 94.2  | 94.2  | 94.2  | 94.2  | 94.2  | 94.2  | 94.2  | 94.2  | 94.3  |
| 50    | 85.7  | 82.2  | 80.0  | 84.3  | 83.6  | 95.0  | 85.1  | 85.3  | 87.4  | 98.6  | 94.2  | 93.6  | 94.3  |
| 53    | 90.0  | 84.8  | 83.5  | 90.1  | 89.4  | 91.0  | 91.2  | 91.8  | 92.3  | 108.4 | 99.2  | 98.4  | 98.6  |
| 55    | 85.7  | 82.2  | 80.0  | 84.3  | 83.6  | 95.0  | 85.1  | 85.3  | 87.4  | 98.6  | 94.2  | 93.6  | 94.3  |
| 80    | 87.8  | 93.1  | 88.1  | 87.9  | 89.0  | 91.3  | 93.0  | 91.6  | 91.5  | 92.9  | 93.8  | 97.9  | 134.2 |
| 87.8  | 93.1  | 88.1  | 87.9  | 89.0  | 91.3  | 93.0  | 91.6  | 91.5  | 92.9  | 93.8  | 97.9  | 134.2 |       |
| 100   | 88.6  | 92.6  | 89.4  | 90.4  | 90.7  | 91.4  | 92.2  | 94.4  | 93.3  | 94.4  | 97.6  | 100.8 | 136.6 |
| 125   | 86.4  | 89.4  | 90.2  | 90.9  | 91.5  | 93.7  | 93.5  | 92.9  | 93.3  | 96.2  | 101.6 | 105.0 | 139.4 |
| 150   | 86.0  | 84.3  | 88.1  | 87.6  | 88.5  | 89.8  | 91.5  | 91.4  | 92.6  | 96.7  | 102.5 | 106.0 | 140.1 |
| 200   | 85.3  | 87.3  | 88.8  | 89.1  | 90.7  | 92.8  | 93.7  | 95.9  | 97.8  | 99.4  | 104.8 | 109.5 | 143.3 |
| 250   | 86.3  | 92.8  | 90.6  | 91.1  | 92.2  | 94.3  | 97.5  | 98.1  | 99.8  | 104.4 | 110.3 | 114.0 | 147.4 |
| 315   | 88.6  | 91.4  | 90.9  | 92.9  | 94.3  | 95.9  | 98.3  | 99.9  | 102.8 | 107.5 | 112.1 | 116.5 | 149.3 |
| 400   | 90.1  | 92.6  | 93.1  | 92.7  | 93.3  | 95.9  | 98.0  | 100.9 | 104.1 | 111.5 | 119.5 | 117.7 | 152.2 |
| 500   | 90.7  | 94.7  | 93.5  | 94.0  | 95.1  | 97.0  | 99.4  | 101.5 | 105.0 | 112.3 | 118.0 | 120.9 | 153.6 |
| 630   | 92.3  | 94.8  | 94.6  | 95.2  | 96.0  | 97.4  | 99.5  | 102.2 | 104.7 | 113.2 | 119.1 | 120.8 | 154.0 |
| 800   | 102.2 | 99.2  | 96.8  | 97.0  | 98.4  | 99.0  | 100.9 | 102.5 | 106.9 | 113.1 | 118.5 | 120.6 | 153.9 |
| 1000  | 113.7 | 110.3 | 104.5 | 104.6 | 104.8 | 104.9 | 104.8 | 104.9 | 106.6 | 112.4 | 119.7 | 125.3 | 158.2 |
| 1250  | 105.7 | 108.3 | 105.5 | 104.6 | 102.7 | 102.5 | 102.4 | 101.5 | 107.3 | 112.1 | 116.0 | 118.7 | 152.7 |
| 1500  | 105.2 | 106.6 | 105.5 | 106.9 | 107.3 | 107.4 | 107.3 | 107.2 | 107.2 | 111.3 | 115.7 | 113.7 | 151.1 |
| 2000  | 105.2 | 106.6 | 105.5 | 106.9 | 107.3 | 107.4 | 107.3 | 107.2 | 107.2 | 111.3 | 115.7 | 113.7 | 151.1 |
| 2500  | 104.4 | 105.0 | 104.5 | 104.3 | 104.8 | 106.0 | 107.3 | 106.5 | 107.3 | 111.3 | 115.7 | 113.7 | 151.1 |
| 3150  | 104.3 | 104.8 | 104.6 | 103.9 | 104.8 | 105.6 | 107.1 | 107.7 | 110.7 | 112.7 | 113.9 | 111.8 | 150.3 |
| 4000  | 103.2 | 104.0 | 104.3 | 103.4 | 105.1 | 104.2 | 106.5 | 107.1 | 108.7 | 110.2 | 112.9 | 110.4 | 149.3 |
| 5000  | 101.6 | 103.7 | 103.7 | 103.5 | 103.4 | 103.8 | 104.5 | 107.3 | 107.9 | 108.0 | 108.4 | 108.4 | 148.6 |
| 6300  | 101.0 | 103.0 | 103.7 | 104.3 | 104.1 | 103.8 | 104.5 | 107.3 | 107.9 | 108.0 | 108.4 | 108.4 | 148.6 |
| 8000  | 98.9  | 101.3 | 102.3 | 102.9 | 103.8 | 103.3 | 104.0 | 105.2 | 106.3 | 105.7 | 108.3 | 105.1 | 147.2 |
| 10000 | 98.7  | 99.8  | 100.9 | 101.4 | 102.6 | 103.9 | 103.0 | 104.3 | 104.9 | 104.3 | 105.5 | 107.3 | 147.1 |
| 12500 | 96.7  | 99.8  | 100.9 | 99.6  | 99.6  | 99.8  | 100.2 | 100.7 | 100.8 | 99.9  | 100.3 | 102.6 | 145.3 |
| 15000 | 94.1  | 96.4  | 96.9  | 97.2  | 98.6  | 99.8  | 100.2 | 100.7 | 100.8 | 99.9  | 100.3 | 102.6 | 145.3 |
| 20000 | 91.8  | 93.4  | 95.6  | 95.9  | 97.7  | 97.8  | 97.3  | 98.6  | 97.2  | 97.7  | 100.9 | 97.1  | 144.6 |
| 25000 | 87.8  | 90.6  | 91.1  | 91.7  | 93.6  | 95.7  | 94.8  | 95.9  | 94.2  | 94.7  | 97.6  | 92.9  | 144.2 |
| 31500 | 83.0  | 86.8  | 88.0  | 89.7  | 91.8  | 92.5  | 91.9  | 92.7  | 90.4  | 91.7  | 94.4  | 89.0  | 143.9 |
| 40000 | 78.8  | 82.6  | 84.0  | 84.1  | 87.0  | 88.6  | 89.0  | 88.7  | 90.2  | 85.9  | 88.8  | 92.0  | 144.7 |
| 50000 | 74.9  | 78.2  | 78.9  | 80.6  | 82.8  | 85.8  | 85.1  | 84.3  | 86.9  | 83.4  | 88.7  | 81.6  | 145.6 |
| 63000 | 70.6  | 75.3  | 76.1  | 77.9  | 79.6  | 82.3  | 82.1  | 80.8  | 84.8  | 80.2  | 88.5  | 79.2  | 148.5 |
| 80000 | 68.1  | 72.4  | 74.0  | 75.4  | 76.2  | 78.3  | 77.4  | 75.7  | 80.2  | 76.6  | 80.1  | 84.0  | 151.2 |
| GASPL | 117.0 | 116.5 | 115.4 | 115.6 | 116.8 | 118.5 | 116.5 | 118.9 | 118.9 | 123.2 | 127.5 | 130.8 | 129.6 |
| 129.6 | 128.0 | 128.0 | 130.0 | 132.5 | 132.5 | 135.7 | 130.5 | 130.2 | 131.6 | 134.9 | 137.8 | 140.5 | 139.3 |
| 131.7 | 130.4 | 129.0 | 129.3 | 132.5 | 135.7 | 130.5 | 130.2 | 131.6 | 134.9 | 137.8 | 142.5 | 141.8 |       |
| DBA   | 189.0 | 193.3 | 194.8 | 196.3 | 197.2 | 199.5 | 198.8 | 197.2 | 201.5 | 197.6 | 201.1 | 205.2 | 195.4 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH061 TEST DATE = 08-24-81  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 FNRAMB = LBS XNLR RPM XNHR RPM  
 FNIINI = LBS XNLR RPM XNH RPM  
 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1419 X14191

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50   | 68.1  | 72.1  | 73.7  | 74.0  | 75.0  | 77.7  | 79.7  | 82.2  | 84.7  | 91.0  | 93.8  | 95.3  | 90.1  |
| 50   | 68.7  | 74.2  | 74.1  | 75.3  | 76.8  | 78.8  | 81.1  | 82.8  | 85.6  | 91.8  | 95.9  | 96.6  | 90.9  |
| 50   | 68.1  | 72.1  | 73.7  | 74.0  | 75.0  | 77.7  | 79.7  | 82.2  | 84.7  | 91.0  | 93.8  | 95.3  | 90.1  |
| 50   | 78.6  | 81.5  | 83.1  | 84.0  | 83.6  | 85.5  | 84.4  | 86.3  | 85.9  | 86.2  | 85.8  | 85.5  | 78.0  |
| 500  | 78.6  | 81.5  | 83.1  | 84.0  | 83.6  | 85.5  | 84.4  | 86.3  | 85.9  | 86.2  | 85.8  | 85.5  | 78.0  |
| 500  | 76.7  | 80.9  | 82.3  | 82.9  | 83.8  | 83.7  | 84.8  | 86.4  | 85.2  | 84.8  | 82.7  | 75.0  | 166.0 |
| 500  | 76.7  | 80.9  | 82.3  | 82.9  | 83.8  | 83.7  | 84.8  | 86.4  | 85.2  | 84.8  | 82.7  | 75.0  | 166.0 |
| 600  | 75.6  | 79.8  | 81.6  | 82.6  | 84.1  | 83.9  | 83.5  | 83.7  | 85.5  | 83.9  | 82.5  | 81.7  | 73.0  |
| 600  | 75.6  | 79.8  | 81.6  | 82.6  | 84.1  | 83.9  | 83.5  | 83.7  | 85.5  | 83.9  | 82.5  | 81.7  | 73.0  |
| 600  | 75.6  | 79.8  | 81.6  | 82.6  | 84.1  | 83.9  | 83.5  | 83.7  | 85.5  | 83.9  | 82.5  | 81.7  | 73.0  |
| 1000 | 73.0  | 77.7  | 80.3  | 81.2  | 82.5  | 83.5  | 82.9  | 83.0  | 83.2  | 82.8  | 79.9  | 78.9  | 69.4  |
| 1000 | 73.0  | 77.7  | 80.3  | 81.2  | 82.5  | 83.5  | 82.9  | 83.0  | 83.2  | 82.8  | 79.9  | 78.9  | 69.4  |
| 1000 | 73.0  | 77.7  | 80.3  | 81.2  | 82.5  | 83.5  | 82.9  | 83.0  | 83.2  | 82.8  | 79.9  | 78.9  | 69.4  |
| 1250 | 72.3  | 76.0  | 78.6  | 80.2  | 82.1  | 83.5  | 82.4  | 82.7  | 80.4  | 79.2  | 73.8  | 68.0  | 164.5 |
| 1250 | 72.3  | 76.0  | 78.6  | 80.2  | 82.1  | 83.5  | 82.4  | 82.7  | 80.4  | 79.2  | 73.8  | 68.0  | 164.5 |
| 1250 | 72.3  | 76.0  | 78.6  | 80.2  | 82.1  | 83.5  | 82.4  | 82.7  | 80.4  | 79.2  | 73.8  | 68.0  | 164.5 |
| 1500 | 69.4  | 73.6  | 76.7  | 78.1  | 80.1  | 81.8  | 81.5  | 80.1  | 79.6  | 78.5  | 76.3  | 73.8  | 63.0  |
| 1500 | 69.4  | 73.6  | 76.7  | 78.1  | 80.1  | 81.8  | 81.5  | 80.1  | 79.6  | 78.5  | 76.3  | 73.8  | 63.0  |
| 1500 | 69.4  | 73.6  | 76.7  | 78.1  | 80.1  | 81.8  | 81.5  | 80.1  | 79.6  | 78.5  | 76.3  | 73.8  | 63.0  |
| 1600 | 61.7  | 67.1  | 70.4  | 73.2  | 74.3  | 76.3  | 76.2  | 74.9  | 74.7  | 70.9  | 67.7  | 64.8  | 49.6  |
| 1600 | 61.7  | 67.1  | 70.4  | 73.2  | 74.3  | 76.3  | 76.2  | 74.9  | 74.7  | 70.9  | 67.7  | 64.8  | 49.6  |
| 1600 | 61.7  | 67.1  | 70.4  | 73.2  | 74.3  | 76.3  | 76.2  | 74.9  | 74.7  | 70.9  | 67.7  | 64.8  | 49.6  |
| 2000 | 54.4  | 61.9  | 65.3  | 67.7  | 70.6  | 73.0  | 73.0  | 70.9  | 70.1  | 65.5  | 61.3  | 56.6  | 37.1  |
| 2000 | 54.4  | 61.9  | 65.3  | 67.7  | 70.6  | 73.0  | 73.0  | 70.9  | 70.1  | 65.5  | 61.3  | 56.6  | 37.1  |
| 2000 | 54.4  | 61.9  | 65.3  | 67.7  | 70.6  | 73.0  | 73.0  | 70.9  | 70.1  | 65.5  | 61.3  | 56.6  | 37.1  |
| 2500 | 43.4  | 53.3  | 57.7  | 60.7  | 63.8  | 66.3  | 66.5  | 64.7  | 63.1  | 57.0  | 52.1  | 44.4  | 18.6  |
| 2500 | 43.4  | 53.3  | 57.7  | 60.7  | 63.8  | 66.3  | 66.5  | 64.7  | 63.1  | 57.0  | 52.1  | 44.4  | 18.6  |
| 2500 | 43.4  | 53.3  | 57.7  | 60.7  | 63.8  | 66.3  | 66.5  | 64.7  | 63.1  | 57.0  | 52.1  | 44.4  | 18.6  |
| 3150 | 29.5  | 41.5  | 48.1  | 51.4  | 56.1  | 58.3  | 58.1  | 56.0  | 54.4  | 44.9  | 39.4  | 28.3  | 0.9   |
| 3150 | 29.5  | 41.5  | 48.1  | 51.4  | 56.1  | 58.3  | 58.1  | 56.0  | 54.4  | 44.9  | 39.4  | 28.3  | 0.9   |
| 3150 | 29.5  | 41.5  | 48.1  | 51.4  | 56.1  | 58.3  | 58.1  | 56.0  | 54.4  | 44.9  | 39.4  | 28.3  | 0.9   |
| 4000 | 168.7 | 165.9 | 163.0 | 161.7 | 161.3 | 161.7 | 161.3 | 161.7 | 161.3 | 161.7 | 161.3 | 161.7 | 161.3 |
| 4000 | 168.7 | 165.9 | 163.0 | 161.7 | 161.3 | 161.7 | 161.3 | 161.7 | 161.3 | 161.7 | 161.3 | 161.7 | 161.3 |
| 4000 | 168.7 | 165.9 | 163.0 | 161.7 | 161.3 | 161.7 | 161.3 | 161.7 | 161.3 | 161.7 | 161.3 | 161.7 | 161.3 |
| 5000 | 84.8  | 87.9  | 89.5  | 90.6  | 92.1  | 93.7  | 92.3  | 92.2  | 92.7  | 92.8  | 92.8  | 92.7  | 86.6  |
| 5000 | 84.8  | 87.9  | 89.5  | 90.6  | 92.1  | 93.7  | 92.3  | 92.2  | 92.7  | 92.8  | 92.8  | 92.7  | 86.6  |
| 5000 | 84.8  | 87.9  | 89.5  | 90.6  | 92.1  | 93.7  | 92.3  | 92.2  | 92.7  | 92.8  | 92.8  | 92.7  | 86.6  |
| 6300 | 98.8  | 99.8  | 100.4 | 101.6 | 105.1 | 107.9 | 103.8 | 103.0 | 103.4 | 104.6 | 106.0 | 108.2 | 102.6 |
| 6300 | 98.8  | 99.8  | 100.4 | 101.6 | 105.1 | 107.9 | 103.8 | 103.0 | 103.4 | 104.6 | 106.0 | 108.2 | 102.6 |
| 6300 | 98.8  | 99.8  | 100.4 | 101.6 | 105.1 | 107.9 | 103.8 | 103.0 | 103.4 | 104.6 | 106.0 | 108.2 | 102.6 |
| 8000 | 94.1  | 95.0  | 94.8  | 95.7  | 97.4  | 99.3  | 96.9  | 96.8  | 98.0  | 101.6 | 104.7 | 105.7 | 100.8 |
| 8000 | 94.1  | 95.0  | 94.8  | 95.7  | 97.4  | 99.3  | 96.9  | 96.8  | 98.0  | 101.6 | 104.7 | 105.7 | 100.8 |
| 8000 | 94.1  | 95.0  | 94.8  | 95.7  | 97.4  | 99.3  | 96.9  | 96.8  | 98.0  | 101.6 | 104.7 | 105.7 | 100.8 |

663  
 OF POOR QUALITY

VEHICLE = ADH061 TEST DATE = 08-24-81 LOCAL = CA1 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 0 FPS  
 IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.71 RELHUM = 57.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH RPM = XNL RPM XNHR = V8 RPM V8 = 1721.2 FPS AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNL RPM = XNL RPM XNHR = V8 RPM V8 = 1721.2 FPS AE18 = 0. SQ IN  
 RUNPT = 81F-ZER-1419 TAPE = X14191 TEST FT NO = 1419 NC = 862 CORR FAN SPEED = RPM

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
 NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1420 X1420C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.9 84.5 81.5 79.3 83.4 84.5 84.6 85.3 87.2 96.6 92.2 90.9 95.8 131.3

63 86.0 85.5 87.8 84.1 90.4 90.5 91.4 91.3 92.6 107.6 92.7 93.4 97.1 139.4

80 88.8 93.6 88.6 88.9 89.5 91.6 93.0 92.4 92.3 93.4 94.0 96.5 98.9 134.7

100 88.3 92.3 88.4 89.9 90.2 90.6 91.7 93.2 91.8 92.4 95.6 99.5 101.7 135.6

125 85.9 89.1 89.4 90.4 90.8 92.7 93.3 92.2 92.0 94.5 100.4 103.8 105.7 138.4

160 83.8 82.6 86.4 87.0 87.6 89.7 89.4 90.3 94.7 89.4 104.5 107.4 138.7

200 83.8 84.1 86.6 85.9 86.7 89.8 91.0 93.4 95.3 96.9 101.8 107.5 109.4 141.0

250 84.0 87.3 86.8 87.9 89.0 90.6 93.0 96.6 101.7 108.5 112.0 111.4 144.9

315 84.3 87.6 87.6 87.9 89.8 92.9 95.0 97.4 100.5 105.7 110.6 114.3 146.9

400 86.1 87.4 88.1 88.4 89.5 92.6 94.5 96.7 100.9 108.0 112.8 115.0 147.9

500 85.5 87.2 89.0 89.5 90.9 92.5 95.6 97.8 101.2 109.1 114.0 115.4 148.4

630 87.1 89.1 89.6 90.2 91.8 93.4 95.5 97.4 100.4 108.7 114.6 114.5 148.1

800 96.2 96.5 99.8 97.3 100.9 99.3 100.1 99.3 102.9 109.1 114.5 112.1 99.8 148.0

1000 103.2 101.5 97.8 95.6 94.9 95.0 96.9 98.6 102.6 108.4 113.2 108.2 97.3 146.6

1250 103.7 106.5 105.1 103.6 100.9 97.8 96.9 99.1 102.2 108.1 112.0 105.4 96.2 147.0

1600 101.8 102.6 105.8 109.6 112.0 109.1 102.8 100.7 103.1 107.5 111.1 103.7 95.2 149.5

2000 99.7 101.1 100.2 100.6 103.2 106.8 105.2 101.9 102.8 108.2 108.5 102.1 94.1 146.4

2500 100.7 101.2 100.2 100.0 99.4 102.0 105.6 104.8 103.3 107.6 106.7 101.0 94.0 145.6

3150 101.3 102.6 101.1 100.6 100.5 100.8 101.7 103.9 103.9 106.4 106.7 99.7 92.8 145.0

4000 101.6 101.3 101.6 100.4 100.4 100.3 101.2 100.3 101.9 104.2 105.1 103.3 97.9 144.4

5000 100.2 101.8 101.5 101.5 100.5 101.2 100.3 101.9 104.2 105.1 103.3 97.9 92.0 144.4

6300 99.4 101.3 101.2 101.0 101.4 101.4 101.1 101.1 103.1 104.5 102.5 97.3 91.4 144.2

8000 97.7 99.4 99.7 100.0 100.3 101.4 100.7 100.6 101.4 103.2 100.8 95.7 90.0 143.5

10000 96.6 98.8 98.8 100.6 100.0 101.0 99.2 94.4 89.3 143.4

12500 95.4 96.4 97.1 97.6 98.4 99.4 99.1 99.3 98.8 97.3 92.4 86.7 142.4

16000 91.9 94.6 94.8 94.9 96.0 97.5 97.3 98.1 97.7 95.9 94.2 90.8 85.7 141.8

20000 90.0 91.3 92.4 93.2 94.7 94.9 95.5 93.4 91.6 88.6 82.6 78.6 141.0

25000 85.3 88.2 88.5 89.3 91.3 92.9 92.2 92.6 90.0 86.5 86.1 78.6 140.7

31500 80.5 84.4 84.5 84.8 87.2 89.3 89.2 89.5 89.1 85.7 85.4 82.4 140.1

40000 76.3 80.2 81.1 81.4 83.8 86.1 86.3 85.9 85.9 81.2 82.6 78.9 140.7

50000 72.1 76.1 77.1 79.5 82.5 82.3 81.1 82.4 77.5 78.7 75.6 66.5 141.1

63000 66.8 74.1 73.5 73.9 76.9 78.5 78.8 76.8 78.7 73.9 75.1 71.2 142.9

80000 62.7 73.8 71.4 69.6 74.5 74.9 74.3 71.1 73.4 69.1 70.2 66.9 145.9

OASPL 111.8 113.1 112.9 113.7 114.9 114.4 113.5 113.6 115.1 119.7 123.0 122.7 118.7 159.8

PNL 124.2 125.5 124.9 126.3 127.5 126.7 126.9 126.9 128.1 131.5 132.8 130.4 125.6

PMLT 124.2 127.0 127.1 129.8 131.4 128.8 128.2 126.9 128.1 131.5 132.8 130.4 125.6

DBA 112.0 113.3 113.1 114.1 115.3 114.5 113.3 113.2 114.6 118.8 121.8 119.5 112.7

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH080 TEST DATE = 08-24-81 LGCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNHR RPM XNHL RPM V8 = 1732.8 FPS AEB = 25.3 SQ IN  
FNAMB = LBS XNLR RPM XNHR RPM V8 = FPS AE18 = 0. SQ IN

RUNPT = 01 100-1420 TAPE = X1420C TEST PT NO = 1420 NC = 862 CORR FAN SPEED = RPM

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400

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1420 X1420F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200  | 250  | 315  | 400  | 500  | 630  | 800   | 1000  | 1250  | 1600  | 2000  | 2500  | 3150  | 4000  | 5000  | 6300  | 8000  | 10000 | 12500 | 16000 | 20000 | 25000 | 31500 | 40000 | 50000 | 63000 | 80000 |       |
| 91.5 | 91.2 | 93.3 | 91.5 | 91.0 | 91.6 | 93.1  | 91.4  | 92.9  | 93.4  | 94.6  | 96.6  | 98.6  | 102.7 | 105.2 | 107.5 | 109.4 | 112.2 | 114.4 | 116.6 | 119.4 | 122.8 | 125.8 | 129.4 | 133.7 | 138.6 | 144.0 | 150.0 |
| 91.0 | 90.5 | 90.6 | 91.1 | 91.8 | 97.0 | 101.3 | 105.7 | 109.8 | 109.6 | 143.0 | 144.6 | 147.1 | 149.8 | 151.6 | 151.8 | 151.6 | 151.2 | 151.4 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 |
| 91.0 | 90.5 | 90.6 | 91.1 | 91.8 | 97.0 | 101.3 | 105.7 | 109.8 | 109.6 | 143.0 | 144.6 | 147.1 | 149.8 | 151.6 | 151.8 | 151.6 | 151.2 | 151.4 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 |
| 91.0 | 90.5 | 90.6 | 91.1 | 91.8 | 97.0 | 101.3 | 105.7 | 109.8 | 109.6 | 143.0 | 144.6 | 147.1 | 149.8 | 151.6 | 151.8 | 151.6 | 151.2 | 151.4 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 |
| 91.0 | 90.5 | 90.6 | 91.1 | 91.8 | 97.0 | 101.3 | 105.7 | 109.8 | 109.6 | 143.0 | 144.6 | 147.1 | 149.8 | 151.6 | 151.8 | 151.6 | 151.2 | 151.4 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 | 151.6 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH080 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4  
IAPLHA = SBS9 IEGA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIO = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR RPM = V8 = 1732.8 FPS AEG = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM = V8 = 1732.8 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-1420 TAPE = X1420F TEST PT NO = 1420 NC = 862 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1420 X14201

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.0 73.5 73.2 72.6 73.1 74.7 75.1 75.4 80.2 86.4 89.7 90.3 82.2 164.5

63 71.7 73.3 73.7 73.1 74.5 74.7 76.6 77.4 79.6 86.5 91.1 90.9 81.0 165.2

80 71.0 74.1 74.5 74.3 75.4 75.6 76.4 76.9 82.1 87.0 91.4 89.7 80.0 165.0

100 72.6 74.9 75.1 74.9 84.4 81.5 81.0 78.6 82.1 86.6 90.7 86.8 79.9 164.4

125 80.4 81.5 84.7 81.7 78.1 77.4 77.6 77.8 81.7 86.3 89.3 83.9 78.7 163.7

160 90.5 88.5 83.6 79.8 84.1 80.2 77.8 78.3 82.8 85.9 88.6 82.3 77.7 165.8

200 88.0 91.2 89.5 87.4 96.2 91.5 84.0 80.2 82.9 86.9 86.3 81.0 76.8 169.0

250 89.2 90.0 82.6 95.2 87.0 89.3 86.7 81.7 83.6 86.6 84.7 80.0 76.6 169.2

315 83.9 86.0 85.1 85.0 82.5 84.5 87.2 84.8 83.9 84.9 84.2 78.0 74.5 165.1

400 82.0 83.7 83.3 83.1 83.7 83.5 83.0 83.4 85.0 84.2 82.2 76.5 73.5 164.2

500 82.6 85.1 84.1 83.7 83.8 83.3 82.5 83.0 84.8 84.1 81.0 76.0 72.8 164.7

630 81.0 83.5 83.9 84.5 84.8 85.0 84.3 83.1 81.4 82.2 82.4 78.5 73.5 165.0

800 80.1 83.7 84.3 84.3 83.9 84.1 82.6 81.0 82.2 81.1 77.7 72.1 68.5 165.1

1000 79.5 83.5 84.3 84.3 83.9 84.1 82.6 81.0 82.2 81.1 77.7 72.1 68.5 165.1

1250 78.5 81.9 82.9 83.4 84.0 84.2 82.3 80.7 80.8 78.6 75.4 70.1 64.9 164.9

1600 76.2 79.9 81.1 82.5 81.6 81.8 80.7 78.4 79.7 76.1 72.2 67.5 61.6 164.3

2000 73.5 76.9 78.8 79.6 79.0 79.7 78.3 77.5 73.5 69.3 64.6 56.4 163.7

2500 67.8 73.5 75.2 75.8 76.2 76.4 76.2 74.5 74.3 69.5 65.3 60.1 48.4 162.8

3150 62.0 67.1 70.6 71.2 72.4 73.3 72.6 70.1 69.8 63.6 59.5 52.2 37.4 162.4

4000 50.2 58.6 61.8 64.0 65.4 66.8 65.7 64.1 63.5 55.2 51.4 40.7 20.0 161.9

5000 34.8 46.4 50.7 53.2 57.4 58.7 57.7 55.1 54.1 44.3 38.0 24.2 162.2

6300 15.2 29.8 36.6 39.8 43.1 45.3 43.7 39.5 38.9 26.9 17.1 164.5

8000 9.3 15.3 22.4 23.5 22.0 15.8 13.6

10000 166.1

12500

16000

20000

25000

31500

40000

50000

60000

QASPL 95.8 97.2 97.3 98.1 98.7 96.8 94.7 93.1 94.8 97.1 99.0 96.6 89.2 178.9

PMLT 101.5 102.4 105.0 106.8 107.1 104.3 102.5 100.6 101.9 101.1 100.2 96.1 89.9

DBA 89.3 92.0 92.6 93.3 93.0 92.6 91.3 89.9 90.8 90.1 87.7 82.7 78.4

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH080 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CNFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFRR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1732.8 FPS AEB = 25.3 SQ IN  
FNFRMB = LBS XNLR RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 8 30-1420 TAPE = X14201 TEST PT NO = 1420 NC = 862 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

06/18/82 17.411 PAGE 1

IDENTIFICATION - MODEL 81F-ZER-1421 X1421C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PVL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.9  | 83.7  | 80.0  | 84.3  | 84.1  | 95.7  | 75.1  | 85.8  | 88.2  | 98.6  | 94.4  | 93.9  | 94.5  | 133.8 |
| 63    | 89.7  | 85.8  | 89.6  | 89.7  | 92.0  | 91.4  | 91.3  | 92.6  | 108.6 | 99.2  | 98.4  | 98.6  | 98.6  | 140.7 |
| 80    | 87.8  | 82.6  | 87.8  | 87.9  | 89.2  | 91.8  | 92.7  | 91.1  | 92.0  | 93.2  | 93.5  | 96.5  | 97.6  | 134.2 |
| 100   | 88.3  | 91.8  | 88.6  | 90.7  | 91.2  | 91.9  | 92.5  | 94.4  | 93.5  | 94.7  | 97.3  | 100.6 | 101.7 | 136.6 |
| 125   | 86.6  | 89.6  | 90.9  | 91.2  | 91.8  | 93.7  | 94.0  | 93.2  | 93.8  | 96.5  | 102.1 | 105.0 | 106.5 | 139.6 |
| 150   | 84.6  | 88.1  | 87.9  | 89.0  | 89.8  | 92.0  | 91.4  | 92.6  | 96.2  | 102.5 | 106.2 | 108.9 | 110.4 | 140.4 |
| 160   | 86.3  | 84.6  | 88.8  | 89.1  | 90.7  | 93.1  | 93.7  | 96.6  | 98.3  | 99.7  | 105.3 | 109.7 | 111.1 | 143.3 |
| 200   | 85.5  | 88.3  | 88.8  | 89.1  | 90.7  | 93.1  | 93.7  | 96.6  | 98.3  | 99.7  | 105.3 | 109.7 | 111.1 | 143.3 |
| 250   | 86.8  | 92.6  | 91.1  | 91.1  | 93.0  | 94.3  | 97.2  | 98.4  | 99.6  | 104.9 | 110.5 | 114.5 | 114.9 | 147.6 |
| 315   | 88.6  | 92.1  | 91.6  | 93.4  | 94.5  | 96.6  | 98.8  | 100.4 | 103.0 | 108.2 | 112.8 | 116.5 | 116.4 | 149.7 |
| 400   | 90.1  | 93.6  | 93.2  | 94.0  | 96.6  | 98.8  | 100.9 | 104.9 | 104.9 | 112.2 | 116.6 | 119.8 | 117.9 | 152.6 |
| 450   | 93.6  | 93.4  | 93.2  | 94.0  | 96.6  | 98.8  | 100.9 | 104.9 | 104.9 | 112.2 | 116.6 | 119.8 | 117.9 | 152.6 |
| 500   | 91.2  | 94.7  | 93.5  | 94.3  | 95.9  | 97.5  | 99.6  | 101.8 | 105.2 | 113.1 | 118.2 | 121.1 | 118.5 | 153.9 |
| 550   | 91.2  | 94.7  | 93.5  | 94.3  | 95.9  | 97.5  | 99.6  | 101.8 | 105.2 | 113.1 | 118.2 | 121.1 | 118.5 | 153.9 |
| 630   | 93.1  | 95.3  | 94.9  | 95.9  | 97.0  | 98.1  | 100.5 | 102.4 | 104.9 | 113.7 | 119.3 | 120.0 | 118.9 | 153.9 |
| 800   | 106.7 | 105.5 | 99.0  | 99.5  | 99.1  | 101.5 | 101.1 | 103.5 | 107.6 | 113.8 | 118.5 | 120.6 | 119.3 | 154.2 |
| 1000  | 116.0 | 110.0 | 107.5 | 107.6 | 105.7 | 106.5 | 105.2 | 104.3 | 108.3 | 113.1 | 120.5 | 125.7 | 125.8 | 158.7 |
| 1250  | 106.5 | 109.0 | 107.0 | 106.1 | 104.2 | 102.8 | 103.7 | 104.3 | 107.4 | 112.4 | 116.4 | 116.9 | 152.9 | 152.9 |
| 1500  | 107.3 | 109.3 | 107.8 | 109.4 | 109.2 | 108.8 | 106.3 | 105.2 | 107.9 | 112.3 | 115.6 | 117.7 | 116.2 | 153.1 |
| 1600  | 107.3 | 109.3 | 107.8 | 109.4 | 109.2 | 108.8 | 106.3 | 105.2 | 107.9 | 112.3 | 115.6 | 117.7 | 116.2 | 153.1 |
| 2000  | 106.4 | 106.3 | 106.5 | 107.4 | 113.0 | 116.1 | 111.5 | 105.4 | 107.5 | 112.7 | 114.0 | 117.6 | 115.1 | 154.3 |
| 2500  | 105.4 | 106.0 | 105.2 | 105.8 | 105.3 | 106.0 | 107.3 | 108.0 | 112.3 | 113.2 | 116.0 | 113.7 | 151.6 | 151.6 |
| 3150  | 104.3 | 105.6 | 105.1 | 105.1 | 105.2 | 106.0 | 107.4 | 108.2 | 110.4 | 112.7 | 114.2 | 111.8 | 150.7 | 150.7 |
| 4000  | 104.0 | 104.2 | 104.8 | 105.0 | 104.6 | 106.1 | 105.7 | 107.4 | 108.6 | 109.5 | 110.5 | 112.9 | 110.4 | 149.9 |
| 5000  | 101.6 | 104.2 | 104.0 | 104.0 | 103.9 | 104.4 | 104.8 | 106.4 | 108.1 | 109.0 | 109.8 | 111.6 | 109.2 | 149.2 |
| 6300  | 101.0 | 103.5 | 103.7 | 104.2 | 104.6 | 104.8 | 105.5 | 107.3 | 108.7 | 110.5 | 107.8 | 108.7 | 148.7 | 148.7 |
| 8000  | 98.9  | 100.1 | 101.4 | 102.6 | 103.1 | 104.4 | 103.7 | 103.8 | 105.4 | 105.3 | 107.8 | 105.9 | 147.7 | 147.7 |
| 10000 | 98.9  | 100.1 | 101.4 | 102.6 | 103.1 | 104.4 | 103.7 | 103.8 | 105.4 | 105.3 | 107.8 | 105.9 | 147.7 | 147.7 |
| 12500 | 96.9  | 98.1  | 99.6  | 99.6  | 101.2 | 102.7 | 102.9 | 102.1 | 103.0 | 103.5 | 105.4 | 103.0 | 146.5 | 146.5 |
| 15000 | 96.9  | 98.1  | 99.6  | 99.6  | 101.2 | 102.7 | 102.9 | 102.1 | 103.0 | 103.5 | 105.4 | 103.0 | 146.5 | 146.5 |
| 16000 | 94.3  | 96.4  | 97.7  | 98.8  | 100.3 | 101.3 | 101.3 | 100.7 | 101.3 | 100.7 | 100.8 | 103.1 | 145.8 | 145.8 |
| 20000 | 92.0  | 93.2  | 94.8  | 95.6  | 97.7  | 98.8  | 98.3  | 98.6  | 97.5  | 98.5  | 101.4 | 97.6  | 145.0 | 145.0 |
| 25000 | 88.0  | 90.8  | 91.3  | 92.2  | 93.8  | 96.2  | 96.4  | 95.3  | 96.7  | 95.5  | 94.9  | 97.1  | 144.7 | 144.7 |
| 31500 | 83.8  | 86.5  | 87.3  | 88.5  | 90.0  | 92.6  | 92.6  | 92.5  | 92.2  | 91.4  | 91.7  | 91.5  | 144.4 | 144.4 |
| 40000 | 79.1  | 82.8  | 84.7  | 84.6  | 87.0  | 88.9  | 89.5  | 89.2  | 90.7  | 87.4  | 89.5  | 92.2  | 145.3 | 145.3 |
| 50000 | 75.6  | 78.9  | 80.7  | 81.3  | 83.3  | 86.0  | 86.1  | 84.8  | 87.4  | 84.7  | 85.8  | 89.9  | 146.3 | 146.3 |
| 63000 | 71.1  | 75.8  | 77.3  | 78.7  | 80.1  | 82.3  | 82.6  | 81.6  | 85.6  | 82.4  | 84.0  | 87.5  | 148.9 | 148.9 |
| 80000 | 69.1  | 72.9  | 73.7  | 74.9  | 77.7  | 78.8  | 80.2  | 76.7  | 81.5  | 80.9  | 79.8  | 85.0  | 152.6 | 152.6 |
| DBA   | 118.8 | 117.2 | 116.6 | 117.1 | 118.2 | 119.9 | 117.9 | 117.2 | 119.2 | 123.2 | 127.0 | 130.1 | 129.1 | 129.1 |
| QASPL | 118.7 | 116.9 | 116.3 | 116.8 | 117.7 | 119.4 | 117.8 | 117.5 | 119.5 | 123.8 | 127.8 | 130.9 | 129.9 | 165.7 |
| PNL   | 128.5 | 128.8 | 128.5 | 128.8 | 131.0 | 133.0 | 130.9 | 132.3 | 135.7 | 139.3 | 140.6 | 139.6 | 142.2 | 142.2 |
| PMLT  | 130.1 | 130.6 | 130.0 | 130.4 | 133.7 | 136.7 | 132.3 | 130.7 | 132.3 | 135.7 | 139.1 | 142.6 | 142.2 | 142.2 |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH062 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4  
 IAPLHA = SB59 LEGA = NG PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.68 RELHUM = 57.6 PCT  
 WIND DIR = MIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1731.4 FPS AE8 = 25.3 SQ IN  
 FNFRMB = LBS XNLR = RPM XNHR = RPM V8 = 1731.4 FPS AE8 = 25.3 SQ IN  
 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - B1F-ZER-1421 X1421F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 85.9 83.7 80.0 84.3 84.1 95.7 75.1 85.8 88.2 98.6 94.4 93.9 94.5 133.8  
63 89.7 85.5 85.8 89.6 89.7 92.0 91.4 91.3 92.6 108.6 99.2 98.4 98.6 140.7  
80 87.8 92.6 87.8 87.9 89.2 91.8 92.0 91.2 92.0 93.2 93.5 97.6 97.6 134.2  
100 88.3 91.8 88.6 90.7 91.2 91.9 92.5 94.4 93.5 94.7 97.3 100.8 101.7 136.6  
125 88.6 89.6 90.9 91.2 91.8 93.7 94.0 93.2 93.8 96.5 102.1 105.0 106.5 139.6  
150 86.3 84.6 88.1 87.9 89.0 89.8 92.0 91.4 92.6 96.2 102.5 108.9 140.4  
200 85.5 88.3 88.8 89.1 90.7 93.1 93.7 96.6 98.3 99.7 105.3 109.7 111.1 143.3  
250 86.8 92.6 91.1 91.1 93.0 94.3 97.2 98.4 99.6 104.9 110.5 114.5 114.9 147.6  
315 88.6 92.1 91.6 93.4 94.5 96.6 98.8 100.4 103.0 108.2 112.8 116.5 116.4 149.7  
400 90.1 93.6 93.4 93.2 94.0 96.6 98.8 100.9 104.9 112.2 116.6 119.8 117.9 152.6  
500 91.2 94.7 93.5 94.3 95.9 97.5 99.6 101.8 105.2 113.1 118.2 121.1 118.5 153.9  
630 93.1 95.3 94.9 95.9 97.0 98.1 100.5 102.4 104.9 113.7 119.3 120.0 118.9 153.9  
800 106.7 100.5 99.0 99.5 99.1 101.5 101.1 103.5 107.6 113.8 118.5 120.6 119.3 154.2  
1000 110.0 110.0 107.5 107.6 105.7 105.7 105.2 104.3 108.3 113.1 120.5 125.7 125.8 158.7  
1250 106.5 109.0 107.0 106.1 104.2 102.8 103.7 104.3 107.4 112.4 116.2 118.4 116.9 152.9  
1500 106.4 106.0 105.2 105.8 105.3 106.0 107.3 108.0 112.3 114.0 117.6 115.1 154.3  
2000 106.4 106.3 106.3 106.4 113.0 116.1 111.5 105.4 107.5 112.7 114.0 117.6 115.1 154.3  
2500 105.4 106.0 105.2 105.8 105.3 106.0 107.3 108.0 112.3 114.0 117.6 115.1 154.3  
3150 104.3 105.6 105.1 105.1 105.2 106.0 106.1 107.4 108.2 110.4 112.7 114.2 111.8 150.7  
4000 104.0 104.2 104.8 105.0 104.6 106.1 105.7 107.5 108.6 109.5 110.5 111.6 109.2 149.2  
5000 101.6 104.0 103.5 104.0 104.4 104.8 104.4 104.8 105.5 107.3 107.6 108.7 110.5 107.8 148.7  
6300 101.0 103.5 103.7 104.2 104.6 105.1 104.8 105.5 107.3 107.6 108.7 110.5 107.8 148.7  
8000 99.6 101.5 102.0 102.9 103.2 104.5 104.3 104.5 105.7 107.1 106.0 108.6 106.1 147.8  
10000 98.9 100.1 101.4 102.6 103.1 104.4 103.8 105.4 105.3 103.5 103.3 107.8 105.9 147.7  
12500 96.9 98.1 99.6 101.2 102.7 102.9 102.1 103.0 103.5 103.5 105.4 103.0 146.5  
15000 94.3 96.4 97.1 97.7 98.8 100.3 100.7 101.5 101.3 100.7 100.8 103.1 100.6 145.8  
20000 92.0 93.2 94.8 95.6 95.9 97.7 98.8 98.3 98.6 97.5 98.5 101.4 97.6 145.0  
25000 88.0 90.8 92.8 93.8 96.2 96.4 96.3 96.7 95.5 94.9 97.1 94.9 144.7  
31500 83.8 86.5 87.3 88.5 90.0 92.6 92.5 92.5 92.7 93.2 91.4 89.7 91.5 144.4  
40000 79.1 82.8 84.7 84.6 87.0 88.9 89.5 89.2 90.7 87.4 89.5 92.2 87.7 145.3  
50000 75.6 78.9 80.7 81.3 83.3 86.0 86.1 84.8 87.4 85.8 87.9 83.9 146.3  
63000 71.1 75.8 77.3 78.7 80.1 82.3 82.6 81.6 85.6 82.4 84.0 80.9 148.9  
80000 69.1 72.9 73.7 74.9 77.7 78.8 80.2 76.7 81.5 80.9 79.8 85.0 77.4 152.6

DBA 189.9 193.8 194.8 196.1 198.5 199.9 201.0 198.1 202.6 201.6 201.0 205.9 198.5  
PNLT 133.1 130.6 130.0 130.4 133.7 136.7 132.3 130.7 132.3 135.7 139.1 142.6 142.2  
PNL 128.5 128.8 128.5 128.8 131.0 133.0 130.9 130.7 132.3 135.7 138.0 140.6 139.6  
OASPL 118.7 116.9 116.3 116.8 117.7 119.4 117.8 117.5 119.5 123.8 127.8 130.9 129.9 165.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH062 TEST DATE = 08-24-81  
LAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
LBS XNL RPM XNHR RPM XNH RPM V8 = 1731.4 FPS AEB = 25.3 SQ IN  
FNINI = LBS XNL RPM XNHR RPM V8 = 1731.4 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNL RPM XNHR RPM V8 = 1731.4 FPS AEB = 25.3 SQ IN  
R-1421 TAPE = X1421F TEST PT NO = 1421 NC = 862 CORR FAN SPEED = RPM

RUNPT = 81  
VEHICL = ADH062 TEST DATE = 08-24-81  
LAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
LBS XNL RPM XNHR RPM V8 = 1731.4 FPS AEB = 25.3 SQ IN  
FNINI = LBS XNL RPM XNHR RPM V8 = 1731.4 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNL RPM XNHR RPM V8 = 1731.4 FPS AEB = 25.3 SQ IN  
R-1421 TAPE = X1421F TEST PT NO = 1421 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-1421 X14211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

68.1 73.1 74.0 74.5 75.7 78.5 80.5 82.2 85.5 91.7 94.6 95.6 90.4 170.1

63 69.2 74.2 74.1 75.6 79.3 81.3 83.1 85.8 92.6 96.2 99.9 90.9 171.3

80 71.0 74.8 75.4 77.2 78.7 79.9 82.2 83.7 85.5 93.2 97.2 95.7 171.4

100 84.5 79.9 80.8 80.8 83.3 82.8 84.8 88.1 93.2 96.3 96.2 91.4 171.6

125 93.7 89.3 87.9 88.7 87.2 88.2 86.7 85.4 88.7 92.4 98.2 101.1 97.7 176.1

160 84.0 88.2 87.3 87.1 85.6 84.4 85.1 85.3 87.7 91.5 93.8 88.5 170.3

200 84.5 85.2 87.9 90.2 90.5 90.2 87.6 86.1 87.9 91.2 92.9 87.3 170.5

250 83.4 85.0 86.3 88.0 94.0 97.3 92.5 86.0 87.4 91.3 91.0 82.0 85.5 171.7

315 81.9 84.3 84.8 86.1 86.2 86.9 88.9 87.6 87.5 90.6 89.7 89.9 83.4 169.1

400 80.3 83.5 84.3 85.1 85.7 86.7 86.6 87.4 87.4 88.3 88.8 87.4 80.4 167.4

500 79.5 81.8 83.6 84.8 84.8 86.5 85.9 87.3 87.4 87.0 86.0 85.5 78.0 167.4

630 76.7 81.4 82.5 83.4 83.9 84.5 84.7 85.8 86.7 86.2 84.8 83.5 75.8 166.6

800 75.6 80.3 81.9 83.3 84.3 84.9 84.5 84.7 85.5 84.4 83.3 81.7 73.3 166.2

1000 73.8 78.0 80.0 81.9 82.8 84.3 83.9 83.5 83.7 83.6 80.1 79.1 70.4 165.2

1250 72.5 76.2 79.1 81.5 82.6 84.0 83.2 82.7 83.2 81.4 78.9 77.5 68.7 165.1

1600 69.7 73.6 76.9 78.1 80.3 82.0 80.6 80.4 79.0 76.3 73.8 63.5 164.0

2000 66.1 71.3 74.1 76.0 77.8 79.5 79.7 79.8 78.3 75.6 72.6 69.9 58.1 163.2

2500 62.0 66.9 70.9 73.2 74.3 76.3 77.2 75.9 74.7 71.2 68.5 65.3 50.1 162.4

3150 54.7 62.1 65.5 68.2 70.9 73.5 73.5 71.4 70.9 66.7 61.6 56.1 39.1 162.1

4000 44.2 53.1 57.7 61.2 64.0 67.1 66.5 65.4 63.6 58.0 52.1 44.7 21.1 161.8

5000 29.7 41.8 48.9 51.9 56.1 58.5 56.5 54.9 46.4 40.1 28.5 162.7

6300 8.4 23.7 32.7 37.9 42.3 45.8 45.1 41.4 39.5 29.4 18.6 2.1 163.8

8000 166.4

10000 170.0

12500

15000

16000

20000

25000

31500

40000

50000

63000

80000

QASPL 95.9 95.3 95.8 97.0 98.5 100.3 98.3 97.3 98.7 102.3 105.0 105.7 101.2 162.8

PNL 98.6 98.9 100.5 102.3 104.7 106.9 104.9 103.6 104.0 105.4 106.4 107.0 101.7

PMLT 100.2 99.8 101.3 103.1 106.1 108.7 105.6 103.6 104.0 106.0 107.4 108.2 103.0

DBA 85.6 88.3 89.9 91.4 92.8 94.4 93.4 92.9 93.2 93.5 93.0 92.8 86.8

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NO2. SC-4/MAS3-22514

VEHICL = ADH062 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CNF10 = 4

TAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.68 RELHUM = 57.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF10 = SL MIKE HT = NBFR = 0. FPS

FNINI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 1731.4 FPS AEG AE10 = 25.3 SQ IN

FNRAMB = LBS XNLR = RPM XNH = RPM V8 = 1731.4 FPS AEG AE10 = 25.3 SQ IN

RUNPT = 81F-ZER-1421 TAPE = X14211 TEST PT NO = 1421 NC = 862 CORR FAN SPEED = RPM

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505

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1422 X1422C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

|     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50  | 86.7  | 86.5  | 88.5  | 83.3  | 83.4  | 84.5  | 84.6  | 85.3  | 87.7  | 97.8  | 92.4  | 91.9  | 99.3  | 132.9 |
| 55  | 86.2  | 89.5  | 89.3  | 89.3  | 89.3  | 89.3  | 90.4  | 90.8  | 92.6  | 108.4 | 91.7  | 92.2  | 98.3  | 140.2 |
| 60  | 86.3  | 93.8  | 94.6  | 88.4  | 89.0  | 91.6  | 92.5  | 91.9  | 92.5  | 99.8  | 93.4  | 94.0  | 96.7  | 135.2 |
| 65  | 86.2  | 89.5  | 92.3  | 86.4  | 86.0  | 90.3  | 91.5  | 93.4  | 92.6  | 108.4 | 91.7  | 92.2  | 98.3  | 140.2 |
| 70  | 86.3  | 83.3  | 93.3  | 86.4  | 86.0  | 90.3  | 91.5  | 93.4  | 92.6  | 108.4 | 91.7  | 92.2  | 98.3  | 140.2 |
| 75  | 86.6  | 87.9  | 93.6  | 88.2  | 89.8  | 92.9  | 95.0  | 97.4  | 100.5 | 106.0 | 110.6 | 114.5 | 112.9 | 147.2 |
| 80  | 87.8  | 87.9  | 94.8  | 88.7  | 89.5  | 92.9  | 94.8  | 97.2  | 101.4 | 108.2 | 113.3 | 115.8 | 111.9 | 148.6 |
| 85  | 85.7  | 86.3  | 94.8  | 88.7  | 89.5  | 92.9  | 94.8  | 97.2  | 101.4 | 108.2 | 113.3 | 115.8 | 111.9 | 148.6 |
| 90  | 85.7  | 86.3  | 94.8  | 88.7  | 89.5  | 92.9  | 94.8  | 97.2  | 101.4 | 108.2 | 113.3 | 115.8 | 111.9 | 148.6 |
| 95  | 85.7  | 86.3  | 94.8  | 88.7  | 89.5  | 92.9  | 94.8  | 97.2  | 101.4 | 108.2 | 113.3 | 115.8 | 111.9 | 148.6 |
| 100 | 87.8  | 87.8  | 90.1  | 97.4  | 90.9  | 92.5  | 93.6  | 95.5  | 98.2  | 100.4 | 109.2 | 115.3 | 114.8 | 148.7 |
| 105 | 87.8  | 87.8  | 90.1  | 97.4  | 90.9  | 92.5  | 93.6  | 95.5  | 98.2  | 100.4 | 109.2 | 115.3 | 114.8 | 148.7 |
| 110 | 104.7 | 103.3 | 105.5 | 96.6  | 94.9  | 96.0  | 97.2  | 99.1  | 103.1 | 108.6 | 114.2 | 109.2 | 98.6  | 147.8 |
| 115 | 104.7 | 103.3 | 105.5 | 96.6  | 94.9  | 96.0  | 97.2  | 99.1  | 103.1 | 108.6 | 114.2 | 109.2 | 98.6  | 147.8 |
| 120 | 102.8 | 104.3 | 113.0 | 113.0 | 113.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 125 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 130 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 135 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 140 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 145 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 150 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 155 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 160 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 165 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 170 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 175 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 180 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 185 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 190 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 195 | 100.4 | 102.0 | 107.5 | 102.0 | 101.2 | 100.9 | 101.6 | 102.4 | 105.7 | 106.3 | 104.6 | 98.4  | 92.7  | 145.9 |
| 200 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 205 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 210 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 215 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 220 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 225 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 230 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 235 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 240 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 245 | 101.2 | 101.6 | 107.2 | 101.4 | 104.0 | 107.3 | 106.7 | 102.1 | 103.5 | 109.2 | 109.3 | 103.1 | 95.6  | 147.7 |
| 250 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 255 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 260 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 265 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 270 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 275 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 280 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 285 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 290 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 295 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 300 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 305 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 310 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 315 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 320 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 325 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 330 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 335 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 340 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 345 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 350 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 355 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 360 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 365 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 370 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 375 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 380 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 385 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 390 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 395 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |
| 400 | 101.9 | 102.7 | 107.5 | 101.0 | 100.4 | 102.2 | 106.6 | 106.0 | 104.0 | 108.6 | 107.4 | 101.7 | 95.0  | 147.1 |

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|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA   | 113.1 | 114.3 | 120.0 | 115.2 | 116.1 | 115.4 | 114.3 | 114.1 | 115.5 | 119.5 | 122.5 | 120.0 | 113.6 |
| PFLT  | 125.0 | 127.5 | 133.8 | 131.1 | 132.3 | 130.5 | 129.5 | 129.3 | 129.0 | 132.2 | 133.5 | 131.0 | 126.4 |
| GASPL | 112.8 | 114.1 | 119.8 | 114.8 | 115.7 | 115.2 | 114.3 | 114.5 | 115.9 | 120.3 | 123.6 | 123.1 | 119.6 |
| 80000 | 62.2  | 60.1  | 78.1  | 72.6  | 74.3  | 74.7  | 74.5  | 71.1  | 73.4  | 69.3  | 70.7  | 66.9  | 55.5  |
| 63000 | 66.8  | 60.1  | 79.7  | 75.7  | 77.4  | 78.8  | 79.1  | 77.6  | 79.2  | 73.9  | 75.6  | 72.2  | 62.1  |
| 50000 | 72.6  | 60.4  | 82.6  | 78.1  | 79.8  | 82.5  | 82.6  | 81.4  | 82.4  | 79.0  | 79.4  | 76.4  | 67.3  |
| 40000 | 77.0  | 61.7  | 87.4  | 82.1  | 83.8  | 85.9  | 86.5  | 86.4  | 87.1  | 82.0  | 83.6  | 80.1  | 71.6  |
| 31500 | 81.5  | 85.4  | 91.0  | 85.8  | 87.5  | 89.6  | 90.5  | 90.0  | 89.6  | 87.0  | 86.6  | 83.2  | 75.9  |
| 25000 | 86.0  | 89.5  | 95.2  | 89.8  | 91.1  | 93.4  | 93.7  | 92.9  | 93.1  | 90.7  | 89.5  | 87.1  | 79    |





UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1466 X1466C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 85.9 85.0 81.2 80.3 80.9 82.0 81.9 82.3 83.7 86.6 91.9 91.4 97.5 129.3

63 66.7 66.5 67.0 64.3 66.7 68.0 67.4 67.6 69.3 91.4 92.5 92.4 98.8 132.1

80 68.8 93.1 67.6 68.6 69.5 92.1 92.2 91.1 93.3 92.4 93.8 96.2 99.6 134.6

100 68.1 92.1 67.9 68.9 69.7 90.6 92.0 93.2 91.6 92.2 95.1 99.5 102.4 135.6

125 65.1 88.1 88.4 89.7 90.5 92.4 92.3 91.4 92.2 93.7 99.6 103.8 105.7 138.1

150 63.3 81.1 85.3 85.1 85.2 86.6 88.0 87.9 90.3 94.7 100.0 104.0 107.6 138.5

200 83.3 82.8 84.6 84.1 86.0 88.6 89.5 91.6 94.8 96.2 101.0 107.0 109.6 140.7

250 81.8 85.3 84.8 86.1 87.7 89.1 91.2 93.1 96.3 100.7 106.8 110.7 111.1 143.8

315 82.1 85.1 84.9 85.9 87.5 90.9 92.8 94.9 98.9 99.9 104.5 108.8 112.3 145.3

400 83.8 85.4 85.6 86.7 87.8 90.6 92.8 95.9 100.6 108.0 111.8 114.0 110.4 147.1

500 64.0 67.0 66.6 67.4 69.2 90.9 93.5 96.4 99.6 101.3 108.6 113.5 114.1 147.6

630 64.8 67.1 66.6 67.4 69.2 90.9 93.5 96.4 99.6 101.3 108.6 113.5 114.1 147.6

800 90.2 92.5 91.0 90.8 93.4 93.3 94.1 97.0 101.3 107.8 114.0 111.6 99.8 146.9

1000 93.2 92.8 90.8 91.1 92.4 93.8 95.7 97.3 101.3 107.6 113.0 109.2 98.8 145.9

1250 101.5 102.3 96.3 94.8 94.4 94.4 96.2 98.8 101.6 107.9 111.7 106.9 97.7 145.6

1500 105.5 104.8 105.1 104.9 100.9 96.6 97.5 99.2 102.6 107.5 110.9 104.7 97.5 146.6

2000 101.9 104.3 103.7 104.4 104.5 102.3 98.0 98.6 103.0 108.2 107.8 102.9 95.4 146.0

2500 99.7 100.7 100.2 101.8 103.1 105.0 102.8 100.3 102.4 107.1 106.4 101.2 94.5 145.3

3150 99.5 99.6 98.6 98.9 99.5 102.5 103.4 101.9 103.2 105.9 106.2 99.4 93.1 144.4

4000 99.0 99.3 98.3 98.3 98.1 99.6 101.5 103.3 103.7 104.5 103.7 98.7 92.6 143.5

5000 97.7 98.8 98.8 98.0 97.8 98.2 98.7 99.1 101.6 103.9 103.9 97.4 91.7 142.9

6300 95.6 96.3 96.7 97.5 97.7 98.2 98.6 100.6 103.1 103.0 101.3 96.6 90.4 142.4

8000 93.8 96.7 96.4 97.1 97.1 98.6 98.5 98.9 101.4 102.0 99.1 95.2 89.5 141.6

10000 93.8 95.1 95.1 96.1 96.3 98.3 98.3 96.9 97.8 99.4 100.1 98.0 94.0 140.8

12500 91.7 93.4 93.5 94.5 95.0 96.2 95.7 95.8 97.1 95.8 92.0 86.5 139.8

15000 88.8 90.9 91.5 92.1 94.3 94.4 95.2 95.6 93.6 92.8 90.1 85.3 138.9

20000 86.6 87.9 87.8 89.1 89.6 91.8 91.7 92.1 92.5 90.8 89.7 87.3 82.7 137.8

25000 82.2 84.9 84.9 85.4 87.2 89.6 89.6 89.6 88.5 86.4 84.4 80.5 74.0 137.3

31500 77.4 81.3 80.8 81.9 83.1 86.2 86.1 86.1 85.8 84.1 83.2 80.5 74.0 137.0

40000 73.7 77.4 78.0 78.6 80.7 82.8 83.2 82.4 83.6 79.4 80.5 77.6 70.5 137.9

50000 70.2 73.2 73.4 75.2 76.9 79.6 79.5 78.2 80.1 76.3 77.0 73.3 65.7 138.6

63000 65.2 70.1 70.2 72.5 73.5 75.7 76.2 74.7 76.7 72.3 74.1 69.9 61.8 140.5

80000 60.9 67.8 67.1 67.7 69.2 71.1 71.4 68.9 72.3 68.0 69.5 64.6 54.8 142.8

GASPL 110.7 111.5 110.7 111.0 110.8 111.4 111.2 111.9 114.4 118.4 122.4 122.4 121.7 118.7 158.4

PNL 123.0 123.6 123.6 124.0 125.3 125.2 125.7 127.5 130.7 127.5 130.7 132.2 129.8 125.5

PMLT 125.1 125.1 125.0 125.3 124.5 125.9 125.2 125.7 127.5 130.7 132.2 129.8 125.5

DBA 111.3 112.0 111.1 111.4 111.4 111.1 111.5 111.0 111.6 114.0 118.2 121.3 118.9 112.8

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH052 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 2  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HG = 29.70 RELHUM = 44.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1802.1 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1802.1 FPS AE8 = 25.3 SQ IN  
CORR FAN SPEED = RPM

RUNPT = 81F-400-1466 TAPE = X1466C TEST PT NO = 1466 NC = 861

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409



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1466 X14661

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50   | 67.8 | 71.0 | 70.4 | 70.6 | 71.3 | 72.7 | 73.2 | 74.5 | 80.1 | 85.8 | 89.0 | 88.7 | 82.2  | 163.6 |
| 63   | 69.5 | 72.9 | 71.4 | 72.7 | 73.7 | 74.6 | 76.4 | 79.0 | 86.5 | 90.8 | 89.5 | 82.3 | 164.6 |       |
| 80   | 69.5 | 72.9 | 72.5 | 72.9 | 73.1 | 74.5 | 76.1 | 80.6 | 85.9 | 91.0 | 89.3 | 80.1 | 164.5 |       |
| 100  | 70.1 | 72.8 | 72.0 | 72.1 | 76.7 | 75.5 | 75.0 | 76.4 | 81.2 | 86.4 | 90.9 | 88.2 | 81.7  | 164.4 |
| 125  | 73.3 | 76.5 | 75.2 | 74.7 | 75.6 | 76.1 | 76.9 | 81.7 | 86.5 | 89.6 | 85.9 | 80.4 | 163.5 |       |
| 160  | 76.8 | 76.8 | 74.8 | 74.7 | 77.8 | 76.9 | 77.2 | 78.1 | 82.5 | 86.3 | 88.8 | 83.7 | 80.2  | 163.1 |
| 200  | 86.3 | 87.5 | 81.3 | 79.2 | 84.2 | 79.0 | 78.6 | 78.8 | 82.8 | 86.8 | 85.5 | 81.6 | 77.8  | 164.3 |
| 250  | 89.4 | 89.3 | 89.4 | 88.6 | 87.7 | 84.8 | 79.0 | 78.1 | 83.0 | 86.3 | 84.8 | 80.5 | 77.2  | 166.9 |
| 315  | 83.4 | 87.1 | 87.0 | 87.7 | 86.8 | 87.5 | 84.5 | 80.4 | 83.6 | 85.0 | 84.3 | 78.4 | 75.3  | 165.8 |
| 400  | 83.3 | 85.2 | 84.9 | 86.0 | 83.0 | 85.2 | 85.1 | 81.9 | 84.8 | 84.1 | 82.1 | 77.7 | 74.5  | 165.0 |
| 500  | 81.1 | 82.7 | 82.3 | 82.5 | 82.6 | 83.7 | 83.9 | 84.4 | 82.8 | 80.9 | 75.4 | 72.3 | 163.8 |       |
| 630  | 78.9 | 81.0 | 81.0 | 81.4 | 81.9 | 81.8 | 81.2 | 81.9 | 83.6 | 81.8 | 78.7 | 74.2 | 70.3  | 162.9 |
| 800  | 77.7 | 80.8 | 81.0 | 81.1 | 81.7 | 81.5 | 80.5 | 80.8 | 82.1 | 81.0 | 76.6 | 72.8 | 68.8  | 162.8 |
| 1000 | 76.5 | 80.8 | 80.4 | 81.0 | 80.7 | 81.4 | 80.3 | 79.2 | 80.6 | 79.6 | 75.8 | 71.5 | 67.3  | 162.6 |
| 1250 | 75.8 | 79.0 | 79.6 | 80.4 | 79.8 | 81.0 | 78.8 | 78.2 | 79.3 | 76.9 | 73.8 | 69.3 | 64.1  | 162.1 |
| 1500 | 73.5 | 76.7 | 77.7 | 78.8 | 78.8 | 77.8 | 77.8 | 76.0 | 77.0 | 73.2 | 69.7 | 65.4 | 59.5  | 161.2 |
| 1600 | 73.5 | 76.7 | 77.7 | 78.8 | 78.8 | 77.8 | 77.8 | 76.0 | 77.0 | 73.2 | 69.7 | 65.4 | 59.5  | 161.2 |
| 2000 | 69.8 | 74.0 | 75.1 | 76.4 | 75.1 | 76.5 | 75.6 | 75.1 | 73.2 | 69.2 | 65.1 | 56.8 | 46.0  | 159.2 |
| 2500 | 64.7 | 69.6 | 71.3 | 72.4 | 72.0 | 73.5 | 72.0 | 70.6 | 70.5 | 66.8 | 62.1 | 56.8 | 46.0  | 159.2 |
| 3150 | 58.6 | 63.8 | 65.7 | 67.8 | 68.3 | 69.9 | 68.9 | 66.4 | 61.8 | 56.8 | 49.4 | 35.1 | 158.9 |       |
| 4000 | 47.1 | 55.2 | 58.2 | 60.1 | 61.2 | 63.7 | 62.6 | 60.5 | 61.3 | 53.3 | 48.9 | 38.7 | 18.3  | 158.9 |
| 5000 | 31.7 | 43.2 | 47.1 | 50.3 | 53.8 | 55.4 | 54.8 | 51.7 | 51.8 | 42.9 | 36.1 | 21.5 |       | 159.4 |
| 6300 | 9.8  | 24.7 | 31.8 | 35.8 | 40.5 | 42.4 | 40.9 | 36.7 | 37.0 | 25.3 | 16.1 |      |       | 160.5 |
| 8000 |      |      | 6.6  | 13.4 | 19.0 | 20.6 | 19.5 | 13.8 | 11.9 |      |      |      |       | 162.6 |

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80000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000  
8000

|       |       |       |       |       |       |       |      |      |       |       |      |      |      |       |
|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|------|------|------|-------|
| GASPL | 93.5  | 94.9  | 94.3  | 94.4  | 94.0  | 93.7  | 92.4 | 91.6 | 94.2  | 96.7  | 98.8 | 96.3 | 90.1 | 176.9 |
| PNL   | 98.6  | 100.3 | 100.3 | 100.4 | 100.2 | 100.7 | 99.5 | 98.5 | 100.2 | 100.2 | 99.6 | 96.0 | 90.3 |       |
| PFLT  | 100.0 | 101.1 | 101.4 | 101.3 | 100.2 | 100.7 | 99.5 | 98.5 | 100.8 | 100.2 | 99.6 | 96.0 | 90.3 |       |
| DBA   | 87.6  | 89.9  | 89.9  | 90.4  | 89.8  | 90.3  | 89.2 | 88.4 | 89.8  | 88.9  | 87.0 | 82.5 | 78.5 |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/MAS3-22514

VEHICL = ADH052 TEST DATE = 08-19-81  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT  
CONFIG = C41 ANECH CH CONFIG = 4  
MODEL = 4  
FLVEL = 400. FPS  
RELHUM = 44.5 PCT  
REHUM = 29.70  
MIKE HT = 25.3 SQ IN  
AE8 = 1802.1 FPS  
AE18 = 0. SQ IN  
XNHL RPM = 1802.1 FPS  
XNHR RPM = 1802.1 FPS  
XNHL RPM = 1802.1 FPS  
XNHR RPM = 1802.1 FPS

FINI = LBS XNL RPM = 1802.1 FPS  
FNAMB = LBS XNLR RPM = 1802.1 FPS  
CORR FAN SPEED = RPM  
TEST PT NO = 1466 NC = 861  
TAPF = 81F-400-1466 TAPE = X14661

111

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1468 X1468C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50  | 87.2  | 85.7  | 81.5  | 81.3  | 82.7  | 82.6  | 86.3  | 87.7  | 87.1  | 96.2  | 95.4  | 98.3  |
| 60  | 87.5  | 87.0  | 86.8  | 85.8  | 87.7  | 88.5  | 87.7  | 90.3  | 92.8  | 99.5  | 98.7  | 134.8 |
| 80  | 89.8  | 87.0  | 88.8  | 89.6  | 90.7  | 92.8  | 93.2  | 92.9  | 94.1  | 92.9  | 95.3  | 97.7  |
| 100   | 89.1  | 89.6  | 89.1  | 90.2  | 91.2  | 92.4  | 93.5  | 94.7  | 93.4  | 93.7  | 96.6  | 101.5 |
| 125   | 86.4  | 89.4  | 89.7  | 90.9  | 92.3  | 94.2  | 93.8  | 92.9  | 93.7  | 95.7  | 101.9 | 139.9 |
| 150   | 84.5  | 82.6  | 86.6  | 86.7  | 88.1  | 89.2  | 89.4  | 91.8  | 96.2  | 101.8 | 105.7 | 139.9 |
| 200   | 84.5  | 82.6  | 86.6  | 86.7  | 88.1  | 89.2  | 89.4  | 91.8  | 96.2  | 101.8 | 105.7 | 139.9 |
| 250   | 83.3  | 86.6  | 85.8  | 87.4  | 88.5  | 90.1  | 92.2  | 94.6  | 96.6  | 102.7 | 108.5 | 145.3 |
| 315   | 83.3  | 86.1  | 85.6  | 86.9  | 88.8  | 91.9  | 94.0  | 95.9  | 99.9  | 106.5 | 112.9 | 146.8 |
| 400   | 85.6  | 86.9  | 87.6  | 87.7  | 89.0  | 92.6  | 94.0  | 98.2  | 103.4 | 111.0 | 114.3 | 149.4 |
| 500   | 85.5  | 88.2  | 88.3  | 89.5  | 91.1  | 93.3  | 95.4  | 98.5  | 104.0 | 112.3 | 116.5 | 150.3 |
| 630   | 86.6  | 89.1  | 89.7  | 91.5  | 93.9  | 96.2  | 98.7  | 103.6 | 112.9 | 117.8 | 115.8 | 150.9 |
| 800   | 89.2  | 89.5  | 90.8  | 92.6  | 94.8  | 96.1  | 98.8  | 104.0 | 113.1 | 118.0 | 113.9 | 150.6 |
| 1000  | 93.2  | 93.8  | 91.8  | 92.8  | 93.4  | 95.5  | 97.7  | 99.3  | 104.3 | 112.6 | 117.2 | 149.9 |
| 1250  | 98.2  | 100.5 | 95.8  | 95.1  | 96.4  | 97.0  | 98.2  | 100.6 | 105.0 | 112.6 | 117.7 | 150.3 |
| 1500  | 104.8 | 104.1 | 102.3 | 99.9  | 97.8  | 100.5 | 102.2 | 106.7 | 112.0 | 117.4 | 110.7 | 150.3 |
| 2000  | 102.2 | 104.8 | 103.5 | 103.4 | 102.2 | 99.6  | 99.0  | 101.6 | 106.7 | 112.7 | 115.0 | 149.4 |
| 2500  | 99.2  | 101.0 | 100.7 | 102.5 | 103.8 | 103.7 | 101.5 | 101.8 | 105.9 | 111.8 | 113.4 | 148.5 |
| 3150  | 98.5  | 99.3  | 97.8  | 99.1  | 100.7 | 102.4 | 103.5 | 104.0 | 103.9 | 110.6 | 110.7 | 147.9 |
| 4000  | 98.0  | 98.3  | 97.3  | 97.5  | 98.4  | 100.8 | 103.5 | 104.0 | 106.4 | 109.5 | 110.7 | 146.8 |
| 5000  | 96.7  | 98.0  | 96.8  | 97.3  | 98.2  | 99.7  | 100.8 | 103.4 | 105.9 | 108.6 | 109.3 | 145.9 |
| 6300  | 95.9  | 97.8  | 96.7  | 97.5  | 98.4  | 99.1  | 100.6 | 102.8 | 105.6 | 107.0 | 108.0 | 145.2 |
| 8000  | 94.2  | 95.9  | 95.9  | 96.8  | 97.1  | 98.6  | 99.5  | 101.4 | 104.3 | 105.6 | 101.2 | 142.6 |
| 10000   | 93.6  | 94.8  | 94.6  | 95.8  | 96.8  | 98.1  | 98.7  | 100.0 | 102.7 | 104.3 | 105.0 | 142.6 |
| 12500   | 91.2  | 92.7  | 93.0  | 93.7  | 95.2  | 96.7  | 97.9  | 97.7  | 100.8 | 101.9 | 102.3 | 142.3 |
| 15000   | 87.8  | 89.7  | 89.9  | 91.0  | 92.1  | 94.0  | 95.4  | 96.7  | 98.8  | 99.0  | 95.8  | 141.1 |
| 16000   | 87.8  | 89.7  | 89.9  | 91.0  | 92.1  | 94.0  | 95.4  | 96.7  | 98.8  | 99.0  | 95.8  | 141.1 |
| 20000   | 85.1  | 86.9  | 87.3  | 88.5  | 89.1  | 91.6  | 92.7  | 93.5  | 94.9  | 95.3  | 96.2  | 139.8 |
| 25000   | 81.4  | 83.8  | 84.6  | 86.5  | 89.0  | 90.1  | 89.5  | 91.3  | 92.1  | 92.4  | 89.5  | 138.9 |
| 31500   | 76.6  | 80.0  | 79.6  | 80.6  | 83.1  | 85.7  | 86.1  | 86.6  | 88.3  | 88.1  | 89.7  | 138.5 |
| 40000   | 72.7  | 76.1  | 77.0  | 77.3  | 80.0  | 82.3  | 83.0  | 83.4  | 85.8  | 83.1  | 87.5  | 139.4 |
| 50000   | 69.2  | 72.0  | 72.4  | 73.5  | 75.7  | 79.2  | 78.8  | 81.1  | 80.1  | 83.8  | 77.3  | 139.8 |
| 63000   | 64.5  | 69.4  | 69.3  | 70.8  | 72.6  | 74.7  | 75.8  | 74.5  | 77.2  | 76.1  | 79.9  | 141.3 |
| 80000   | 60.5  | 66.6  | 66.9  | 66.0  | 68.0  | 69.9  | 70.0  | 68.3  | 72.9  | 71.9  | 74.3  | 143.2 |
| QASPL   | 110.0 | 111.2 | 109.8 | 110.1 | 110.6 | 111.7 | 112.3 | 113.7 | 117.3 | 123.1 | 127.0 | 120.5 |
| PNL   | 122.4 | 124.0 | 122.8 | 123.5 | 124.4 | 125.7 | 126.0 | 127.1 | 130.3 | 135.0 | 137.8 | 128.2 |
| PNLT  | 123.9 | 124.0 | 122.8 | 123.5 | 125.0 | 126.3 | 126.0 | 127.1 | 130.3 | 135.0 | 137.8 | 128.2 |
| DBA   | 110.5 | 111.6 | 110.2 | 110.4 | 110.7 | 111.6 | 112.1 | 113.3 | 117.1 | 122.8 | 126.5 | 115.2 |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 |       |       |       |       |       |       |       |       |       |       |       |       |

VEHICL = ADH051 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4  
 IAPLHA = SBS9 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CNFIG = ARC TAMB F = 80.00  
 WIND DIR = DEG WIND VEL = MPH PML AREA = FULL SPHERE EXT CNFIG = ARC MIKE HT = 29.50 RELHUM = 44.6 PCT  
 FNINI = LBS XNL RPM XNH XNHR = RPM XNHR = RPM V8 = 2028.8 FPS AEB = 25.3 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2028.8 FPS AEB = 25.3 SQ IN  
 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

412



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-1468 X1468F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 200 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 150 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 125 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 100 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 80 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 63 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 50 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 35 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0

250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 200 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 150 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 125 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 100 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 80 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 63 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 50 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 35 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0

250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 200 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 150 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 125 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 100 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 80 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 63 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 50 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 35 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0

250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 200 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 150 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 125 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 100 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 80 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 63 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 50 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 35 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0

250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 200 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 150 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 125 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 100 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 80 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 63 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 50 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 35 90.6 90.6 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0  
 250 90.6 92.8 90.6 90.6 90.6 90.6 90.1 90.3 91.0 96.4 102.1 105.4 109.3 110.3 143.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH051 TEST DATE = 08-19-81  
 LCAT = C41 ANECH CH CONFIG = 4  
 MODEL = 4  
 FTVEL = 400. FPS  
 IAPLHA = SB59  
 IEGA = NO  
 WIND VEL = MPH  
 PML AREA = FULL SPHERE  
 TAMB F = 80.00  
 MIKE HT = 29.50  
 RELHUM = 44.6 PCT  
 WIND DIR =  
 FNIINI = LBS XNLR  
 RPM =  
 XNHR =  
 RPM =  
 V8 = 2028.8 FPS  
 AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNLR  
 RPM =  
 XNHR =  
 RPM =  
 V8 = 2028.8 FPS  
 AE8 = 25.3 SQ IN  
 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
 OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1468 X14681

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

69.0 72.0 71.2 71.6 72.6 74.7 74.9 77.4 83.1 89.9 92.6 91.2 84.8 166.6  
50 69.0 72.0 71.2 71.6 72.6 74.7 74.9 77.4 83.1 89.9 92.6 91.2 84.8 166.6

63 71.2 72.8 73.2 72.4 74.7 75.4 76.4 78.2 82.6 90.5 94.1 92.0 84.4 167.6  
63 71.2 72.8 73.2 72.4 74.7 75.4 76.4 78.2 82.6 90.5 94.1 92.0 84.4 167.6

60 71.0 74.1 73.8 74.3 75.1 76.1 77.1 78.0 83.1 90.8 94.6 91.2 82.9 167.6  
60 71.0 74.1 73.8 74.3 75.1 76.1 77.1 78.0 83.1 90.8 94.6 91.2 82.9 167.6

100 72.1 74.9 74.6 75.3 77.0 76.9 78.0 83.9 91.0 94.8 91.2 84.5 167.9  
100 72.1 74.9 74.6 75.3 77.0 76.9 78.0 83.9 91.0 94.8 91.2 84.5 167.9

125 74.6 75.2 75.0 75.5 76.6 76.6 78.6 78.7 84.6 90.9 95.2 90.3 84.0 168.1  
125 74.6 75.2 75.0 75.5 76.6 76.6 78.6 78.7 84.6 90.9 95.2 90.3 84.0 168.1

150 75.8 77.2 75.5 76.3 79.6 79.4 79.1 79.9 86.0 90.4 94.9 89.4 83.7 168.0  
150 75.8 77.2 75.5 76.3 79.6 79.4 79.1 79.9 86.0 90.4 94.9 89.4 83.7 168.0

200 82.4 85.1 80.2 78.9 81.3 80.3 81.5 81.6 86.5 91.2 92.7 87.3 83.0 167.5  
200 82.4 85.1 80.2 78.9 81.3 80.3 81.5 81.6 86.5 91.2 92.7 87.3 83.0 167.5

250 89.1 88.9 87.0 83.9 85.4 82.1 80.0 81.1 85.8 90.5 91.1 85.9 81.4 168.2  
250 89.1 88.9 87.0 83.9 85.4 82.1 80.0 81.1 85.8 90.5 91.1 85.9 81.4 168.2

315 84.9 88.3 87.1 86.7 87.6 86.3 82.7 81.3 86.0 89.4 90.8 85.1 80.2 168.2  
315 84.9 88.3 87.1 86.7 87.6 86.3 82.7 81.3 86.0 89.4 90.8 85.1 80.2 168.2

400 82.8 85.5 85.4 86.7 84.5 86.7 84.9 82.0 86.9 88.5 88.5 83.6 78.8 167.4  
400 82.8 85.5 85.4 86.7 84.5 86.7 84.9 82.0 86.9 88.5 88.5 83.6 78.8 167.4

500 81.6 83.5 82.3 83.2 82.2 83.8 85.0 84.0 86.0 87.2 86.6 81.4 76.7 166.2  
500 81.6 83.5 82.3 83.2 82.2 83.8 85.0 84.0 86.0 87.2 86.6 81.4 76.7 166.2

630 79.5 81.4 81.1 81.4 82.2 82.8 83.2 83.5 85.5 85.2 84.9 79.9 74.4 165.3  
630 79.5 81.4 81.1 81.4 82.2 82.8 83.2 83.5 85.5 85.2 84.9 79.9 74.4 165.3

800 78.1 81.1 80.6 81.2 82.1 82.0 81.9 82.3 84.0 84.4 82.3 77.9 72.6 164.7  
800 78.1 81.1 80.6 81.2 82.1 82.0 81.9 82.3 84.0 84.4 82.3 77.9 72.6 164.7

1000 77.0 80.7 80.3 81.1 80.7 81.4 80.7 80.8 83.1 83.0 82.0 76.5 72.1 164.6  
1000 77.0 80.7 80.3 81.1 80.7 81.4 80.7 80.8 83.1 83.0 82.0 76.5 72.1 164.6

1250 75.0 78.4 79.2 80.2 80.3 80.7 80.2 79.8 81.5 80.8 79.4 74.9 69.0 163.9  
1250 75.0 78.4 79.2 80.2 80.3 80.7 80.2 79.8 81.5 80.8 79.4 74.9 69.0 163.9

1500 73.2 76.5 77.2 78.6 78.4 79.1 78.3 77.4 79.7 77.8 75.6 71.1 64.6 162.8  
1500 73.2 76.5 77.2 78.6 78.4 79.1 78.3 77.4 79.7 77.8 75.6 71.1 64.6 162.8

2000 69.3 73.2 74.6 75.7 75.1 76.3 76.8 76.6 76.1 74.0 72.0 66.7 58.7 161.6  
2000 69.3 73.2 74.6 75.7 75.1 76.3 76.8 76.6 76.1 74.0 72.0 66.7 58.7 161.6

2500 63.7 68.6 70.3 71.9 71.5 73.3 73.6 72.8 72.3 70.4 67.4 61.4 50.8 160.5  
2500 63.7 68.6 70.3 71.9 71.5 73.3 73.6 72.8 72.3 70.4 67.4 61.4 50.8 160.5

3150 57.1 62.8 65.2 67.3 67.6 69.4 69.5 67.2 68.1 64.7 62.3 53.2 39.6 160.0  
3150 57.1 62.8 65.2 67.3 67.6 69.4 69.5 67.2 68.1 64.7 62.3 53.2 39.6 160.0

4000 46.3 54.5 57.1 59.3 61.8 63.2 62.5 60.8 62.2 55.5 54.4 41.4 22.0 160.0  
4000 46.3 54.5 57.1 59.3 61.8 63.2 62.5 60.8 62.2 55.5 54.4 41.4 22.0 160.0

5000 33.7 44.2 47.5 50.2 54.3 51.9 51.1 44.6 40.6 23.3  
5000 33.7 44.2 47.5 50.2 54.3 51.9 51.1 44.6 40.6 23.3

6300 11.6 25.7 32.5 35.7 39.3 41.9 40.3 36.1 35.9 27.2 19.7  
6300 11.6 25.7 32.5 35.7 39.3 41.9 40.3 36.1 35.9 27.2 19.7

8000 5.6 11.7 18.0 19.7 18.6 12.4 11.3  
8000 5.6 11.7 18.0 19.7 18.6 12.4 11.3

93.0 94.9 93.6 93.6 93.9 93.9 93.2 92.9 96.8 101.0 103.6 99.7 93.4 179.4  
93.0 94.9 93.6 93.6 93.9 93.9 93.2 92.9 96.8 101.0 103.6 99.7 93.4 179.4

98.4 100.3 99.7 100.3 100.5 100.9 100.1 99.6 102.5 104.4 105.4 100.3 94.6  
98.4 100.3 99.7 100.3 100.5 100.9 100.1 99.6 102.5 104.4 105.4 100.3 94.6

99.6 100.3 100.3 100.8 100.5 101.5 100.1 99.6 103.0 104.4 105.4 100.3 94.6  
99.6 100.3 100.3 100.8 100.5 101.5 100.1 99.6 103.0 104.4 105.4 100.3 94.6

97.6 90.0 89.5 90.1 90.0 90.5 90.0 89.6 92.0 92.9 93.0 88.0 82.8  
97.6 90.0 89.5 90.1 90.0 90.5 90.0 89.6 92.0 92.9 93.0 88.0 82.8

163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NGZ. SC-4/NAS3-22514

VEHICLE = ADH051 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 44.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH RPM XNH RPM V8 = 2028.8 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM V8 = 2028.8 FPS AE8 = 25.3 SQ IN

RUNPT = 8 10-1468 TAPE = X14681 TEST PT NO = 1468 NC = 861 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-1470 X1470C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 88.2 89.7 82.0 82.5 82.6 83.5 83.4 86.8 88.5 88.3 96.9 95.9 99.0 132.5

50 88.2 89.7 82.0 82.5 82.6 83.5 83.4 86.8 88.5 88.3 96.9 95.9 99.0 132.5

63 88.2 89.7 82.0 82.5 82.6 83.5 83.4 86.8 88.5 88.3 96.9 95.9 99.0 132.5

80 91.0 93.3 89.8 90.9 92.0 94.1 94.5 93.9 95.3 93.9 96.5 99.0 102.4 136.9

100 90.1 92.1 90.1 91.4 92.2 93.6 94.7 96.2 94.6 97.8 102.3 104.4 138.1

125 87.9 89.4 90.7 92.2 93.5 95.7 95.3 94.7 94.9 97.5 103.9 109.0 141.5

150 85.8 87.6 87.6 87.7 89.3 90.5 90.9 93.8 98.7 104.0 107.2 110.4 141.6

200 86.0 87.6 85.8 85.1 88.0 90.6 92.0 94.6 98.3 99.9 110.0 112.9 143.9

250 84.0 85.8 87.1 88.6 89.7 91.3 94.2 95.9 98.1 104.2 110.0 112.9 143.9

315 84.8 86.9 86.6 87.9 89.5 92.6 94.8 96.9 98.9 100.9 108.5 111.8 148.4

400 87.1 88.1 88.4 89.2 90.0 93.9 95.8 99.4 105.4 113.0 115.8 116.5 150.6

500 86.7 89.0 89.5 91.0 92.1 94.8 97.1 99.8 106.0 114.1 117.7 116.6 151.5

630 86.1 88.1 88.4 89.2 90.0 93.9 95.8 99.4 105.4 113.0 115.8 116.5 150.6

800 90.7 92.2 90.8 91.8 93.6 95.5 98.1 101.3 106.5 116.3 120.2 115.4 104.6 153.0

1000 94.0 96.5 94.5 94.8 95.2 97.3 99.4 102.6 107.5 116.3 120.7 114.2 104.3 153.2

1250 97.0 99.3 97.0 96.8 97.9 99.9 100.2 102.8 108.3 116.6 121.0 113.7 103.7 153.5

1500 103.8 105.1 100.8 99.6 98.4 99.8 102.3 104.2 108.8 116.0 121.4 112.9 104.2 153.7

2000 102.2 103.1 103.5 102.4 100.7 99.6 101.0 104.4 109.7 116.7 119.8 112.1 103.6 153.0

2500 99.2 100.7 101.2 102.8 103.3 103.9 104.3 109.1 114.9 117.2 110.5 103.0 151.7

3150 97.0 98.3 98.3 99.6 102.0 104.5 103.9 104.4 109.2 114.9 117.2 110.5 103.0 151.2

4000 96.5 97.8 97.0 98.0 98.0 101.3 104.5 105.5 109.7 113.0 114.7 107.7 100.1 149.7

5000 95.7 97.3 96.5 96.8 98.0 99.7 102.1 105.4 108.6 112.3 113.8 106.1 99.2 148.9

6300 94.4 96.2 96.5 96.5 96.8 98.0 99.7 102.1 105.4 108.6 112.3 113.8 106.1 99.2 148.9

8000 93.0 95.7 94.9 96.1 96.8 98.9 101.4 105.1 108.1 111.0 112.0 105.3 97.9 148.0

10000 92.3 93.8 94.1 95.3 96.6 98.6 99.7 102.3 105.9 108.6 108.6 102.5 96.8 146.4

12500 90.7 91.7 93.0 93.5 95.0 97.0 97.9 100.2 103.8 107.3 107.3 94.5 145.3

15000 87.0 88.5 89.9 90.5 92.1 94.3 96.2 98.7 101.3 103.5 104.3 98.6 144.1

16000 87.0 88.5 89.9 90.5 92.1 94.3 96.2 98.7 101.3 103.5 104.3 98.6 144.1

20000 84.4 86.6 86.6 88.3 89.6 92.1 93.2 95.3 97.7 100.6 102.0 95.8 90.4 143.0

25000 80.7 83.1 83.3 84.4 86.7 85.7 86.8 87.8 89.3 91.3 94.3 97.1 97.2 141.7

31500 75.6 79.0 79.1 80.4 82.3 85.7 86.8 87.8 89.3 91.3 94.3 97.1 97.2 141.7

40000 71.2 76.4 76.0 76.8 79.5 82.0 82.7 84.4 88.1 89.9 94.0 84.1 77.3 142.9

50000 67.5 75.0 71.4 72.5 74.9 78.4 79.2 79.7 84.3 88.1 92.0 80.3 72.0 144.7

63000 62.7 75.2 67.7 69.5 71.5 74.2 75.2 75.2 76.3 81.1 85.3 69.6 58.8 149.7

80000 59.5 74.8 66.1 65.2 67.0 69.1 69.5 69.0 76.3 81.1 85.3 69.6 58.8 149.7

GASPL 109.3 110.9 109.8 110.1 110.7 112.2 113.5 115.8 120.2 126.7 130.1 125.7 121.9 164.2

PML 121.9 123.3 122.4 123.7 124.4 126.3 127.2 129.0 133.2 138.7 141.5 135.8 130.0

PNLT 123.3 124.6 122.9 123.7 125.0 127.0 127.2 129.0 133.2 138.7 141.5 135.8 130.0

DBA 109.8 111.2 110.1 110.3 110.7 112.0 113.3 115.5 120.0 126.5 130.0 124.0 117.0

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH050 TEST DATE = 08-19-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4  
IAPLHA = SB59 IEGA = NO EXT DIST = 40.0 FT PML AREA = FULL SPHERE TAMB F = 80.00  
WIND DIR = DEG WIND VEL = MPH WIND DIR = 0.00 PAMB HG = 29.60 MIKE HT = 0.00  
FNRAMB = LBS XNL RPM XNHR RPM = 2208.2 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNL RPM XNHR RPM = 2208.2 FPS AEB = 25.3 SQ IN  
CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - B1F-400-1470 X1470F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 91.9  | 92.3  | 92.0  | 91.9  | 91.3  | 91.3  | 92.3  | 92.3  | 92.3  | 97.4  | 104.1 | 106.9 | 110.8 | 111.8 | 144.5 |
| 250   | 91.9  | 92.3  | 92.0  | 91.9  | 91.3  | 92.6  | 93.4  | 94.1  | 103.2 | 109.9 | 112.4 | 113.9 | 112.8 | 148.1 |       |
| 315   | 91.9  | 92.3  | 92.0  | 91.3  | 91.9  | 91.3  | 92.6  | 93.4  | 94.1  | 103.2 | 109.9 | 112.4 | 113.9 | 112.8 | 148.1 |
| 400   | 92.5  | 93.3  | 91.6  | 91.3  | 91.9  | 94.1  | 95.0  | 97.5  | 104.3 | 112.0 | 115.7 | 116.1 | 113.3 | 150.3 |       |
| 500   | 94.8  | 94.5  | 93.3  | 92.6  | 94.0  | 95.1  | 96.3  | 98.0  | 104.6 | 114.3 | 118.0 | 116.6 | 113.0 | 151.8 |       |
| 630   | 94.4  | 94.5  | 94.5  | 94.5  | 95.0  | 95.8  | 97.3  | 99.7  | 104.9 | 114.4 | 118.7 | 116.7 | 112.2 | 152.1 |       |
| 800   | 95.7  | 96.5  | 95.4  | 94.9  | 95.5  | 96.0  | 97.2  | 99.1  | 106.4 | 115.0 | 120.1 | 117.0 | 114.6 | 153.2 |       |
| 1000  | 97.2  | 97.9  | 95.3  | 95.0  | 96.7  | 97.9  | 98.7  | 100.6 | 107.2 | 115.3 | 120.4 | 116.5 | 114.1 | 153.2 |       |
| 1250  | 98.9  | 100.7 | 97.9  | 97.3  | 99.7  | 99.8  | 99.6  | 101.0 | 108.0 | 115.0 | 121.1 | 116.1 | 114.9 | 153.7 |       |
| 1600  | 102.4 | 103.8 | 100.7 | 99.5  | 100.5 | 100.8 | 101.9 | 102.6 | 109.3 | 116.0 | 119.8 | 115.6 | 114.7 | 153.4 |       |
| 2000  | 111.0 | 111.1 | 105.5 | 102.9 | 102.8 | 100.9 | 100.9 | 103.0 | 109.2 | 115.5 | 118.3 | 114.7 | 114.7 | 153.2 |       |
| 2500  | 108.5 | 108.3 | 107.6 | 105.4 | 106.3 | 104.6 | 102.8 | 103.4 | 109.5 | 115.1 | 118.1 | 113.4 | 113.3 | 152.9 |       |
| 3150  | 106.7 | 107.3 | 106.6 | 105.2 | 106.5 | 104.6 | 103.8 | 110.8 | 113.8 | 116.1 | 112.5 | 112.5 | 112.5 | 152.1 |       |
| 4000  | 104.6 | 105.0 | 103.9 | 104.0 | 102.6 | 103.9 | 105.7 | 105.6 | 109.7 | 113.1 | 115.2 | 110.9 | 111.5 | 151.1 |       |
| 5000  | 104.0 | 104.5 | 102.7 | 102.0 | 102.7 | 103.6 | 105.6 | 103.3 | 111.9 | 113.5 | 110.2 | 110.3 | 110.3 | 150.1 |       |
| 6300  | 103.1 | 104.0 | 102.4 | 101.6 | 102.0 | 102.9 | 105.3 | 108.6 | 111.2 | 111.5 | 108.7 | 110.2 | 110.2 | 149.4 |       |
| 8000  | 101.7 | 103.1 | 101.9 | 101.2 | 100.9 | 101.9 | 102.5 | 104.2 | 107.7 | 110.1 | 111.0 | 108.1 | 109.9 | 149.0 |       |
| 10000 | 100.1 | 102.1 | 100.4 | 100.6 | 101.6 | 101.3 | 102.7 | 105.8 | 107.9 | 109.8 | 106.6 | 107.8 | 107.8 | 148.0 |       |
| 12500 | 99.2  | 99.9  | 99.3  | 99.6  | 99.0  | 100.0 | 99.5  | 100.5 | 104.1 | 106.1 | 107.6 | 105.3 | 106.8 | 147.2 |       |
| 16000 | 97.0  | 97.3  | 97.7  | 97.2  | 96.1  | 97.3  | 97.8  | 99.2  | 101.0 | 103.7 | 105.8 | 103.0 | 104.9 | 146.3 |       |
| 20000 | 92.9  | 94.6  | 94.2  | 93.8  | 93.6  | 95.1  | 94.9  | 95.9  | 98.1  | 100.7 | 101.4 | 100.2 | 100.8 | 144.7 |       |
| 25000 | 89.7  | 90.5  | 90.2  | 91.0  | 91.3  | 92.5  | 92.5  | 91.8  | 95.6  | 97.9  | 99.6  | 96.1  | 97.6  | 144.3 |       |
| 31500 | 86.0  | 86.0  | 86.0  | 87.5  | 86.9  | 88.7  | 88.4  | 88.1  | 92.9  | 94.3  | 99.0  | 92.4  | 93.0  | 144.8 |       |
| 40000 | 82.1  | 84.3  | 82.9  | 82.6  | 84.1  | 85.0  | 84.2  | 84.5  | 89.3  | 92.5  | 96.8  | 88.1  | 86.8  | 145.7 |       |
| 50000 | 77.3  | 81.2  | 79.4  | 78.7  | 79.5  | 81.4  | 80.7  | 79.7  | 88.3  | 91.0  | 93.9  | 84.4  | 82.5  | 147.4 |       |
| 63000 | 72.6  | 75.6  | 73.9  | 73.4  | 75.6  | 77.2  | 76.7  | 75.2  | 83.7  | 88.0  | 92.5  | 79.8  | 76.0  | 150.1 |       |
| 80000 | 64.2  | 75.6  | 67.1  | 67.9  | 70.5  | 72.1  | 70.9  | 68.9  | 73.9  | 78.2  | 82.7  | 70.0  | 66.2  | 148.0 |       |
| 916   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| GASPL | 116.1 | 116.5 | 114.5 | 113.7 | 113.5 | 113.9 | 113.9 | 115.0 | 120.2 | 125.9 | 129.6 | 126.6 | 125.3 | 164.6 |       |
| PNL   | 128.8 | 129.2 | 127.5 | 127.3 | 126.5 | 127.3 | 127.1 | 127.7 | 133.0 | 137.5 | 140.6 | 137.0 | 136.6 |       |       |
| PNLT  | 130.6 | 130.9 | 127.5 | 127.3 | 126.5 | 127.3 | 127.1 | 127.7 | 133.0 | 137.5 | 140.6 | 137.0 | 136.6 |       |       |
| DBA   | 187.2 | 196.6 | 189.4 | 189.7 | 192.0 | 193.7 | 192.7 | 191.0 | 197.5 | 201.6 | 206.0 | 193.7 | 190.3 |       |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ, SC-4/NAS3-22514

VEHICL = ADH050 TEST DATE = 08-19-81 LOCAT = C41 ANECH CH CNF1G = 4 MODEL = 4 FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.60 RELHUM = 44.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF1G = ARC MIKE HT = NBR

FNINI = LBS XNL RPM XNHR RPM XNH RPM V8 = 2208.2 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM = V8 = 2208.2 FPS AEB = 25.3 SQ IN

RUNPT # 8 00-1470 TAPE = X1470F TEST PT NO = 1470 NC = 861 CGRR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-1470 X14701

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|        |      |      |        |      |      |      |      |      |      |      |      |      |       |
|--------|------|------|--------|------|------|------|------|------|------|------|------|------|-------|
| 70.5   | 72.0 | 72.2 | 72.6   | 73.6 | 76.0 | 76.7 | 78.8 | 84.9 | 91.5 | 93.7 | 91.9 | 85.8 | 167.7 |
| 50.0   | 72.8 | 72.0 | 72.6   | 73.9 | 75.7 | 76.9 | 79.0 | 85.2 | 93.8 | 95.9 | 92.3 | 85.4 | 169.2 |
| 60.0   | 73.6 | 75.9 | 76.1   | 77.2 | 77.8 | 78.9 | 80.4 | 86.9 | 94.4 | 96.6 | 92.4 | 84.5 | 169.6 |
| 70.0   | 74.9 | 75.9 | 76.2   | 76.3 | 76.6 | 77.6 | 78.9 | 85.4 | 93.8 | 95.9 | 92.3 | 85.4 | 169.2 |
| 80.0   | 75.9 | 75.9 | 76.1   | 77.2 | 77.8 | 78.9 | 80.4 | 86.9 | 94.4 | 96.6 | 92.4 | 84.5 | 169.6 |
| 90.0   | 76.4 | 76.4 | 76.3   | 76.3 | 76.3 | 76.3 | 76.3 | 76.3 | 76.3 | 76.3 | 76.3 | 76.3 | 171.2 |
| 100.0  | 77.2 | 77.2 | 77.2   | 77.2 | 77.2 | 77.2 | 77.2 | 77.2 | 77.2 | 77.2 | 77.2 | 77.2 | 170.8 |
| 110.0  | 77.9 | 77.9 | 77.9   | 77.9 | 77.9 | 77.9 | 77.9 | 77.9 | 77.9 | 77.9 | 77.9 | 77.9 | 170.6 |
| 120.0  | 78.2 | 78.2 | 78.2   | 78.2 | 78.2 | 78.2 | 78.2 | 78.2 | 78.2 | 78.2 | 78.2 | 78.2 | 170.6 |
| 130.0  | 78.8 | 78.8 | 78.8   | 78.8 | 78.8 | 78.8 | 78.8 | 78.8 | 78.8 | 78.8 | 78.8 | 78.8 | 170.6 |
| 140.0  | 79.7 | 79.7 | 79.7   | 79.7 | 79.7 | 79.7 | 79.7 | 79.7 | 79.7 | 79.7 | 79.7 | 79.7 | 170.9 |
| 150.0  | 80.1 | 80.1 | 80.1   | 80.1 | 80.1 | 80.1 | 80.1 | 80.1 | 80.1 | 80.1 | 80.1 | 80.1 | 170.3 |
| 160.0  | 80.7 | 80.7 | 80.7   | 80.7 | 80.7 | 80.7 | 80.7 | 80.7 | 80.7 | 80.7 | 80.7 | 80.7 | 170.3 |
| 170.0  | 81.1 | 81.1 | 81.1   | 81.1 | 81.1 | 81.1 | 81.1 | 81.1 | 81.1 | 81.1 | 81.1 | 81.1 | 170.7 |
| 180.0  | 81.6 | 81.6 | 81.6   | 81.6 | 81.6 | 81.6 | 81.6 | 81.6 | 81.6 | 81.6 | 81.6 | 81.6 | 167.5 |
| 190.0  | 82.0 | 82.0 | 82.0   | 82.0 | 82.0 | 82.0 | 82.0 | 82.0 | 82.0 | 82.0 | 82.0 | 82.0 | 167.5 |
| 200.0  | 82.2 | 82.2 | 82.2   | 82.2 | 82.2 | 82.2 | 82.2 | 82.2 | 82.2 | 82.2 | 82.2 | 82.2 | 167.5 |
| 210.0  | 82.5 | 82.5 | 82.5   | 82.5 | 82.5 | 82.5 | 82.5 | 82.5 | 82.5 | 82.5 | 82.5 | 82.5 | 167.5 |
| 220.0  | 82.8 | 82.8 | 82.8   | 82.8 | 82.8 | 82.8 | 82.8 | 82.8 | 82.8 | 82.8 | 82.8 | 82.8 | 167.5 |
| 230.0  | 83.7 | 83.7 | 83.7   | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 167.5 |
| 240.0  | 84.3 | 84.3 | 84.3   | 84.3 | 84.3 | 84.3 | 84.3 | 84.3 | 84.3 | 84.3 | 84.3 | 84.3 | 167.5 |
| 250.0  | 84.8 | 84.8 | 84.8   | 84.8 | 84.8 | 84.8 | 84.8 | 84.8 | 84.8 | 84.8 | 84.8 | 84.8 | 167.5 |
| 260.0  | 85.0 | 85.0 | 85.0   | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 85.0 | 167.5 |
| 270.0  | 85.4 | 85.4 | 85.4   | 85.4 | 85.4 | 85.4 | 85.4 | 85.4 | 85.4 | 85.4 | 85.4 | 85.4 | 167.5 |
| 280.0  | 85.6 | 85.6 | 85.6   | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 85.6 | 167.5 |
| 290.0  | 85.8 | 85.8 | 85.8   | 85.8 | 85.8 | 85.8 | 85.8 | 85.8 | 85.8 | 85.8 | 85.8 | 85.8 | 167.5 |
| 300.0  | 86.0 | 86.0 | 86.0   | 86.0 | 86.0 | 86.0 | 86.0 | 86.0 | 86.0 | 86.0 | 86.0 | 86.0 | 167.5 |
| 315.0  | 86.4 | 86.4 | 86.4   | 86.4 | 86.4 | 86.4 | 86.4 | 86.4 | 86.4 | 86.4 | 86.4 | 86.4 | 167.5 |
| 330.0  | 86.8 | 86.8 | 86.8   | 86.8 | 86.8 | 86.8 | 86.8 | 86.8 | 86.8 | 86.8 | 86.8 | 86.8 | 167.5 |
| 345.0  | 87.1 | 87.1 | 87.1   | 87.1 | 87.1 | 87.1 | 87.1 | 87.1 | 87.1 | 87.1 | 87.1 | 87.1 | 167.5 |
| 360.0  | 87.3 | 87.3 | 87.3   | 87.3 | 87.3 | 87.3 | 87.3 | 87.3 | 87.3 | 87.3 | 87.3 | 87.3 | 167.5 |
| 375.0  | 87.6 | 87.6 | 87.6   | 87.6 | 87.6 | 87.6 | 87.6 | 87.6 | 87.6 | 87.6 | 87.6 | 87.6 | 167.5 |
| 390.0  | 87.7 | 87.7 | 87.7   | 87.7 | 87.7 | 87.7 | 87.7 | 87.7 | 87.7 | 87.7 | 87.7 | 87.7 | 167.5 |
| 405.0  | 87.9 | 87.9 | 87.9   | 87.9 | 87.9 | 87.9 | 87.9 | 87.9 | 87.9 | 87.9 | 87.9 | 87.9 | 167.5 |
| 420.0  | 88.0 | 88.0 | 88.0   | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 167.5 |
| 435.0  | 88.1 | 88.1 | 88.1   | 88.1 | 88.1 | 88.1 | 88.1 | 88.1 | 88.1 | 88.1 | 88.1 | 88.1 | 167.5 |
| 450.0  | 88.2 | 88.2 | 88.2   | 88.2 | 88.2 | 88.2 | 88.2 | 88.2 | 88.2 | 88.2 | 88.2 | 88.2 | 167.5 |
| 465.0  | 88.3 | 88.3 | 88.3   | 88.3 | 88.3 | 88.3 | 88.3 | 88.3 | 88.3 | 88.3 | 88.3 | 88.3 | 167.5 |
| 480.0  | 88.4 | 88.4 | 88.4   | 88.4 | 88.4 | 88.4 | 88.4 | 88.4 | 88.4 | 88.4 | 88.4 | 88.4 | 167.5 |
| 495.0  | 88.5 | 88.5 | 88.5   | 88.5 | 88.5 | 88.5 | 88.5 | 88.5 | 88.5 | 88.5 | 88.5 | 88.5 | 167.5 |
| 510.0  | 88.6 | 88.6 | 88.6   | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 167.5 |
| 525.0  | 88.6 | 88.6 | 88.6   | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 88.6 | 167.5 |
| 540.0  | 88.7 | 88.7 | 88.7   | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 167.5 |
| 555.0  | 88.7 | 88.7 | 88.7   | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 88.7 | 167.5 |
| 570.0  | 88.8 | 88.8 | 88.8   | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 167.5 |
| 585.0  | 88.8 | 88.8 | 88.8   | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 88.8 | 167.5 |
| 600.0  | 88.9 | 88.9 | 88.9   | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 167.5 |
| 615.0  | 88.9 | 88.9 | 88.9   | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 88.9 | 167.5 |
| 630.0  | 89.0 | 89.0 | 89.0   | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 167.5 |
| 645.0  | 89.0 | 89.0 | 89.0   | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 167.5 |
| 660.0  | 89.1 | 89.1 | 89.1   | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 167.5 |
| 675.0  | 89.1 | 89.1 | 89.1   | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 89.1 | 167.5 |
| 690.0  | 89.2 | 89.2 | 89.2   | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 167.5 |
| 705.0  | 89.2 | 89.2 | 89.2   | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 89.2 | 167.5 |
| 720.0  | 89.3 | 89.3 | 89.3   | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 167.5 |
| 735.0  | 89.3 | 89.3 | 89.3   | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 89.3 | 167.5 |
| 750.0  | 89.4 | 89.4 | 89.4   | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 167.5 |
| 765.0  | 89.4 | 89.4 | 89.4   | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 167.5 |
| 780.0  | 89.4 | 89.4 | 89.4   | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 89.4 | 167.5 |
| 795.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 810.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 825.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 840.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 855.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 870.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 885.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 900.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 915.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 930.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 945.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 960.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 975.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 990.0  | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1005.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1020.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1035.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1050.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1065.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1080.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1095.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1110.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1125.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1140.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1155.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1170.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1185.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1200.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1215.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1230.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1245.0 | 89.5 | 89.5 | 89.5   | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 167.5 |
| 1260.0 | 89.5 | 89.5 | 89.5</ |      |      |      |      |      |      |      |      |      |       |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-7401 X7401C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

|      |     |     |     |     |     |     |      |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| FREQ | 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

|       |      |      |      |      |      |      |      |      |       |       |       |       |       |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 50    | 76.2 | 76.5 | 76.2 | 73.0 | 73.1 | 75.0 | 77.1 | 79.0 | 80.4  | 97.3  | 83.9  | 83.9  | 84.0  |
| 63    | 79.3 | 79.0 | 84.0 | 79.3 | 79.2 | 81.5 | 81.9 | 84.1 | 85.1  | 107.6 | 88.5  | 88.2  | 89.3  |
| 80    | 79.3 | 85.3 | 82.3 | 80.6 | 80.5 | 83.1 | 84.5 | 84.9 | 86.0  | 86.7  | 86.5  | 86.5  | 89.4  |
| 100   | 80.3 | 85.1 | 81.1 | 83.4 | 83.7 | 84.4 | 85.5 | 86.2 | 86.5  | 88.7  | 90.8  | 91.8  | 92.2  |
| 125   | 77.6 | 82.1 | 82.9 | 83.0 | 85.4 | 86.3 | 86.2 | 86.8 | 86.2  | 91.2  | 95.6  | 96.0  | 95.7  |
| 160   | 78.0 | 78.1 | 80.3 | 81.1 | 81.5 | 82.3 | 84.5 | 85.6 | 87.3  | 91.9  | 96.3  | 97.0  | 97.6  |
| 200   | 78.3 | 79.1 | 82.1 | 81.1 | 82.2 | 84.8 | 84.5 | 87.4 | 91.0  | 93.7  | 97.3  | 99.5  | 100.4 |
| 250   | 78.3 | 82.8 | 82.9 | 83.2 | 85.3 | 88.0 | 89.6 | 92.3 | 99.2  | 103.0 | 103.7 | 102.9 | 138.1 |
| 315   | 79.6 | 83.9 | 83.9 | 84.8 | 87.9 | 89.3 | 91.4 | 94.8 | 101.5 | 103.8 | 105.0 | 104.2 | 139.5 |
| 400   | 81.3 | 84.6 | 85.4 | 86.2 | 86.5 | 89.9 | 92.3 | 95.4 | 100.4 | 105.5 | 107.6 | 108.0 | 143.0 |
| 500   | 80.7 | 85.7 | 85.0 | 86.0 | 87.4 | 90.0 | 93.1 | 96.8 | 99.7  | 104.3 | 106.7 | 108.1 | 142.6 |
| 630   | 81.8 | 86.4 | 86.4 | 86.9 | 87.8 | 89.6 | 92.5 | 96.9 | 99.4  | 105.4 | 106.8 | 106.3 | 141.8 |
| 800   | 83.7 | 85.5 | 86.3 | 86.8 | 88.4 | 90.3 | 91.9 | 94.8 | 98.1  | 103.1 | 103.2 | 102.4 | 139.3 |
| 1000  | 86.0 | 87.5 | 87.0 | 87.3 | 88.2 | 90.8 | 92.4 | 94.3 | 97.9  | 101.6 | 101.7 | 100.2 | 138.1 |
| 1250  | 84.2 | 89.0 | 87.1 | 88.3 | 88.7 | 90.3 | 91.9 | 94.1 | 97.2  | 100.4 | 100.3 | 97.7  | 137.0 |
| 1500  | 84.5 | 87.1 | 87.1 | 87.6 | 88.7 | 90.3 | 93.3 | 95.0 | 98.8  | 98.9  | 96.0  | 94.0  | 136.2 |
| 2000  | 84.7 | 86.6 | 86.2 | 86.9 | 88.2 | 90.3 | 91.5 | 94.1 | 96.8  | 99.2  | 96.8  | 94.9  | 135.6 |
| 2500  | 83.9 | 86.2 | 86.2 | 87.5 | 87.8 | 90.2 | 92.3 | 94.3 | 96.0  | 98.3  | 95.9  | 93.2  | 135.1 |
| 3150  | 83.3 | 86.1 | 85.3 | 86.9 | 87.7 | 90.5 | 91.7 | 93.6 | 95.7  | 96.5  | 92.5  | 89.6  | 134.6 |
| 4000  | 83.0 | 84.8 | 85.5 | 87.0 | 87.6 | 89.3 | 91.5 | 94.0 | 94.8  | 95.0  | 92.2  | 88.9  | 133.9 |
| 5000  | 81.7 | 84.5 | 84.5 | 85.8 | 87.0 | 88.9 | 90.1 | 93.1 | 94.2  | 94.8  | 94.6  | 91.1  | 133.3 |
| 6300  | 80.6 | 84.3 | 84.2 | 85.0 | 86.4 | 88.9 | 90.4 | 92.6 | 93.3  | 93.5  | 94.5  | 90.5  | 133.0 |
| 8000  | 78.7 | 82.3 | 85.0 | 87.8 | 88.3 | 89.2 | 91.4 | 92.3 | 92.7  | 92.6  | 89.4  | 86.0  | 132.1 |
| 10000 | 78.8 | 80.8 | 81.8 | 83.3 | 84.8 | 87.8 | 89.2 | 90.2 | 91.6  | 91.2  | 88.4  | 85.5  | 131.8 |
| 12500 | 75.9 | 79.1 | 80.1 | 81.6 | 83.4 | 85.6 | 86.3 | 87.6 | 89.5  | 89.0  | 89.2  | 86.1  | 130.5 |
| 16000 | 73.1 | 77.0 | 77.8 | 78.3 | 79.9 | 82.6 | 84.3 | 86.6 | 87.4  | 86.1  | 83.7  | 80.7  | 129.4 |
| 20000 | 70.7 | 73.7 | 75.6 | 76.1 | 77.6 | 80.4 | 81.5 | 83.1 | 84.4  | 82.3  | 83.5  | 81.8  | 128.3 |
| 25000 | 66.4 | 71.1 | 71.3 | 72.6 | 75.0 | 77.6 | 79.1 | 79.3 | 80.9  | 78.8  | 79.9  | 79.3  | 127.4 |
| 31500 | 62.1 | 66.7 | 67.5 | 68.4 | 70.3 | 74.2 | 74.8 | 75.8 | 76.7  | 74.3  | 76.2  | 73.0  | 126.4 |
| 40000 | 57.6 | 63.0 | 63.9 | 64.7 | 67.1 | 69.4 | 70.6 | 71.7 | 73.2  | 69.2  | 69.0  | 63.6  | 126.2 |
| 50000 | 54.1 | 60.9 | 59.9 | 60.2 | 62.6 | 65.6 | 65.9 | 67.6 | 67.6  | 64.8  | 65.7  | 63.4  | 125.8 |
| 63000 | 51.1 | 61.2 | 61.3 | 58.3 | 59.7 | 61.4 | 63.2 | 61.9 | 63.8  | 59.7  | 60.7  | 57.3  | 127.7 |
| 80000 | 50.1 | 61.2 | 67.5 | 59.5 | 60.4 | 58.6 | 60.7 | 57.2 | 58.3  | 58.0  | 54.9  | 54.8  | 134.2 |

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ORIGINAL PAGE IS  
OF POOR QUALITY

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| QASPL | 95.6  | 98.7  | 98.6  | 99.2  | 100.1 | 102.4 | 104.2 | 106.7 | 109.3 | 114.4 | 114.4 | 114.4 | 114.7 | 113.6 | 151.3 |
| PNL   | 108.0 | 110.9 | 110.8 | 111.8 | 112.6 | 115.0 | 116.5 | 118.9 | 121.4 | 123.7 | 123.6 | 122.9 | 121.3 |       |       |
| PNLT  | 108.0 | 110.9 | 110.8 | 111.8 | 112.6 | 115.0 | 116.5 | 118.9 | 121.4 | 123.7 | 123.6 | 122.9 | 121.3 |       |       |
| DBA   | 94.9  | 97.7  | 97.5  | 98.4  | 99.3  | 101.5 | 103.3 | 105.8 | 108.2 | 111.6 | 111.6 | 111.9 | 111.5 | 110.1 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH070 TEST DATE = 08-24-81  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VER = MPH  
 PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
 LOCAT = C41 ANECH CH CONFIG = 4  
 TAMB F = 84.00  
 EXT CNF1G = ARC  
 MIKE HT = 29.74  
 PAMB HG = 29.74  
 RELHUM = 43.9 PCT  
 FLTVEL = 0. FPS

FNINI = LBS XNL RPM XNH XNHR = RPM  
 FNRMB = LBS XNLR RPM XNHR = RPM  
 TEST PT NO = 7401 NC = 862 CORR FAN SPEED = RPM

FLIGHT TRANFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-7401 X7401F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 76.2 76.5 79.0 79.3 79.2 81.5 81.9 84.1 85.1 107.6 88.5 88.4 89.3 138.6

50 76.2 76.5 79.0 79.3 79.2 81.5 81.9 84.1 85.1 107.6 88.5 88.4 89.3 138.6

100 80.3 82.3 80.6 80.5 83.1 84.5 84.9 86.0 86.7 86.5 88.7 88.0 89.4 126.9

125 79.3 85.1 81.1 83.4 83.7 84.4 85.5 86.2 86.5 88.7 89.0 91.8 92.2 128.9

150 78.0 78.1 80.3 81.1 81.5 82.3 84.5 85.6 87.3 91.9 96.3 97.0 97.6 132.0

200 78.3 79.1 82.1 81.1 82.2 84.8 84.5 87.4 91.0 93.7 97.3 99.5 100.4 134.0

250 78.3 82.8 82.8 82.9 83.2 85.3 88.0 89.6 92.3 99.2 103.0 103.7 102.9 138.1

315 79.6 83.1 83.9 84.8 87.9 89.3 91.4 94.8 101.5 103.8 105.0 104.2 139.5

400 81.3 84.6 85.4 86.2 86.5 89.9 92.3 95.4 100.4 105.5 107.6 108.0 106.4 143.0

500 80.7 85.7 85.0 86.0 87.4 90.0 93.1 96.8 99.7 104.3 106.7 108.1 106.8 142.6

630 81.8 86.4 86.4 86.9 87.8 89.6 92.5 96.9 99.4 105.4 104.8 106.3 105.7 141.8

800 83.7 85.5 86.3 86.8 88.4 90.3 91.9 94.8 98.1 103.1 102.4 100.3 139.3

1000 86.0 87.5 87.0 87.3 88.2 90.8 92.4 94.3 97.9 101.6 101.7 100.2 98.6 138.1

1250 84.2 89.0 87.1 88.3 88.7 90.3 91.9 94.1 97.2 100.4 100.3 97.7 95.9 137.0

1600 84.5 87.1 87.6 88.7 89.2 90.3 93.3 95.0 96.7 98.8 98.8 96.0 94.0 135.6

2000 84.7 86.6 86.2 86.9 87.8 89.2 90.3 91.5 94.1 96.8 99.2 96.8 94.9 135.6

2500 83.9 86.2 86.2 87.5 87.8 89.2 92.3 94.3 96.0 98.3 95.9 93.2 90.8 135.1

3150 83.3 86.1 85.3 86.9 87.7 90.5 91.7 93.6 95.7 96.9 96.5 92.5 89.6 134.6

4000 84.8 85.5 87.0 87.6 89.3 91.5 94.0 94.8 95.0 95.2 91.9 88.9 88.9 133.9

5000 81.7 84.5 85.8 87.0 88.9 90.1 94.2 94.8 94.6 91.1 88.2 133.3

6300 80.6 84.3 84.2 85.0 86.4 88.9 90.4 92.6 93.3 93.5 94.5 90.5 86.9 133.0

8000 78.7 82.1 82.6 83.3 85.0 87.8 89.2 91.2 92.3 92.7 89.4 86.0 132.1

10000 77.8 80.8 81.8 83.3 84.8 87.9 90.2 91.6 91.9 91.2 88.4 85.5 131.8

12500 75.9 79.1 80.1 81.6 83.4 85.6 87.6 89.5 89.0 89.2 86.1 83.4 130.5

16000 73.1 77.0 77.8 78.3 79.9 82.6 84.3 86.6 87.4 86.1 86.1 83.7 129.4

20000 70.7 73.7 75.6 76.1 77.5 80.4 81.5 83.1 84.4 82.3 83.5 81.8 128.3

25000 66.4 71.1 71.3 72.6 73.0 75.0 76.6 79.1 79.3 80.9 78.8 79.9 127.4

31500 62.1 66.7 67.5 68.4 70.3 74.2 74.8 75.8 76.7 74.3 76.2 73.0 126.4

40000 57.6 63.0 63.9 64.7 67.1 69.4 70.6 71.7 73.2 69.2 71.4 69.0 126.2

50000 54.1 60.9 59.9 60.2 62.6 65.6 66.6 67.6 68.6 64.8 65.7 63.4 125.8

63000 51.1 61.3 58.3 59.7 61.4 63.2 61.9 63.8 59.7 60.7 57.3 49.7 127.7

80000 50.1 61.2 67.5 59.5 60.4 58.6 60.7 57.2 58.3 58.0 54.9 54.8 134.2

DBA 170.7 181.7 187.7 179.9 180.9 179.6 181.6 178.7 180.0 178.8 176.8 175.9 164.8

PNL 108.0 110.9 110.8 111.8 112.6 115.0 116.5 118.9 120.9 123.7 123.6 122.9 121.3

PNL 108.0 110.9 110.8 111.8 112.6 115.0 116.5 118.9 120.9 123.7 123.6 122.9 121.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH070 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CNFIG = 4 MODEL = 4 FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.74 RELHUM = 43.9 PCT  
WIND DIR = DEQ WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1519.3 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNH RPM V8 = 1519.3 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-ZER-7401 TAPE = X7401F TEST PT NO = 7401 NC = 862 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM - P1188-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-7401 X74011

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

59.3 59.3 64.1 66.0 67.5 68.2 71.7 74.0 76.7 81.0 85.0 85.6 83.8 78.9 160.4

63 58.7 65.2 65.6 67.3 69.1 71.8 74.8 78.1 80.3 83.8 84.7 83.9 79.2 160.1

80 59.7 65.6 66.9 68.2 69.4 71.4 74.2 78.2 80.0 84.9 82.7 81.9 78.0 159.3

100 61.5 64.9 66.8 68.0 70.0 72.0 73.5 76.0 78.6 82.5 81.1 78.0 72.4 156.8

125 63.7 66.8 68.4 69.7 72.5 74.0 75.4 78.3 80.9 79.4 75.6 70.5 155.6

150 61.8 68.2 67.3 69.3 70.1 71.9 73.4 75.1 77.5 79.5 77.8 72.9 67.5 154.4

200 61.6 66.0 67.2 68.5 70.0 71.7 74.6 76.9 77.7 76.2 70.8 65.0 153.6

250 61.6 66.2 66.1 67.5 69.3 71.5 72.5 74.8 76.6 77.8 73.7 69.3 62.1 153.0

315 60.4 64.5 65.8 67.9 68.7 71.2 73.1 74.6 75.5 76.6 72.5 67.1 60.4 152.5

400 59.3 64.0 64.5 66.9 68.2 71.2 72.2 73.6 74.9 74.8 72.5 65.7 58.2 152.0

500 58.5 62.3 64.4 66.8 67.9 69.7 71.7 73.8 73.7 72.5 70.8 64.5 56.5 151.3

630 56.7 61.6 63.1 65.2 66.9 69.1 70.0 72.6 72.7 72.0 69.6 63.0 54.8 150.8

800 55.2 61.1 62.5 64.2 66.1 68.7 70.1 71.8 71.6 70.2 69.1 61.7 52.3 150.4

1000 52.8 58.6 60.6 62.3 64.6 67.6 68.7 70.4 70.3 69.2 66.7 59.9 50.2 149.6

1250 51.4 56.9 59.5 62.1 64.2 67.4 67.3 69.1 69.3 67.4 65.6 58.1 48.4 149.2

1500 48.6 54.6 57.4 60.1 62.5 65.0 65.5 66.1 66.9 64.5 62.0 54.5 43.9 147.9

2000 44.9 52.0 54.7 56.6 58.9 61.9 63.3 64.8 64.4 61.0 57.9 50.4 38.1 146.9

2500 40.7 47.4 51.7 53.7 56.0 59.1 59.9 60.7 60.5 56.0 53.5 45.7 30.8 145.7

3150 33.1 42.3 45.5 48.7 52.0 54.9 56.1 55.3 55.1 50.1 46.5 38.2 17.2 144.8

4000 22.5 33.3 37.9 41.1 44.4 48.7 48.9 48.6 47.1 40.8 36.6 23.0 143.8

5000 8.2 22.0 28.0 32.0 36.2 39.1 37.3 28.2 22.0 5.3 143.7

6300 8000 10000 12500 16000 20000 25000 31500 40000 50000 60000

QASPL 71.7 76.3 77.3 79.0 80.4 82.8 84.6 86.9 88.9 91.8 91.0 89.0 84.2 167.6

PNL 74.0 79.4 80.8 83.0 84.8 87.5 88.8 90.6 91.6 92.2 90.2 86.0 79.1

PNLT 74.0 79.4 80.8 83.0 84.8 87.5 88.8 90.6 91.6 92.2 90.2 86.0 79.1

DBA 63.8 68.8 70.4 72.4 74.2 76.8 77.9 79.6 80.1 79.7 77.4 71.8 64.9

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH070 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.74 RELHUM = 43.9 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM = XNHR XNH RPM = V8 = 1519.3 FPS AEB = 25.3 SQ IN

FNAMB = LBS XNL RPM = XNHR XNH RPM = V8 = 1519.3 FPS AEB = 25.3 SQ IN

RUNPT = 81F

-7401 TAPE

= X74011

TEST PT NO = 7401

NC = 862

CORR FAN SPEED =

RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-9405 X9405C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.9 83.2 81.5 84.0 84.4 85.7 84.9 86.5 89.2 96.6 94.9 94.4 95.3 132.3

63 86.7 86.3 89.3 90.3 91.2 92.3 91.2 91.8 93.1 104.9 99.2 98.2 99.1 138.4

80 89.5 94.8 89.8 89.9 91.2 93.6 94.0 93.1 95.0 94.2 96.5 96.7 100.1 136.3

100 90.3 95.8 91.4 93.4 93.7 94.1 95.7 96.9 95.0 96.9 99.3 102.5 104.2 138.9

125 86.9 90.1 91.9 93.2 94.0 96.2 95.8 96.4 96.0 99.2 106.4 107.8 108.7 142.4

160 87.3 85.3 89.1 89.0 90.8 92.7 93.4 94.6 100.4 105.5 108.0 110.6 112.5 142.5

200 86.8 87.8 88.6 89.4 91.5 93.8 94.2 96.9 100.5 102.9 107.5 112.0 113.9 145.7

250 86.8 92.6 91.1 92.1 92.2 93.8 97.2 99.1 100.6 107.4 112.8 116.0 115.6 149.1

315 88.1 91.1 90.1 91.7 93.0 95.9 98.0 100.2 104.3 110.5 114.3 117.5 116.7 150.7

400 89.3 91.6 92.4 92.7 93.0 95.4 98.0 101.9 107.6 115.0 118.3 119.3 116.7 153.2

500 89.5 92.5 92.8 93.5 94.4 96.5 99.4 102.5 107.0 115.6 119.5 119.9 117.1 154.0

630 91.3 93.6 94.1 94.4 95.5 97.4 100.0 103.4 107.7 117.2 121.3 119.2 155.6

800 95.7 94.2 95.3 95.6 96.9 99.0 100.4 103.8 108.9 117.3 121.5 121.1 117.6 155.6

1000 101.5 102.5 100.3 99.1 98.4 99.8 102.2 104.8 109.6 117.9 121.7 121.2 118.1 155.9

1250 99.5 103.3 103.1 103.3 103.2 102.8 103.4 105.8 110.5 117.4 122.4 119.5 116.4 155.9

1600 105.0 102.1 102.1 100.9 102.4 101.0 101.6 103.2 105.1 106.5 110.3 112.6 115.0 155.7

2000 105.7 105.3 104.0 102.4 101.0 101.6 103.2 106.4 110.3 116.7 120.5 117.4 112.1 154.3

2500 104.4 104.5 104.2 104.8 103.8 103.2 104.0 106.5 110.3 116.3 118.7 115.5 110.5 153.3

3150 103.0 103.8 102.8 103.6 102.2 105.8 105.2 107.3 109.8 113.2 114.9 113.7 108.6 152.7

4000 101.5 102.3 101.5 102.3 102.9 104.6 106.0 107.3 109.8 113.2 116.2 112.9 107.6 151.4

5000 99.7 101.0 100.8 101.3 101.7 103.2 105.3 107.1 109.9 113.3 115.6 111.1 106.7 151.0

6300 99.3 100.8 100.7 100.7 100.7 102.3 104.4 107.3 109.1 111.2 114.3 110.3 106.1 150.1

8000 97.2 99.8 99.8 100.3 100.3 102.3 103.9 105.6 107.8 110.7 111.8 109.2 105.0 149.1

10000 96.0 97.5 98.8 99.3 100.0 102.3 102.9 104.7 107.1 109.5 111.4 107.6 104.5 148.8

12500 93.9 95.8 97.1 96.8 98.6 100.6 101.6 102.6 105.0 107.2 109.5 105.4 101.4 147.6

16000 90.4 93.5 94.3 95.1 95.8 97.9 98.8 101.6 102.9 105.1 107.4 103.5 99.7 146.9

20000 88.0 91.6 92.3 93.6 95.4 96.5 98.8 100.4 102.1 105.0 101.8 97.0 146.1

25000 83.7 87.3 87.6 88.1 90.5 93.6 94.3 95.0 97.9 99.6 101.2 99.8 92.5 145.5

31500 78.9 83.5 84.9 86.8 89.7 90.8 92.3 94.2 96.5 99.7 96.3 88.8 145.8

40000 74.8 80.4 80.7 83.3 85.9 87.3 88.5 92.7 94.2 98.9 94.0 85.4 147.8

50000 70.1 74.2 75.6 76.9 78.3 82.3 82.9 84.4 90.4 94.0 98.5 91.4 81.9 150.9

63000 64.1 70.7 72.0 74.5 75.7 77.6 79.7 80.7 88.0 92.7 96.2 89.8 78.0 154.1

80000 60.1 69.7 70.5 72.0 72.4 74.1 74.4 75.5 85.3 91.2 93.4 86.8 72.7 158.4

QASPL 112.9 113.6 113.0 113.1 113.3 114.6 115.9 118.1 121.5 127.5 131.5 130.4 127.5 167.1

PWL 125.8 126.6 126.1 126.4 126.8 128.8 129.1 131.0 134.1 139.5 142.9 140.5 136.9

DBA 113.5 113.9 113.2 113.2 113.2 114.3 115.5 117.7 121.2 127.2 131.2 129.5 125.8

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICLE = ADH068 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.74 RELHUM = 43.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FNNI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 2111.7 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2111.7 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-ZER-9405 TAPE = X9405C TEST PT NO = 9405 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-9405 X9405F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.9 83.2 81.5 84.0 84.4 85.7 84.9 86.5 89.2 96.6 94.9 94.4 95.3 132.3

63 86.7 86.5 86.3 90.3 91.2 92.3 91.2 91.8 93.1 104.9 99.2 98.2 99.1 138.4

80 89.5 94.8 89.9 91.2 93.6 94.0 93.1 95.0 94.2 96.5 99.3 102.5 104.2 136.3

100 90.3 95.8 91.4 93.4 93.7 94.1 95.7 96.9 95.0 96.9 99.3 102.5 104.2 138.9

125 86.9 90.1 91.9 93.2 94.0 96.2 95.8 96.4 96.0 99.2 106.4 107.8 108.7 142.4

160 87.3 85.3 89.1 89.1 89.0 90.8 92.7 93.4 94.8 100.4 105.5 108.0 110.6 142.5

200 86.8 87.8 88.6 89.4 91.5 93.8 94.2 96.9 96.9 99.1 100.5 102.9 113.9 145.7

250 86.8 92.6 91.1 92.1 92.2 93.8 94.2 99.1 99.1 100.6 107.4 112.8 116.0 149.1

315 88.1 91.1 90.1 91.7 93.0 95.9 98.0 100.2 104.3 110.5 114.3 117.5 116.7 150.7

400 89.3 91.6 92.4 92.7 93.0 95.4 98.0 101.9 107.6 115.0 118.3 119.3 116.7 153.2

500 89.5 92.5 92.8 93.5 94.4 96.5 99.4 102.5 107.0 115.6 119.5 119.9 117.1 154.0

630 91.3 93.6 94.1 94.4 95.5 97.4 100.0 103.4 107.7 117.2 121.3 121.3 119.2 155.6

800 95.7 94.2 95.3 95.6 96.9 99.0 100.4 103.8 108.9 117.3 121.5 121.1 117.6 155.6

1000 101.5 102.5 100.3 99.1 98.4 99.8 102.2 104.8 109.6 117.9 121.7 121.2 118.1 155.9

1250 99.5 104.3 103.1 103.3 103.2 102.8 103.4 105.8 110.5 117.4 122.0 120.9 116.4 155.9

1500 105.0 102.1 100.9 101.2 102.3 105.1 106.5 110.3 116.5 122.6 119.5 115.0 115.0 155.7

2000 105.7 105.3 104.0 102.4 101.0 106.4 110.3 116.7 120.5 117.4 112.1 115.4 110.5 154.3

2500 104.4 104.5 104.2 104.8 103.8 103.2 104.0 106.5 110.3 116.3 118.7 115.5 110.5 153.3

3150 103.0 103.8 102.8 103.6 104.2 105.8 105.2 107.1 110.2 114.9 118.5 113.7 108.6 152.7

4000 101.5 102.3 101.5 102.3 102.9 104.6 106.0 107.3 109.8 113.2 116.2 111.1 106.7 151.0

5000 99.7 101.8 101.3 101.7 103.2 105.3 107.1 109.9 113.3 115.6 111.1 106.7 107.6 151.4

6300 99.3 100.8 100.7 100.7 101.4 103.1 104.4 107.3 109.1 111.2 114.3 110.3 106.1 150.1

8000 97.2 99.1 99.6 99.8 100.3 102.3 103.9 105.6 107.8 110.7 111.8 109.2 105.0 149.1

10000 96.0 97.5 98.8 99.3 100.0 102.3 102.9 104.7 107.1 109.5 111.4 107.6 104.5 148.8

12500 93.9 95.8 97.1 96.8 98.6 100.6 100.6 102.6 105.0 107.2 109.5 105.4 101.4 147.6

16000 90.4 93.5 94.3 95.1 95.9 97.9 98.8 101.6 102.9 105.1 107.4 103.5 99.7 146.9

20000 88.0 89.9 91.6 92.3 93.6 95.4 96.5 98.8 100.4 102.1 105.0 101.8 97.0 146.1

25000 83.7 87.6 88.1 90.5 93.6 96.8 99.7 90.8 92.3 94.2 96.5 99.7 96.3 145.8

31500 78.9 83.2 83.5 84.9 86.8 89.7 90.8 92.3 94.2 96.5 99.7 96.3 88.8 145.8

40000 74.8 78.5 80.4 80.7 83.3 85.9 87.3 88.5 92.7 94.2 98.9 94.0 85.4 147.8

50000 70.1 74.2 75.0 76.9 78.3 82.3 82.9 84.4 90.4 94.0 98.5 91.4 81.9 150.9

63000 64.1 70.7 72.0 74.5 75.7 77.6 79.7 80.7 88.0 92.7 96.2 89.8 78.0 154.1

80000 60.1 69.7 70.5 72.0 72.4 74.1 74.4 75.5 85.3 91.2 93.4 86.8 72.7 158.4

QASPL 112.9 113.6 113.0 113.1 113.3 114.6 115.9 118.1 121.5 127.5 131.5 130.4 127.5 167.1

PNL 127.1 127.7 126.1 127.6 127.9 128.8 129.1 131.0 134.1 139.5 142.9 140.5 136.9

DBA 181.5 190.4 191.3 192.9 193.5 195.2 196.0 197.1 206.2 211.9 214.3 207.7 194.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ, SC-4/MAS3-22514

VEHICL = ADH068 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 81.00 MIKE HT = 29.74 RELHUM = 43.9 PCT

WIND DIR = WIND VEL = MPH WIND DIR = WIND VEL = MPH

FNINI = LBS XNLR RPM XNH RPM XNH RPM FNFRMB = LBS XNLR RPM XNHR RPM

RUNPT = : ER-9405 TAPE = X9405F TEST PT NO = 9405 NC = 862 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM - P118-03

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9405 X94051

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160   |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 67.3 | 71.1 | 73.0 | 74.0 | 74.7 | 77.2 | 79.7 | 83.2 | 88.2 | 94.5 | 96.3 | 95.1  |
| 63    | 67.4 | 72.0 | 73.3 | 74.8 | 76.1 | 78.3 | 81.1 | 83.8 | 87.6 | 95.1 | 97.4 | 95.6  |
| 80    | 69.2 | 73.1 | 74.7 | 75.7 | 77.2 | 79.2 | 81.7 | 84.7 | 88.2 | 96.7 | 99.2 | 96.9  |
| 100   | 73.5 | 73.6 | 75.8 | 76.8 | 78.5 | 80.8 | 82.0 | 85.0 | 88.2 | 96.7 | 99.3 | 96.7  |
| 125   | 79.2 | 81.8 | 80.7 | 80.2 | 80.0 | 81.5 | 83.7 | 85.9 | 90.0 | 97.2 | 99.4 | 96.6  |
| 150   | 77.0 | 83.4 | 83.3 | 84.3 | 84.6 | 84.4 | 84.9 | 86.8 | 90.7 | 96.5 | 99.5 | 96.1  |
| 200   | 82.3 | 81.0 | 82.2 | 81.7 | 82.5 | 83.7 | 86.3 | 87.3 | 90.4 | 95.4 | 99.9 | 94.3  |
| 250   | 82.6 | 84.0 | 83.8 | 83.0 | 82.0 | 82.8 | 84.3 | 87.0 | 90.1 | 95.3 | 97.5 | 91.8  |
| 315   | 80.9 | 82.8 | 83.8 | 85.1 | 84.7 | 84.2 | 84.9 | 86.9 | 89.8 | 94.6 | 95.2 | 89.4  |
| 400   | 79.0 | 81.7 | 82.0 | 83.6 | 84.7 | 86.4 | 87.1 | 89.4 | 92.8 | 94.5 | 86.9 | 77.2  |
| 500   | 77.0 | 79.8 | 80.4 | 82.0 | 83.1 | 85.0 | 86.2 | 87.0 | 88.7 | 90.8 | 91.8 | 85.5  |
| 630   | 74.7 | 78.1 | 79.3 | 80.7 | 81.7 | 83.3 | 85.3 | 86.6 | 88.5 | 90.5 | 83.0 | 73.3  |
| 800   | 73.9 | 77.6 | 79.9 | 81.1 | 83.0 | 84.1 | 86.5 | 87.3 | 88.0 | 88.8 | 81.5 | 71.6  |
| 1000  | 71.3 | 75.6 | 77.6 | 78.8 | 79.8 | 82.1 | 83.5 | 84.6 | 85.8 | 87.2 | 86.0 | 79.7  |
| 1250  | 69.7 | 73.6 | 76.5 | 78.1 | 79.4 | 81.9 | 82.3 | 83.6 | 84.8 | 85.6 | 85.1 | 77.4  |
| 1600  | 66.6 | 71.3 | 74.4 | 75.3 | 77.8 | 80.0 | 80.7 | 81.1 | 82.4 | 82.8 | 73.7 | 61.9  |
| 2000  | 62.2 | 68.5 | 71.2 | 73.3 | 74.9 | 77.1 | 77.8 | 79.8 | 79.9 | 80.0 | 79.2 | 73.7  |
| 2500  | 57.9 | 63.6 | 67.7 | 69.9 | 72.0 | 74.1 | 74.9 | 76.4 | 76.5 | 75.8 | 65.7 | 49.5  |
| 3150  | 50.3 | 58.6 | 61.8 | 64.2 | 67.5 | 70.9 | 71.4 | 72.1 | 70.8 | 67.8 | 58.7 | 36.7  |
| 4000  | 39.3 | 49.8 | 53.9 | 57.6 | 60.9 | 64.2 | 64.9 | 65.1 | 64.6 | 63.1 | 46.3 | 18.5  |
| 5000  | 25.5 | 37.5 | 44.5 | 48.0 | 52.4 | 55.6 | 56.4 | 55.8 | 56.8 | 53.2 | 30.3 | 165.2 |
| 6300  | 3.0  | 18.9 | 27.7 | 33.5 | 37.3 | 42.1 | 41.9 | 41.0 | 42.5 | 38.8 | 31.3 | 168.3 |
| 8000  | 2.8  | 11.8 | 16.6 | 19.6 | 20.5 | 18.0 | 18.8 | 12.6 |      |      |      | 171.5 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      | 175.8 |

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NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH068 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CNF1G = 4 MODEL = 4 FLTVL = 0. FPS  
 IAPLHA = SB59 IEGA = NO EXT DIST = 2400.0 FT PML AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.74 RELHUM = 43.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF1G = SL MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 2111.7 FPS AEB = 25.3 SQ IN  
 FNFRMB = LBS XNLR = RPM XNHR = RPM V8 = 2111.7 FPS AEB = 25.3 SQ IN  
 RUNPT = 81F-ZER-9405 TAPE = X94051 TEST PT NO = 9405 NC = 862 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-9406 X9406C  
 BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.2  | 85.7  | 81.2  | 81.3  | 81.1  | 84.0  | 84.1  | 86.3  | 88.9  | 95.6  | 95.2  | 94.6  | 97.8  | 132.3 |
| 63    | 88.0  | 87.5  | 88.0  | 86.1  | 87.2  | 90.3  | 90.4  | 90.3  | 92.3  | 103.9 | 99.7  | 98.7  | 99.3  | 137.8 |
| 80    | 90.3  | 94.8  | 89.8  | 90.6  | 91.5  | 93.8  | 94.2  | 93.9  | 94.5  | 93.9  | 94.5  | 98.5  | 101.4 | 136.6 |
| 100   | 89.8  | 94.1  | 90.1  | 90.9  | 91.2  | 92.6  | 94.0  | 95.2  | 93.5  | 94.2  | 97.1  | 101.8 | 103.4 | 137.4 |
| 125   | 87.1  | 89.6  | 90.7  | 91.7  | 92.3  | 94.7  | 94.5  | 94.7  | 93.8  | 97.2  | 103.6 | 106.3 | 107.5 | 140.7 |
| 160   | 85.5  | 82.8  | 87.6  | 87.4  | 86.7  | 89.1  | 90.2  | 90.6  | 92.1  | 97.9  | 103.3 | 106.5 | 109.4 | 140.8 |
| 200   | 85.8  | 84.8  | 86.3  | 85.6  | 87.2  | 90.1  | 91.5  | 93.9  | 97.3  | 99.4  | 104.3 | 109.5 | 111.9 | 143.1 |
| 250   | 83.8  | 87.6  | 87.1  | 88.4  | 88.7  | 90.8  | 93.5  | 95.6  | 97.3  | 103.7 | 109.5 | 112.7 | 112.9 | 145.9 |
| 315   | 84.1  | 86.9  | 86.4  | 87.7  | 89.0  | 92.1  | 94.8  | 96.7  | 100.5 | 107.2 | 111.3 | 114.5 | 117.2 | 147.5 |
| 400   | 86.1  | 87.6  | 88.9  | 89.3  | 93.1  | 95.5  | 98.9  | 104.9 | 112.2 | 115.8 | 116.0 | 112.2 | 150.2 |       |
| 500   | 85.7  | 88.7  | 89.0  | 90.0  | 91.6  | 93.3  | 96.4  | 99.5  | 104.5 | 113.1 | 117.2 | 116.4 | 109.8 | 150.9 |
| 630   | 87.3  | 90.1  | 89.9  | 90.7  | 91.8  | 93.9  | 97.3  | 100.2 | 104.7 | 114.4 | 118.8 | 116.3 | 107.2 | 151.9 |
| 800   | 90.0  | 89.7  | 90.0  | 91.6  | 93.1  | 94.5  | 96.6  | 99.8  | 104.9 | 113.8 | 119.6 | 103.6 | 151.8 |       |
| 1000  | 94.0  | 94.8  | 93.0  | 93.8  | 94.2  | 96.0  | 98.2  | 101.1 | 105.4 | 114.4 | 119.2 | 113.9 | 102.8 | 151.7 |
| 1250  | 97.7  | 100.0 | 96.6  | 96.3  | 96.9  | 97.5  | 98.9  | 101.6 | 106.5 | 113.9 | 119.3 | 112.4 | 102.7 | 151.6 |
| 1600  | 104.0 | 103.6 | 102.1 | 100.1 | 97.7  | 98.3  | 101.6 | 103.5 | 107.1 | 113.5 | 119.4 | 112.0 | 102.7 | 151.9 |
| 2000  | 101.9 | 104.3 | 104.0 | 103.6 | 101.5 | 98.8  | 100.2 | 103.1 | 106.5 | 113.7 | 116.8 | 111.1 | 102.1 | 150.6 |
| 2500  | 99.4  | 100.7 | 101.2 | 103.3 | 103.4 | 103.0 | 101.6 | 103.3 | 106.8 | 113.1 | 114.9 | 109.5 | 101.3 | 149.6 |
| 3150  | 97.5  | 98.8  | 98.6  | 99.9  | 101.5 | 103.8 | 104.2 | 103.1 | 106.9 | 111.4 | 115.0 | 108.5 | 100.1 | 149.1 |
| 4000  | 97.5  | 98.0  | 98.3  | 98.0  | 97.5  | 98.2  | 101.6 | 104.6 | 106.2 | 109.6 | 110.6 | 104.6 | 97.7  | 147.7 |
| 5000  | 96.2  | 97.3  | 97.3  | 97.3  | 98.2  | 99.4  | 101.6 | 104.6 | 106.2 | 109.6 | 110.6 | 104.6 | 97.7  | 146.7 |
| 6300  | 96.1  | 97.6  | 97.0  | 97.5  | 98.9  | 99.4  | 100.9 | 103.8 | 106.1 | 108.5 | 109.5 | 103.8 | 96.4  | 146.2 |
| 8000  | 94.2  | 96.1  | 96.4  | 96.3  | 97.3  | 98.6  | 100.4 | 102.9 | 105.4 | 107.7 | 107.3 | 102.2 | 95.7  | 145.4 |
| 10000 | 93.8  | 94.5  | 95.6  | 96.3  | 97.0  | 98.8  | 98.9  | 101.5 | 104.1 | 106.3 | 107.0 | 101.7 | 95.0  | 145.0 |
| 12500 | 91.7  | 92.6  | 93.9  | 94.9  | 95.4  | 97.2  | 97.9  | 99.6  | 102.3 | 104.5 | 105.3 | 100.2 | 93.5  | 144.2 |
| 16000 | 88.4  | 90.6  | 91.3  | 92.1  | 92.7  | 94.7  | 96.3  | 98.1  | 99.5  | 101.4 | 102.2 | 97.8  | 91.7  | 142.9 |
| 20000 | 88.0  | 88.7  | 89.7  | 89.7  | 92.7  | 93.8  | 95.2  | 97.0  | 98.4  | 100.1 | 95.4  | 89.6  | 142.1 |       |
| 25000 | 82.0  | 84.7  | 85.0  | 86.0  | 87.1  | 90.2  | 91.7  | 94.3  | 95.2  | 96.0  | 92.9  | 85.6  | 141.3 |       |
| 31500 | 77.0  | 80.4  | 81.0  | 81.3  | 83.0  | 86.3  | 87.5  | 88.5  | 90.6  | 90.7  | 92.1  | 87.9  | 80.9  | 140.4 |
| 40000 | 72.0  | 75.5  | 77.6  | 77.9  | 80.0  | 82.1  | 83.3  | 84.4  | 87.4  | 86.0  | 90.9  | 83.9  | 76.1  | 141.1 |
| 50000 | 67.6  | 72.4  | 73.1  | 74.8  | 78.0  | 79.1  | 79.9  | 82.6  | 82.8  | 89.2  | 78.9  | 70.3  | 142.1 |       |
| 63000 | 62.5  | 71.9  | 68.9  | 70.9  | 73.5  | 75.1  | 74.6  | 78.7  | 82.1  | 85.6  | 75.2  | 64.9  | 144.2 |       |
| 80000 | 60.9  | 72.5  | 69.9  | 65.3  | 67.3  | 70.4  | 70.8  | 68.3  | 73.4  | 77.6  | 79.7  | 67.8  | 55.5  | 146.2 |
| DASPL | 109.7 | 110.9 | 110.3 | 110.6 | 111.7 | 113.0 | 114.9 | 118.1 | 124.4 | 128.5 | 125.1 | 120.8 | 162.6 |       |
| PWL   | 122.0 | 123.7 | 123.4 | 124.1 | 124.3 | 126.6 | 126.7 | 128.2 | 130.9 | 136.3 | 139.5 | 134.9 | 128.8 |       |
| PMLT  | 123.4 | 123.7 | 123.4 | 124.1 | 124.9 | 126.2 | 126.7 | 128.2 | 130.9 | 136.3 | 140.1 | 134.9 | 128.8 |       |
| DBA   | 110.1 | 111.2 | 110.6 | 110.8 | 110.7 | 111.4 | 112.6 | 114.5 | 117.8 | 124.0 | 128.1 | 123.3 | 115.9 |       |

VASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH071 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CNFIGN = 4 MODEL = 4 FLTVEL = 400. FPS  
 APLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT  
 /IND DIR = DEG WIND VEL' = MPH EXT DIST = 40.0 FT EXT CNFIGN = ARC MIKE HT = NBRF =  
 :NINI = LBS XNL RPM XNH RPM = V8 = 2091.9 FPS AEB = 25.3 SQ IN  
 :NRAMB = LBS XNLR RPM XNHR RPM = V18 = FPS AE18 = 0. SQ IN  
 UNPT = 81F-400-9406 TAPE = X9406C TEST PT NO = 9406 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-9406 X94061

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.    | 50.                  | 60.      | 70.               | 80.                    | 90.    | 100.             | 110.    | 120.    | 130.       | 140.       | 150.   | 160.  |      |
|---|--------|----------------------|----------|-------------------|------------------------|--------|------------------|---------|---------|------------|------------|--------|-------|------|
| PML   | 69.6   | 72.8                 | 71.9     | 72.4              | 72.8                   | 75.2   | 76.4             | 76.4    | 78.4    | 83.5       | 90.6       | 93.3   | 91.7  |      |
| 50  | 71.7   | 73.5                 | 73.9     | 73.6              | 75.2                   | 75.4   | 77.3             | 79.1    | 83.5    | 91.8       | 94.9       | 92.3   | 84.6  |      |
| 63  | 71.7   | 73.5                 | 73.9     | 73.6              | 75.2                   | 75.4   | 77.3             | 79.1    | 83.5    | 91.8       | 94.9       | 92.3   | 84.6  |      |
| 80  | 71.3   | 74.6                 | 74.5     | 74.8              | 75.4                   | 76.1   | 78.0             | 79.4    | 83.8    | 91.4       | 96.0       | 91.8   | 83.6  |      |
| 100   | 72.7   | 75.8                 | 75.3     | 75.3              | 76.8                   | 77.4   | 78.9             | 84.8    | 92.6    | 96.6       | 91.0       | 85.2   | 169.2 |      |
| 125   | 74.9   | 75.2                 | 75.3     | 76.2              | 77.3                   | 78.4   | 79.0             | 80.3    | 85.9    | 92.1       | 96.6       | 91.0   | 85.2  |      |
| 160   | 76.8   | 78.3                 | 76.8     | 77.4              | 80.1                   | 79.9   | 79.8             | 80.8    | 86.7    | 91.8       | 96.8       | 90.5   | 85.1  |      |
| 200   | 81.5   | 84.3                 | 80.7     | 80.0              | 81.0                   | 80.8   | 82.5             | 82.8    | 86.5    | 92.3       | 94.6       | 90.0   | 84.6  |      |
| 250   | 88.2   | 88.3                 | 86.6     | 84.0              | 84.7                   | 81.3   | 82.6             | 82.6    | 86.9    | 91.9       | 92.9       | 88.4   | 83.6  |      |
| 315   | 84.7   | 87.8                 | 87.6     | 87.0              | 87.1                   | 85.5   | 82.7             | 82.9    | 87.1    | 90.3       | 92.9       | 87.2   | 82.1  |      |
| 400   | 82.9   | 85.1                 | 85.8     | 87.4              | 85.2                   | 86.5   | 85.4             | 82.8    | 87.3    | 89.2       | 90.3       | 85.1   | 79.8  |      |
| 500   | 80.7   | 83.0                 | 84.0     | 82.5              | 83.8                   | 85.3   | 85.0             | 86.4    | 88.2    | 87.9       | 82.4       | 78.0   | 166.9 |      |
| 630   | 79.5   | 81.5                 | 82.1     | 82.3              | 82.6                   | 83.1   | 84.4             | 86.0    | 86.7    | 86.4       | 80.9       | 75.6   | 166.2 |      |
| 800   | 78.1   | 80.7                 | 81.3     | 81.5              | 82.7                   | 82.3   | 82.2             | 83.3    | 85.1    | 85.8       | 83.9       | 78.8   | 165.6 |      |
| 1000  | 77.5   | 80.6                 | 80.7     | 81.2              | 80.9                   | 81.4   | 81.6             | 82.2    | 83.9    | 84.4       | 83.5       | 72.5   | 165.4 |      |
| 1250  | 75.0   | 78.7                 | 79.7     | 79.6              | 80.5                   | 81.4   | 80.0             | 80.8    | 82.6    | 81.6       | 76.0       | 69.8   | 164.9 |      |
| 1600  | 73.4   | 76.2                 | 78.1     | 78.6              | 79.5                   | 78.7   | 78.6             | 80.2    | 80.1    | 78.8       | 73.3       | 66.5   | 164.1 |      |
| 2000  | 69.8   | 73.1                 | 75.6     | 76.9              | 75.8                   | 76.9   | 77.5             | 77.5    | 77.9    | 77.1       | 76.2       | 69.8   | 163.5 |      |
| 2500  | 64.3   | 69.5                 | 71.7     | 73.1              | 72.4                   | 74.4   | 74.5             | 74.0    | 73.3    | 71.0       | 65.0       | 53.6   | 162.5 |      |
| 3150  | 58.0   | 63.9                 | 66.6     | 68.4              | 68.2                   | 70.5   | 71.0             | 68.9    | 69.9    | 66.9       | 64.3       | 55.7   | 161.6 |      |
| 4000  | 47.0   | 55.1                 | 58.3     | 60.7              | 61.7                   | 63.8   | 62.3             | 62.8    | 57.3    | 56.7       | 42.8       | 22.1   | 161.2 |      |
| 5000  | 34.1   | 44.6                 | 48.9     | 50.8              | 53.7                   | 54.7   | 53.9             | 52.0    | 51.8    | 46.4       | 44.9       | 23.6   | 161.6 |      |
| 6300  | 10.9   | 25.1                 | 33.1     | 36.3              | 38.4                   | 40.8   | 39.5             | 36.5    | 36.7    | 32.3       | 24.1       | 163.7  | 162.7 |      |
| 8000  | 8000   | 8000                 | 8000     | 8000              | 8000                   | 8000   | 8000             | 8000    | 8000    | 8000       | 8000       | 8000   | 8000  |      |
| GASPL   | 92.6   | 94.5                 | 94.1     | 93.9              | 93.8                   | 93.7   | 94.1             | 97.5    | 102.1   | 105.2      | 100.8      | 94.5   | 180.5 |      |
| PNL   | 98.0   | 100.9                | 100.3    | 100.5             | 101.0                  | 100.7  | 100.7            | 103.3   | 105.9   | 107.3      | 102.1      | 96.0   | 96.0  |      |
| FNL   | 99.2   | 101.1                | 101.0    | 101.5             | 101.0                  | 100.7  | 101.2            | 103.8   | 106.6   | 108.3      | 102.1      | 96.0   | 96.0  |      |
| DBA   | 87.3   | 89.7                 | 90.1     | 90.5              | 90.2                   | 90.6   | 90.5             | 90.7    | 92.7    | 94.3       | 94.8       | 89.5   | 84.2  |      |
| MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN)                |        |                      |          |                   |                        |        |                  |         |         |            |            |        |       |      |
| SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)             |        |                      |          |                   |                        |        |                  |         |         |            |            |        |       |      |
| DIAMETER RATIO = 7.442                                |        |                      |          |                   |                        |        |                  |         |         |            |            |        |       |      |
| FREQ SHIFT = -9                                       |        |                      |          |                   |                        |        |                  |         |         |            |            |        |       |      |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 |        |                      |          |                   |                        |        |                  |         |         |            |            |        |       |      |
| VEHICL  | ADH071 | TEST DATE = 08-24-81 | LOCAT    | = C41 ANECH CH    | CNFIG                  | = 4    | MODEL            | = 4     | FLTVL   | = 400. FPS | IAPLHA     | = SB59 | LEGA  | = NG |
| WIND DIR  | =      | DEG WIND VEL         | =        | MPH               | PML AREA = FULL SPHERE | TAMB F | = 85.00          | PAMB HG | = 29.75 | RELHUM     | = 41.6 PCT | NBFR   | =     |      |
| FNINI   | =      | LBS XNL              | RPM      | XNH               | RPM                    | V8     | = 2091.9 FPS     | AEB     | =       | 25.3 SQ IN | FNRMB      | =      |       |      |
| FNRMB   | =      | LBS XNLR             | RPM      | XNHR              | RPM                    | V18    | =                | AE18    | =       | 0. SQ IN   |            |        |       |      |
| RUNPT = 81  | C-9406 | TAPE                 | = X94061 | TEST PT NO = 9406 | NC                     | = 862  | CORR FAN SPEED = | RPM     |         |            |            |        |       |      |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-9411 X9411C  
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.7 83.2 82.5 84.0 84.6 85.7 85.1 86.3 89.2 98.8 94.9 94.4 95.0 133.1

63 67.5 67.5 69.0 91.1 91.4 91.5 90.4 90.6 92.8 105.9 99.5 98.7 99.1 139.0

80 90.0 95.1 89.8 90.6 91.0 93.8 94.2 93.4 95.3 94.7 97.3 99.2 100.6 136.7

100 90.6 96.1 91.6 93.2 93.2 94.1 96.0 97.2 94.8 97.2 99.6 103.0 104.2 139.1

125 87.4 90.6 91.9 93.4 94.3 96.4 96.3 96.4 96.3 99.5 105.9 108.0 109.0 142.5

160 67.8 65.8 69.6 69.4 69.2 91.6 93.2 94.4 94.8 100.4 106.0 109.0 111.6 143.3

200 87.0 87.6 89.3 89.6 91.7 94.1 95.0 96.9 100.8 102.7 107.8 112.2 114.1 145.9

250 86.8 92.6 92.6 92.7 94.1 97.2 99.9 101.1 107.7 113.3 116.5 116.4 149.6

315 88.3 91.6 90.6 92.2 93.5 96.6 98.5 100.4 104.5 111.0 114.6 117.8 141.1

400 89.8 91.9 92.9 92.7 93.5 96.1 99.0 101.9 108.1 115.0 118.1 119.5 133.4

500 90.0 93.5 93.0 94.3 95.1 97.0 99.6 102.5 108.0 116.3 120.2 117.8 154.8

630 92.1 94.4 94.1 94.9 96.0 97.9 101.0 103.7 108.4 117.7 122.1 121.3 159.9

800 96.0 95.0 95.3 95.8 97.1 99.0 100.9 104.1 109.4 117.6 122.5 121.4 156.2

1000 101.5 102.5 100.5 99.6 98.9 100.0 102.4 105.3 110.4 117.9 122.5 121.7 156.5

1250 100.2 104.5 103.3 103.6 103.0 103.0 107.3 111.3 117.3 119.2 119.2 115.5 154.0

1600 105.3 103.1 102.6 101.6 101.5 103.1 105.3 107.2 111.3 117.5 123.4 119.7 156.4

2000 105.7 105.6 104.5 102.9 101.7 101.8 103.7 106.9 111.5 117.9 121.0 117.9 155.0

2500 103.9 105.0 104.2 104.8 103.8 104.2 105.0 107.3 111.3 117.3 119.2 115.5 154.0

3150 102.5 103.6 103.1 102.9 104.0 106.0 105.2 107.4 111.4 115.6 119.2 114.5 153.4

4000 101.7 101.8 101.8 102.0 102.6 104.3 106.2 108.3 110.6 114.7 117.2 112.7 152.2

5000 99.9 101.3 101.0 101.3 102.0 103.4 105.1 107.9 110.4 114.1 115.8 111.1 151.3

6300 99.1 100.8 101.0 100.7 101.9 103.4 104.4 107.3 109.6 112.7 114.8 110.8 150.7

8000 99.1 100.8 101.0 100.7 101.9 103.4 104.4 107.3 109.6 112.7 114.8 110.8 150.7

10000 96.7 98.9 99.4 99.8 100.5 102.3 103.9 106.4 108.6 111.5 112.6 108.9 149.6

12500 94.1 95.8 97.1 97.1 98.9 100.6 101.6 103.1 105.5 108.5 110.5 107.6 149.2

16000 90.9 93.5 94.6 94.6 97.2 97.6 99.3 101.6 103.4 105.8 107.9 103.5 147.2

20000 88.2 89.9 91.8 92.3 93.4 94.6 95.6 97.3 98.1 99.9 103.1 106.0 146.5

25000 83.9 87.6 87.8 88.9 90.7 93.6 94.8 95.3 96.4 98.0 101.4 96.3 146.8

31500 79.6 83.0 83.8 84.6 86.6 89.4 91.1 92.3 93.2 95.2 98.0 92.8 146.8

40000 75.1 78.7 80.6 80.7 83.6 86.2 86.8 88.5 92.9 95.7 99.6 94.0 148.4

50000 70.6 74.4 75.4 77.2 78.8 82.3 83.4 84.9 90.4 95.5 98.5 91.7 151.3

63000 65.4 71.5 71.8 74.0 76.5 78.1 79.9 81.4 88.8 94.2 96.9 89.8 155.0

80000 61.1 70.2 70.8 72.2 73.0 74.1 75.2 76.5 86.1 91.7 93.4 85.3 158.6

QASPL 112.9 113.8 113.3 113.2 113.5 114.9 116.2 118.6 122.3 128.2 132.1 130.8 128.2 167.7

PWL 126.7 126.8 127.3 126.5 126.8 128.5 129.4 131.7 135.1 140.3 143.5 140.8 137.4

DBA 113.5 114.1 113.5 113.3 113.4 114.6 115.8 118.3 122.1 128.0 131.9 129.8 126.5

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH066 TEST DATE = 08-24-81 LOCAT = CA1 ANEGH CH CNFIG = 4 MODEL = 4 PAMB HG = 29.72 RELHUM = 43.9 PCT

WIND DIR = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 84.00 EXT CNFIG = ARC MIKE HT = 29.72 NBFR =

WIND VEL, = MPH DEG WIND VEL, = 40.0 FT EXT DIST = 40.0 FT

:NINI = LBS XNL RPM XNHR RPM XNH RPM V8 = 2125.8 FPS AE8 = 25.3 SQ IN

:NRAMB = LBS XNL RPM XNHR RPM V8 = 2125.8 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-ZER-9411 TAPE = X9411C TEST PT NO = 9411 NC = 862 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-9411 X9411F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.7  | 83.2  | 82.5  | 84.0  | 84.6  | 85.7  | 85.1  | 86.3  | 89.2  | 98.8  | 94.9  | 94.4  | 95.0  | 133.1 |
| 63    | 87.5  | 87.5  | 89.0  | 91.1  | 91.4  | 91.5  | 90.4  | 90.6  | 92.8  | 105.9 | 99.5  | 98.7  | 99.1  | 139.0 |
| 80    | 90.0  | 95.1  | 89.8  | 90.6  | 91.0  | 93.8  | 94.2  | 93.4  | 95.3  | 94.7  | 99.2  | 100.6 | 136.7 |       |
| 100   | 90.6  | 96.1  | 91.6  | 92.9  | 93.2  | 94.1  | 96.0  | 97.2  | 94.8  | 97.2  | 99.6  | 103.0 | 139.1 |       |
| 125   | 87.4  | 90.6  | 91.9  | 93.4  | 94.3  | 96.4  | 96.4  | 96.3  | 99.5  | 105.9 | 108.0 | 109.0 | 142.5 |       |
| 150   | 87.8  | 85.8  | 89.6  | 89.4  | 89.2  | 91.6  | 93.2  | 94.4  | 94.8  | 100.4 | 106.0 | 111.6 | 143.3 |       |
| 200   | 87.0  | 87.6  | 89.3  | 89.6  | 91.7  | 94.1  | 95.0  | 96.9  | 100.8 | 102.7 | 107.8 | 112.2 | 145.9 |       |
| 250   | 86.8  | 92.6  | 91.8  | 92.6  | 92.7  | 94.1  | 97.2  | 99.9  | 101.1 | 107.7 | 113.3 | 116.5 | 149.6 |       |
| 315   | 88.3  | 91.6  | 90.6  | 92.2  | 93.5  | 96.6  | 98.5  | 100.4 | 104.5 | 111.0 | 114.6 | 117.8 | 151.1 |       |
| 400   | 89.8  | 91.9  | 92.9  | 92.7  | 93.5  | 96.1  | 99.0  | 101.9 | 108.1 | 115.0 | 118.1 | 119.5 | 153.4 |       |
| 500   | 90.0  | 93.5  | 93.0  | 94.3  | 95.1  | 97.0  | 99.6  | 102.5 | 108.0 | 116.3 | 120.2 | 120.9 | 154.8 |       |
| 630   | 92.1  | 94.4  | 94.1  | 94.9  | 96.0  | 97.9  | 101.0 | 103.7 | 108.4 | 117.7 | 122.1 | 121.3 | 156.1 |       |
| 800   | 96.0  | 95.0  | 95.3  | 95.8  | 97.1  | 99.0  | 100.9 | 104.1 | 109.4 | 117.6 | 122.5 | 121.4 | 156.2 |       |
| 1000  | 101.5 | 102.5 | 100.5 | 99.6  | 98.9  | 100.0 | 102.4 | 105.3 | 110.4 | 117.9 | 122.5 | 121.7 | 156.5 |       |
| 1250  | 100.2 | 104.5 | 103.3 | 103.6 | 103.4 | 103.0 | 103.7 | 106.3 | 111.5 | 117.9 | 122.5 | 121.4 | 156.4 |       |
| 1600  | 105.3 | 103.1 | 102.6 | 101.6 | 101.5 | 103.1 | 105.3 | 107.2 | 111.3 | 117.5 | 123.4 | 119.7 | 156.4 |       |
| 2000  | 105.7 | 105.6 | 104.5 | 102.9 | 101.7 | 101.8 | 103.7 | 106.9 | 111.5 | 117.9 | 121.9 | 112.9 | 156.0 |       |
| 2500  | 103.9 | 105.0 | 104.2 | 104.8 | 103.8 | 104.2 | 105.0 | 107.3 | 111.3 | 117.3 | 119.7 | 115.2 | 154.0 |       |
| 3150  | 102.5 | 103.6 | 103.1 | 102.9 | 104.0 | 106.0 | 105.2 | 107.4 | 111.4 | 115.6 | 119.2 | 114.5 | 153.4 |       |
| 4000  | 101.7 | 101.8 | 102.0 | 102.0 | 104.3 | 106.2 | 108.3 | 110.4 | 114.7 | 117.2 | 117.2 | 111.1 | 152.2 |       |
| 5000  | 99.9  | 101.3 | 102.0 | 103.4 | 105.1 | 107.9 | 110.4 | 114.1 | 115.8 | 111.1 | 107.0 | 101.3 | 151.3 |       |
| 6300  | 99.1  | 100.8 | 101.0 | 100.7 | 101.9 | 103.4 | 104.4 | 107.3 | 109.6 | 112.7 | 114.8 | 110.8 | 150.7 |       |
| 8000  | 96.7  | 98.9  | 99.4  | 99.8  | 100.5 | 102.3 | 103.9 | 106.4 | 108.6 | 111.5 | 112.6 | 108.9 | 149.8 |       |
| 10000 | 95.8  | 97.5  | 98.5  | 99.5  | 100.5 | 102.6 | 105.2 | 107.6 | 108.5 | 110.2 | 111.9 | 103.8 | 149.2 |       |
| 12500 | 94.1  | 95.8  | 97.1  | 97.1  | 98.9  | 100.6 | 101.6 | 103.1 | 105.5 | 108.5 | 105.6 | 101.7 | 148.3 |       |
| 16000 | 90.9  | 93.5  | 94.3  | 94.6  | 96.2  | 97.6  | 99.3  | 101.6 | 103.4 | 105.8 | 107.9 | 103.5 | 147.2 |       |
| 20000 | 88.2  | 89.9  | 91.8  | 92.3  | 93.4  | 95.6  | 97.3  | 98.1  | 99.9  | 103.1 | 106.0 | 101.6 | 146.5 |       |
| 25000 | 83.9  | 87.6  | 87.8  | 88.9  | 90.7  | 93.6  | 94.8  | 95.3  | 98.4  | 100.3 | 102.9 | 99.0  | 146.2 |       |
| 31500 | 79.6  | 83.0  | 83.8  | 84.6  | 86.6  | 89.4  | 91.1  | 92.3  | 95.2  | 98.0  | 101.4 | 96.3  | 146.8 |       |
| 40000 | 75.1  | 78.7  | 80.6  | 80.7  | 83.6  | 86.2  | 88.8  | 88.5  | 92.9  | 95.7  | 99.6  | 94.0  | 148.4 |       |
| 50000 | 70.6  | 74.4  | 75.4  | 77.2  | 78.8  | 82.3  | 83.4  | 84.9  | 90.4  | 95.5  | 98.5  | 91.7  | 151.3 |       |
| 63000 | 65.4  | 71.5  | 71.8  | 74.0  | 76.5  | 78.1  | 79.9  | 81.4  | 88.8  | 94.2  | 96.9  | 89.8  | 155.0 |       |
| 80000 | 61.1  | 70.2  | 70.8  | 72.2  | 73.0  | 74.1  | 75.2  | 76.5  | 86.1  | 91.7  | 93.4  | 85.3  | 158.6 |       |
| GASPL | 112.9 | 113.8 | 113.3 | 113.2 | 113.5 | 114.9 | 116.2 | 118.6 | 122.3 | 128.2 | 132.1 | 130.8 | 128.2 | 167.7 |
| PNL   | 125.7 | 126.8 | 126.3 | 126.5 | 126.8 | 128.5 | 129.4 | 131.7 | 135.1 | 140.3 | 143.5 | 140.8 | 137.4 |       |
| PFLT  | 126.8 | 127.3 | 126.3 | 127.5 | 127.9 | 129.1 | 129.4 | 131.7 | 135.1 | 140.3 | 143.5 | 140.8 | 137.4 |       |
| DBA   | 182.5 | 190.9 | 191.5 | 193.0 | 194.0 | 195.3 | 196.6 | 198.0 | 206.9 | 212.5 | 214.4 | 206.5 | 193.3 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH066 TEST DATE = 08-24-81 L0CAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA / = NO PML AREA = FULL SPHERE TAMB F = 84.00 MIKE HT = 29.72 RELHUM = 43.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC WIND VELOCITY = 25.3 SQ IN  
 FNIINI = LBS XNL RPM XNH XNHR RPM V8 = 2125.8 FPS AE8 = 0. SQ IN  
 FNFRMB = LBS XNL RPM XNH XNHR RPM V8 = 2125.8 FPS AE8 = 0. SQ IN

RUNPT = ZER-9411 TAPE = X9411F TEST PT NO = 9411 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9411 X94111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

67.8 71.4 73.5 74.0 75.2 78.0 80.7 83.2 88.7 94.5 96.1 95.3 90.4 170.9  
63 67.9 73.0 73.6 75.6 76.8 78.8 81.3 83.8 88.6 95.8 98.2 172.2  
80 70.0 73.8 74.7 76.2 77.7 79.7 82.7 84.9 89.0 97.2 100.0 96.9 173.6  
100 73.8 74.4 75.8 77.0 78.8 80.8 82.5 85.3 89.9 97.0 100.3 97.0 173.6  
125 79.2 81.8 80.9 80.7 80.5 81.7 84.0 86.4 90.8 97.2 100.2 97.1 173.9  
160 77.8 83.7 83.6 84.6 84.9 84.6 85.1 87.3 91.7 97.0 100.0 96.6 173.9

200 82.5 82.0 82.7 82.5 82.7 84.5 86.6 88.1 91.4 96.4 100.7 94.6 173.8  
250 82.6 84.2 83.5 82.8 83.0 84.8 87.5 91.4 96.6 98.0 92.3 83.3 172.4  
315 80.4 83.3 83.8 85.1 84.7 85.2 85.9 87.6 90.8 95.6 96.2 89.1 171.5  
400 78.5 81.5 82.3 82.9 84.5 86.7 85.7 87.4 90.6 93.5 95.3 87.7 170.8

500 77.3 79.3 80.6 81.8 82.9 84.7 86.5 88.0 89.5 92.3 92.8 85.3 169.6  
630 75.0 78.4 79.6 80.7 81.9 83.6 85.0 87.3 89.0 91.2 90.9 83.0 168.8  
700 73.7 77.6 79.2 80.6 81.6 83.2 84.1 86.5 87.8 89.5 89.3 82.0 168.1  
1000 70.8 75.3 77.4 78.8 80.1 82.1 83.5 85.4 86.6 87.9 86.7 79.4 167.0

1250 69.4 73.6 76.3 78.4 79.9 82.4 82.0 84.1 85.3 86.4 85.6 77.4 166.7  
1600 66.9 71.3 74.4 75.6 78.0 80.0 80.7 81.6 82.9 84.0 83.2 74.0 165.7  
2000 62.7 68.5 71.2 72.8 75.2 76.9 78.3 79.8 80.4 80.8 79.7 70.2 164.7  
2500 58.2 63.6 67.9 69.9 71.8 74.3 75.7 76.0 76.8 76.0 65.5 49.0 163.9

3150 50.6 58.8 62.0 64.9 67.8 70.9 71.9 71.3 72.6 71.6 69.5 58.0 36.2 163.6  
4000 40.0 49.5 54.2 57.4 60.7 63.9 65.2 65.1 65.6 64.6 61.8 46.3 17.5 164.2  
5000 25.7 37.7 44.8 48.0 52.7 55.8 55.9 55.8 57.1 54.7 50.3 30.3 165.9

6300 3.5 19.2 27.5 33.7 37.8 42.1 42.4 41.5 42.5 40.3 31.3 3.9 168.7  
8000 172.4 176.0

8000  
5000  
4000  
3150  
2500  
2000  
1600  
1250  
1000

GASFL 89.4 91.9 92.5 93.1 93.8 95.2 96.4 98.4 101.6 106.8 109.2 105.4 98.9 184.9  
PWL 93.6 96.5 97.7 98.9 100.0 101.9 102.7 104.3 106.8 110.4 112.0 106.0 97.9  
PNTL 94.1 96.5 97.7 99.4 100.5 101.9 102.7 104.3 106.8 111.0 112.0 107.1 97.9  
DBA 82.8 85.8 87.2 88.3 89.5 91.4 92.2 94.0 95.8 98.5 99.3 92.8 84.2

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH066 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIO = 4 MODEL = 4 FLTVL = 4  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.72 RELHUM = 43.9 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIO = SL MIKE HT = NBRFR =

FNINI = LBS XNL RPM = XNH RPM = V8 = 2125.8 FPS AEG = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM = XNHR RPM = V8 = 2125.8 FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-9411 TAPE = X94111 TEST PT NO = 9411 NC = 862 CORR FAN SPEED = RPM

QUALITY OF NOISE DATA

429

HONEYWELL PAGE PRINTING SYSTEM - P1188-02

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-9412 X9412C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 87.7 86.7 83.0 81.8 81.4 84.5 84.9 86.5 89.2 101.3 95.9 95.1 98.8 134.9

63 88.5 88.8 86.8 86.8 87.9 91.0 91.4 91.2 92.6 110.4 99.7 98.4 99.1 142.1

80 90.8 95.8 90.1 91.1 91.7 94.3 94.5 93.9 94.8 94.9 97.0 99.2 101.4 137.0

100 90.3 94.6 90.4 91.7 91.7 92.9 94.5 95.4 94.3 94.7 97.6 102.3 103.7 137.9

125 87.6 89.9 90.9 92.2 92.8 94.7 94.8 95.2 94.0 97.2 104.1 107.0 108.0 141.2

160 86.3 82.8 87.3 87.6 88.8 90.2 88.8 90.2 92.8 98.7 104.3 109.9 141.4

200 85.8 85.3 85.8 85.9 87.5 90.3 91.5 95.1 98.0 100.2 104.8 110.0 112.1 143.6

250 84.0 87.6 87.3 88.6 89.2 91.1 93.5 96.1 98.3 104.4 110.0 113.5 113.6 146.6

315 83.8 86.9 87.1 87.7 88.8 92.1 94.5 97.2 101.3 108.0 111.3 114.5 113.7 147.7

400 86.6 87.6 88.6 88.9 89.8 93.1 95.5 99.2 104.9 112.5 115.6 116.5 112.7 150.4

500 86.2 88.5 89.5 90.3 91.4 93.8 96.4 99.8 105.0 113.3 117.7 117.1 110.6 151.5

630 87.6 90.1 89.9 91.4 92.3 94.4 97.5 100.4 104.7 114.9 119.1 116.8 107.7 152.2

800 90.2 90.2 93.4 93.4 95.3 97.3 97.1 100.6 105.9 113.5 119.5 115.1 104.1 152.2

1000 94.7 95.0 93.8 94.1 94.4 95.8 97.9 101.3 106.6 115.1 119.7 114.2 103.6 152.3

1250 99.2 101.0 98.1 96.8 97.2 97.5 99.4 102.3 107.2 114.4 119.8 112.9 102.9 152.1

1600 103.5 103.1 102.8 100.4 98.7 98.8 101.6 103.7 108.1 114.0 120.1 112.5 103.7 152.5

2000 101.4 103.3 103.5 103.1 102.0 99.3 99.7 103.1 108.3 114.9 117.5 111.9 102.6 151.4

2500 98.9 100.5 100.5 102.8 102.9 103.2 102.1 103.8 107.5 113.3 116.2 109.5 101.8 150.2

3150 98.0 98.8 98.6 99.9 101.0 103.3 103.7 104.1 108.2 112.1 115.2 109.0 101.1 149.5

4000 97.7 98.0 98.3 98.1 98.9 100.8 100.6 107.4 111.5 113.0 107.2 99.9 148.3

5000 96.2 97.8 97.3 98.3 98.2 99.2 101.3 104.9 107.2 110.3 112.1 105.4 98.5 147.5

6300 95.9 97.8 97.2 97.5 98.7 99.4 100.9 104.3 107.1 109.0 110.5 104.8 97.1 146.9

8000 93.3 94.8 95.6 95.8 97.3 98.5 99.6 101.7 105.1 108.8 107.5 102.2 96.3 145.5

10000 93.0 94.8 95.6 95.8 97.3 98.5 99.6 101.7 105.1 108.8 107.5 102.2 96.3 145.5

12500 91.7 92.9 93.9 94.1 95.2 96.7 98.1 99.6 102.3 104.3 106.0 100.4 94.0 144.3

16000 88.4 90.6 91.1 91.9 92.5 94.7 96.1 98.4 100.2 101.9 103.4 98.3 92.2 143.4

20000 85.8 87.3 88.4 89.2 90.2 91.7 93.1 95.2 97.7 98.7 100.3 95.9 90.1 142.3

25000 81.8 84.5 85.0 87.1 89.9 91.7 94.6 94.7 96.8 94.7 96.8 92.6 85.6 141.3

31500 76.5 80.2 80.5 81.0 83.0 85.8 87.0 88.2 90.4 92.2 93.4 88.2 80.9 140.8

40000 72.0 75.7 77.4 77.1 79.8 82.1 83.5 84.4 87.6 89.0 90.9 84.1 76.6 141.6

50000 67.8 72.4 71.6 72.4 75.0 78.0 78.8 79.6 83.1 85.8 87.4 79.4 70.3 142.2

63000 63.0 72.4 69.0 69.4 71.4 74.5 75.3 74.8 79.7 82.4 86.3 75.0 64.9 144.8

80000 61.4 72.5 69.9 66.1 67.3 71.1 71.5 68.6 74.4 79.8 85.5 70.1 56.5 149.5

QASPL 109.6 110.7 110.4 110.5 110.7 111.7 112.9 115.3 119.0 125.2 129.0 125.6 121.4 163.2

PWL 123.0 123.3 123.3 123.9 124.2 125.4 126.4 128.7 131.9 136.9 140.0 135.4 129.3

DBA 110.0 110.9 110.6 110.7 110.7 111.4 112.5 115.0 118.8 124.7 128.7 123.8 116.5

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH074 TEST DATE = 08-24-81 LGCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM = XNHR XNH RPM = V8 = 2130.0 FPS AE8 = 25.3 SQ IN  
FNAMB = LBS XNLR RPM = XNHR XNHR RPM = V18 = 2130.0 FPS AE18 = 0. SQ IN

RUNPT = 81F-400-9412 TAPE = X9412C TEST PT NO = 9412 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE 17  
OF POOR QUALITY

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DATPRG - FL1RAN

06/18/82 17.411 PAGE 3

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-9412 X9412F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

250 91.5 93.8 92.1 91.8 90.6 92.3 93.2 94.4 102.6 109.4 112.1 113.9 112.5 147.8  
200 91.5 93.8 92.1 91.8 90.6 91.1 91.6 93.4 94.7 97.3 103.4 111.4 115.8 116.7 113.6 150.4  
150 94.3 94.0 93.6 92.3 93.3 94.1 95.7 98.1 102.9 112.9 117.3 117.1 112.7 151.2  
100 93.9 94.5 93.8 94.2 94.8 96.6 98.4 104.3 113.2 118.1 116.6 111.6 151.6  
80 95.2 96.5 94.9 94.9 95.4 95.8 96.3 98.5 105.6 113.9 119.3 117.2 114.0 152.6  
60 97.6 96.5 95.7 94.8 96.0 96.4 97.2 99.4 107.5 113.3 119.3 116.0 113.5 152.3  
40 99.7 97.4 96.7 98.9 98.9 98.3 98.9 100.5 107.5 113.2 120.1 115.9 114.6 152.8  
2000 106.1 106.6 102.3 99.8 100.7 99.8 101.2 102.2 108.0 114.5 117.9 115.7 114.0 152.3  
1500 106.1 106.6 102.3 99.8 100.7 99.8 101.2 102.2 108.0 114.5 117.9 115.7 114.0 152.3  
1000 107.3 108.2 107.4 106.1 105.8 104.8 102.4 103.0 108.9 112.8 116.7 114.0 113.5 152.0  
800 106.5 106.6 105.9 106.9 104.2 105.3 104.4 103.8 108.7 112.6 114.8 112.5 112.5 151.2  
600 105.6 105.5 104.2 104.3 102.5 103.4 104.3 105.8 108.4 111.4 113.8 110.5 111.0 150.2  
400 104.6 104.3 102.5 102.2 102.9 105.2 108.5 110.1 112.3 110.0 109.8 149.3  
200 103.2 104.2 102.7 102.4 102.4 104.7 107.9 110.6 108.6 108.6 109.1 148.7  
1500 103.1 104.3 102.9 102.2 101.1 101.4 102.0 103.5 107.1 108.6 110.0 108.1 109.5 148.5  
1000 101.4 102.5 101.7 101.1 101.3 101.5 101.3 102.3 104.5 106.4 108.8 106.6 107.5 147.6  
800 100.2 100.9 100.8 100.1 99.2 99.7 99.8 100.2 103.2 104.6 107.0 105.2 106.4 146.9  
600 98.0 98.5 98.6 97.9 96.5 97.7 97.9 99.1 101.7 102.5 104.7 103.5 104.8 146.2  
4000 83.0 85.4 84.3 83.3 84.4 85.1 85.1 84.7 88.1 90.4 92.9 87.6 85.8 144.1  
3500 86.3 87.9 86.9 87.6 88.8 88.6 88.6 88.6 92.6 93.6 96.1 92.8 89.7 143.8  
2500 91.1 91.9 92.1 92.4 91.1 92.9 93.8 92.7 94.8 96.4 98.2 96.5 96.6 144.1  
2000 94.4 95.8 95.4 95.2 94.2 95.5 96.1 96.4 98.9 98.9 101.6 100.8 101.0 145.1  
1500 98.0 98.5 98.6 97.9 96.5 97.7 97.9 99.1 101.7 102.5 104.7 103.5 104.8 146.2  
1000 101.4 102.5 101.7 101.1 101.3 101.5 101.3 102.3 104.5 106.4 108.8 106.6 107.5 147.6  
800 103.1 104.3 102.9 102.2 101.1 101.4 102.0 103.5 107.1 108.6 110.0 108.1 109.5 148.5  
600 103.2 104.2 102.7 102.4 102.4 102.4 102.4 104.7 107.9 110.3 110.6 108.6 109.1 148.7  
400 104.6 104.3 102.5 102.2 102.2 102.9 105.2 108.5 110.1 112.3 110.0 109.8 149.3  
300 106.5 106.6 105.9 106.9 104.2 105.3 104.4 103.8 108.7 112.6 114.8 112.5 112.5 151.2  
200 107.3 108.2 107.4 106.1 105.8 104.8 102.4 103.0 108.9 112.8 116.7 114.0 113.5 152.0  
1500 106.1 106.6 102.3 99.8 100.7 99.8 101.2 102.2 108.0 114.5 117.9 115.7 114.0 152.3  
1000 106.1 106.6 102.3 99.8 100.7 99.8 101.2 102.2 108.0 114.5 117.9 115.7 114.0 152.3  
800 97.6 96.5 95.7 94.8 96.0 96.4 97.2 99.4 107.5 113.3 119.3 116.0 113.5 152.3  
600 93.9 94.5 93.8 94.2 94.8 96.6 98.4 104.3 113.2 118.1 116.6 111.6 151.6  
500 94.3 94.0 93.6 92.3 93.3 94.1 95.7 98.1 102.9 112.9 117.3 117.1 112.7 151.2  
400 91.5 93.3 92.1 91.1 91.6 93.4 94.7 97.3 103.4 111.4 115.8 116.7 113.6 150.4  
300 91.5 93.8 92.1 91.8 90.6 92.3 93.2 94.4 102.6 109.4 112.1 113.9 112.5 147.8  
250 91.5 93.8 92.1 91.8 90.6 91.1 91.6 92.5 97.8 103.6 106.4 110.1 111.1 143.9

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH074 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT  
MIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 2130.0 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2130.0 FPS AEB = 25.3 SQ IN

RUNPT = 81F-400-9412 TAPE = X9412F TEST PT NO = 9412 NC = 862 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-9412 X94121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

69.5 72.8 72.7 72.4 73.3 75.2 76.4 78.6 84.0 90.9 93.8 92.5 86.0 167.8

63 72.2 73.5 74.2 73.6 75.0 75.9 77.4 79.4 83.5 92.4 95.2 85.1 168.7

80 71.8 74.4 75.0 75.0 75.9 76.6 78.3 79.6 84.8 92.7 96.0 84.1 169.0

100 73.1 75.9 75.4 76.1 77.0 77.5 77.9 79.7 86.1 93.3 97.1 92.8 86.1 170.0

125 75.3 75.8 76.1 75.9 77.6 78.1 78.8 80.6 86.7 92.6 97.1 91.4 85.4 169.7

150 78.0 78.9 77.7 77.7 80.4 79.9 80.3 81.5 87.7 92.4 97.6 91.1 86.2 170.3

200 83.3 85.6 82.4 80.6 82.0 81.3 82.5 83.0 88.1 93.5 95.2 90.6 85.0 169.8

250 87.5 87.6 87.2 84.1 85.2 81.8 80.8 82.6 87.5 92.1 94.0 88.3 84.0 169.5

315 83.8 86.5 87.0 86.4 86.6 85.8 83.2 83.3 88.5 91.1 93.2 87.8 83.1 169.5

400 82.6 84.5 85.1 87.0 84.7 86.0 84.9 83.8 87.9 90.6 90.9 85.7 81.2 168.6

500 81.2 83.0 82.0 82.2 82.3 82.9 84.7 87.0 87.2 87.4 81.9 76.4 166.7

600 77.8 81.0 81.2 82.4 82.3 82.8 86.1 86.1 85.1 84.1 79.8 74.5 166.1

800 77.2 80.8 80.9 81.2 80.7 81.1 81.6 82.5 85.1 85.1 84.1 78.6 73.8 166.0

1000 75.0 78.7 79.4 79.9 80.8 81.2 80.8 81.1 82.3 82.5 82.4 76.3 70.3 165.0

1250 75.0 78.7 79.4 79.9 80.8 81.2 80.8 81.1 82.3 82.5 82.4 76.3 70.3 165.0

1500 75.0 78.7 79.4 79.9 80.8 81.2 80.8 81.1 82.3 82.5 82.4 76.3 70.3 165.0

2000 72.9 76.4 78.1 78.5 78.3 79.0 78.9 78.7 80.6 80.3 79.7 73.5 66.9 164.3

2500 69.8 73.4 75.6 76.1 75.5 76.9 77.4 78.6 77.4 78.6 77.4 76.5 62.3 163.7

3150 57.7 63.1 66.3 68.2 70.3 70.9 68.7 69.0 67.7 64.9 55.4 40.8 161.5

4000 46.7 54.8 58.3 59.7 61.7 63.3 62.7 61.4 62.9 60.2 56.5 42.8 22.4 161.3

5000 38.6 44.4 48.4 50.6 53.4 54.7 54.1 52.0 52.3 49.3 43.6 23.9 161.5

2CF

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VEHICL = ADH074 TEST DATE = 08-24-81  
IAPLHA = SB59 LEGA / = NO PML AREA = FULL SPHERE  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2130.0 FPS AEB = 25.3 SQ IN  
RNPMT = 00-9412 TAPE = X94121 TEST PT NO = 9412 NC = 862 CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

GASPL 92.4 94.2 94.1 93.9 93.9 93.8 93.6 94.5 98.4 102.8 105.7 101.3 95.1 181.1  
PML 97.8 99.6 100.1 100.7 100.3 100.8 100.5 101.0 104.0 106.5 108.0 102.7 96.6  
PNLT 98.9 99.6 100.8 101.3 100.3 100.8 100.5 101.0 104.6 107.0 108.0 102.7 96.6  
DBA 87.1 89.5 90.0 90.4 90.1 90.5 90.4 91.1 93.6 94.8 95.7 90.1 85.0

Table with 13 columns and 13 rows of numerical data.

Table with 13 columns and 13 rows of numerical data.





FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9413 X94131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PWL

|      |      |      |      |      |      |      |      |      |      |       |       |      |       |       |
|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|-------|
| 50   | 68.1 | 71.6 | 74.0 | 74.2 | 75.2 | 78.0 | 80.5 | 83.5 | 88.5 | 95.0  | 96.3  | 95.6 | 90.1  | 171.1 |
| 63   | 68.2 | 72.7 | 73.3 | 75.3 | 76.8 | 78.6 | 80.8 | 83.8 | 87.8 | 95.8  | 98.2  | 96.9 | 90.2  | 172.3 |
| 80   | 69.7 | 73.6 | 74.7 | 77.2 | 79.4 | 82.2 | 85.4 | 88.2 | 91.7 | 100.0 | 96.9  | 91.7 | 173.6 |       |
| 100  | 74.5 | 74.4 | 76.0 | 77.3 | 79.0 | 80.8 | 82.5 | 85.5 | 89.4 | 97.5  | 100.1 | 96.7 | 90.4  | 173.5 |
| 125  | 79.9 | 82.3 | 81.2 | 80.4 | 80.5 | 82.0 | 84.2 | 86.2 | 89.8 | 97.4  | 100.2 | 97.1 | 90.5  | 173.9 |
| 160  | 78.3 | 83.9 | 83.8 | 84.8 | 84.9 | 84.9 | 85.1 | 86.8 | 90.7 | 97.3  | 100.5 | 96.4 | 89.0  | 174.1 |
| 200  | 82.8 | 82.0 | 83.4 | 83.0 | 83.0 | 84.2 | 86.3 | 88.1 | 91.2 | 96.4  | 100.4 | 94.8 | 86.5  | 173.7 |
| 250  | 82.6 | 84.2 | 85.1 | 83.8 | 83.0 | 83.5 | 84.8 | 87.8 | 90.9 | 96.1  | 98.0  | 91.8 | 83.8  | 172.3 |
| 315  | 80.4 | 82.8 | 84.0 | 85.4 | 84.7 | 85.2 | 85.9 | 88.1 | 90.5 | 95.4  | 96.0  | 89.6 | 81.4  | 171.4 |
| 400  | 79.0 | 81.7 | 82.5 | 83.6 | 84.5 | 86.7 | 86.2 | 87.4 | 89.9 | 93.0  | 95.0  | 87.7 | 78.7  | 170.6 |
| 500  | 76.8 | 79.8 | 80.9 | 81.8 | 82.9 | 85.0 | 87.0 | 88.0 | 89.5 | 92.0  | 92.5  | 85.5 | 76.3  | 169.5 |
| 630  | 75.2 | 78.1 | 79.6 | 80.7 | 82.2 | 83.6 | 85.3 | 87.3 | 88.7 | 90.7  | 91.4  | 83.0 | 73.3  | 168.8 |
| 800  | 73.9 | 77.8 | 79.0 | 80.2 | 81.9 | 83.2 | 84.6 | 86.8 | 87.6 | 89.2  | 89.6  | 82.5 | 72.1  | 168.2 |
| 1000 | 71.3 | 75.6 | 77.9 | 79.0 | 80.6 | 82.8 | 83.7 | 85.6 | 86.1 | 87.4  | 87.2  | 79.7 | 69.0  | 167.1 |
| 1250 | 69.9 | 73.9 | 76.5 | 78.6 | 79.9 | 82.4 | 84.6 | 85.3 | 85.9 | 85.8  | 77.9  | 67.1 | 166.8 |       |
| 1600 | 67.4 | 71.6 | 74.7 | 76.1 | 78.5 | 81.0 | 81.8 | 82.9 | 84.0 | 84.0  | 74.5  | 62.2 | 166.1 |       |
| 2000 | 63.2 | 69.0 | 71.7 | 73.3 | 75.7 | 77.9 | 78.8 | 80.3 | 80.6 | 80.8  | 79.9  | 70.7 | 165.0 |       |
| 2500 | 58.2 | 64.4 | 67.9 | 70.7 | 72.5 | 75.1 | 75.9 | 76.4 | 77.2 | 77.3  | 76.0  | 65.7 | 164.4 |       |
| 3150 | 50.6 | 58.8 | 62.5 | 65.2 | 67.8 | 71.2 | 71.9 | 72.9 | 71.3 | 69.5  | 67.7  | 57.7 | 163.6 |       |
| 4000 | 39.5 | 50.8 | 57.9 | 61.2 | 64.7 | 65.7 | 65.6 | 65.6 | 65.1 | 61.8  | 45.5  | 29.8 | 164.4 |       |
| 5000 | 25.7 | 38.5 | 45.0 | 49.0 | 53.2 | 56.1 | 57.2 | 57.1 | 57.6 | 54.7  | 51.0  | 29.8 | 166.3 |       |
| 6300 | 4.0  | 19.7 | 28.5 | 34.2 | 38.8 | 42.8 | 43.4 | 41.7 | 42.7 | 39.3  | 31.0  | 2.6  | 168.4 |       |
| 8000 |      | 2.8  | 12.1 | 16.8 | 20.6 | 21.0 | 18.5 | 19.8 | 13.4 | 0.4   |       |      | 176.4 |       |

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|       |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 89.6 | 92.0 | 92.8 | 93.4 | 93.9  | 95.3  | 96.5  | 98.5  | 101.2 | 106.8 | 109.2 | 105.4 | 98.8 | 184.9 |
| PNL   | 93.7 | 96.6 | 98.0 | 99.2 | 100.1 | 102.1 | 103.0 | 104.5 | 106.5 | 110.3 | 112.0 | 106.1 | 97.9 |       |
| PNLT  | 94.3 | 97.1 | 98.5 | 99.7 | 100.7 | 102.1 | 103.0 | 104.5 | 106.5 | 110.8 | 113.0 | 107.3 | 97.9 |       |
| DBA   | 83.0 | 85.9 | 87.5 | 88.6 | 89.8  | 91.6  | 92.6  | 94.2  | 95.6  | 98.2  | 99.4  | 92.9  | 84.5 |       |

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9  
NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH065 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CNFIG = 4 MODEL = 4 FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.72 RELHUM = 43.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBR

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2131.6 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 81F-ZER-9413 TAPE = X94131 TEST PT NO = 9413 NC = 862 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-9414 X9414C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.7  | 86.5  | 82.7  | 82.0  | 81.9  | 82.7  | 84.9  | 86.5  | 88.7  | 94.6  | 95.4  | 95.1  | 99.0  | 132.6 |
| 63    | 88.0  | 88.0  | 89.0  | 86.6  | 87.7  | 89.0  | 90.9  | 91.6  | 92.1  | 105.6 | 99.7  | 99.4  | 98.8  | 138.8 |
| 80    | 90.8  | 95.3  | 90.3  | 90.9  | 91.7  | 94.1  | 94.2  | 93.9  | 95.0  | 94.4  | 96.5  | 98.7  | 101.4 | 136.8 |
| 100   | 90.8  | 95.1  | 90.4  | 91.7  | 92.2  | 93.4  | 95.0  | 95.7  | 93.8  | 94.9  | 98.1  | 102.5 | 104.2 | 138.2 |
| 125   | 87.4  | 90.1  | 91.4  | 92.2  | 92.5  | 95.4  | 95.3  | 95.4  | 94.8  | 97.5  | 104.1 | 106.5 | 108.2 | 141.2 |
| 160   | 85.8  | 83.3  | 88.1  | 87.6  | 89.1  | 91.0  | 91.4  | 92.6  | 98.2  | 104.5 | 107.5 | 110.1 | 141.6 |       |
| 200   | 85.8  | 85.6  | 86.8  | 85.9  | 87.5  | 90.8  | 91.7  | 94.4  | 98.0  | 100.4 | 105.0 | 109.7 | 112.1 | 143.5 |
| 250   | 84.0  | 87.6  | 87.3  | 88.9  | 89.2  | 90.8  | 93.7  | 96.1  | 98.3  | 104.2 | 109.8 | 113.2 | 113.4 | 146.4 |
| 315   | 84.3  | 87.1  | 87.1  | 87.9  | 89.5  | 92.6  | 94.8  | 96.9  | 101.8 | 108.0 | 112.3 | 115.3 | 112.7 | 148.3 |
| 400   | 86.2  | 88.1  | 89.4  | 88.9  | 89.8  | 93.1  | 95.8  | 99.2  | 105.4 | 112.5 | 115.6 | 117.3 | 112.7 | 150.7 |
| 500   | 86.8  | 88.0  | 89.0  | 89.3  | 90.3  | 94.0  | 96.4  | 100.0 | 105.0 | 113.3 | 117.7 | 117.1 | 110.3 | 151.4 |
| 630   | 86.1  | 90.4  | 90.7  | 92.3  | 94.9  | 97.3  | 101.2 | 105.4 | 115.2 | 119.3 | 116.8 | 108.7 | 108.7 | 152.5 |
| 800   | 90.5  | 90.5  | 91.0  | 92.1  | 93.8  | 97.4  | 101.1 | 105.9 | 114.8 | 120.4 | 114.3 | 104.3 | 104.3 | 152.5 |
| 1000  | 95.0  | 95.3  | 93.8  | 94.3  | 94.7  | 96.8  | 98.4  | 101.8 | 106.6 | 114.9 | 120.2 | 114.2 | 104.3 | 152.5 |
| 1250  | 99.5  | 101.5 | 98.3  | 97.6  | 97.7  | 98.5  | 99.2  | 102.3 | 107.7 | 114.4 | 120.5 | 113.2 | 103.2 | 152.6 |
| 1600  | 104.3 | 103.8 | 103.3 | 101.4 | 98.7  | 99.6  | 101.8 | 104.0 | 108.4 | 114.8 | 120.9 | 112.5 | 103.7 | 153.1 |
| 2000  | 101.4 | 103.6 | 104.0 | 102.5 | 100.3 | 100.7 | 103.9 | 108.3 | 115.2 | 118.0 | 111.6 | 102.6 | 101.7 |       |
| 2500  | 99.2  | 100.2 | 100.5 | 102.0 | 102.9 | 104.0 | 102.8 | 104.3 | 108.3 | 114.3 | 116.7 | 110.0 | 101.8 | 150.8 |
| 3150  | 97.5  | 98.8  | 98.8  | 98.6  | 99.6  | 100.7 | 103.8 | 103.9 | 104.6 | 108.2 | 112.6 | 116.5 | 108.7 | 150.2 |
| 4000  | 98.0  | 98.5  | 98.6  | 98.5  | 98.9  | 101.1 | 103.5 | 106.3 | 108.1 | 111.7 | 114.0 | 107.2 | 99.9  | 148.9 |
| 5000  | 96.2  | 98.0  | 97.8  | 97.8  | 98.5  | 99.9  | 101.8 | 105.4 | 107.7 | 111.1 | 112.8 | 105.4 | 98.0  | 148.1 |
| 6300  | 95.9  | 98.1  | 97.2  | 98.0  | 98.7  | 100.1 | 101.4 | 104.6 | 107.6 | 110.0 | 111.5 | 104.6 | 96.9  | 147.5 |
| 8000  | 94.2  | 96.1  | 96.7  | 97.0  | 97.0  | 99.6  | 100.7 | 103.6 | 109.2 | 109.1 | 103.7 | 95.5  | 146.5 |       |
| 10000 | 93.6  | 95.0  | 96.1  | 96.3  | 97.0  | 99.3  | 99.9  | 102.7 | 105.6 | 107.8 | 108.5 | 102.2 | 95.5  | 146.2 |
| 12500 | 91.7  | 93.4  | 94.1  | 94.6  | 95.9  | 97.4  | 98.4  | 100.4 | 103.3 | 106.0 | 106.5 | 100.9 | 94.0  | 145.2 |
| 16000 | 88.7  | 91.4  | 92.1  | 91.9  | 93.2  | 95.5  | 96.6  | 98.9  | 101.2 | 102.4 | 103.9 | 98.5  | 93.0  | 144.0 |
| 20000 | 86.0  | 88.0  | 89.0  | 89.2  | 90.4  | 93.2  | 94.1  | 95.9  | 98.5  | 99.7  | 100.8 | 96.1  | 89.6  | 143.0 |
| 25000 | 82.0  | 85.0  | 85.0  | 86.0  | 87.8  | 90.9  | 91.7  | 91.9  | 95.8  | 96.0  | 97.0  | 92.9  | 85.6  | 142.0 |
| 31500 | 77.3  | 80.9  | 81.2  | 82.0  | 83.7  | 87.1  | 88.0  | 88.7  | 91.6  | 92.2  | 95.4  | 88.9  | 80.9  | 141.8 |
| 40000 | 72.3  | 76.5  | 77.6  | 77.9  | 80.3  | 82.6  | 84.3  | 85.4  | 88.6  | 89.0  | 91.9  | 84.9  | 77.1  | 142.3 |
| 50000 | 63.0  | 72.9  | 73.4  | 73.7  | 75.0  | 78.7  | 79.8  | 79.9  | 84.3  | 86.3  | 89.4  | 80.6  | 70.5  | 143.2 |
| 63000 | 68.0  | 72.6  | 72.6  | 72.6  | 73.4  | 75.0  | 76.7  | 75.6  | 80.7  | 84.4  | 89.3  | 75.5  | 65.6  | 146.8 |
| 80000 | 60.4  | 72.8  | 69.6  | 66.6  | 67.3  | 69.4  | 71.3  | 69.1  | 75.9  | 81.8  | 83.5  | 68.8  | 56.2  | 149.1 |
| QASPL | 109.9 | 111.1 | 110.7 | 110.7 | 110.8 | 112.3 | 113.3 | 115.8 | 119.3 | 125.4 | 129.5 | 125.8 | 121.4 | 163.6 |
| PWL   | 122.3 | 123.6 | 123.6 | 123.7 | 124.2 | 126.0 | 126.8 | 129.2 | 132.1 | 137.5 | 140.8 | 135.5 | 129.3 |       |
| PWLT  | 123.5 | 123.6 | 123.6 | 123.7 | 124.2 | 126.7 | 126.8 | 129.2 | 132.1 | 137.5 | 140.8 | 135.5 | 129.3 |       |
| DBA   | 110.2 | 111.3 | 111.0 | 110.9 | 110.8 | 112.1 | 112.9 | 115.5 | 119.1 | 125.1 | 129.3 | 123.9 | 116.6 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH075 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CNF16 = 4 MODEL = 4 FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF16 = ARC MIKE HT = NBFR =

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DATPROC - FLIHAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-9414 X9414F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

FREQ

50

63

80

100

125

160

200

250 91.4 93.7 92.1 92.0 90.8 90.8 91.8 92.5 98.3 103.6 107.4 110.8 111.1 144.4

315 91.4 93.7 92.0 91.3 92.8 93.4 94.1 103.1 109.4 112.2 114.6 112.5 148.1

400 92.0 93.5 92.1 91.3 91.6 93.4 95.0 97.3 103.4 103.4 111.4 115.8 116.7 113.3 150.4

500 94.1 94.2 94.2 92.2 93.5 94.3 95.7 98.4 103.8 113.2 117.6 117.2 113.8 151.6

630 93.7 95.4 94.7 93.8 94.2 95.3 96.4 99.2 104.3 113.0 118.6 117.2 112.0 151.6

800 95.9 96.8 95.4 94.2 95.2 96.3 96.5 99.0 105.6 113.7 119.8 116.9 112.0 152.9

1000 97.9 96.8 96.0 95.6 96.3 97.4 97.7 100.0 106.7 113.2 120.0 116.2 113.7 152.7

1250 100.4 99.8 97.3 96.9 99.4 99.3 98.6 100.5 107.6 113.8 120.6 115.7 114.5 153.2

1600 106.2 107.0 102.5 100.5 100.7 100.6 101.6 100.7 102.6 107.9 114.7 118.3 114.2 117.3 152.6

2000 111.3 109.7 107.9 104.5 104.6 101.6 100.7 102.6 108.3 114.2 117.3 114.2 113.5 152.6

2500 107.0 108.3 107.8 106.6 105.8 105.6 103.1 103.4 108.6 112.9 117.5 113.3 112.5 152.2

3150 106.8 106.6 105.9 106.2 104.0 105.8 104.6 104.1 109.3 112.7 115.6 112.3 112.4 151.4

4000 105.1 105.5 104.2 104.0 102.5 103.7 104.8 106.5 108.7 111.9 114.2 110.1 110.2 150.3

5000 104.8 104.5 104.0 103.0 102.5 102.9 103.3 105.6 108.8 110.8 113.0 109.4 109.2 149.6

6300 103.5 104.7 103.6 102.6 102.7 103.1 102.9 104.8 107.5 110.3 110.8 108.9 108.6 149.0

8000 103.2 104.6 102.7 101.1 102.6 102.2 103.9 107.2 109.1 110.5 107.6 108.4 148.7

10000 101.4 102.5 102.2 101.6 101.1 102.3 101.5 103.0 105.3 107.8 109.0 106.8 107.3 148.0

12500 100.4 101.2 101.3 100.6 100.0 100.4 100.0 100.7 104.3 105.4 107.6 105.5 107.2 147.5

16000 98.0 99.0 98.8 98.4 97.3 98.5 98.6 99.7 101.8 102.9 104.7 103.4 104.1 146.5

20000 94.6 96.5 96.5 94.5 96.2 96.0 96.6 99.8 99.8 101.5 100.8 100.8 145.4

25000 91.4 92.6 92.9 92.4 93.9 93.7 92.7 95.8 96.2 99.9 96.9 96.4 144.8

31500 89.4 91.0 89.6 89.1 88.3 90.1 89.6 89.0 93.5 93.6 97.1 93.5 93.2 144.8

40000 83.8 86.2 85.0 84.3 84.9 85.6 85.6 89.4 90.8 94.4 88.7 85.9 145.0

50000 78.4 81.3 81.0 79.7 79.6 81.7 81.3 79.9 86.6 89.8 95.1 84.2 81.3 147.6

63000 73.2 76.8 74.8 74.3 75.7 77.0 77.0 75.3 83.3 88.7 90.7 79.1 73.4 149.3

80000 66.7 75.1 69.7 69.1 71.4 72.4 72.4 72.7 69.0 73.4 78.9 80.9 63.6 147.7

OASPL 116.5 116.6 115.3 114.3 113.6 114.1 113.7 115.1 119.4 124.6 129.1 126.7 124.8 164.1

PNL 129.2 129.0 128.0 127.2 126.3 127.0 126.5 128.1 132.0 136.3 140.0 136.9 136.1

PFLT 130.8 129.0 128.0 127.2 126.3 127.0 126.5 128.1 132.0 136.3 140.0 136.9 136.1

DBA 188.9 195.9 191.5 190.8 192.7 193.9 194.1 194.1 196.9 202.1 204.4 193.1 188.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH075 TEST DATE = 08-24-81  
IAPLHA = SB59 LEGA = NO  
WIND DIR = SB59 DEG WIND VEL = MPH  
PWL AREA = FULL SPHERE EXT DIST = 40.0 FT  
CONFIG = C41 ANECH CH CONFIG = 4  
TAMB F = 85.00  
PAMB HG = 29.75  
FLTVL = 400. FPS  
MODEL = 4  
FLTVL = 400. FPS  
RELHUM = 41.6 PCT  
PAMB HG = 29.75  
RELHUM = 41.6 PCT  
MIKE HT = NBRF  
AE8 = 2136.2 FPS  
AE18 = 25.3 SO IN  
V8 = 2136.2 FPS  
V18 = 25.3 SO IN  
XNHR = 2136.2 FPS  
XNL = 25.3 SO IN  
RPM = 2136.2 FPS  
RPM = 25.3 SO IN

RUNPT = 81F-400-9414 TAPE = X9414F  
TEST PT NO = 9414 NC = 862  
CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-400-9414 X94141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 70.0 73.0 72.7 72.6 73.3 75.2 76.2 77.4 79.7 84.4 92.7 95.6 92.9 86.2 169.0

63 72.1 73.7 74.8 73.5 75.2 76.2 77.4 79.7 84.4 92.7 95.6 92.9 86.2 169.0

80 71.8 74.9 75.3 75.0 75.9 77.1 78.1 80.5 84.8 92.5 96.5 92.6 84.3 169.3

100 73.6 76.2 75.9 76.4 76.8 78.0 78.2 80.2 86.1 93.1 97.7 92.8 86.9 170.3

125 75.8 76.1 76.4 76.7 77.8 79.1 79.3 81.1 87.1 92.5 97.7 91.6 85.6 170.1

160 77.9 78.9 77.6 77.9 80.9 80.9 80.0 81.5 87.9 93.0 98.2 90.9 86.0 170.6

200 83.5 86.0 81.3 82.6 81.3 82.0 82.7 83.2 88.0 93.6 95.6 90.2 84.9 169.9

250 88.3 86.4 87.7 85.2 85.7 82.8 81.7 83.3 88.1 92.9 94.3 88.6 83.9 170.0

315 83.5 86.6 87.3 86.9 86.6 86.5 83.9 83.7 88.2 91.3 94.1 87.2 82.1 169.7

400 82.8 84.7 85.1 86.2 84.5 86.5 85.1 84.2 88.5 90.6 91.7 85.5 81.0 168.9

500 80.7 83.0 83.7 82.7 84.1 85.0 86.2 87.6 89.4 89.7 82.7 82.7 77.9 167.8

630 79.8 81.6 82.5 82.5 82.5 83.1 83.3 85.0 87.3 88.0 81.3 75.8 167.1

800 78.1 81.4 81.8 81.8 82.4 83.0 82.6 84.0 85.7 87.1 85.4 80.0 74.0 166.4

1000 77.3 81.1 80.9 81.7 80.7 82.4 81.8 82.9 85.2 85.6 84.6 78.1 72.7 166.2

1250 75.0 78.7 79.9 78.4 80.4 80.5 81.9 80.9 81.9 83.1 83.9 82.6 76.5 165.5

1600 73.2 76.7 78.6 79.0 79.1 79.8 79.1 79.2 81.7 80.9 80.3 73.9 67.7 164.9

2000 69.8 73.9 75.8 76.6 76.3 77.7 77.3 78.0 78.8 78.8 76.5 70.1 61.6 163.9

2500 64.6 70.3 72.5 72.8 72.9 74.9 74.4 74.2 75.9 73.5 71.5 64.7 53.4 162.9

3150 58.0 63.9 67.1 68.9 69.5 71.3 70.8 68.7 70.0 67.4 66.6 55.9 40.6 162.2

4000 49.8 57.6 60.0 61.8 62.4 64.6 63.6 61.8 63.9 60.1 57.5 43.6 22.9 162.3

5000 34.4 45.1 49.2 51.6 53.2 54.9 53.0 53.5 49.8 45.0 25.1 162.4

6300 11.2 26.1 33.1 36.3 38.6 41.5 40.3 36.4 38.7 34.6 27.9 165.0

8000 165.1

10000 166.7

12500 165.0

15000 162.4

16000 162.3

20000 162.3

25000 162.3

31500 162.3

40000 162.3

50000 162.3

63000 162.3

80000 162.3

QASPL 92.7 94.5 94.4 94.1 94.0 94.5 94.0 94.9 98.6 103.1 106.2 101.3 95.2 181.4

PNL 98.2 100.2 100.5 100.7 100.5 101.5 100.8 101.5 104.4 106.9 108.5 102.5 96.5

PMLT 99.0 100.2 101.2 101.2 100.5 101.5 100.8 101.5 105.0 107.4 108.5 102.5 96.5

DBA 87.3 89.8 90.3 90.5 90.2 91.2 90.7 91.5 93.8 95.4 96.2 89.9 84.6

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NA53-22514

VEHICL = ADH075 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CNF10 = 4 MODEL = 4 FLTVL = 400. FPS

IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNF10 = SL MIKE HT = NBFR

FNINI = LBS XNL RPM XNHR = RPM XNHR = RPM V8 = 2136.2 FPS AEB = 25.3 SQ IN

FNRAMB = LBS XNL RPM XNHR = RPM XNHR = RPM V8 = 2136.2 FPS AEB = 25.3 SQ IN

RUNPT = 8 00-9414 TAPE = X94141 TEST PT NO = 9414 NC = 862 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-9415 X9415C

BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 86.2  | 86.7  | 85.0  | 84.3  | 85.1  | 85.7  | 85.6  | 86.8  | 89.9  | 96.8  | 95.2  | 94.6  | 95.8  |
| 80    | 90.2  | 92.0  | 88.8  | 90.6  | 91.9  | 93.0  | 92.4  | 91.6  | 93.6  | 105.9 | 99.7  | 99.2  | 99.8  |
| 63    | 91.0  | 96.1  | 90.8  | 91.1  | 92.2  | 95.1  | 95.5  | 94.6  | 95.8  | 95.4  | 97.5  | 100.0 | 101.6 |
| 100   | 91.1  | 96.6  | 92.4  | 93.4  | 94.2  | 94.9  | 96.5  | 97.2  | 95.8  | 97.7  | 99.8  | 104.0 | 105.2 |
| 125   | 87.4  | 90.6  | 92.7  | 93.9  | 94.8  | 96.9  | 96.8  | 97.2  | 96.8  | 100.2 | 107.1 | 108.5 | 109.7 |
| 160   | 88.0  | 86.3  | 90.6  | 90.1  | 90.2  | 92.1  | 94.0  | 94.9  | 95.6  | 101.4 | 106.5 | 109.5 | 112.4 |
| 200   | 87.8  | 88.8  | 89.8  | 90.6  | 92.5  | 94.8  | 95.5  | 97.9  | 101.3 | 103.4 | 108.3 | 113.0 | 114.6 |
| 250   | 87.5  | 93.1  | 93.6  | 93.7  | 94.8  | 97.7  | 100.1 | 101.6 | 108.1 | 113.8 | 116.7 | 116.9 | 150.0 |
| 315   | 89.1  | 92.1  | 90.9  | 92.7  | 94.3  | 97.4  | 99.0  | 100.9 | 104.8 | 111.7 | 115.3 | 117.9 | 151.8 |
| 400   | 90.6  | 92.9  | 93.6  | 93.7  | 93.8  | 96.6  | 99.0  | 102.4 | 108.6 | 115.5 | 118.8 | 120.3 | 118.4 |
| 500   | 90.4  | 94.2  | 93.8  | 94.0  | 95.4  | 97.3  | 99.9  | 104.2 | 108.4 | 118.4 | 123.1 | 122.0 | 155.1 |
| 630   | 92.6  | 94.6  | 94.6  | 95.2  | 96.2  | 98.1  | 101.0 | 104.2 | 108.4 | 118.4 | 123.1 | 122.0 | 156.9 |
| 800   | 96.7  | 95.2  | 96.3  | 96.5  | 98.1  | 99.5  | 101.4 | 104.8 | 109.6 | 119.1 | 123.0 | 121.9 | 156.9 |
| 1000  | 102.5 | 103.5 | 101.0 | 100.3 | 100.2 | 101.0 | 103.2 | 105.8 | 110.6 | 119.1 | 123.5 | 122.7 | 157.4 |
| 1250  | 103.5 | 105.3 | 104.3 | 104.8 | 104.2 | 103.9 | 107.3 | 111.4 | 118.4 | 123.5 | 121.9 | 117.7 | 157.2 |
| 1600  | 106.8 | 106.8 | 106.3 | 104.4 | 102.7 | 103.3 | 105.5 | 107.5 | 111.3 | 118.0 | 123.9 | 120.2 | 156.9 |
| 2000  | 107.9 | 108.1 | 107.7 | 106.9 | 105.2 | 103.6 | 104.5 | 107.1 | 111.5 | 118.2 | 122.0 | 118.1 | 155.8 |
| 2500  | 105.4 | 106.7 | 106.2 | 107.3 | 107.0 | 106.0 | 108.0 | 111.2 | 117.3 | 120.7 | 112.0 | 112.0 | 154.9 |
| 3150  | 104.3 | 105.6 | 105.6 | 106.2 | 108.5 | 107.6 | 108.4 | 111.4 | 116.4 | 120.0 | 114.7 | 110.0 | 154.2 |
| 4000  | 103.7 | 104.0 | 103.8 | 104.5 | 104.1 | 108.2 | 109.8 | 111.1 | 114.7 | 117.7 | 113.4 | 108.6 | 152.9 |
| 5000  | 101.9 | 103.5 | 103.0 | 103.5 | 103.9 | 104.9 | 106.8 | 109.4 | 111.1 | 114.3 | 112.3 | 107.2 | 152.4 |
| 6300  | 101.0 | 103.5 | 102.9 | 103.4 | 104.3 | 105.3 | 106.3 | 108.8 | 110.3 | 112.6 | 116.0 | 111.0 | 151.7 |
| 8000  | 98.6  | 101.0 | 101.8 | 101.9 | 102.7 | 104.3 | 105.6 | 108.0 | 109.5 | 111.8 | 113.5 | 109.8 | 150.6 |
| 10000 | 97.9  | 99.3  | 100.4 | 101.9 | 102.1 | 103.9 | 104.2 | 106.3 | 108.7 | 110.6 | 113.3 | 108.3 | 150.3 |
| 12500 | 95.7  | 97.3  | 98.9  | 99.6  | 101.2 | 102.4 | 103.1 | 104.4 | 107.0 | 109.0 | 111.3 | 106.4 | 149.4 |
| 16000 | 92.8  | 96.1  | 96.7  | 97.8  | 100.1 | 100.9 | 103.0 | 104.5 | 106.7 | 108.5 | 104.6 | 100.4 | 148.4 |
| 20000 | 90.5  | 92.2  | 93.5  | 94.3  | 95.1  | 97.2  | 98.0  | 100.1 | 101.9 | 103.5 | 106.7 | 101.9 | 147.5 |
| 25000 | 86.0  | 89.1  | 89.8  | 90.7  | 92.3  | 94.9  | 95.9  | 96.3  | 99.4  | 100.7 | 102.2 | 98.9  | 146.6 |
| 31500 | 85.0  | 85.8  | 87.0  | 88.5  | 90.0  | 92.2  | 93.4  | 96.0  | 98.4  | 101.0 | 95.4  | 89.2  | 147.1 |
| 40000 | 76.6  | 80.8  | 82.0  | 82.6  | 85.3  | 87.1  | 88.5  | 90.4  | 94.2  | 95.4  | 99.5  | 93.5  | 148.7 |
| 50000 | 72.6  | 77.4  | 76.9  | 78.8  | 80.8  | 83.3  | 85.1  | 86.6  | 90.9  | 94.9  | 97.8  | 91.4  | 151.0 |
| 63000 | 69.6  | 76.3  | 74.8  | 76.4  | 78.4  | 80.0  | 81.8  | 83.3  | 91.3  | 93.1  | 97.0  | 89.5  | 155.2 |
| 80000 | 68.1  | 76.6  | 75.0  | 73.2  | 74.7  | 76.5  | 77.9  | 78.4  | 89.0  | 92.6  | 94.6  | 85.8  | 160.0 |
| GASPL | 115.1 | 115.8 | 115.3 | 115.4 | 115.5 | 116.5 | 117.4 | 119.6 | 122.6 | 128.8 | 132.9 | 131.4 | 128.9 |
| PML   | 127.6 | 128.6 | 128.7 | 128.8 | 130.8 | 130.9 | 132.8 | 135.3 | 140.6 | 145.0 | 141.5 | 138.1 | 138.1 |
| PFLT  | 129.6 | 129.7 | 128.2 | 128.7 | 128.8 | 130.9 | 132.8 | 135.3 | 140.6 | 145.0 | 141.5 | 138.1 | 138.1 |
| DBA   | 115.8 | 116.2 | 115.7 | 115.7 | 115.5 | 116.3 | 117.1 | 119.3 | 122.3 | 128.5 | 132.7 | 130.4 | 127.2 |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NA53-22514

VEHICLE = ADH064 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4  
 IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HG = 29.68 RELHUM = 57.6 PCT  
 WIND DIR = DEG WIND VEL, = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNINI = LBS XNL = RPM XNH = RPM V8 = 2161.4 FPS AE8 = 25.3 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2161.4 FPS AE8 = 25.3 SQ IN  
 RUNPT = 81F-ZER-9415 TAPE = X9415C TEST PT NO = 9415 NC = 862 CORR FAN SPEED = RPM

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OF POOR QUALITY

439

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-9415 X9415F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 86.2 86.7 85.0 84.3 85.1 85.7 85.6 86.8 86.8 89.9 96.8 95.2 94.6 95.8 132.7

63 90.2 92.0 88.8 90.6 91.9 93.0 92.4 91.6 93.6 105.9 99.7 99.2 99.8 139.4

80 91.0 96.6 91.1 92.5 91.1 92.5 94.5 94.6 95.8 97.7 99.8 104.0 105.2 139.8

100 91.1 96.6 92.4 93.4 94.2 94.9 96.5 97.9 95.8 97.2 96.8 100.2 107.1 108.5 109.7 143.3

125 87.4 90.6 92.7 93.9 94.8 96.9 96.8 97.2 96.8 100.2 107.1 108.5 109.7 143.3

150 88.0 86.3 90.6 90.1 90.2 92.1 94.0 94.9 95.6 101.4 106.5 112.4 143.9

200 87.8 88.8 89.8 90.6 92.5 94.8 95.5 97.9 101.3 103.4 108.3 113.0 114.6 146.5

250 87.5 93.1 93.6 93.7 94.8 97.7 100.1 101.6 108.1 113.8 116.7 116.9 150.0

315 89.1 92.1 90.9 92.7 94.3 97.4 99.0 100.9 104.8 111.7 115.3 118.4 151.8

400 90.6 92.9 93.6 93.7 93.8 96.6 99.0 102.4 108.6 115.5 118.8 120.3 118.4 154.1

500 90.4 94.2 93.8 94.0 95.4 97.3 99.9 103.3 108.2 116.8 120.2 121.1 119.0 155.1

630 92.6 94.6 94.6 95.2 96.2 98.1 101.0 104.2 108.4 118.4 123.1 122.0 120.2 156.9

800 96.7 95.2 96.3 96.5 98.1 99.5 101.4 104.8 109.6 119.1 123.0 121.9 119.1 156.9

1000 102.5 103.5 101.0 100.3 100.2 101.0 103.2 105.8 110.6 119.1 123.5 122.7 119.6 157.4

1250 108.1 107.7 106.9 105.2 107.3 107.3 107.3 107.6 108.0 111.2 117.3 120.7 116.7 112.0 154.9

1500 107.9 108.1 107.7 106.9 105.2 107.3 107.3 107.6 108.0 111.2 117.3 120.7 116.7 112.0 154.9

2000 105.4 106.7 106.2 107.3 107.3 107.3 107.6 108.0 111.2 117.3 120.7 116.7 112.0 154.9

2500 105.4 106.7 106.2 107.3 107.3 107.3 107.6 108.0 111.2 117.3 120.7 116.7 112.0 154.9

3150 104.3 105.3 104.6 105.6 107.2 108.5 107.6 108.4 111.4 116.4 120.0 114.7 110.0 154.2

4000 103.7 104.0 103.8 104.5 106.1 106.1 106.8 109.4 111.1 114.3 117.0 113.4 108.6 152.9

5000 101.9 103.5 103.0 103.9 104.9 106.8 109.4 111.1 114.3 117.0 113.4 108.6 152.9

6300 101.0 103.5 102.9 103.4 104.3 105.3 106.3 108.8 110.3 112.6 116.0 111.0 107.1 151.7

8000 98.6 101.0 101.8 101.9 102.7 104.3 105.6 108.0 109.5 111.8 113.5 109.8 105.4 150.6

10000 97.9 97.3 100.4 101.9 102.4 104.1 106.3 108.7 110.6 113.3 108.3 104.6 150.3

12500 95.7 97.3 99.6 101.2 102.4 103.1 104.4 107.0 109.0 111.3 106.4 102.5 149.4

15000 92.8 95.7 96.1 96.7 97.8 100.1 100.9 103.0 104.5 106.7 108.5 104.6 100.4 148.4

20000 90.5 92.2 93.5 94.3 95.1 97.2 98.0 100.1 101.9 103.5 106.7 101.9 96.8 147.5

25000 86.0 89.1 89.8 90.7 92.3 94.3 95.9 96.3 99.4 100.7 102.2 98.9 92.2 146.6

31500 80.5 85.0 85.8 87.0 88.5 90.8 92.2 93.4 96.0 98.4 101.0 95.4 89.2 147.1

40000 76.6 80.8 82.0 82.6 85.3 87.1 88.5 90.4 94.2 95.4 99.5 93.5 85.7 148.7

50000 72.6 77.4 76.9 78.8 80.8 83.3 85.1 86.6 89.0 91.3 93.1 97.0 89.5 151.0

63000 69.6 76.3 74.8 76.4 80.0 81.8 83.3 83.3 86.6 89.0 92.6 94.6 85.8 150.0

80000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

100000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

125000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

150000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

200000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

250000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

315000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

400000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

500000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

630000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

800000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

1000000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

1250000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

1500000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

2000000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

2500000 68.1 76.6 75.0 73.2 74.7 76.5 77.9 78.4 81.8 83.3 86.6 89.0 92.6 150.0

VEHICL = ADH064 TEST DATE = 08-24-81  
IAPLHA = SB59 IEQA = NO  
WIND DIR = DEG WIND VEL = MPH  
FNI1 = LBS XNL RPM XNHR RPM XNH  
FNAMB = LBS XNL RPM XNHR RPM XNH  
RPNFT = 8 :R-9415 TAPE = X9415F TEST PT NO = 9415 NC = 862 CORR FAN SPEED = RPM  
ADH064 = C41 ANECH CH CONFIG = 4 MODEL = 4 PAMB HG = 29.68 RELHUM = 57.6 PCT  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
WIND DIR = DEG WIND VEL = MPH  
VEHICL = ADH064 TEST DATE = 08-24-81  
IAPLHA = SB59 IEQA = NO  
WIND DIR = DEG WIND VEL = MPH  
FNI1 = LBS XNL RPM XNHR RPM XNH  
FNAMB = LBS XNL RPM XNHR RPM XNH  
RPNFT = 8 :R-9415 TAPE = X9415F TEST PT NO = 9415 NC = 862 CORR FAN SPEED = RPM

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

ORIGINAL PAGE IS  
OF POOR QUALITY

OFF

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9415 X94151

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 68.6 72.4 74.2 75.0 75.5 78.5 80.7 83.7 89.2 95.0 96.8 96.1 90.9 171.5

63 68.4 73.7 74.3 75.3 77.1 79.1 81.6 84.6 88.8 96.3 96.9 91.4 172.6

80 70.5 74.1 75.2 76.4 77.9 79.9 82.7 85.4 89.0 97.9 101.0 97.7 174.3

100 74.5 74.6 76.8 77.8 79.8 81.3 83.0 86.0 90.1 98.5 100.8 97.5 174.3

125 80.2 82.8 81.4 81.4 81.7 82.7 84.7 86.9 91.0 98.4 101.2 98.1 174.9

160 81.0 84.4 84.6 85.6 85.6 85.4 88.3 91.7 97.5 101.0 97.1 89.2 174.6

200 86.0 85.7 86.4 85.2 84.0 84.7 86.8 88.3 91.4 96.9 101.2 95.1 87.3 174.4

250 84.9 86.7 87.6 87.5 86.3 84.8 85.5 87.7 91.4 96.8 99.0 92.5 84.0 173.2

315 81.9 85.0 87.6 88.2 87.9 86.9 86.9 88.4 90.8 95.6 97.2 90.6 81.6 172.3

400 80.3 83.2 83.8 85.6 86.7 89.2 88.1 88.4 90.6 94.3 96.0 87.9 78.7 171.6

500 79.3 81.5 82.6 84.3 84.3 86.5 88.4 89.5 89.9 92.2 93.3 86.0 76.2 170.3

1250 71.5 75.5 78.1 80.7 81.6 83.5 83.7 85.2 86.4 86.7 86.9 78.0 67.5 167.7

1600 68.4 72.9 76.1 80.3 81.8 82.3 82.9 84.4 84.5 84.8 84.0 74.8 63.0 166.8

2000 64.6 70.6 73.1 75.0 76.8 79.3 79.9 81.3 81.5 81.6 80.3 71.4 57.8 165.8

2500 60.5 65.9 69.6 71.9 73.6 75.8 76.5 77.7 77.9 77.2 76.7 65.8 49.4 165.0

3150 52.7 60.4 64.0 66.7 69.4 72.3 73.0 72.4 73.6 72.0 68.8 57.8 36.3 164.0

4000 40.9 51.6 56.2 59.7 62.5 65.3 66.3 66.2 66.4 65.0 61.4 45.4 18.9 164.5

5000 27.2 39.8 46.1 49.9 54.4 56.8 57.6 57.7 58.4 54.4 50.1 29.8 166.2

6300 5.4 22.2 29.0 35.4 39.8 43.0 44.1 43.1 43.0 39.7 30.6 3.6 168.5

8000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

10000 177.4 177.4 177.4 177.4 177.4 177.4 177.4 177.4 177.4 177.4 177.4 177.4 177.4 177.4

12500 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

15000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

20000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

25000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

31500 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

40000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

50000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

63000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

80000 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6 172.6

GASPL 91.7 93.9 94.6 95.4 95.8 96.8 97.6 99.3 101.9 107.4 109.9 106.0 99.6 185.7

PNL 95.7 98.6 100.0 101.2 102.1 103.8 104.2 105.6 107.3 110.8 112.7 106.6 98.6

PFLT 96.2 99.2 100.0 101.2 102.1 103.8 104.2 105.6 107.3 111.4 112.7 107.7 98.6

DBA 84.9 88.0 89.3 90.8 91.7 93.2 93.9 95.3 96.5 98.8 100.2 93.5 84.9

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH064 TEST DATE = 08-24-81  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
TAMB F = 80.00 EXT CNFIG = SL  
MODEL = 4 PAMB HG = 29.68 MIKE HT =  
FLTVEL = 0. FPS RELHUM = 57.6 PCT NBRFR =

FNINI = LBS XNL RPM XNH RPM XNHR = = =  
FNRAMB = LBS XNLR RPM XNHR = = =  
CORR FAN SPEED = RPM

RUNPT = 81F-ZER-9415 TAPE = X94151 TEST PT NO = 9415 NC = 862  
CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-9416 X9416C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 88.9  | 87.5  | 83.7  | 82.5  | 82.4  | 85.2  | 85.1  | 87.3  | 89.4  | 100.8 | 95.9  | 95.1  | 98.5  |
| 50    | 89.0  | 89.3  | 89.5  | 87.3  | 88.2  | 91.5  | 90.7  | 91.1  | 92.8  | 110.1 | 100.0 | 98.9  | 98.8  |
| 63    | 89.0  | 89.3  | 89.5  | 87.3  | 88.2  | 91.5  | 90.7  | 91.1  | 92.8  | 110.1 | 100.0 | 98.9  | 98.8  |
| 80    | 91.3  | 96.1  | 90.8  | 91.1  | 92.0  | 94.6  | 95.0  | 94.6  | 95.5  | 95.2  | 97.3  | 99.2  | 102.6 |
| 100   | 91.8  | 96.1  | 91.4  | 92.7  | 93.0  | 93.9  | 95.7  | 96.9  | 94.5  | 95.7  | 98.6  | 103.3 | 105.4 |
| 125   | 88.4  | 90.6  | 91.7  | 92.9  | 93.5  | 95.9  | 95.8  | 95.7  | 95.0  | 98.0  | 105.1 | 107.5 | 108.7 |
| 150   | 87.0  | 83.3  | 88.6  | 88.4  | 88.0  | 89.8  | 91.5  | 92.1  | 93.1  | 98.9  | 104.8 | 108.0 | 111.1 |
| 160   | 87.0  | 83.3  | 88.6  | 88.4  | 88.0  | 89.8  | 91.5  | 92.1  | 93.1  | 98.9  | 104.8 | 108.0 | 111.1 |
| 200   | 86.8  | 86.6  | 87.3  | 87.1  | 88.7  | 91.8  | 92.5  | 95.6  | 98.8  | 100.7 | 106.0 | 111.0 | 113.4 |
| 250   | 84.8  | 88.3  | 89.6  | 89.6  | 92.3  | 94.7  | 97.4  | 98.6  | 98.6  | 105.2 | 110.8 | 114.0 | 114.9 |
| 315   | 85.1  | 88.1  | 87.4  | 88.4  | 90.0  | 93.6  | 95.5  | 98.2  | 102.0 | 108.7 | 113.1 | 116.5 | 114.7 |
| 400   | 87.6  | 88.6  | 89.4  | 89.7  | 90.5  | 93.4  | 96.3  | 100.4 | 106.1 | 113.2 | 116.6 | 117.8 | 114.2 |
| 500   | 87.5  | 90.0  | 90.0  | 91.3  | 92.4  | 94.3  | 97.4  | 100.8 | 105.7 | 114.3 | 118.2 | 117.9 | 111.3 |
| 630   | 88.8  | 90.9  | 91.1  | 91.7  | 93.3  | 95.4  | 98.3  | 101.7 | 105.7 | 115.9 | 120.3 | 118.3 | 109.2 |
| 800   | 92.0  | 93.0  | 92.8  | 92.8  | 94.4  | 96.0  | 98.4  | 101.3 | 106.4 | 115.6 | 120.2 | 116.9 | 105.6 |
| 1000  | 98.0  | 97.8  | 95.3  | 95.3  | 95.9  | 97.0  | 99.4  | 102.3 | 107.4 | 116.1 | 121.0 | 115.7 | 105.1 |
| 1500  | 104.5 | 105.8 | 100.8 | 99.1  | 99.2  | 98.8  | 100.7 | 103.3 | 108.2 | 115.6 | 121.3 | 114.2 | 104.4 |
| 2000  | 103.7 | 105.6 | 106.2 | 106.9 | 106.2 | 102.8 | 102.2 | 104.6 | 109.0 | 116.4 | 119.5 | 112.9 | 103.6 |
| 2500  | 100.7 | 102.5 | 102.5 | 104.0 | 105.9 | 106.7 | 104.8 | 105.0 | 108.3 | 115.3 | 117.7 | 111.5 | 103.5 |
| 3150  | 101.0 | 101.1 | 101.6 | 102.5 | 102.3 | 105.3 | 107.2 | 106.1 | 109.2 | 114.4 | 117.0 | 110.5 | 102.1 |
| 4000  | 99.2  | 100.6 | 100.6 | 100.9 | 102.3 | 105.5 | 107.3 | 109.1 | 112.7 | 114.7 | 108.7 | 100.6 | 150.0 |
| 5000  | 99.2  | 100.5 | 99.8  | 100.7 | 101.4 | 103.1 | 107.1 | 108.9 | 112.8 | 113.6 | 107.1 | 99.7  | 149.5 |
| 6300  | 97.9  | 100.3 | 99.7  | 100.0 | 101.6 | 102.9 | 106.3 | 108.9 | 111.7 | 112.3 | 106.3 | 98.6  | 148.8 |
| 8000  | 96.0  | 98.6  | 98.9  | 99.3  | 99.0  | 101.1 | 102.4 | 104.6 | 107.4 | 110.5 | 104.9 | 97.5  | 148.0 |
| 10000 | 95.6  | 96.8  | 97.8  | 98.3  | 99.3  | 100.5 | 101.1 | 103.5 | 106.6 | 109.3 | 110.0 | 103.9 | 147.6 |
| 12500 | 93.9  | 95.4  | 96.1  | 96.4  | 97.9  | 99.4  | 100.1 | 101.1 | 104.1 | 106.8 | 108.3 | 101.9 | 146.4 |
| 15000 | 90.4  | 93.4  | 93.6  | 95.0  | 96.5  | 100.1 | 102.0 | 103.9 | 104.9 | 103.9 | 104.9 | 93.5  | 145.2 |
| 16000 | 90.7  | 93.3  | 93.6  | 95.0  | 96.5  | 100.1 | 102.0 | 103.9 | 104.9 | 103.9 | 104.9 | 93.5  | 145.2 |
| 20000 | 87.5  | 89.5  | 89.9  | 91.4  | 92.2  | 94.5  | 95.6  | 96.7  | 99.2  | 101.2 | 102.3 | 97.3  | 144.3 |
| 25000 | 83.8  | 86.5  | 86.7  | 87.3  | 89.1  | 91.7  | 93.7  | 93.7  | 96.6  | 97.5  | 99.0  | 94.4  | 143.5 |
| 31500 | 78.5  | 82.5  | 82.5  | 83.3  | 85.0  | 88.1  | 89.0  | 90.5  | 92.4  | 94.7  | 96.1  | 89.9  | 143.1 |
| 40000 | 73.8  | 77.5  | 79.4  | 79.1  | 81.8  | 84.4  | 85.5  | 86.9  | 89.9  | 90.2  | 93.6  | 86.1  | 143.8 |
| 50000 | 69.6  | 73.9  | 73.6  | 74.4  | 77.5  | 80.7  | 81.1  | 81.6  | 85.8  | 89.3  | 91.7  | 82.1  | 145.4 |
| 63000 | 64.3  | 72.9  | 70.5  | 70.9  | 73.1  | 76.5  | 77.6  | 77.8  | 83.2  | 88.6  | 91.1  | 77.7  | 149.3 |
| 80000 | 61.9  | 74.0  | 70.1  | 67.1  | 68.8  | 73.1  | 73.5  | 72.1  | 78.6  | 88.1  | 87.7  | 71.3  | 153.7 |
| GASPL | 112.4 | 113.7 | 113.2 | 113.2 | 113.1 | 113.8 | 114.9 | 116.8 | 120.1 | 126.5 | 130.3 | 127.0 | 122.6 |
| 16000 | 112.4 | 113.7 | 113.2 | 113.2 | 113.1 | 113.8 | 114.9 | 116.8 | 120.1 | 126.5 | 130.3 | 127.0 | 122.6 |
| 20000 | 124.6 | 125.8 | 126.1 | 126.1 | 126.6 | 127.6 | 128.9 | 130.3 | 133.0 | 138.6 | 141.5 | 136.9 | 130.6 |
| 25000 | 124.6 | 125.8 | 126.1 | 126.1 | 126.6 | 127.6 | 128.9 | 130.3 | 133.0 | 138.6 | 141.5 | 136.9 | 130.6 |
| 31500 | 124.6 | 125.8 | 126.1 | 126.1 | 126.6 | 127.6 | 128.9 | 130.3 | 133.0 | 138.6 | 141.5 | 136.9 | 130.6 |
| 40000 | 112.9 | 114.1 | 113.7 | 113.7 | 113.4 | 113.8 | 114.8 | 116.5 | 119.8 | 126.2 | 130.1 | 125.2 | 117.7 |
| DBA   | 112.9 | 114.1 | 113.7 | 113.7 | 113.4 | 113.8 | 114.8 | 116.5 | 119.8 | 126.2 | 130.1 | 125.2 | 117.7 |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH077 TEST DATE = 08-24-81 LCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLVEL = 400. FPS  
 WIND DIR = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.75 RELHUM = 41.6 PCT  
 WIND DIR = DEG WIND VEL. = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBR

FNINI = LBS XNL RPM = X9416C TEST PT NO = 9416 NC = 862 CORR FAN SPEED = RPM  
 FNRAMB = LBS XNLR RPM = X9416C TEST PT NO = 9416 NC = 862 CORR FAN SPEED = RPM  
 V8 = 2167.0 FPS AEB = 25.3 SQ IN V18 = 0. SQ IN  
 V6 = 2167.0 FPS AEB = 25.3 SQ IN V18 = 0. SQ IN

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-9416 X9416F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

FREQ

50

63

100

125

160

200

250

300

350

400

450

500

550

600

650

700

750

800

850

900

950

1000

1100

1200

1300

1400

1500

1600

1700

1800

1900

2000

2100

2200

2300

2400

2500

2600

2700

2800

2900

3000

3100

3200

3300

3400

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9900

10000

10100

10200

10300

10400

10500

10600

10700

10800

10900

11000

11100

11200

11300

11400

11500

11600

11700

11800

11900

12000

12100

12200

12300

12400

12500

12600

12700

12800

12900

13000

13100

13200

13300

13400

13500

13600

13700

13800

13900

14000

14100

14200

14300

14400

14500

14600

14700

14800

14900

15000

15100

15200

15300

15400

15500

15600

15700

15800

15900

16000

16100

16200

16300

16400

16500

16600

16700

16800

16900

17000

17100

17200

17300

17400

17500

17600

17700

17800

17900

18000

18100

18200

18300

18400

18500

18600

18700

18800

18900

19000

19100

19200

19300

19400

19500

19600

19700

19800

19900

20000

20100

20200

20300

20400

20500

20600

20700

20800

20900

21000

21100

21200

21300

21400

21500

21600

21700

21800

21900

22000

22100

22200

22300

22400

22500

22600

22700

22800

22900

23000

23100

23200

23300

23400

23500

23600

23700

23800

23900

24000

24100

24200

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25600

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT., SL

IDENTIFICATION - 81F-400-9416 X94161

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 70.8 74.0 72.9 73.1 74.0 74.0 75.5 77.2 79.7 84.8 91.9 94.3 93.2 86.7 168.5

50 72.7 74.2 74.2 76.0 76.4 78.4 80.4 84.6 93.4 96.6 94.4 86.6 170.0

80 73.0 75.9 76.0 76.9 77.6 79.1 81.0 85.5 93.4 97.0 94.3 85.7 170.2

100 74.3 76.7 76.6 77.8 78.3 79.2 80.5 86.9 94.4 98.5 94.3 87.7 171.3

125 75.7 77.6 77.4 77.0 79.1 79.4 80.3 81.6 87.7 93.9 98.6 93.2 86.9 171.2

150 82.1 82.3 79.6 79.1 82.5 81.2 81.5 82.6 88.4 94.0 98.7 86.6 171.5

200 89.2 90.9 85.7 83.2 84.7 83.3 83.7 84.0 88.7 94.8 97.0 91.4 85.9 171.6

250 90.7 91.5 89.6 89.5 85.3 83.2 84.0 88.3 94.1 95.5 90.3 85.8 171.9

315 85.3 88.4 89.6 90.2 89.6 89.3 85.9 84.6 89.3 93.2 94.8 89.1 84.0 171.3

400 84.3 87.0 87.1 88.2 88.0 88.4 85.7 89.5 91.6 92.4 87.0 81.8 170.2

500 83.9 85.6 85.4 84.7 84.7 85.3 87.0 87.2 88.9 91.2 90.6 84.6 169.4

630 80.9 84.0 84.4 84.6 84.6 84.6 86.8 88.6 88.8 88.9 83.2 77.7 168.6

800 80.1 83.2 83.3 83.5 84.1 84.5 84.1 85.7 87.0 88.4 86.9 81.3 167.9

1000 79.0 83.2 83.6 82.7 83.9 83.6 83.9 83.6 87.1 86.2 80.0 74.3 167.8

1250 76.7 81.2 82.2 82.6 82.8 83.2 82.1 82.6 83.8 84.7 84.4 77.5 166.9

1600 75.2 78.4 80.4 81.0 81.1 81.8 80.9 80.0 82.1 82.1 81.1 75.6 166.2

2000 72.0 75.9 77.8 78.4 78.0 78.7 78.3 79.0 79.7 79.4 78.1 72.0 165.4

2500 66.3 72.3 73.7 74.6 74.7 76.1 75.9 75.0 76.4 74.7 73.3 65.9 164.2

3150 59.5 65.4 67.8 70.2 70.2 72.0 72.5 70.2 70.7 69.9 67.3 56.8 163.4

4000 48.7 56.8 60.0 62.0 63.7 65.6 64.6 63.5 65.1 61.3 59.1 44.6 163.2

5000 35.6 46.9 50.4 52.8 55.4 57.0 56.1 54.4 55.0 52.7 47.1 26.2 163.0

6300 12.7 27.1 34.8 37.5 41.1 43.5 41.5 38.2 41.2 38.8 29.6 167.4

8000 6.8 12.6 18.6 21.5 19.9 15.1 16.8 14.9

10000 171.3

12500 169.1

15000

16000

20000

25000

31500

40000

50000

63000

80000

GASPL 95.5 97.4 97.0 96.6 96.4 96.1 95.7 96.0 99.5 104.3 107.0 102.7 96.3 183.0

PNL 100.5 102.7 103.1 103.0 102.9 103.0 102.9 102.6 105.3 108.2 109.4 104.0 98.0

PNL1 101.6 103.8 103.8 103.5 102.9 103.0 102.9 102.6 105.9 108.7 109.4 104.0 98.0

DBA 89.5 92.2 92.6 92.8 92.4 92.8 92.4 92.7 94.9 96.8 97.2 91.6 86.0

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH077 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4

IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 85.00 MIKE HT = 29.75 PAMB HG = 400. FPS

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL NBFR = 41.6 PCT

FNINI = LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2167.0 FPS AE8 = 25.3 SQ IN

FNRAMB = LBS XNL = RPM XNH = RPM V8 = 2167.0 FPS AE8 = 25.3 SQ IN

RUNPT = 81 0-9416 TAPE = X94161 TEST PT NO = 9416 NC = 862 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-ZER-9421 X9421C  
BACKGROUND 81F-400-0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 86.7 87.2 85.2 85.3 84.6 85.5 85.9 87.5 90.7 99.1 95.4 94.9 96.3 133.8

50 89.7 92.3 89.0 91.3 90.9 92.3 91.4 92.1 94.1 106.1 99.5 98.2 139.4

80 91.3 96.1 90.6 91.4 92.5 95.1 95.2 94.6 95.8 95.9 98.0 100.0 101.6 137.7

100 91.6 96.6 92.1 93.4 93.7 95.4 96.2 97.9 96.0 98.2 99.8 104.0 105.2 139.9

125 87.9 90.9 92.9 94.2 94.8 96.9 97.0 97.2 96.8 100.0 106.9 110.2 143.5

160 88.8 87.1 90.6 90.6 90.2 92.1 94.5 95.1 96.1 101.4 107.0 110.2 144.4

200 86.5 89.1 90.1 91.1 93.0 95.1 95.7 97.9 101.5 104.2 109.0 113.5 115.4 147.1

250 86.0 93.6 93.1 93.4 94.0 95.1 98.2 100.4 101.8 108.9 114.3 117.5 117.6 150.7

315 89.6 92.9 91.6 92.9 94.5 97.6 99.0 101.4 104.8 112.2 115.8 118.8 118.4 152.2

400 90.6 93.4 94.1 93.9 96.3 99.5 103.2 108.9 116.7 119.6 120.8 120.8 118.7 154.7

500 90.6 93.4 94.1 93.9 96.3 99.5 103.2 108.9 116.7 119.6 120.8 120.8 118.7 154.7

600 97.5 96.2 96.3 96.8 97.9 99.8 101.6 105.3 110.4 119.6 123.5 122.1 119.1 157.3

800 92.8 95.1 95.4 95.7 96.7 99.1 101.2 104.9 108.4 119.4 123.3 119.5 123.6 157.3

1000 104.2 104.0 102.3 101.3 101.2 102.0 103.9 106.6 111.3 120.1 123.7 123.4 120.1 158.0

1250 106.2 106.8 104.5 104.3 104.4 104.0 104.7 111.7 111.7 119.9 123.7 122.2 117.2 157.6

1600 110.8 108.8 106.8 107.1 104.2 103.8 106.3 108.2 112.3 119.5 123.6 120.4 115.2 157.3

2000 108.9 109.6 109.7 109.4 108.0 105.6 105.5 107.9 112.3 119.9 121.8 118.1 112.9 156.4

2500 106.7 107.7 107.2 108.3 108.8 109.5 107.5 108.5 112.0 119.3 120.2 117.2 111.7 155.6

3150 104.2 105.2 105.6 106.3 106.6 107.6 110.0 110.4 111.6 115.5 116.8 112.1 107.2 153.0

4000 102.9 104.5 104.7 105.0 105.7 106.6 108.0 110.4 111.6 115.5 116.8 112.1 107.2 153.0

5000 102.9 104.5 104.7 105.0 105.7 106.6 108.0 110.4 111.6 115.5 116.8 112.1 107.2 153.0

6300 102.3 104.2 104.7 105.8 106.6 107.8 110.0 112.0 114.6 115.5 111.2 106.3 152.6

8000 102.3 104.2 104.7 105.8 106.6 107.8 110.0 112.0 114.6 115.5 111.2 106.3 152.6

8000 68.6 76.9 75.5 75.7 76.7 79.3 81.2 82.4 82.4 91.2 94.6 94.6 85.8 72.4 161.2

8000 68.6 76.9 75.5 75.7 76.7 79.3 81.2 82.4 82.4 91.2 94.6 94.6 85.8 72.4 161.2

8000 68.6 76.9 75.5 75.7 76.7 79.3 81.2 82.4 82.4 91.2 94.6 94.6 85.8 72.4 161.2

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| QASPL | 116.6 | 117.1 | 116.9 | 116.9 | 116.9 | 117.9 | 118.7 | 120.4 | 123.5 | 130.1 | 133.0 | 131.8 | 129.0 | 169.2 |
| PML   | 129.8 | 129.7 | 129.5 | 129.9 | 130.2 | 132.1 | 132.2 | 133.6 | 136.2 | 142.2 | 144.9 | 141.9 | 137.9 |       |
| DBA   | 117.3 | 117.5 | 117.3 | 117.2 | 117.0 | 117.8 | 118.5 | 120.1 | 123.2 | 129.9 | 132.8 | 130.8 | 127.1 |       |

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH063 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.68 RELHUM = 57.6 PCT

WIND DIR = DEG WIND VEL. = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

FNINI = LBS XNL = RPM XNHR = RPM V8 = 2214.3 FPS AEB = 25.3 SQ IN CORR FAN SPEED = RPM

RUNPT = 81F-ZER-9421 TAPE = X9421C TEST PT NO = 9421 NC = 862

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-ZER-9421 X9421F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

50 66.7 67.2 65.2 65.3 84.6 85.5 85.9 87.5 90.7 99.1 95.4 94.9 96.3 133.8

63 89.7 92.3 89.0 91.3 90.9 92.3 91.4 92.1 94.1 106.1 99.5 98.2 99.8 139.4

80 91.3 96.1 90.6 91.4 92.5 95.1 95.2 94.6 95.8 95.9 99.8 100.0 101.6 137.7

100 91.6 96.8 92.1 93.4 93.7 95.4 96.2 97.9 96.0 98.2 99.8 104.0 105.2 139.9

125 67.9 90.9 92.9 94.2 94.8 96.9 97.0 97.2 96.8 100.0 106.9 109.0 110.2 143.5

150 88.8 87.1 90.6 90.6 90.2 92.1 94.5 95.1 96.1 101.4 107.0 110.2 112.9 144.4

160 88.8 87.1 90.6 90.6 90.2 92.1 94.5 95.1 96.1 101.4 107.0 110.2 112.9 144.4

200 88.5 89.1 91.1 93.0 93.0 95.1 95.7 97.9 97.9 101.5 104.2 109.0 113.5 115.4 147.1

250 88.0 88.0 93.6 93.1 93.4 94.0 95.1 98.2 100.4 101.8 108.9 114.3 117.5 117.6 150.7

315 89.6 89.6 92.9 91.6 92.9 94.5 97.6 99.0 101.4 104.8 112.2 115.8 118.8 118.4 152.2

400 90.6 93.4 94.1 93.9 94.3 96.9 99.5 103.2 108.9 116.7 119.6 120.8 118.7 154.7

500 91.7 94.2 95.0 95.9 96.0 99.9 99.9 103.5 108.7 117.6 121.5 121.6 118.8 155.8

630 92.8 95.1 95.4 95.7 96.7 99.1 101.2 104.9 108.4 119.4 123.3 122.5 120.2 157.3

800 97.5 96.2 96.3 96.8 97.9 99.8 101.6 105.3 110.4 119.6 123.5 122.1 119.1 157.3

1000 104.2 102.3 101.3 102.0 102.0 102.0 102.0 102.0 102.0 102.0 102.0 102.0 102.0 158.0

1250 106.2 106.8 104.5 104.3 104.4 104.0 104.7 107.1 111.7 119.9 123.7 122.2 117.2 157.6

1500 108.9 109.6 109.4 108.0 105.6 105.5 107.9 112.3 119.9 121.8 119.9 120.2 117.2 156.4

2000 106.7 107.7 107.2 108.3 108.8 109.5 109.5 108.5 108.5 112.0 119.3 120.2 117.2 155.6

2500 106.7 107.7 107.2 108.3 108.8 109.5 109.5 108.5 108.5 112.0 119.3 120.2 117.2 155.6

3150 106.0 106.8 106.1 106.6 107.2 109.8 109.6 109.4 112.4 119.9 120.0 114.9 110.0 154.9

4000 104.2 105.2 105.8 106.3 105.6 107.6 110.0 110.8 112.3 116.5 117.5 113.9 108.6 153.7

5000 102.3 104.2 104.2 104.7 105.0 106.6 107.8 110.0 112.0 114.6 115.5 111.2 106.3 152.6

6300 102.3 104.2 104.2 104.7 105.0 106.6 107.8 110.0 112.0 114.6 115.5 111.2 106.3 152.6

8000 100.6 102.5 103.3 103.7 103.9 106.0 106.8 108.5 111.0 113.6 113.2 110.1 105.1 151.6

10000 98.9 100.6 101.9 102.6 103.9 105.9 105.9 108.1 109.9 112.6 112.8 109.0 104.9 151.3

12500 97.4 99.6 101.0 102.6 104.6 106.6 106.6 108.0 110.5 110.8 106.9 102.2 150.2

15000 94.1 96.9 98.5 99.3 99.3 101.3 102.4 104.2 105.5 108.2 108.3 104.4 99.6 149.2

20000 91.5 93.7 95.3 95.6 96.9 98.7 99.8 101.3 103.4 105.5 106.2 102.1 97.3 148.5

25000 87.5 91.7 94.3 96.7 97.7 98.1 100.9 103.0 102.2 98.6 92.4 147.9

31500 82.8 87.0 87.6 88.5 90.2 93.1 94.0 95.4 97.7 101.2 100.5 95.7 89.0 148.4

40000 78.3 82.8 84.5 84.6 87.0 89.6 90.0 92.4 96.0 96.6 99.3 94.5 85.9 150.2

50000 74.9 79.4 80.4 80.8 82.5 86.3 86.6 88.3 93.7 97.4 97.3 91.2 81.4 152.3

63000 70.3 76.8 78.1 78.2 79.8 82.5 83.2 86.1 93.6 95.6 97.5 88.8 78.9 156.6

80000 66.6 76.9 76.9 75.5 75.7 76.7 79.3 81.2 82.4 91.2 94.6 94.6 85.8 72.4 161.2

GASPL 116.6 117.1 116.9 116.9 116.9 117.9 118.7 120.4 123.5 130.1 133.0 131.8 129.0 169.2

PNL 128.8 129.7 129.5 129.9 130.2 131.6 132.2 133.6 136.2 142.2 144.3 141.9 137.9

PFLT 129.8 130.3 129.5 129.9 130.2 132.1 132.2 133.6 136.2 142.2 144.9 141.9 137.9

DBA 189.4 197.4 196.4 196.4 197.7 200.3 202.1 203.5 212.0 215.2 215.4 206.7 194.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/MAS3-22514

VEHICL = ADH063 TEST DATE = 08-24-81 LOCAT = C41 ANECH CH CNFIG = 4 MODEL = 4 FLTVL = 0. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.68 RELHUM = 57.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH RPM XNHR = XNHR RPM V8 = 2214.3 FPS AE8 = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR = XNHR RPM V8 = 2214.3 FPS AE8 = 25.3 SQ IN

RUNPT = ZER-9421 TAPE = X9421F TEST PT NO = 9421 NC = 862 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM - P118-02

447

DATPROC - FILTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 81F-ZER-9421 X94211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 68.6 72.9 74.7 75.2 76.0 78.7 81.2 84.5 89.5 96.2 97.6 96.6 91.1 172.2

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

63 69.7 73.7 74.8 76.3 77.6 79.8 81.6 84.8 89.3 97.1 99.4 97.4 91.2 173.3

80 70.7 74.6 75.9 76.9 78.4 80.9 82.9 86.2 89.0 98.9 101.2 98.2 92.5 174.7

100 75.3 75.6 76.8 78.0 79.5 81.5 83.3 86.5 89.0 99.9 101.3 97.7 91.2 174.7

125 81.9 83.3 82.7 82.4 82.7 83.7 85.5 87.7 91.7 99.4 101.4 98.8 92.0 175.5

150 83.8 85.9 84.8 85.3 85.9 85.6 86.1 88.1 92.0 99.0 101.3 97.4 88.7 175.0

200 88.0 88.9 88.0 88.5 88.2 87.6 89.1 92.4 98.4 100.9 95.3 86.3 174.7

250 85.9 88.2 89.6 90.0 89.0 86.8 86.5 88.5 92.1 98.6 98.7 92.5 83.3 173.8

315 83.2 86.0 86.8 89.7 90.4 88.4 88.9 91.5 97.6 96.7 91.1 81.4 173.0

400 82.0 84.7 85.3 86.6 87.7 90.4 90.1 89.4 91.6 95.8 96.0 88.2 78.7 172.4

500 79.8 82.8 84.6 86.0 85.8 88.0 90.2 90.5 91.2 94.0 93.0 86.5 76.2 171.2

630 78.0 81.6 83.3 84.4 85.6 86.8 88.0 89.8 90.2 92.7 91.8 84.0 73.8 170.4

800 76.9 81.0 82.4 83.6 85.6 86.4 87.5 89.2 90.3 91.4 90.0 82.4 71.8 170.0

1000 74.8 79.0 81.3 82.7 83.5 85.8 86.4 87.5 89.0 90.1 87.4 80.6 69.4 169.0

1250 72.5 76.7 79.6 81.5 83.3 85.5 84.9 86.9 87.7 88.7 86.4 78.7 67.7 168.8

1500 70.2 74.6 77.7 79.1 81.1 83.5 83.8 84.1 85.4 86.0 83.5 75.3 62.7 167.6

1600 70.2 74.6 77.7 79.1 81.1 83.5 83.8 84.1 85.4 86.0 83.5 75.3 62.7 167.6

2000 65.8 71.8 74.9 76.8 78.3 80.5 81.4 82.5 82.5 83.1 80.1 80.1 57.1 166.7

2500 61.5 67.4 71.4 73.2 75.3 77.3 78.2 78.9 79.4 79.2 76.2 66.0 49.9 165.9

3150 54.2 62.4 65.8 67.7 71.4 74.0 74.7 74.1 75.1 74.2 68.8 57.6 36.6 165.4

4000 43.2 53.6 57.9 61.2 64.3 67.6 68.0 68.2 68.1 67.7 60.9 45.7 18.6 165.9

5000 29.0 41.8 48.6 51.9 56.1 59.3 59.1 59.7 60.1 57.6 49.9 30.8 167.6

6300 29.0 41.8 48.6 51.9 56.1 59.3 59.1 59.7 60.1 57.6 49.9 30.8 167.6

8000 7.7 24.2 32.5 37.4 41.5 46.0 45.6 44.9 45.8 42.2 30.1 3.4 174.1

8000 7.7 24.2 32.5 37.4 41.5 46.0 45.6 44.9 45.8 42.2 30.1 3.4 174.1

GASPL 93.3 95.2 96.2 96.9 97.2 98.3 98.8 100.1 102.7 108.7 110.1 106.4 99.5 186.4

PNL 97.3 100.0 101.6 102.6 103.6 105.2 105.6 106.6 108.3 112.4 112.6 107.0 98.7

PMLT 97.9 100.0 101.6 102.6 103.6 105.2 105.6 106.6 108.3 113.0 112.6 108.4 98.7

DBA 86.2 89.2 89.2 90.9 92.2 93.2 94.8 95.3 96.4 97.6 100.5 100.0 93.8 84.6

MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.442 FREQ SHIFT = -9

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH063 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONFIG = 4 MODEL = 4 FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.68 RELHUM = 57.6 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF

FNINI = LBS XNL RPM XNH RPM = V8 = 2214.3 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM = V8 = 2214.3 FPS AEB = 25.3 SQ IN

RUNPT = 81F-ZER-9421 TAPE = X94211 TEST PT NO = 9421 NC = 862 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 81F-400-9422 X9422C  
BACKGROUND 81F-400-0400 X04000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
FREQ

88.7 87.5 83.5 82.8 82.9 85.7 85.6 87.5 90.2 96.8 96.2 95.4 98.8 133.5

63 69.5 69.8 69.5 67.3 88.9 92.3 91.2 90.8 93.8 105.1 99.5 98.7 100.1 138.7

80 92.3 96.3 91.6 91.9 92.7 95.3 95.5 94.6 96.3 96.3 95.7 98.0 100.2 102.9 138.1

100 92.3 96.3 91.6 93.2 93.5 94.4 96.5 97.2 95.3 96.4 99.3 103.8 105.7 139.6

125 88.6 91.4 91.9 93.4 94.5 96.4 96.3 96.2 95.8 99.0 105.9 108.3 110.0 142.8

160 87.0 84.6 89.3 88.9 90.2 90.8 88.5 90.2 92.0 93.8 108.7 111.9 143.1

200 86.8 86.8 87.1 87.6 88.7 91.8 93.0 95.9 99.3 101.7 106.3 111.5 113.6 145.0

250 85.3 89.1 88.8 90.4 90.2 92.3 95.0 97.6 99.8 106.2 112.0 115.2 115.1 148.3

315 85.6 88.4 88.1 88.7 90.3 93.9 96.0 98.4 103.0 110.0 113.8 117.3 115.7 150.1

400 87.8 89.1 89.9 90.2 90.8 94.4 96.8 100.2 106.4 113.7 117.1 118.8 114.2 152.1

500 87.5 89.2 90.5 92.0 92.6 94.5 97.6 101.3 106.2 114.8 119.0 118.6 112.1 152.8

630 88.8 91.1 92.1 91.9 93.0 95.1 98.8 102.2 106.4 116.2 121.1 118.3 109.4 153.9

800 94.2 95.2 96.3 96.8 94.3 96.5 98.6 102.3 106.3 116.1 121.2 116.9 106.1 153.8

1000 100.5 99.3 96.3 96.6 96.7 97.5 99.7 103.3 108.4 116.6 121.2 115.2 105.6 153.7

1250 106.7 108.0 103.3 100.6 99.9 99.5 100.9 103.8 108.7 116.4 122.0 114.4 104.9 154.4

1500 108.3 108.6 109.6 108.4 104.0 101.6 103.3 104.7 109.4 116.0 122.1 114.5 105.0 154.8

2000 104.4 106.6 107.0 108.6 108.2 105.8 102.7 105.4 109.8 116.2 120.3 113.1 104.4 153.9

2500 102.7 103.2 103.5 105.3 106.4 108.2 107.1 106.0 109.3 115.8 118.4 112.0 103.8 152.8

3150 102.3 103.3 101.8 102.6 102.7 106.0 108.4 107.4 109.7 114.6 118.0 110.7 102.6 152.2

4000 101.5 102.6 101.8 102.6 103.1 106.0 108.8 109.6 113.5 115.5 108.7 101.1 150.8

5000 100.4 101.8 101.0 101.5 102.0 102.4 104.3 107.9 109.9 113.3 114.1 107.4 100.2 150.2

6300 99.9 101.3 101.0 101.7 102.6 103.9 107.1 109.4 111.5 113.3 106.8 98.9 149.5

8000 97.7 99.9 100.4 100.5 100.8 102.1 103.2 105.9 108.6 110.5 111.3 104.2 97.5 148.7

10000 96.6 98.8 98.8 98.8 98.8 98.8 100.0 101.8 102.1 104.7 107.9 109.3 110.0 148.2

12500 94.7 96.4 97.4 97.6 98.7 100.4 101.4 102.6 105.3 107.8 108.3 102.7 95.7 147.3

16000 91.7 94.4 94.8 95.1 96.2 97.2 99.1 101.6 102.7 104.9 105.4 100.3 93.7 146.1

20000 88.8 91.0 92.4 93.4 95.5 96.8 98.8 99.8 100.7 101.7 103.6 97.6 91.1 145.3

25000 85.0 88.0 88.2 88.3 90.8 93.2 94.4 97.8 99.5 99.5 99.6 95.1 87.1 144.7

31500 79.5 83.9 84.0 84.3 86.7 89.1 90.7 92.0 94.1 96.5 97.4 90.7 82.9 144.6

40000 75.0 79.5 80.4 80.9 82.8 85.6 86.8 88.2 91.9 92.0 95.1 86.9 78.3 145.3

50000 70.6 75.1 75.6 75.9 78.0 81.5 82.3 83.4 87.9 90.0 93.4 82.1 72.3 146.8

63000 65.3 73.1 72.0 72.7 74.1 77.5 78.6 79.1 86.4 88.7 91.8 78.0 67.1 150.2

80000 61.7 74.6 71.1 68.6 70.0 74.2 74.3 73.3 80.6 87.8 89.2 72.4 58.5 154.4

GASPL 114.0 115.2 114.6 114.9 114.3 115.0 115.9 117.8 120.9 126.9 131.0 127.4 123.1 165.6

PML 126.0 127.0 127.6 127.4 128.5 129.4 129.9 131.3 133.6 139.0 142.3 137.2 131.1

DBA 114.5 115.6 115.1 115.3 114.6 115.1 115.8 117.5 120.6 126.6 130.8 125.4 118.2

NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH078 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CONF10 = 4 MODEL = 4  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT  
MIND DIR = DEG MIND VEL = MPH EXT DIST = 40.0 FT EXT CONF10 = ARC MIKE HT = NBRF =  
FNINI = LBS XNL RPM XNH RPM = V8 = 2201.0 FPS AEB = 25.3 SQ IN  
FNRAMB = LBS XNLR RPM XNHR RPM = V18 = 2201.0 FPS AE18 = 0. SQ IN  
RUMPT = 81 400-9422 TAPE = X9422C TEST PT NO = 9422 NC = 662 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 81F-400-9422 X9422F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 63 80 100 125 150 160 PML

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250   | 92.6  | 95.1  | 93.5  | 91.8  | 92.3  | 93.1  | 94.0  | 99.5  | 105.6 | 108.9 | 112.8 | 113.1 | 146.2 |
| 315   | 92.6  | 95.1  | 93.5  | 92.1  | 92.6  | 94.1  | 94.7  | 95.6  | 104.1 | 110.6 | 113.6 | 114.0 | 149.5 |
| 400   | 93.3  | 94.8  | 93.1  | 92.1  | 92.6  | 94.6  | 96.0  | 98.2  | 104.7 | 112.8 | 117.0 | 118.1 | 151.7 |
| 500   | 95.4  | 95.4  | 94.8  | 93.6  | 94.5  | 94.8  | 96.9  | 99.6  | 104.7 | 114.1 | 119.2 | 118.6 | 152.9 |
| 630   | 95.1  | 96.6  | 95.5  | 94.9  | 95.5  | 95.5  | 97.9  | 100.1 | 106.1 | 114.3 | 120.0 | 118.5 | 153.8 |
| 800   | 96.2  | 97.3  | 97.0  | 95.3  | 96.5  | 97.0  | 97.8  | 100.2 | 107.4 | 115.5 | 120.8 | 118.2 | 154.0 |
| 1000  | 99.5  | 99.8  | 98.5  | 97.0  | 98.3  | 98.2  | 99.0  | 101.4 | 107.7 | 115.2 | 121.5 | 117.4 | 154.2 |
| 1250  | 107.5 | 105.1 | 100.7 | 99.5  | 101.9 | 100.3 | 102.0 | 108.6 | 115.1 | 121.9 | 117.8 | 115.8 | 154.7 |
| 1500  | 114.2 | 114.3 | 108.2 | 104.0 | 106.6 | 102.6 | 103.0 | 103.1 | 109.4 | 115.7 | 120.8 | 116.8 | 155.0 |
| 2000  | 118.5 | 117.3 | 116.2 | 113.0 | 110.7 | 102.7 | 104.1 | 109.4 | 115.8 | 119.2 | 116.3 | 115.5 | 156.6 |
| 2500  | 110.5 | 112.0 | 111.6 | 112.2 | 109.3 | 109.8 | 107.4 | 105.2 | 110.2 | 115.0 | 119.2 | 115.4 | 154.8 |
| 3150  | 110.3 | 109.8 | 108.9 | 109.4 | 105.8 | 108.0 | 109.1 | 106.9 | 110.7 | 114.4 | 112.0 | 113.6 | 153.4 |
| 4000  | 108.7 | 109.2 | 106.9 | 106.7 | 105.0 | 105.7 | 107.3 | 108.9 | 111.0 | 114.2 | 115.5 | 112.2 | 152.6 |
| 5000  | 107.1 | 107.6 | 106.6 | 106.6 | 105.9 | 105.4 | 105.9 | 108.1 | 110.6 | 112.4 | 114.8 | 111.8 | 151.8 |
| 6300  | 106.7 | 107.7 | 106.3 | 106.1 | 105.6 | 105.6 | 105.4 | 107.3 | 110.0 | 111.6 | 113.1 | 110.4 | 151.3 |
| 8000  | 106.5 | 106.4 | 106.3 | 104.8 | 104.8 | 104.8 | 106.2 | 109.5 | 110.7 | 112.1 | 109.7 | 110.5 | 151.1 |
| 10000 | 104.9 | 106.3 | 105.9 | 105.1 | 104.8 | 103.7 | 105.1 | 107.3 | 109.5 | 110.7 | 108.5 | 109.0 | 150.4 |
| 12500 | 103.4 | 104.4 | 104.0 | 104.1 | 102.7 | 103.4 | 102.9 | 103.0 | 105.4 | 107.4 | 108.7 | 106.9 | 149.5 |
| 15000 | 101.0 | 102.0 | 102.1 | 101.4 | 100.3 | 100.2 | 100.8 | 102.2 | 103.7 | 104.5 | 107.1 | 104.6 | 148.7 |
| 20000 | 97.6  | 99.5  | 99.1  | 98.5  | 98.5  | 98.5  | 98.6  | 101.3 | 102.7 | 103.7 | 102.5 | 101.9 | 147.7 |
| 25000 | 94.1  | 95.6  | 95.9  | 95.1  | 94.9  | 96.2  | 96.0  | 95.0  | 98.1  | 100.2 | 101.6 | 98.3  | 147.1 |
| 31500 | 89.6  | 91.8  | 91.1  | 90.2  | 91.3  | 92.1  | 92.1  | 92.1  | 96.6  | 99.3  | 94.9  | 94.9  | 147.1 |
| 40000 | 86.0  | 89.2  | 87.8  | 86.5  | 87.4  | 88.6  | 88.2  | 88.3  | 92.8  | 94.5  | 98.2  | 89.9  | 148.2 |
| 50000 | 81.1  | 84.3  | 83.8  | 82.7  | 82.6  | 84.5  | 83.8  | 83.4  | 92.3  | 94.1  | 97.6  | 86.7  | 150.9 |
| 63000 | 75.7  | 79.0  | 78.0  | 76.8  | 78.7  | 80.5  | 80.0  | 79.1  | 86.0  | 94.7  | 96.5  | 82.6  | 154.7 |
| 80000 | 68.9  | 75.6  | 72.9  | 72.1  | 74.0  | 77.2  | 75.7  | 73.3  | 78.2  | 84.9  | 86.6  | 72.8  | 152.5 |
| DBA   | 191.3 | 196.8 | 194.7 | 193.7 | 195.4 | 198.3 | 197.0 | 195.1 | 201.7 | 208.0 | 209.9 | 196.4 | 190.1 |
| PNL   | 134.6 | 134.3 | 132.9 | 131.5 | 129.7 | 129.7 | 129.8 | 130.2 | 133.7 | 137.9 | 141.6 | 138.7 | 137.8 |
| PFLT  | 136.7 | 135.7 | 135.6 | 133.1 | 129.7 | 129.7 | 129.8 | 130.2 | 133.7 | 137.9 | 141.6 | 138.7 | 137.8 |
| GASPL | 121.9 | 121.7 | 120.1 | 118.8 | 117.2 | 116.8 | 116.5 | 117.2 | 121.1 | 126.2 | 130.6 | 128.2 | 126.5 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514

VEHICL = ADH078 TEST DATE = 08-24-81 LOCAL = C41 ANECH CH CNF10 = 4 MODEL = 4 FLTVL = 400. FPS IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 85.00 PAMB HG = 29.71 RELHUM = 41.7 PCT WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF10 = ARC MIKE HT = NBR

FNINI = LBS XNL RPM XNH XNHR = RPM XNHLR = LBS XNL RPM XNHR = RPM V8 = 2201.0 FPS AE8 = 25.3 SQ IN FNRAMB = LBS XNLR = RPM V8 = 2201.0 FPS AE8 = 25.3 SQ IN

RUNPT = 81F-400-9422 TAPE = X9422F TEST PT NO = 9422 NC = 862 CORR FAN SPEED = RPM

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT., SL

IDENTIFICATION - 81F-400-9422 X94221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 71.3 | 74.3 | 78.7 | 73.4 | 74.3 | 76.5 | 77.7 | 79.6 | 85.3 | 92.4 | 95.0 | 93.9 | 87.4  | 169.1 |
| 63    | 73.4 | 74.9 | 75.4 | 74.9 | 76.2 | 76.7 | 78.6 | 80.9 | 85.3 | 93.6 | 97.2 | 94.3 | 86.8  | 170.3 |
| 80    | 73.0 | 76.1 | 76.8 | 76.6 | 77.3 | 79.5 | 81.4 | 86.7 | 93.8 | 97.9 | 94.2 | 86.1 | 170.7 |       |
| 100   | 74.0 | 76.7 | 77.5 | 76.6 | 80.1 | 78.8 | 79.4 | 87.9 | 94.9 | 98.7 | 93.8 | 88.2 | 171.5 |       |
| 125   | 77.2 | 79.1 | 78.9 | 78.1 | 79.9 | 79.9 | 80.5 | 82.6 | 88.1 | 94.5 | 99.2 | 92.9 | 87.3  | 171.6 |
| 150   | 85.1 | 84.2 | 80.9 | 80.5 | 83.3 | 81.9 | 81.8 | 83.0 | 88.9 | 94.3 | 99.5 | 92.9 | 87.3  | 172.2 |
| 200   | 91.5 | 93.3 | 88.3 | 84.8 | 87.9 | 84.0 | 84.2 | 84.0 | 89.5 | 94.6 | 97.8 | 91.7 | 86.7  | 172.5 |
| 250   | 95.4 | 96.0 | 96.1 | 93.6 | 91.7 | 88.3 | 83.7 | 84.7 | 89.2 | 94.5 | 96.2 | 90.7 | 86.0  | 174.0 |
| 315   | 87.0 | 90.4 | 91.1 | 92.5 | 90.1 | 90.8 | 88.2 | 85.5 | 89.8 | 93.4 | 95.7 | 89.3 | 84.4  | 172.3 |
| 400   | 86.3 | 87.7 | 88.1 | 89.5 | 86.3 | 88.7 | 89.6 | 87.0 | 89.9 | 92.3 | 93.1 | 86.9 | 82.2  | 170.9 |
| 500   | 84.2 | 86.7 | 85.7 | 86.4 | 85.3 | 86.1 | 87.5 | 88.7 | 89.9 | 91.7 | 91.1 | 84.8 | 80.2  | 170.0 |
| 630   | 82.2 | 84.7 | 85.1 | 86.1 | 85.8 | 85.6 | 85.8 | 87.6 | 89.1 | 89.5 | 89.9 | 83.7 | 77.9  | 169.3 |
| 800   | 81.3 | 84.5 | 84.6 | 85.2 | 85.3 | 85.5 | 85.1 | 86.5 | 88.3 | 88.4 | 87.7 | 81.6 | 76.4  | 168.7 |
| 1000  | 80.6 | 83.9 | 84.4 | 85.3 | 84.4 | 84.9 | 84.3 | 85.2 | 87.5 | 87.2 | 86.2 | 80.3 | 74.8  | 168.5 |
| 1250  | 78.5 | 82.4 | 83.7 | 83.9 | 83.5 | 84.4 | 83.2 | 83.9 | 85.0 | 85.6 | 84.3 | 78.2 | 71.8  | 167.8 |
| 1500  | 76.2 | 79.9 | 81.4 | 82.5 | 81.8 | 82.8 | 82.1 | 81.5 | 82.8 | 83.0 | 81.4 | 75.3 | 68.2  | 166.9 |
| 1600  | 76.2 | 79.9 | 81.4 | 82.5 | 81.8 | 82.8 | 82.1 | 81.5 | 82.8 | 83.0 | 81.4 | 75.3 | 68.2  | 166.9 |
| 2000  | 72.8 | 76.9 | 79.1 | 79.6 | 79.3 | 79.4 | 79.8 | 80.4 | 80.7 | 79.4 | 78.9 | 71.3 | 62.8  | 166.1 |
| 2500  | 67.6 | 73.3 | 75.2 | 76.1 | 75.9 | 77.1 | 76.9 | 76.2 | 77.4 | 76.4 | 73.7 | 66.4 | 54.5  | 165.2 |
| 3150  | 60.7 | 66.9 | 70.1 | 71.2 | 71.9 | 73.5 | 73.1 | 71.0 | 72.4 | 71.4 | 68.2 | 57.2 | 42.2  | 164.6 |
| 4000  | 50.0 | 58.3 | 61.5 | 63.0 | 65.4 | 66.6 | 66.3 | 64.9 | 67.0 | 62.8 | 60.3 | 44.9 | 23.5  | 164.6 |
| 5000  | 36.6 | 48.1 | 51.9 | 53.8 | 56.4 | 58.2 | 57.3 | 55.6 | 57.0 | 53.5 | 48.8 | 26.2 |       | 165.6 |
| 6300  | 13.9 | 29.1 | 35.8 | 39.3 | 41.6 | 44.3 | 42.8 | 39.9 | 44.4 | 38.8 | 30.4 |      |       | 168.3 |
| 8000  |      |      | 8.8  | 14.1 | 19.6 | 22.5 | 20.9 | 16.4 | 18.8 | 14.7 |      |      |       | 172.1 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 170.0 |

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|   |   |                        |                       |
|---|---|------------------------|-----------------------|
| MODEL AREA = 163.1 SQ CM ( 25.3 SQ IN )               | SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) | DIAMETER RATIO = 7.442 | FREQ SHIFT = -9       |
| NASA SHOCK CELL/ANNULAR C-D PLUG NOZ. SC-4/NAS3-22514 |   |                        |                       |
| VEHICL = ADH078                                       | TEST DATE = 08-24-81                      | LOCAT = C41 ANECH CH   | CONFIG = 4            |
| IAPLHA = SB59   | IEGA / = NO                               | PWL AREA = FULL SPHERE | TAMB F = 85.00        |
| MIND DIR =  | DEG WIND VEL =                            | EXT DIST = 2400.0 FT   | EXT CONFIG = SL       |
| FNINI =   | LBS XNLR =                                | RPM XNHR =             | V8 = 2201.0 FPS       |
| FNRAMB =  | LBS XNLR =                                | RPM XNHR =             | V8 = 2201.0 FPS       |
|   |   |                        | AEB AE18 = 25.3 SQ IN |
|   |   |                        | AEB AE18 = 0. SQ IN   |
| RUNPT = 8   | 00-9422 TAP                               | = X94221               | TEST PT NG = 9422     |
|   |   |                        | NC = 862              |
|   |   |                        | CORR FAN SPEED =      |
|   |   |                        | RPM                   |

#### 4.6 Acoustic Data of Model 5

DATPROC - FLIRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0507 X0507C

BACKGROUND 0000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.0 84.1 86.8 80.9 84.0 81.1 85.5 85.9 77.6 85.2 88.5 88.0 89.6 127.1

63 83.7 93.5 95.3 87.8 89.4 89.0 95.9 84.6 84.0 93.3 92.0 90.9 94.3 134.7

80 86.2 91.5 88.2 88.8 88.4 90.2 90.9 90.5 84.7 90.1 93.2 95.9 96.8 132.9

100 86.5 93.5 89.3 87.8 91.9 91.5 92.6 93.8 84.5 94.1 97.5 100.7 101.8 135.3

125 83.1 88.1 90.2 91.8 92.4 93.5 93.2 87.7 87.7 95.7 101.1 103.8 105.0 138.4

160 83.5 83.3 88.3 89.3 87.7 88.3 98.9 90.8 86.3 95.9 102.0 105.2 107.1 139.7

200 84.3 84.9 87.4 89.3 90.6 94.3 92.9 90.1 98.4 103.1 107.0 108.7 140.9

250 84.8 88.1 86.1 94.1 88.7 90.3 93.2 95.4 90.6 103.1 108.5 111.2 114.6

315 84.0 88.1 88.6 95.6 91.2 92.6 95.2 95.6 92.3 104.9 109.0 112.2 116.1 145.5

400 84.9 88.7 89.4 96.7 91.1 91.7 100.3 96.5 93.7 106.8 110.6 112.8 117.7 145.5

500 85.4 88.5 89.3 97.5 91.1 92.7 95.1 97.0 94.3 106.6 111.0 112.6 117.5 146.4

630 86.0 89.0 90.8 98.4 92.2 94.1 95.9 98.1 94.6 106.9 109.8 111.9 117.4 145.9

800 84.0 88.1 88.6 95.6 91.2 92.6 95.2 95.6 92.3 104.9 109.0 112.2 116.1 145.5

1000 91.5 92.8 93.6 99.9 94.5 95.6 98.0 100.1 96.8 106.7 107.5 108.2 107.4 144.1

1250 89.8 95.0 94.8 100.4 94.9 96.6 98.9 99.9 97.1 106.4 106.8 106.4 106.7 143.7

1600 90.6 94.0 94.4 101.5 96.6 97.9 99.5 101.3 97.7 105.3 105.9 105.5 105.5 143.6

2000 90.3 93.7 95.1 102.0 95.6 97.2 99.4 102.2 97.6 105.9 105.9 105.5 105.5 143.6

2500 90.8 94.8 95.1 101.9 96.3 98.4 100.3 102.7 98.3 106.8 105.3 105.2 104.7 143.9

3150 91.6 94.9 95.5 102.7 97.3 99.4 101.8 103.2 99.3 107.1 106.7 106.3 106.7 144.8

4000 91.0 94.4 96.3 103.3 97.1 99.1 102.0 104.5 99.9 106.9 106.9 107.4 107.2 145.3

5000 92.1 96.0 96.9 103.9 98.1 99.8 102.7 105.8 101.0 109.1 110.2 108.3 107.5 147.1

6300 95.7 99.5 98.5 104.3 99.0 99.9 103.0 106.1 101.4 108.5 110.1 108.3 107.8 147.8

8000 98.3 103.1 102.0 104.0 101.8 103.0 105.0 101.1 108.0 108.2 107.2 106.2 105.0 147.9

10000 98.8 105.2 105.8 104.0 101.8 103.0 105.0 101.1 108.0 108.2 107.2 106.2 105.0 147.9

12500 98.7 100.6 104.7 102.7 103.5 102.7 102.5 103.7 100.3 105.7 106.2 105.0 104.0 147.9

15000 93.5 98.4 100.6 100.5 103.8 103.1 102.2 98.5 102.8 104.3 102.9 101.6 101.6 147.7

16000 93.5 98.4 100.6 100.5 103.8 103.1 102.2 98.5 102.8 104.3 102.9 101.6 101.6 147.7

20000 92.4 96.5 98.6 97.9 100.5 102.5 100.4 95.3 100.9 102.2 101.0 98.9 147.6

25000 89.3 94.3 96.6 96.6 99.6 99.7 100.3 94.6 99.8 100.9 98.4 95.7 148.2

31500 84.3 89.3 92.0 92.2 94.5 95.8 95.1 94.7 90.8 96.6 97.5 93.9 147.1

40000 81.0 87.4 90.6 90.2 93.3 93.2 90.4 88.7 95.0 96.6 91.9 86.5 149.4

50000 78.3 84.9 88.4 90.2 90.9 90.4 86.6 93.8 94.4 90.0 82.7 151.6

63000 74.7 82.5 85.5 86.4 86.7 88.4 87.1 88.1 84.7 92.6 93.5 87.1 154.8

80000 68.4 79.5 83.0 83.1 83.4 85.1 82.9 84.1 81.5 90.2 90.6 83.1 158.5

DBA 104.3 108.7 108.9 113.8 108.5 109.9 112.4 114.7 110.5 118.8 119.9 120.0 119.4

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH175 TEST DATE = 6-30-82 LCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 0. FPS

IAPLHA = SB59 LEGA = NG PML AREA = FULL SPHERE TAMB F = 72.00 MIKE HT = 29.35 RELHUM = 69.1 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.35 RELHUM = 69.1 PCT

FMINI = LBS XNL RPM XNH RPM XNHR = RPM V8 = 2377.8 FPS AE8 = 19.9 SO IN

FMRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2377.8 FPS AE18 = 0. SO IN CORR FAN SPEED = RPM

RUNPT = 82F-ZER-0507 TAPE = X0507C TEST PT NO = 0507 NC = AE049 CORR FAN SPEED = RPM

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DATPRCC - FLIRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0507 X0507F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

81.0 84.1 86.6 80.9 84.0 81.1 85.5 85.9 87.6 85.2 88.5 88.0 89.6 127.1

53 83.7 93.5 95.3 87.8 92.4 89.0 95.9 94.6 84.6 87.0 93.3 93.0 94.3 134.7

80 86.2 91.5 88.2 88.8 88.4 90.2 90.9 90.5 84.7 90.1 93.2 95.9 96.8 132.9

100 86.5 93.5 89.3 87.8 91.9 91.5 92.6 93.8 84.5 94.1 97.5 100.7 101.8 136.3

125 83.1 88.1 90.2 91.8 92.4 93.5 93.2 87.7 95.7 101.1 103.8 105.0 138.4

160 83.5 83.3 88.3 89.3 87.7 88.3 90.8 90.8 86.3 96.9 102.0 105.2 107.1 139.7

200 84.3 84.9 87.4 89.3 89.3 90.6 94.3 92.9 90.1 98.4 103.1 107.0 108.7 140.9

250 84.8 88.1 94.1 88.7 90.3 93.2 95.4 90.6 103.1 108.5 111.2 111.1 144.6

315 84.0 88.1 88.6 88.6 95.6 91.2 92.6 95.6 92.3 104.9 109.0 112.2 111.6 145.5

400 84.9 88.7 89.4 96.7 91.1 91.7 100.3 96.5 93.7 106.8 110.6 112.8 111.7 146.5

500 85.4 88.5 89.3 97.5 91.1 92.7 95.1 97.0 94.3 106.6 111.0 112.6 111.5 146.4

600 86.0 89.0 90.7 92.2 100.2 93.6 95.0 96.8 99.5 96.7 107.5 108.9 109.7 145.2

800 86.6 89.8 90.4 94.8 100.4 94.9 96.6 98.9 99.9 97.1 106.4 106.8 106.7 143.7

1250 89.8 94.0 94.8 100.4 94.8 94.9 96.6 98.9 99.9 97.1 106.4 106.8 106.7 143.7

1600 90.6 94.0 94.4 101.5 96.6 97.9 99.5 101.3 97.7 105.3 106.4 105.8 143.6

2000 90.3 93.7 95.1 102.0 95.6 97.2 99.4 102.2 97.6 105.9 105.9 105.5 143.6

2500 90.8 94.8 95.1 101.9 96.3 98.4 100.3 102.7 98.3 106.8 105.3 105.2 143.9

3150 91.6 94.9 95.5 102.7 97.3 99.4 101.8 104.5 99.3 107.1 106.3 105.3 144.8

4000 91.0 94.4 96.3 103.3 97.1 99.1 102.0 104.5 99.9 106.9 107.4 107.2 145.3

5000 92.1 96.0 96.9 103.9 98.1 99.8 102.7 105.8 101.0 109.1 110.2 108.3 147.1

6300 95.7 99.5 98.5 104.3 99.0 99.9 103.1 106.1 101.4 108.5 110.1 108.8 147.8

8000 98.3 103.1 102.0 104.1 98.6 100.7 103.1 105.7 100.9 108.7 109.7 107.5 147.8

10000 98.8 105.2 105.8 104.0 101.8 101.5 103.0 105.0 101.1 108.0 108.2 107.2 148.4

12500 95.7 100.6 104.7 102.7 103.8 102.7 102.5 103.7 100.3 105.7 106.2 105.0 147.9

15000 93.5 98.4 100.6 100.5 103.8 103.1 102.4 102.2 98.5 102.8 104.3 102.9 147.7

20000 92.4 96.5 98.6 97.9 100.5 102.5 100.4 96.3 100.9 102.2 101.0 98.9 147.6

25000 89.3 94.3 96.6 96.5 98.6 99.7 100.3 99.4 94.6 99.8 100.9 98.4 148.2

31500 84.3 89.3 92.0 92.3 94.8 95.6 96.8 97.5 93.9 98.9 98.9 147.1

40000 81.0 87.4 90.6 90.0 92.7 93.3 93.2 93.1 88.7 95.0 96.6 91.9 149.4

50000 78.3 84.9 88.7 88.4 90.2 90.9 90.4 90.4 86.6 93.8 94.4 90.0 151.6

63000 74.7 82.5 85.5 86.4 86.7 88.4 87.1 88.1 84.7 92.6 93.5 87.1 154.8

80000 68.4 79.5 83.0 83.1 83.4 85.1 82.9 84.1 81.5 90.2 90.6 83.1 158.5

QASPL 106.2 111.0 112.0 114.7 111.8 112.6 114.3 115.8 111.6 119.8 121.5 122.3 121.8 163.5

PWL 117.4 121.5 121.7 123.4 123.6 123.2 123.8 123.2 123.8 123.2 123.8 123.2 123.8

DBA 190.3 200.4 203.9 204.1 204.5 206.1 204.1 205.3 202.4 211.0 211.5 204.2 194.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH175 TEST DATE = 6-30-82  
IAPLHA = SB59 IEQA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 40.0 FT  
PWL AREA = FULL SPHERE  
TAMB F = 72.00  
PAMB HG = 29.35  
RELHUM = 69.1 PCT  
FLTVEL = 0. FPS  
MODEL = AX  
CONFIG = 5  
C41 ANECH CH  
CONFIG = 5  
C41 ANECH CH  
CONFIG = 5  
PMB HT = 29.35  
RELHUM = 69.1 PCT  
FLTVEL = 0. FPS

FMINI = LBS XNL RPM XNH XNHR = RPM  
FNRMB = LBS XNL RPM XNHR = RPM  
V8 = 2377.8 FPS AEB V8 = 19.9 SQ IN  
V6 = 2377.8 FPS AEB V6 = 19.9 SQ IN  
V4 = 2377.8 FPS AEB V4 = 19.9 SQ IN

RUNPT = 82F-ZER-0507 TAPE = X0507F TEST PT NO = 0507 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0507 X05071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 50 63.9 69.2 71.1 79.1 73.8 74.6 83.1 78.8 75.3 87.3 89.7 89.7 85.2 164.9

50 67.6 73.0 76.2 84.1 78.4 80.5 83.2 85.3 79.8 85.4 84.0 80.8 75.3 163.8

60 71.3 77.3 77.8 84.5 79.7 80.9 83.7 86.4 80.6 86.3 85.7 81.1 74.8 166.0

630 68.2 74.2 76.5 84.4 79.1 81.0 83.7 86.3 80.6 87.3 86.3 81.2 75.1 165.6

800 73.5 80.6 81.0 84.1 79.2 81.5 83.7 85.7 80.0 86.2 84.9 79.1 72.0 166.3

1250 73.5 82.4 84.6 83.9 82.3 82.2 83.5 84.9 79.9 85.1 82.9 77.9 69.6 166.9

1600 69.5 77.2 83.1 82.3 83.7 83.1 82.7 83.3 78.7 82.3 80.0 74.4 65.5 166.4

2000 66.4 74.4 78.6 79.8 83.8 83.8 82.4 81.5 76.5 78.8 77.1 70.6 60.2 166.2

2500 63.4 71.3 75.8 76.6 80.0 82.2 81.3 79.1 72.4 75.6 73.3 65.9 52.4 166.1

3150 57.0 66.6 71.8 73.6 76.7 76.7 78.1 78.4 76.5 69.8 72.1 68.6 58.4 166.7

4000 45.7 56.8 63.5 66.0 69.6 71.4 70.2 68.5 62.2 64.2 58.9 45.0 19.6 165.6

5000 32.7 47.4 55.8 58.4 62.9 64.0 63.3 61.5 53.9 55.0 48.3 29.2 167.9

6300 12.1 30.7 41.8 46.0 50.2 51.7 50.4 48.0 39.7 39.6 28.3 3.3 170.1

8000 3.5 17.3 24.8 28.6 31.4 29.0 26.4 16.5 13.6 173.3

10000 177.0

12500

15000

16000

20000

25000

31500

40000

50000

63000

80000

QASPL 81.7 88.3 90.7 95.3 92.1 93.2 94.9 96.1 91.1 98.5 98.3 96.5 92.1 181.7

PNL 88.9 96.7 100.4 102.9 103.1 104.0 104.4 104.2 99.0 104.3 102.8 98.4 92.4

PFLT 88.9 97.8 100.9 102.9 103.1 104.5 104.4 104.2 99.5 104.9 103.8 99.6 93.5

DBA 79.7 87.3 90.1 92.3 91.2 91.9 92.7 93.7 88.4 93.8 92.3 87.6 81.4

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH175 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 LEGA / NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.35 RELHUM = 69.1 PCT

WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR

FMIN1 = LBS XNL RPM XNH RPM XNHR = V8 = 2377.8 FPS AEB = 19.9 SQ IN

FMRAMB = LBS XNL RPM XNH RPM XNHR = V8 = 2377.8 FPS AEB = 19.9 SQ IN

RUNPT = ZER-0507 TAPE = X05071 TEST PT NO = 0507 NC = AE049 CORR FAN SPEED = RPM

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454





FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT., SL

IDENTIFICATION - 82F-400-0508 X05081

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|      |      |      |      |      |      |      |      |      |      |      |       |       |      |       |
|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|
| 50   | 66.1 | 71.0 | 71.8 | 76.9 | 70.6 | 69.7 | 75.2 | 70.5 | 67.5 | 78.7 | 80.7  | 80.7  | 77.6 | 156.8 |
| 63   | 67.1 | 70.6 | 71.1 | 76.5 | 70.6 | 71.1 | 71.1 | 71.1 | 68.7 | 80.6 | 80.5  | 79.7  | 76.6 | 156.6 |
| 80   | 68.3 | 70.6 | 71.4 | 78.3 | 72.1 | 72.0 | 72.1 | 72.5 | 71.7 | 81.8 | 81.3  | 79.0  | 76.5 | 157.2 |
| 100  | 68.5 | 71.5 | 72.8 | 79.8 | 72.8 | 72.7 | 73.4 | 74.9 | 73.7 | 82.4 | 81.4  | 77.7  | 75.1 | 157.4 |
| 125  | 70.3 | 72.2 | 74.3 | 81.6 | 73.0 | 73.9 | 73.7 | 74.7 | 73.6 | 82.0 | 80.5  | 75.1  | 74.1 | 157.3 |
| 160  | 71.7 | 73.7 | 75.2 | 84.5 | 74.1 | 74.7 | 75.4 | 76.0 | 74.5 | 81.3 | 79.5  | 72.5  | 72.1 | 157.0 |
| 200  | 70.1 | 74.9 | 75.2 | 82.4 | 76.4 | 76.1 | 77.0 | 76.9 | 74.9 | 82.3 | 79.1  | 71.5  | 72.0 | 157.9 |
| 250  | 73.2 | 74.6 | 76.4 | 83.7 | 76.5 | 76.2 | 76.9 | 76.3 | 75.5 | 82.8 | 77.7  | 70.6  | 70.0 | 158.5 |
| 315  | 73.0 | 74.5 | 76.1 | 84.4 | 77.9 | 77.7 | 77.8 | 79.2 | 76.7 | 83.1 | 78.4  | 70.8  | 70.2 | 159.5 |
| 400  | 74.0 | 76.2 | 76.8 | 84.5 | 78.1 | 78.8 | 80.0 | 80.9 | 77.6 | 83.4 | 77.8  | 71.4  | 69.9 | 160.5 |
| 500  | 74.0 | 76.7 | 77.3 | 85.2 | 79.1 | 79.3 | 80.7 | 82.2 | 78.9 | 84.8 | 80.0  | 73.2  | 71.3 | 162.1 |
| 630  | 73.9 | 75.8 | 78.0 | 85.8 | 80.4 | 81.5 | 82.1 | 82.5 | 80.3 | 86.1 | 82.0  | 75.8  | 73.9 | 163.9 |
| 800  | 75.1 | 77.8 | 79.2 | 87.1 | 81.0 | 81.3 | 82.7 | 84.0 | 80.3 | 87.2 | 83.4  | 77.5  | 74.5 | 165.6 |
| 1000 | 77.8 | 79.5 | 80.0 | 86.0 | 80.9 | 81.9 | 82.7 | 83.9 | 81.8 | 88.4 | 84.8  | 79.5  | 75.8 | 167.2 |
| 1250 | 79.1 | 82.6 | 82.8 | 85.8 | 84.1 | 83.6 | 83.9 | 83.8 | 81.9 | 86.7 | 82.7  | 78.4  | 73.6 | 167.8 |
| 1600 | 79.7 | 84.9 | 86.5 | 86.1 | 87.5 | 85.7 | 84.0 | 83.9 | 80.1 | 84.0 | 79.6  | 75.1  | 69.0 | 169.2 |
| 2000 | 77.0 | 82.2 | 86.2 | 86.8 | 86.6 | 86.0 | 84.3 | 82.7 | 75.9 | 79.1 | 75.7  | 70.0  | 63.3 | 169.4 |
| 2500 | 71.5 | 78.6 | 80.7 | 82.1 | 83.1 | 84.3 | 82.6 | 78.6 | 75.5 | 77.9 | 72.9  | 66.0  | 56.7 | 168.8 |
| 3150 | 66.2 | 73.2 | 76.6 | 77.5 | 80.9 | 80.8 | 79.9 | 77.2 | 71.2 | 73.2 | 68.1  | 59.2  | 44.7 | 169.3 |
| 4000 | 58.5 | 66.6 | 71.7 | 73.5 | 72.9 | 73.3 | 72.1 | 69.7 | 65.6 | 66.4 | 59.6  | 47.3  | 28.0 | 169.6 |
| 5000 | 41.4 | 53.6 | 58.6 | 62.0 | 65.0 | 65.4 | 64.3 | 62.2 | 56.3 | 56.3 | 46.5  | 30.0  | 1.9  | 169.5 |
| 6300 | 20.4 | 36.2 | 44.3 | 48.5 | 51.9 | 52.8 | 50.6 | 47.1 | 41.1 | 39.4 | 24.5  | 170.6 |      | 170.6 |
| 8000 |      | 6.7  | 19.0 | 25.5 | 30.5 | 31.4 | 28.0 | 24.4 | 18.0 | 13.4 | 172.8 |       |      | 174.0 |

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MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH182 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 400. FPS  
IAPLHA = SB59 TEQA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT  
WIND DIR = DEG WIND/VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBR

FMINI = LBS XNL RPM XNH XNHR = RPM XNHR XNH = RPM V8 = 2373.4 FPS AE8 = 19.9 SQ IN  
FMRMB = LBS XNLR = RPM XNLR XNHR = RPM V8 = 2373.4 FPS AE8 = 19.9 SQ IN

RUNPT = 82F-400-0508 TAPE = X05081 TEST PT NB = 0508 NC = AE049 CORR FAN SPEED = RPM

DATPROC - FLIRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 8ZF-ZER-0513 X0513C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.0 84.1 85.3 81.9 81.7 80.1 85.7 86.4 77.3 84.2 88.0 89.0 89.4 126.8

63 84.5 93.0 95.0 89.3 91.1 88.0 97.1 95.1 83.8 91.8 92.5 94.3 94.9 134.9

60 87.2 92.5 89.2 89.3 89.4 91.2 91.9 85.0 90.6 93.7 96.6 97.5 97.9 133.7

100 86.5 94.2 90.0 88.6 92.6 92.0 93.4 94.1 85.3 94.6 97.7 100.4 102.1 136.6

125 83.6 88.9 90.9 91.4 92.3 92.4 94.0 93.7 87.9 96.0 101.4 104.0 105.5 138.8

150 83.5 84.0 88.6 88.6 88.2 88.6 88.9 91.3 86.8 96.6 102.0 104.9 106.9 139.6

200 84.6 85.1 87.1 94.2 88.8 90.9 94.3 93.2 90.9 98.7 103.3 107.5 109.2 141.3

250 85.0 88.8 88.6 94.9 89.7 90.6 93.2 96.1 91.3 103.1 108.5 111.0 111.4 144.6

315 84.3 88.3 89.3 96.9 90.7 93.1 96.2 95.6 93.6 105.4 109.0 112.4 115.7 146.7

400 85.4 89.2 89.9 97.0 91.6 92.4 100.6 97.2 94.2 107.5 110.6 113.1 112.0 146.7

500 85.4 88.7 90.0 98.0 91.9 93.2 95.1 97.5 94.8 107.6 111.0 112.9 112.3 146.8

630 86.3 89.8 91.3 99.4 91.3 92.2 94.1 96.4 98.6 107.6 110.0 112.2 112.4 146.4

800 88.9 91.2 92.7 100.2 93.8 95.5 96.8 100.2 97.0 107.8 108.7 110.3 110.5 145.5

1000 92.5 93.3 93.8 100.9 94.7 96.1 98.2 100.6 97.3 107.2 107.0 108.5 108.6 144.5

1250 90.0 95.5 95.3 101.6 97.1 98.9 100.9 97.8 106.9 107.0 107.2 107.7 107.7 144.3

1600 91.1 93.5 94.9 102.2 96.6 98.2 100.8 101.6 98.7 106.6 107.1 107.1 107.1 144.1

2000 90.8 94.2 95.4 102.5 96.3 97.9 99.9 101.7 98.4 106.9 105.7 106.2 106.2 144.1

2500 91.3 95.3 95.6 102.4 97.3 98.9 100.3 102.7 98.5 107.8 105.8 106.4 105.2 144.5

3150 92.4 95.9 95.7 102.7 97.6 99.9 102.0 104.5 99.8 107.6 106.7 106.8 106.1 145.3

4000 91.2 94.4 95.8 103.0 97.6 99.3 101.5 105.0 99.7 107.4 107.6 106.7 105.9 145.4

5000 93.1 96.0 96.7 104.2 97.9 100.3 102.7 105.3 100.8 109.6 109.5 108.0 107.3 147.0

6300 96.7 104.5 98.5 104.5 98.7 100.4 103.5 106.6 101.6 109.7 110.3 108.3 107.3 147.9

8000 98.8 104.1 103.0 104.3 99.6 100.7 102.6 106.4 101.2 109.0 108.7 107.9 107.9 147.9

10000 99.6 105.2 106.5 104.8 102.8 103.3 103.3 105.5 101.4 108.5 108.2 105.9 104.4 148.7

12500 96.7 100.9 104.7 103.2 104.5 103.2 102.8 103.7 100.3 105.9 105.7 104.3 102.5 148.0

16000 94.3 98.4 100.5 103.8 103.8 102.4 102.5 98.0 103.6 103.3 101.9 100.1 147.7

20000 93.4 97.0 98.9 98.4 101.0 102.3 102.1 100.2 96.3 100.9 101.7 99.5 98.1 147.6

25000 90.6 94.6 97.1 97.0 99.3 99.9 100.3 99.6 94.9 100.5 99.4 97.2 94.4 148.3

31500 84.8 90.5 92.2 94.5 96.3 95.3 95.4 90.5 96.8 96.2 92.7 88.9 147.2

40000 81.8 88.1 90.4 90.3 92.7 93.8 93.2 93.1 88.9 95.0 92.9 89.9 86.0 149.2

50000 79.3 85.4 88.2 88.9 90.7 91.6 90.6 89.9 87.4 93.8 92.9 87.8 82.5 151.5

63000 75.4 82.8 86.0 86.7 87.5 88.6 87.3 88.8 85.5 92.9 91.0 84.9 77.3 154.7

80000 69.4 79.7 83.5 84.1 83.4 86.1 82.4 83.9 82.5 89.7 88.6 80.6 70.4 158.2

QASPL 106.9 111.3 112.4 115.1 112.3 113.0 114.5 116.1 111.8 120.4 121.4 122.3 122.2 163.4

PNL 119.1 122.1 122.7 122.2 127.3 122.1 123.8 127.0 128.5 123.9 132.8 133.3 133.2 132.8

DBA 104.9 109.1 109.4 114.2 108.9 110.4 112.6 115.1 110.8 119.5 119.8 120.2 119.9

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICLE = ADH176 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR

FMINI = LBS XNL RPM XNHR = RPM XNHR = RPM V8 = 2411.5 FPS AEB = 19.9 SO IN

FMRAMB = LBS XNL RPM XNHR = RPM V18 = 2411.5 FPS AEB = 0. SO IN

RUNPT = 8ZF-ZER-0513 TAPE = X0513C TEST PT NO = 0513 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0513 X0513F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.0 84.1 85.3 81.9 81.7 80.1 85.7 86.4 77.3 84.2 88.0 89.0 89.4 126.8  
63 84.5 93.0 95.0 89.3 91.1 88.0 97.1 95.1 83.8 91.8 92.5 93.4 94.3 134.9  
80 87.2 92.5 89.2 89.3 89.4 91.2 91.9 91.3 85.0 90.6 93.7 96.6 97.5 133.7  
100 86.5 94.2 90.0 88.6 92.6 92.0 93.4 94.1 85.3 94.6 97.7 100.4 102.1 136.6  
125 83.6 88.9 90.9 91.4 92.3 92.4 94.0 93.7 87.9 96.0 101.4 104.0 105.5 138.8  
160 83.5 84.0 88.6 89.8 88.2 88.6 89.9 91.3 86.8 96.6 102.0 104.9 106.9 139.6  
200 84.6 85.1 87.1 84.2 88.8 90.9 94.3 93.2 90.9 98.7 103.3 107.5 109.2 141.3  
250 85.0 86.8 86.6 89.7 90.6 93.2 96.1 91.3 103.1 108.5 111.0 111.4 144.6  
315 84.3 86.3 89.3 86.9 90.7 93.1 96.2 95.6 93.6 105.4 109.0 112.0 145.7  
400 85.4 89.2 89.9 97.0 91.6 92.4 100.6 97.2 94.2 107.5 113.1 112.0 146.7  
500 85.4 88.7 90.0 98.0 91.9 93.2 95.1 97.5 94.8 107.6 111.0 112.9 146.8  
630 86.3 89.8 91.3 99.4 92.2 94.1 96.4 98.6 94.8 107.6 110.0 112.2 146.4  
800 88.9 91.2 92.7 100.2 93.8 95.5 96.8 100.2 97.0 107.8 108.7 110.3 145.5  
1000 92.5 93.3 93.8 100.9 94.7 96.1 98.2 100.6 97.3 107.2 107.0 108.5 144.5  
1250 90.0 95.3 101.6 95.7 97.1 98.9 100.9 97.8 106.9 107.2 107.7 144.3  
1600 91.1 93.5 94.9 102.2 96.6 98.8 101.6 98.7 106.1 106.6 107.1 144.1  
2000 90.8 94.2 95.4 102.5 96.3 97.8 99.9 101.7 98.4 106.9 105.7 106.2 144.1  
2500 91.3 95.3 95.6 102.4 97.3 98.9 100.3 102.7 98.5 107.8 105.8 106.4 144.5  
3150 92.4 95.9 95.7 102.7 97.6 99.9 102.0 104.5 99.7 107.9 106.7 105.3  
4000 91.2 94.4 95.8 103.0 97.6 99.3 101.5 105.0 99.7 107.4 107.6 105.4  
5000 93.1 96.0 96.7 104.2 97.9 100.3 102.7 105.3 100.8 109.6 109.5 108.0 147.0  
6300 96.7 99.5 98.8 104.5 98.7 100.4 103.6 106.6 101.6 109.7 110.3 108.3 147.9  
8000 98.8 104.1 103.0 104.3 99.6 100.7 102.6 106.4 101.2 109.0 108.7 107.9  
10000 99.6 105.2 106.5 104.8 102.6 103.3 103.3 105.5 101.4 108.5 108.2 105.9 148.7  
12500 96.7 100.9 104.7 103.2 104.5 103.2 102.8 103.7 100.3 105.9 105.7 104.3 148.0  
16000 94.3 98.4 100.4 100.5 103.8 103.8 102.5 98.0 103.6 103.3 101.9 147.7  
20000 93.4 97.0 98.9 98.4 101.0 102.3 102.1 100.2 96.3 100.9 101.7 99.5 147.6  
25000 90.6 94.6 97.1 97.0 99.3 99.9 100.3 99.6 94.9 100.5 99.4 97.2 148.3  
31500 84.8 90.5 92.3 92.3 94.5 96.3 95.4 96.8 92.7 88.9 89.9 86.0 149.2  
40000 81.8 88.1 90.4 90.3 92.7 93.8 93.2 93.1 88.9 95.0 94.9 89.9 149.2  
50000 79.3 85.4 88.2 88.9 90.7 91.6 90.6 89.9 87.4 93.8 92.9 87.8 151.5  
63000 75.4 82.8 86.0 86.7 87.5 88.6 87.3 88.8 85.5 92.9 91.0 84.9 154.7  
80000 69.4 79.7 83.5 84.1 83.4 86.1 82.4 83.9 82.5 89.7 88.6 80.6 158.2

QASPL 106.9 111.3 112.4 115.1 112.3 113.0 114.5 116.1 111.8 120.4 121.4 122.3 122.2 163.4  
FNL 118.1 122.1 122.3 122.7 123.8 122.1 123.8 126.2 128.5 123.9 132.8 133.3 132.8  
NLT 119.1 122.7 122.2 127.3 122.1 123.8 127.0 128.5 123.9 132.8 133.3 133.2 132.8  
DBA 191.2 200.7 204.4 205.0 204.6 207.0 203.9 205.2 203.4 210.6 209.4 201.8 192.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/MAS3-22514

VEHICL = ADH176 TEST DATE = 6-30-82 LCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF

FMINI = LBS XNL RPM XNH XNHR = RPM XNHR = RPM V8 = 2411.5 FPS AE8 = 19.9 SD IN  
FNRMB = LBS XNL RPM XNHR = RPM XNHR = RPM V8 = 2411.5 FPS AE8 = 19.9 SD IN

RUNPT = 82F-ZER-0513 TAPE = X0513F TEST PT NO = 0513 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0513 X05131

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 64.4 69.7 71.6 79.3 74.3 75.3 83.3 79.6 75.8 88.1 89.7 89.9 85.5 165.2

63 64.5 69.3 71.6 80.4 74.6 76.1 77.9 79.9 76.4 88.1 90.0 89.7 85.7 165.2

80 65.2 70.3 72.9 81.7 74.9 76.9 79.2 79.5 76.4 88.1 89.9 85.7 164.9

100 67.6 71.6 74.2 82.5 76.5 78.3 79.5 82.5 78.5 88.2 87.5 87.0 83.7 163.9

125 71.3 73.7 75.3 83.0 77.3 78.8 80.8 82.8 78.8 87.5 85.8 84.9 81.6 163.0

150 68.6 75.7 76.6 83.6 78.2 79.7 81.4 82.9 79.1 87.1 85.6 83.4 80.3 162.8

200 69.4 73.5 76.1 84.1 78.9 80.6 83.1 83.5 79.8 86.0 84.5 82.5 79.2 162.6

250 68.8 73.9 76.2 84.2 78.4 80.2 82.0 82.4 79.2 86.6 83.7 81.7 77.7 162.5

315 68.9 74.7 76.2 83.8 79.1 80.9 82.2 84.1 79.1 87.2 83.4 81.3 75.8 163.0

400 69.5 74.9 75.9 83.8 79.1 81.6 83.6 85.6 80.0 86.8 83.7 81.1 75.7 163.7

500 67.8 73.0 75.7 83.8 78.9 80.8 82.7 85.8 79.6 85.9 84.2 80.3 74.6 163.9

630 69.2 74.2 76.2 84.7 78.9 81.5 83.7 85.8 80.3 87.8 85.6 80.9 74.9 163.4

800 72.3 77.3 78.0 84.8 79.5 81.4 84.2 86.9 80.9 87.5 85.9 80.6 73.8 166.3

1000 74.0 81.6 82.0 84.4 80.2 81.5 83.2 86.5 80.2 86.5 83.9 78.8 71.5 166.4

1250 74.2 82.4 85.3 84.7 83.3 82.9 83.8 85.4 80.2 85.6 82.9 76.7 68.3 167.2

1600 70.5 77.4 83.1 82.8 84.7 83.6 83.0 83.3 78.7 82.5 79.5 73.7 64.0 166.5

2000 67.1 74.4 78.4 79.8 83.8 84.1 82.4 81.8 76.0 79.6 76.1 69.6 58.7 166.2

2500 64.4 71.8 76.0 77.1 80.5 82.0 81.6 78.8 73.4 75.6 72.8 64.4 51.7 166.1

3150 58.3 66.9 72.3 74.1 77.4 78.4 78.4 76.7 70.1 72.8 67.1 57.1 39.6 166.8

4000 46.2 58.1 63.7 66.0 69.6 71.9 70.4 69.2 62.0 64.4 57.7 43.7 19.6 165.7

5000 33.5 48.1 55.6 58.7 62.9 64.5 63.3 61.5 54.1 55.0 46.5 27.2 167.6

6300 13.1 31.2 41.3 46.5 50.7 52.5 50.6 47.5 40.5 39.6 26.8 1.0 169.9

8000 3.7 17.8 25.0 29.4 31.7 29.2 27.2 17.3 13.9

10000 173.1

12500 176.7

15000 173.1

17500 176.7

20000 173.1

22500 176.7

25000 173.1

27500 176.7

30000 173.1

32500 176.7

35000 173.1

37500 176.7

40000 173.1

42500 176.7

VEHICL = ADH176 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 MIKE HT = 29.30 RELHUM = 69.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL  
FMINI = LBS XNL RPM XNH RPM V8 = 2411.5 FPS AE8 = 19.9 SQ IN  
FMRAMB = LBS XNL RPM XNHR RPM V8 = 2411.5 FPS AE8 = 19.9 SQ IN  
= 82F = 3-0513 TAPE = X05131 TEST PT NO = 0513 NC = AE049 CORR FAN SPEED = RPM

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514  
MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

DBA 80.4 87.6 90.4 92.7 91.8 92.3 92.8 94.1 88.5 94.4 92.0 87.3 81.2  
PNLT 90.2 97.5 101.0 103.9 103.8 104.2 104.6 104.5 99.7 105.4 102.4 99.4 92.7  
PNL 89.7 96.9 100.5 103.4 103.3 104.2 104.6 104.5 99.2 104.8 102.4 98.4 92.7  
DASPL 82.3 88.7 91.1 95.7 92.6 93.6 95.0 96.5 91.4 99.2 98.2 96.8 92.8 181.7

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0514 X0514C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 84.0  | 84.6  | 86.1  | 81.4  | 83.5  | 80.8  | 88.0  | 86.4  | 78.3  | 80.7  | 90.0  | 90.5  | 96.4  | 129.0 |
| 50    | 85.7  | 92.0  | 95.5  | 88.6  | 91.6  | 87.3  | 98.1  | 94.8  | 84.8  | 86.8  | 91.7  | 91.7  | 134.9 |
| 60    | 85.9  | 91.5  | 88.5  | 87.8  | 88.1  | 90.0  | 90.6  | 90.0  | 84.7  | 89.1  | 91.9  | 95.1  | 132.7 |
| 100   | 85.7  | 91.7  | 87.8  | 87.1  | 89.6  | 90.0  | 91.1  | 92.8  | 83.3  | 91.6  | 95.0  | 99.2  | 134.9 |
| 125   | 82.9  | 87.1  | 88.9  | 87.9  | 90.0  | 90.7  | 92.0  | 91.4  | 84.7  | 92.7  | 98.9  | 102.8 | 137.0 |
| 160   | 81.5  | 80.5  | 86.8  | 85.7  | 86.1  | 86.2  | 87.8  | 84.1  | 93.6  | 99.8  | 102.9 | 106.4 | 137.9 |
| 200   | 81.6  | 83.4  | 84.6  | 89.7  | 85.3  | 87.4  | 91.8  | 89.9  | 86.6  | 94.4  | 99.6  | 104.5 | 138.5 |
| 250   | 79.5  | 83.8  | 83.6  | 90.1  | 85.2  | 87.3  | 89.0  | 91.1  | 86.8  | 98.6  | 104.5 | 108.4 | 141.2 |
| 315   | 79.8  | 84.1  | 85.6  | 91.6  | 86.7  | 88.1  | 90.7  | 91.4  | 88.3  | 100.9 | 105.5 | 108.7 | 142.0 |
| 400   | 80.1  | 84.2  | 84.7  | 92.0  | 86.6  | 87.4  | 95.1  | 92.0  | 88.9  | 102.2 | 106.6 | 109.1 | 142.3 |
| 500   | 80.9  | 83.7  | 84.8  | 92.8  | 86.6  | 88.0  | 90.4  | 93.6  | 89.5  | 102.8 | 107.6 | 104.3 | 141.3 |
| 630   | 80.8  | 84.0  | 86.1  | 94.6  | 87.4  | 89.1  | 91.4  | 93.6  | 90.1  | 103.6 | 105.5 | 105.7 | 140.6 |
| 800   | 82.9  | 85.2  | 86.5  | 95.2  | 88.3  | 90.0  | 91.6  | 95.0  | 92.5  | 104.0 | 105.2 | 102.6 | 140.0 |
| 1000  | 85.0  | 85.6  | 87.3  | 96.1  | 89.2  | 90.8  | 93.5  | 95.9  | 93.3  | 103.4 | 103.3 | 99.7  | 139.0 |
| 1250  | 83.5  | 88.6  | 88.8  | 97.1  | 89.9  | 91.6  | 93.9  | 96.6  | 93.6  | 103.6 | 102.8 | 96.4  | 139.0 |
| 1600  | 86.4  | 87.8  | 89.7  | 98.0  | 92.1  | 93.2  | 95.8  | 97.6  | 94.4  | 102.5 | 102.1 | 94.6  | 139.9 |
| 2000  | 86.0  | 87.9  | 89.4  | 99.0  | 91.8  | 93.2  | 95.7  | 99.0  | 95.1  | 103.4 | 101.4 | 83.5  | 139.3 |
| 2500  | 86.8  | 89.1  | 90.6  | 98.7  | 92.8  | 94.4  | 96.3  | 99.9  | 95.0  | 104.6 | 101.1 | 93.4  | 140.0 |
| 3150  | 87.4  | 89.9  | 90.7  | 99.7  | 93.8  | 95.6  | 98.5  | 100.5 | 96.3  | 104.4 | 101.4 | 93.3  | 140.6 |
| 4000  | 87.7  | 89.4  | 91.5  | 99.5  | 93.6  | 95.8  | 98.2  | 101.5 | 96.2  | 104.1 | 100.8 | 93.7  | 140.6 |
| 5000  | 90.3  | 92.3  | 92.4  | 101.4 | 94.6  | 97.0  | 99.7  | 102.5 | 98.0  | 106.6 | 102.7 | 95.7  | 142.6 |
| 6300  | 96.4  | 97.7  | 98.2  | 102.0 | 96.4  | 97.9  | 100.4 | 103.6 | 98.6  | 108.7 | 104.8 | 98.3  | 143.9 |
| 8000  | 96.2  | 97.7  | 98.6  | 103.5 | 97.8  | 98.1  | 100.8 | 104.1 | 99.6  | 108.1 | 105.7 | 100.2 | 145.8 |
| 10000 | 100.2 | 104.9 | 105.6 | 104.2 | 101.7 | 100.9 | 101.7 | 104.1 | 101.0 | 108.8 | 107.1 | 102.0 | 147.8 |
| 12500 | 97.1  | 100.4 | 103.5 | 103.3 | 104.6 | 103.6 | 102.1 | 103.3 | 100.1 | 107.0 | 105.7 | 96.4  | 147.8 |
| 16000 | 93.3  | 99.6  | 100.4 | 102.8 | 103.3 | 102.8 | 102.4 | 98.2  | 98.2  | 104.5 | 103.5 | 99.3  | 147.5 |
| 20000 | 93.0  | 96.3  | 97.7  | 98.8  | 101.6 | 101.9 | 100.8 | 95.8  | 101.6 | 100.5 | 97.0  | 91.7  | 147.1 |
| 25000 | 90.0  | 93.9  | 95.4  | 96.8  | 98.5  | 99.4  | 100.3 | 99.7  | 94.9  | 99.5  | 98.0  | 94.3  | 147.7 |
| 31500 | 87.9  | 88.9  | 89.9  | 92.1  | 93.2  | 95.1  | 95.0  | 94.8  | 94.1  | 98.9  | 94.8  | 88.9  | 146.0 |
| 40000 | 79.7  | 86.1  | 87.3  | 89.3  | 90.6  | 91.9  | 91.8  | 92.4  | 87.6  | 92.0  | 91.6  | 85.5  | 147.1 |
| 50000 | 76.7  | 82.9  | 84.2  | 86.7  | 88.0  | 89.5  | 89.0  | 84.6  | 89.4  | 88.2  | 82.2  | 74.6  | 148.6 |
| 63000 | 73.2  | 79.9  | 82.2  | 84.1  | 85.0  | 86.1  | 85.1  | 86.5  | 82.9  | 88.2  | 86.0  | 77.9  | 151.3 |
| 80000 | 66.5  | 76.9  | 80.4  | 81.3  | 81.8  | 82.4  | 81.5  | 81.5  | 79.4  | 87.4  | 82.0  | 70.7  | 155.2 |
| QASPL | 106.5 | 109.9 | 110.5 | 112.8 | 110.6 | 111.1 | 112.3 | 113.7 | 109.6 | 117.9 | 117.6 | 116.2 | 160.7 |
| PFLT  | 116.8 | 119.2 | 119.5 | 124.2 | 118.7 | 120.1 | 123.6 | 125.1 | 120.8 | 129.7 | 128.5 | 125.2 | 122.9 |
| DBA   | 104.0 | 106.7 | 106.6 | 111.2 | 105.7 | 106.8 | 109.1 | 111.9 | 107.7 | 116.6 | 115.3 | 112.6 | 109.7 |

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH181 TEST DATE = 6-30-82 LOCAL = CAT ANECH CH CONFIG = 5 MODEL = AX PAMB HG = 29.35 RELHUM = 82.1 PCT  
WIND DIR = SB59 IEGA = NO PWT AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 73.00 NBFR =  
FMIN1 = LBS XNLR = RPM XNHR = RPM V8 = 2401.1 FPS AEB = 19.9 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2401.1 FPS AEB = 19.9 SQ IN  
RUNPT = 82F-400-0514 TAPE = X0514C TEST PT NO = 0514 NC = AE049 CGRR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0514 X0514F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

FREQ  
50  
63  
80  
100  
125  
160

250 87.6 90.5 88.7 93.5 86.9 87.3 87.1 87.5 84.9 96.5 100.6 104.3 106.0 138.4  
315 87.6 90.5 88.7 93.5 86.7 88.3 89.4 88.6 85.7 98.2 102.2 105.4 105.8 139.2  
400 88.1 91.1 91.0 95.4 88.6 87.7 93.8 89.2 86.5 99.1 102.2 104.8 104.8 139.2  
500 88.3 91.0 90.9 90.4 96.7 89.7 89.5 90.5 91.2 91.6 102.8 104.2 104.3 140.2  
630 89.4 90.9 90.4 96.7 89.7 89.5 89.5 90.5 91.2 91.6 102.8 104.2 104.3 140.2  
800 89.5 91.5 91.5 96.7 90.5 91.1 93.5 93.5 93.1 94.6 92.9 102.8 102.7 140.2  
1000 91.6 92.6 92.6 99.4 91.6 91.5 93.1 94.6 92.9 92.9 102.8 102.7 99.8 139.6  
1250 93.6 92.9 93.2 100.3 92.4 92.4 93.5 95.0 93.7 93.7 101.6 102.0 97.9 139.3  
1600 91.8 95.7 94.5 101.2 94.9 94.2 95.4 96.0 94.6 102.7 101.4 97.0 100.5 140.1  
2000 95.3 96.0 95.9 103.8 96.1 96.0 96.5 98.8 96.5 94.7 103.9 100.9 96.6 140.8  
2500 95.3 96.0 95.9 103.8 96.1 96.0 96.5 98.8 96.5 94.7 103.9 100.9 96.6 140.8  
3150 96.3 97.3 97.4 103.7 97.6 97.7 99.3 99.9 97.3 104.9 102.1 98.3 100.9 142.5  
4000 97.7 98.8 98.0 105.2 97.9 98.4 99.8 101.8 98.9 107.1 103.7 100.0 102.2 144.1  
5000 98.0 98.4 99.0 105.3 99.1 100.0 101.4 102.7 100.0 107.9 106.6 103.5 105.8 145.5  
6300 100.1 101.0 99.8 107.3 100.4 100.9 102.3 104.1 101.7 110.1 108.3 106.2 109.3 147.7  
8000 103.0 103.8 101.7 106.5 101.3 101.1 102.9 105.0 103.2 110.8 109.8 108.1 110.2 149.0  
10000 105.9 107.4 104.7 107.0 105.8 103.6 104.9 103.4 110.1 109.3 108.3 110.1 150.3  
12500 109.1 112.5 111.7 108.6 108.6 106.6 104.5 104.8 102.5 108.3 107.4 106.1 108.2 152.9  
16000 103.4 106.0 108.2 107.0 106.8 106.3 105.3 104.3 99.8 105.3 104.4 103.7 105.2 151.4  
20000 101.2 104.8 103.7 103.6 104.6 103.9 102.0 100.2 104.5 103.3 102.6 103.9 151.1  
25000 98.3 100.9 101.3 101.5 103.1 102.4 102.5 101.4 96.1 101.0 101.0 99.2 99.9 151.2  
31500 97.3 100.0 100.1 99.9 97.8 98.1 97.5 96.9 94.2 98.5 96.3 96.9 151.3  
40000 89.5 94.1 93.7 94.4 95.2 94.9 94.2 94.0 91.6 91.6 96.3 95.8 93.4 151.3  
50000 85.8 90.9 90.7 91.1 92.6 89.5 91.4 90.6 89.2 94.0 92.1 86.9 85.6 152.7  
63000 81.8 86.8 86.7 87.6 89.6 89.1 86.9 87.0 87.1 94.6 89.5 81.1 80.1 155.4  
80000 76.9 82.4 83.2 83.6 86.4 85.4 83.3 81.9 77.3 84.8 79.7 71.3 70.3 156.6

GASPL 113.7 116.1 115.6 117.1 114.4 113.7 113.6 114.1 111.7 119.0 118.1 117.0 118.7 163.6  
PML 120.9 122.2 121.1 127.7 121.2 121.4 122.7 124.1 121.9 130.4 129.1 127.2 129.5  
PNLT 120.9 122.2 121.1 127.7 121.2 121.4 123.4 124.1 121.9 130.4 129.1 127.2 129.5  
DBA 198.4 203.7 204.3 204.8 207.4 206.6 204.5 203.4 200.6 207.9 203.1 195.4 194.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/20 EL ANN CV SUPP NQZ SC-5/NAS3-22514

VEHICL = ADH181 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
WIND DIR = SB59 DEG WIND VEL = NO MPH PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT  
IAPLHA = SB59 IEGA = NO

LBS XNL = RPM XNHR = RPM V8 = 2401.1 FPS AEB = 19.9 SQ IN  
LBS XNLR = RPM XNHR = RPM V8 = 2401.1 FPS AEB = 19.9 SQ IN

70-0514 TAPE = X0514F TEST PT NO = 0514 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0514 X05141

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

63 67.1 71.6 72.7 71.3 70.6 76.5 71.6 68.2 79.7 81.2 81.7 78.3 157.7

80 68.3 71.4 72.0 79.0 72.4 72.3 73.3 73.5 73.2 83.3 83.3 80.9 77.7 158.6

100 68.4 72.0 73.5 81.0 73.3 73.3 73.7 75.7 74.6 83.5 82.5 80.0 76.9 158.7

125 70.3 72.9 73.8 81.6 74.2 74.2 75.7 76.8 74.3 83.2 81.4 76.3 74.9 158.1

160 72.2 73.1 74.5 82.3 74.9 75.0 75.9 77.0 75.0 81.8 80.5 74.1 72.7 157.7

200 70.1 75.7 75.7 83.1 77.2 76.7 77.7 77.9 75.7 82.7 79.7 72.9 72.6 158.5

250 73.5 75.4 76.9 84.3 77.0 76.7 77.7 79.3 75.5 83.6 78.9 72.1 70.6 159.3

315 72.8 75.3 76.5 85.2 78.0 78.0 79.3 80.2 77.1 83.7 79.5 72.1 70.4 160.1

400 73.4 76.3 77.6 84.8 79.2 79.4 80.9 81.0 77.6 83.8 79.2 72.6 70.6 161.0

500 74.3 77.4 77.9 86.0 79.1 79.8 81.1 82.6 78.8 85.7 80.3 73.6 70.9 162.6

600 74.1 76.6 78.5 85.8 80.1 81.2 82.4 83.2 79.6 86.0 82.7 76.5 73.4 164.0

800 75.7 78.8 80.7 86.6 81.9 81.9 83.5 85.0 82.2 88.3 84.9 79.7 75.5 167.5

1000 78.2 81.3 80.7 86.6 81.9 81.9 83.5 85.0 82.2 88.3 84.9 79.7 75.5 167.5

1250 80.6 84.6 83.5 86.2 84.6 84.1 84.7 82.2 87.2 84.0 79.1 74.0 68.8

1600 82.9 89.0 90.1 88.3 88.8 87.0 84.7 80.9 84.9 81.2 75.5 69.7 171.3

2000 76.2 82.0 86.3 86.6 86.3 86.6 86.6 83.6 83.6 81.2 77.2 71.5 63.7 169.9

2500 72.2 79.6 81.0 82.4 83.1 84.3 83.4 80.6 77.3 79.3 74.4 67.5 57.5 169.5

3150 65.9 73.2 76.6 78.5 81.2 80.8 80.6 78.5 71.3 73.3 68.7 59.1 45.1 169.6

4000 58.8 67.6 71.5 73.7 72.9 73.6 72.6 70.7 65.6 66.1 60.3 47.3 27.6 169.8

5000 41.2 54.1 58.9 62.7 65.3 65.6 64.3 62.3 56.8 56.3 47.5 30.8 2.4 169.8

6300 19.6 36.7 43.8 48.7 52.7 53.3 51.4 48.2 42.4 39.8 25.9 0.2 171.2

8000 7.7 18.5 26.0 31.5 32.2 28.8 25.4 18.9 15.6

10000 173.9

12500 175.1

16000

20000

25000

31500

40000

50000

63000

80000

QASPL 88.2 92.8 94.0 97.3 94.6 94.1 93.9 94.0 90.7 97.0 94.1 90.0 86.8 182.0

PWL 99.3 103.8 105.1 106.9 105.3 105.3 104.8 103.9 99.9 104.8 101.1 95.3 90.6

PNL 99.8 105.7 106.9 106.9 105.5 105.3 105.3 103.9 100.4 104.8 101.1 96.9 90.6

DBA 87.8 93.0 94.2 95.9 94.7 94.1 93.5 93.2 89.7 95.0 91.3 85.7 81.6

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH181 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CNFIG = 5 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBFR

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B2F-ZER-0519 X0519C  
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

82.0 83.1 85.1 82.9 82.5 81.3 86.2 85.1 78.3 84.2 89.0 89.5 90.9 127.2

50 60 63 64.5 90.5 94.5 89.6 90.6 88.8 97.1 92.1 84.3 90.6 93.2 91.7 95.1 134.3

80 87.4 92.5 89.7 89.5 89.1 91.0 91.9 91.5 85.7 90.8 94.4 97.4 98.0 134.0

100 87.5 94.5 90.3 88.8 92.9 92.3 93.6 94.8 85.8 94.8 85.8 101.4 102.8 137.1

125 84.4 89.4 91.7 91.9 93.0 93.4 95.3 94.7 88.9 97.0 102.6 105.8 106.2 140.0

160 83.8 84.3 88.8 90.1 88.9 89.3 99.4 91.6 87.3 97.9 103.3 106.4 108.1 140.8

200 85.3 85.9 87.6 94.7 89.8 91.6 94.5 93.9 91.1 99.4 104.6 108.5 110.2 142.3

250 85.5 89.3 89.3 95.4 90.0 91.1 94.2 96.4 91.6 104.6 110.0 112.0 112.4 145.7

315 84.8 88.8 89.6 96.6 91.2 93.6 96.5 96.6 93.6 105.9 110.8 113.2 113.1 146.8

400 85.6 89.7 90.2 97.2 91.8 92.4 101.6 97.2 94.4 108.0 112.1 114.1 113.2 147.8

500 86.9 89.5 90.3 97.8 91.9 93.7 95.9 97.8 94.8 107.8 112.7 114.4 113.0 147.9

630 86.8 90.4 91.3 99.4 90.0 91.3 99.4 98.6 95.3 108.6 111.3 113.9 113.4 147.7

800 89.6 91.0 91.4 93.2 101.0 93.6 95.5 97.1 100.5 97.2 108.5 110.7 112.3 111.5 146.8

1000 93.3 94.1 94.8 100.9 95.0 96.6 99.0 100.6 97.6 108.2 109.3 110.7 109.9 145.9

1250 90.0 96.0 96.3 101.9 96.7 97.8 99.9 101.8 98.6 107.1 108.5 109.7 109.3 145.9

1600 91.4 94.3 94.9 102.2 97.3 98.4 100.8 101.8 98.7 106.5 107.6 109.3 108.6 145.1

2000 91.5 94.4 95.6 102.7 96.1 98.2 99.9 102.7 98.9 106.9 107.4 108.7 108.0 145.1

2500 91.6 95.3 96.1 102.7 97.5 99.1 101.1 103.2 99.3 107.8 108.8 108.4 106.9 145.2

3150 92.4 95.7 96.2 103.5 97.8 99.6 102.5 104.2 100.1 107.6 107.9 108.8 106.3 145.8

4000 91.5 95.1 96.3 103.5 97.9 99.3 102.0 105.0 99.9 107.4 108.1 108.9 106.2 145.9

5000 93.1 96.8 97.7 104.4 98.4 100.3 102.7 105.5 101.0 109.4 110.7 109.8 107.3 147.5

6300 96.9 101.0 100.5 104.5 99.2 100.2 103.0 106.4 108.7 110.3 109.8 107.6 104.7 147.9

8000 99.6 104.9 104.6 100.1 101.2 102.9 106.2 101.7 109.0 109.5 108.3 105.6 104.3 148.3

10000 99.8 105.2 107.5 104.8 104.0 103.5 105.2 102.4 107.7 108.2 107.9 104.4 104.0 149.0

12500 96.2 100.9 104.7 103.0 105.5 104.5 103.5 104.2 100.8 105.7 105.8 102.8 104.8 148.4

16000 94.8 99.2 100.7 103.6 104.3 102.9 103.0 98.5 103.3 104.0 102.6 100.6 100.6 148.0

20000 93.4 97.3 99.6 98.7 100.5 102.5 101.6 100.7 96.3 100.9 102.5 100.7 98.4 147.8

25000 90.3 95.1 97.6 97.2 99.1 100.4 100.8 99.9 95.1 100.3 100.4 99.2 94.9 148.7

31500 84.3 90.5 92.8 92.7 95.0 96.1 95.8 90.8 90.8 96.8 97.2 94.9 89.2 147.5

40000 81.0 88.9 90.9 90.3 92.7 94.1 93.7 93.3 89.2 95.7 96.1 92.4 86.5 149.7

50000 80.0 86.4 88.7 89.2 91.4 91.9 91.1 90.9 87.9 94.5 94.9 90.8 82.7 152.3

63000 76.4 83.0 86.5 87.4 88.0 89.4 87.3 89.1 85.7 92.9 93.8 88.4 78.6 155.5

80000 70.7 80.0 84.3 84.4 83.7 86.1 83.4 84.6 83.5 89.7 91.9 84.3 72.1 159.2

QASPL 107.2 111.7 113.1 115.3 112.7 113.5 114.8 116.2 112.3 120.6 122.6 124.0 123.1 164.2

PNLT 119.4 123.7 123.0 127.6 122.5 123.9 126.6 124.2 132.8 134.4 135.0 133.4

DBA 105.3 109.6 110.3 114.5 109.4 110.6 112.8 115.2 111.2 119.6 121.0 122.1 120.8

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH177 TEST DATE = 6-30-82  
LCAAT = CAT ANEGH CH CONFIG = S  
MODEL = AX  
FLVEL = 0. FPS

IAPLHA = S859 LEGA = NO  
PML AREA = FULL SPHERE  
TAMB F = 72.00  
MIKE HT = 29.30  
RELHUM = 69.2 PCT  
NBFR =

WIND DIR = DEG WIND VEL = MPH  
LCAAT = CAT ANEGH CH CONFIG = S  
MODEL = AX  
FLVEL = 0. FPS

WIND DIR = DEG WIND VEL = MPH  
LCAAT = CAT ANEGH CH CONFIG = S  
MODEL = AX  
FLVEL = 0. FPS

WIND DIR = DEG WIND VEL = MPH  
LCAAT = CAT ANEGH CH CONFIG = S  
MODEL = AX  
FLVEL = 0. FPS

WIND DIR = DEG WIND VEL = MPH  
LCAAT = CAT ANEGH CH CONFIG = S  
MODEL = AX  
FLVEL = 0. FPS

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0519 X0519F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|      |      |      |      |       |       |       |       |       |       |       |
|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50   | 82.5 | 81.3 | 86.2 | 85.1  | 78.3  | 84.2  | 89.0  | 89.5  | 90.9  | 127.2 |
| 60   | 84.5 | 80.5 | 89.6 | 88.8  | 97.1  | 84.3  | 90.6  | 93.2  | 91.7  | 134.3 |
| 80   | 87.4 | 92.5 | 89.7 | 89.5  | 89.1  | 91.9  | 91.5  | 85.7  | 90.8  | 94.4  |
| 100  | 87.5 | 94.5 | 90.3 | 88.8  | 92.9  | 92.3  | 93.6  | 94.8  | 85.8  | 94.8  |
| 125  | 84.4 | 89.4 | 91.7 | 91.9  | 93.0  | 93.4  | 95.3  | 94.7  | 88.9  | 97.0  |
| 150  | 83.8 | 84.3 | 88.8 | 90.1  | 88.9  | 89.3  | 99.4  | 91.6  | 87.3  | 97.9  |
| 175  | 83.8 | 84.3 | 88.8 | 90.1  | 88.9  | 89.3  | 99.4  | 91.6  | 87.3  | 97.9  |
| 200  | 85.3 | 85.9 | 87.6 | 89.8  | 91.6  | 94.5  | 93.9  | 91.1  | 99.4  | 104.6 |
| 250  | 85.5 | 89.3 | 89.3 | 95.4  | 90.0  | 91.1  | 94.2  | 96.4  | 91.6  | 104.6 |
| 315  | 84.8 | 88.8 | 89.6 | 96.6  | 91.2  | 93.6  | 96.5  | 96.6  | 105.9 | 110.8 |
| 400  | 85.6 | 89.7 | 90.2 | 97.2  | 91.8  | 92.4  | 101.6 | 97.2  | 94.4  | 108.0 |
| 500  | 86.9 | 89.5 | 90.3 | 97.8  | 91.9  | 93.7  | 95.9  | 97.8  | 94.8  | 107.8 |
| 630  | 86.8 | 90.0 | 91.3 | 99.4  | 93.2  | 95.1  | 96.9  | 98.6  | 95.3  | 108.6 |
| 800  | 89.6 | 91.4 | 93.2 | 101.0 | 93.6  | 95.5  | 97.1  | 100.5 | 97.2  | 108.5 |
| 1000 | 93.3 | 94.1 | 94.8 | 100.9 | 95.0  | 96.6  | 99.0  | 100.6 | 97.6  | 108.2 |
| 1250 | 90.0 | 96.0 | 96.3 | 101.9 | 96.7  | 97.8  | 99.9  | 100.9 | 98.6  | 107.1 |
| 1500 | 91.4 | 94.3 | 94.9 | 102.2 | 97.3  | 98.4  | 100.8 | 98.7  | 106.5 | 107.6 |
| 1600 | 91.5 | 95.1 | 96.3 | 103.5 | 97.9  | 99.3  | 102.0 | 99.9  | 107.4 | 108.1 |
| 1750 | 91.5 | 95.1 | 96.3 | 103.5 | 97.9  | 99.3  | 102.0 | 99.9  | 107.4 | 108.1 |
| 2000 | 93.4 | 97.3 | 99.6 | 98.7  | 100.5 | 101.8 | 100.7 | 96.3  | 100.9 | 102.5 |
| 2500 | 90.3 | 95.1 | 97.6 | 97.2  | 99.1  | 100.4 | 100.8 | 99.9  | 95.1  | 100.3 |
| 3150 | 84.3 | 90.5 | 92.7 | 95.0  | 96.1  | 95.8  | 94.9  | 90.6  | 95.7  | 92.2  |
| 4000 | 81.0 | 88.9 | 90.9 | 90.3  | 92.7  | 94.1  | 93.7  | 93.3  | 95.2  | 95.7  |
| 5000 | 80.0 | 86.4 | 88.7 | 89.2  | 91.4  | 91.9  | 91.1  | 87.9  | 94.5  | 94.9  |
| 6300 | 76.4 | 83.0 | 86.5 | 87.4  | 88.0  | 89.4  | 87.3  | 89.1  | 85.7  | 92.9  |
| 8000 | 70.7 | 80.0 | 84.3 | 84.4  | 83.7  | 86.1  | 83.4  | 84.6  | 83.5  | 89.7  |

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|      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA  | 192.4 | 201.0 | 205.1 | 205.3 | 204.9 | 207.1 | 204.6 | 205.9 | 204.3 | 210.6 | 212.6 | 205.5 | 194.1 |
| PWL  | 118.4 | 122.7 | 123.0 | 127.6 | 122.5 | 123.9 | 126.6 | 128.6 | 124.2 | 132.8 | 134.4 | 135.0 | 133.4 |
| PNTL | 119.6 | 123.3 | 123.0 | 127.6 | 122.5 | 123.9 | 126.6 | 128.6 | 124.2 | 132.8 | 134.4 | 135.0 | 133.4 |
| DBA  | 192.4 | 201.0 | 205.1 | 205.3 | 204.9 | 207.1 | 204.6 | 205.9 | 204.3 | 210.6 | 212.6 | 205.5 | 194.1 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH177 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF

FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 2432.5 FPS AEB = 19.9 SO IN  
 FMRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 2432.5 FPS AEB = 19.9 SO IN

RUNPT = 82F-ZER-0519 TAPE = X0519F TEST PT NO = 0519 NC = AE049 CORR FAN SPEED = RPM





FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-400-0520 X0520F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200   | 86.7  | 90.8  | 89.0  | 93.9  | 87.3  | 87.6  | 87.8  | 88.3  | 85.6  | 97.0  | 101.1 | 104.5 | 106.0 | 138.7 |
| 250   | 88.7  | 90.8  | 89.0  | 93.9  | 87.3  | 87.6  | 87.8  | 88.3  | 85.6  | 97.0  | 101.1 | 104.5 | 106.0 | 138.7 |
| 315   | 88.7  | 90.8  | 89.0  | 93.9  | 87.3  | 87.6  | 87.8  | 88.3  | 85.6  | 97.0  | 101.1 | 104.5 | 106.0 | 138.7 |
| 400   | 88.5  | 91.5  | 90.8  | 95.6  | 88.5  | 88.2  | 88.6  | 89.5  | 87.3  | 99.8  | 103.5 | 105.8 | 106.3 | 139.7 |
| 500   | 89.0  | 91.2  | 90.5  | 96.4  | 89.2  | 88.6  | 89.4  | 90.1  | 88.1  | 101.2 | 103.5 | 105.1 | 104.9 | 139.9 |
| 630   | 90.1  | 91.1  | 90.8  | 97.2  | 90.5  | 89.7  | 91.2  | 92.0  | 92.1  | 103.4 | 104.8 | 105.0 | 104.8 | 140.8 |
| 800   | 89.8  | 92.0  | 92.5  | 98.7  | 91.2  | 90.7  | 92.1  | 94.3  | 93.2  | 103.4 | 104.5 | 104.3 | 103.9 | 140.8 |
| 1000  | 92.1  | 92.4  | 92.9  | 99.9  | 91.9  | 92.2  | 93.3  | 94.7  | 93.0  | 103.0 | 103.1 | 100.2 | 101.9 | 139.9 |
| 1250  | 94.2  | 93.3  | 93.8  | 100.6 | 92.9  | 92.9  | 93.9  | 95.2  | 94.4  | 102.5 | 102.5 | 102.8 | 98.0  | 139.8 |
| 1500  | 92.6  | 96.0  | 101.8 | 95.2  | 94.7  | 95.6  | 95.9  | 95.3  | 103.6 | 101.6 | 97.4  | 100.9 | 140.6 |       |
| 2000  | 95.7  | 95.8  | 96.6  | 102.9 | 94.9  | 95.0  | 95.6  | 95.7  | 104.4 | 96.4  | 99.6  | 141.0 |       |       |
| 2500  | 95.8  | 96.1  | 96.7  | 104.5 | 96.3  | 96.2  | 97.2  | 98.3  | 97.4  | 104.7 | 101.8 | 98.0  | 100.9 | 142.1 |
| 3150  | 96.8  | 97.6  | 97.8  | 104.6 | 97.6  | 97.7  | 99.1  | 100.0 | 98.1  | 105.1 | 101.9 | 98.8  | 101.2 | 142.8 |
| 4000  | 97.6  | 98.7  | 98.6  | 105.6 | 98.6  | 98.4  | 99.6  | 101.8 | 103.1 | 101.0 | 108.6 | 106.5 | 104.3 | 144.5 |
| 5000  | 98.5  | 98.2  | 100.1 | 106.5 | 99.5  | 100.0 | 101.8 | 103.1 | 101.0 | 108.6 | 106.5 | 104.3 | 106.2 | 146.1 |
| 6300  | 100.8 | 100.9 | 100.9 | 107.5 | 100.8 | 100.4 | 102.7 | 104.3 | 101.8 | 109.6 | 108.0 | 105.0 | 107.6 | 147.5 |
| 8000  | 103.6 | 104.1 | 103.0 | 107.3 | 102.4 | 101.9 | 102.4 | 104.2 | 103.8 | 111.2 | 109.3 | 108.2 | 109.9 | 149.2 |
| 10000 | 110.3 | 111.6 | 109.6 | 109.0 | 107.4 | 104.7 | 103.8 | 104.8 | 104.5 | 109.8 | 107.2 | 108.6 | 110.0 | 152.0 |
| 12500 | 105.1 | 109.0 | 111.0 | 108.4 | 109.1 | 107.1 | 104.5 | 105.1 | 103.6 | 108.0 | 107.7 | 106.2 | 108.0 | 152.1 |
| 15000 | 103.7 | 106.3 | 108.7 | 107.2 | 107.6 | 106.3 | 105.8 | 105.3 | 100.4 | 104.8 | 104.7 | 103.3 | 105.5 | 151.8 |
| 16000 | 103.7 | 106.3 | 108.7 | 107.2 | 107.6 | 106.3 | 105.8 | 105.3 | 100.4 | 104.8 | 104.7 | 103.3 | 105.5 | 151.8 |
| 20000 | 101.7 | 104.1 | 104.1 | 104.2 | 104.4 | 104.6 | 104.3 | 102.1 | 101.0 | 105.5 | 104.5 | 103.5 | 104.5 | 151.5 |
| 25000 | 98.8  | 101.1 | 102.1 | 101.7 | 103.3 | 102.6 | 103.5 | 101.9 | 96.9  | 101.3 | 101.0 | 99.8  | 99.6  | 151.6 |
| 31500 | 95.3  | 97.9  | 99.3  | 97.8  | 98.3  | 98.0  | 96.8  | 94.8  | 99.1  | 99.4  | 96.6  | 96.9  | 151.1 |       |
| 40000 | 90.5  | 94.1  | 94.2  | 94.6  | 96.2  | 95.4  | 93.9  | 92.3  | 96.5  | 95.0  | 91.7  | 91.4  | 151.6 |       |
| 50000 | 86.5  | 90.9  | 92.0  | 91.9  | 93.4  | 92.3  | 91.8  | 90.5  | 96.3  | 92.6  | 87.2  | 84.9  | 153.4 |       |
| 63000 | 82.6  | 86.5  | 87.9  | 88.6  | 90.3  | 90.1  | 88.1  | 87.8  | 89.3  | 95.8  | 90.2  | 82.9  | 79.1  | 156.4 |
| 80000 | 77.1  | 82.4  | 83.4  | 84.6  | 86.4  | 86.2  | 83.6  | 83.1  | 79.5  | 86.0  | 80.4  | 73.1  | 69.3  | 157.2 |
| DBA   | 198.8 | 203.7 | 204.8 | 205.8 | 207.6 | 207.3 | 204.9 | 204.4 | 202.7 | 209.2 | 203.8 | 196.7 | 193.4 |       |
| PWL   | 123.1 | 124.2 | 123.3 | 126.3 | 121.9 | 121.5 | 123.6 | 124.2 | 122.4 | 130.4 | 129.1 | 127.1 | 129.0 |       |
| PNT   | 123.1 | 124.2 | 123.3 | 126.3 | 121.9 | 121.5 | 123.6 | 124.2 | 122.4 | 130.4 | 129.1 | 127.1 | 129.0 |       |
| DBA   | 198.8 | 203.7 | 204.8 | 205.8 | 207.6 | 207.3 | 204.9 | 204.4 | 202.7 | 209.2 | 203.8 | 196.7 | 193.4 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH180 TEST DATE = 8-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 ALPHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 73.00 MIKE HG = 29.35 RELHUM = 82.1 PCT  
 DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR  
 LBS XNL RPM XNH RPM XNHR = RPM V8 = 2419.9 FPS AEB = 19.9 SO IN  
 LBS XNLR RPM XNHR = RPM V8 = 2419.9 FPS AE18 = 0. SO IN  
 TEST PT NO = 0520 NC = AE049 CORR FAN SPEED = RPM  
 TAPE = X0520F

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AGE PRINTING SYSTEM - P118-02

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0520 X05201

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 67.5  | 72.1 | 72.4 | 72.1 | 72.4 | 72.1 | 71.3 | 71.1 | 76.5 | 71.8 | 68.9 | 60.4 | 62.5 | 62.7  |
| 53    | 68.0 | 71.8 | 72.1 | 72.4 | 72.1 | 72.0 | 71.4 | 72.1 | 72.5 | 69.8 | 61.8 | 62.5 | 78.8  |
| 60    | 69.0 | 71.6 | 72.4 | 72.1 | 72.0 | 73.2 | 72.6 | 73.9 | 74.3 | 73.7 | 63.9 | 63.8 | 81.8  |
| 80    | 69.0 | 71.6 | 72.4 | 72.1 | 72.0 | 73.2 | 72.6 | 73.9 | 74.3 | 73.7 | 63.9 | 63.8 | 81.8  |
| 100   | 68.7 | 72.5 | 74.0 | 74.0 | 73.9 | 73.5 | 74.7 | 76.5 | 74.7 | 74.7 | 63.4 | 60.9 | 77.1  |
| 125   | 70.9 | 72.8 | 74.3 | 74.3 | 74.5 | 75.0 | 75.9 | 76.9 | 74.5 | 63.3 | 61.9 | 76.7 | 74.9  |
| 150   | 72.8 | 73.4 | 75.1 | 75.1 | 75.4 | 75.5 | 76.4 | 77.2 | 75.7 | 62.7 | 61.4 | 74.2 | 73.1  |
| 200   | 70.9 | 76.0 | 76.2 | 76.2 | 77.5 | 77.5 | 77.2 | 78.0 | 77.8 | 76.4 | 63.6 | 79.9 | 73.3  |
| 250   | 73.7 | 75.5 | 77.5 | 77.5 | 77.0 | 77.2 | 77.7 | 79.3 | 76.5 | 64.1 | 79.4 | 71.8 | 71.1  |
| 315   | 73.4 | 75.4 | 77.3 | 77.3 | 78.2 | 78.2 | 79.1 | 79.7 | 78.0 | 64.1 | 79.4 | 72.9 | 71.5  |
| 400   | 73.9 | 76.6 | 78.0 | 78.0 | 79.1 | 79.4 | 80.7 | 81.1 | 78.3 | 64.1 | 79.0 | 73.1 | 70.8  |
| 500   | 74.2 | 77.3 | 78.6 | 78.6 | 79.9 | 79.8 | 80.9 | 82.6 | 79.8 | 65.7 | 80.9 | 74.3 | 72.2  |
| 600   | 76.4 | 78.7 | 80.2 | 80.2 | 81.5 | 81.3 | 83.5 | 84.5 | 81.0 | 67.4 | 83.6 | 77.2 | 73.8  |
| 800   | 78.8 | 81.6 | 82.1 | 82.1 | 83.0 | 82.7 | 83.0 | 84.2 | 82.8 | 68.7 | 84.5 | 79.8 | 75.2  |
| 1000  | 78.8 | 81.6 | 82.1 | 82.1 | 83.0 | 82.7 | 83.0 | 84.2 | 82.8 | 68.7 | 84.5 | 79.8 | 75.2  |
| 1250  | 85.0 | 88.7 | 88.5 | 88.9 | 87.9 | 85.3 | 84.3 | 84.6 | 83.3 | 66.9 | 83.9 | 79.3 | 73.9  |
| 1500  | 85.0 | 88.7 | 88.5 | 88.9 | 87.9 | 85.3 | 84.3 | 84.6 | 83.3 | 66.9 | 83.9 | 79.3 | 73.9  |
| 2000  | 78.9 | 85.6 | 89.4 | 87.9 | 89.3 | 87.5 | 84.7 | 84.7 | 81.9 | 64.6 | 81.5 | 75.6 | 69.5  |
| 2500  | 72.7 | 78.8 | 81.2 | 82.9 | 83.8 | 84.3 | 83.7 | 80.8 | 78.1 | 60.3 | 75.8 | 68.5 | 58.1  |
| 3150  | 66.4 | 73.4 | 77.3 | 78.8 | 81.4 | 81.0 | 81.6 | 79.0 | 72.1 | 59.7 | 68.7 | 59.7 | 44.8  |
| 4000  | 56.7 | 65.5 | 70.8 | 73.1 | 72.9 | 73.8 | 73.1 | 70.6 | 66.2 | 66.6 | 60.8 | 47.7 | 27.6  |
| 5000  | 42.2 | 54.1 | 59.4 | 63.0 | 66.3 | 65.9 | 65.5 | 62.3 | 57.5 | 56.5 | 46.7 | 29.0 | 0.2   |
| 6300  | 20.4 | 36.7 | 45.1 | 49.5 | 53.4 | 53.1 | 51.8 | 47.7 | 43.6 | 42.1 | 26.4 | 0.4  |       |
| 8000  |      |      | 7.5  | 19.7 | 27.0 | 32.2 | 33.2 | 30.0 | 26.1 | 21.1 | 16.8 |      | 174.9 |
| 10000 |      |      |      |      |      | 1.4  | 2.9  |      |      |      |      |      | 175.7 |

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MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
 NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH180 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CNFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 62.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBRF =

FMINI = LBS XNL RPM XNHR = RPM V8 = 2419.9 FPS AEB = 19.9 SQ IN  
 FMRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2419.9 FPS AEB = 19.9 SQ IN

RUNPT = 82F-400-0520 TAPE = X05201 TEST PT NO = 0520 NC = AE049 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0541 X0541C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 77.8  | 82.3  | 84.6  | 78.9  | 82.5  | 78.1  | 87.0  | 84.6  | 74.6  | 79.4  | 87.0  | 86.7  | 88.1  | 125.7 |
| 60    | 82.4  | 91.5  | 93.5  | 87.1  | 91.9  | 85.5  | 87.4  | 93.8  | 81.3  | 87.3  | 93.7  | 92.6  | 93.8  | 134.2 |
| 80    | 81.2  | 91.7  | 93.0  | 84.8  | 86.4  | 87.7  | 89.8  | 93.6  | 84.7  | 92.2  | 97.1  | 99.5  | 100.5 | 134.4 |
| 100   | 83.0  | 89.2  | 95.0  | 84.8  | 88.1  | 87.5  | 88.9  | 89.8  | 81.3  | 90.8  | 93.5  | 96.7  | 97.6  | 132.3 |
| 125   | 79.4  | 84.6  | 86.4  | 87.7  | 87.8  | 88.7  | 90.3  | 89.7  | 84.7  | 92.6  | 97.1  | 99.5  | 100.5 | 134.4 |
| 150   | 79.8  | 80.0  | 84.8  | 86.1  | 84.7  | 84.8  | 93.2  | 87.3  | 82.6  | 92.4  | 98.0  | 100.2 | 102.1 | 135.0 |
| 200   | 80.3  | 81.9  | 84.1  | 89.9  | 85.3  | 87.1  | 90.0  | 89.4  | 86.6  | 94.4  | 99.3  | 102.5 | 103.4 | 136.5 |
| 250   | 80.8  | 85.1  | 84.8  | 90.4  | 85.5  | 87.1  | 89.5  | 91.4  | 87.1  | 99.1  | 103.8 | 106.2 | 106.1 | 139.8 |
| 315   | 80.8  | 85.3  | 86.1  | 92.4  | 87.7  | 89.1  | 92.5  | 92.1  | 89.1  | 100.1 | 104.8 | 106.5 | 106.6 | 140.4 |
| 400   | 81.4  | 85.2  | 86.2  | 92.7  | 88.3  | 88.7  | 96.3  | 93.5  | 89.2  | 100.8 | 104.6 | 107.3 | 106.2 | 141.0 |
| 500   | 81.7  | 85.2  | 86.5  | 93.0  | 87.9  | 89.5  | 91.9  | 93.5  | 90.0  | 101.3 | 104.2 | 105.9 | 104.8 | 140.1 |
| 630   | 81.8  | 86.0  | 87.6  | 94.4  | 89.2  | 90.6  | 92.4  | 94.6  | 90.1  | 101.9 | 103.3 | 103.7 | 103.1 | 139.4 |
| 800   | 84.1  | 86.9  | 89.0  | 95.5  | 89.8  | 92.0  | 93.6  | 95.7  | 92.0  | 101.8 | 103.2 | 101.3 | 100.5 | 138.9 |
| 1000  | 87.3  | 89.1  | 89.8  | 95.9  | 90.7  | 92.6  | 94.5  | 96.4  | 92.8  | 101.4 | 101.8 | 100.0 | 97.9  | 138.4 |
| 1250  | 85.0  | 92.0  | 91.1  | 95.9  | 91.2  | 92.3  | 95.2  | 96.4  | 92.6  | 101.1 | 101.3 | 99.2  | 97.5  | 136.3 |
| 1500  | 87.1  | 91.0  | 90.9  | 97.0  | 93.3  | 94.4  | 96.0  | 97.1  | 93.4  | 100.5 | 101.1 | 98.8  | 97.5  | 138.6 |
| 2000  | 86.5  | 90.9  | 91.6  | 97.7  | 92.8  | 93.9  | 95.7  | 98.5  | 93.6  | 100.9 | 100.9 | 99.0  | 97.5  | 138.8 |
| 2500  | 86.6  | 92.1  | 92.1  | 98.2  | 93.8  | 95.6  | 96.8  | 99.2  | 94.8  | 102.3 | 100.8 | 99.7  | 97.7  | 139.7 |
| 3150  | 87.9  | 92.9  | 93.0  | 100.0 | 94.3  | 96.4  | 98.3  | 100.5 | 96.6  | 103.4 | 103.4 | 101.1 | 99.6  | 141.1 |
| 4000  | 88.0  | 90.6  | 93.0  | 99.8  | 94.4  | 96.3  | 98.5  | 101.8 | 96.4  | 103.4 | 103.4 | 101.1 | 99.6  | 141.8 |
| 5000  | 89.3  | 92.8  | 94.2  | 101.2 | 95.9  | 97.8  | 100.0 | 103.3 | 98.0  | 106.1 | 106.2 | 106.3 | 104.5 | 144.2 |
| 6300  | 89.4  | 92.7  | 94.3  | 102.0 | 96.2  | 97.9  | 101.5 | 104.9 | 99.1  | 106.7 | 107.3 | 107.8 | 106.3 | 145.5 |
| 8000  | 89.3  | 93.3  | 95.0  | 101.6 | 95.9  | 98.4  | 100.6 | 104.2 | 98.4  | 107.5 | 107.5 | 106.7 | 104.9 | 145.7 |
| 10000 | 89.3  | 94.2  | 95.0  | 100.5 | 95.8  | 98.3  | 100.3 | 102.7 | 97.4  | 106.5 | 106.7 | 106.2 | 104.9 | 145.4 |
| 12500 | 91.7  | 95.6  | 96.9  | 98.7  | 95.2  | 97.7  | 99.3  | 101.2 | 96.3  | 103.7 | 104.7 | 104.3 | 102.8 | 144.6 |
| 15000 | 90.5  | 95.4  | 96.6  | 97.2  | 96.3  | 98.1  | 100.0 | 95.0  | 95.0  | 100.8 | 102.8 | 101.6 | 99.6  | 144.3 |
| 20000 | 87.6  | 91.8  | 93.9  | 95.2  | 95.7  | 97.0  | 97.1  | 97.7  | 92.8  | 98.6  | 101.2 | 99.5  | 97.4  | 144.3 |
| 25000 | 84.3  | 88.6  | 91.1  | 93.7  | 94.3  | 96.2  | 96.4  | 96.4  | 91.4  | 97.3  | 98.9  | 97.7  | 94.4  | 145.1 |
| 31500 | 78.5  | 83.8  | 86.0  | 88.7  | 89.0  | 91.1  | 91.1  | 91.9  | 87.3  | 93.6  | 95.5  | 92.2  | 87.7  | 143.6 |
| 40000 | 74.8  | 80.9  | 82.9  | 86.5  | 86.7  | 88.6  | 89.2  | 89.6  | 85.4  | 91.7  | 94.4  | 90.4  | 87.6  | 145.7 |
| 50000 | 71.5  | 76.9  | 80.0  | 85.2  | 83.9  | 86.1  | 85.9  | 86.7  | 82.9  | 89.8  | 92.4  | 87.8  | 81.5  | 147.7 |
| 63000 | 66.9  | 73.3  | 76.3  | 82.7  | 80.2  | 82.9  | 82.1  | 84.1  | 80.7  | 88.1  | 91.5  | 85.4  | 77.6  | 150.9 |
| 80000 | 59.7  | 69.0  | 71.3  | 79.1  | 74.9  | 78.8  | 77.7  | 78.9  | 76.0  | 84.7  | 88.4  | 83.1  | 71.1  | 154.1 |
| QASPL | 100.9 | 105.3 | 106.4 | 111.3 | 107.3 | 108.9 | 111.1 | 113.2 | 108.2 | 116.4 | 117.4 | 117.7 | 116.8 | 159.5 |
| PWL   | 112.4 | 116.8 | 117.4 | 123.7 | 118.9 | 120.6 | 123.2 | 125.6 | 120.5 | 128.7 | 129.4 | 129.6 | 128.4 |       |
| PNT   | 112.4 | 117.3 | 117.4 | 123.7 | 118.9 | 120.6 | 123.8 | 125.6 | 120.5 | 128.7 | 129.4 | 129.6 | 128.4 |       |
| DBA   | 98.9  | 103.1 | 103.9 | 110.5 | 105.3 | 107.2 | 109.4 | 112.1 | 107.2 | 115.3 | 115.6 | 115.4 | 114.1 |       |

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH173 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

MINI = LBS XNL RPM XNHR RPM XNHL RPM XNHR RPM V8 = 2137.1 FPS AEB = 19.9 SQ IN  
 LBS XNLR = RPM XNHR = RPM V8 = FPS AEB = 0. SQ IN

82F-ZER-0541 TAPE = X0541C TEST PT NO = 0541 NC = AE049 CORR FAN SPEED = RPM

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PAGE PRINTING SYSTEM - p111-02

027

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0541 X0541F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 77.8  | 82.3  | 84.6  | 78.9  | 82.5  | 78.1  | 87.0  | 84.6  | 74.6  | 79.4  | 87.0  | 86.7  | 88.1  | 125.7 |
| 60    | 81.2  | 91.5  | 93.5  | 87.1  | 91.9  | 85.8  | 97.4  | 93.8  | 81.3  | 87.3  | 93.7  | 91.4  | 93.8  | 134.2 |
| 80    | 82.4  | 87.7  | 85.0  | 84.8  | 84.4  | 86.5  | 87.9  | 87.0  | 81.0  | 86.6  | 89.7  | 92.6  | 93.0  | 129.4 |
| 100   | 83.0  | 89.2  | 85.0  | 84.8  | 86.1  | 87.5  | 88.9  | 89.8  | 81.3  | 90.8  | 93.5  | 96.7  | 97.6  | 132.3 |
| 125   | 79.4  | 84.6  | 86.4  | 87.7  | 87.8  | 88.7  | 90.3  | 89.7  | 84.7  | 89.2  | 97.1  | 99.5  | 100.5 | 134.4 |
| 150   | 79.8  | 80.0  | 84.8  | 86.1  | 84.7  | 84.8  | 93.2  | 87.3  | 82.6  | 92.4  | 98.0  | 100.2 | 102.1 | 135.0 |
| 200   | 80.3  | 81.9  | 84.1  | 89.9  | 85.3  | 87.1  | 90.0  | 89.4  | 86.6  | 94.4  | 99.3  | 102.5 | 103.4 | 136.5 |
| 250   | 80.8  | 85.1  | 84.8  | 90.4  | 85.5  | 87.1  | 89.5  | 91.4  | 87.1  | 99.1  | 103.8 | 106.2 | 106.1 | 139.8 |
| 315   | 80.8  | 86.1  | 86.1  | 92.4  | 87.7  | 89.1  | 92.5  | 92.1  | 89.1  | 100.1 | 104.0 | 106.5 | 106.6 | 140.4 |
| 400   | 81.4  | 85.2  | 86.2  | 92.7  | 88.3  | 88.7  | 96.3  | 93.5  | 89.2  | 100.8 | 104.6 | 107.3 | 106.2 | 141.0 |
| 500   | 81.7  | 85.2  | 86.5  | 93.0  | 87.9  | 89.5  | 91.9  | 93.5  | 90.0  | 101.3 | 104.2 | 105.9 | 104.8 | 140.1 |
| 630   | 81.8  | 86.0  | 87.6  | 94.4  | 89.2  | 90.6  | 92.4  | 94.6  | 90.1  | 101.9 | 103.3 | 103.7 | 103.1 | 139.4 |
| 800   | 84.1  | 86.9  | 89.8  | 95.8  | 92.0  | 93.6  | 95.7  | 92.8  | 92.0  | 101.8 | 103.2 | 101.3 | 100.5 | 138.9 |
| 1000  | 87.3  | 89.1  | 89.8  | 95.9  | 90.7  | 92.6  | 94.5  | 96.4  | 92.8  | 101.4 | 101.8 | 100.0 | 97.9  | 138.4 |
| 1250  | 85.0  | 92.0  | 91.1  | 95.9  | 91.2  | 92.3  | 95.2  | 96.4  | 92.6  | 101.1 | 101.3 | 99.2  | 97.5  | 138.3 |
| 1600  | 87.1  | 91.0  | 90.9  | 97.0  | 93.3  | 94.4  | 96.0  | 97.1  | 93.4  | 100.5 | 101.1 | 98.8  | 97.3  | 138.6 |
| 2000  | 86.5  | 90.9  | 91.6  | 97.7  | 92.8  | 93.9  | 95.7  | 96.5  | 93.6  | 100.9 | 100.9 | 99.0  | 97.5  | 138.8 |
| 2500  | 86.6  | 92.1  | 92.1  | 98.2  | 93.8  | 95.6  | 96.8  | 99.2  | 94.8  | 102.3 | 100.8 | 99.7  | 97.7  | 139.7 |
| 3150  | 87.9  | 92.9  | 93.0  | 100.0 | 94.3  | 96.4  | 98.3  | 100.5 | 96.6  | 103.4 | 102.4 | 101.1 | 99.6  | 141.1 |
| 4000  | 88.0  | 90.6  | 93.0  | 99.8  | 94.4  | 96.3  | 98.5  | 101.8 | 96.4  | 103.4 | 102.2 | 101.8 | 104.2 | 141.8 |
| 5000  | 89.3  | 92.8  | 94.2  | 101.2 | 95.9  | 96.3  | 98.5  | 103.3 | 96.0  | 106.1 | 106.2 | 106.3 | 104.5 | 144.2 |
| 6300  | 89.4  | 92.7  | 94.3  | 102.0 | 96.2  | 97.9  | 101.5 | 104.9 | 99.1  | 106.7 | 107.3 | 107.8 | 106.3 | 145.5 |
| 8000  | 89.3  | 93.9  | 95.0  | 101.6 | 95.9  | 100.6 | 102.7 | 107.5 | 106.5 | 107.5 | 106.5 | 105.6 | 105.7 | 145.7 |
| 10000 | 89.3  | 94.2  | 95.0  | 100.5 | 95.8  | 98.3  | 100.3 | 102.7 | 97.4  | 106.5 | 106.7 | 106.2 | 104.9 | 145.4 |
| 12500 | 91.7  | 95.6  | 96.9  | 98.7  | 95.2  | 97.7  | 99.3  | 101.2 | 96.3  | 103.7 | 104.7 | 104.3 | 102.8 | 144.6 |
| 16000 | 90.5  | 95.4  | 96.6  | 97.2  | 96.3  | 96.6  | 98.1  | 100.0 | 95.0  | 100.8 | 102.8 | 101.6 | 99.6  | 144.3 |
| 20000 | 84.3  | 88.6  | 91.1  | 93.7  | 94.3  | 96.2  | 96.1  | 97.7  | 92.8  | 98.6  | 101.2 | 99.5  | 97.4  | 144.3 |
| 25000 | 84.3  | 88.6  | 91.1  | 93.7  | 94.3  | 96.2  | 96.1  | 97.7  | 92.8  | 98.6  | 101.2 | 99.5  | 97.4  | 144.3 |
| 31500 | 78.5  | 83.8  | 86.0  | 86.7  | 89.0  | 91.1  | 91.1  | 91.9  | 87.3  | 93.6  | 95.5  | 92.2  | 87.7  | 143.6 |
| 40000 | 74.8  | 80.9  | 82.9  | 86.5  | 86.7  | 89.2  | 89.6  | 89.6  | 85.4  | 91.7  | 94.4  | 90.4  | 84.3  | 143.7 |
| 50000 | 71.5  | 76.9  | 80.0  | 85.2  | 83.9  | 86.1  | 85.9  | 86.7  | 82.9  | 89.8  | 92.4  | 87.8  | 81.5  | 147.7 |
| 63000 | 66.9  | 73.3  | 76.3  | 82.7  | 80.2  | 82.9  | 82.1  | 84.1  | 80.7  | 88.1  | 91.5  | 85.4  | 77.6  | 150.9 |
| 80000 | 59.7  | 69.0  | 71.3  | 79.1  | 74.9  | 78.8  | 77.7  | 78.9  | 76.0  | 84.7  | 88.4  | 83.1  | 71.1  | 154.1 |
| DBA   | 182.1 | 190.3 | 192.8 | 200.2 | 196.5 | 200.0 | 199.0 | 200.4 | 197.3 | 205.7 | 209.3 | 203.9 | 193.1 |       |
| PWL   | 112.4 | 117.3 | 117.4 | 123.7 | 118.9 | 120.6 | 123.8 | 125.6 | 120.5 | 128.7 | 129.4 | 128.6 | 128.4 |       |
| PNL   | 112.4 | 116.8 | 117.4 | 123.7 | 118.9 | 120.6 | 123.2 | 125.6 | 120.5 | 128.7 | 129.4 | 129.6 | 128.4 |       |
| GASPL | 100.9 | 105.3 | 106.4 | 111.3 | 107.3 | 108.9 | 111.1 | 113.2 | 108.2 | 116.4 | 117.4 | 117.7 | 116.8 | 159.5 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/20 EL ANN CV SUPP NZ SC-5/NAS3-22514

VEHICL = ADH173 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

FMINI = LBS XNL RPM XNH RPM = XNH XNHR RPM = XNH V8 = 2137.1 FPS AEB = 19.9 SQ IN  
FMRAMB = LBS XNLR RPM = XNLR RPM = XNLR V8 = 2137.1 FPS AEB = 19.9 SQ IN

RUNPT = 82F-ZER-0541 TAPE = X0541F TEST PT NO = 0541 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT., SL

IDENTIFICATION - 82F-ZER-0541 X05411

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60.4 65.7 67.8 75.1 71.1 71.6 79.1 75.8 70.8 81.3 89.7 84.2 79.7 159.5

60 60.7 66.5 69.1 76.7 71.9 73.4 75.2 76.9 71.6 82.4 82.2 82.7 78.2 158.6

100 63.0 67.4 70.5 77.7 72.5 74.8 76.3 78.0 73.5 82.2 82.0 78.0 73.7 157.4

125 66.0 69.4 71.3 78.0 73.3 75.3 77.1 78.5 74.3 81.8 80.6 76.4 70.8 156.9

160 63.6 72.2 72.4 77.9 73.7 74.9 77.7 78.4 73.9 81.3 79.8 75.4 70.0 156.8

200 65.4 71.0 72.1 78.9 75.6 76.9 78.3 79.0 74.6 80.5 79.5 74.7 69.4 157.0

250 64.5 70.6 72.5 79.4 74.9 76.2 77.8 80.2 74.5 80.6 78.9 74.5 69.0 157.3

315 64.1 71.4 72.7 79.6 75.6 77.6 80.6 75.4 81.7 78.4 74.6 68.3 158.2

400 65.0 71.9 73.2 81.1 75.9 78.1 79.8 81.6 76.8 82.3 79.5 75.3 69.2 159.6

500 64.6 69.2 72.9 80.6 75.6 77.8 79.7 82.6 76.3 81.9 80.0 77.0 70.8 160.3

630 65.4 71.0 73.7 81.7 76.9 79.0 81.0 83.8 77.6 84.3 82.3 79.2 72.1 162.6

800 65.0 70.5 73.0 82.3 77.0 78.9 82.2 85.1 78.4 84.5 82.9 80.1 72.8 164.0

1000 64.5 71.4 74.0 81.6 76.5 79.2 81.2 84.2 77.5 85.0 82.7 78.1 71.0 164.2

1250 64.0 71.4 73.8 80.4 76.3 78.9 80.8 82.6 76.2 83.6 81.4 76.9 68.8 163.9

1600 65.5 72.2 75.3 78.3 75.4 78.1 79.5 80.8 74.7 80.3 78.5 73.7 64.3 163.1

2000 63.4 71.4 74.6 76.5 76.3 78.1 79.3 79.0 76.8 74.7 73.0 69.4 58.2 162.8

2500 58.6 66.5 71.0 73.8 75.2 76.7 76.6 76.3 69.9 73.4 72.3 64.4 50.9 162.8

3150 52.0 60.9 66.3 70.8 72.4 74.6 74.2 73.5 66.6 69.6 66.6 57.6 39.6 163.5

4000 40.0 51.3 57.5 62.5 64.1 66.6 66.2 65.7 58.7 51.2 56.9 43.2 18.4 162.1

5000 26.5 40.9 48.1 54.9 56.9 59.3 59.3 58.0 50.6 51.7 46.0 27.7 16.4 162.1

6300 5.4 22.7 33.1 42.8 43.9 47.0 45.9 44.3 36.0 35.6 26.3 1.0 169.4 172.6

8000  
8000  
8000  
4000  
1500  
2500  
2000  
16000  
12500  
10000

DASPL 76.6 82.8 85.2 91.8 87.8 89.7 91.6 93.5 87.7 94.6 93.5 90.8 85.5 177.8  
PNL 84.2 91.6 94.7 99.4 97.7 99.5 100.4 101.5 95.4 101.3 99.5 95.0 87.5  
PNLT 84.2 91.6 95.3 99.9 97.7 99.5 100.4 101.5 95.4 101.8 99.5 96.3 88.6  
DBA 73.6 80.4 83.4 89.3 85.9 87.9 89.5 91.6 85.2 91.6 89.6 85.5 78.2

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH173 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
WIND DIR = SB59 WIND VEL = MPH PML AREA = FULL SPHERE EXT DIST = 2400.0 FT TAMB F = 72.00 PAMB HG = 29.30 RELHUM = 69.2 PCT  
IAPLHA = SB59 IEGA = NO

LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 2137.1 FPS AE8 = 19.9 SQ IN  
LBS XNLR = RPM XNHR = RPM V8 = 2137.1 FPS AE18 = 0. SQ IN

90 ER-0541 TAPE = X05411 TEST PT NO = 0541 NC = AE049 CORR FAN SPEED = RPM

PAGE PRINTING SYSTEM- P1188-02

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OF POOR QUALITY

DATE/RC - PLAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0542 X0542C BACKGROUND X79F400B0400 X0540D

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 50 81.0 84.1 84.6 79.9 81.5 78.6 88.0 84.9 76.6 80.2 85.8 87.0 92.6 126.7

63 82.0 91.7 93.8 89.6 90.6 86.3 98.1 92.8 84.5 87.3 85.7 86.7 95.6 134.1

60 82.2 87.5 84.7 85.3 83.6 86.2 87.6 87.5 81.5 85.8 87.9 91.6 96.3 129.6

100 81.2 87.0 83.3 83.1 85.6 85.5 86.4 87.8 80.0 87.3 91.0 94.4 97.3 130.4

125 78.9 82.9 84.7 83.9 85.8 85.9 87.8 88.7 80.9 88.7 94.1 97.8 99.5 132.3

150 77.3 77.8 83.1 83.6 81.9 82.3 92.7 84.1 80.6 89.9 95.0 98.2 100.9 133.1

200 77.3 79.6 82.9 85.4 81.5 83.1 88.5 85.7 82.1 89.9 94.3 101.4 133.3

250 75.8 79.6 79.6 79.6 85.4 81.2 82.6 84.7 86.4 82.8 93.6 98.8 102.0 135.3

315 76.0 81.1 82.6 87.1 83.0 84.1 87.7 87.4 84.1 95.4 99.3 102.2 135.8

400 76.4 80.2 80.7 87.2 82.3 83.7 90.6 87.2 84.4 96.2 99.6 101.3 98.7 135.3

500 76.9 80.0 80.8 88.0 82.9 84.0 87.1 88.0 84.8 97.1 99.5 95.5 134.3

630 76.8 80.0 81.8 88.9 83.7 84.6 86.7 88.6 85.1 97.6 98.5 96.2 91.4 133.6

800 78.6 80.9 82.7 90.2 84.6 86.0 87.6 90.2 87.5 98.3 98.4 92.6 87.7 133.7

1000 81.0 83.1 91.4 85.5 87.3 89.2 90.6 88.3 97.7 96.5 90.2 85.1 133.1

1250 80.0 84.6 84.8 92.1 85.9 87.8 89.4 91.6 89.1 97.4 96.0 87.9 84.2 133.2

1500 82.9 84.3 86.4 93.5 87.8 89.4 91.0 92.6 89.9 97.5 96.1 86.6 84.8 133.9

2000 82.9 84.2 85.9 88.3 90.6 92.8 95.0 96.8 92.9 98.6 95.3 88.2 83.9 136.3

2500 85.8 87.3 90.1 97.7 91.8 94.5 96.4 98.3 94.5 101.1 97.9 90.7 86.2 138.3

3150 84.1 85.6 87.1 94.4 89.3 90.9 92.3 94.7 90.8 98.8 94.6 86.7 82.9 134.9

3500 84.9 86.7 88.0 95.2 94.3 96.0 92.4 94.3 96.0 92.3 98.9 94.9 83.3 135.7

4000 84.9 86.8 88.2 96.2 95.3 97.0 93.3 95.1 97.3 99.9 95.3 103.6 101.4 90.6 140.8

4000 69.4 74.1 76.2 80.2 80.3 83.5 82.7 83.2 78.9 82.2 82.9 77.9 70.4 142.3

5000 57.0 69.9 72.2 76.9 75.4 78.1 80.0 75.4 79.5 73.6 65.1 143.8

8000 57.3 66.6 66.9 72.8 70.0 75.2 73.3 74.5 71.1 76.1 73.8 66.7 58.0 146.0

GASPL 99.2 102.2 103.4 108.1 104.3 106.0 108.2 109.2 105.2 112.9 112.0 110.7 110.2 154.2  
PWL 109.1 111.5 113.2 120.1 115.0 116.9 120.0 120.7 116.9 124.5 123.0 118.6 116.8  
PMLT 109.1 111.5 113.2 120.1 115.0 116.9 120.0 120.7 116.9 124.5 123.0 118.6 116.8  
DBA 95.6 97.8 99.3 106.8 101.3 103.4 105.5 107.4 103.6 111.4 109.5 105.3 102.7

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|---|
| NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514 |
| VEHICL = ADH184 TEST DATE = 6-30-82                   |
| IAPLHA = SB59   |
| WIND DIR = DEG WIND VEL = MPH                         |
| EXT DIST = 40.0 FT                                    |
| EXT CONFIG = ARC                                      |
| MIKE HT = 29.35                                       |
| PAMB HG = 73.00                                       |
| TAMB F = 73.00  |
| CONFIG = 5  |
| MODEL = AX  |
| FLTVEL = 400. FPS                                     |
| RELHUM = 82.1 PCT                                     |
| NBFR =  |
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| EXT DIST = 40.0 FT                                    |
| EXT CONFIG = ARC                                      |
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| RELHUM = 82.1 PCT                                     |
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| PAMB HG = 73.00                                       |
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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0543 X0543C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 79.8 82.6 84.3 79.9 81.5 80.3 87.2 83.9 76.3 78.9 87.8 87.7 88.4 126.0

60 82.5 91.7 94.0 88.1 89.4 88.3 97.6 93.3 82.5 86.8 93.2 91.9 93.1 134.2

80 84.9 90.2 87.2 87.0 87.1 89.2 89.9 89.5 83.0 88.3 91.9 94.4 95.5 131.7

100 84.7 91.7 87.5 86.6 90.1 89.8 90.6 91.8 83.0 92.8 95.7 98.7 99.8 134.4

125 81.1 87.1 88.7 89.2 89.8 90.2 92.3 91.9 86.2 94.2 99.4 102.0 102.7 136.6

160 81.3 82.0 86.3 88.1 86.4 86.8 96.2 89.3 84.8 94.6 100.3 102.9 104.9 137.6

200 82.6 83.6 85.9 87.0 89.1 87.0 89.1 92.0 91.4 88.9 96.4 101.1 105.0 139.0

250 82.8 86.8 87.1 92.9 87.5 88.8 87.5 93.4 89.6 101.6 106.3 109.7 109.1 142.4

315 81.8 86.8 87.6 94.6 89.7 90.6 93.7 90.6 93.4 89.6 101.6 106.3 109.7 143.2

400 83.1 86.9 87.7 94.5 89.8 90.7 98.6 95.0 91.7 104.5 107.6 110.1 109.5 143.9

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800 85.9 93.0 93.2 94.6 95.9 98.0 99.8 97.7 100.0 96.4 104.1 102.4 101.0 141.1

1000 88.8 90.1 91.6 98.1 93.0 94.6 96.2 98.1 95.1 104.4 104.0 103.0 102.1 141.0

1250 87.5 93.8 92.6 98.1 93.2 94.8 96.4 98.4 95.1 104.4 104.0 101.7 101.7 140.9

1600 88.9 93.4 92.6 99.2 94.6 95.9 98.0 99.8 95.7 103.6 101.6 101.3 101.3 141.1

2000 88.0 92.4 93.4 100.0 94.3 95.7 97.0 98.0 96.4 104.1 102.4 101.0 100.7 141.1

2500 89.1 93.6 94.1 100.2 95.3 96.9 98.3 101.2 96.8 104.8 102.8 101.9 100.9 141.8

3150 89.9 93.4 94.2 101.7 96.1 98.1 100.3 102.0 97.8 104.9 103.1 102.1 102.1 142.7

4000 88.7 92.4 94.3 101.8 95.9 98.1 100.0 103.5 98.2 105.1 104.1 104.9 104.2 143.4

5000 90.3 93.8 94.9 102.9 96.9 98.8 101.7 104.0 99.8 107.6 107.2 107.8 105.3 145.4

6300 91.4 95.0 95.0 103.3 97.5 99.2 102.2 105.9 100.1 108.0 108.3 108.8 107.6 146.6

8000 93.8 98.6 98.6 103.1 96.9 99.4 102.1 105.2 99.9 108.0 107.7 107.8 106.4 146.7

10000 96.8 101.2 101.0 102.3 98.8 100.3 101.5 103.7 99.4 107.5 106.4 107.4 105.4 146.8

12500 96.5 99.6 102.7 101.0 99.5 100.2 100.8 102.7 98.5 104.7 104.2 104.8 103.5 146.3

15000 92.3 97.4 99.9 101.6 100.8 99.9 101.7 96.8 102.3 102.5 102.1 100.6 100.6 146.3

20000 90.6 93.8 96.4 96.7 100.3 99.8 99.2 94.5 99.6 100.7 100.0 98.1 146.1

25000 87.8 92.1 95.4 95.0 97.1 98.7 98.8 97.9 93.1 99.3 99.1 97.9 146.9

31500 82.0 87.0 90.0 90.5 92.0 93.6 94.3 89.3 89.3 95.1 95.2 88.4 145.5

40000 79.0 84.6 87.4 88.3 90.2 91.6 91.2 86.7 94.0 85.8 147.4

50000 75.8 82.1 84.7 87.9 89.4 88.6 88.4 85.4 93.0 92.7 88.0 82.5 149.9

63000 71.9 79.3 82.8 84.9 84.2 86.6 84.8 86.3 83.2 91.1 91.5 86.1 153.0

80000 65.7 75.7 78.5 82.1 80.4 82.6 80.4 81.9 80.2 87.7 88.6 81.8 156.2

QASPL 104.1 108.3 109.4 113.2 109.8 111.0 112.8 114.6 110.0 118.3 118.9 119.9 119.3 161.5

PMLT 114.5 118.5 119.1 125.6 120.3 122.1 124.6 127.0 122.3 130.6 130.6 131.4 130.5

DBA 101.6 105.7 106.0 112.3 106.9 108.7 110.9 113.5 108.9 117.2 117.1 117.4 116.5

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICLE = ADH174 TEST DATE = 6-30-82  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
LOCAT = C41 ANECH CH CONFIG = 5  
MODEL = AX  
FLTVEL = 0. FPS  
RELHUM = 69.1 PCT  
PAMB HG = 29.35  
MIKE HT =  
NBFR =

LBS XNL =  
RPM XNHR =  
RPM XNH =  
RPM V8 =  
FPS AE8 =  
FPS AE18 =  
CORR FAN SPEED =  
RPM

82F-ZER-0543 TAPE = X0543C TEST PT NO = 0543 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0543 X0543F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

79.8 79.9 81.5 80.3 87.2 83.9 76.3 78.9 87.8 87.7 88.4 126.0

50 79.8 82.6 84.3 79.9 81.5 80.3 87.2 83.9 76.3 78.9 87.8 87.7 88.4 126.0

63 82.5 91.7 94.0 88.1 89.4 88.3 97.6 93.3 82.5 86.8 93.2 91.9 93.1 134.2

80 84.9 90.2 87.2 87.0 87.1 89.2 89.8 89.5 83.0 88.3 91.9 94.4 95.5 131.7

100 84.7 91.7 87.5 86.6 90.1 89.8 90.6 91.8 83.0 92.8 95.7 98.7 99.8 134.4

125 81.1 87.1 89.2 89.8 90.2 92.3 91.9 86.2 94.2 99.4 102.0 102.7 136.6

160 81.3 82.0 86.3 88.1 86.4 96.8 96.2 89.3 84.8 94.6 100.3 102.9 104.9 137.6

200 82.6 83.6 85.9 91.9 87.0 89.1 92.0 91.4 88.9 96.4 101.1 105.0 106.7 139.0

250 82.8 86.8 87.1 92.9 87.5 88.8 91.2 93.4 89.6 101.6 106.3 109.7 109.1 142.4

315 81.8 86.8 87.6 94.6 89.7 90.6 93.7 93.9 91.3 102.6 106.5 109.7 109.6 143.2

400 83.1 86.9 87.7 94.5 89.8 90.7 98.6 95.0 91.7 104.5 107.6 110.1 109.5 143.9

500 83.7 87.0 88.0 95.3 89.6 91.5 93.4 95.5 92.0 104.3 107.5 109.4 108.3 143.3

630 83.8 87.5 89.3 96.4 90.4 92.6 94.8 96.0 94.2 105.3 108.5 107.2 107.6 142.5

800 85.9 88.4 90.5 97.5 92.1 93.5 94.8 96.0 94.2 105.3 108.5 107.2 107.6 142.5

1000 88.8 90.1 91.6 98.1 93.0 94.6 96.2 98.1 95.1 104.4 107.6 109.4 108.3 143.3

1250 87.5 93.8 92.6 98.1 93.2 94.8 96.4 98.4 95.1 104.4 107.6 109.4 108.3 143.3

1600 87.5 93.8 92.6 98.1 93.2 94.8 96.4 98.4 95.1 104.4 107.6 109.4 108.3 143.3

2000 87.5 93.8 92.6 98.1 93.2 94.8 96.4 98.4 95.1 104.4 107.6 109.4 108.3 143.3

2500 87.8 92.1 95.4 95.0 97.1 98.7 98.8 97.9 93.1 99.3 99.1 97.9 95.2 146.9

3150 87.0 90.5 90.5 92.0 93.6 94.3 91.2 91.6 91.2 93.2 93.2 93.2 93.2 145.5

4000 79.0 84.6 84.6 88.3 90.2 91.6 91.2 91.6 91.2 93.2 93.2 93.2 93.2 147.4

5000 75.8 82.1 84.7 87.2 87.9 89.4 88.6 88.4 85.4 93.0 92.7 88.0 82.5 149.9

6300 71.9 79.3 82.8 84.9 84.2 86.6 84.8 86.3 83.2 91.1 91.5 86.1 78.8 153.0

8000 65.7 75.7 78.5 82.1 80.4 82.6 80.4 81.9 80.2 87.7 88.6 81.8 72.9 156.2

QASPL 104.1 108.3 109.4 113.2 109.8 111.0 112.8 114.6 110.0 118.3 118.9 119.9 119.3 161.5

PWL 114.5 118.5 119.1 125.6 120.3 122.1 125.5 127.0 122.3 130.6 130.6 131.4 130.5

DBA 187.6 196.8 199.7 203.0 201.6 203.7 201.7 203.1 201.1 208.7 209.5 203.0 194.6

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH174 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NG PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.35 RELHUM = 69.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFRR

FMINI = LBS XNL RPM XNH RPM = LBS XNLR RPM XNHR RPM = FMNRMB = LBS XNLR RPM XNHR RPM =

RUNPT = 82F-ZER-0543 TAPE = X0543F TEST PT NO = 0543 NC = AEO49 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0543 X05431

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 62.2 67.5 69.3 76.8 72.6 73.6 81.3 77.3 73.3 85.1 86.7 86.9 83.0 162.4

63 62.7 67.5 69.6 77.6 72.4 74.4 76.1 77.9 73.6 84.9 86.5 86.2 81.7 161.8

80 64.7 68.0 70.9 78.7 73.2 75.4 76.9 78.7 73.9 85.6 85.0 83.9 80.9 161.0

100 64.8 68.9 72.0 79.7 74.8 76.3 77.5 79.5 80.2 85.7 84.8 81.7 77.7 160.4

125 67.5 70.4 73.0 80.3 75.6 77.3 78.8 80.3 76.5 84.8 82.8 79.4 75.1 159.5

150 66.1 74.0 73.9 80.1 75.7 77.4 78.9 80.4 76.4 84.6 82.6 77.9 74.3 159.4

200 67.2 73.0 74.3 81.1 76.9 78.0 80.3 81.7 76.8 83.5 82.0 77.5 73.4 159.6

250 66.0 72.1 74.2 81.7 76.4 78.0 79.8 81.7 77.2 83.8 80.4 77.5 72.2 159.5

315 66.6 72.9 74.7 81.6 77.1 78.9 80.2 82.6 77.4 84.2 80.4 76.8 71.6 160.2

400 67.0 72.4 74.4 82.8 77.6 79.8 81.8 83.1 78.0 83.8 81.0 77.3 71.7 161.2

500 65.3 71.0 74.2 82.6 77.1 79.5 81.2 84.3 78.1 83.7 80.7 78.5 72.8 161.9

630 66.4 72.0 74.5 83.4 77.9 80.0 82.7 84.5 79.3 83.8 83.3 80.7 72.9 163.9

800 67.0 72.8 74.3 83.5 78.2 80.1 83.0 86.1 79.4 85.8 83.9 81.1 74.1 165.1

1000 69.0 76.1 76.8 83.1 77.5 80.2 82.7 85.2 79.0 85.5 82.9 79.3 71.7 165.1

1250 71.5 78.4 79.8 82.2 79.3 80.9 82.0 83.6 78.2 84.6 81.1 78.2 69.3 165.3

1500 70.3 76.2 81.1 80.5 79.7 80.6 81.0 82.3 76.9 81.3 78.0 74.2 65.0 164.8

2000 65.1 73.4 77.9 78.8 81.6 81.6 79.9 81.0 74.8 78.3 75.4 69.9 59.2 164.7

2500 61.6 68.5 73.5 75.3 79.2 80.0 79.3 77.8 71.7 74.4 71.8 64.9 51.7 164.6

3150 55.5 64.4 70.6 72.1 75.2 77.1 76.9 75.0 68.3 71.6 66.8 57.9 40.4 165.4

4000 43.5 54.6 61.5 64.3 67.1 69.1 69.4 67.2 60.7 62.7 56.7 44.2 19.1 163.9

5000 30.7 44.6 52.6 56.7 60.4 62.3 61.3 60.0 51.9 54.0 45.3 27.7 1.3 165.9

6300 9.6 27.9 37.8 44.8 47.9 50.2 48.6 46.0 38.5 38.8 26.5 1.3 168.4

8000 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

10000 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

12500 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

15000 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

20000 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

25000 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

31500 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

40000 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

50000 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

63000 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

80000 0.2 14.6 23.3 26.1 29.7 26.7 24.7 15.0 12.1 171.5 174.7

QASPL 79.4 85.6 88.1 93.7 90.2 91.7 93.3 94.9 89.5 96.8 95.3 93.3 88.7 179.8

PNL 87.8 94.3 96.2 101.4 101.0 102.1 102.6 103.1 97.3 103.0 100.2 96.7 89.7

PNLT 87.8 94.9 96.2 101.9 101.5 102.1 103.1 103.1 97.9 103.6 100.2 97.8 90.8

DBA 77.6 84.2 87.2 91.0 89.0 90.2 91.1 92.8 86.9 92.8 90.0 86.8 79.5

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH174 TEST DATE = 6-30-82 LCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 0. FPS

IAPLHA = SB59 LEGA / = NO PML AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.35 RELHUM = 69.1 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF

WIND = LBS XNL RPM XNHR RPM XNHR RPM V8 = 2263.6 FPS AEB = 19.9 SQ IN = 0. SQ IN

WIND = LBS XNL RPM XNHR RPM XNHR RPM V8 = 2263.6 FPS AEB = 19.9 SQ IN = 0. SQ IN

WIND = LBS XNL RPM XNHR RPM XNHR RPM V8 = 2263.6 FPS AEB = 19.9 SQ IN = 0. SQ IN

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PAGE PRINTING SYSTEM - P1188-02

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0544 X0544C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.3  | 84.1  | 84.3  | 82.9  | 80.7  | 77.8  | 85.2  | 85.1  | 77.6  | 80.9  | 87.3  | 88.0  | 92.1  |
| 63    | 82.0  | 91.5  | 93.5  | 90.8  | 89.9  | 83.5  | 96.1  | 93.3  | 84.3  | 86.8  | 88.0  | 87.2  | 91.6  |
| 80    | 83.9  | 88.5  | 85.7  | 86.5  | 86.1  | 88.0  | 88.4  | 87.5  | 88.6  | 89.7  | 86.6  | 89.7  | 92.4  |
| 100   | 82.7  | 89.0  | 85.3  | 87.6  | 87.3  | 88.6  | 89.8  | 89.8  | 81.3  | 88.6  | 92.5  | 96.4  | 98.1  |
| 125   | 80.4  | 84.6  | 86.2  | 85.7  | 87.3  | 88.2  | 89.8  | 89.2  | 82.2  | 90.5  | 95.9  | 99.8  | 101.0 |
| 150   | 78.3  | 78.8  | 83.6  | 83.6  | 83.7  | 83.1  | 92.9  | 84.6  | 81.1  | 90.4  | 96.3  | 99.2  | 102.1 |
| 200   | 79.3  | 80.9  | 83.4  | 87.2  | 83.0  | 84.9  | 90.0  | 87.7  | 83.9  | 91.7  | 96.3  | 101.5 | 103.7 |
| 250   | 77.5  | 81.6  | 81.1  | 87.6  | 83.2  | 84.8  | 86.2  | 88.4  | 84.1  | 96.4  | 101.5 | 104.6 | 137.9 |
| 315   | 77.0  | 82.3  | 83.8  | 88.6  | 84.5  | 85.3  | 89.2  | 88.9  | 86.1  | 97.6  | 101.8 | 104.5 | 138.0 |
| 400   | 78.1  | 81.7  | 82.2  | 89.0  | 84.6  | 85.2  | 91.6  | 89.2  | 85.9  | 99.2  | 102.6 | 104.1 | 137.9 |
| 500   | 78.2  | 81.0  | 82.5  | 89.8  | 85.3  | 88.6  | 89.0  | 86.3  | 89.3  | 102.5 | 102.1 | 98.8  | 137.1 |
| 630   | 77.8  | 81.5  | 83.6  | 91.1  | 85.2  | 86.8  | 88.4  | 90.1  | 86.8  | 100.1 | 101.3 | 99.7  | 95.4  |
| 800   | 80.6  | 82.4  | 84.2  | 92.2  | 86.6  | 88.0  | 89.3  | 92.0  | 89.0  | 100.5 | 101.2 | 96.8  | 90.2  |
| 1000  | 82.5  | 82.8  | 85.1  | 92.9  | 87.2  | 88.6  | 90.7  | 93.4  | 89.8  | 99.5  | 93.4  | 86.6  | 135.5 |
| 1250  | 81.5  | 86.1  | 86.6  | 93.6  | 87.7  | 89.3  | 91.7  | 93.4  | 90.3  | 100.1 | 98.8  | 91.2  | 86.0  |
| 1500  | 84.1  | 85.3  | 87.4  | 95.2  | 90.1  | 90.9  | 93.0  | 94.6  | 91.7  | 99.3  | 98.4  | 89.3  | 85.3  |
| 2000  | 84.0  | 85.4  | 87.6  | 96.0  | 89.6  | 91.2  | 92.7  | 95.7  | 91.9  | 100.1 | 97.7  | 89.2  | 86.0  |
| 2500  | 85.3  | 87.1  | 88.1  | 95.9  | 90.8  | 92.4  | 94.1  | 97.2  | 92.5  | 100.8 | 96.8  | 89.7  | 85.2  |
| 3150  | 85.4  | 87.2  | 89.2  | 96.7  | 91.3  | 93.6  | 96.0  | 98.0  | 93.8  | 100.6 | 97.4  | 89.6  | 85.1  |
| 4000  | 86.0  | 86.9  | 89.8  | 97.5  | 92.6  | 94.1  | 96.2  | 99.3  | 94.4  | 99.8  | 97.3  | 90.4  | 86.2  |
| 5000  | 87.0  | 89.3  | 90.6  | 99.2  | 93.3  | 95.5  | 97.7  | 100.5 | 95.5  | 103.1 | 100.2 | 88.0  | 84.0  |
| 6300  | 88.6  | 89.4  | 91.7  | 100.2 | 94.4  | 96.4  | 98.7  | 101.3 | 97.3  | 103.9 | 102.5 | 95.6  | 90.6  |
| 8000  | 88.6  | 89.3  | 93.3  | 100.8 | 94.0  | 96.6  | 98.5  | 101.9 | 97.3  | 105.4 | 103.4 | 97.7  | 93.1  |
| 10000 | 96.9  | 96.4  | 97.4  | 100.9 | 97.4  | 99.7  | 101.4 | 97.7  | 106.3 | 104.3 | 100.0 | 94.8  | 84.3  |
| 12500 | 96.6  | 98.2  | 100.2 | 99.8  | 97.6  | 98.1  | 98.9  | 100.8 | 97.1  | 104.5 | 103.5 | 99.6  | 94.6  |
| 15000 | 92.3  | 96.1  | 98.0  | 97.9  | 99.5  | 98.8  | 98.3  | 99.4  | 95.9  | 101.2 | 101.2 | 97.6  | 92.6  |
| 20000 | 90.2  | 92.0  | 94.7  | 96.3  | 97.8  | 98.8  | 98.4  | 97.5  | 93.3  | 98.6  | 98.5  | 96.0  | 90.7  |
| 25000 | 87.3  | 89.6  | 92.2  | 94.1  | 95.5  | 97.4  | 97.5  | 92.0  | 92.2  | 96.5  | 95.7  | 87.4  | 80.7  |
| 31500 | 80.5  | 84.4  | 86.4  | 89.1  | 89.7  | 92.6  | 91.8  | 91.6  | 87.1  | 91.8  | 91.1  | 87.4  | 80.7  |
| 40000 | 76.4  | 81.6  | 83.3  | 85.8  | 87.1  | 89.4  | 89.3  | 84.6  | 84.6  | 89.0  | 88.4  | 83.5  | 76.7  |
| 50000 | 72.7  | 76.9  | 80.2  | 82.7  | 84.0  | 86.5  | 85.7  | 81.1  | 85.4  | 83.2  | 81.2  | 75.9  | 67.1  |
| 63000 | 68.0  | 73.9  | 77.2  | 80.1  | 80.0  | 82.6  | 81.3  | 82.3  | 78.7  | 83.2  | 81.2  | 75.9  | 67.1  |
| 80000 | 61.5  | 71.1  | 73.4  | 76.3  | 75.3  | 78.7  | 77.5  | 77.0  | 73.9  | 79.9  | 76.0  | 68.9  | 59.5  |
| DBA   | 99.0  | 100.6 | 101.4 | 108.6 | 102.9 | 104.8 | 106.9 | 109.5 | 105.3 | 113.3 | 111.9 | 108.1 | 105.1 |
| PNL   | 112.0 | 113.9 | 114.5 | 121.8 | 116.5 | 118.2 | 120.6 | 122.7 | 118.5 | 126.4 | 125.5 | 121.0 | 118.8 |
| PASPL | 102.8 | 105.0 | 106.3 | 110.1 | 106.9 | 108.1 | 109.6 | 111.2 | 107.0 | 114.8 | 114.5 | 113.1 | 112.0 |

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VEHICL = ADH183 TEST DATE = 6-30-82  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = SB59 DEG WIND VEL = MPH  
 LOCAL = C41 ANECH CH CONFIG = 5  
 PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
 TAMB F = 73.00 EXT CNFIG = ARC  
 MODEL = AX PAMB HG = 29.35 MIKE HT =  
 RELHUM = 82.1 PCT NBFR =

FINI = LBS XNL = RPM XNH = RPM V8 = 2274.9 FPS AEB = 19.9 SO IN  
 FMAMB = LBS XNLR = RPM XNHR = RPM V18 = 2274.9 FPS AE18 = 0. SO IN  
 RUNPT = 82F-400-0544 TAPE = X0544C TEST PT NO = 0544 NC = AE049 CORR FAN SPEED = RPM

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

625

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0544 X0544F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250   | 85.4  | 88.0  | 86.0  | 90.9  | 84.8  | 84.8  | 84.3  | 84.8  | 82.6  | 93.3  | 96.9  | 100.0 | 101.5 | 134.5 |
| 315   | 85.4  | 88.0  | 86.0  | 90.9  | 85.5  | 87.9  | 86.1  | 82.7  | 95.2  | 98.2  | 100.4 | 100.1 | 134.9 |       |
| 400   | 84.8  | 88.8  | 88.9  | 92.1  | 86.6  | 85.4  | 90.3  | 86.5  | 83.9  | 96.2  | 99.1  | 99.9  | 135.4 |       |
| 500   | 86.4  | 88.6  | 88.6  | 92.7  | 86.5  | 85.8  | 87.9  | 85.4  | 98.3  | 99.4  | 99.7  | 99.7  | 135.7 |       |
| 630   | 86.7  | 88.2  | 88.2  | 93.7  | 87.5  | 87.2  | 87.8  | 88.5  | 87.6  | 99.0  | 100.1 | 98.6  | 135.9 |       |
| 800   | 86.8  | 89.2  | 89.6  | 95.3  | 89.8  | 89.6  | 90.1  | 88.7  | 98.6  | 99.0  | 96.4  | 97.0  | 135.6 |       |
| 1000  | 89.7  | 90.1  | 90.3  | 96.5  | 89.7  | 89.2  | 90.0  | 91.4  | 89.2  | 98.8  | 98.1  | 94.0  | 135.8 |       |
| 1250  | 91.3  | 90.4  | 91.1  | 97.1  | 90.2  | 90.1  | 91.1  | 91.5  | 90.8  | 98.1  | 97.9  | 92.3  | 135.9 |       |
| 1600  | 89.6  | 93.2  | 92.3  | 97.7  | 92.9  | 92.0  | 92.6  | 92.9  | 91.4  | 99.4  | 97.6  | 92.7  | 136.9 |       |
| 2000  | 89.4  | 93.3  | 93.3  | 99.9  | 92.7  | 92.5  | 92.7  | 92.5  | 94.4  | 92.5  | 93.4  | 97.1  | 137.9 |       |
| 2500  | 93.3  | 93.5  | 94.2  | 100.8 | 94.1  | 94.0  | 94.6  | 96.3  | 94.5  | 101.1 | 99.5  | 94.2  | 138.9 |       |
| 3150  | 94.9  | 95.4  | 94.9  | 101.0 | 95.1  | 95.7  | 97.2  | 97.9  | 96.3  | 101.5 | 99.7  | 96.2  | 140.1 |       |
| 4000  | 95.7  | 96.1  | 96.5  | 102.3 | 96.9  | 96.6  | 98.2  | 100.2 | 96.9  | 104.1 | 101.7 | 100.6 | 141.9 |       |
| 5000  | 96.3  | 95.9  | 97.2  | 103.3 | 97.9  | 98.5  | 99.7  | 101.1 | 98.9  | 105.2 | 104.5 | 100.9 | 143.5 |       |
| 6300  | 97.3  | 98.3  | 98.2  | 105.1 | 99.0  | 99.4  | 100.7 | 102.0 | 99.3  | 107.2 | 105.9 | 103.6 | 145.3 |       |
| 8000  | 98.7  | 98.3  | 99.1  | 106.1 | 98.4  | 99.6  | 100.6 | 102.6 | 100.2 | 108.6 | 107.3 | 106.3 | 146.9 |       |
| 10000 | 100.1 | 100.7 | 99.9  | 105.9 | 99.4  | 100.7 | 101.8 | 102.4 | 100.2 | 107.2 | 106.7 | 105.8 | 147.2 |       |
| 12500 | 102.0 | 103.2 | 101.7 | 104.6 | 101.4 | 101.1 | 101.2 | 102.2 | 99.9  | 104.5 | 104.6 | 103.8 | 147.3 |       |
| 15000 | 101.3 | 102.6 | 104.2 | 103.0 | 103.6 | 101.8 | 100.8 | 101.2 | 95.6  | 100.4 | 100.7 | 101.2 | 147.7 |       |
| 20000 | 98.2  | 101.3 | 102.3 | 101.2 | 102.4 | 101.8 | 99.8  | 97.5  | 95.9  | 99.8  | 99.3  | 100.6 | 148.1 |       |
| 25000 | 98.3  | 98.9  | 100.1 | 100.1 | 100.4 | 99.2  | 97.5  | 93.4  | 98.0  | 97.7  | 97.0  | 97.2  | 148.8 |       |
| 31500 | 94.6  | 95.7  | 96.8  | 97.2  | 94.3  | 95.6  | 94.2  | 93.5  | 91.6  | 96.0  | 96.1  | 94.6  | 148.3 |       |
| 40000 | 87.0  | 89.6  | 90.2  | 91.4  | 91.7  | 92.4  | 91.7  | 91.2  | 88.2  | 92.7  | 93.2  | 91.7  | 148.3 |       |
| 50000 | 82.5  | 86.4  | 86.7  | 87.6  | 88.6  | 89.5  | 88.1  | 86.9  | 86.0  | 90.4  | 89.4  | 87.3  | 149.3 |       |
| 63000 | 77.8  | 80.8  | 82.7  | 83.6  | 84.6  | 85.6  | 83.6  | 83.5  | 81.9  | 87.4  | 83.8  | 79.7  | 150.4 |       |
| 80000 | 71.6  | 76.4  | 78.2  | 79.6  | 79.9  | 81.7  | 79.4  | 77.6  | 72.1  | 77.6  | 74.0  | 69.9  | 151.6 |       |
| DBA   | 193.7 | 197.8 | 199.6 | 200.8 | 201.3 | 202.9 | 200.7 | 199.4 | 195.6 | 201.0 | 197.8 | 194.2 | 192.2 |       |
| PFLT  | 118.4 | 119.0 | 119.2 | 125.4 | 119.3 | 120.7 | 122.0 | 119.8 | 127.4 | 126.3 | 124.0 | 126.4 |       |       |
| PNL   | 118.4 | 119.0 | 119.2 | 125.4 | 119.3 | 120.7 | 122.0 | 119.8 | 127.4 | 126.3 | 124.0 | 126.4 |       |       |
| DBA   | 193.7 | 197.8 | 199.6 | 200.8 | 201.3 | 202.9 | 200.7 | 199.4 | 195.6 | 201.0 | 197.8 | 194.2 | 192.2 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH183 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CNF1G = 5 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 DEG WIND VEL = MPH PWL AREA = FULL SPHERE TAMB F = 73.00 MIKE HT = RELHUM = 82.1 PCT  
WIND DIR = SB59

LBS XNL = RPM XNHR = RPM V8 = 2274.9 FPS AE8 = 19.9 SQ IN  
LBS XNLR = RPM XNHR = RPM V8 = 2274.9 FPS AE8 = 19.9 SQ IN

00-0544 TAPE = X0544F TEST PT NO = 0544 NC = AE049 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

PAGE PRINTING SYSTEM - P1185-02

C-6

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0544 X05441

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40 50 60 70 80 90 100 110 120 130 140 150 160

PWL

|      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50   | 63.9 | 69.4 | 70.5 | 74.5 | 69.4 | 68.3 | 73.0 | 68.8 | 65.6 | 76.8 | 78.1 | 76.7 | 73.4  | 153.9 |
| 60   | 65.4 | 68.3 | 75.1 | 69.3 | 68.7 | 70.6 | 69.4 | 67.1 | 78.8 | 78.4 | 76.4 | 73.2 | 154.2 |       |
| 70   | 65.7 | 69.7 | 71.1 | 77.6 | 71.7 | 71.3 | 71.2 | 72.3 | 70.3 | 79.1 | 77.8 | 73.0 | 154.1 |       |
| 80   | 68.4 | 70.5 | 71.7 | 78.7 | 72.3 | 72.0 | 72.6 | 73.6 | 70.7 | 79.2 | 76.9 | 70.5 | 154.3 |       |
| 90   | 69.9 | 70.6 | 72.4 | 79.2 | 72.6 | 72.7 | 73.6 | 73.5 | 72.1 | 78.3 | 76.5 | 68.4 | 154.4 |       |
| 100  | 68.1 | 73.1 | 73.4 | 79.6 | 75.2 | 74.4 | 74.9 | 74.8 | 72.5 | 79.4 | 75.9 | 68.6 | 155.4 |       |
| 110  | 68.1 | 73.0 | 74.8 | 81.6 | 74.8 | 74.7 | 74.8 | 76.1 | 73.3 | 80.2 | 75.1 | 68.8 | 155.3 |       |
| 120  | 70.9 | 72.9 | 74.7 | 82.2 | 76.0 | 76.0 | 76.5 | 77.7 | 75.1 | 80.4 | 76.1 | 68.1 | 157.4 |       |
| 130  | 72.0 | 72.0 | 74.4 | 82.1 | 76.7 | 77.4 | 78.8 | 78.9 | 76.6 | 80.5 | 76.8 | 70.5 | 158.6 |       |
| 140  | 72.3 | 74.7 | 76.4 | 83.0 | 78.1 | 78.1 | 79.5 | 81.0 | 76.8 | 82.7 | 78.4 | 71.6 | 160.3 |       |
| 150  | 72.4 | 74.1 | 76.8 | 83.8 | 78.9 | 79.7 | 80.7 | 81.6 | 78.5 | 83.4 | 80.6 | 73.9 | 162.0 |       |
| 160  | 72.9 | 76.1 | 77.4 | 85.3 | 79.8 | 80.3 | 81.4 | 82.2 | 78.6 | 85.0 | 81.5 | 75.8 | 163.8 |       |
| 170  | 73.9 | 75.8 | 78.2 | 86.1 | 79.0 | 80.4 | 81.2 | 82.7 | 79.3 | 86.1 | 82.5 | 77.9 | 165.4 |       |
| 180  | 74.8 | 77.8 | 78.8 | 85.7 | 79.9 | 81.3 | 82.3 | 82.2 | 79.0 | 84.4 | 81.3 | 76.6 | 165.7 |       |
| 190  | 75.8 | 79.7 | 80.1 | 84.1 | 81.6 | 81.5 | 81.4 | 81.7 | 78.3 | 81.1 | 78.4 | 73.2 | 165.7 |       |
| 200  | 75.8 | 79.7 | 80.1 | 84.1 | 81.6 | 81.5 | 81.4 | 81.7 | 78.3 | 81.1 | 78.4 | 73.2 | 165.7 |       |
| 210  | 74.8 | 77.8 | 78.8 | 85.7 | 79.9 | 81.3 | 82.3 | 82.2 | 79.0 | 84.4 | 81.3 | 76.6 | 165.7 |       |
| 220  | 74.1 | 78.6 | 82.2 | 82.3 | 83.6 | 82.0 | 80.8 | 80.5 | 73.6 | 76.4 | 73.5 | 69.0 | 166.2 |       |
| 230  | 74.1 | 78.6 | 82.2 | 82.3 | 83.6 | 82.0 | 80.8 | 80.5 | 73.6 | 76.4 | 73.5 | 69.0 | 166.2 |       |
| 240  | 69.2 | 76.1 | 79.5 | 79.9 | 81.9 | 81.6 | 79.3 | 76.1 | 73.0 | 74.6 | 70.3 | 64.5 | 166.5 |       |
| 250  | 66.0 | 71.2 | 75.3 | 77.2 | 78.2 | 78.8 | 77.3 | 74.6 | 68.7 | 70.3 | 65.4 | 57.0 | 167.3 |       |
| 300  | 56.0 | 63.3 | 68.2 | 71.0 | 69.4 | 71.1 | 69.4 | 67.3 | 63.1 | 63.6 | 57.5 | 45.6 | 166.8 |       |
| 350  | 38.7 | 49.6 | 55.4 | 59.7 | 61.8 | 63.1 | 61.8 | 59.6 | 53.4 | 52.7 | 44.9 | 29.0 | 166.8 |       |
| 400  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 450  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 500  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 550  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 600  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 650  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 700  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 750  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 800  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 850  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 900  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 950  | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1000 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1050 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1100 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1150 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1200 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1250 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1300 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1350 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1400 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1450 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1500 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1550 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1600 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1650 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1700 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1750 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1800 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1850 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1900 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 1950 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2000 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2050 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2100 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2150 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2200 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2250 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2300 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2350 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2400 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2450 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2500 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2550 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2600 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2650 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2700 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2750 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2800 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2850 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2900 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 2950 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3000 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3050 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3100 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3150 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3200 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3250 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3300 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3350 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3400 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3450 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3500 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3550 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3600 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3650 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 | 50.3 | 48.2 | 44.5 | 39.2 | 36.2 | 22.9 | 0.5  | 167.8 |       |
| 3700 | 16.4 | 32.2 | 39.8 | 45.2 | 48.7 |      |      |      |      |      |      |      |       |       |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0545 X0545C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 83.3 84.3 87.1 85.9 84.2 84.8 86.2 86.4 79.3 85.4 89.5 93.5 94.1 129.3

63 88.5 92.2 95.8 93.8 92.6 93.0 95.6 95.8 91.8 85.8 91.8 93.5 98.9 135.3

80 88.7 94.2 90.7 91.3 90.9 93.0 93.6 92.8 87.0 92.1 95.9 98.9 99.8 135.6

100 89.7 96.7 92.3 89.8 94.1 94.3 95.6 97.1 86.5 96.6 99.2 103.4 105.1 139.0

125 85.6 90.6 92.4 93.2 94.5 94.9 96.5 96.4 89.7 98.5 104.1 107.0 108.2 141.5

160 85.8 85.8 90.6 92.3 89.9 90.8 99.2 93.3 89.1 99.4 104.8 108.2 110.1 142.4

200 87.1 87.4 88.9 86.2 91.0 93.6 96.8 95.4 93.1 100.9 106.1 110.0 112.2 144.0

250 86.8 90.3 90.8 96.6 92.0 93.1 95.7 98.1 93.6 106.1 111.5 114.0 114.4 147.5

315 86.0 90.3 90.8 98.6 93.5 94.8 97.7 97.9 95.8 108.1 112.5 115.0 115.4 148.7

400 87.6 91.2 91.4 99.2 93.8 93.8 93.9 103.3 98.7 96.4 110.8 114.6 116.8 150.3

500 88.7 91.2 91.5 100.0 93.1 95.0 97.1 99.3 97.3 111.1 115.5 116.6 115.5 150.5

630 88.5 91.6 93.6 101.6 94.9 96.3 98.7 100.6 97.6 111.9 115.8 117.7 116.4 151.3

800 92.1 93.4 94.7 102.7 95.8 97.5 98.8 102.2 99.5 111.5 115.2 117.3 116.2 151.0

1000 96.0 96.3 97.1 103.1 96.5 98.1 100.2 102.6 99.8 110.9 113.3 116.5 115.1 150.1

1250 93.0 98.3 98.6 103.9 98.9 99.3 100.7 102.9 100.3 109.9 112.3 115.4 114.7 149.4

1600 93.4 95.8 96.7 104.2 98.6 99.9 102.3 104.1 101.2 109.0 114.6 113.1 148.8

2000 93.8 96.4 97.4 104.5 97.8 98.9 101.7 104.5 100.6 109.9 110.9 113.5 111.7 148.2

2500 94.1 97.8 97.6 103.9 98.8 100.1 102.1 104.7 100.8 110.3 110.8 111.9 108.7 147.8

3150 94.4 97.7 98.0 104.5 99.1 100.9 103.5 105.2 101.8 110.1 111.7 110.6 109.2 147.2

4000 93.2 97.9 98.0 104.8 98.9 100.6 103.0 105.8 101.4 108.6 109.2 108.7 106.7 147.2

5000 96.6 99.8 100.4 105.4 99.6 101.3 103.2 106.0 102.5 110.4 112.0 109.5 107.0 148.3

6300 98.9 103.7 103.0 105.5 101.5 101.2 104.0 106.4 102.6 109.7 110.6 109.3 107.1 148.5

8000 100.3 106.6 105.3 102.6 102.4 102.3 106.7 103.1 108.5 109.7 107.5 106.1 149.1

10000 98.6 105.0 107.3 105.5 107.0 105.4 104.3 104.7 103.1 108.5 108.4 106.7 105.2 149.6

12500 97.7 101.6 104.4 103.5 106.5 106.7 104.8 104.7 100.8 106.2 106.2 105.3 103.3 149.2

16000 95.5 100.4 101.9 100.7 103.3 103.1 102.6 99.0 103.8 104.3 103.1 100.6 148.7

20000 93.6 97.8 99.9 99.2 101.5 102.5 100.9 97.0 101.6 102.5 100.5 98.4 148.2

25000 91.1 95.8 98.1 97.7 100.1 101.2 101.3 95.6 100.4 95.6 100.4 98.9 148.2

31500 85.5 91.5 93.0 93.5 95.2 97.3 96.6 95.9 91.5 96.8 97.5 94.4 148.1

40000 82.5 89.6 91.9 91.5 93.5 94.6 94.6 93.8 89.9 95.0 96.6 92.1 150.1

50000 80.5 87.1 89.7 90.4 91.9 92.9 92.1 91.2 88.4 94.0 94.7 90.0 152.7

63000 77.2 85.3 87.8 88.2 89.2 90.9 88.8 90.1 86.5 92.9 93.3 87.6 156.1

80000 71.2 81.7 85.5 85.9 84.7 87.8 84.7 85.4 84.0 90.4 90.4 83.3 159.7

QASPL 108.5 113.2 114.1 116.6 114.2 114.8 115.9 117.2 113.6 122.6 125.3 126.9 125.9 165.4

PNL 120.3 124.6 124.9 129.0 124.2 125.2 127.7 129.6 125.9 134.7 136.8 137.3 135.8

PMLT 121.5 125.3 124.9 129.0 124.2 125.2 128.6 129.6 125.9 134.7 136.8 137.3 135.8

DBA 107.0 111.4 111.9 115.8 111.3 111.9 113.9 116.2 112.7 121.8 124.0 125.5 124.1

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH178 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FTVEL = 0. FPS

LAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 72.00 MIKE HG = 29.30 RELHUM = 69.2 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBR

LBS XNLR = RPM XNHR = RPM XNH RPM V8 = 2537.1 FPS AEB = 19.9 SQ IN

LBS XNLR = RPM XNHR = RPM V18 = 2537.1 FPS AE18 = 0. SQ IN

82F-ZER-0545 TAPE = X0545C TEST PT NO = 0545 NC = AE049 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0545 X0545F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|   |                     |                      |            |            |                 |               |           |                        |                |                 |                   |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---|---------------------|----------------------|------------|------------|-----------------|---------------|-----------|------------------------|----------------|-----------------|-------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 80  | 88.7                | 94.2                 | 90.7       | 91.3       | 90.9            | 93.0          | 93.6      | 92.8                   | 87.0           | 92.1            | 95.9              | 98.9   | 99.6  | 98.3  | 98.6  | 98.9  | 99.3  | 99.3  | 100.7 | 102.9 | 100.3 | 109.9 | 112.3 | 115.4 | 114.7 | 149.4 |
| 100   | 89.7                | 96.7                 | 92.3       | 89.8       | 94.1            | 94.3          | 95.6      | 97.1                   | 86.5           | 96.6            | 99.2              | 103.4  | 105.1 | 139.0 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 125   | 85.6                | 90.6                 | 92.4       | 93.2       | 94.5            | 94.9          | 96.5      | 96.4                   | 89.7           | 98.5            | 104.1             | 107.0  | 108.2 | 141.5 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 150   | 85.8                | 85.8                 | 90.6       | 92.3       | 89.9            | 90.8          | 99.2      | 93.3                   | 89.1           | 99.4            | 104.8             | 107.0  | 108.2 | 142.4 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 200   | 87.1                | 87.4                 | 88.9       | 96.2       | 91.0            | 93.6          | 96.8      | 95.4                   | 93.1           | 100.9           | 106.1             | 110.0  | 112.2 | 144.0 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 250   | 86.8                | 90.3                 | 90.8       | 96.6       | 92.0            | 93.1          | 97.7      | 98.1                   | 93.6           | 106.1           | 111.5             | 114.0  | 114.4 | 147.5 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 315   | 86.0                | 90.3                 | 90.8       | 96.6       | 93.5            | 94.8          | 97.7      | 97.9                   | 95.8           | 108.1           | 112.5             | 115.0  | 115.4 | 148.7 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 400   | 87.6                | 91.2                 | 91.4       | 99.2       | 93.8            | 93.8          | 98.9      | 103.3                  | 98.7           | 114.6           | 116.8             | 116.8  | 115.2 | 150.3 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 500   | 88.7                | 91.2                 | 91.5       | 100.0      | 93.1            | 95.0          | 97.1      | 99.3                   | 97.3           | 111.1           | 115.5             | 116.6  | 115.5 | 150.5 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 630   | 88.5                | 91.8                 | 93.6       | 101.6      | 94.9            | 96.3          | 98.7      | 100.6                  | 97.6           | 111.9           | 115.8             | 117.7  | 116.4 | 151.3 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 800   | 92.1                | 93.4                 | 94.7       | 102.7      | 95.8            | 97.5          | 98.8      | 102.2                  | 99.5           | 111.5           | 115.2             | 117.3  | 116.2 | 151.0 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 1000  | 96.0                | 96.3                 | 97.1       | 103.1      | 96.5            | 98.1          | 100.2     | 102.6                  | 99.8           | 110.9           | 113.3             | 116.5  | 115.1 | 150.1 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 1250  | 93.0                | 98.3                 | 98.6       | 103.9      | 98.6            | 99.3          | 100.7     | 102.9                  | 100.3          | 109.9           | 112.3             | 115.4  | 114.7 | 149.4 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 1600  | 93.4                | 95.8                 | 96.7       | 104.2      | 98.6            | 99.9          | 102.3     | 104.1                  | 101.2          | 109.0           | 111.9             | 113.1  | 114.8 | 148.8 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 2000  | 93.8                | 95.8                 | 98.1       | 97.7       | 100.1           | 101.2         | 101.3     | 100.4                  | 95.6           | 100.5           | 100.4             | 98.9   | 94.7  | 149.2 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 2500  | 91.1                | 95.8                 | 98.1       | 97.7       | 100.1           | 101.2         | 101.3     | 100.4                  | 95.6           | 100.5           | 100.4             | 98.9   | 94.7  | 149.2 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 3150  | 94.4                | 97.7                 | 98.0       | 104.5      | 99.1            | 100.9         | 103.5     | 105.2                  | 101.8          | 110.1           | 111.7             | 110.6  | 108.1 | 147.9 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 4000  | 93.2                | 97.9                 | 98.0       | 104.8      | 98.9            | 100.6         | 103.0     | 105.8                  | 101.4          | 108.6           | 110.6             | 109.2  | 106.7 | 147.2 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 5000  | 96.6                | 99.8                 | 100.4      | 105.4      | 99.6            | 101.3         | 103.2     | 106.0                  | 102.5          | 110.4           | 112.0             | 109.5  | 107.0 | 148.3 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 6300  | 98.9                | 103.7                | 103.0      | 105.5      | 101.5           | 102.6         | 104.0     | 106.4                  | 102.6          | 109.7           | 110.6             | 109.3  | 107.1 | 148.5 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 8000  | 100.3               | 106.6                | 106.7      | 105.3      | 102.6           | 102.4         | 103.9     | 106.7                  | 102.7          | 109.7           | 109.7             | 107.5  | 106.1 | 149.1 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 10000   | 98.6                | 105.0                | 107.3      | 105.5      | 107.0           | 105.3         | 104.3     | 105.7                  | 103.1          | 108.5           | 108.4             | 106.7  | 105.2 | 149.6 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 12500   | 97.7                | 101.6                | 104.4      | 103.5      | 106.5           | 106.7         | 104.8     | 104.7                  | 100.8          | 106.2           | 106.2             | 105.3  | 103.3 | 149.2 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 16000   | 95.5                | 100.4                | 101.9      | 100.7      | 103.3           | 105.1         | 104.6     | 103.7                  | 99.0           | 103.8           | 104.3             | 100.6  | 148.7 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 20000   | 93.6                | 97.8                 | 99.9       | 99.9       | 99.2            | 101.5         | 102.5     | 102.6                  | 100.9          | 97.0            | 101.6             | 102.5  | 100.5 | 148.2 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 25000   | 91.1                | 95.8                 | 98.1       | 97.7       | 100.1           | 101.2         | 101.3     | 100.4                  | 95.6           | 100.5           | 100.4             | 98.9   | 94.7  | 149.2 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 31500   | 82.5                | 89.6                 | 91.9       | 91.5       | 93.5            | 94.6          | 94.2      | 93.8                   | 89.9           | 95.0            | 96.6              | 92.1   | 86.3  | 150.1 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 40000   | 80.5                | 87.1                 | 89.7       | 90.4       | 91.9            | 92.9          | 92.1      | 91.2                   | 88.4           | 94.0            | 94.7              | 90.0   | 82.7  | 152.7 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 50000   | 77.2                | 85.3                 | 87.8       | 88.2       | 89.2            | 90.9          | 88.8      | 90.1                   | 86.5           | 92.9            | 93.3              | 87.6   | 78.3  | 156.1 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 63000   | 71.2                | 81.7                 | 85.5       | 85.9       | 84.7            | 87.8          | 84.7      | 85.4                   | 84.0           | 90.4            | 90.4              | 83.3   | 72.4  | 159.7 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 80000   | 108.5               | 113.2                | 114.1      | 116.6      | 114.2           | 114.8         | 115.9     | 117.2                  | 113.6          | 122.6           | 125.3             | 126.9  | 125.9 | 165.4 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 100000  | 120.3               | 124.9                | 129.0      | 124.9      | 125.2           | 127.7         | 129.6     | 125.9                  | 134.7          | 136.8           | 137.3             | 135.8  | 137.3 | 135.8 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 125000  | 121.5               | 125.3                | 124.9      | 129.0      | 124.2           | 125.2         | 128.6     | 129.6                  | 125.9          | 134.7           | 136.8             | 137.3  | 135.8 | 137.3 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 150000  | 121.5               | 125.3                | 124.9      | 129.0      | 124.2           | 125.2         | 128.6     | 129.6                  | 125.9          | 134.7           | 136.8             | 137.3  | 135.8 | 137.3 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| 200000  | 192.9               | 202.8                | 206.3      | 206.7      | 206.0           | 208.8         | 205.9     | 206.7                  | 204.8          | 211.2           | 211.3             | 204.5  | 194.2 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| DBA   | 192.9               | 202.8                | 206.3      | 206.7      | 206.0           | 208.8         | 205.9     | 206.7                  | 204.8          | 211.2           | 211.3             | 204.5  | 194.2 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| GASPL   | 108.5               | 113.2                | 114.1      | 116.6      | 114.2           | 114.8         | 115.9     | 117.2                  | 113.6          | 122.6           | 125.3             | 126.9  | 125.9 | 165.4 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| PWL   | 120.3               | 124.9                | 129.0      | 124.9      | 125.2           | 127.7         | 129.6     | 125.9                  | 134.7          | 136.8           | 137.3             | 135.8  | 137.3 | 135.8 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| PNLT  | 121.5               | 125.3                | 124.9      | 129.0      | 124.2           | 125.2         | 128.6     | 129.6                  | 125.9          | 134.7           | 136.8             | 137.3  | 135.8 | 137.3 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| FMLT  | 121.5               | 125.3                | 124.9      | 129.0      | 124.2           | 125.2         | 128.6     | 129.6                  | 125.9          | 134.7           | 136.8             | 137.3  | 135.8 | 137.3 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| DBA   | 192.9               | 202.8                | 206.3      | 206.7      | 206.0           | 208.8         | 205.9     | 206.7                  | 204.8          | 211.2           | 211.3             | 204.5  | 194.2 | 125.0 | 127.2 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 | 129.6 |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000           |                     |                      |            |            |                 |               |           |                        |                |                 |                   |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00           |                     |                      |            |            |                 |               |           |                        |                |                 |                   |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| REFR CORR YES, TURB CORR YES                          |                     |                      |            |            |                 |               |           |                        |                |                 |                   |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514 |                     |                      |            |            |                 |               |           |                        |                |                 |                   |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| VEHICL = ADH178                                       | TEST DATE = 6-30-82 | LCCAT = C41 ANECH CH | CONFIG = 5 | MODEL = AX | FLTVEL = 0. FPS | IAPLHA = SB59 | LEGA = NO | PWL AREA = FULL SPHERE | TAMB F = 72.00 | PAMB HG = 29.30 | RELHUM = 69.2 PCT | NBFR = |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| WIND DIR =  | DEG                 | WIND VEL =           | MPH        | EXT DIST = | 40.0 FT         | EXT CNFIG =   | ARC       |                        |                |                 |                   |        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0545 X05451

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50    | 66.7 | 71.7 | 73.1 | 81.6 | 76.6 | 76.6 | 86.1 | 81.1 | 78.1 | 91.3 | 93.7 | 89.7  | 88.7  | 168.8 |
| 63    | 67.7 | 71.8 | 73.1 | 82.4 | 75.9 | 77.9 | 79.9 | 81.6 | 78.9 | 91.6 | 94.5 | 89.0  | 169.0 |       |
| 80    | 67.5 | 72.3 | 75.1 | 83.9 | 77.7 | 79.2 | 81.4 | 82.9 | 79.1 | 92.4 | 94.7 | 89.7  | 169.7 |       |
| 100   | 71.0 | 73.9 | 76.2 | 85.0 | 78.5 | 80.3 | 81.5 | 84.5 | 81.0 | 92.0 | 94.0 | 89.4  | 169.5 |       |
| 125   | 74.8 | 76.7 | 78.5 | 85.3 | 79.1 | 80.6 | 82.8 | 84.8 | 81.3 | 91.3 | 92.1 | 89.9  | 168.5 |       |
| 160   | 71.6 | 75.7 | 78.5 | 79.9 | 85.9 | 81.4 | 81.9 | 83.2 | 84.9 | 81.6 | 90.1 | 87.3  | 167.9 |       |
| 200   | 71.7 | 75.7 | 77.8 | 86.1 | 80.9 | 82.4 | 84.6 | 86.0 | 82.3 | 89.0 | 90.2 | 85.2  | 167.3 |       |
| 250   | 71.8 | 76.1 | 78.2 | 86.2 | 79.9 | 81.2 | 83.8 | 86.2 | 81.5 | 89.6 | 88.9 | 83.2  | 166.7 |       |
| 315   | 71.5 | 77.2 | 78.2 | 85.3 | 80.6 | 82.1 | 83.9 | 86.1 | 81.4 | 89.7 | 88.4 | 79.3  | 166.2 |       |
| 400   | 71.5 | 76.6 | 78.2 | 85.6 | 80.6 | 82.6 | 85.1 | 86.3 | 82.0 | 89.1 | 88.7 | 84.8  | 166.4 |       |
| 500   | 69.8 | 76.5 | 77.9 | 85.6 | 80.1 | 82.0 | 84.2 | 86.6 | 81.3 | 87.2 | 87.2 | 82.8  | 165.7 |       |
| 630   | 72.7 | 78.0 | 80.0 | 85.9 | 80.6 | 82.5 | 84.2 | 86.5 | 82.1 | 88.5 | 88.1 | 82.4  | 166.8 |       |
| 800   | 74.5 | 81.5 | 82.3 | 85.8 | 82.2 | 82.1 | 84.7 | 86.6 | 81.9 | 87.5 | 86.2 | 81.6  | 167.0 |       |
| 1000  | 75.5 | 84.1 | 85.8 | 85.4 | 83.2 | 83.2 | 84.5 | 86.7 | 81.7 | 87.2 | 84.9 | 79.1  | 167.6 |       |
| 1250  | 73.2 | 82.2 | 86.1 | 85.4 | 87.5 | 85.9 | 84.8 | 85.6 | 81.9 | 85.6 | 83.1 | 77.4  | 168.1 |       |
| 1600  | 71.5 | 78.2 | 82.8 | 83.0 | 86.7 | 87.1 | 85.0 | 84.3 | 79.2 | 82.8 | 80.0 | 74.7  | 167.7 |       |
| 2000  | 68.4 | 76.4 | 79.9 | 80.0 | 83.3 | 85.3 | 84.6 | 83.0 | 77.0 | 79.8 | 77.1 | 70.9  | 167.1 |       |
| 2500  | 64.6 | 72.5 | 77.0 | 77.8 | 81.0 | 82.2 | 82.1 | 79.6 | 74.2 | 76.4 | 73.5 | 65.4  | 166.7 |       |
| 3150  | 58.8 | 68.1 | 73.3 | 74.8 | 78.2 | 79.6 | 79.4 | 77.5 | 70.8 | 72.8 | 68.1 | 58.9  | 167.7 |       |
| 4000  | 47.0 | 59.1 | 67.3 | 70.3 | 72.9 | 71.7 | 63.0 | 64.4 | 58.9 | 45.5 | 19.4 | 166.6 |       |       |
| 5000  | 34.2 | 49.6 | 57.1 | 59.9 | 63.6 | 65.3 | 64.3 | 62.2 | 55.1 | 48.3 | 29.5 | 168.6 |       |       |
| 6300  | 14.4 | 32.9 | 42.8 | 48.0 | 51.9 | 53.7 | 52.1 | 48.8 | 41.5 | 39.8 | 28.5 | 171.2 |       |       |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |       |       |       |

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MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
 NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH178 TEST DATE = 6-30-82  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 PML AREA = FULL SPHERE EXT DIST = 2400.0 FT  
 TAMB F = 72.00 EXT CNFIG = SL  
 MODEL = AX PAMB HG = 29.30 MIKE HT = NBFR = 0. FPS  
 FLTVEL = 0. FPS

LBS XNL = RPM XNH = RPM V8 = 2537.1 FPS AEB = 19.9 SQ IN  
 LBS XNLR = RPM XNHR = RPM V18 = 2537.1 FPS AE18 = 0. SQ IN

TEST PT NO = 0545 NC = AE049 CORR FAN SPEED = RPM  
 = X05451



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0546 X0546C  
BACKGROUND X79F400B0400 X05400

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40           | 50             | 60      | 70           | 80           | 90       | 100          | 110       | 120              | 130        | 140   | 150      | 160      |
|---|--------------|----------------|---------|--------------|--------------|----------|--------------|-----------|------------------|------------|-------|----------|----------|
| 50  | 86.0         | 87.1           | 84.6    | 84.9         | 82.7         | 81.1     | 86.0         | 87.9      | 79.8             | 85.2       | 91.8  | 92.5     | 95.4     |
| 63  | 86.5         | 94.0           | 92.5    | 91.1         | 89.6         | 87.0     | 96.1         | 97.1      | 86.0             | 90.3       | 93.0  | 93.2     | 97.6     |
| 80  | 88.4         | 93.5           | 90.0    | 90.5         | 92.2         | 92.6     | 92.3         | 92.3      | 86.0             | 90.6       | 93.9  | 97.1     | 99.5     |
| 100   | 87.7         | 94.5           | 90.3    | 89.1         | 91.9         | 92.0     | 93.9         | 94.6      | 85.3             | 93.3       | 96.7  | 101.4    | 103.8    |
| 125   | 84.9         | 88.6           | 90.9    | 88.9         | 92.3         | 92.7     | 93.8         | 93.4      | 85.9             | 94.5       | 100.9 | 105.0    | 106.5    |
| 160   | 83.5         | 87.6           | 88.6    | 87.4         | 87.6         | 96.4     | 89.8         | 85.6      | 95.6             | 101.8      | 105.4 | 103.1    | 139.7    |
| 200   | 83.6         | 84.9           | 85.6    | 82.4         | 87.0         | 88.6     | 93.0         | 92.9      | 88.9             | 96.7       | 101.8 | 107.3    | 109.9    |
| 250   | 81.8         | 86.3           | 85.8    | 82.6         | 87.5         | 88.8     | 91.2         | 93.9      | 89.3             | 101.1      | 107.3 | 110.9    | 141.1    |
| 315   | 81.5         | 85.3           | 86.8    | 83.6         | 88.2         | 89.6     | 93.2         | 93.9      | 90.8             | 102.9      | 108.0 | 111.7    | 144.9    |
| 400   | 82.4         | 85.9           | 86.2    | 83.7         | 88.3         | 89.4     | 96.6         | 94.0      | 91.2             | 104.7      | 109.9 | 112.3    | 145.4    |
| 500   | 82.9         | 86.0           | 85.3    | 88.6         | 90.2         | 92.1     | 94.3         | 92.0      | 106.1            | 111.2      | 112.4 | 109.3    | 145.8    |
| 630   | 83.0         | 86.0           | 88.1    | 86.6         | 89.7         | 90.8     | 93.2         | 95.9      | 92.1             | 105.9      | 110.0 | 111.2    | 106.6    |
| 800   | 85.1         | 86.7           | 88.7    | 88.0         | 90.3         | 92.2     | 93.8         | 97.2      | 94.7             | 106.5      | 109.7 | 109.1    | 144.0    |
| 1000  | 87.3         | 88.1           | 89.8    | 88.6         | 91.2         | 92.6     | 95.2         | 97.4      | 94.8             | 106.4      | 107.8 | 106.0    | 142.7    |
| 1250  | 85.8         | 90.8           | 91.1    | 91.7         | 93.3         | 95.9     | 98.6         | 95.8      | 105.4            | 106.3      | 101.9 | 95.7     | 141.6    |
| 1500  | 88.4         | 89.5           | 91.2    | 100.0        | 93.3         | 94.7     | 97.3         | 99.6      | 96.7             | 105.5      | 105.6 | 99.3     | 141.6    |
| 2000  | 88.5         | 89.9           | 91.4    | 100.5        | 93.3         | 94.7     | 95.9         | 100.5     | 96.9             | 105.9      | 104.2 | 97.5     | 141.5    |
| 2500  | 89.8         | 91.3           | 92.4    | 100.4        | 93.8         | 96.1     | 97.8         | 100.9     | 97.3             | 105.6      | 103.3 | 96.2     | 141.4    |
| 3150  | 90.9         | 92.7           | 93.0    | 101.2        | 95.1         | 97.1     | 99.5         | 102.2     | 98.3             | 105.6      | 103.9 | 95.6     | 142.2    |
| 4000  | 92.0         | 93.1           | 94.3    | 101.8        | 95.4         | 97.1     | 99.7         | 102.8     | 98.2             | 105.8      | 103.1 | 95.9     | 142.5    |
| 5000  | 97.5         | 98.0           | 97.6    | 103.2        | 96.6         | 98.3     | 100.7        | 103.5     | 100.0            | 107.8      | 104.9 | 98.0     | 144.3    |
| 6300  | 100.4        | 102.4          | 103.7   | 103.7        | 97.9         | 98.4     | 101.7        | 104.8     | 100.6            | 107.7      | 106.0 | 100.3    | 145.6    |
| 8000  | 100.7        | 104.3          | 104.9   | 105.0        | 101.0        | 100.4    | 101.8        | 105.1     | 101.6            | 109.1      | 107.4 | 100.4    | 147.3    |
| 10000   | 99.3         | 101.4          | 103.5   | 104.3        | 105.1        | 106.1    | 104.6        | 104.5     | 101.1            | 107.7      | 106.0 | 102.1    | 148.8    |
| 12500   | 99.3         | 101.4          | 103.5   | 104.3        | 105.1        | 106.1    | 104.6        | 104.5     | 101.1            | 107.7      | 106.0 | 102.1    | 148.8    |
| 15000   | 96.0         | 100.1          | 101.0   | 101.7        | 102.5        | 104.3    | 104.3        | 103.7     | 99.2             | 105.0      | 104.0 | 99.8     | 148.3    |
| 16000   | 96.0         | 100.1          | 101.0   | 101.7        | 102.5        | 104.3    | 104.3        | 103.7     | 99.2             | 105.0      | 104.0 | 99.8     | 148.3    |
| 20000   | 94.7         | 97.8           | 99.2    | 99.8         | 100.6        | 101.6    | 102.9        | 102.0     | 97.3             | 102.3      | 101.8 | 97.3     | 148.0    |
| 25000   | 91.3         | 94.9           | 97.4    | 97.8         | 99.5         | 100.6    | 101.3        | 100.7     | 95.2             | 94.3       | 89.9  | 82.7     | 148.8    |
| 31500   | 85.8         | 90.4           | 91.9    | 93.1         | 94.2         | 95.8     | 96.0         | 95.8      | 91.4             | 96.1       | 94.6  | 89.9     | 147.0    |
| 40000   | 81.4         | 86.8           | 89.1    | 90.6         | 91.8         | 92.7     | 93.5         | 93.1      | 89.4             | 93.3       | 92.4  | 86.0     | 148.3    |
| 50000   | 78.2         | 84.6           | 87.0    | 88.2         | 89.5         | 90.5     | 90.7         | 90.2      | 87.4             | 91.4       | 89.2  | 82.4     | 150.2    |
| 63000   | 74.7         | 81.4           | 84.5    | 86.6         | 87.5         | 87.4     | 88.0         | 87.1      | 84.7             | 90.2       | 87.0  | 78.4     | 152.9    |
| 80000   | 70.0         | 78.9           | 81.7    | 83.5         | 82.3         | 84.2     | 83.5         | 83.8      | 81.9             | 88.4       | 82.8  | 72.2     | 156.7    |
| GASPL   | 108.2        | 111.0          | 112.1   | 114.4        | 112.1        | 112.8    | 113.7        | 115.0     | 111.3            | 119.5      | 120.4 | 120.5    | 119.2    |
| FNL   | 119.5        | 121.7          | 121.9   | 126.0        | 121.0        | 121.6    | 124.1        | 126.6     | 122.8            | 131.3      | 130.8 | 128.4    | 126.1    |
| PMLT  | 119.5        | 122.3          | 121.9   | 126.0        | 121.0        | 121.6    | 124.7        | 126.6     | 122.8            | 131.3      | 130.8 | 128.4    | 126.1    |
| DBA   | 106.0        | 108.4          | 109.1   | 113.0        | 108.1        | 108.6    | 110.5        | 113.2     | 109.7            | 118.2      | 118.4 | 116.8    | 113.4    |
| NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514 |              |                |         |              |              |          |              |           |                  |            |       |          |          |
| VEHICL =  | ADH179       | TEST DATE =    | 6-30-82 | LOCAT =      | C41 ANECH CH | CONFIG = | 5            | MODEL =   | AX               | FAMV HG =  | 29.35 | RELHUM = | 82.1 PCT |
| 1MAPLHA =   | SB559        | LEGA =         | NO      | PML AREA =   | FULL SPHERE  | TAMB F = | 73.00        | MIKE HT = |                  | MIKE HT =  |       | NBFR =   |          |
| WIND DIR =  |              | DEG WIND VEL = |         | MPH          | EXT DIST =   | 40.0 FT  | EXT CONFIG = | ARC       |                  |            |       |          |          |
| FMINI =   | LBS XNLR     | RPM            | XNH     | RPM          | V8           | =        | 2518.2 FPS   | AE8       | =                | 19.9 SO IN |       |          |          |
| FMRAMB =  | LBS XNLR     | RPM            | XNHR    | RPM          | V18          | =        |              | AE18      | =                | 0. SO IN   |       |          |          |
| RUNPT =   | 82F-400-0546 | TAPE           | X0546C  | TEST PT NO = | 0546         | NC       | =            | AE049     | CORR FAN SPEED = |            |       |          |          |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0546 X0546F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200    | 89.7  | 92.8  | 90.8  | 95.9  | 89.1  | 88.8  | 89.3  | 90.3  | 87.4  | 98.5  | 103.1 | 107.3 | 109.5 | 141.3 |
| 250    | 89.7  | 92.8  | 90.8  | 95.9  | 89.1  | 88.8  | 89.3  | 90.3  | 87.4  | 98.5  | 103.1 | 107.3 | 109.5 | 141.3 |
| 315    | 89.7  | 92.8  | 90.8  | 95.9  | 89.1  | 88.8  | 89.3  | 90.3  | 87.4  | 98.5  | 103.1 | 107.3 | 109.5 | 142.3 |
| 400    | 89.9  | 92.4  | 92.4  | 97.4  | 90.3  | 89.7  | 95.3  | 91.2  | 89.0  | 100.7 | 105.4 | 109.6 | 109.8 | 143.5 |
| 500    | 90.6  | 92.8  | 91.6  | 97.5  | 90.8  | 90.6  | 90.9  | 91.6  | 89.5  | 102.6 | 106.7 | 109.6 | 109.4 | 143.2 |
| 630    | 91.7  | 93.5  | 92.2  | 99.2  | 91.9  | 91.2  | 92.0  | 93.3  | 92.9  | 104.1 | 107.4 | 109.2 | 108.6 | 143.5 |
| 800    | 91.7  | 93.5  | 93.9  | 100.7 | 92.7  | 92.7  | 93.2  | 95.2  | 94.4  | 105.7 | 107.5 | 108.8 | 107.5 | 143.7 |
| 1000   | 93.9  | 94.2  | 94.7  | 102.2 | 93.6  | 93.2  | 94.8  | 96.0  | 95.7  | 105.2 | 106.7 | 105.6 | 106.5 | 142.9 |
| 1250   | 95.6  | 95.2  | 95.5  | 102.6 | 94.1  | 94.1  | 95.7  | 97.5  | 96.2  | 104.9 | 105.8 | 103.0 | 104.4 | 142.4 |
| 1500   | 98.8  | 97.7  | 96.6  | 103.1 | 96.1  | 95.7  | 97.0  | 98.2  | 96.6  | 104.7 | 105.6 | 104.6 | 104.6 | 142.6 |
| 2000   | 97.3  | 97.2  | 97.4  | 104.5 | 96.3  | 96.0  | 96.9  | 99.4  | 97.2  | 105.3 | 103.8 | 100.1 | 102.9 | 142.7 |
| 2500   | 97.4  | 97.6  | 97.6  | 105.1 | 97.0  | 97.7  | 98.0  | 99.9  | 98.7  | 105.8 | 104.8 | 100.0 | 103.4 | 143.5 |
| 3150   | 98.7  | 98.8  | 98.8  | 105.3 | 98.7  | 99.2  | 100.3 | 101.8 | 99.4  | 106.8 | 104.7 | 100.9 | 104.2 | 144.4 |
| 4000   | 100.0 | 100.8 | 99.7  | 106.4 | 99.6  | 99.6  | 101.3 | 103.7 | 101.0 | 108.5 | 106.2 | 105.1 | 105.8 | 145.8 |
| 5000   | 100.7 | 101.0 | 100.9 | 107.1 | 100.5 | 101.3 | 102.3 | 103.7 | 102.2 | 109.1 | 108.1 | 108.1 | 107.7 | 147.1 |
| 6300   | 104.2 | 104.2 | 103.1 | 107.8 | 101.4 | 101.4 | 103.6 | 105.4 | 103.2 | 110.6 | 109.5 | 106.0 | 109.3 | 148.7 |
| 8000   | 105.3 | 105.3 | 105.3 | 107.3 | 105.1 | 103.4 | 103.6 | 105.6 | 105.1 | 111.5 | 108.7 | 110.6 | 108.7 | 150.3 |
| 10000  | 109.9 | 112.1 | 111.2 | 109.9 | 109.5 | 107.2 | 105.8 | 104.7 | 111.0 | 109.6 | 108.6 | 110.5 | 108.6 | 152.9 |
| 12500  | 106.6 | 109.2 | 111.1 | 109.7 | 109.1 | 107.1 | 106.3 | 103.6 | 109.0 | 108.2 | 106.8 | 108.6 | 108.6 | 152.9 |
| 15000  | 105.7 | 107.0 | 108.2 | 108.0 | 106.6 | 107.3 | 106.8 | 105.6 | 101.9 | 106.6 | 106.3 | 104.6 | 106.6 | 152.4 |
| 20000  | 101.9 | 105.3 | 105.3 | 105.0 | 104.6 | 104.6 | 105.2 | 103.7 | 101.3 | 106.3 | 105.3 | 103.5 | 105.2 | 152.2 |
| 25000  | 100.0 | 102.4 | 102.8 | 102.5 | 103.5 | 103.6 | 103.7 | 102.7 | 97.4  | 102.0 | 101.3 | 100.1 | 100.2 | 152.2 |
| 31500  | 95.8  | 98.7  | 100.3 | 99.8  | 98.2  | 98.8  | 98.5  | 97.6  | 95.9  | 99.7  | 99.5  | 96.8  | 97.3  | 151.7 |
| 40000  | 89.5  | 93.3  | 94.0  | 94.2  | 96.4  | 95.7  | 95.9  | 92.8  | 93.5  | 92.3  | 92.6  | 92.6  | 92.6  | 151.9 |
| 50000  | 87.5  | 91.7  | 92.5  | 92.4  | 94.1  | 93.5  | 92.8  | 91.2  | 91.0  | 96.1  | 93.1  | 87.5  | 85.4  | 154.0 |
| 63000  | 83.3  | 88.5  | 89.4  | 89.1  | 90.1  | 90.4  | 88.9  | 88.6  | 89.7  | 95.7  | 90.4  | 82.8  | 79.2  | 156.8 |
| 80000  | 78.4  | 83.9  | 85.4  | 86.1  | 86.9  | 87.2  | 85.4  | 84.2  | 79.9  | 85.9  | 80.6  | 72.9  | 69.4  | 158.2 |
| 100000 | 75.1  | 81.7  | 83.5  | 84.2  | 84.9  | 85.4  | 83.4  | 82.2  | 75.9  | 82.9  | 77.9  | 70.9  | 68.4  | 164.9 |
| DBA    | 199.9 | 205.2 | 206.6 | 207.0 | 207.9 | 208.2 | 206.5 | 205.5 | 203.2 | 209.1 | 204.0 | 196.7 | 193.6 |       |
| PWL    | 124.0 | 125.5 | 124.7 | 129.2 | 123.5 | 122.9 | 124.7 | 125.5 | 123.7 | 131.6 | 131.1 | 129.3 | 131.3 |       |
| PNL    | 124.0 | 125.5 | 124.7 | 129.2 | 123.5 | 122.9 | 124.0 | 125.5 | 123.7 | 131.6 | 131.1 | 129.3 | 131.3 |       |
| DASPL  | 115.1 | 117.0 | 117.1 | 118.5 | 115.8 | 115.4 | 115.2 | 115.4 | 113.4 | 120.3 | 120.2 | 119.7 | 120.9 | 164.9 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
 NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICLE = ADH1 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 LBS XNL RPM XNHR RPM XNHR RPM V8 = 2518.2 FPS AEB = 19.9 SQ IN = 0. SQ IN  
 TEST PT NO = 0546 NC = AE049 CORR FAN SPEED = RPM  
 = X0546F = 400-0546 TAPE

PAGE PRINTING SYSTEM - P1185-02

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0546 X05461

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 69.0 | 73.0 | 74.0 | 79.8 | 73.1 | 72.6 | 78.0 | 73.6 | 70.7 | 82.9 | 86.2 | 86.4 | 83.3 | 161.9 |
| 50   | 69.0 | 73.0 | 73.4 | 73.2 | 79.8 | 73.5 | 73.4 | 73.6 | 74.0 | 71.1 | 83.2 | 85.7 | 86.4  |
| 63   | 69.6 | 73.4 | 73.2 | 79.8 | 73.5 | 73.4 | 73.6 | 74.0 | 71.1 | 83.2 | 85.7 | 86.4 | 82.8  |
| 50   | 69.0 | 73.0 | 74.0 | 79.8 | 73.1 | 72.6 | 78.0 | 73.6 | 70.7 | 82.9 | 86.2 | 86.4 | 83.3  |
| 50   | 69.0 | 73.0 | 74.0 | 79.8 | 73.1 | 72.6 | 78.0 | 73.6 | 70.7 | 82.9 | 86.2 | 86.4 | 83.3  |
| 60   | 70.4 | 73.7 | 73.8 | 81.5 | 74.7 | 74.1 | 74.8 | 75.6 | 74.5 | 84.6 | 86.3 | 85.9 | 81.9  |
| 80   | 70.4 | 73.7 | 73.8 | 81.5 | 74.7 | 74.1 | 74.8 | 75.6 | 74.5 | 84.6 | 86.3 | 85.9 | 81.9  |
| 100  | 70.6 | 73.9 | 75.4 | 82.9 | 75.4 | 75.5 | 75.8 | 77.4 | 75.9 | 86.1 | 86.4 | 85.4 | 80.7  |
| 100  | 70.6 | 73.9 | 75.4 | 82.9 | 75.4 | 75.5 | 75.8 | 77.4 | 75.9 | 86.1 | 86.4 | 85.4 | 80.7  |
| 125  | 72.7 | 74.5 | 76.1 | 84.4 | 76.2 | 76.0 | 77.4 | 78.2 | 77.2 | 85.5 | 85.4 | 82.1 | 79.4  |
| 125  | 72.7 | 74.5 | 76.1 | 84.4 | 76.2 | 76.0 | 77.4 | 78.2 | 77.2 | 85.5 | 85.4 | 82.1 | 79.4  |
| 160  | 74.1 | 75.3 | 76.8 | 84.7 | 76.6 | 76.7 | 78.2 | 79.5 | 77.5 | 85.1 | 84.4 | 79.2 | 77.0  |
| 160  | 74.1 | 75.3 | 76.8 | 84.7 | 76.6 | 76.7 | 78.2 | 79.5 | 77.5 | 85.1 | 84.4 | 79.2 | 77.0  |
| 200  | 72.1 | 77.6 | 77.7 | 85.0 | 78.4 | 78.2 | 79.3 | 80.1 | 77.8 | 85.6 | 83.0 | 77.4 | 76.8  |
| 200  | 72.1 | 77.6 | 77.7 | 85.0 | 78.4 | 78.2 | 79.3 | 80.1 | 77.8 | 85.6 | 83.0 | 77.4 | 76.8  |
| 250  | 75.3 | 76.9 | 78.3 | 86.2 | 78.4 | 78.2 | 79.1 | 81.0 | 78.1 | 85.0 | 81.8 | 75.6 | 74.4  |
| 250  | 75.3 | 76.9 | 78.3 | 86.2 | 78.4 | 78.2 | 79.1 | 81.0 | 78.1 | 85.0 | 81.8 | 75.6 | 74.4  |
| 315  | 75.0 | 77.0 | 78.2 | 86.5 | 78.9 | 79.7 | 79.9 | 81.3 | 79.3 | 85.2 | 82.4 | 74.9 | 74.0  |
| 315  | 75.0 | 77.0 | 78.2 | 86.5 | 78.9 | 79.7 | 79.9 | 81.3 | 79.3 | 85.2 | 82.4 | 74.9 | 74.0  |
| 400  | 75.8 | 78.1 | 79.0 | 86.3 | 80.3 | 80.9 | 81.9 | 82.8 | 79.7 | 85.8 | 81.7 | 75.2 | 73.9  |
| 400  | 75.8 | 78.1 | 79.0 | 86.3 | 80.3 | 80.9 | 81.9 | 82.8 | 79.7 | 85.8 | 81.7 | 75.2 | 73.9  |
| 500  | 76.6 | 79.3 | 79.6 | 87.2 | 80.7 | 81.1 | 82.6 | 83.9 | 80.9 | 87.1 | 82.8 | 76.2 | 73.8  |
| 500  | 76.6 | 79.3 | 79.6 | 87.2 | 80.7 | 81.1 | 82.6 | 83.9 | 80.9 | 87.1 | 82.8 | 76.2 | 73.8  |
| 600  | 76.8 | 79.2 | 80.5 | 87.6 | 81.5 | 82.5 | 83.3 | 84.2 | 81.8 | 87.3 | 84.2 | 78.7 | 75.3  |
| 600  | 76.8 | 79.2 | 80.5 | 87.6 | 81.5 | 82.5 | 83.3 | 84.2 | 81.8 | 87.3 | 84.2 | 78.7 | 75.3  |
| 800  | 79.8 | 82.0 | 82.4 | 88.0 | 82.2 | 82.3 | 84.4 | 85.7 | 82.5 | 88.4 | 85.1 | 78.2 | 75.8  |
| 800  | 79.8 | 82.0 | 82.4 | 88.0 | 82.2 | 82.3 | 84.4 | 85.7 | 82.5 | 88.4 | 85.1 | 78.2 | 75.8  |
| 1000 | 80.5 | 84.4 | 84.3 | 87.4 | 85.8 | 84.2 | 84.2 | 85.7 | 84.1 | 89.0 | 85.8 | 80.3 | 75.9  |
| 1000 | 80.5 | 84.4 | 84.3 | 87.4 | 85.8 | 84.2 | 84.2 | 85.7 | 84.1 | 89.0 | 85.8 | 80.3 | 75.9  |
| 1250 | 82.5 | 89.3 | 89.0 | 89.8 | 89.3 | 87.3 | 86.3 | 85.7 | 83.5 | 88.2 | 84.3 | 79.4 | 74.4  |
| 1250 | 82.5 | 89.3 | 89.0 | 89.8 | 89.3 | 87.3 | 86.3 | 85.7 | 83.5 | 88.2 | 84.3 | 79.4 | 74.4  |
| 1600 | 80.4 | 85.8 | 85.8 | 89.5 | 89.2 | 89.3 | 89.5 | 87.3 | 85.9 | 82.0 | 85.6 | 76.2 | 70.2  |
| 1600 | 80.4 | 85.8 | 85.8 | 89.5 | 89.2 | 89.3 | 89.5 | 87.3 | 85.9 | 82.0 | 85.6 | 76.2 | 70.2  |
| 2000 | 78.5 | 83.0 | 86.2 | 87.3 | 86.6 | 87.5 | 86.8 | 84.9 | 80.0 | 82.6 | 79.1 | 72.4 | 65.1  |
| 2000 | 78.5 | 83.0 | 86.2 | 87.3 | 86.6 | 87.5 | 86.8 | 84.9 | 80.0 | 82.6 | 79.1 | 72.4 | 65.1  |
| 2500 | 73.0 | 80.1 | 82.5 | 83.6 | 84.1 | 84.3 | 84.7 | 82.4 | 78.4 | 81.0 | 76.4 | 68.5 | 58.8  |
| 2500 | 73.0 | 80.1 | 82.5 | 83.6 | 84.1 | 84.3 | 84.7 | 82.4 | 78.4 | 81.0 | 76.4 | 68.5 | 58.8  |
| 3150 | 67.7 | 74.7 | 78.1 | 79.5 | 81.6 | 82.0 | 81.8 | 79.8 | 72.6 | 74.3 | 69.0 | 60.0 | 45.4  |
| 3150 | 67.7 | 74.7 | 78.1 | 79.5 | 81.6 | 82.0 | 81.8 | 79.8 | 72.6 | 74.3 | 69.0 | 60.0 | 45.4  |
| 4000 | 57.2 | 66.3 | 71.8 | 73.6 | 73.3 | 74.3 | 73.6 | 71.4 | 67.3 | 67.2 | 61.0 | 47.8 | 28.1  |
| 4000 | 57.2 | 66.3 | 71.8 | 73.6 | 73.3 | 74.3 | 73.6 | 71.4 | 67.3 | 67.2 | 61.0 | 47.8 | 28.1  |
| 5000 | 41.2 | 53.3 | 59.2 | 62.6 | 66.5 | 66.4 | 66.0 | 63.0 | 58.7 | 57.2 | 47.2 | 29.6 | 1.4   |
| 5000 | 41.2 | 53.3 | 59.2 | 62.6 | 66.5 | 66.4 | 66.0 | 63.0 | 58.7 | 57.2 | 47.2 | 29.6 | 1.4   |
| 6300 | 21.4 | 37.5 | 45.6 | 50.0 | 52.4 | 52.8 | 48.8 | 44.2 | 41.9 | 27.0 | 0.7  |      |       |
| 6300 | 21.4 | 37.5 | 45.6 | 50.0 | 52.4 | 52.8 | 48.8 | 44.2 | 41.9 | 27.0 | 0.7  |      |       |
| 8000 |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 8000 |      |      |      |      |      |      |      |      |      |      |      |      |       |

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MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH179 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 73.00 PAMB HG = 29.35 RELHUM = 82.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBR

FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 2518.2 FPS AEB = 19.9 SO IN  
 FMRMB = LBS XNLR = RPM V8 = 2518.2 FPS AEB = 19.9 SO IN

RUNPT = 82F-400-0546 TAPE = X05461 TEST PT NO = 0546 NC = AE049 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1505 BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 77.3 82.6 84.8 79.4 81.7 78.1 87.2 81.6 73.8 75.2 82.3 85.7 85.4 124.6

63 80.2 91.5 93.8 87.3 90.9 85.8 97.1 89.8 80.3 82.8 85.5 90.4 89.1 132.9

80 81.7 86.5 83.2 82.8 82.9 85.0 86.4 85.3 78.2 83.8 86.2 89.9 90.8 127.3

100 81.7 87.5 83.5 83.6 85.9 85.8 86.1 80.5 86.6 90.7 84.2 96.1 130.1

125 79.6 83.6 85.4 84.4 86.3 86.2 87.8 86.9 81.4 87.7 93.6 98.0 99.2 132.3

160 78.8 78.0 83.8 83.3 83.2 83.6 89.2 84.6 80.1 86.9 93.5 97.9 100.6 132.3

200 78.3 82.6 83.9 86.9 84.0 85.1 89.0 88.7 83.6 89.7 95.3 100.3 102.7 134.4

250 78.5 85.3 83.3 87.9 84.2 86.3 88.2 89.1 84.6 92.9 99.5 104.0 105.6 137.5

315 79.3 84.3 85.3 89.1 86.7 87.1 90.2 90.1 86.1 94.1 99.5 103.7 105.9 137.7

400 79.4 83.9 84.7 89.2 85.8 86.9 93.1 90.5 85.9 95.7 100.6 104.3 105.0 138.0

500 80.7 83.7 84.8 86.4 86.4 87.2 89.9 91.0 86.5 96.1 100.8 102.2 102.8 137.1

630 81.3 84.8 86.3 90.6 87.7 88.3 90.2 91.4 86.8 97.4 100.8 102.2 101.1 136.9

800 84.1 86.7 88.0 92.0 88.1 89.5 90.8 93.2 88.7 97.8 101.2 101.1 100.0 136.9

1000 85.5 88.8 89.6 92.9 89.2 90.3 92.2 93.6 89.6 97.7 100.5 100.2 98.4 136.7

1250 85.0 89.0 89.8 92.9 89.3 91.3 92.9 93.6 89.3 97.6 100.5 100.2 99.2 136.8

1500 86.9 90.0 90.4 94.2 91.3 92.2 94.3 94.1 90.7 97.5 100.2 99.6 98.6 136.9

2000 87.0 90.9 91.4 94.2 90.8 91.9 93.9 95.2 90.9 98.4 99.4 99.5 98.2 137.1

2500 87.8 90.8 91.1 94.9 91.5 93.1 94.3 95.9 91.5 99.8 99.6 99.2 97.9 137.6

3150 88.9 92.9 92.7 96.5 92.3 93.9 96.0 97.0 93.1 100.4 101.4 100.8 99.8 139.0

4000 89.7 92.6 93.3 96.5 92.9 93.8 95.5 97.8 93.4 99.8 101.6 102.9 101.7 139.6

5000 95.3 97.0 96.4 97.4 93.6 95.1 96.7 98.3 94.2 101.6 103.9 105.5 104.0 141.8

6300 99.1 102.7 100.5 97.8 96.2 95.9 97.2 98.6 95.1 100.7 104.3 106.3 105.1 143.4

8000 100.5 105.1 104.4 99.6 99.6 97.9 97.3 98.7 96.6 100.7 103.2 105.5 105.1 144.7

10000 99.7 103.9 106.0 101.2 104.5 102.5 100.0 98.9 98.1 100.1 102.1 104.6 104.4 146.2

12500 98.9 100.4 104.7 100.4 104.7 102.0 100.1 97.2 98.1 100.3 103.2 102.7 146.4

16000 96.4 99.3 100.0 98.1 102.9 103.2 102.7 101.1 96.1 96.4 98.9 100.0 146.4

20000 94.2 96.5 97.9 97.0 100.5 101.6 101.9 94.1 94.4 97.2 98.5 97.9 146.5

25000 91.6 94.8 95.8 98.6 99.9 99.6 98.6 98.6 94.2 94.8 96.6 94.4 147.0

31500 86.2 90.6 90.1 91.1 93.9 95.0 95.0 88.9 90.1 91.3 92.1 87.6 145.4

40000 83.4 88.1 87.9 88.3 92.1 92.7 92.5 91.1 86.9 88.2 89.9 89.7 147.1

50000 81.4 85.6 85.7 86.7 90.0 90.7 89.7 88.7 84.9 86.2 87.9 87.6 149.3

63000 77.9 83.2 82.5 83.6 87.4 88.6 88.6 86.0 86.5 82.2 83.5 84.9 152.0

80000 71.4 80.3 79.8 81.2 83.4 84.8 81.9 81.7 78.7 79.2 81.7 80.8 155.0

107.4 111.0 111.5 120.6 111.2 111.1 111.0 110.5 106.7 111.7 114.4 116.3 116.2 160.1

117.9 121.5 121.1 120.5 119.2 118.7 120.4 121.4 117.3 124.3 126.9 128.4 128.1

105.0 108.8 108.7 107.5 106.3 106.0 106.8 107.9 104.3 110.9 113.2 114.4 113.7

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH166 TEST DATE = 6-30-82 LOCAL = CA1 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 0. FPS

WIND DIR = SB59 DEG WIND VEL = MPH. PML AREA = FULL SPHERE TAMB F = 71.00 EXT CONFIG = ARC MIKE HT = 29.25 RELHUM = 77.2 PCT

WIND DIR = SB59 DEG WIND VEL = MPH. PML AREA = FULL SPHERE TAMB F = 71.00 EXT CONFIG = ARC MIKE HT = 29.25 RELHUM = 77.2 PCT

WIND DIR = SB59 DEG WIND VEL = MPH. PML AREA = FULL SPHERE TAMB F = 71.00 EXT CONFIG = ARC MIKE HT = 29.25 RELHUM = 77.2 PCT

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WIND DIR = SB59 DEG WIND VEL = MPH. PML AREA = FULL SPHERE TAMB F = 71.00 EXT CONFIG = ARC MIKE HT = 29.25 RELHUM = 77.2 PCT

WIND DIR = SB59 DEG WIND VEL = MPH. PML AREA = FULL SPHERE TAMB F = 71.00 EXT CONFIG = ARC MIKE HT = 29.25 RELHUM = 77.2 PCT

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1505 X15051

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 58.4 58.4 64.5 66.3 71.6 68.6 69.8 75.8 72.8 67.6 76.3 79.7 81.2 78.5 156.5

63 59.7 64.3 66.4 72.1 69.1 70.1 72.6 73.4 68.1 76.6 79.7 79.9 76.2 155.5

80 60.2 65.3 67.9 72.9 70.4 71.2 72.9 73.7 68.4 77.9 79.7 78.9 75.2 155.4

100 63.0 67.1 69.5 74.2 70.8 72.3 73.5 75.5 70.2 78.2 80.0 77.7 73.2 155.3

125 65.3 69.2 71.0 75.0 71.8 73.1 74.8 75.8 71.0 78.0 79.3 76.7 71.3 155.1

150 63.6 70.2 71.1 74.9 72.4 73.9 75.4 75.6 70.6 77.8 79.1 76.4 71.8 155.3

200 65.2 70.0 71.6 76.1 73.6 74.6 76.6 76.0 71.8 77.5 78.2 75.5 70.7 155.4

250 65.0 70.6 72.2 75.9 72.9 74.2 76.0 76.9 71.7 78.1 77.4 75.0 69.7 155.6

315 65.4 70.2 71.7 76.3 73.4 75.1 76.2 77.3 72.1 79.2 77.2 74.1 68.6 156.1

400 66.0 71.9 72.9 77.6 73.9 75.6 77.6 78.1 73.3 79.3 78.5 75.1 69.5 157.5

500 66.3 71.2 73.2 77.3 74.1 75.3 76.7 78.6 73.3 78.4 78.2 76.5 70.3 158.1

630 71.4 75.2 76.0 77.9 74.6 76.2 77.7 78.7 73.8 79.8 80.0 78.4 71.6 160.3

800 74.7 80.5 79.8 78.0 76.9 76.8 77.9 78.8 74.4 78.5 79.9 78.6 72.5 161.9

1000 75.7 82.6 83.5 79.6 80.2 78.7 77.9 78.7 75.7 78.2 78.4 77.0 70.4 163.2

1250 74.4 81.1 84.8 81.1 84.9 83.1 80.4 78.8 76.9 77.3 76.8 75.4 68.3 164.6

1600 72.7 77.3 81.7 79.9 84.8 84.8 82.1 79.7 75.6 74.7 74.1 72.6 64.2 164.8

2000 69.2 75.3 78.0 77.4 83.0 83.4 82.8 80.4 74.1 72.4 71.7 68.3 58.5 164.8

2500 65.2 71.3 75.0 75.6 80.0 81.3 81.4 78.6 71.2 69.1 68.3 63.5 51.5 164.9

3150 59.2 67.1 70.8 73.0 76.7 78.3 77.7 75.7 69.0 66.5 62.5 56.6 39.6 165.5

4000 47.6 58.2 61.6 64.9 69.0 70.5 70.1 67.3 60.3 57.7 52.8 43.1 18.3 163.9

5000 35.0 48.2 53.1 56.7 62.2 63.3 62.6 59.5 52.1 48.2 41.6 27.1 165.6

6300 15.2 31.4 38.9 44.3 50.0 51.5 49.7 46.3 38.0 32.0 21.8 0.9 167.8

8000 4.2 14.2 22.0 29.3 31.6 27.9 24.9 13.9 4.5 170.5 173.4

10000 8000 10000 12500 15000 20000 25000 31500 40000 50000 63000 80000

GASPL 82.3 88.2 90.2 89.7 91.3 91.3 91.3 91.0 90.3 85.6 90.2 90.9 89.4 84.7 178.5

PNL 90.2 95.8 99.0 99.0 101.8 102.4 102.3 100.7 94.9 96.5 96.2 94.0 87.3

PFLT 90.2 96.4 99.5 99.6 101.8 102.9 102.3 100.7 95.5 97.1 96.2 95.1 88.3

DBA 81.7 87.8 90.1 88.3 91.5 91.4 90.3 88.9 84.2 86.3 86.2 84.5 77.9

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICL = ADH166 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = 29.25 PAMB HG = 71.00 RELHUM = 77.2 PCT  
IAPLHA = SB59 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS

LBS XNL = RPM XNH = RPM V8 = 1676.9 FPS AEG = 19.9 SQ IN  
LBS XNLR = RPM XNHR = RPM V8 = 1676.9 FPS AEG = 19.9 SQ IN

ZER-1505 TAPE = X15051 TEST PT NO = 1505 NC = AE049 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1507 X1507C  
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 76.3  | 81.6  | 84.8  | 78.1  | 80.7  | 76.3  | 86.5  | 81.1  | 74.3  | 74.9  | 82.0  | 83.5  | 85.1  | 123.8 |
| 63    | 78.7  | 91.7  | 94.3  | 87.3  | 90.1  | 83.5  | 97.1  | 90.3  | 83.0  | 83.3  | 83.0  | 84.9  | 88.3  | 132.8 |
| 80    | 81.7  | 87.0  | 83.5  | 84.0  | 83.4  | 84.7  | 86.6  | 86.5  | 80.0  | 85.1  | 86.7  | 90.4  | 91.3  | 127.9 |
| 100   | 82.2  | 87.7  | 83.5  | 84.1  | 85.6  | 85.8  | 88.1  | 80.8  | 87.8  | 87.8  | 91.7  | 95.4  | 96.6  | 130.7 |
| 125   | 80.1  | 83.4  | 86.2  | 84.7  | 86.8  | 86.7  | 87.8  | 81.7  | 88.7  | 88.7  | 94.4  | 98.3  | 99.7  | 132.7 |
| 150   | 79.0  | 78.3  | 83.8  | 83.1  | 83.4  | 83.6  | 89.9  | 84.6  | 80.3  | 87.6  | 94.0  | 98.2  | 101.1 | 132.7 |
| 200   | 78.8  | 82.9  | 83.9  | 87.7  | 84.8  | 85.6  | 89.5  | 89.2  | 83.9  | 90.9  | 96.1  | 103.4 | 135.1 |       |
| 250   | 78.3  | 85.3  | 83.1  | 87.9  | 84.7  | 86.6  | 88.5  | 84.6  | 84.6  | 94.1  | 100.3 | 105.6 | 137.9 |       |
| 315   | 79.5  | 84.6  | 85.1  | 89.4  | 87.2  | 87.3  | 90.7  | 90.4  | 86.3  | 95.4  | 99.8  | 104.2 | 138.2 |       |
| 400   | 79.6  | 84.2  | 84.7  | 89.7  | 86.6  | 87.2  | 93.6  | 91.0  | 86.7  | 97.7  | 101.1 | 104.8 | 138.7 |       |
| 500   | 80.9  | 85.0  | 85.0  | 90.5  | 86.4  | 87.5  | 90.4  | 87.5  | 87.5  | 97.8  | 103.7 | 103.8 | 137.8 |       |
| 630   | 81.8  | 85.3  | 86.8  | 91.4  | 87.7  | 89.1  | 90.4  | 92.1  | 87.1  | 99.1  | 101.3 | 102.9 | 137.7 |       |
| 800   | 84.1  | 86.9  | 88.0  | 92.5  | 88.3  | 89.7  | 91.1  | 93.7  | 89.5  | 99.0  | 101.4 | 101.3 | 137.3 |       |
| 1000  | 86.5  | 88.1  | 89.8  | 92.9  | 89.5  | 90.3  | 92.5  | 94.1  | 90.1  | 98.9  | 100.3 | 101.2 | 137.1 |       |
| 1250  | 84.8  | 90.3  | 89.8  | 93.4  | 90.4  | 91.8  | 93.2  | 94.1  | 89.6  | 99.4  | 100.8 | 100.7 | 137.5 |       |
| 1500  | 87.4  | 90.5  | 90.4  | 94.2  | 91.3  | 91.9  | 94.3  | 94.8  | 90.7  | 99.0  | 100.1 | 100.6 | 137.5 |       |
| 2000  | 87.0  | 90.9  | 91.4  | 95.0  | 91.1  | 92.4  | 93.9  | 95.5  | 90.9  | 99.6  | 99.4  | 99.7  | 137.5 |       |
| 2500  | 89.1  | 90.8  | 91.6  | 94.9  | 92.3  | 92.9  | 94.8  | 96.4  | 91.5  | 101.3 | 98.4  | 100.3 | 138.3 |       |
| 3150  | 89.1  | 93.4  | 93.0  | 96.5  | 92.8  | 94.1  | 95.8  | 97.2  | 93.1  | 101.4 | 100.9 | 101.3 | 139.3 |       |
| 4000  | 87.8  | 92.9  | 93.8  | 96.8  | 93.1  | 94.1  | 96.0  | 98.0  | 93.4  | 101.6 | 102.1 | 103.2 | 140.2 |       |
| 5000  | 95.0  | 98.3  | 97.1  | 97.9  | 98.8  | 95.3  | 96.7  | 98.0  | 94.7  | 103.7 | 103.5 | 104.5 | 142.1 |       |
| 6300  | 99.1  | 102.9 | 101.3 | 98.5  | 96.7  | 95.9  | 97.2  | 99.4  | 95.6  | 102.7 | 103.8 | 106.8 | 143.8 |       |
| 8000  | 100.3 | 105.1 | 105.2 | 100.3 | 100.1 | 98.1  | 97.3  | 99.2  | 96.9  | 102.2 | 103.5 | 105.7 | 145.1 |       |
| 10000 | 99.7  | 103.7 | 106.2 | 101.5 | 104.5 | 103.0 | 100.2 | 99.2  | 99.1  | 101.6 | 103.1 | 105.4 | 146.5 |       |
| 12500 | 98.2  | 100.3 | 104.3 | 100.1 | 104.9 | 104.9 | 102.5 | 97.4  | 99.6  | 100.6 | 103.4 | 102.9 | 146.7 |       |
| 15000 | 95.9  | 99.5  | 100.7 | 98.1  | 103.2 | 103.4 | 103.5 | 101.1 | 95.6  | 98.2  | 98.6  | 101.2 | 146.7 |       |
| 16000 | 95.9  | 99.5  | 99.5  | 98.1  | 103.2 | 103.4 | 103.5 | 101.1 | 95.6  | 98.2  | 98.6  | 101.2 | 146.7 |       |
| 20000 | 94.2  | 96.5  | 98.4  | 97.2  | 100.3 | 101.1 | 102.1 | 100.5 | 94.1  | 96.1  | 97.2  | 98.5  | 146.5 |       |
| 25000 | 91.6  | 94.3  | 96.8  | 95.9  | 99.1  | 99.7  | 99.8  | 99.1  | 94.0  | 95.3  | 95.9  | 93.6  | 147.3 |       |
| 31500 | 85.9  | 90.1  | 92.1  | 91.1  | 93.9  | 95.5  | 94.7  | 94.0  | 88.9  | 92.1  | 91.3  | 91.8  | 145.7 |       |
| 40000 | 83.1  | 87.9  | 90.4  | 88.3  | 91.8  | 93.2  | 93.0  | 91.4  | 86.9  | 89.9  | 89.6  | 90.0  | 147.6 |       |
| 50000 | 80.6  | 84.6  | 88.2  | 86.7  | 89.7  | 90.7  | 88.5  | 84.6  | 87.7  | 87.7  | 87.2  | 87.9  | 149.5 |       |
| 63000 | 77.4  | 82.7  | 86.2  | 84.1  | 86.4  | 86.8  | 82.4  | 82.4  | 82.4  | 85.3  | 84.7  | 85.3  | 152.4 |       |
| 80000 | 72.2  | 80.8  | 83.3  | 81.2  | 83.2  | 84.6  | 82.4  | 82.4  | 79.5  | 82.4  | 82.4  | 82.8  | 155.7 |       |
| DBA   | 104.9 | 108.9 | 109.2 | 107.9 | 106.6 | 106.3 | 106.9 | 108.2 | 104.7 | 112.4 | 113.3 | 114.9 | 114.3 |       |
| PWL   | 117.9 | 121.8 | 121.6 | 120.9 | 119.4 | 119.0 | 121.0 | 121.7 | 117.6 | 125.8 | 125.8 | 126.9 | 128.5 |       |
| QASPL | 107.2 | 111.0 | 112.2 | 109.9 | 111.4 | 111.3 | 111.3 | 110.8 | 107.0 | 113.2 | 114.5 | 116.7 | 160.6 |       |

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH167 TEST DATE = 6-30-82  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
TAMB F = 71.00 EXT CNFIGN = ARC  
PAMB HG = 29.25 MIKE HT =  
RELHUM = 77.2 PCT NBFR =  
FLTVEL = AX MODEL = 5  
CONFIG = C41 ANECH CH CONFIG = 5

FIN1 = LBS XNL = RPM XNHR = RPM V8 = 1689.9 FPS AE8 = 19.9 SO IN  
FMRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1689.9 FPS AE8 = 19.9 SO IN  
CORR FAN SPEED = RPM

RUNPT = 82F-ZER-1507 TAPE = X1507C TEST PT NO = 1507 NC = AE049 CORR FAN SPEED = RPM

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401

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1507 X1507F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 76.3  | 81.6  | 84.8  | 78.1  | 80.7  | 76.3  | 86.5  | 81.1  | 74.3  | 74.9  | 82.0  | 83.5  | 85.1  | 123.8 |
| 63    | 78.7  | 91.7  | 87.3  | 90.1  | 83.5  | 97.1  | 90.3  | 83.0  | 83.3  | 83.0  | 84.9  | 88.3  | 132.8 |       |
| 80    | 81.7  | 87.0  | 83.5  | 84.0  | 83.4  | 84.7  | 86.6  | 86.5  | 80.0  | 85.1  | 86.7  | 90.4  | 91.3  | 127.9 |
| 100   | 82.2  | 87.7  | 83.5  | 84.1  | 85.6  | 85.8  | 86.6  | 88.1  | 80.8  | 87.8  | 91.7  | 95.4  | 96.6  | 130.7 |
| 125   | 80.1  | 83.4  | 86.2  | 84.7  | 86.9  | 86.7  | 87.8  | 87.2  | 81.7  | 88.7  | 94.4  | 99.3  | 99.7  | 132.7 |
| 150   | 79.0  | 78.3  | 83.8  | 83.1  | 83.4  | 83.6  | 89.9  | 84.6  | 80.3  | 87.6  | 94.0  | 98.2  | 101.1 | 132.7 |
| 200   | 78.8  | 82.9  | 83.9  | 87.7  | 84.8  | 85.6  | 89.5  | 89.2  | 83.9  | 90.9  | 96.1  | 101.0 | 103.4 | 135.1 |
| 250   | 78.3  | 85.3  | 83.1  | 87.9  | 84.7  | 86.6  | 88.5  | 89.6  | 84.6  | 94.1  | 100.3 | 104.5 | 105.6 | 137.9 |
| 315   | 79.5  | 84.6  | 85.1  | 89.4  | 87.2  | 87.3  | 90.7  | 90.4  | 86.3  | 95.4  | 99.8  | 104.2 | 106.4 | 138.2 |
| 400   | 79.6  | 84.2  | 84.7  | 89.7  | 86.6  | 87.2  | 93.6  | 91.0  | 86.7  | 97.7  | 101.1 | 104.8 | 105.7 | 138.7 |
| 500   | 80.9  | 84.0  | 85.0  | 90.5  | 86.4  | 87.5  | 90.4  | 90.8  | 87.5  | 97.8  | 100.7 | 103.9 | 103.8 | 137.8 |
| 630   | 81.8  | 85.3  | 86.6  | 91.4  | 87.7  | 89.1  | 90.4  | 92.1  | 87.1  | 99.1  | 101.3 | 102.9 | 102.6 | 137.7 |
| 800   | 84.1  | 86.9  | 88.0  | 92.5  | 88.3  | 89.7  | 91.1  | 93.7  | 89.5  | 99.0  | 101.4 | 101.3 | 100.5 | 137.3 |
| 1000  | 86.5  | 88.1  | 89.8  | 92.9  | 89.5  | 90.3  | 92.5  | 94.1  | 90.1  | 98.9  | 100.3 | 101.2 | 99.1  | 137.1 |
| 1250  | 84.8  | 90.3  | 89.8  | 93.4  | 90.4  | 91.8  | 93.2  | 94.1  | 89.6  | 99.4  | 100.8 | 100.9 | 99.7  | 137.5 |
| 1500  | 87.4  | 90.5  | 90.4  | 94.2  | 91.3  | 91.9  | 94.3  | 94.8  | 90.7  | 99.0  | 100.1 | 99.7  | 98.3  | 137.5 |
| 2000  | 87.0  | 90.9  | 91.4  | 95.0  | 91.1  | 92.4  | 93.9  | 95.5  | 90.9  | 99.6  | 99.4  | 99.7  | 98.7  | 137.5 |
| 2500  | 87.8  | 90.8  | 91.6  | 94.9  | 92.3  | 92.9  | 94.8  | 96.4  | 91.5  | 101.3 | 99.8  | 100.2 | 98.4  | 138.3 |
| 3150  | 89.1  | 93.4  | 93.0  | 96.5  | 92.8  | 94.1  | 95.8  | 97.2  | 93.1  | 101.4 | 100.9 | 101.3 | 100.1 | 139.3 |
| 4000  | 90.0  | 92.9  | 93.8  | 96.8  | 93.1  | 94.1  | 96.0  | 98.0  | 93.4  | 101.6 | 102.1 | 103.2 | 102.2 | 140.2 |
| 5000  | 95.0  | 98.3  | 97.1  | 97.9  | 93.8  | 96.7  | 98.0  | 94.7  | 103.1 | 103.7 | 105.5 | 104.5 | 104.5 | 142.1 |
| 6300  | 99.1  | 102.9 | 101.3 | 98.5  | 96.7  | 95.9  | 97.2  | 99.4  | 95.6  | 102.7 | 103.8 | 106.8 | 106.3 | 143.8 |
| 8000  | 100.3 | 105.2 | 100.3 | 100.1 | 98.1  | 97.3  | 99.2  | 96.9  | 102.2 | 103.5 | 105.7 | 105.9 | 105.1 | 145.1 |
| 10000 | 99.7  | 103.7 | 106.2 | 101.5 | 104.5 | 103.0 | 100.2 | 99.2  | 99.1  | 101.6 | 103.1 | 105.4 | 104.6 | 146.5 |
| 12500 | 98.2  | 100.3 | 104.3 | 100.1 | 104.9 | 102.5 | 100.4 | 97.4  | 99.6  | 100.6 | 103.4 | 102.9 | 102.9 | 146.7 |
| 15000 | 95.9  | 99.5  | 100.7 | 98.1  | 103.2 | 103.4 | 103.5 | 101.1 | 95.6  | 98.2  | 98.6  | 101.2 | 100.0 | 146.7 |
| 20000 | 94.2  | 96.5  | 98.4  | 97.2  | 100.3 | 101.1 | 102.1 | 100.5 | 94.1  | 96.1  | 97.2  | 98.5  | 97.4  | 146.5 |
| 25000 | 91.6  | 94.3  | 96.8  | 95.9  | 99.1  | 99.7  | 99.8  | 94.0  | 95.9  | 95.3  | 96.9  | 93.6  | 93.6  | 147.3 |
| 31500 | 85.9  | 90.1  | 92.1  | 91.1  | 93.9  | 95.5  | 94.7  | 94.0  | 88.9  | 92.1  | 91.3  | 91.8  | 88.3  | 145.7 |
| 40000 | 83.1  | 87.9  | 88.3  | 91.8  | 88.3  | 91.8  | 86.9  | 89.6  | 89.9  | 89.6  | 90.0  | 85.6  | 85.6  | 147.6 |
| 50000 | 80.6  | 84.6  | 88.2  | 86.7  | 89.7  | 90.7  | 89.9  | 88.5  | 84.6  | 87.7  | 87.2  | 87.9  | 82.6  | 149.5 |
| 63000 | 77.4  | 82.7  | 86.2  | 84.1  | 87.4  | 88.1  | 86.8  | 87.0  | 82.4  | 85.3  | 84.7  | 85.3  | 78.8  | 152.4 |
| 80000 | 72.2  | 80.8  | 83.3  | 81.2  | 83.2  | 84.6  | 82.4  | 82.4  | 79.5  | 82.4  | 82.4  | 82.8  | 74.1  | 155.7 |
| DBA   | 193.7 | 201.5 | 204.2 | 202.1 | 204.4 | 205.6 | 203.7 | 203.7 | 200.4 | 203.3 | 203.2 | 203.7 | 195.5 |       |
| FNL   | 117.9 | 121.8 | 121.6 | 120.9 | 119.4 | 119.0 | 120.5 | 121.7 | 117.6 | 125.8 | 126.9 | 128.8 | 128.5 |       |
| FNLT  | 117.9 | 121.8 | 121.6 | 120.9 | 119.4 | 119.0 | 121.0 | 121.7 | 117.6 | 125.8 | 126.9 | 128.8 | 128.5 |       |

MODEL/FULL SCALE FAC - IN=1,000, CALC=1,000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH167 TEST DATE = 6-30-82 LCAT = C41 ANECH CH CNFIG = 5 MODEL = AX FLTVEL = 0. FPS IAPLHA = SB59 IEGA = NO WIND VEL = MPH PML AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.25 RELHUM = 77.2 PCT WIND DIR = SB59 DEG WIND VEL = 40.0 FT EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR

LBS XNL = RPM XNH = RPM XNHR = RPM V8 = 1689.9 FPS AEB = 19.9 SQ IN FPS AE18 = 0. SQ IN

ZER-1507 TAPE = X1507F TEST PT NO = 1507 NC = AE049 CORR FAN SPEED = RPM

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PAGE PRINTING SYSTEM - P118-02



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1507 X15071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 58.7  | 64.7 | 66.3 | 72.1 | 69.3 | 70.1 | 76.3 | 73.3 | 73.3 | 68.3 | 78.3 | 80.2 | 81.7 | 79.2 | 157.2 |
| 50    | 60.0 | 64.5 | 66.6 | 72.9 | 69.1 | 70.4 | 73.1 | 73.1 | 69.1 | 78.4 | 79.7 | 80.7 | 77.2 | 156.2 |
| 53    | 60.7 | 65.8 | 68.4 | 73.7 | 70.4 | 71.9 | 73.2 | 74.4 | 68.6 | 79.6 | 80.2 | 79.7 | 75.9 | 156.2 |
| 80    | 60.7 | 65.8 | 68.4 | 73.7 | 70.4 | 71.9 | 73.2 | 74.4 | 68.6 | 79.6 | 80.2 | 79.7 | 75.9 | 156.2 |
| 100   | 63.0 | 67.4 | 69.5 | 74.7 | 71.0 | 72.5 | 73.8 | 76.0 | 71.0 | 79.5 | 80.3 | 78.0 | 73.7 | 155.8 |
| 125   | 65.3 | 68.4 | 71.3 | 75.0 | 72.1 | 73.1 | 75.1 | 76.3 | 71.5 | 79.3 | 79.1 | 77.7 | 72.1 | 155.6 |
| 160   | 63.3 | 70.5 | 71.1 | 75.4 | 72.9 | 74.4 | 75.7 | 76.1 | 70.9 | 79.6 | 79.3 | 77.2 | 72.3 | 156.0 |
| 200   | 65.7 | 70.5 | 71.6 | 76.1 | 73.6 | 74.4 | 76.6 | 76.7 | 71.8 | 79.0 | 78.5 | 76.5 | 71.4 | 156.0 |
| 250   | 65.0 | 70.6 | 72.2 | 76.7 | 73.2 | 74.7 | 76.0 | 77.2 | 71.7 | 79.3 | 77.4 | 75.2 | 70.2 | 156.0 |
| 315   | 65.4 | 70.2 | 72.2 | 76.3 | 74.1 | 74.9 | 76.7 | 77.8 | 72.1 | 80.7 | 77.4 | 75.1 | 69.1 | 156.7 |
| 400   | 66.2 | 72.4 | 73.2 | 77.6 | 74.4 | 75.8 | 77.3 | 78.3 | 73.3 | 80.3 | 78.0 | 75.6 | 69.7 | 157.8 |
| 500   | 66.6 | 71.5 | 73.7 | 77.6 | 74.4 | 75.5 | 77.2 | 78.8 | 73.3 | 80.2 | 78.7 | 76.8 | 70.8 | 158.7 |
| 630   | 71.2 | 76.5 | 76.7 | 78.4 | 74.8 | 76.5 | 77.7 | 78.5 | 74.3 | 81.3 | 79.8 | 78.4 | 72.1 | 160.6 |
| 800   | 74.7 | 80.7 | 80.5 | 78.7 | 77.4 | 76.8 | 77.9 | 79.6 | 74.9 | 80.5 | 79.4 | 79.1 | 72.8 | 162.3 |
| 1000  | 75.4 | 82.6 | 84.2 | 80.4 | 80.7 | 78.9 | 77.9 | 79.2 | 75.9 | 79.7 | 78.6 | 77.3 | 71.2 | 163.6 |
| 1250  | 74.4 | 80.8 | 85.0 | 81.3 | 84.9 | 83.6 | 80.7 | 79.0 | 77.8 | 78.8 | 77.8 | 76.1 | 68.5 | 165.0 |
| 1600  | 72.0 | 76.8 | 82.7 | 79.7 | 85.1 | 85.3 | 82.6 | 79.9 | 75.8 | 76.2 | 74.4 | 72.8 | 64.5 | 165.2 |
| 2000  | 68.7 | 75.5 | 78.7 | 77.4 | 83.2 | 83.7 | 83.5 | 80.4 | 73.6 | 74.1 | 71.5 | 69.0 | 58.5 | 165.2 |
| 2500  | 65.2 | 71.3 | 75.5 | 75.9 | 79.8 | 80.8 | 81.6 | 79.1 | 71.2 | 70.9 | 68.3 | 63.5 | 51.0 | 165.0 |
| 3150  | 59.2 | 66.6 | 72.0 | 73.0 | 77.2 | 78.1 | 77.9 | 76.2 | 69.3 | 68.2 | 63.0 | 56.9 | 38.8 | 165.8 |
| 4000  | 47.4 | 57.7 | 63.6 | 64.9 | 69.0 | 71.0 | 69.8 | 67.8 | 60.3 | 59.7 | 52.8 | 42.9 | 19.0 | 164.2 |
| 5000  | 34.8 | 47.9 | 55.6 | 56.7 | 61.9 | 63.8 | 63.1 | 59.8 | 52.1 | 49.9 | 41.3 | 27.3 |      | 166.0 |
| 6300  | 14.5 | 30.4 | 41.4 | 44.3 | 49.8 | 51.5 | 50.0 | 46.1 | 37.8 | 33.5 | 21.1 | 1.1  |      | 168.0 |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |      | 170.9 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 174.2 |

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MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NGZ SC-5/NAS3-22514

VEHICL = ADH167 TEST DATE = 6-30-82  
IAPLHA = SB59 LEGA = NG  
WIND DIR = DEG WIND VEL = MPH  
PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT  
C11 ANECH CH CONFIG = 5  
MODEL = AX  
FLTVL = 0. FPS  
RELHUM = 77.2 PCT  
PAMB HG = 29.25  
MIKE HT =  
NBFR =

FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 1689.9 FPS AEB = 19.9 SQ IN  
FNRAMB = LBS XNLR = RPM V18 = 1689.9 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-1507 TAPE = X15071

TEST PT NO = 1507

NC = AE049

CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1511 X1511C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 77.0 83.1 81.8 77.4 79.7 79.1 87.2 78.1 75.3 76.7 83.3 87.0 86.1 124.3

60 80 82.2 87.2 83.7 83.5 83.9 86.6 85.5 86.9 86.0 79.2 85.6 87.2 90.6 91.8 128.1

100 82.2 88.0 84.3 84.6 86.6 86.5 86.9 88.8 81.0 87.3 91.5 95.2 96.8 130.9

125 80.6 83.9 86.7 84.9 87.3 87.4 88.5 87.7 82.2 89.2 94.6 98.8 100.5 133.2

160 79.5 78.3 84.3 83.8 83.9 84.3 89.9 85.6 80.6 88.1 94.5 98.4 101.6 133.2

200 78.8 82.4 84.6 87.2 84.3 86.1 89.8 88.4 83.9 90.7 96.1 101.0 103.7 135.2

250 78.8 86.1 83.8 88.6 84.5 87.1 89.0 90.1 85.3 95.4 100.8 105.0 106.4 138.5

315 79.8 84.3 89.4 87.2 85.3 89.4 90.7 90.4 86.6 95.9 100.3 105.0 106.9 138.7

400 80.1 84.7 85.4 85.6 86.6 87.4 94.1 90.7 86.9 98.0 101.1 105.1 106.2 139.0

500 80.9 84.5 85.5 86.9 88.0 90.1 91.0 87.3 97.8 101.5 104.6 104.3 138.3

630 81.8 85.8 87.3 91.4 87.7 89.1 90.9 92.4 87.6 99.1 101.3 102.7 137.7

800 84.4 87.2 88.5 92.7 88.8 89.7 91.6 94.0 89.5 99.3 101.9 101.6 137.6

1000 87.0 88.6 89.8 93.4 89.5 90.8 92.7 93.6 89.8 99.7 101.3 101.5 137.6

1250 85.0 90.3 90.1 93.6 90.9 92.1 93.2 94.6 90.3 99.9 101.3 100.9 137.9

1600 87.4 90.5 91.2 94.7 92.1 92.7 94.8 95.6 91.2 99.3 100.3 99.6 137.9

2000 87.8 91.2 91.9 95.2 91.6 92.7 94.7 96.2 91.4 99.9 100.4 99.7 138.0

2500 88.3 91.3 91.9 96.2 92.3 93.6 94.8 96.4 92.3 101.1 100.3 99.9 138.5

3150 90.1 93.4 93.2 97.0 93.4 94.6 96.5 97.5 93.3 101.4 101.9 100.8 139.6

4000 90.2 93.6 94.0 97.3 93.4 94.6 96.5 97.5 93.9 101.3 101.8 102.7 140.2

5000 96.3 98.3 97.6 97.9 94.1 95.3 97.2 98.8 95.0 103.1 104.4 105.2 142.4

6300 99.9 103.7 102.5 98.8 97.4 96.1 97.7 99.1 96.1 102.7 104.5 106.1 144.2

8000 100.5 105.6 100.6 99.4 98.1 98.1 98.1 98.1 98.1 103.5 105.0 105.4 145.3

10000 100.0 103.7 106.5 102.0 105.2 103.7 100.7 99.2 99.1 101.1 102.9 104.6 146.7

12500 98.2 101.0 104.1 100.4 104.9 105.2 102.7 100.9 97.2 99.1 100.6 102.4 146.8

16000 95.7 99.5 100.7 98.6 102.9 104.2 103.7 101.8 96.1 97.7 98.9 100.5 146.9

20000 93.7 96.8 98.2 97.0 100.0 101.3 101.6 100.0 94.1 95.9 97.2 97.8 146.3

25000 91.3 94.8 96.8 95.7 98.3 99.4 100.1 98.8 93.5 95.4 94.8 95.9 147.1

31500 85.7 90.1 91.6 90.8 93.6 95.0 94.7 94.0 89.4 91.4 91.6 91.1 147.1

40000 83.1 87.6 88.8 88.8 92.1 92.9 92.3 91.6 86.7 88.9 89.7 88.7 147.4

50000 80.9 85.6 88.0 86.7 89.7 90.7 89.0 84.6 86.6 86.7 87.7 86.6 149.4

63000 77.4 82.9 85.5 84.4 87.4 88.3 86.3 86.5 82.4 84.3 84.7 84.3 152.2

80000 71.9 80.8 84.0 81.4 83.7 85.3 82.9 82.2 78.7 80.7 82.7 81.6 155.9

QASPL 107.5 111.4 112.4 110.2 111.6 111.7 111.5 111.0 107.2 113.2 114.9 116.6 117.0 160.6

PNL 118.5 122.3 122.1 121.3 119.9 119.6 120.9 122.0 118.0 125.8 127.4 128.6 128.8

PMLT 118.5 122.9 122.1 121.3 119.9 119.6 121.5 122.0 118.0 125.8 127.4 128.6 128.8

NASA SHOCK CELL/20 EL ANN CV SUPP NO2 SC-5/NAS3-22514

VEHICLE = ADH168 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS

WIND DIR = SB59 DEG WIND VEL = MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT. TAMB F = 71.00 PAMB HG = 29.25 RELHUM = 77.2 PCT

LBS XNLR = RPM XNHR = RPM V8 = 1698.1 FPS AE8 = 19.9 SO IN

82F-ZER-1511 TAPE = X1511C TEST PT NO = 1511 NC = AE049 CORR FAN SPEED = RPM

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49A

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1511 X1511F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

50 77.0 83.1 81.8 77.4 79.7 79.1 87.2 78.1 75.3 76.7 83.3 87.0 86.1 124.3

63 79.5 93.7 93.3 86.6 90.4 85.5 97.1 87.1 81.5 86.1 86.7 92.2 89.6 133.1

80 82.2 87.2 83.7 83.5 83.9 85.5 86.9 86.0 79.2 85.6 87.2 90.5 91.8 128.1

100 82.2 88.0 84.3 84.6 86.6 86.5 88.8 81.0 87.3 91.5 95.2 96.8 130.9

125 80.6 83.9 86.7 84.9 87.3 87.4 88.5 87.7 82.2 89.2 94.6 98.8 100.5 133.2

150 79.5 78.3 84.3 83.8 83.9 84.3 89.9 85.6 80.6 88.1 94.5 98.4 101.6 133.2

200 78.8 82.4 84.6 87.2 84.3 86.1 89.8 88.4 83.9 90.7 96.1 101.0 103.7 135.2

250 78.8 86.1 83.8 86.6 84.5 87.1 89.0 90.1 85.3 95.4 100.8 105.0 106.4 138.5

315 79.8 84.3 85.3 89.4 87.2 87.6 90.7 90.4 86.6 95.9 100.3 105.0 106.9 138.7

400 80.1 84.7 85.4 89.5 86.6 87.4 94.1 90.7 86.9 98.0 101.1 105.1 106.2 139.0

500 80.9 84.5 85.5 90.3 86.9 88.0 90.1 91.0 87.3 97.8 101.5 104.6 104.3 133.3

630 81.8 85.8 87.3 91.4 87.7 89.1 90.9 92.4 87.6 99.1 101.3 102.7 102.6 137.7

800 80.9 84.5 85.5 90.3 86.9 88.0 90.1 91.0 87.3 97.8 101.5 104.6 104.3 133.3

1000 87.0 88.6 89.8 93.4 89.5 90.8 92.7 93.6 89.8 99.7 101.3 101.5 99.6 137.6

1250 85.0 90.1 93.6 90.9 92.1 93.2 94.6 90.3 99.9 101.3 100.9 100.9 99.6 137.9

1500 87.4 90.3 91.2 94.7 92.1 92.7 94.8 95.6 91.2 99.3 100.9 100.3 99.6 137.9

2000 87.8 91.2 91.9 95.2 91.6 92.7 94.7 96.2 91.4 99.9 100.4 99.7 99.2 138.0

2500 88.3 91.3 91.9 96.2 92.3 93.6 94.8 96.4 92.3 101.1 100.3 99.9 98.7 138.5

3150 90.1 93.4 93.2 97.0 93.1 94.4 96.5 97.5 93.3 101.4 101.9 100.8 99.6 139.6

4000 90.2 93.6 94.0 97.3 93.4 94.6 95.7 98.5 93.9 101.3 101.8 102.7 101.9 140.2

5000 96.3 97.6 97.9 94.1 95.3 97.2 98.8 95.0 103.1 104.4 105.2 104.5 102.4 142.4

6300 99.9 103.7 102.5 98.8 97.4 96.1 97.7 99.1 96.1 102.7 104.5 105.0 106.1 144.2

8000 100.5 105.6 105.7 100.6 100.6 99.4 98.1 99.2 97.6 101.9 103.5 105.0 105.4 145.3

10000 100.0 103.7 106.5 102.0 105.2 103.7 100.7 99.2 99.1 101.1 102.9 104.6 104.9 146.7

12500 98.2 101.0 104.1 100.4 104.9 105.2 100.9 97.2 99.1 100.6 102.4 102.7 102.8 146.8

15000 95.7 99.5 100.7 98.6 102.9 104.2 103.7 101.8 96.1 97.7 98.9 100.5 100.3 146.9

20000 93.7 96.8 98.2 97.0 100.0 101.3 101.6 100.0 94.1 95.9 97.2 97.8 97.7 146.3

25000 91.3 94.8 96.8 95.7 98.3 99.4 100.1 98.8 93.5 95.4 94.8 95.9 94.1 147.1

31500 85.7 90.1 91.6 90.8 93.6 95.0 94.7 94.0 89.4 91.6 91.6 91.6 87.8 145.5

40000 83.1 87.6 90.1 88.8 92.1 92.9 92.3 91.6 86.7 88.9 89.9 89.7 85.4 147.4

50000 80.9 85.6 88.0 86.7 89.7 89.7 89.0 84.6 86.7 87.7 86.6 82.8 149.4

63000 77.4 82.9 85.5 84.4 87.4 88.3 86.3 86.5 82.4 84.3 84.3 79.8 152.2

80000 71.9 80.8 84.0 81.4 83.7 85.3 82.9 82.2 78.7 80.7 82.7 81.6 74.6 155.9

DBA 193.5 201.6 204.7 202.3 204.8 206.3 204.0 203.4 199.8 201.8 203.4 202.5 196.1

PWLT 118.5 122.9 122.1 121.3 119.9 119.6 121.5 122.0 118.0 125.8 127.4 128.6 128.8

DBA 193.5 201.6 204.7 202.3 204.8 206.3 204.0 203.4 199.8 201.8 203.4 202.5 196.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH168 TEST DATE = 6-30-82 LCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLVEL = 0. FPS  
1APLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.25 RELHUM = 77.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FMIN1 = LBS XNL RPM XNH RPM = XNH RPM V8 = 1698.1 FPS AEB = 19.9 SQ IN  
FMAMB = LBS XNL RPM XNHR RPM = XNHR RPM V18 = 1698.1 FPS AET8 = 0. SQ IN

RUNPT = 82F-ZER-1511 TAPE = X1511F TEST PT NO = 1511 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1511 X15111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

59.2 59.2 65.2 67.1 71.8 69.3 70.3 76.8 73.1 68.6 78.6 80.2 81.9 79.7 157.4

63 60.0 65.0 67.1 72.6 69.6 70.9 72.9 73.4 68.9 78.4 80.5 81.4 77.7 156.7

80 60.7 66.3 68.9 73.7 70.4 71.9 73.7 74.7 69.1 79.6 80.2 79.4 75.9 156.2

100 60.3 67.6 70.0 75.0 71.5 72.5 74.3 76.2 71.0 79.7 80.8 78.2 73.7 156.1

125 65.8 68.9 71.3 75.5 72.1 73.6 75.3 75.8 71.3 80.0 80.1 77.9 72.6 156.1

160 63.6 70.5 71.4 75.6 73.4 74.7 75.7 76.6 80.1 79.8 77.2 73.0 156.4

200 65.7 70.5 72.3 76.6 74.4 75.1 77.1 77.5 72.3 79.2 79.2 76.2 71.7 156.4

250 65.8 70.9 72.7 76.9 73.7 75.0 76.8 77.9 72.2 79.6 78.4 75.2 70.7 156.5

315 67.2 72.5 74.1 78.6 74.1 75.6 76.7 77.8 72.9 80.4 77.9 74.8 69.3 156.9

400 67.2 72.4 73.4 78.1 74.6 76.1 78.1 78.6 73.5 80.3 79.0 75.1 69.7 158.0

500 66.8 72.2 73.9 78.1 74.6 76.0 77.0 79.3 73.8 79.9 78.5 76.3 70.6 158.6

630 72.4 76.5 77.2 78.4 75.1 76.5 78.2 79.2 74.6 81.3 80.5 78.2 72.1 160.8

700 75.7 83.1 84.7 80.6 81.2 80.2 78.7 79.2 76.7 79.4 78.6 76.5 70.7 163.8

1000 75.7 83.1 84.7 80.6 81.2 80.2 78.7 79.2 76.7 79.4 78.6 76.5 70.7 163.8

1250 74.7 80.8 85.3 81.8 85.7 84.4 81.2 79.0 77.9 78.3 77.5 75.4 68.8 165.2

1600 72.0 77.6 82.5 79.9 85.1 85.6 82.9 80.4 75.6 75.7 74.4 71.8 64.2 165.2

2000 68.5 75.5 78.7 77.9 83.0 84.4 83.8 81.1 74.1 73.6 71.7 68.3 58.8 165.4

2500 64.7 71.5 75.3 75.6 79.5 81.0 81.1 78.6 71.2 70.6 68.3 62.7 51.3 164.8

3150 59.0 67.1 72.0 72.8 76.4 77.8 78.2 75.9 68.8 67.7 62.5 55.9 39.3 165.6

4000 47.1 57.7 63.1 64.6 68.7 70.5 69.8 67.8 60.8 59.0 53.0 42.1 18.5 164.0

5000 34.8 47.7 53.3 57.2 62.2 63.6 62.4 60.0 51.9 48.9 41.6 26.1 165.8

6300 14.7 31.4 41.1 44.3 49.8 51.5 49.7 46.6 37.8 32.5 21.6 167.9

8000 14.7 31.4 41.1 44.3 49.8 51.5 49.7 46.6 37.8 32.5 21.6 167.9

10000 170.6

12500 174.4

16000

20000

25000

31500

40000

50000

63000

80000

82.5 88.6 91.1 90.3 91.7 92.0 91.5 90.9 86.2 91.8 91.5 89.9 85.7 179.0

PNL 90.0 96.1 99.8 99.3 102.0 103.1 102.8 101.2 95.2 97.8 96.7 94.0 88.0

PNLT 90.0 96.8 100.4 99.3 102.0 103.6 102.8 101.2 95.7 98.4 96.7 94.0 88.0

DBA 81.8 88.2 91.0 88.8 88.8 91.8 92.1 90.9 89.4 84.8 87.7 86.7 84.3 78.4

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NZ SC-5/NAS3-22514

VEHICL = ADH168 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVL = 0. FPS

IAPLHA = SB59 DEG WIND VEL = MPH PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.25 RELHUM = 77.2 PCT

WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

LBS XNL RPM XNH RPM = V8 = 1698.1 FPS AEB = 19.9 SQ IN = FPS AE18 = 19.9 SQ IN

LBS XNLR RPM XNHR RPM = V8 = 1698.1 FPS AE18 = 19.9 SQ IN = FPS AE18 = 19.9 SQ IN

ZER-1511 TAPE = X15111 TEST PT NO = 1511 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG, F, 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1513 X1513F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 78.8 79.3 82.6 81.1 82.7 77.8 85.5 81.1 75.6 80.2 84.3 86.2 88.6 124.6

63 81.2 90.0 93.8 89.8 90.9 84.8 90.9 91.3 81.8 85.6 88.0 89.2 95.3 133.0

80 82.7 87.2 84.5 84.4 86.2 87.6 86.8 80.0 86.1 87.4 91.4 92.5 128.7

100 82.2 88.5 84.0 84.6 86.6 86.5 86.9 88.1 80.8 87.3 91.5 95.4 96.8 130.9

125 80.6 84.4 86.4 86.4 87.2 88.5 87.2 89.0 84.6 94.6 99.8 100.0 133.1

160 79.0 79.3 84.8 84.1 83.9 83.8 90.2 85.1 80.8 88.4 94.8 98.9 133.4

200 78.8 83.6 84.4 87.2 84.8 85.9 89.8 88.9 83.9 91.2 96.6 101.0 135.4

250 78.8 85.6 84.1 88.6 85.0 87.3 89.2 89.9 85.1 94.9 101.0 105.5 138.7

315 79.8 85.1 85.6 89.9 87.5 87.6 91.0 90.6 86.6 95.9 100.8 105.5 139.0

400 80.1 84.4 85.2 90.0 86.8 86.9 94.8 91.5 87.4 98.2 101.6 105.6 139.4

500 81.2 84.5 85.5 90.5 86.9 88.2 90.4 91.3 87.3 98.3 101.5 104.9 138.7

630 82.3 85.5 87.6 92.1 87.7 90.9 92.4 87.8 99.4 101.8 103.7 138.3

800 87.0 88.8 89.8 93.9 90.0 91.1 92.7 94.6 89.8 100.2 101.3 102.0 138.0

1000 87.0 88.8 89.8 93.9 90.0 91.1 92.7 94.6 89.8 100.2 101.3 102.0 138.0

1250 85.5 90.8 90.3 94.1 90.7 92.3 93.4 94.9 90.1 100.4 101.8 101.4 138.2

1600 87.6 90.5 91.2 94.5 91.6 92.7 94.8 95.1 91.7 99.8 100.6 101.1 138.1

2000 88.0 90.9 91.9 95.2 91.8 92.4 94.4 95.7 92.1 100.4 100.7 100.7 138.2

2500 88.8 92.1 92.4 95.2 92.8 93.9 94.8 96.7 92.3 102.1 100.8 100.4 138.9

3150 90.4 93.7 93.1 94.9 96.5 97.5 93.8 101.9 102.1 101.6 100.8 100.4 139.9

4000 91.7 94.1 94.8 97.0 93.9 94.3 96.2 98.3 93.9 102.3 102.6 103.7 140.7

5000 97.0 99.3 98.6 98.2 94.8 95.8 96.9 98.3 95.0 103.6 104.7 106.2 142.8

6300 100.1 103.4 102.5 99.0 97.7 96.4 97.2 99.1 95.9 102.7 104.5 106.8 144.3

8000 99.7 103.9 105.6 100.8 101.3 99.9 98.3 98.9 97.6 102.2 103.5 105.7 145.6

10000 99.7 103.9 106.2 102.0 105.7 103.7 101.0 99.4 98.6 101.9 102.9 105.9 146.9

12500 98.2 100.8 104.1 100.6 105.2 105.7 103.2 100.4 97.9 99.8 100.8 103.4 147.0

16000 95.4 98.3 102.7 98.3 102.7 103.5 101.6 96.1 96.7 98.7 99.1 100.7 146.8

20000 93.9 96.8 98.7 97.2 100.3 101.1 101.4 100.0 94.6 95.9 97.5 98.8 146.4

25000 91.6 94.5 97.0 96.6 99.6 99.6 98.6 96.6 93.0 95.4 96.1 96.1 147.1

31500 85.4 90.1 91.9 90.3 94.1 95.2 95.0 93.8 88.9 91.4 91.3 92.1 145.6

40000 82.9 87.9 90.1 88.1 91.8 92.7 92.0 91.4 89.7 89.4 89.2 84.6 147.1

50000 80.6 85.4 88.2 86.2 89.7 90.5 89.9 88.5 84.4 87.0 87.4 87.6 149.4

63000 77.7 83.9 85.7 83.9 86.9 88.1 86.8 86.5 82.4 85.2 85.4 85.3 152.3

80000 71.4 80.5 83.8 81.1 82.9 84.8 82.4 82.1 79.5 81.2 81.9 80.8 155.5

QASPL 107.6 111.4 112.5 110.3 111.8 111.5 110.9 107.3 113.7 115.2 117.2 117.3 160.6

PNL 118.8 122.3 122.3 121.3 120.3 119.7 120.9 121.9 118.0 126.3 127.7 129.3 129.1

PNL1 118.8 122.3 122.3 121.3 120.3 119.7 121.6 121.9 118.0 126.3 127.7 129.3 129.1

DBA 193.2 201.5 204.5 202.0 204.1 205.8 203.7 203.4 200.4 202.3 202.9 202.1 195.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH169 TEST DATE = 6-30-82  
MAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 40.0 FT  
PWL AREA = FULL SPHERE  
TAMB F = 71.00  
EXT CONFIG = ARC  
MODEL = AX  
FLVEL = 0. FPS

LBS XNL = RPM XNH = RPM V8 = 1704.0 FPS AE8 = 19.9 SO IN  
LBS XNLR = RPM XNHR = RPM V18 = 1704.0 FPS AE18 = 0. SO IN

TEST PT NO = 1513 NC = AE049 CORR FAN SPEED = RPM  
82F-ZER-1513 TAPE = X1513F

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1513 X15131

ANGLES MEASURED FROM INLET, DEGREES

|     |     |     |     |     |     |      |      |      |      |      |      |      |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 40. | 50. | 60. | 70. | 80. | 90. | 100. | 110. | 120. | 130. | 140. | 150. | 160. |
|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| FREQ | 59.2 | 65.0 | 66.8 | 72.3 | 69.6 | 69.6 | 69.6 | 77.6 | 73.8 | 69.1 | 78.8 | 80.7 | 82.4 | 80.2  | 157.9 |
| 50   | 59.2 | 65.0 | 66.8 | 72.3 | 69.6 | 69.6 | 69.6 | 77.6 | 73.8 | 69.1 | 78.8 | 80.7 | 82.4 | 80.2  | 157.9 |
| 63   | 60.2 | 65.0 | 67.1 | 72.9 | 69.6 | 71.1 | 73.1 | 73.6 | 68.9 | 78.9 | 80.5 | 81.7 | 78.7 | 157.1 |       |
| 80   | 61.2 | 66.0 | 69.1 | 74.4 | 70.4 | 71.9 | 73.7 | 74.7 | 69.4 | 79.9 | 80.7 | 80.4 | 76.7 | 156.7 |       |
| 100  | 63.5 | 67.4 | 70.2 | 75.2 | 71.8 | 73.0 | 74.3 | 76.2 | 71.2 | 80.7 | 81.3 | 78.7 | 74.7 | 156.7 |       |
| 125  | 65.8 | 69.2 | 71.3 | 76.0 | 72.6 | 73.8 | 75.3 | 76.8 | 71.3 | 80.5 | 80.1 | 78.4 | 72.8 | 156.4 |       |
| 160  | 64.1 | 71.0 | 71.6 | 76.1 | 73.2 | 74.9 | 75.9 | 76.9 | 71.4 | 80.6 | 80.3 | 77.7 | 73.0 | 156.7 |       |
| 200  | 65.9 | 70.5 | 72.3 | 76.4 | 74.1 | 75.1 | 77.1 | 77.0 | 72.8 | 79.7 | 79.0 | 77.0 | 72.4 | 156.6 |       |
| 250  | 66.0 | 70.6 | 72.7 | 76.9 | 74.7 | 76.5 | 77.4 | 73.0 | 73.0 | 80.1 | 78.7 | 76.2 | 71.2 | 156.7 |       |
| 315  | 66.4 | 71.4 | 73.0 | 76.6 | 74.6 | 75.9 | 76.7 | 78.1 | 72.9 | 81.4 | 78.4 | 75.3 | 69.6 | 157.3 |       |
| 400  | 67.5 | 72.9 | 73.9 | 77.8 | 74.6 | 76.6 | 78.1 | 78.6 | 74.0 | 80.8 | 79.2 | 75.8 | 70.5 | 158.4 |       |
| 500  | 68.3 | 72.7 | 74.7 | 77.8 | 75.1 | 75.8 | 77.5 | 79.1 | 73.8 | 80.9 | 79.2 | 76.8 | 71.3 | 159.1 |       |
| 630  | 69.2 | 73.2 | 75.2 | 78.2 | 75.8 | 77.0 | 77.9 | 78.7 | 74.6 | 81.8 | 80.8 | 79.2 | 72.4 | 161.3 |       |
| 800  | 75.7 | 81.2 | 81.8 | 79.2 | 78.4 | 77.3 | 77.9 | 79.3 | 75.1 | 80.5 | 80.1 | 79.1 | 73.3 | 162.7 |       |
| 1000 | 75.4 | 83.1 | 85.0 | 80.9 | 81.9 | 80.7 | 78.9 | 79.0 | 76.7 | 79.7 | 78.6 | 77.3 | 71.4 | 164.1 |       |
| 1250 | 74.4 | 81.1 | 85.0 | 81.8 | 86.2 | 84.4 | 81.4 | 79.3 | 77.6 | 77.5 | 77.5 | 77.5 | 68.5 | 163.4 |       |
| 1600 | 72.0 | 77.3 | 82.5 | 80.2 | 85.3 | 86.1 | 83.4 | 79.9 | 76.3 | 76.4 | 74.6 | 72.8 | 64.2 | 163.3 |       |
| 2000 | 68.2 | 75.3 | 79.0 | 77.6 | 82.7 | 83.9 | 83.5 | 80.9 | 74.1 | 74.6 | 72.0 | 68.5 | 64.2 | 163.3 |       |
| 2500 | 65.0 | 71.5 | 75.8 | 75.9 | 79.8 | 80.8 | 80.9 | 78.6 | 71.7 | 70.6 | 68.5 | 63.7 | 51.3 | 164.9 |       |
| 3150 | 59.2 | 66.8 | 72.3 | 72.8 | 76.7 | 78.3 | 77.7 | 75.7 | 68.3 | 67.7 | 62.7 | 56.1 | 39.1 | 165.6 |       |
| 4000 | 46.9 | 57.7 | 63.3 | 64.1 | 69.2 | 70.8 | 70.1 | 67.6 | 60.3 | 59.0 | 52.8 | 43.1 | 26.6 | 165.6 |       |
| 5000 | 34.5 | 47.9 | 55.3 | 56.5 | 61.9 | 63.3 | 62.1 | 59.8 | 51.9 | 48.9 | 41.1 | 26.6 | 0.9  | 167.8 |       |
| 6300 | 14.5 | 31.2 | 41.4 | 43.8 | 49.8 | 51.3 | 50.0 | 46.1 | 37.5 | 32.8 | 21.3 | 0.9  |      | 170.8 |       |
| 8000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       | 174.0 |

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|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 8000 | 6300 | 5000 | 4000 | 3150 | 2500 | 2000 | 1600 | 1250 | 1000 | 8000 | 6300 | 5000 | 4000 | 3150 | 2500 | 2000 | 1600 | 1250 | 1000 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

|       |      |      |       |      |       |       |       |       |      |      |      |      |      |       |  |  |  |  |  |  |
|-------|------|------|-------|------|-------|-------|-------|-------|------|------|------|------|------|-------|--|--|--|--|--|--|
| QASPL | 82.6 | 88.7 | 91.2  | 90.4 | 92.0  | 92.2  | 91.6  | 90.8  | 86.3 | 92.3 | 91.7 | 90.6 | 86.3 | 178.9 |  |  |  |  |  |  |
| PML   | 90.1 | 96.1 | 100.0 | 99.4 | 102.2 | 103.5 | 102.6 | 101.1 | 95.4 | 98.5 | 96.9 | 94.8 | 88.3 |       |  |  |  |  |  |  |
| DBA   | 81.8 | 88.2 | 91.1  | 88.9 | 92.1  | 92.2  | 90.8  | 89.2  | 84.9 | 88.2 | 86.8 | 85.1 | 78.6 |       |  |  |  |  |  |  |

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
 NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514  
 VEHICL = ADH169 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT  
 WIND DIR = DEQ WIND/VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRFR =

FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 1704.0 FPS AEB = 19.9 SQ IN  
 FMRAMB = LBS XNLR = RPM XNH XNHR = RPM V8 = 1704.0 FPS AEB = 19.9 SQ IN  
 RUNPT = 82F-ZER-1513 TAPE = X15131 TEST PT NO = 1513 NC = AE049 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1515 X1515C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 79.0 80.8 86.8 79.1 83.0 80.1 85.2 79.9 75.3 79.2 83.8 87.7 87.4 125.1

60 83.5 92.0 96.3 85.1 91.1 87.8 96.9 87.3 81.5 85.3 87.2 93.4 91.1 133.6

80 82.4 87.2 83.7 84.3 84.4 85.7 87.4 86.0 80.2 85.8 87.2 90.9 92.0 128.4

100 82.0 87.7 84.3 84.3 86.4 86.3 86.9 86.6 80.8 87.6 91.2 95.4 96.6 130.8

125 80.9 85.1 86.9 85.7 87.8 87.7 89.0 88.4 82.4 90.0 95.1 99.3 101.0 133.8

160 79.5 79.3 85.1 83.8 84.4 84.8 90.4 85.8 81.4 88.9 95.3 99.4 102.4 133.9

200 79.3 83.6 84.9 87.7 84.5 85.9 89.5 89.4 84.4 81.4 96.6 101.8 103.7 135.6

250 79.3 86.6 84.3 88.6 85.0 87.6 89.5 90.4 85.6 95.4 101.0 105.5 107.1 139.0

315 80.5 85.3 85.8 90.4 87.7 88.3 91.2 91.4 87.1 96.4 101.0 106.0 107.1 139.3

400 80.4 84.7 85.7 90.2 86.8 87.9 94.8 91.7 87.4 97.7 101.9 106.3 107.2 139.8

500 81.7 85.0 85.8 91.0 86.9 88.2 90.6 91.5 87.5 98.3 101.7 105.1 105.8 138.8

630 82.3 86.0 87.8 91.9 88.2 89.1 90.9 92.6 87.8 99.4 101.8 103.9 103.6 138.4

800 84.6 87.4 89.0 93.5 89.3 90.7 91.8 94.2 94.2 100.0 102.4 102.4 101.5 138.3

1000 87.3 88.8 90.3 93.9 90.5 91.3 93.2 94.6 90.1 100.2 102.0 102.2 100.6 138.3

1250 85.3 91.0 90.8 94.1 91.7 92.6 93.9 95.1 90.1 100.4 101.8 101.7 100.7 138.4

1600 87.9 90.8 91.4 94.7 91.6 92.7 94.7 96.2 91.9 100.4 100.9 101.0 100.2 138.5

2000 88.5 91.7 92.4 95.7 91.8 92.7 94.7 96.2 91.9 100.4 100.9 101.0 100.2 138.5

2500 89.6 92.3 92.6 96.2 92.8 93.9 95.3 96.9 92.5 101.8 100.8 100.9 100.2 139.1

3150 91.4 94.2 94.0 97.5 93.6 94.8 96.0 98.0 94.2 102.3 102.8 102.1 101.8 140.1

4000 92.2 94.6 93.3 97.5 93.6 94.8 96.0 98.0 94.2 102.3 102.8 102.1 101.8 140.9

5000 97.8 100.0 98.9 98.7 94.8 95.8 97.2 99.3 95.0 103.8 104.9 106.2 105.2 143.1

6300 100.9 103.9 102.8 99.3 98.4 96.4 97.7 99.4 96.4 103.5 105.0 107.3 106.8 144.7

8000 101.5 104.7 106.7 102.5 106.2 104.2 101.0 99.9 99.3 102.9 104.7 105.6 105.1 146.1

10000 100.2 104.1 100.6 105.7 106.2 103.5 101.1 97.9 99.6 101.3 103.2 103.2 103.2 147.3

12500 98.4 100.5 104.1 100.6 105.7 106.2 103.5 101.1 97.9 99.6 101.3 103.2 103.2 147.3

16000 95.9 99.3 101.2 98.1 103.2 103.7 104.2 102.3 96.4 98.2 99.6 101.0 100.8 147.1

20000 94.2 96.3 99.2 97.5 100.8 101.1 101.9 100.7 94.8 96.4 97.7 98.3 98.4 146.7

25000 91.1 94.8 97.3 95.9 99.1 99.7 99.8 99.1 93.5 96.2 96.1 96.1 94.9 147.4

31500 85.7 90.3 92.1 91.3 94.1 95.5 94.7 94.0 88.9 92.4 92.6 92.1 88.6 145.9

40000 83.1 88.1 90.4 88.6 92.3 93.2 93.0 89.0 86.7 90.4 90.9 89.4 87.4 147.8

50000 80.4 86.1 88.7 86.7 90.0 91.2 90.2 89.0 84.4 87.7 88.4 87.4 83.3 149.8

63000 77.9 83.7 86.9 84.1 87.4 88.6 86.8 87.0 82.4 85.5 87.7 84.6 79.3 152.8

80000 73.2 80.7 83.8 81.6 84.2 85.3 82.9 83.1 79.0 81.7 83.9 82.1 73.9 156.2

DASPL 108.2 111.8 113.0 110.6 112.3 112.1 111.8 111.4 107.5 113.9 115.6 117.4 117.6 161.0

PWL 119.5 122.8 122.9 121.7 120.7 120.0 121.7 122.4 118.3 126.5 128.0 129.6 129.3

DBA 106.5 110.0 110.3 108.8 108.1 107.2 107.5 108.9 105.3 113.2 114.4 115.5 115.1

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH170 TEST DATE = 6-30-82  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
WIND DIR = DEG WIND VEL = MPH  
MODEL = AX CONFIG = 5  
RELHUM = 77.2 PCT  
FLTVL = 0. FPS  
PAMB HG = 29.30 TAMB F = 71.00  
MIKE HT = NBFR  
AE8 = 19.9 SO IN  
AE18 = 0. SO IN  
CORR FAN SPEED = RPM

LBS XNL = RPM XNH = RPM V8 = 1713.3 FPS AE8 = 19.9 SO IN  
LBS XNLR = RPM XNHR = RPM V18 = 1713.3 FPS AE18 = 0. SO IN  
= X1515C TEST PT NO = 1515 NC = AE049 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1515 X15151

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 59.4 | 65.2 | 67.3 | 72.6 | 69.6 | 70.8 | 77.6 | 74.1 | 69.1 | 78.3 | 80.9 | 83.2 | 80.7 | 158.3 |
| 63    | 60.7 | 65.5 | 67.4 | 73.4 | 69.6 | 71.1 | 73.4 | 73.9 | 69.1 | 78.9 | 80.7 | 81.9 | 78.7 | 157.3 |
| 80    | 61.2 | 66.5 | 69.4 | 74.2 | 70.9 | 71.9 | 73.7 | 74.9 | 69.4 | 79.9 | 80.7 | 80.7 | 76.9 | 156.9 |
| 100   | 63.5 | 67.9 | 70.5 | 75.7 | 72.0 | 73.5 | 74.5 | 76.5 | 71.5 | 80.5 | 81.3 | 79.0 | 74.7 | 156.7 |
| 125   | 66.0 | 69.2 | 71.8 | 76.0 | 73.1 | 74.1 | 75.8 | 76.8 | 71.5 | 80.5 | 80.8 | 78.7 | 73.6 | 156.8 |
| 160   | 69.8 | 71.2 | 72.1 | 76.1 | 74.2 | 75.2 | 76.4 | 77.1 | 71.4 | 80.6 | 80.3 | 77.9 | 73.3 | 156.9 |
| 200   | 66.2 | 70.7 | 72.6 | 76.6 | 74.9 | 75.6 | 77.3 | 77.7 | 72.6 | 79.2 | 80.2 | 77.7 | 72.7 | 157.0 |
| 250   | 66.5 | 71.4 | 73.2 | 77.4 | 73.9 | 75.0 | 76.8 | 77.9 | 72.7 | 80.1 | 78.9 | 76.5 | 71.7 | 157.0 |
| 315   | 67.1 | 71.7 | 73.2 | 77.6 | 74.6 | 75.9 | 77.2 | 78.3 | 73.1 | 81.2 | 78.4 | 75.8 | 70.8 | 157.6 |
| 400   | 68.5 | 73.1 | 74.2 | 78.3 | 75.4 | 75.8 | 78.1 | 79.1 | 74.0 | 81.1 | 79.2 | 76.1 | 70.5 | 158.6 |
| 500   | 68.8 | 73.2 | 75.2 | 78.3 | 74.9 | 76.3 | 77.2 | 79.6 | 74.1 | 80.9 | 79.5 | 77.0 | 71.8 | 159.4 |
| 630   | 73.9 | 78.2 | 78.5 | 79.1 | 75.8 | 77.0 | 78.2 | 79.7 | 74.6 | 82.0 | 81.0 | 79.2 | 72.9 | 161.6 |
| 800   | 76.5 | 81.7 | 82.0 | 79.5 | 79.2 | 77.3 | 78.4 | 79.6 | 75.6 | 81.3 | 80.6 | 79.6 | 73.3 | 163.2 |
| 1000  | 76.7 | 83.6 | 85.7 | 81.4 | 82.7 | 80.7 | 78.9 | 80.0 | 76.9 | 80.4 | 79.9 | 77.3 | 70.9 | 164.6 |
| 1250  | 74.9 | 81.8 | 85.5 | 82.3 | 86.7 | 84.9 | 81.4 | 79.8 | 78.1 | 79.3 | 77.8 | 75.9 | 69.0 | 165.8 |
| 1600  | 72.2 | 77.1 | 82.5 | 80.2 | 85.8 | 86.6 | 83.6 | 80.7 | 76.3 | 76.2 | 75.1 | 72.6 | 64.7 | 165.6 |
| 2000  | 68.7 | 75.3 | 79.2 | 77.4 | 83.2 | 83.9 | 84.3 | 81.6 | 74.4 | 74.1 | 72.5 | 68.8 | 59.3 | 165.6 |
| 2500  | 65.2 | 71.0 | 76.3 | 76.1 | 80.3 | 80.8 | 81.4 | 79.4 | 71.9 | 71.1 | 68.8 | 63.2 | 52.0 | 165.2 |
| 3150  | 58.7 | 67.1 | 72.5 | 73.0 | 77.2 | 78.1 | 77.9 | 76.2 | 68.8 | 68.5 | 63.7 | 56.1 | 40.1 | 165.9 |
| 4000  | 47.1 | 57.9 | 63.6 | 65.1 | 69.2 | 71.0 | 69.8 | 67.8 | 60.3 | 60.0 | 54.0 | 43.1 | 19.3 | 164.3 |
| 5000  | 34.8 | 48.1 | 55.6 | 57.0 | 62.4 | 63.8 | 63.1 | 60.3 | 51.9 | 50.4 | 42.6 | 26.6 |      | 166.3 |
| 6300  | 14.2 | 31.9 | 41.9 | 44.3 | 50.0 | 52.0 | 50.2 | 46.6 | 37.5 | 33.5 | 22.3 | 0.6  |      | 168.3 |
| 8000  |      | 4.7  | 18.7 | 22.5 | 29.3 | 31.6 | 28.7 | 25.4 | 14.2 | 6.5  |      |      |      | 171.3 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 174.7 |

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63000  
50000  
40000  
31500  
25000  
20000  
15000  
12500  
10000

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|-------|------|------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|
| GASPL | 83.3 | 89.1 | 91.7  | 90.7  | 92.5  | 92.4  | 91.9  | 91.3  | 86.5 | 92.4 | 92.1 | 90.9 | 86.6 | 179.4 |
| PWL   | 90.5 | 96.5 | 100.2 | 99.6  | 102.7 | 103.3 | 103.1 | 101.7 | 95.5 | 98.5 | 97.3 | 95.0 | 88.6 |       |
| PWLT  | 90.5 | 97.1 | 100.7 | 100.2 | 102.7 | 103.8 | 103.1 | 101.7 | 95.5 | 99.0 | 97.3 | 96.0 | 88.6 |       |
| DBA   | 82.6 | 88.6 | 91.5  | 89.2  | 92.7  | 92.5  | 91.3  | 89.9  | 85.1 | 88.4 | 87.3 | 85.1 | 78.8 |       |

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH170 = ADH170 TEST DATE = 6-30-82  
IAPLHA = SB59 IEGA = NO  
WIND DIR = SB59 DEG WIND VEL = MPH  
PWL AREA = FULL SPHERE EXT DIST = 2400.0 FT  
EXT CNFIG = SL  
TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT  
FLTVEL = 0. FPS  
MODEL = AX  
CONFIG = 5  
CONFIG = C41 ANECH CH  
PML AREA = FULL SPHERE  
TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT  
FLTVEL = 0. FPS

FMINI = LBS XNL RPM XNH RPM XNHR = = = = =  
LBS XNLR RPM V8 = 1713.3 FPS AEB = 19.9 SQ IN  
AE18 = 0. SQ IN

TEST PT NO = 15151 NC = AE049 CORR FAN SPEED = RPM  
TAPPE = X15151

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1519 X1519C

BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PREQ 79.5 81.8 84.6 80.6 82.0 79.3 85.7 83.6 73.3 78.4 83.5 87.5 88.4 125.1

63 84.5 90.5 93.3 87.8 89.9 86.8 96.6 92.8 81.0 86.6 85.0 92.2 94.3 133.3

80 82.4 87.7 84.0 84.0 85.7 87.6 87.0 79.7 85.8 87.7 90.9 92.3 128.6

100 83.0 88.7 84.5 85.1 86.9 86.5 87.4 88.8 81.5 88.3 91.7 95.7 97.6 131.4

160 80.0 79.0 85.1 84.6 84.7 84.8 90.7 85.8 81.1 88.6 95.3 99.4 102.4 133.9

200 79.3 83.4 84.9 86.7 85.3 86.4 90.0 89.9 84.9 91.9 97.1 102.3 104.4 136.2

250 79.5 86.8 84.6 89.1 85.2 87.6 89.7 90.6 85.8 95.1 101.3 105.5 107.1 139.0

315 80.9 85.4 85.9 90.5 87.1 87.9 95.3 92.0 87.7 98.5 102.4 106.3 107.7 140.2

400 80.9 85.4 85.9 90.5 87.1 87.9 95.3 92.0 87.7 98.5 102.4 106.3 107.7 140.2

500 81.6 85.1 87.2 85.7 87.8 87.7 89.3 88.9 82.9 89.7 95.4 99.5 100.7 133.8

600 84.9 87.7 89.2 93.2 89.1 90.7 92.1 94.5 90.0 100.3 102.7 102.6 102.0 138.5

800 84.9 87.7 89.2 93.2 89.1 90.7 92.1 94.5 90.0 100.3 102.7 102.6 102.0 138.5

1000 87.8 89.3 90.6 93.4 90.2 91.1 93.2 94.6 90.6 100.4 102.3 102.7 100.9 138.5

1500 86.3 91.0 90.6 94.1 91.4 92.8 94.2 95.1 90.8 100.4 101.8 101.1 101.3 138.5

2000 86.4 91.8 91.9 95.0 92.8 93.4 95.3 95.8 91.2 99.8 101.1 101.3 101.3 138.5

2500 89.8 92.9 95.9 93.0 94.1 95.3 96.9 92.3 101.8 100.8 100.4 99.2 139.0

3000 91.6 94.7 94.2 97.0 93.6 94.6 96.8 98.0 93.6 101.9 102.4 101.1 140.1

4000 92.7 95.6 95.5 97.5 93.9 95.3 96.7 98.5 93.9 102.1 102.8 103.2 102.9 140.9

5000 97.8 100.5 99.1 98.7 95.1 95.8 97.2 99.0 95.0 104.3 104.9 106.0 105.5 143.2

6300 101.1 104.4 103.5 100.0 98.9 98.2 99.4 96.4 102.7 105.5 106.8 107.1 144.9

8000 101.0 104.4 105.4 106.9 101.6 102.8 100.6 99.1 99.7 98.1 102.7 104.2 106.0 146.3

10000 99.7 104.2 106.5 102.2 106.7 105.2 102.0 100.2 99.6 102.1 103.4 105.4 104.9 147.5

12500 98.7 100.8 104.4 105.4 105.4 104.0 101.1 97.2 100.2 101.3 103.2 102.9 147.3

16000 96.2 99.8 101.2 98.3 103.2 103.9 103.7 102.3 95.9 97.9 99.1 100.0 147.0

20000 94.4 96.8 99.2 97.5 100.8 101.8 101.6 100.7 94.6 95.9 97.2 99.0 146.8

25000 91.6 94.8 97.3 95.7 99.3 99.8 99.8 98.6 93.3 95.7 95.8 96.9 147.4

30000 81.6 85.9 88.7 86.5 90.2 91.0 89.9 89.0 84.6 87.2 88.4 88.1 149.8

40000 83.6 88.1 90.1 88.1 92.8 93.2 93.0 91.6 86.4 89.2 90.4 89.7 147.7

50000 81.6 85.9 88.7 86.5 90.2 91.0 89.9 89.0 84.6 87.2 88.4 88.1 149.8

63000 78.4 83.2 86.2 84.1 87.7 88.6 87.0 87.0 82.6 84.2 86.7 85.3 152.6

80000 72.4 80.7 83.8 81.9 83.9 85.3 82.7 82.6 79.5 81.9 83.4 82.3 156.1

QASPL 108.2 111.9 113.0 110.6 112.5 112.4 112.0 111.4 107.4 113.9 115.6 117.4 117.8 161.0

PFLT 119.7 123.2 123.1 121.8 121.0 120.6 122.1 122.4 118.3 126.7 128.1 129.4 129.5

DBA 106.4 110.2 110.6 108.8 108.5 107.8 108.0 108.9 105.4 113.2 114.5 115.5 115.3

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICLE = ADH171 TEST DATE = 6-30-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 IEGA = NG PML AREA = FULL SPHERE TAMB F = 71.00 MIKE HT = 29.30 RELHUM = 77.2 PCT

WIND DIR = DEG WIND VEJ = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC NBFR =

FMINI = LBS XNLR = RPM XNHR = RPM V8 = 1724.7 FPS AE8 = 19.9 SO IN CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1519 X1519F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 74.5  | 81.8  | 84.6  | 82.0  | 79.3  | 85.7  | 83.6  | 73.3  | 78.4  | 83.5  | 87.5  | 88.4  | 125.1 |
| 63    | 89.5  | 90.5  | 93.3  | 87.8  | 89.9  | 85.7  | 82.8  | 81.0  | 86.6  | 85.0  | 92.2  | 94.3  | 133.3 |
| 80    | 82.4  | 87.7  | 84.0  | 84.0  | 84.4  | 85.7  | 87.0  | 79.7  | 85.8  | 87.7  | 90.9  | 92.3  | 128.6 |
| 100   | 83.0  | 88.7  | 84.5  | 85.1  | 86.9  | 86.5  | 87.4  | 88.8  | 81.5  | 88.3  | 91.7  | 95.7  | 131.4 |
| 125   | 81.6  | 85.1  | 87.2  | 85.7  | 87.7  | 89.3  | 82.9  | 82.9  | 89.7  | 95.4  | 99.5  | 100.7 | 133.8 |
| 150   | 80.0  | 79.0  | 85.1  | 84.6  | 84.7  | 84.8  | 90.7  | 85.8  | 81.1  | 88.6  | 99.4  | 102.4 | 133.9 |
| 200   | 79.3  | 83.4  | 84.9  | 88.7  | 85.3  | 86.4  | 90.0  | 89.9  | 84.9  | 91.9  | 97.1  | 102.3 | 136.2 |
| 250   | 79.5  | 86.8  | 84.6  | 89.1  | 85.2  | 87.6  | 89.7  | 90.6  | 85.8  | 95.1  | 101.3 | 105.5 | 139.0 |
| 315   | 80.5  | 85.1  | 86.8  | 89.4  | 86.3  | 91.2  | 91.1  | 87.3  | 96.4  | 101.0 | 105.7 | 107.9 | 139.5 |
| 400   | 80.9  | 85.4  | 85.9  | 90.5  | 87.1  | 87.9  | 95.3  | 92.0  | 87.7  | 98.5  | 102.4 | 106.3 | 140.2 |
| 500   | 81.9  | 85.7  | 85.8  | 90.8  | 87.4  | 88.5  | 90.9  | 92.0  | 87.8  | 98.8  | 102.5 | 105.8 | 139.3 |
| 630   | 82.5  | 86.5  | 87.6  | 89.2  | 86.4  | 89.3  | 91.2  | 93.1  | 88.1  | 99.4  | 102.3 | 104.4 | 138.8 |
| 800   | 84.9  | 87.7  | 89.2  | 89.1  | 90.7  | 92.1  | 94.5  | 90.0  | 90.3  | 102.7 | 102.6 | 102.0 | 138.5 |
| 1000  | 87.8  | 89.3  | 90.6  | 93.4  | 90.2  | 91.1  | 93.2  | 94.6  | 90.6  | 100.4 | 102.3 | 102.7 | 138.5 |
| 1250  | 86.3  | 91.0  | 90.6  | 94.1  | 91.4  | 92.8  | 94.2  | 95.1  | 90.8  | 100.4 | 101.8 | 101.9 | 138.5 |
| 1600  | 88.4  | 91.8  | 93.0  | 92.8  | 93.4  | 95.8  | 96.5  | 91.2  | 99.8  | 101.1 | 101.3 | 100.9 | 138.5 |
| 2000  | 89.0  | 91.9  | 92.1  | 95.2  | 92.1  | 92.9  | 94.9  | 96.5  | 91.9  | 100.6 | 100.9 | 100.7 | 138.5 |
| 2500  | 89.8  | 92.8  | 92.9  | 95.9  | 93.0  | 94.1  | 95.3  | 96.9  | 92.3  | 101.8 | 100.8 | 100.4 | 139.0 |
| 3150  | 91.6  | 94.7  | 94.2  | 97.0  | 93.6  | 94.6  | 96.8  | 98.8  | 93.6  | 101.9 | 102.4 | 101.8 | 140.1 |
| 4000  | 92.7  | 95.6  | 95.5  | 97.5  | 93.9  | 95.3  | 96.7  | 98.5  | 93.9  | 102.1 | 102.8 | 103.2 | 140.9 |
| 5000  | 97.8  | 100.5 | 99.1  | 98.7  | 95.1  | 95.8  | 97.2  | 99.0  | 95.0  | 104.3 | 104.9 | 105.5 | 143.2 |
| 6300  | 101.1 | 104.4 | 103.5 | 100.0 | 98.9  | 96.9  | 98.2  | 99.4  | 96.4  | 102.7 | 105.5 | 106.8 | 144.9 |
| 8000  | 101.0 | 105.9 | 106.9 | 102.8 | 100.6 | 99.1  | 99.7  | 98.1  | 98.1  | 102.7 | 104.2 | 106.1 | 146.3 |
| 10000 | 99.7  | 104.2 | 106.5 | 102.2 | 106.7 | 105.2 | 102.0 | 100.2 | 99.6  | 102.1 | 103.4 | 105.4 | 147.5 |
| 12500 | 98.7  | 100.8 | 104.1 | 100.4 | 105.4 | 105.9 | 104.0 | 101.1 | 97.2  | 100.1 | 101.3 | 103.2 | 147.3 |
| 15000 | 96.2  | 98.3  | 101.2 | 98.3  | 103.2 | 103.9 | 103.7 | 102.3 | 95.9  | 97.9  | 99.1  | 100.7 | 147.0 |
| 20000 | 94.4  | 96.8  | 99.2  | 97.5  | 100.8 | 101.8 | 100.7 | 94.6  | 95.9  | 97.2  | 99.0  | 97.7  | 146.8 |
| 25000 | 91.6  | 94.8  | 97.3  | 95.7  | 99.3  | 99.8  | 98.6  | 93.3  | 95.7  | 95.8  | 96.9  | 93.9  | 147.4 |
| 31500 | 83.6  | 83.9  | 90.1  | 92.4  | 90.8  | 94.1  | 95.7  | 95.0  | 93.8  | 91.6  | 91.6  | 87.8  | 145.8 |
| 40000 | 83.6  | 88.1  | 88.1  | 90.1  | 88.1  | 92.8  | 93.2  | 91.6  | 86.4  | 89.2  | 89.4  | 85.4  | 147.7 |
| 50000 | 81.6  | 85.9  | 88.7  | 86.5  | 90.2  | 89.9  | 89.0  | 84.6  | 87.2  | 88.4  | 88.1  | 82.3  | 149.8 |
| 63000 | 78.4  | 83.2  | 86.2  | 84.1  | 87.7  | 88.6  | 87.0  | 82.6  | 84.2  | 86.7  | 85.3  | 79.0  | 152.6 |
| 80000 | 72.4  | 80.7  | 83.8  | 81.9  | 83.9  | 85.3  | 82.7  | 82.6  | 79.5  | 81.9  | 83.4  | 82.3  | 156.1 |
| QASPL | 108.2 | 111.9 | 113.0 | 110.6 | 112.5 | 112.4 | 112.0 | 111.4 | 107.4 | 113.9 | 115.6 | 117.4 | 161.0 |
| PNL   | 119.7 | 123.2 | 123.1 | 121.8 | 121.0 | 120.6 | 122.1 | 122.4 | 118.3 | 122.4 | 126.7 | 129.4 | 129.5 |
| DBA   | 194.2 | 201.6 | 204.6 | 202.7 | 205.0 | 206.3 | 203.9 | 200.4 | 202.8 | 204.4 | 203.3 | 195.7 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH171 TEST DATE = 6-30-82  
 IAPLHA = SB59 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
 LOCAT = C41 ANECH CH CONFIG = 5  
 TAMB F = 71.00  
 PAMB HG = 29.30  
 RELHUM = 77.2 PCT  
 FLTVL = 0. FPS  
 MODEL = AX  
 MIKE HT =  
 NBFR =

FMINI = LBS XNL RPM XNHR RPM XNH RPM V8 = 1724.7 FPS AEB = 19.9 SO IN  
 FMRAMB = LBS XNLR RPM XNHR RPM V8 = 1724.7 FPS AEB = 19.9 SO IN  
 TEST PT NO = 1519 NC = AE049 CORR FAN SPEED = RPM  
 ZER-1519 TAPE = X1519F

ORIGINAL PAGE IS OF POOR QUALITY

NASA FULL SCALE PRINTING SYSTEM - P1188-02

DATEPDC - FL,MAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1519 X15191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

59.9 66.0 67.6 72.8 69.8 70.8 78.1 74.3 69.3 79.1 81.4 83.2 81.2 158.7

53 61.0 66.3 67.4 73.1 70.1 71.4 73.6 74.4 69.4 79.4 81.5 82.2 79.2 157.7

80 61.5 67.0 69.1 74.4 71.2 72.2 73.9 75.4 69.6 79.9 81.2 81.2 77.4 157.3

100 63.8 68.1 70.7 75.5 71.8 73.5 74.8 76.7 71.5 80.7 81.5 79.2 75.2 157.0

125 66.5 69.7 72.0 75.5 72.8 73.8 75.8 76.8 72.0 80.8 81.1 79.2 73.8 157.0

160 64.8 71.2 71.9 76.1 73.9 75.4 76.7 77.1 72.1 80.6 80.3 78.2 73.5 157.0

200 66.7 71.7 73.1 76.9 75.1 75.9 77.6 77.7 72.3 79.7 79.5 77.2 72.4 156.9

250 67.0 71.6 73.0 76.9 74.2 75.2 77.0 78.2 72.7 80.3 78.9 76.2 71.2 157.0

315 67.4 72.2 73.5 77.3 74.9 76.1 77.2 78.3 72.9 81.2 78.4 75.3 69.8 157.5

400 68.7 73.6 74.4 78.1 76.3 78.3 79.1 79.8 80.8 79.5 76.1 70.7 158.6

500 69.3 74.2 75.4 78.3 76.1 76.8 78.0 79.3 73.8 80.7 76.8 71.6 159.4

630 73.9 78.7 79.1 76.1 77.0 78.2 79.5 74.6 82.5 81.0 78.9 73.1 161.7

800 76.2 83.4 86.0 81.6 83.4 81.4 79.7 77.2 80.2 79.4 77.5 71.4 164.7

1000 76.2 83.4 86.0 81.6 83.4 81.4 79.7 77.2 80.2 79.4 77.5 71.4 164.7

1250 72.4 81.3 85.3 82.1 87.2 85.9 82.4 80.0 78.4 79.3 78.0 76.1 68.8 166.0

1600 72.5 77.3 82.5 79.9 85.6 86.3 84.1 80.7 75.6 76.7 75.1 72.6 64.5 165.8

2000 69.0 75.8 79.2 77.6 83.2 84.2 83.8 81.6 73.9 73.9 72.0 69.5 58.5 165.5

2500 65.5 71.5 76.3 76.1 80.3 81.5 81.1 79.4 71.7 70.6 68.3 64.0 51.3 165.3

3150 59.2 67.1 72.5 72.8 77.4 78.3 77.9 75.7 68.5 68.0 63.5 56.9 39.1 165.8

4000 47.4 57.7 63.8 64.6 69.2 71.3 70.1 67.6 60.6 59.2 53.0 42.9 18.5 164.3

5000 35.3 48.1 55.3 56.5 62.9 63.8 63.1 60.0 51.6 49.2 42.1 27.1 166.2

6300 15.5 31.7 41.9 44.1 50.3 51.8 50.0 46.6 37.8 33.0 22.3 1.4 168.3

8000 4.2 18.0 22.5 29.6 31.6 28.9 25.4 14.4 5.2 171.1

10000 174.6

12500

16000

20000

25000

40000

50000

63000

80000

QASPL 83.3 89.3 91.8 90.7 92.7 92.7 92.1 91.3 86.5 92.5 92.2 90.9 86.9 179.4

PWL 90.7 96.6 100.2 99.6 102.7 103.4 103.0 101.7 95.3 98.6 97.3 94.9 88.6

PMLT 90.7 97.2 100.8 100.1 102.7 103.9 103.0 101.7 95.8 99.2 97.3 96.0 88.6

DBA 82.5 88.6 91.6 89.2 92.9 92.8 91.4 89.8 85.0 88.4 87.3 85.0 78.9

VEHICL = ADH171 TEST DATE = 6-30-82 LCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVL = 0. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR  
FMINI = LBS XNL RPM XNH XNHR = RPM V8 = 1724.7 FPS AE8 = 19.9 SQ IN  
FMRMB = LBS XNLR = XNHR XNHR = RPM V8 = 1724.7 FPS AE8 = 19.9 SQ IN  
RUMPT = 82F-ZER-1519 TAPE = X15191 TEST PT NO = 1519 NC = AE049 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1521 X1521C  
BACKGROUND X79F400B0400

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

78.0 82.3 84.8 81.6 82.7 79.6 87.0 82.6 74.8 78.9 83.8 87.2 87.6 125.4

63 81.7 90.5 94.8 90.3 91.9 88.0 97.9 91.1 82.5 85.8 85.2 91.9 92.1 134.0

80 82.9 88.0 84.5 84.8 84.9 87.0 88.1 86.8 80.5 86.3 87.7 91.6 92.8 129.1

100 83.2 88.7 84.8 85.6 87.1 87.5 87.6 89.3 82.3 88.8 92.5 95.9 97.8 131.8

125 81.6 85.1 86.9 85.7 88.0 88.2 89.3 88.4 82.7 89.8 99.8 101.2 134.1

160 80.0 78.8 85.1 84.8 84.7 85.1 90.9 85.8 81.6 88.9 95.8 99.4 102.9 134.2

200 79.6 83.6 84.6 88.2 85.3 86.6 90.3 89.9 84.9 92.2 96.8 102.3 104.2 136.1

250 79.8 86.8 84.6 89.4 85.5 88.1 90.5 90.6 86.1 95.9 102.0 106.2 107.9 139.7

315 80.8 85.8 85.8 90.6 88.0 89.1 91.5 91.9 87.6 96.9 101.5 106.5 108.4 140.1

400 80.9 85.4 85.9 91.0 87.3 88.4 95.6 92.0 88.2 98.7 102.4 106.8 107.7 140.4

500 82.2 85.8 91.6 87.6 88.7 90.6 92.0 88.5 99.1 102.5 105.9 106.3 106.3 139.6

630 82.8 86.5 88.1 92.6 88.7 89.8 91.4 93.1 88.3 100.1 102.8 104.7 104.4 139.2

800 85.4 87.4 89.2 93.7 89.8 91.0 92.1 94.7 90.2 100.5 103.4 102.8 102.2 138.9

1000 87.8 88.8 90.8 93.9 90.7 91.6 93.7 94.9 91.1 100.9 102.3 102.7 100.6 138.7

1250 86.3 91.0 91.3 94.6 91.7 92.8 94.2 95.6 91.3 100.9 102.8 101.7 101.2 138.9

1600 86.9 91.5 92.2 95.7 93.1 93.7 95.3 96.3 92.2 100.0 102.4 102.1 101.1 139.1

2000 88.8 92.4 92.6 95.5 92.8 93.4 94.9 97.0 92.1 100.9 101.2 101.0 100.2 138.8

2500 90.3 93.3 93.4 96.2 93.0 94.1 95.3 97.2 92.5 102.8 101.3 100.9 99.2 139.5

3150 93.0 95.2 94.5 97.5 94.1 95.1 97.0 98.0 94.3 102.6 102.4 103.7 102.7 141.2

4000 93.0 95.4 96.8 98.0 94.6 94.6 96.7 99.3 94.2 102.3 103.1 103.7 102.7 141.2

5000 98.5 100.5 99.6 98.9 95.8 96.6 97.2 99.3 95.2 104.6 104.9 106.0 105.0 143.4

6300 101.4 104.9 99.8 99.4 99.4 99.4 98.2 100.4 96.9 103.2 106.0 107.1 106.1 145.0

8000 101.5 106.1 102.8 102.1 102.6 101.1 98.8 100.2 98.4 103.2 104.2 106.2 105.6 146.5

10000 99.5 104.2 102.1 102.5 107.2 105.4 101.9 98.6 100.2 98.4 103.2 104.2 106.2 146.5

12500 98.7 100.8 103.6 105.4 106.2 105.4 106.2 104.0 101.9 97.7 100.6 100.8 104.2 147.4

16000 95.7 99.8 101.5 98.6 102.9 103.4 104.0 102.8 96.1 98.9 99.1 101.2 99.5 147.1

20000 94.2 97.3 99.2 97.7 100.8 101.3 101.4 101.2 95.3 96.6 97.5 99.0 97.4 146.8

25000 91.1 95.5 97.3 96.2 99.1 100.4 100.6 99.3 94.0 95.9 95.3 97.1 93.1 147.7

31500 85.7 90.6 91.9 94.4 95.7 95.2 94.0 89.4 91.6 92.6 88.1 145.9

40000 83.1 88.6 90.9 89.1 92.3 93.4 92.7 92.1 86.9 89.7 89.9 90.0 85.4 147.8

50000 80.6 86.6 88.7 87.0 90.5 91.5 90.2 89.2 85.1 88.2 87.4 88.6 81.6 150.1

63000 78.4 84.2 86.9 84.9 87.9 88.6 87.0 87.8 82.9 86.0 85.7 86.1 77.8 153.1

80000 71.9 81.7 83.8 81.9 84.7 85.6 83.4 83.4 79.5 81.4 82.1 81.6 71.6 156.3

QASPL 108.4 112.1 113.3 110.9 112.7 112.5 112.2 111.9 107.8 114.4 115.8 117.8 117.8 161.3

PNTL 119.9 123.5 121.5 121.5 120.8 122.3 122.9 118.7 127.1 128.2 129.7 129.1

DBA 106.7 110.4 111.0 109.1 108.9 108.1 108.1 109.3 105.7 113.6 114.7 115.8 115.1

NASA SHOCK CELL/20 EL ANN CV SUPP NOZ SC-5/NAS3-22514

VEHICL = ADH172 TEST DATE = 6-30-82

LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVL = 0. FPS

WIND DIR = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 71.00

EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.30 RELHUM = 77.2 PCT

FMFRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1733.6 FPS AEB = 19.9 SQ IN

TEST PT NO = 1521 NC = AE049 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1521 X1521F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 78.0 82.3 84.8 81.6 82.7 79.6 87.0 82.6 74.8 78.9 83.8 87.2 87.6 125.4

50 63 81.7 90.5 94.8 90.3 91.9 88.0 97.9 91.1 82.5 85.8 85.2 91.9 134.0

80 82.9 88.0 84.5 84.8 84.9 87.0 88.1 86.8 80.5 86.3 87.7 91.6 92.8 129.1

100 83.2 88.7 84.8 85.6 87.1 87.5 87.6 89.3 82.3 88.8 92.5 95.9 97.8 131.8

125 81.6 85.1 86.9 85.7 88.0 88.2 89.3 88.4 82.7 90.2 95.9 99.8 101.2 134.1

160 80.0 78.8 85.1 84.8 84.7 85.1 86.7 85.8 81.6 88.9 95.8 99.4 102.9 134.2

200 79.6 83.6 84.6 88.2 85.3 86.6 90.3 89.9 84.9 92.2 96.8 102.3 104.2 135.1

250 79.8 86.8 84.6 89.4 85.5 88.1 90.5 89.6 86.1 95.9 102.0 106.2 107.9 139.7

315 80.8 85.8 85.8 89.6 88.0 89.1 91.5 91.9 87.6 96.9 101.5 106.5 108.4 140.1

400 80.9 85.4 85.9 91.0 87.3 88.4 95.6 92.0 88.2 98.7 102.4 106.8 107.7 140.4

500 82.2 85.0 85.8 91.8 87.6 88.7 90.6 92.0 88.5 99.1 102.5 105.9 106.3 139.6

600 82.8 86.5 88.1 92.6 88.7 89.8 91.4 93.1 88.3 100.1 102.8 104.7 104.4 139.2

630 85.4 87.4 89.2 93.7 89.8 91.0 92.1 94.7 90.2 100.5 103.4 102.8 138.9

700 87.8 88.8 90.8 93.9 90.7 91.6 93.7 94.9 91.1 100.9 102.3 102.7 138.7

725 86.3 91.0 91.3 94.6 91.7 92.8 94.8 95.6 91.3 100.9 102.8 101.7 138.9

750 88.9 91.5 92.2 95.7 93.1 93.7 95.3 96.3 92.2 100.0 102.4 102.1 139.1

800 88.8 92.4 92.6 95.5 92.8 93.4 94.9 97.0 92.1 100.9 101.2 101.0 138.8

850 93.0 93.3 93.4 96.2 93.0 94.1 95.3 97.2 92.5 102.8 101.3 100.9 139.5

900 91.6 95.2 94.5 97.5 94.1 95.1 97.0 98.0 94.3 102.6 102.4 100.6 140.4

950 93.0 95.4 96.8 98.0 94.6 94.6 96.7 99.3 94.2 102.3 103.1 103.7 141.2

1000 98.5 104.2 107.0 102.5 107.2 105.5 102.5 100.4 99.6 102.6 103.1 106.1 147.8

1050 95.7 99.8 103.6 100.6 106.2 104.0 101.9 97.7 100.6 100.8 104.2 101.9 147.4

1100 97.3 99.8 101.5 98.6 102.9 103.4 104.0 102.8 96.1 98.9 99.1 101.2 147.1

1150 94.2 97.3 99.2 97.7 100.8 101.3 101.4 101.2 95.3 96.6 97.5 99.0 146.8

1200 92.3 96.2 99.1 100.4 100.6 99.3 94.0 95.9 95.3 97.1 93.1 147.7

1250 85.7 90.6 91.9 94.1 94.4 95.7 92.7 92.1 86.9 89.7 89.9 145.9

1300 83.1 88.6 90.9 89.1 92.3 93.4 92.7 92.1 86.9 89.7 89.9 147.8

1350 80.6 86.6 88.7 87.0 90.5 91.5 90.2 89.2 85.1 88.2 87.4 150.1

1400 78.4 84.2 86.9 84.9 87.9 88.8 87.0 87.8 82.9 86.0 85.7 153.1

1450 71.9 81.7 83.8 81.9 84.7 85.6 83.4 83.4 79.5 81.4 82.1 156.3

1500 108.4 112.1 113.3 110.9 112.7 112.5 112.2 111.9 107.8 114.4 115.8 117.8 161.3

1550 119.9 123.4 122.1 121.5 120.8 121.5 122.9 118.7 118.7 127.1 128.2 129.7 129.1

1600 119.9 123.5 123.4 122.1 121.5 120.8 122.3 122.9 118.7 127.1 128.2 129.7 129.1

1650 193.8 202.6 204.7 202.8 205.7 206.6 204.5 204.6 200.5 202.7 203.2 202.8 193.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN CV SUPP NGZ SC-5/NAS3-22514

VEHICL = ADH172 TEST DATE = 6-30-82 LCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR

FMINI = LBS XNL RPM XNH XNHR = RPM XNHR = RPM V8 = 1733.6 FPS AE8 = 19.9 SO IN  
FMRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1733.6 FPS AE18 = 0. SO IN

RUNPT = 82F-ZER-1521 TAPE = X1521F TEST PT NO = 1521 NC = AE049 CORR FAN SPEED = RPM

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HONEYWELL PAGE PRINTING SYSTEM - P1185-02

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1521 X15211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

59.9 66.0 67.6 73.3 70.1 71.3 78.3 74.3 69.8 79.3 81.4 83.7 81.2 158.9  
50 59.9 66.0 67.6 73.3 70.1 71.3 78.3 74.3 69.8 79.3 81.4 83.7 81.2 158.9  
63 61.7 67.0 69.6 74.9 71.4 72.7 74.2 75.4 74.4 70.1 79.6 81.5 82.7 158.1  
80 61.7 67.0 69.6 74.9 71.4 72.7 74.2 75.4 74.4 70.1 79.6 81.5 82.7 158.1  
100 64.3 67.9 70.7 76.0 72.5 73.8 74.8 77.0 71.7 81.0 82.3 79.5 75.4 157.4  
125 66.5 69.2 72.3 76.0 73.3 74.3 76.3 77.0 72.5 81.3 79.2 73.6 157.2  
150 64.8 71.2 72.6 76.6 74.2 75.4 76.7 77.6 72.6 81.1 81.3 77.9 73.8 157.4  
200 67.2 71.5 73.3 77.6 75.4 76.1 77.6 78.2 73.3 80.0 80.7 78.0 73.2 157.6  
250 66.8 72.1 73.5 77.2 74.9 75.7 77.0 78.7 73.0 80.6 79.2 76.5 71.7 157.3  
315 67.9 72.7 74.0 77.6 74.9 76.1 77.2 78.6 73.1 82.2 78.9 75.8 69.8 157.9  
400 68.7 74.1 74.7 78.6 76.6 76.8 78.6 79.1 74.5 81.6 79.5 76.3 70.2 158.9  
500 69.6 74.0 76.7 78.8 75.9 76.0 78.0 80.1 74.1 80.9 79.7 77.3 71.3 159.7  
630 74.7 78.7 79.2 79.4 76.8 77.7 78.2 79.7 74.8 82.8 81.0 78.9 72.6 161.9  
800 77.0 82.7 83.3 80.0 80.2 77.8 78.9 80.6 76.1 81.0 80.6 79.3 72.5 161.9  
1000 76.7 83.6 86.2 82.1 83.4 81.9 79.4 80.2 77.4 80.7 79.4 77.8 70.9 165.0  
1250 74.2 81.3 85.8 82.3 87.7 86.1 82.9 80.3 78.4 79.8 77.8 76.9 68.3 166.3  
1500 72.5 77.3 82.0 80.2 85.6 86.6 84.1 81.4 76.1 77.2 74.6 73.6 63.5 165.9  
2000 68.5 75.8 79.5 77.9 83.0 83.7 84.0 82.1 74.1 74.9 72.0 69.0 58.0 165.6  
2500 65.2 72.0 76.3 76.4 80.3 81.0 80.8 79.9 72.4 71.4 68.5 64.0 51.0 165.3  
3150 58.7 67.8 72.5 73.3 77.2 78.8 78.7 76.4 69.3 68.2 63.0 57.1 38.3 166.2  
4000 47.1 58.2 63.3 64.9 69.5 71.3 70.3 67.8 60.8 59.5 53.0 43.6 18.8 164.4  
5000 34.8 48.6 56.1 57.5 62.4 64.1 62.9 60.5 52.1 49.7 41.6 27.3 166.3  
6300 14.5 32.4 41.9 44.6 50.5 52.3 50.2 46.8 38.3 34.0 21.3 1.9 168.5

10000 174.8  
12500  
16000  
20000  
25000  
31500  
40000  
50000  
63000  
80000

DBASPL 83.6 89.5 92.1 91.0 92.9 92.9 92.2 91.8 86.9 92.9 92.5 91.3 86.9 179.6  
PNLT 90.8 96.6 100.2 99.9 102.8 103.5 103.2 102.1 95.7 99.1 97.4 95.2 88.2  
PNLT 90.8 97.4 100.2 99.9 103.9 104.0 103.2 102.1 96.3 99.7 97.4 96.3 88.2

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN CV SUPP NGZ SC-5/NAS3-22514

VEHICL = ADH172 TEST DATE = 6-30-82 LOCAL = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.30 RELHUM = 77.2 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBR

N1 = LBS XNL RPM = XNH RPM = V8 = 1733.6 FPS AEB = 19.9 SQ IN  
= LBS XNLR RPM = XNHR XNHR = V8 = 1733.6 FPS AEB = 19.9 SQ IN

-ZER-1521 TAPE = X15211 TEST PT NO = 1521 NC = AE049 CORR FAN SPEED = RPM

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4.7 Acoustic Data of Model 6

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0601 X0601C

BACKGROUND 0000000000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 80.8 81.6 85.6 84.6 82.7 79.8 85.0 85.9 81.8 85.4 86.5 92.5 89.4 127.5

63 84.5 89.0 95.3 93.6 92.1 88.0 95.6 94.1 86.0 93.6 90.5 98.2 94.1 135.2

80 85.2 90.0 87.4 89.7 89.6 89.7 89.6 89.3 90.2 89.1 91.9 95.6 96.3 132.3

100 86.2 93.0 88.8 90.1 91.4 91.3 91.6 93.6 91.6 93.6 96.5 99.9 101.6 136.0

125 82.6 87.6 89.2 89.7 90.8 91.9 92.8 92.9 92.2 95.2 100.6 103.8 104.7 138.2

150 83.0 87.6 86.1 87.9 87.8 84.7 90.8 94.7 90.8 91.6 96.6 102.0 104.9 139.3

200 84.6 86.9 86.6 86.9 86.5 90.4 93.0 92.7 96.4 98.2 103.8 107.5 108.9 141.3

250 85.3 88.1 88.3 89.1 89.0 90.3 93.2 93.9 97.3 103.7 109.5 112.0 111.9 145.4

315 83.8 87.8 88.6 88.9 91.0 93.1 95.2 95.9 99.6 106.2 110.8 113.5 113.1 146.9

400 85.4 88.2 89.2 91.8 92.2 99.1 97.0 101.2 109.3 112.9 114.6 112.7 148.3

500 86.2 88.7 89.8 90.5 91.9 93.5 94.9 98.3 102.3 111.1 115.2 115.1 149.6

630 87.3 89.1 91.3 91.9 93.2 94.8 96.7 99.4 102.8 112.9 116.3 116.5 150.9

800 87.3 90.1 91.3 91.9 93.5 94.3 96.2 97.6 101.5 105.0 112.7 116.8 151.8

1000 97.3 95.9 96.5 96.8 99.0 101.7 102.6 106.6 112.4 116.8 117.7 115.5 151.9

1250 94.8 100.3 100.1 99.9 99.6 100.7 102.6 106.6 112.4 116.8 117.7 115.5 151.9

1500 93.6 95.0 97.2 97.2 99.6 100.2 102.0 103.8 106.9 110.5 115.6 115.1 151.0

2000 84.8 96.7 97.4 96.5 97.3 98.7 100.7 104.2 106.6 110.4 114.4 115.0 149.8

2500 94.3 96.8 97.2 96.7 97.8 98.9 100.3 104.2 106.3 110.1 112.9 112.9 148.5

3150 94.6 96.0 96.2 95.5 97.3 99.4 101.3 104.3 106.6 108.7 111.9 111.3 147.7

4000 91.8 93.4 95.0 95.3 96.6 98.1 100.2 103.8 105.4 107.4 109.9 109.4 146.2

5000 92.1 94.1 95.2 94.7 96.4 98.6 100.5 103.6 105.8 107.2 109.0 108.5 145.9

6300 92.2 94.5 95.1 94.6 96.5 97.5 100.0 103.5 105.5 105.6 106.9 107.4 145.1

8000 93.7 97.3 96.6 94.7 95.2 97.5 99.7 103.1 104.5 105.4 105.6 102.5 144.7

10000 94.2 99.5 97.5 97.5 98.0 100.2 102.4 104.1 105.9 105.3 101.8 145.7

12500 93.5 96.7 100.7 101.2 101.3 98.7 98.1 101.0 102.3 104.0 103.5 103.8 145.6

15000 90.7 94.6 96.3 96.6 100.0 99.4 97.3 98.6 100.2 100.9 101.5 101.5 144.7

20000 88.7 91.9 94.0 94.3 96.3 98.1 96.9 96.8 97.9 99.1 99.5 97.4 144.3

25000 85.1 89.5 92.0 93.4 95.2 96.4 95.2 95.5 97.5 97.0 97.7 93.9 145.1

31500 78.8 84.7 87.2 87.3 90.0 91.8 91.1 91.0 92.9 94.6 93.9 88.1 143.8

40000 76.2 82.2 85.0 84.5 88.7 89.5 88.9 88.8 89.5 91.5 93.2 91.3 145.9

50000 73.9 79.2 82.1 82.4 86.1 87.6 86.8 86.2 89.0 91.1 92.0 90.0 148.8

63000 69.9 75.4 79.7 79.5 82.7 84.6 82.3 83.4 87.1 88.9 90.3 87.8 151.6

80000 64.1 71.5 75.5 75.9 78.1 80.0 77.6 78.6 84.5 86.8 87.1 83.3 155.0

QASPL 105.9 108.8 110.0 109.5 110.5 111.1 112.7 115.2 117.6 122.4 126.2 126.7 125.0 163.2

PFLT 119.7 121.7 122.1 121.7 121.7 123.2 126.0 128.0 130.3 133.8 136.9 137.4 135.7

DBA 105.3 107.8 108.6 107.9 108.8 109.8 111.8 114.8 117.4 121.8 125.7 126.0 124.1

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH144 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBRF =

N1 = LBS XNL RPM XNH XNHR RPM V8 = 2273.1 FPS AE8 = 19.9 SQ IN  
W8 = LBS XNL RPM XNH XNHR RPM V18 = FPS AE18 = 0. SQ IN

TAPE = X0601C TEST FT NO = 0601 NC = AE048 CORR FAN SPEED = RPM

AGE PRINTING SYSTEM - P188-02

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0602 X0602C  
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ   | 40.                  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|--|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50   | 83.2                 | 80.7  | 81.3  | 78.2  | 78.6  | 80.7  |       |       |       |       |       |       | PWL   |
| 63   | 86.1                 | 88.7  | 89.3  | 86.3  | 86.3  | 88.6  | 89.2  | 84.1  | 89.5  | 93.9  | 95.5  | 131.2 | 91.0  |
| 80   | 85.1                 | 89.7  | 86.0  | 87.4  | 87.0  | 88.5  | 88.3  | 89.2  | 87.0  | 93.8  | 96.4  | 133.9 | 91.0  |
| 100  | 83.3                 | 90.4  | 86.6  | 87.1  | 89.2  | 88.6  | 90.0  | 91.4  | 89.3  | 93.6  | 100.4 | 133.9 | 91.0  |
| 125  | 82.4                 | 85.2  | 87.5  | 88.3  | 89.7  | 89.8  | 91.1  | 90.6  | 89.3  | 93.3  | 102.0 | 136.4 | 91.0  |
| 160  | 80.3                 | 79.2  | 84.3  | 83.6  | 85.4  | 84.0  | 82.1  | 86.6  | 87.6  | 89.3  | 99.2  | 137.0 | 91.0  |
| 200  | 81.3                 | 81.7  | 81.8  | 83.1  | 84.0  | 86.2  | 89.0  | 89.5  | 92.1  | 89.5  | 104.5 | 138.3 | 91.0  |
| 250  | 79.8                 | 82.9  | 83.4  | 84.5  | 85.1  | 86.7  | 88.0  | 90.5  | 92.3  | 94.6  | 104.8 | 141.0 | 91.0  |
| 315  | 79.8                 | 82.9  | 84.5  | 85.2  | 86.5  | 87.7  | 89.8  | 90.8  | 94.3  | 97.6  | 109.7 | 142.5 | 91.0  |
| 400  | 81.8                 | 84.6  | 84.8  | 87.5  | 87.6  | 94.2  | 93.8  | 95.9  | 100.2 | 109.1 | 111.1 | 143.8 | 91.0  |
| 500  | 82.6                 | 84.4  | 85.7  | 86.1  | 88.4  | 91.3  | 93.8  | 97.0  | 102.6 | 111.5 | 114.4 | 144.9 | 91.0  |
| 630  | 82.2                 | 85.0  | 87.0  | 88.1  | 88.9  | 90.3  | 92.2  | 94.8  | 98.1  | 103.9 | 112.3 | 145.0 | 91.0  |
| 800  | 85.4                 | 86.2  | 87.7  | 88.2  | 89.0  | 91.4  | 93.0  | 97.0  | 100.5 | 104.3 | 113.9 | 145.9 | 91.0  |
| 1000   | 88.3                 | 87.8  | 89.3  | 89.1  | 91.2  | 91.8  | 94.7  | 97.9  | 100.8 | 103.4 | 113.5 | 145.3 | 91.0  |
| 1250   | 87.2                 | 91.8  | 92.1  | 91.3  | 92.2  | 93.8  | 95.9  | 98.6  | 101.3 | 102.9 | 111.8 | 145.1 | 91.0  |
| 1600   | 88.4                 | 89.5  | 91.2  | 91.7  | 94.0  | 94.9  | 96.8  | 99.3  | 102.7 | 101.3 | 109.8 | 142.9 | 91.0  |
| 2000   | 88.0                 | 89.4  | 91.3  | 91.5  | 93.1  | 94.4  | 96.4  | 99.7  | 102.9 | 101.1 | 107.2 | 141.5 | 91.0  |
| 2500   | 88.6                 | 90.3  | 91.6  | 91.4  | 93.3  | 94.6  | 96.6  | 99.9  | 102.3 | 101.8 | 105.4 | 140.8 | 91.0  |
| 3150   | 88.4                 | 89.7  | 91.2  | 91.7  | 93.8  | 95.6  | 97.8  | 100.3 | 102.6 | 99.9  | 104.7 | 140.6 | 91.0  |
| 4000   | 88.5                 | 88.9  | 91.3  | 91.8  | 93.4  | 94.6  | 97.0  | 100.6 | 102.0 | 99.1  | 102.4 | 139.8 | 91.0  |
| 5000   | 89.6                 | 91.1  | 92.0  | 92.2  | 93.4  | 94.9  | 96.8  | 100.1 | 101.8 | 99.2  | 102.3 | 139.9 | 91.0  |
| 6300   | 91.5                 | 92.6  | 92.6  | 92.1  | 94.0  | 95.3  | 97.3  | 100.7 | 102.2 | 98.4  | 101.7 | 140.3 | 91.0  |
| 8000   | 96.2                 | 97.8  | 93.8  | 94.3  | 96.3  | 98.3  | 101.4 | 102.4 | 98.9  | 101.4 | 97.9  | 141.6 | 91.0  |
| 10000  | 98.6                 | 102.8 | 103.3 | 100.1 | 98.6  | 98.8  | 101.3 | 103.7 | 100.8 | 102.7 | 97.9  | 144.5 | 91.0  |
| 12500  | 95.6                 | 98.6  | 102.6 | 101.6 | 98.6  | 97.4  | 100.4 | 102.5 | 99.2  | 102.4 | 97.9  | 144.7 | 91.0  |
| 15000  | 92.4                 | 96.4  | 98.3  | 98.6  | 100.7 | 99.4  | 98.0  | 98.9  | 100.7 | 97.1  | 101.0 | 144.6 | 91.0  |
| 20000  | 91.4                 | 94.7  | 97.1  | 96.4  | 98.5  | 97.6  | 98.5  | 99.0  | 99.4  | 95.6  | 91.7  | 145.1 | 91.0  |
| 25000  | 88.7                 | 93.2  | 95.7  | 95.0  | 97.0  | 98.3  | 98.0  | 97.9  | 98.7  | 93.8  | 96.9  | 146.4 | 91.0  |
| 31500  | 82.4                 | 88.4  | 90.5  | 90.0  | 92.7  | 94.3  | 93.0  | 93.9  | 95.0  | 89.0  | 92.8  | 145.2 | 91.0  |
| 40000  | 79.6                 | 84.7  | 88.0  | 87.7  | 90.6  | 91.2  | 91.5  | 92.5  | 85.3  | 90.1  | 87.0  | 146.6 | 91.0  |
| 50000  | 65.4                 | 80.8  | 83.9  | 83.9  | 87.6  | 87.6  | 86.8  | 86.7  | 89.0  | 81.4  | 86.0  | 147.1 | 91.0  |
| 63000  | 75.3                 | 75.5  | 78.8  | 78.9  | 81.6  | 82.3  | 81.0  | 82.5  | 84.3  | 76.3  | 81.3  | 147.3 | 91.0  |
| 80000  | 61.8                 | 68.1  | 71.9  | 72.0  | 73.8  | 75.2  | 73.6  | 73.8  | 76.9  | 69.9  | 72.3  | 146.5 | 91.0  |
| GASPL  | 104.6                | 107.6 | 109.0 | 107.9 | 108.5 | 109.1 | 110.0 | 112.2 | 114.4 | 113.9 | 121.6 | 119.4 | 158.6 |
| PNL1   | 114.9                | 117.4 | 117.9 | 116.8 | 118.0 | 119.6 | 121.6 | 124.2 | 126.4 | 125.4 | 131.2 | 127.6 | 123.6 |
| DBA  | 102.1                | 104.5 | 105.1 | 103.9 | 104.8 | 106.1 | 108.1 | 111.1 | 113.5 | 113.1 | 120.7 | 116.6 | 110.8 |
| NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514 |                      |       |       |       |       |       |       |       |       |       |       |       |       |
| VEHICL   | = ADH154             |       |       |       |       |       |       |       |       |       |       |       |       |
| IAPLHA   | = SB59               |       |       |       |       |       |       |       |       |       |       |       |       |
| WIND DIR   | = DEG WIND VEL = MPH |       |       |       |       |       |       |       |       |       |       |       |       |
| LOCAT  | = C41 ANECH CH       |       |       |       |       |       |       |       |       |       |       |       |       |
| CONFIG   | = 6                  |       |       |       |       |       |       |       |       |       |       |       |       |
| MODEL  | = AX                 |       |       |       |       |       |       |       |       |       |       |       |       |
| FLTVEL   | = 400. FPS           |       |       |       |       |       |       |       |       |       |       |       |       |
| RELHUM   | = 41.5 PCT           |       |       |       |       |       |       |       |       |       |       |       |       |
| TAMB F   | = 80.00              |       |       |       |       |       |       |       |       |       |       |       |       |
| TAMB H   | = 29.40              |       |       |       |       |       |       |       |       |       |       |       |       |
| MIKE HT  | = NBFR               |       |       |       |       |       |       |       |       |       |       |       |       |
| EXT CONFIG   | = ARC                |       |       |       |       |       |       |       |       |       |       |       |       |
| EXT DIST   | = 40.0 FT            |       |       |       |       |       |       |       |       |       |       |       |       |
| PWL AREA   | = FULL SPHERE        |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | = LBS XNLR           |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | = RPM                |       |       |       |       |       |       |       |       |       |       |       |       |
| V8   | = RPM                |       |       |       |       |       |       |       |       |       |       |       |       |
| FPS  | = 2273.9             |       |       |       |       |       |       |       |       |       |       |       |       |
| AE8  | = 19.9 SQ IN         |       |       |       |       |       |       |       |       |       |       |       |       |
| AE18   | = 0. SQ IN           |       |       |       |       |       |       |       |       |       |       |       |       |
| CORR FAN SPEED   | = RPM                |       |       |       |       |       |       |       |       |       |       |       |       |
| TEST DATE  | = 06-25-82           |       |       |       |       |       |       |       |       |       |       |       |       |
| LEGA   | = NO                 |       |       |       |       |       |       |       |       |       |       |       |       |
| TEST PT NO   | = 0602               |       |       |       |       |       |       |       |       |       |       |       |       |
| NC   | = AE048              |       |       |       |       |       |       |       |       |       |       |       |       |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0602 X0602F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

200 87.5 89.2 88.2 87.7 86.6 86.7 86.1 86.9 90.8 90.8 93.2 101.6 105.3 106.3 138.7  
250 87.5 87.4 89.2 88.2 87.7 88.3 87.9 88.5 88.0 92.7 96.2 104.7 107.4 106.6 140.5  
315 87.4 87.5 89.3 89.5 88.6 89.3 87.8 89.2 89.7 94.9 99.7 108.4 109.5 107.4 142.9  
400 87.5 89.3 89.5 88.6 89.3 87.8 89.2 89.9 91.9 94.9 99.7 108.4 109.5 107.4 142.9  
500 89.2 90.8 89.6 88.2 90.0 88.8 90.6 91.9 96.8 102.3 110.8 110.9 108.0 144.6  
630 90.3 90.8 90.7 90.2 90.9 90.7 91.5 93.2 99.2 102.8 113.0 111.2 107.7 145.9  
800 89.9 91.4 92.0 91.6 92.1 91.9 92.3 95.1 100.0 102.5 113.4 110.7 108.2 146.1  
1000 93.0 92.6 92.7 91.8 93.2 92.4 94.1 96.1 100.8 102.3 111.9 109.9 107.5 144.9  
1250 94.8 93.5 93.9 92.4 94.4 94.6 95.5 97.1 102.3 100.8 110.2 106.6 106.2 143.7  
1500 94.8 93.5 93.9 92.4 94.4 94.6 95.5 97.1 102.3 100.8 110.2 106.6 106.2 143.7  
1600 94.1 97.7 96.9 94.9 96.5 95.9 96.5 98.0 102.8 101.1 107.8 104.6 105.2 142.9  
2000 96.0 96.4 96.6 96.1 97.1 97.2 98.9 101.3 103.6 100.8 104.5 101.2 103.1 142.5  
3150 96.2 96.9 97.1 95.6 97.1 97.7 98.9 100.2 103.7 100.7 104.6 101.3 103.2 142.3  
4000 96.0 96.4 96.6 96.1 97.1 97.2 98.9 101.3 103.6 100.8 104.5 101.2 103.1 142.5  
5000 96.0 96.6 97.0 96.5 97.4 97.9 98.9 101.0 104.5 100.5 104.4 101.6 103.7 142.8  
6300 97.1 97.8 97.8 97.1 98.1 98.3 99.6 101.9 105.3 101.7 104.8 101.6 105.0 143.9  
8000 98.8 99.1 98.3 96.8 97.8 97.8 99.3 100.7 102.9 106.6 103.5 106.1 104.6 106.3 145.5  
10000 101.4 102.4 100.7 97.2 101.0 101.1 102.7 105.9 102.7 105.9 102.3 105.8 104.3 106.3 146.4  
12500 107.7 110.7 104.8 104.7 104.4 104.4 104.6 109.9 102.1 104.1 100.0 103.9 102.7 104.8 150.0  
15000 101.6 103.9 107.2 105.3 104.7 102.4 100.0 100.0 101.4 96.8 101.6 100.7 103.8 149.0  
20000 98.3 101.6 102.6 101.9 102.4 102.6 99.9 97.6 101.6 96.2 99.7 100.3 101.7 148.6  
25000 96.8 99.3 100.8 99.1 101.1 101.3 99.4 97.8 101.0 94.9 99.0 98.9 99.2 149.6  
31500 93.2 97.0 98.6 96.9 97.3 97.3 95.3 95.7 99.5 92.2 97.4 97.1 97.3 150.0  
40000 88.9 93.7 94.2 92.2 95.2 94.2 93.6 93.3 96.6 89.1 94.3 93.7 93.9 150.9  
50000 85.7 89.5 91.3 89.6 91.7 90.6 89.3 88.6 92.3 84.3 90.1 88.9 88.4 151.4  
63000 80.5 84.8 86.2 85.3 85.3 83.4 84.2 85.2 77.7 80.5 77.8 76.1 150.9  
80000 73.0 77.9 79.8 78.3 78.4 78.2 75.5 74.6 75.3 67.9 70.7 68.0 66.3 150.0

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DBA   | 195.5 | 200.2 | 201.9 | 200.4 | 201.1 | 200.6 | 198.4 | 198.1 | 199.5 | 192.0 | 195.6 | 193.6 | 192.6 |       |
| PWLT  | 119.5 | 120.2 | 119.2 | 120.5 | 122.2 | 123.7 | 127.0 | 125.2 | 130.8 | 128.1 | 129.1 |       |       |       |
| PWL   | 119.5 | 120.2 | 119.2 | 120.5 | 121.7 | 123.7 | 127.0 | 125.2 | 130.8 | 128.1 | 129.1 |       |       |       |
| CASPL | 111.7 | 113.8 | 114.0 | 111.5 | 112.1 | 111.5 | 111.1 | 112.4 | 116.0 | 114.0 | 121.2 | 119.6 | 118.9 | 161.3 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH154 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = S859 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 FAMB HG = 29.40 RELHUM = 41.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

INLET = LBS XNL RPM = XNL RPM XNHR = XNHR RPM V8 = 2273.9 FPS AEB = 19.9 SQ IN  
CORR = LBS XNLR RPM = XNLR RPM V18 = 2273.9 FPS AE18 = 0. SQ IN  
CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1619 X1619F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREE 78.5 79.8 83.8 84.4 81.7 78.1 86.7 87.6 80.6 79.4 87.0 86.0 87.1 128.2

60 80.7 89.2 84.3 92.8 89.4 84.8 97.4 97.1 88.5 87.8 92.5 90.9 90.6 134.8

80 84.4 88.0 85.5 85.4 87.5 87.6 87.6 87.7 87.1 88.7 92.6 93.8 129.9

100 84.0 88.5 86.3 87.4 87.8 88.4 90.6 88.5 89.1 93.2 96.9 98.6 132.7

125 83.4 86.6 88.4 88.7 89.8 89.7 90.3 90.2 89.4 91.2 97.6 101.8 136.1

160 82.0 79.5 85.8 84.1 86.2 86.6 91.4 87.3 87.8 90.4 97.5 101.7 136.1

200 81.3 85.1 86.1 85.9 87.0 87.9 91.0 91.4 92.4 93.7 99.3 104.3 138.5

250 81.5 89.1 86.3 85.9 87.2 90.1 91.7 92.9 93.3 98.4 105.0 109.5 142.6

315 83.3 87.1 87.3 88.9 90.5 90.6 92.7 94.1 95.6 100.2 105.8 111.0 144.1

400 83.1 87.4 88.2 87.0 89.6 90.4 96.1 94.7 96.4 103.0 113.3 113.2 146.0

500 85.0 87.2 88.0 88.3 89.6 91.3 92.9 94.8 97.3 103.8 109.7 114.4 147.0

630 86.0 89.3 90.8 90.4 91.7 92.3 93.4 95.9 97.6 104.9 110.5 115.2 147.8

800 89.2 89.9 92.2 93.3 93.7 94.3 98.0 99.2 105.5 110.9 114.8 115.0 147.9

1000 94.3 96.1 97.1 95.4 95.7 94.8 95.5 98.1 100.1 105.2 109.5 114.2 147.3

1250 91.3 94.8 95.1 96.4 97.9 99.3 99.7 98.9 100.3 105.1 108.3 112.7 146.7

1600 102.0 99.9 99.4 97.0 95.8 95.5 96.4 99.5 101.1 104.6 109.5 111.2 145.0

2000 102.6 102.3 102.9 100.7 99.3 97.4 97.1 99.4 100.3 105.1 104.6 107.4 144.8

3150 100.6 102.5 102.2 101.5 101.3 100.7 98.8 99.5 101.1 104.2 104.4 106.1 144.6

4000 98.5 99.4 100.6 100.9 100.4 99.5 99.8 100.2 102.6 102.4 104.4 104.7 143.4

5000 98.6 99.8 100.5 99.5 99.7 99.9 99.8 100.3 100.8 102.7 103.5 103.5 143.3

6300 98.0 99.5 99.9 99.8 99.8 98.5 98.5 100.5 101.2 101.6 101.4 101.9 142.8

8000 97.7 100.0 100.3 99.0 98.7 98.5 98.0 99.6 100.5 100.6 100.7 100.7 142.7

10000 97.2 101.0 101.0 99.0 99.0 99.0 99.4 100.4 100.8 100.8 100.8 100.8 143.8

12500 96.5 98.2 101.2 100.7 101.5 101.2 99.1 99.7 98.8 97.8 98.5 100.5 143.8

16000 94.2 97.1 98.6 98.1 100.2 99.9 99.8 98.6 97.5 95.6 97.0 98.5 144.2

20000 92.2 94.4 96.5 96.3 98.4 98.8 97.9 96.3 95.4 93.1 95.1 96.0 144.1

25000 89.3 92.0 94.7 94.3 97.4 98.2 96.9 95.7 95.0 92.3 92.7 93.9 145.2

31500 83.3 87.4 89.5 89.0 92.2 93.8 92.3 91.5 90.7 88.4 89.1 89.7 143.7

40000 80.4 85.2 88.0 87.3 90.4 91.0 90.1 89.1 89.0 86.8 87.7 87.6 145.6

50000 78.4 82.7 85.4 84.9 88.1 89.1 87.6 86.2 86.8 84.6 84.8 84.5 147.6

63000 74.4 79.1 82.2 81.7 85.2 86.1 83.6 84.1 81.7 82.4 82.1 77.2 149.9

80000 68.6 74.5 78.6 77.6 79.7 81.8 78.4 77.9 79.8 77.3 77.7 76.5 152.0

GASPL 110.0 111.1 112.0 111.0 111.4 111.3 111.2 112.0 112.7 116.1 119.5 123.6 124.1 160.4

PML 124.4 125.5 125.6 124.3 123.7 124.6 124.3 124.1 125.2 128.4 130.1 133.0 134.1

DBA 190.4 195.9 199.7 198.8 201.3 203.0 200.0 199.7 201.0 198.6 199.0 198.1 193.6

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 40.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADM141 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CNF1G = 6 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 DEQ WIND VEL = NO MPH PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT  
MIND DIR = SB59 LEGA / EXT DIST = 40.0 FT EXT CNF1G = ARC MIKE HT = NBFR  
FNINI = LBS XNL RPM XNHR = RPM V8 = 1738.0 FPS AEB = 19.9 SO IN  
FNRAMB = LBS XNL RPM = XNHR = RPM V8 = 1738.0 FPS AEB = 19.9 SO IN

RUNPT = 82F-ZER-1619 TAPE = X1619F TEST PT NO = 1619 NC = AE048 CORR FAN SPEED = RPM

HONEYWELL PAGE PRINTING SYSTEM - P1185-02

ORIGINAL PAGE IS  
OF POOR QUALITY  
CORRECT COPY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0602 X06021

ANGLES MEASURED FROM INLET, DEGREES

PREO 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50   | 66.5 | 69.9 | 71.1 | 71.0 | 72.0 | 70.7 | 75.7 | 72.0 | 76.6 | 80.3 | 87.4 | 86.3 | 80.9 | 161.4 |
| 60   | 66.2 | 71.3 | 72.3 | 72.5 | 73.6 | 73.8 | 74.8 | 74.7 | 75.0 | 77.4 | 81.6 | 83.0 | 92.3 | 87.4  |
| 70   | 68.2 | 71.3 | 72.3 | 72.5 | 73.6 | 73.8 | 74.8 | 74.7 | 75.0 | 77.4 | 81.6 | 83.0 | 92.3 | 88.0  |
| 80   | 69.3 | 71.3 | 72.3 | 72.5 | 73.6 | 73.8 | 74.8 | 74.7 | 75.0 | 77.4 | 81.6 | 83.0 | 92.3 | 81.0  |
| 90   | 68.2 | 71.3 | 72.3 | 72.5 | 73.6 | 73.8 | 74.8 | 74.7 | 75.0 | 77.4 | 81.6 | 83.0 | 92.3 | 81.0  |
| 100  | 68.8 | 71.9 | 73.6 | 73.8 | 74.8 | 74.8 | 75.8 | 75.2 | 76.7 | 78.3 | 82.2 | 82.6 | 85.5 | 80.5  |
| 110  | 71.8 | 72.9 | 74.2 | 73.9 | 75.8 | 75.8 | 76.7 | 76.7 | 78.3 | 82.2 | 82.6 | 85.5 | 80.5 | 163.4 |
| 120  | 73.4 | 73.7 | 75.2 | 74.5 | 76.8 | 76.8 | 77.2 | 78.0 | 79.1 | 83.6 | 81.0 | 88.7 | 82.8 | 78.7  |
| 130  | 73.3 | 73.3 | 75.4 | 77.3 | 76.9 | 78.0 | 78.7 | 80.5 | 84.2 | 80.2 | 84.0 | 77.3 | 75.4 | 161.0 |
| 140  | 72.4 | 72.4 | 74.7 | 77.3 | 76.7 | 78.4 | 78.6 | 80.4 | 84.0 | 79.6 | 81.7 | 75.6 | 72.9 | 160.8 |
| 150  | 72.6 | 72.6 | 74.9 | 76.7 | 76.9 | 78.4 | 78.6 | 80.1 | 82.1 | 83.6 | 79.3 | 81.1 | 74.9 | 161.0 |
| 160  | 72.1 | 73.8 | 76.6 | 77.0 | 78.4 | 79.0 | 79.9 | 81.5 | 84.1 | 78.6 | 80.5 | 74.5 | 71.3 | 161.3 |
| 170  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 180  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 190  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 200  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 210  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 220  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 230  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 240  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 250  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 260  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 270  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 280  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 290  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 300  | 74.0 | 74.0 | 76.6 | 77.1 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 71.4 | 162.3 |
| 315  | 73.3 | 73.3 | 75.4 | 77.3 | 76.9 | 78.0 | 78.7 | 80.5 | 84.2 | 80.2 | 84.0 | 77.3 | 75.4 | 161.0 |
| 330  | 73.3 | 73.3 | 75.4 | 77.3 | 76.9 | 78.0 | 78.7 | 80.5 | 84.2 | 80.2 | 84.0 | 77.3 | 75.4 | 161.0 |
| 345  | 73.3 | 73.3 | 75.4 | 77.3 | 76.9 | 78.0 | 78.7 | 80.5 | 84.2 | 80.2 | 84.0 | 77.3 | 75.4 | 161.0 |
| 360  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 375  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 390  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 405  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 420  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 435  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 450  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 465  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 480  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 495  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 510  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 525  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 540  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 555  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 570  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 585  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 600  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 615  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 630  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 645  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 660  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 675  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 690  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 705  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 720  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 735  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 750  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 765  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 780  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 795  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 810  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 825  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 840  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 855  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 870  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 885  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 900  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 915  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 930  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 945  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 960  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 975  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 990  | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1000 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1010 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1020 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1030 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1040 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1050 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1060 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1070 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1080 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1090 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1100 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1110 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1120 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 73.9 | 162.3 |
| 1130 | 72.7 | 72.7 | 75.6 | 77.1 | 77.3 | 78.8 | 79.2 | 80.3 | 82.2 | 84.5 | 79.5 | 80.4 | 7    |       |



916

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0603 X0603C

BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 80.5 83.1 82.8 81.4 82.7 79.3 86.5 86.1 86.3 84.4 93.8 88.0 89.9 128.4

63 83.0 90.7 92.3 91.1 90.4 86.3 96.4 92.3 92.3 90.0 90.7 93.3 93.8 135.5

80 85.9 91.0 87.7 87.8 87.9 90.2 90.1 90.0 90.7 88.8 92.4 95.9 96.8 132.8

100 86.5 93.0 88.8 89.8 89.8 90.9 90.8 91.6 93.3 91.5 93.6 97.0 100.4 101.8 136.1

125 83.6 88.1 89.9 89.9 92.0 92.9 93.3 93.7 92.9 95.7 101.9 104.8 106.0 139.2

160 83.3 84.0 87.8 88.2 88.6 97.4 90.8 91.8 91.8 97.1 102.8 105.4 107.9 140.1

200 85.3 84.9 87.1 87.2 88.8 91.1 93.3 93.4 96.6 98.7 104.3 108.5 109.7 142.0

250 85.3 88.1 88.8 89.6 89.7 91.1 93.7 96.1 97.6 104.2 109.5 112.2 112.4 145.7

315 84.3 88.3 88.6 89.1 91.5 93.1 95.5 95.9 99.6 106.7 111.3 114.0 113.6 147.3

400 85.6 88.7 89.4 89.7 91.8 92.4 99.6 97.5 101.4 109.8 113.9 115.6 114.0 149.2

500 86.7 89.2 90.3 90.8 92.1 94.0 94.9 98.0 102.5 111.3 115.7 116.1 113.8 150.2

630 87.5 90.1 91.6 92.1 93.7 95.1 96.4 103.1 113.1 116.8 117.5 115.6 115.6 151.5

800 91.7 92.2 93.7 94.0 94.8 96.5 97.8 101.2 105.2 114.3 117.9 117.8 115.5 152.4

1000 97.0 98.1 97.3 96.1 96.7 97.3 99.5 102.4 106.1 113.7 118.0 118.2 115.1 152.5

1250 95.3 101.1 100.8 100.1 100.4 100.6 101.7 102.9 106.3 112.6 118.0 117.4 115.2 152.3

1600 95.1 95.8 98.2 98.0 97.8 99.8 100.4 104.3 106.9 111.4 117.4 114.6 115.1 151.7

2000 95.3 96.7 97.4 96.7 97.8 99.0 100.7 103.7 106.9 111.1 115.7 113.2 115.0 150.5

2500 94.8 97.1 97.4 97.4 98.8 99.4 101.1 104.4 106.8 111.1 114.4 113.2 110.2 149.3

3150 95.1 96.0 96.5 96.3 97.8 99.7 101.8 104.3 106.8 109.9 113.8 108.8 108.6 148.6

4000 92.8 94.2 95.5 95.6 96.9 98.4 100.0 104.3 105.9 108.1 111.1 109.9 106.7 146.9

5000 94.1 96.1 96.0 95.7 96.9 98.6 100.5 103.8 106.1 108.2 110.5 109.0 105.5 146.7

6300 95.2 96.3 96.6 95.6 97.3 99.8 103.7 105.5 106.6 108.6 107.7 104.4 145.8

8000 94.9 97.8 98.1 96.2 98.3 99.7 102.8 104.5 105.9 108.2 105.1 102.2 145.1

10000 95.0 97.9 100.5 100.0 99.2 99.2 100.0 102.9 104.3 106.2 106.1 105.1 101.8 145.9

12500 94.2 97.4 99.5 99.2 100.8 100.2 98.8 101.5 102.8 104.5 104.2 103.8 100.8 145.7

16000 91.4 94.6 96.3 96.6 99.0 99.2 98.3 99.4 100.7 101.4 102.5 101.8 99.0 145.0

20000 89.7 91.9 94.0 94.8 96.6 97.8 97.7 97.3 98.2 98.4 101.4 99.8 96.9 144.8

25000 86.3 89.7 92.5 92.5 95.1 96.7 96.4 95.7 96.8 97.3 99.0 99.2 94.1 145.7

31500 80.3 84.7 87.0 87.3 90.5 92.1 91.6 91.0 92.7 93.7 95.4 94.2 87.6 144.4

40000 77.7 82.5 85.3 88.4 90.0 88.9 86.4 91.0 92.3 94.2 91.6 85.4 85.0 146.5

50000 74.4 79.7 82.9 82.7 86.1 87.6 85.8 86.4 88.5 91.1 93.3 90.2 81.9 149.0

63000 70.9 76.1 79.7 79.5 82.9 84.3 82.0 84.1 86.6 89.9 92.3 88.3 78.5 152.4

80000 64.4 71.3 75.3 75.3 78.1 77.6 80.0 76.6 76.6 78.4 83.0 85.5 88.9 84.0 155.0

GASPL 106.7 109.2 110.0 109.6 110.8 111.6 113.0 115.4 117.8 123.1 127.2 127.3 125.2 163.8

PNL 119.0 120.7 121.3 121.1 122.3 123.6 125.6 128.1 130.6 134.6 138.4 137.9 135.7

PMLT 120.2 122.1 122.3 122.3 124.1 126.4 128.1 130.6 134.6 138.4 137.9 135.7

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH145 TEST DATE = 06-25-82 LGCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS

IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNHR = RPM XNH = RPM V8 = 2331.0 FPS AEB = 19.9 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2331.0 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0603 TAPE = X0603C TEST PT NO = 0603 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0603 X0603F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 60.5  | 63.1  | 62.8  | 61.4  | 62.7  | 79.3  | 86.5  | 86.1  | 86.3  | 84.4  | 93.8  | 88.0  | 89.9  | 128.4 |
| 63    | 63.0  | 90.7  | 92.3  | 91.1  | 90.4  | 86.3  | 96.4  | 94.8  | 92.5  | 92.3  | 100.0 | 90.7  | 93.3  | 135.5 |
| 80    | 65.9  | 91.0  | 87.7  | 87.8  | 87.9  | 90.2  | 90.1  | 90.0  | 90.7  | 88.8  | 92.4  | 95.9  | 96.8  | 132.8 |
| 100   | 66.5  | 93.0  | 88.8  | 89.8  | 89.8  | 90.8  | 91.6  | 93.3  | 91.5  | 93.6  | 97.0  | 100.4 | 101.8 | 136.1 |
| 125   | 63.6  | 86.1  | 89.9  | 89.9  | 92.0  | 92.9  | 93.3  | 93.7  | 92.9  | 95.7  | 101.9 | 104.8 | 106.0 | 139.2 |
| 150   | 63.3  | 83.0  | 87.8  | 86.6  | 88.2  | 88.6  | 97.4  | 90.8  | 91.8  | 97.1  | 102.8 | 105.4 | 107.9 | 140.1 |
| 200   | 65.3  | 84.9  | 87.1  | 87.2  | 88.8  | 91.1  | 93.3  | 93.4  | 96.6  | 98.7  | 104.3 | 108.5 | 109.7 | 142.0 |
| 250   | 65.3  | 88.1  | 88.8  | 89.6  | 89.7  | 91.1  | 93.7  | 96.1  | 97.6  | 104.2 | 109.5 | 112.2 | 112.4 | 145.7 |
| 315   | 64.3  | 88.3  | 88.6  | 89.1  | 91.5  | 95.5  | 95.9  | 99.6  | 106.7 | 111.3 | 114.0 | 113.6 | 113.6 | 147.3 |
| 400   | 65.6  | 88.7  | 89.4  | 89.7  | 91.8  | 92.4  | 98.6  | 97.5  | 101.4 | 109.8 | 113.9 | 115.6 | 114.0 | 149.2 |
| 500   | 66.7  | 89.2  | 90.3  | 90.8  | 92.1  | 94.9  | 98.0  | 102.5 | 111.3 | 115.7 | 116.1 | 113.8 | 113.8 | 150.2 |
| 630   | 67.5  | 90.1  | 91.6  | 92.1  | 93.7  | 95.1  | 96.4  | 99.6  | 103.1 | 113.1 | 116.8 | 117.5 | 115.6 | 151.5 |
| 800   | 67.0  | 92.2  | 93.7  | 94.0  | 94.8  | 96.5  | 97.8  | 101.2 | 105.2 | 114.3 | 117.9 | 117.8 | 115.5 | 152.4 |
| 1000  | 67.0  | 98.1  | 97.3  | 96.1  | 96.7  | 97.3  | 99.5  | 102.4 | 106.1 | 113.2 | 118.0 | 118.2 | 115.1 | 152.5 |
| 1250  | 65.3  | 101.1 | 100.8 | 100.1 | 100.4 | 100.6 | 101.7 | 102.9 | 106.3 | 112.6 | 118.0 | 117.4 | 115.2 | 152.3 |
| 1500  | 65.1  | 95.8  | 98.2  | 98.0  | 99.8  | 100.4 | 101.8 | 104.3 | 106.9 | 111.3 | 117.4 | 117.1 | 114.6 | 151.7 |
| 2000  | 65.3  | 95.3  | 96.7  | 97.4  | 96.7  | 97.8  | 99.0  | 100.7 | 103.7 | 108.7 | 115.7 | 113.2 | 110.2 | 150.5 |
| 2500  | 64.8  | 97.1  | 97.4  | 97.4  | 98.6  | 99.4  | 101.1 | 104.4 | 106.8 | 111.1 | 114.4 | 113.2 | 110.2 | 149.3 |
| 3150  | 65.1  | 96.0  | 96.5  | 96.3  | 97.8  | 99.7  | 101.8 | 104.3 | 106.8 | 109.9 | 113.9 | 111.8 | 108.8 | 148.6 |
| 4000  | 62.8  | 94.2  | 95.5  | 95.6  | 96.9  | 98.6  | 100.5 | 103.8 | 105.1 | 108.2 | 110.5 | 109.0 | 105.5 | 146.9 |
| 5000  | 64.1  | 96.0  | 95.7  | 96.0  | 95.7  | 96.9  | 98.6  | 100.0 | 103.3 | 106.1 | 111.1 | 109.9 | 106.7 | 146.7 |
| 6300  | 65.2  | 96.3  | 96.6  | 95.6  | 97.3  | 97.7  | 99.8  | 103.7 | 105.5 | 106.6 | 108.6 | 107.7 | 104.4 | 145.8 |
| 8000  | 64.9  | 97.8  | 98.1  | 96.2  | 96.5  | 98.3  | 99.7  | 102.8 | 104.5 | 105.9 | 106.9 | 105.1 | 102.2 | 145.1 |
| 10000 | 65.0  | 97.9  | 100.5 | 100.0 | 99.2  | 100.0 | 102.9 | 104.3 | 106.2 | 106.1 | 101.8 | 100.8 | 105.9 | 145.9 |
| 12500 | 64.2  | 97.4  | 99.5  | 99.2  | 100.8 | 98.8  | 101.5 | 102.6 | 104.5 | 104.2 | 103.8 | 100.8 | 105.7 | 145.7 |
| 15000 | 61.4  | 94.6  | 96.3  | 96.6  | 99.0  | 99.2  | 98.3  | 99.4  | 100.7 | 101.4 | 102.5 | 101.8 | 99.0  | 145.0 |
| 20000 | 69.7  | 91.9  | 94.0  | 94.8  | 96.2  | 97.8  | 97.7  | 97.3  | 98.2  | 98.4  | 101.4 | 99.8  | 96.9  | 144.8 |
| 25000 | 86.3  | 89.7  | 92.5  | 92.3  | 95.1  | 96.7  | 96.4  | 95.7  | 96.8  | 97.3  | 99.0  | 99.2  | 94.1  | 145.7 |
| 31500 | 80.3  | 84.7  | 87.0  | 87.3  | 90.5  | 92.1  | 91.6  | 91.0  | 92.7  | 93.7  | 95.4  | 94.2  | 87.6  | 144.4 |
| 40000 | 77.7  | 82.5  | 85.2  | 85.3  | 88.4  | 90.0  | 88.9  | 89.3  | 91.0  | 92.3  | 94.2  | 91.6  | 85.4  | 146.5 |
| 50000 | 74.4  | 79.7  | 82.9  | 82.7  | 86.1  | 87.6  | 85.8  | 86.4  | 88.5  | 91.1  | 93.3  | 90.2  | 81.9  | 149.0 |
| 63000 | 70.9  | 76.1  | 79.7  | 79.5  | 82.9  | 82.0  | 82.0  | 84.1  | 86.6  | 89.9  | 92.3  | 88.3  | 76.5  | 152.4 |
| 80000 | 64.4  | 71.3  | 75.3  | 75.1  | 77.6  | 80.0  | 76.6  | 78.4  | 83.0  | 85.5  | 88.9  | 84.0  | 72.3  | 155.0 |
| QASPL | 106.7 | 109.2 | 110.0 | 109.6 | 110.8 | 111.6 | 113.0 | 115.4 | 117.8 | 123.1 | 127.2 | 127.3 | 125.2 | 163.8 |
| PWL   | 119.0 | 120.7 | 121.3 | 121.1 | 122.3 | 123.6 | 125.6 | 128.1 | 130.6 | 134.6 | 138.4 | 137.9 | 135.7 |       |
| PWLT  | 120.2 | 122.1 | 122.3 | 122.1 | 122.3 | 124.1 | 126.4 | 128.1 | 130.6 | 134.6 | 138.4 | 137.9 | 135.7 |       |
| DBA   | 186.3 | 192.7 | 196.6 | 196.4 | 199.2 | 201.3 | 198.3 | 200.0 | 204.0 | 206.7 | 209.9 | 205.2 | 194.1 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH145 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
IARLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HG = 29.50 RELHUM = 47.1 PCT  
WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC

WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.50 RELHUM = 47.1 PCT  
VEHICL = ADH145 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
IARLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HG = 29.50 RELHUM = 47.1 PCT

WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.50 RELHUM = 47.1 PCT  
VEHICL = ADH145 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
IARLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HG = 29.50 RELHUM = 47.1 PCT

WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.50 RELHUM = 47.1 PCT  
VEHICL = ADH145 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
IARLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HG = 29.50 RELHUM = 47.1 PCT

ORIGINAL PAGE IS  
OF POOR QUALITY

PAGE PRINTING SYSTEM - P1188-02

DATAPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0603 X06031

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 50 64.7 69.2 71.1 72.1 74.6 75.3 82.3 79.8 83.1 90.3 92.9 92.4 87.5 167.7

63 65.7 69.8 71.9 73.1 74.9 76.9 77.6 80.4 84.1 91.9 94.7 92.9 87.2 168.7

80 66.5 70.6 73.2 74.4 76.4 77.9 79.2 81.9 84.7 93.6 95.7 94.2 88.9 170.0

100 70.5 72.6 75.2 76.3 77.5 79.3 80.5 83.5 86.7 94.7 96.8 94.5 88.7 170.8

125 75.8 78.4 78.8 78.3 79.3 78.3 80.1 82.1 84.6 87.5 94.0 96.8 94.7 88.1 171.0

150 73.8 81.2 82.1 82.2 82.9 83.2 84.2 84.9 87.6 92.8 96.6 93.7 87.8 170.7

200 73.4 75.8 79.3 79.9 82.1 82.9 84.1 86.2 88.1 91.2 95.7 93.0 86.7 170.2

250 73.3 76.4 78.3 78.4 80.0 81.2 82.8 85.4 87.8 90.9 93.7 91.2 84.7 169.0

315 72.4 76.4 78.0 78.8 80.6 81.4 82.9 85.8 87.4 90.5 91.9 88.1 80.8 167.8

400 72.2 74.9 76.7 77.3 79.4 81.4 83.3 85.3 87.1 88.9 91.0 86.1 78.5 167.1

500 69.4 72.7 75.5 76.3 78.2 79.8 81.3 85.1 86.7 87.7 83.6 75.4 165.3

630 70.2 74.3 75.5 76.2 77.9 79.8 81.5 84.3 85.6 86.3 86.6 82.0 73.2 165.1

800 70.8 74.1 75.9 75.8 78.0 78.7 80.5 83.9 84.7 84.4 84.2 79.9 70.9 164.3

1000 70.1 75.3 77.1 76.3 77.1 79.1 80.3 82.9 83.6 83.4 82.0 76.7 65.7 163.6

1250 69.6 75.1 79.3 79.8 79.7 79.9 80.4 82.8 83.1 83.3 80.8 75.8 65.7 164.4

1600 68.0 74.0 77.9 78.8 80.9 80.6 79.0 81.0 81.2 81.1 78.0 73.2 62.3 164.2

2000 64.2 70.6 74.3 75.9 79.0 79.5 78.3 78.7 77.3 75.3 73.3 69.5 57.5 163.5

2500 60.7 66.7 71.2 73.4 76.0 77.6 77.1 75.9 75.3 73.1 72.4 64.7 50.5 163.3

3150 54.0 62.0 67.8 69.4 73.2 75.1 74.5 72.8 72.0 69.6 66.7 59.2 39.3 164.2

4000 41.7 52.3 58.4 61.1 65.6 67.7 64.8 64.1 61.2 56.8 45.2 18.4 162.8

5000 29.4 42.5 50.4 53.7 58.6 60.7 59.0 57.7 56.2 52.3 45.9 27.1 167.4

6300 8.3 25.5 36.0 40.3 46.2 48.4 45.9 44.0 41.6 36.9 27.1 3.5 170.8

8000 11.4 17.8 24.9 27.4 24.9 27.4 24.0 22.5 18.4 10.9

10000 170.8

12500 173.5

15000 170.8

16000 173.5

17000 170.8

18000 173.5

19000 170.8

20000 173.5

21000 170.8

22000 173.5

23000 170.8

24000 173.5

25000 170.8

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

OASPL 83.5 87.7 89.7 90.2 91.8 92.7 94.1 96.2 98.1 102.7 105.2 102.9 96.9 182.0

PMLT 89.4 94.8 97.9 98.8 100.5 101.5 101.7 102.8 103.7 105.9 107.6 104.2 96.9

PNL 88.8 94.1 97.4 98.3 100.5 101.5 101.7 102.8 103.7 105.9 107.6 104.2 96.9

DBA 78.5 83.2 86.2 86.9 88.6 89.4 89.9 92.0 92.9 93.9 94.9 91.1 83.8

FNINI = LBS XNL = RPM XNH = RPM V8 = 2331.0 FPS AE8 = 19.9 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2331.0 FPS AE18 = 0. SQ IN

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

IAPLHA = ADH145 = NO PML AREA = FULL SPHERE TAMR F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT

VEHICL = TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS

RUNPT = 82F-ZER-0603 TAPE = X06031 TEST PT NO = 0603 NC = AE048 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0604 X0604C  
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 84.5 86.1 83.6 85.4 83.7 81.1 85.7 84.6 82.1 81.2 89.3 89.7 93.4 128.0

63 84.0 93.0 93.3 94.8 91.1 86.8 97.1 92.3 87.3 86.6 90.2 89.7 94.8 134.4

80 86.0 91.7 88.0 89.1 90.6 89.7 90.1 90.0 90.0 87.3 92.2 95.1 96.5 132.6

100 86.0 91.7 88.0 89.1 90.6 89.7 90.1 90.0 90.0 87.3 92.2 95.1 96.5 132.6

125 83.4 86.6 88.4 88.9 90.5 90.7 92.0 91.9 90.2 90.7 99.1 103.0 104.5 137.2

150 81.3 86.3 84.8 86.2 85.8 93.4 87.8 89.3 91.9 100.5 103.7 106.1 107.9 137.9

200 82.1 83.1 84.7 85.3 86.9 91.3 90.2 93.1 92.2 100.6 105.5 107.7 139.1

250 80.8 84.3 85.3 85.9 87.5 88.8 89.7 92.1 93.3 97.7 106.3 109.5 142.4

315 80.8 84.3 85.3 85.9 87.5 88.8 89.7 92.1 93.3 97.7 106.3 109.5 142.4

400 82.4 84.9 85.9 88.1 88.4 95.6 92.7 96.9 102.8 110.1 112.3 109.2 145.1

500 82.0 85.2 86.0 87.0 88.6 89.5 92.1 94.3 98.0 104.3 112.7 107.6 146.2

630 83.3 86.1 88.1 88.4 89.7 91.3 93.2 95.9 99.3 106.4 113.5 104.6 146.6

800 86.2 86.7 89.0 91.1 92.5 94.1 98.0 101.5 107.0 115.2 110.8 102.0 147.3

1000 89.8 89.3 90.1 91.7 93.3 95.2 97.9 101.0 103.6 103.9 109.4 100.9 143.3

1250 89.0 90.2 91.6 91.7 93.3 95.2 97.9 101.0 103.6 103.9 109.4 100.9 143.3

1500 89.3 90.8 92.2 92.4 93.8 95.6 98.1 101.2 103.3 104.3 107.9 100.9 142.7

2000 89.9 91.2 92.2 91.8 94.1 96.4 98.8 101.8 103.6 103.7 106.4 99.3 142.3

2500 89.9 91.2 92.2 91.8 94.1 96.4 98.8 101.8 103.6 103.7 106.4 99.3 142.3

3150 89.9 91.2 92.2 91.8 94.1 96.4 98.8 101.8 103.6 103.7 106.4 99.3 142.3

4000 89.9 91.2 92.2 91.8 94.1 96.4 98.8 101.8 103.6 103.7 106.4 99.3 142.3

5000 89.9 91.2 92.2 91.8 94.1 96.4 98.8 101.8 103.6 103.7 106.4 99.3 142.3

6300 89.9 91.2 92.2 91.8 94.1 96.4 98.8 101.8 103.6 103.7 106.4 99.3 142.3

8000 89.9 91.2 92.2 91.8 94.1 96.4 98.8 101.8 103.6 103.7 106.4 99.3 142.3

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NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH155 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.40 RELHUM = 41.5 PCT  
MIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNLR = RPM XNH = RPM V8 = 2333.0 FPS AE8 = 19.9 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2333.0 FPS AE18 = 0. SQ IN

TUNPT = 82F-400-0604 TAPE = X0604C TEST PT NO = 0604 NC = AE048 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0604 X06041

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 63   | 69.0 | 71.8 | 72.5 | 71.2 | 73.3 | 72.7 | 74.1 | 74.7 | 79.7 | 85.3 | 91.0 | 89.6 | 82.9  | 164.6 |
| 80   | 69.6 | 72.1 | 72.6 | 72.8 | 74.4 | 74.6 | 75.3 | 76.6 | 82.0 | 86.3 | 93.4 | 89.6 | 83.4  | 166.0 |
| 100  | 69.8 | 72.9 | 74.6 | 74.1 | 75.8 | 75.8 | 76.1 | 78.5 | 83.2 | 85.6 | 93.6 | 89.9 | 83.0  | 166.3 |
| 125  | 72.6 | 73.5 | 75.2 | 74.8 | 76.3 | 76.7 | 77.7 | 79.4 | 83.3 | 85.0 | 92.5 | 87.3 | 81.7  | 165.1 |
| 160  | 74.5 | 74.9 | 75.8 | 75.4 | 78.0 | 78.0 | 78.9 | 79.8 | 84.3 | 84.4 | 91.4 | 85.5 | 81.0  | 164.5 |
| 200  | 73.4 | 79.1 | 79.0 | 78.1 | 79.4 | 80.6 | 81.1 | 84.9 | 84.0 | 88.6 | 83.2 | 79.9 | 163.4 | 163.4 |
| 250  | 75.3 | 76.5 | 78.1 | 77.8 | 78.1 | 80.2 | 81.8 | 84.4 | 84.2 | 86.8 | 80.8 | 77.8 | 162.6 | 162.6 |
| 315  | 74.3 | 76.1 | 77.5 | 77.2 | 78.6 | 79.2 | 80.3 | 81.8 | 84.9 | 83.7 | 85.5 | 79.3 | 162.4 | 162.4 |
| 400  | 74.0 | 76.4 | 77.8 | 77.7 | 78.9 | 80.1 | 81.1 | 82.5 | 84.4 | 82.4 | 83.7 | 78.1 | 162.2 | 162.2 |
| 500  | 74.1 | 76.4 | 77.7 | 77.6 | 78.1 | 79.9 | 81.3 | 83.0 | 84.1 | 82.4 | 82.6 | 76.3 | 162.2 | 162.2 |
| 630  | 73.2 | 74.8 | 77.1 | 77.5 | 79.2 | 80.1 | 81.3 | 82.5 | 85.1 | 80.9 | 81.5 | 76.3 | 162.5 | 162.5 |
| 800  | 74.2 | 76.9 | 77.8 | 77.3 | 78.7 | 79.5 | 81.8 | 82.6 | 84.6 | 80.5 | 80.7 | 74.7 | 162.8 | 162.8 |
| 1000 | 74.3 | 77.6 | 78.2 | 77.4 | 78.9 | 80.4 | 81.7 | 83.1 | 85.9 | 82.8 | 81.6 | 76.2 | 164.5 | 164.5 |
| 1250 | 74.5 | 79.2 | 80.5 | 79.1 | 83.5 | 81.7 | 82.9 | 83.8 | 85.6 | 81.6 | 81.0 | 76.4 | 165.8 | 165.8 |
| 1600 | 75.6 | 81.4 | 85.3 | 84.3 | 84.4 | 83.3 | 81.8 | 82.9 | 84.0 | 79.9 | 79.8 | 73.8 | 167.4 | 167.4 |
| 2000 | 74.8 | 79.1 | 83.6 | 83.2 | 83.5 | 82.7 | 81.7 | 81.2 | 82.1 | 76.5 | 76.9 | 70.5 | 167.6 | 167.6 |
| 2500 | 69.8 | 76.3 | 79.5 | 79.3 | 81.4 | 81.4 | 81.0 | 78.8 | 81.4 | 74.7 | 73.1 | 67.9 | 167.8 | 167.8 |
| 3150 | 64.4 | 71.6 | 75.3 | 75.7 | 79.4 | 79.5 | 79.3 | 76.6 | 76.4 | 70.0 | 67.4 | 59.8 | 168.5 | 168.5 |
| 4000 | 54.9 | 64.0 | 69.8 | 70.7 | 72.4 | 73.1 | 71.8 | 69.6 | 71.3 | 63.2 | 61.1 | 49.5 | 169.1 | 169.1 |
| 5000 | 41.1 | 53.4 | 59.4 | 60.3 | 64.8 | 65.6 | 64.9 | 62.5 | 62.5 | 52.1 | 47.8 | 32.1 | 170.0 | 170.0 |
| 6300 | 19.5 | 35.3 | 44.2 | 46.2 | 51.0 | 52.4 | 51.5 | 47.3 | 45.8 | 33.6 | 24.7 | 2.9  | 170.4 | 170.4 |
| 8000 |      | 5.1  | 18.1 | 22.2 | 27.9 | 28.8 | 26.2 | 23.3 | 17.2 | 2.3  |      |      | 168.8 | 168.8 |

ORIGINAL PAGE IS  
OF POOR QUALITY

80000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500

|       |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| DASPL | 85.9 | 89.4 | 91.6  | 91.1  | 92.5  | 92.4  | 93.1  | 93.8  | 96.4  | 95.7  | 100.9 | 97.0 | 91.4 | 180.4 |
| PWL   | 94.9 | 99.2 | 102.5 | 102.1 | 103.3 | 103.4 | 103.5 | 102.9 | 105.1 | 101.6 | 103.4 | 98.5 | 92.8 |       |
| PWLT  | 94.9 | 99.9 | 103.5 | 103.1 | 103.8 | 103.9 | 104.1 | 102.9 | 105.8 | 102.3 | 104.5 | 99.8 | 93.9 |       |
| DBA   | 83.7 | 88.0 | 91.0  | 90.4  | 91.8  | 91.4  | 91.6  | 92.0  | 93.8  | 90.2  | 90.9  | 85.4 | 81.1 |       |

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH155 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FTLVEL = 400. FPS  
IAPLHA = S859 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.4q RELHUM = 41.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL

FNINI = LBS XNL = RPM XNH = RPM V8 = 2333.0 FPS AER8 = 19.9 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2333.0 FPS AER8 = 19.9 SQ IN

RUN# = 82F-400-0604 TAPE = X06041 TEST PT NO = 060 NC = AE048 CORR FAN SPEED = RPM

DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE 59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0605 BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160

PWL

|        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50     | 80.8  | 82.8  | 83.1  | 83.9  | 83.0  | 80.6  | 84.7  | 86.1  | 85.3  | 85.7  | 93.5  | 89.2  | 89.1  | 128.3 |
| 63     | 84.2  | 91.7  | 92.5  | 92.3  | 91.9  | 88.3  | 94.9  | 94.6  | 91.3  | 93.1  | 100.0 | 92.4  | 93.3  | 135.6 |
| 80     | 85.9  | 91.2  | 88.0  | 88.0  | 88.9  | 90.2  | 90.6  | 91.0  | 91.5  | 89.6  | 93.2  | 96.4  | 97.5  | 133.4 |
| 100    | 87.0  | 93.7  | 89.8  | 90.6  | 91.9  | 91.8  | 92.4  | 94.1  | 92.8  | 94.8  | 98.0  | 100.9 | 102.3 | 136.9 |
| 125    | 83.6  | 88.6  | 90.4  | 90.9  | 92.5  | 92.9  | 94.3  | 94.4  | 93.7  | 96.2  | 102.4 | 105.0 | 106.0 | 139.5 |
| 150    | 84.0  | 83.8  | 88.3  | 88.8  | 88.7  | 88.8  | 96.2  | 91.3  | 92.6  | 97.1  | 103.3 | 106.2 | 108.4 | 140.5 |
| 160    | 84.0  | 83.8  | 88.3  | 88.8  | 88.7  | 88.8  | 96.2  | 91.3  | 92.6  | 97.1  | 103.3 | 106.2 | 108.4 | 140.5 |
| 200    | 85.8  | 85.1  | 87.1  | 87.7  | 89.0  | 91.6  | 94.0  | 94.4  | 97.1  | 98.7  | 104.3 | 108.8 | 110.4 | 142.4 |
| 250    | 86.5  | 86.8  | 89.6  | 90.1  | 90.2  | 91.3  | 93.7  | 97.1  | 97.8  | 104.9 | 113.0 | 113.1 | 146.4 | 146.4 |
| 315    | 84.3  | 88.6  | 89.6  | 89.4  | 92.2  | 94.3  | 96.2  | 96.9  | 96.9  | 100.3 | 107.4 | 111.5 | 114.6 | 148.2 |
| 400    | 86.4  | 89.7  | 90.2  | 89.7  | 92.3  | 92.9  | 100.6 | 97.5  | 101.4 | 110.3 | 113.9 | 115.6 | 114.5 | 149.4 |
| 500    | 87.8  | 90.8  | 92.6  | 92.6  | 93.9  | 95.3  | 97.2  | 100.4 | 103.1 | 111.8 | 116.2 | 117.2 | 116.1 | 150.7 |
| 630    | 87.8  | 90.8  | 92.6  | 92.6  | 93.9  | 95.3  | 97.2  | 100.4 | 103.1 | 111.8 | 116.2 | 117.2 | 116.1 | 150.7 |
| 800    | 91.9  | 92.7  | 94.2  | 94.0  | 95.6  | 96.5  | 98.3  | 102.2 | 106.2 | 115.0 | 119.2 | 117.8 | 116.0 | 153.1 |
| 1000   | 96.5  | 96.8  | 97.3  | 96.6  | 96.5  | 98.1  | 100.2 | 102.9 | 106.8 | 114.2 | 118.8 | 118.5 | 115.9 | 153.0 |
| 1250   | 95.3  | 101.1 | 100.6 | 100.4 | 100.9 | 104.4 | 103.9 | 107.8 | 113.6 | 118.5 | 118.1 | 117.6 | 115.3 | 152.4 |
| 1500   | 95.3  | 97.3  | 98.2  | 98.8  | 99.6  | 101.6 | 104.9 | 107.6 | 112.1 | 115.4 | 114.2 | 112.6 | 110.3 | 149.3 |
| 2000   | 95.0  | 96.7  | 97.9  | 97.0  | 98.1  | 99.7  | 101.4 | 104.7 | 107.6 | 111.9 | 116.9 | 115.7 | 113.5 | 151.2 |
| 2500   | 95.3  | 97.3  | 98.2  | 98.8  | 99.6  | 101.6 | 104.9 | 107.6 | 112.1 | 115.4 | 114.2 | 112.6 | 110.3 | 149.3 |
| 3150   | 93.5  | 95.4  | 96.8  | 96.3  | 97.1  | 98.6  | 101.2 | 103.8 | 106.7 | 109.1 | 112.1 | 110.7 | 108.2 | 147.8 |
| 4000   | 93.5  | 95.4  | 96.8  | 96.3  | 97.1  | 98.6  | 101.2 | 103.8 | 106.7 | 109.1 | 112.1 | 110.7 | 108.2 | 147.8 |
| 5000   | 95.4  | 97.3  | 98.2  | 97.0  | 98.2  | 97.7  | 98.9  | 101.5 | 104.8 | 106.8 | 109.2 | 111.5 | 110.0 | 147.6 |
| 6300   | 95.2  | 97.0  | 97.9  | 96.6  | 98.0  | 98.7  | 100.8 | 104.2 | 106.2 | 107.8 | 109.1 | 108.7 | 106.4 | 146.6 |
| 8000   | 93.9  | 97.8  | 98.6  | 97.2  | 97.5  | 98.8  | 101.0 | 103.6 | 106.6 | 107.6 | 106.6 | 104.0 | 104.5 | 145.9 |
| 10000  | 93.5  | 96.2  | 98.7  | 98.7  | 99.5  | 100.0 | 100.7 | 102.7 | 104.8 | 106.4 | 106.6 | 106.1 | 103.1 | 146.2 |
| 12500  | 93.5  | 96.2  | 98.7  | 98.7  | 99.5  | 100.0 | 100.7 | 102.7 | 104.8 | 106.4 | 106.6 | 106.1 | 103.1 | 146.2 |
| 15000  | 91.2  | 94.9  | 96.1  | 98.7  | 99.2  | 98.8  | 100.1 | 101.0 | 102.3 | 103.0 | 102.5 | 100.5 | 100.5 | 145.4 |
| 20000  | 88.9  | 91.7  | 94.0  | 96.6  | 97.6  | 97.7  | 97.3  | 98.2  | 99.3  | 101.1 | 100.3 | 98.4  | 144.9 | 144.9 |
| 25000  | 85.8  | 90.0  | 92.3  | 94.9  | 96.2  | 97.3  | 98.2  | 97.5  | 98.3  | 98.2  | 98.4  | 94.6  | 145.7 | 145.7 |
| 31500  | 79.8  | 85.2  | 86.7  | 87.3  | 90.5  | 92.6  | 91.8  | 91.2  | 93.0  | 94.7  | 95.4  | 94.2  | 144.7 | 144.7 |
| 40000  | 77.2  | 82.2  | 85.2  | 84.5  | 88.4  | 89.5  | 89.1  | 89.6  | 91.0  | 93.3  | 94.5  | 91.8  | 146.7 | 146.7 |
| 50000  | 74.4  | 79.0  | 82.1  | 82.4  | 86.1  | 87.4  | 86.6  | 86.9  | 89.0  | 92.4  | 92.0  | 90.2  | 149.1 | 149.1 |
| 63000  | 70.4  | 75.4  | 78.2  | 79.2  | 82.2  | 84.6  | 84.6  | 86.9  | 89.9  | 90.9  | 87.6  | 79.5  | 151.9 | 151.9 |
| 80000  | 63.9  | 70.8  | 74.6  | 74.6  | 77.2  | 79.8  | 77.7  | 79.1  | 82.8  | 86.5  | 88.9  | 82.8  | 155.1 | 155.1 |
| 100000 | 106.1 | 108.6 | 109.2 | 108.6 | 109.7 | 110.8 | 112.7 | 115.6 | 118.4 | 123.4 | 127.6 | 127.0 | 124.9 | 124.9 |
| DBA    | 106.1 | 108.6 | 109.2 | 108.6 | 109.7 | 110.8 | 112.7 | 115.6 | 118.4 | 123.4 | 127.6 | 127.0 | 124.9 | 124.9 |
| PWLT   | 119.1 | 122.8 | 121.9 | 121.4 | 122.7 | 124.1 | 127.0 | 128.9 | 131.3 | 135.4 | 139.1 | 138.5 | 136.4 | 136.4 |
| PWL    | 119.1 | 121.3 | 121.9 | 121.4 | 122.7 | 124.1 | 126.2 | 128.9 | 131.6 | 135.4 | 139.1 | 138.5 | 136.4 | 136.4 |
| OSAPL  | 106.6 | 109.4 | 110.2 | 109.7 | 111.0 | 112.0 | 113.6 | 116.0 | 118.6 | 123.8 | 127.9 | 127.0 | 164.2 | 164.2 |
| PWL    | 119.1 | 121.3 | 121.9 | 121.4 | 122.7 | 124.1 | 126.2 | 128.9 | 131.6 | 135.4 | 139.1 | 138.5 | 136.4 | 136.4 |
| DBA    | 106.1 | 108.6 | 109.2 | 108.6 | 109.7 | 110.8 | 112.7 | 115.6 | 118.4 | 123.4 | 127.6 | 127.0 | 124.9 | 124.9 |

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH146 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS

IAPLHA = SB59 WIND DIR = DEG WIND VEL = MPH PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HT = 29.45 RELHUM = 47.2 PCT

FNINI = LBS XNL RPM = XNH RPM = V8 RPM = AE8 FPS = 2356.0 FPS AE8 = 19.9 SQ IN

FNRAMB = LBS XNLR RPM = XNHR RPM = V8 RPM = AE8 FPS = 2356.0 FPS AE8 = 19.9 SQ IN

RUNPT = 82F-ZER-0605 TAPE = X0605C TEST PT NO = 0605 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0605 X0605F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 80.8 82.8 83.1 83.9 83.0 80.6 84.7 86.1 85.3 85.7 93.5 89.2 89.1 128.3

63 84.2 91.7 92.5 92.3 91.9 88.3 94.9 94.6 91.3 93.1 100.0 92.4 93.3 135.6

80 85.9 91.2 88.0 88.0 88.9 90.2 90.6 91.0 91.5 89.6 93.2 96.4 97.5 133.4

100 87.0 93.7 89.8 90.6 91.9 91.8 92.4 94.1 92.8 94.8 98.0 100.9 102.3 136.9

125 83.6 88.6 90.4 90.9 92.5 92.9 94.3 94.4 93.7 96.2 102.4 105.0 106.0 139.5

150 84.0 83.8 88.3 86.8 88.7 88.8 96.2 91.3 92.6 97.1 103.3 106.2 108.4 140.5

200 85.8 85.1 87.7 90.0 91.6 94.0 94.4 97.1 98.7 104.3 108.8 110.4 142.4

250 86.5 86.8 89.6 90.1 90.2 91.3 93.7 97.1 97.8 104.9 110.3 113.0 113.1 146.4

315 84.3 88.6 89.6 89.4 92.2 94.3 96.2 96.9 100.3 107.4 111.5 114.6 148.2

400 86.4 89.7 90.2 89.7 92.3 92.9 100.6 97.5 101.4 110.3 113.9 115.6 149.4

500 87.0 89.5 91.0 91.3 92.4 94.5 95.6 98.8 103.0 111.8 116.2 118.8 150.7

630 87.8 90.8 92.6 93.9 95.3 97.2 100.4 104.1 113.9 117.3 117.2 116.1 151.9

800 87.0 93.1 96.8 98.0 100.1 100.8 104.9 107.8 113.6 118.5 118.4 116.5 153.1

1000 95.3 96.8 97.3 96.6 98.1 100.2 102.9 106.8 114.2 118.8 118.5 115.9 153.0

1250 95.1 96.8 97.0 97.2 98.8 99.6 101.4 103.9 107.8 113.6 118.5 118.4 153.1

1500 95.0 96.7 97.9 97.0 98.1 99.7 101.4 104.7 107.6 111.9 116.9 115.7 151.2

2000 95.0 96.7 97.9 97.0 98.2 99.8 101.6 104.7 107.6 112.1 117.1 115.9 151.2

2500 95.3 97.3 98.2 97.2 98.8 99.6 101.6 104.9 107.6 112.1 117.1 115.9 151.2

3150 95.4 97.0 96.7 96.8 98.3 100.4 102.3 104.8 107.6 110.4 114.4 112.6 149.3

4000 93.5 95.4 96.8 96.3 97.1 98.6 101.2 105.3 106.7 109.1 112.1 110.7 147.8

5000 93.4 97.3 97.0 96.2 97.7 98.9 101.5 104.8 106.8 109.2 111.5 110.0 147.6

6300 95.2 97.0 97.9 96.6 98.0 98.7 100.8 104.2 106.2 109.1 108.7 105.4 146.6

8000 93.9 97.8 98.6 97.2 97.5 98.8 101.0 103.6 105.0 106.6 107.6 106.6 145.9

10000 93.2 97.4 99.5 99.0 99.5 100.0 100.7 102.7 104.8 106.4 106.6 106.1 146.2

12500 93.5 98.2 99.8 99.8 99.8 100.5 102.8 105.0 107.4 109.5 109.5 107.3 145.9

16000 91.2 94.9 95.8 96.1 96.7 98.2 99.2 99.8 100.1 101.0 102.3 103.0 145.4

20000 88.9 91.7 94.0 94.0 96.6 97.6 97.7 97.3 98.2 99.3 101.1 100.3 144.9

25000 85.8 90.0 92.0 92.0 94.9 96.2 96.1 96.2 97.5 98.3 98.2 98.4 145.7

31500 79.8 85.2 86.7 87.3 90.5 92.6 91.8 91.2 93.0 94.7 95.4 94.2 144.7

40000 77.2 82.2 85.2 84.5 88.4 89.5 89.1 89.6 91.0 93.3 94.5 91.8 146.7

50000 74.4 79.0 82.1 82.4 86.1 87.4 86.6 86.9 89.0 92.4 92.0 90.2 149.1

63000 70.4 75.4 78.7 79.2 82.2 84.1 84.6 86.9 89.9 90.9 87.6 79.5 151.9

80000 63.9 70.8 74.6 74.6 77.2 79.6 77.7 79.1 82.8 86.5 88.9 82.8 155.1

80000 63.9 70.8 74.6 74.6 77.2 79.6 77.7 79.1 82.8 86.5 88.9 82.8 155.1

DBA 185.9 192.2 195.8 196.0 198.7 201.1 199.1 200.7 203.9 207.5 209.6 204.1 195.3

PNLT 119.1 122.8 121.9 121.4 122.7 124.1 127.0 128.9 131.3 135.4 139.1 138.5 136.4

PNL 119.1 121.3 121.9 121.4 122.7 124.1 126.2 128.9 131.3 135.4 139.1 138.5 136.4

GASPL 106.6 109.4 110.2 109.7 111.0 112.0 113.6 116.0 118.6 123.8 127.9 127.7 126.0 164.2

| ANGLE          | 40             | 50   | 60   | 70   | 80   | 90   | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|----------------|----------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| FREQ           | 40.0           | 50.0 | 60.0 | 70.0 | 80.0 | 90.0 | 100.0 | 110.0 | 120.0 | 130.0 | 140.0 | 150.0 | 160.0 |
| TEST DATE      | = 06-25-82     |      |      |      |      |      |       |       |       |       |       |       |       |
| LOCAT          | = C41 ANECH CH |      |      |      |      |      |       |       |       |       |       |       |       |
| CONFIG         | = 6            |      |      |      |      |      |       |       |       |       |       |       |       |
| MODEL          | = AX           |      |      |      |      |      |       |       |       |       |       |       |       |
| FLVEL          | = 0. FPS       |      |      |      |      |      |       |       |       |       |       |       |       |
| RELHUM         | = 47.2 PCT     |      |      |      |      |      |       |       |       |       |       |       |       |
| PAMB HG        | = 29.45        |      |      |      |      |      |       |       |       |       |       |       |       |
| MIKE HT        | =              |      |      |      |      |      |       |       |       |       |       |       |       |
| EXT DIST       | = 40.0 FT      |      |      |      |      |      |       |       |       |       |       |       |       |
| EXT CONFIG     | = ARC          |      |      |      |      |      |       |       |       |       |       |       |       |
| WIND DIR       | =              |      |      |      |      |      |       |       |       |       |       |       |       |
| WIND VEL       | = MPH          |      |      |      |      |      |       |       |       |       |       |       |       |
| LEGA           | = NO           |      |      |      |      |      |       |       |       |       |       |       |       |
| PWL AREA       | = FULL SPHERE  |      |      |      |      |      |       |       |       |       |       |       |       |
| TAMB F         | = 79.00        |      |      |      |      |      |       |       |       |       |       |       |       |
| EXT CONFIG     | = ARC          |      |      |      |      |      |       |       |       |       |       |       |       |
| AE8            | = 2356.0 FPS   |      |      |      |      |      |       |       |       |       |       |       |       |
| AE8            | = 19.9 SQ IN   |      |      |      |      |      |       |       |       |       |       |       |       |
| AE18           | = 0. SQ IN     |      |      |      |      |      |       |       |       |       |       |       |       |
| NRMB           | =              |      |      |      |      |      |       |       |       |       |       |       |       |
| NRFR           | =              |      |      |      |      |      |       |       |       |       |       |       |       |
| TEST PT NO     | = 0605         |      |      |      |      |      |       |       |       |       |       |       |       |
| X0605F         | =              |      |      |      |      |      |       |       |       |       |       |       |       |
| NC             | = AE048        |      |      |      |      |      |       |       |       |       |       |       |       |
| CORR FAN SPEED | =              |      |      |      |      |      |       |       |       |       |       |       |       |
| RPM            | =              |      |      |      |      |      |       |       |       |       |       |       |       |

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

INPT = ER-0605 TAPE = X0605F  
FNINI = LBS XNL RPM = XNH RPM = XNH RPM  
FNFRMB = LBS XNLR RPM = XNHR RPM = XNHR RPM  
CORR FAN SPEED = AE048 =

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SYMBOL PAGE PRINTING SYSTEM - P188-02

505



DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0605 X06051

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 65.4 | 70.2 | 71.8 | 72.1 | 75.1 | 75.8 | 83.3 | 79.8 | 83.1 | 90.8 | 92.9 | 92.4 | 88.0 | 167.8 |
| 63    | 66.0 | 70.0 | 72.6 | 73.6 | 75.1 | 77.4 | 78.4 | 81.1 | 84.6 | 92.4 | 95.2 | 93.4 | 88.2 | 169.2 |
| 80    | 66.7 | 71.3 | 74.2 | 74.9 | 76.7 | 78.2 | 79.9 | 82.7 | 85.7 | 94.4 | 96.2 | 93.9 | 89.4 | 170.4 |
| 100   | 70.8 | 73.1 | 75.7 | 76.3 | 78.3 | 79.3 | 81.0 | 84.5 | 87.7 | 95.5 | 98.0 | 94.5 | 89.2 | 171.6 |
| 125   | 75.3 | 77.2 | 78.8 | 78.8 | 79.1 | 80.8 | 82.8 | 85.1 | 88.3 | 94.5 | 97.6 | 94.9 | 88.8 | 171.5 |
| 160   | 73.8 | 81.2 | 81.9 | 82.2 | 82.9 | 83.4 | 83.9 | 85.9 | 89.1 | 93.8 | 97.1 | 94.7 | 89.0 | 171.5 |
| 200   | 73.4 | 76.8 | 79.8 | 79.9 | 82.4 | 83.4 | 84.8 | 86.5 | 89.3 | 92.2 | 96.5 | 93.5 | 87.4 | 170.9 |
| 250   | 73.0 | 76.4 | 78.7 | 78.7 | 80.6 | 82.0 | 83.6 | 86.4 | 88.5 | 91.6 | 94.9 | 91.2 | 85.0 | 169.7 |
| 315   | 72.9 | 76.7 | 78.7 | 78.7 | 81.6 | 83.4 | 86.3 | 88.1 | 91.5 | 92.9 | 89.1 | 81.8 | 80.0 | 167.7 |
| 400   | 72.5 | 75.9 | 77.0 | 77.8 | 79.9 | 82.1 | 83.8 | 85.8 | 87.8 | 89.4 | 91.5 | 86.9 | 80.0 | 167.7 |
| 500   | 70.1 | 74.0 | 76.7 | 77.1 | 78.4 | 80.0 | 82.5 | 85.3 | 86.4 | 87.3 | 87.6 | 83.0 | 74.9 | 166.1 |
| 630   | 71.5 | 75.5 | 76.7 | 78.7 | 78.7 | 80.0 | 82.5 | 85.3 | 86.4 | 87.3 | 87.6 | 83.0 | 74.9 | 166.1 |
| 800   | 70.8 | 74.8 | 77.1 | 76.8 | 78.8 | 79.7 | 81.5 | 84.4 | 85.5 | 85.6 | 84.7 | 80.9 | 71.9 | 165.1 |
| 1000  | 69.1 | 75.3 | 77.6 | 77.3 | 78.1 | 79.6 | 81.6 | 83.6 | 84.1 | 84.1 | 82.8 | 78.2 | 69.3 | 164.4 |
| 1250  | 67.9 | 74.6 | 78.3 | 78.8 | 79.9 | 80.6 | 81.2 | 82.5 | 83.6 | 83.6 | 81.3 | 76.8 | 67.0 | 164.7 |
| 1600  | 67.3 | 72.7 | 77.1 | 78.3 | 79.9 | 80.9 | 79.7 | 81.5 | 81.2 | 81.6 | 78.5 | 73.9 | 64.3 | 164.4 |
| 2000  | 64.0 | 70.9 | 73.8 | 75.4 | 78.7 | 79.5 | 78.8 | 79.4 | 79.0 | 78.3 | 75.8 | 70.3 | 59.0 | 163.9 |
| 2500  | 59.9 | 66.4 | 71.2 | 72.7 | 76.0 | 77.3 | 77.1 | 75.9 | 75.3 | 74.1 | 72.1 | 65.2 | 52.0 | 163.4 |
| 3150  | 53.5 | 62.3 | 67.2 | 69.4 | 73.0 | 74.6 | 74.2 | 73.3 | 72.7 | 70.6 | 65.9 | 58.4 | 39.8 | 164.1 |
| 4000  | 41.2 | 52.8 | 58.1 | 61.1 | 65.6 | 68.1 | 67.0 | 65.0 | 64.4 | 62.2 | 56.8 | 45.2 | 20.1 | 163.1 |
| 5000  | 28.9 | 42.3 | 50.4 | 52.9 | 58.6 | 60.2 | 59.3 | 58.0 | 56.2 | 53.3 | 46.1 | 29.2 |      | 165.2 |
| 6300  | 8.3  | 24.8 | 35.2 | 40.0 | 46.2 | 48.2 | 46.6 | 44.5 | 42.1 | 38.2 | 25.9 | 3.5  |      | 167.6 |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |      | 170.4 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 173.6 |

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MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH146 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS  
IAPLHA = SBS9 = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2356.0 FPS AEB = 19.9 SQ IN  
FNFRMB = LBS XNLR = RPM XNH XNHR = RPM V18 = 2356.0 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0605 TAPE = X06051 TEST PT NO = 0605 NC = AE048 CORR FAN SPEED = RPM





FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0606 X06061

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 67.7 71.3 72.2 72.4 72.7 72.1 76.0 73.3 77.6 83.4 89.2 88.1 82.8 163.2

63 69.6 72.1 72.3 72.6 73.5 73.7 74.4 75.0 79.7 86.8 92.0 90.4 83.9 165.6

80 70.1 72.4 73.3 73.6 74.6 74.8 75.8 76.8 82.0 87.1 94.2 90.4 84.4 166.8

100 70.1 73.4 74.6 74.8 76.1 76.5 76.6 79.0 83.4 87.1 94.4 90.4 84.0 167.0

125 72.6 73.5 75.7 76.0 77.0 78.0 79.4 84.0 86.4 93.6 88.5 83.5 166.3

160 75.3 74.7 76.1 76.7 79.1 78.5 80.1 84.6 85.2 92.0 85.8 81.8 165.1

200 74.3 79.6 79.7 79.5 79.9 79.9 81.1 81.9 84.8 85.9 89.7 84.0 81.5 164.5

250 75.0 79.3 78.6 79.3 79.3 79.3 81.0 79.3 81.0 82.1 84.3 85.3 87.6 163.3

315 74.8 75.6 77.8 78.4 79.1 79.5 80.6 82.4 85.3 84.6 86.9 80.9 78.3 163.4

400 74.3 76.4 78.1 78.6 79.4 80.1 81.7 82.4 84.7 83.4 84.3 79.7 75.6 162.8

500 75.1 76.9 77.9 78.7 79.1 80.1 81.3 83.0 84.7 83.3 83.3 78.6 74.2 162.9

630 74.6 75.8 77.8 78.5 79.6 80.5 81.6 82.1 85.2 81.5 80.8 77.0 71.6 163.4

800 76.2 77.9 79.0 79.3 79.6 79.6 82.0 83.2 84.4 81.5 80.5 77.0 71.6 163.4

1000 75.6 78.5 79.7 79.8 79.7 80.4 81.4 82.9 85.4 83.0 80.6 78.1 71.4 164.6

1250 74.6 79.7 81.0 80.3 83.8 82.5 82.2 84.7 81.6 80.3 77.8 70.4 165.8

1600 74.4 77.9 82.6 83.1 82.4 81.1 80.0 81.2 76.5 75.3 72.8 66.9 167.0

2000 74.4 77.9 82.6 83.1 82.4 81.1 80.0 81.2 76.5 75.3 72.8 66.9 167.0

2500 69.1 75.6 78.1 79.4 79.8 80.1 80.1 77.9 80.0 74.1 71.4 66.3 55.5 166.7

3150 63.2 69.7 74.1 75.3 78.2 78.3 78.2 77.6 79.1 74.4 67.8 64.9 57.7 166.9

4000 56.5 64.2 69.1 71.2 70.2 69.4 67.3 68.3 60.7 57.2 46.0 26.2 167.2

5000 38.5 50.1 56.3 59.5 61.9 62.8 61.7 59.3 58.9 50.0 44.7 29.3 0.9 167.1

6300 17.3 32.3 41.2 45.3 48.8 49.5 48.3 44.6 44.2 33.3 22.6 1.1 168.1

8000 2.3 14.7 21.6 26.3 28.0 25.6 21.9 19.5 5.0 169.1

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P188-03

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VEHICLE = ADH157 TEST DATE = 06-25-82  
IAPLHA = SB59 LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 2400.0 FT  
EXT CONFIG = SL  
MODEL = AX  
PAMB HG = 29.40  
RELHUM = 83.1 PCT  
FLVEL = 400. FPS  
N8FR =  
DBA 84.2 87.9 90.6 90.7 91.6 91.2 91.3 91.6 93.3 90.6 90.9 87.0 81.6  
PML 96.2 99.7 102.5 103.0 103.3 102.7 103.4 102.3 104.9 102.2 104.8 100.7 93.7  
DASPL 86.5 89.5 91.5 91.8 92.6 92.4 93.1 93.8 96.3 96.7 101.7 97.8 92.4 179.9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514  
MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

LOCAL = C41 ANECH CH CONFIG = 6  
PML AREA = FULL SPHERE TAMB F = 78.00  
MODEL = AX  
TEST DATE = 06-25-82  
VEHICLE = ADH157  
IAPLHA = SB59  
LEGA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT DIST = 2400.0 FT  
EXT CONFIG = SL  
MODEL = AX  
PAMB HG = 29.40  
RELHUM = 83.1 PCT  
FLVEL = 400. FPS  
N8FR =

RPM XNHR = RPM XNLR =  
RPM XNHR = RPM XNLR =  
RPM XNHR = RPM XNLR =  
RPM XNHR = RPM XNLR =

AE8 = 19.9 SQ IN  
AE18 = 0. SQ IN

2353.4 FPS  
2053.4 FPS

2353.4 FPS  
2053.4 FPS

2353.4 FPS  
2053.4 FPS

2353.4 FPS  
2053.4 FPS

2353.4 FPS  
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2353.4 FPS  
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2353.4 FPS  
2053.4 FPS

2353.4 FPS  
2053.4 FPS

2353.4 FPS  
2053.4 FPS

2353.4 FPS  
2053.4 FPS

2353.4 FPS  
2053.4 FPS

2353.4 FPS  
2053.4 FPS

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0607 X0607C  
BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.5 84.3 85.6 83.6 80.7 79.3 86.7 85.1 86.6 85.7 93.5 93.2 90.1 129.2

63 85.7 91.7 88.5 82.8 90.8 88.0 96.6 94.1 92.5 91.3 98.2 98.7 93.8 136.3

80 86.9 91.7 88.5 88.6 91.2 91.1 91.0 91.5 89.8 93.7 96.9 97.5 133.7

100 87.0 94.0 89.8 91.1 92.1 92.0 92.9 94.3 92.8 94.6 97.5 101.4 102.8 137.1

125 84.1 88.6 90.7 91.2 93.0 93.2 94.3 94.2 93.7 96.2 102.1 105.3 106.2 139.6

160 84.0 88.3 88.7 89.3 98.2 91.1 92.8 98.1 103.3 106.7 108.6 140.9

200 86.1 85.9 87.6 87.2 89.8 91.9 93.8 93.7 97.4 99.2 104.6 108.8 142.7

250 85.5 89.6 89.6 90.6 90.5 91.3 93.7 96.6 98.1 104.9 110.5 113.2 146.6

315 84.8 88.3 89.6 89.6 92.0 94.1 96.0 96.9 100.6 107.7 114.5 116.6 147.9

400 86.4 89.4 90.9 90.2 92.8 93.2 101.1 98.0 101.7 110.8 114.6 116.1 149.9

500 87.2 89.7 90.8 91.8 92.6 94.3 95.9 99.0 103.3 112.1 116.5 116.9 151.0

630 88.0 90.6 92.3 92.6 94.4 95.8 97.4 100.4 104.3 114.4 117.8 116.4 152.3

800 86.0 92.7 93.2 94.7 94.0 95.1 97.2 98.6 102.7 106.7 115.5 119.2 153.2

1000 97.8 98.8 98.1 96.9 97.2 98.1 100.2 103.4 107.3 114.9 119.0 118.2 153.2

1250 95.8 101.8 102.3 101.4 101.4 101.6 101.7 103.9 107.8 114.6 119.0 118.7 153.5

1500 95.4 96.8 98.4 98.7 100.3 101.2 103.0 104.8 107.9 113.5 118.4 117.1 153.5

2000 95.8 97.4 98.6 97.7 98.1 99.7 101.4 105.2 108.1 112.6 117.4 115.5 151.5

2500 96.1 98.3 98.7 97.9 99.0 99.9 101.6 104.7 107.6 112.8 116.1 113.7 150.5

3150 95.6 97.0 97.5 97.0 98.1 100.2 102.3 105.5 107.8 111.7 115.2 110.2 149.7

4000 93.8 95.7 96.6 96.6 97.6 99.4 101.0 105.1 107.2 109.9 112.6 110.2 148.0

5000 95.4 97.6 97.7 96.5 97.7 99.1 101.3 104.8 107.1 109.7 111.7 109.3 147.7

6300 95.0 96.5 98.1 97.1 97.8 98.7 100.5 104.5 106.5 108.1 110.1 107.2 146.7

8000 93.2 96.5 97.6 97.7 98.2 99.0 99.7 100.2 103.2 104.8 106.7 107.1 146.2

10000 92.7 96.4 97.7 98.2 99.0 99.7 100.2 103.2 104.8 106.7 107.1 105.6 146.2

12500 93.5 95.7 98.2 97.7 98.8 99.7 99.1 101.7 103.6 104.8 105.2 104.0 145.7

16000 90.9 91.7 93.5 94.0 96.3 98.5 99.7 98.5 99.9 100.7 102.6 104.0 145.4

20000 89.7 91.7 93.5 94.0 96.3 97.1 97.2 97.5 98.4 99.6 102.3 100.5 145.1

25000 86.1 89.5 92.5 92.1 94.9 96.2 96.1 96.0 97.2 98.3 99.7 99.4 146.1

31500 80.3 84.4 87.0 86.8 90.2 92.3 90.8 91.5 92.7 94.7 96.6 94.4 144.8

40000 76.9 82.2 84.7 84.5 88.4 89.5 88.9 88.4 91.0 92.5 96.0 92.8 147.1

50000 74.4 78.7 81.9 82.2 85.6 87.1 85.8 86.4 89.3 92.1 94.0 91.2 149.5

63000 70.1 75.4 78.7 78.5 82.5 83.9 82.1 83.9 86.1 89.9 92.4 88.6 152.5

80000 63.9 69.8 73.8 73.8 76.9 79.8 76.7 76.7 78.6 82.5 87.3 88.7 155.4

80000 63.9 69.8 73.8 73.8 76.9 79.8 76.7 76.7 78.6 82.5 87.3 88.7 155.4

80000 63.9 69.8 73.8 73.8 76.9 79.8 76.7 76.7 78.6 82.5 87.3 88.7 155.4

80000 63.9 69.8 73.8 73.8 76.9 79.8 76.7 76.7 78.6 82.5 87.3 88.7 155.4

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|            |              |                |          |              |              |            |         |                  |       |           |            |
|------------|--------------|----------------|----------|--------------|--------------|------------|---------|------------------|-------|-----------|------------|
| VEHICL =   | ADH147       | TEST DATE =    | 06-25-82 | LOCAT =      | C41 ANECH CH | CONFIG =   | 6       | MODEL =          | AX    | FLTVL =   | 0. FPS     |
| IAPLHA =   | S859         | LEGA =         | NO       | PWL AREA =   | FULL SPHERE  | TAMB F =   | 79.00   | PAMB HG =        | 29.45 | RELHUM =  | 47.2 PCT   |
| WIND DIR = |              | DEG WIND VEL = |          | MPH          |              | EXT DIST = | 40.0 FT | EXT CONFIG =     | ARC   | MIKE HT = | NBFR =     |
| FNINI =    | LBS XNL      | RPM            | XNH      | RPM          | XNHR         | =          | V8      | FPS              | AE8   | =         | 19.9 SQ IN |
| FNRAMB =   | LBS XNL      | RPM            | XNH      | RPM          | XNHR         | =          | V8      | FPS              | AE18  | =         | 0. SQ IN   |
| RUNPT =    | 82F-ZER-0607 | TAPE           | X0607C   | TEST PT NO = | 0607         | NC         | AE048   | CORR FAN SPEED = |       | RPM       |            |

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

DBA 106.5 109.0 109.7 109.1 109.9 111.0 112.7 115.8 118.6 124.1 128.0 126.8 124.6  
 PNL 120.6 122.9 123.6 122.7 124.2 127.1 129.0 131.6 136.1 139.6 138.2 136.1  
 CASPL 106.9 109.6 110.5 110.0 111.0 112.0 113.6 116.2 118.9 124.5 128.3 127.6 125.9 164.5

|       |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 16000 | 90.9 | 91.7  | 93.5  | 94.0  | 96.3  | 98.5  | 98.7  | 98.5  | 99.9  | 100.7 | 102.6 | 104.0 | 102.3 | 99.0  | 145.4 |
| 12500 | 93.5 | 95.7  | 98.2  | 97.7  | 98.8  | 99.7  | 98.8  | 99.7  | 99.1  | 101.7 | 103.6 | 104.8 | 105.2 | 104.0 | 145.7 |
| 10000 | 92.7 | 96.4  | 97.7  | 98.2  | 99.0  | 99.7  | 100.2 | 103.2 | 104.8 | 106.7 | 107.1 | 105.6 | 102.8 | 146.2 |       |
| 8000  | 93.2 | 96.5  | 97.6  | 97.7  | 98.3  | 100.0 | 100.6 | 105.6 | 107.4 | 107.9 | 105.6 | 103.0 | 145.9 |       |       |
| 6300  | 95.0 | 96.5  | 98.1  | 97.1  | 97.8  | 98.7  | 100.5 | 104.5 | 106.5 | 108.1 | 110.1 | 107.2 | 146.7 |       |       |
| 5000  | 95.4 | 97.6  | 97.7  | 96.5  | 97.7  | 99.1  | 101.3 | 104.8 | 107.1 | 109.7 | 111.7 | 109.3 | 147.7 |       |       |
| 4000  | 93.8 | 95.7  | 96.5  | 96.6  | 97.6  | 99.4  | 101.0 | 105.1 | 107.2 | 109.9 | 112.6 | 110.2 | 148.0 |       |       |
| 3150  | 95.6 | 97.0  | 97.5  | 97.0  | 98.1  | 100.2 | 102.3 | 105.5 | 107.8 | 111.7 | 115.2 | 109.6 | 149.7 |       |       |
| 2500  | 96.1 | 98.3  | 98.7  | 97.9  | 99.0  | 99.9  | 101.6 | 104.7 | 107.6 | 112.8 | 116.1 | 113.7 | 150.5 |       |       |
| 2000  | 95.8 | 97.4  | 98.6  | 97.7  | 98.1  | 99.7  | 101.4 | 105.2 | 108.1 | 112.6 | 117.4 | 115.5 | 151.5 |       |       |
| 1600  | 95.4 | 96.8  | 98.4  | 98.7  | 100.3 | 101.2 | 103.0 | 104.8 | 107.9 | 113.5 | 118.4 | 117.1 | 152.5 |       |       |
| 1250  | 95.8 | 101.8 | 102.3 | 101.4 | 101.4 | 101.6 | 101.7 | 103.9 | 107.8 | 114.6 | 119.0 | 118.7 | 153.5 |       |       |
| 1000  | 97.8 | 98.8  | 98.1  | 96.9  | 97.2  | 98.1  | 100.2 | 103.4 | 107.3 | 114.9 | 119.0 | 118.2 | 153.2 |       |       |
| 800   | 92.7 | 93.2  | 94.7  | 94.0  | 95.1  | 97.2  | 98.6  | 102.7 | 106.7 | 115.5 | 119.2 | 117.8 | 153.2 |       |       |
| 630   | 88.0 | 90.6  | 92.3  | 92.6  | 94.4  | 95.8  | 97.4  | 100.4 | 104.3 | 114.4 | 117.8 | 116.4 | 152.3 |       |       |
| 500   | 87.2 | 89.7  | 90.8  | 91.8  | 92.6  | 94.3  | 95.9  | 99.0  | 103.3 | 112.1 | 116.5 | 116.9 | 151.0 |       |       |
| 400   | 86.4 | 89.4  | 90.9  | 90.2  | 92.8  | 93.2  | 101.1 | 98.0  | 101.7 | 110.8 | 114.6 | 116.1 | 149.9 |       |       |
| 315   | 84.8 | 88.3  | 89.6  | 89.6  | 92.0  | 94.1  | 96.0  | 99.9  | 100.6 | 107.7 | 111.5 | 114.2 | 147.9 |       |       |
| 250   | 85.5 | 89.6  | 89.6  | 90.6  | 90.5  | 91.3  | 93.7  | 96.6  | 98.1  | 104.9 | 110.5 | 113.2 | 146.6 |       |       |
| 200   | 86.1 | 85.9  | 87.6  | 87.2  | 89.8  | 91.9  | 93.8  | 93.7  | 97.4  | 99.2  | 104.6 | 108.8 | 142.7 |       |       |
| 160   | 84.0 | 88.3  | 88.7  | 88.7  | 89.3  | 98.2  | 91.1  | 92.8  | 98.1  | 103.3 | 106.7 | 108.6 | 140.9 |       |       |
| 125   | 84.1 | 88.6  | 90.7  | 91.2  | 93.0  | 93.2  | 94.3  | 94.2  | 93.7  | 96.2  | 102.1 | 105.3 | 139.6 |       |       |
| 100   | 87.0 | 94.0  | 89.8  | 91.1  | 92.1  | 92.0  | 92.9  | 94.3  | 92.8  | 94.6  | 97.5  | 101.4 | 137.1 |       |       |
| 80    | 86.9 | 91.7  | 88.5  | 88.6  | 88.6  | 91.2  | 91.1  | 91.0  | 91.5  | 89.8  | 93.7  | 96.9  | 133.7 |       |       |
| 63    | 85.7 | 92.8  | 90.8  | 92.8  | 90.8  | 96.6  | 94.1  | 92.5  | 91.3  | 98.2  | 98.7  | 93.8  | 136.3 |       |       |
| 50    | 81.5 | 84.3  | 85.6  | 83.6  | 80.7  | 79.3  | 86.7  | 85.1  | 86.6  | 85.7  | 93.5  | 93.2  | 129.2 |       |       |



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SR 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0607 X06071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |       |     |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-----|
| 50    | 65.4 | 70.0 | 72.6 | 72.6 | 75.6 | 76.1 | 76.1 | 83.8 | 80.3 | 83.3 | 91.3 | 93.7 | 92.9  | 88.5  | 168.4 | PWL |
| 63    | 66.2 | 70.3 | 72.4 | 74.1 | 75.4 | 77.1 | 78.6 | 81.4 | 84.9 | 84.9 | 92.6 | 95.5 | 93.7  | 88.2  | 169.4 |     |
| 80    | 67.0 | 71.1 | 73.9 | 74.9 | 77.2 | 78.7 | 80.2 | 82.7 | 85.9 | 85.9 | 94.9 | 96.7 | 94.2  | 89.7  | 170.7 |     |
| 100   | 71.5 | 73.6 | 76.2 | 76.3 | 77.8 | 78.8 | 80.0 | 81.3 | 85.0 | 85.0 | 98.0 | 94.5 | 89.4  | 89.4  | 171.7 |     |
| 125   | 76.5 | 79.2 | 79.5 | 79.1 | 79.8 | 80.8 | 80.8 | 82.8 | 85.6 | 85.6 | 98.8 | 97.8 | 94.7  | 88.8  | 171.7 |     |
| 150   | 74.3 | 82.0 | 83.6 | 83.4 | 83.9 | 84.2 | 84.2 | 85.9 | 89.1 | 89.1 | 94.8 | 97.6 | 94.9  | 88.5  | 171.9 |     |
| 200   | 73.7 | 76.8 | 80.6 | 82.6 | 83.6 | 83.6 | 83.6 | 86.7 | 89.1 | 89.1 | 93.5 | 96.7 | 93.0  | 86.4  | 170.9 |     |
| 250   | 73.8 | 77.2 | 79.5 | 79.4 | 80.2 | 82.0 | 83.6 | 86.9 | 89.0 | 89.0 | 92.4 | 95.4 | 91.0  | 84.7  | 170.0 |     |
| 315   | 73.7 | 77.7 | 79.2 | 79.3 | 80.9 | 81.9 | 83.4 | 86.1 | 88.1 | 88.1 | 92.2 | 93.7 | 88.6  | 81.3  | 169.0 |     |
| 400   | 70.4 | 72.7 | 76.2 | 77.7 | 78.1 | 79.6 | 81.9 | 86.6 | 88.1 | 90.6 | 92.3 | 86.6 | 79.3  | 168.2 |       |     |
| 500   | 70.2 | 74.2 | 76.5 | 77.3 | 78.9 | 80.8 | 82.3 | 85.8 | 87.1 | 88.5 | 92.3 | 86.6 | 79.3  | 168.2 |       |     |
| 630   | 71.5 | 75.8 | 77.3 | 77.0 | 78.7 | 80.3 | 82.3 | 85.3 | 86.6 | 87.8 | 89.2 | 83.8 | 75.9  | 166.5 |       |     |
| 800   | 70.6 | 74.3 | 77.4 | 77.3 | 78.5 | 79.7 | 81.3 | 84.7 | 85.7 | 85.9 | 85.7 | 79.4 | 71.4  | 165.2 |       |     |
| 1000  | 68.3 | 74.0 | 76.6 | 77.3 | 78.3 | 79.1 | 80.6 | 83.6 | 84.6 | 84.9 | 83.0 | 77.2 | 68.3  | 164.4 |       |     |
| 1250  | 67.4 | 73.6 | 76.5 | 78.1 | 79.4 | 80.4 | 80.7 | 83.0 | 83.6 | 83.8 | 81.8 | 76.3 | 66.7  | 164.7 |       |     |
| 1600  | 67.3 | 72.2 | 76.6 | 77.3 | 78.9 | 80.1 | 81.3 | 82.0 | 81.3 | 82.0 | 81.3 | 79.0 | 63.3  | 164.2 |       |     |
| 2000  | 63.7 | 70.6 | 74.3 | 75.7 | 78.5 | 79.0 | 78.5 | 79.2 | 78.7 | 78.6 | 76.8 | 70.0 | 57.5  | 163.9 |       |     |
| 2500  | 60.7 | 66.4 | 70.7 | 72.7 | 75.8 | 76.8 | 76.6 | 76.2 | 75.6 | 74.3 | 73.4 | 65.5 | 51.2  | 163.6 |       |     |
| 3150  | 53.8 | 61.8 | 67.7 | 69.1 | 73.0 | 74.6 | 74.2 | 73.0 | 72.5 | 70.6 | 67.4 | 59.4 | 44.6  | 164.6 |       |     |
| 4000  | 41.7 | 52.0 | 58.4 | 59.9 | 65.4 | 67.9 | 66.0 | 65.3 | 64.1 | 62.2 | 58.0 | 45.5 | 23.6  | 163.3 |       |     |
| 5000  | 28.6 | 42.3 | 49.9 | 49.9 | 58.6 | 60.2 | 59.0 | 57.7 | 56.2 | 52.5 | 47.6 | 30.2 | 4.5   | 165.6 |       |     |
| 6300  | 8.3  | 24.6 | 35.0 | 39.8 | 45.7 | 47.9 | 45.9 | 44.0 | 42.4 | 37.9 | 27.9 | 4.5  | 168.0 |       |       |     |
| 8000  |      |      | 10.5 | 16.8 | 24.4 | 26.9 | 24.0 | 22.2 | 17.9 | 11.9 |      |      | 171.0 |       |       |     |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      | 173.9 |       |       |     |

ORIGINAL PAGE IS  
OF POOR QUALITY

|       |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| OASPL | 83.9 | 88.3 | 90.3 | 90.7 | 92.1  | 93.3  | 94.7  | 97.0  | 99.1  | 104.1 | 106.4 | 103.2 | 97.6 | 182.7 |
| PWL   | 88.7 | 93.8 | 97.2 | 98.0 | 100.4 | 101.4 | 101.9 | 103.4 | 104.6 | 107.4 | 108.7 | 104.4 | 97.3 |       |
| DBA   | 78.3 | 83.1 | 85.9 | 86.6 | 88.4  | 89.5  | 90.3  | 92.7  | 93.8  | 95.3  | 96.2  | 91.4  | 84.3 |       |

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/MAS3-22514

VEHICLE = ADH147 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMBF = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF  
FNINI = LBS XNLR RPM XNMH XNHR = RPM V8 = 2372.6 FPS AEB = 19.9 SQ IN  
FNRAMB = LBS XNLR RPM = XNHR = RPM V8 = 2372.6 FPS AEB = 19.9 SQ IN  
RUNPT = 82F-ZER-0607 TAPE = X06071 TEST PT NO = 0607 NC = AE048 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0608 X0608C  
 BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160

|      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |
|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50   | 84.5 | 84.8 | 86.6 | 85.4 | 83.7 | 80.1 | 85.7 | 84.9  | 82.8  | 81.7  | 90.3  | 90.7  | 96.1  | 129.0 |
| 60   | 87.4 | 91.7 | 88.2 | 89.5 | 91.2 | 91.9 | 93.1 | 90.8  | 91.2  | 88.8  | 93.2  | 96.1  | 98.8  | 133.9 |
| 70   | 84.2 | 92.7 | 95.8 | 92.8 | 87.3 | 96.9 | 94.3 | 88.3  | 87.8  | 92.7  | 92.2  | 96.3  | 135.1 |       |
| 80   | 86.5 | 92.7 | 88.6 | 89.1 | 91.1 | 90.8 | 91.9 | 90.8  | 90.8  | 95.5  | 100.2 | 101.8 | 135.7 |       |
| 90   | 83.9 | 86.6 | 88.9 | 89.7 | 91.5 | 91.7 | 92.5 | 92.4  | 90.9  | 92.5  | 100.4 | 105.7 | 138.3 |       |
| 100  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 110  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 120  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 130  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 140  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 150  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 160  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 170  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 180  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 190  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 200  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 210  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 220  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 230  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 240  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 250  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 260  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 270  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 280  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 290  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 300  | 82.3 | 80.5 | 87.1 | 85.6 | 86.7 | 86.8 | 94.7 | 88.1  | 90.1  | 93.6  | 104.9 | 107.1 | 138.9 |       |
| 315  | 81.0 | 84.8 | 85.8 | 86.6 | 88.0 | 89.6 | 92.5 | 93.1  | 96.3  | 102.4 | 109.0 | 112.0 | 145.0 |       |
| 330  | 82.9 | 85.4 | 86.7 | 86.5 | 88.6 | 89.4 | 95.3 | 94.0  | 97.4  | 105.0 | 111.1 | 113.3 | 146.2 |       |
| 345  | 83.5 | 86.3 | 89.1 | 88.9 | 91.8 | 93.7 | 96.6 | 99.8  | 109.1 | 115.0 | 113.7 | 106.1 | 148.2 |       |
| 360  | 86.7 | 87.2 | 89.5 | 89.7 | 91.6 | 93.0 | 94.6 | 98.5  | 109.8 | 116.7 | 112.1 | 103.5 | 148.9 |       |
| 375  | 91.0 | 90.1 | 91.4 | 92.7 | 93.3 | 96.5 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 390  | 89.3 | 94.3 | 94.1 | 95.5 | 95.6 | 97.5 | 99.9 | 104.1 | 108.2 | 115.3 | 109.2 | 100.5 | 147.6 |       |
| 405  | 89.3 | 94.3 | 94.1 | 95.5 | 95.6 | 97.5 | 99.9 | 104.1 | 108.2 | 115.3 | 109.2 | 100.5 | 147.6 |       |
| 420  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 435  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 450  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 465  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 480  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 495  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 510  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 525  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 540  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 555  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 570  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 585  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 600  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 615  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 630  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 645  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 660  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 675  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 690  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 705  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 720  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 735  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 750  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 765  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 780  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 795  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 810  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 825  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 840  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 855  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 870  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 885  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 900  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 915  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 930  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 945  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 960  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 975  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 990  | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 1005 | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 1020 | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 1035 | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 1050 | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 1065 | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 1080 | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 1095 | 91.4 | 91.3 | 91.3 | 92.7 | 93.0 | 96.9 | 99.4 | 103.6 | 109.7 | 116.5 | 111.0 | 101.4 | 148.7 |       |
| 1110 | 91.4 | 91.3 | 91.3 | 92   |      |      |      |       |       |       |       |       |       |       |



DATPROC - FLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0608 X0608F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 63 80 100 125 150 160 PWL

|        |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 200    | 88.5  | 89.3  | 88.5  | 88.3  | 88.1  | 89.3  | 92.9  | 98.0  | 104.1 | 107.5 | 108.8 | 141.2 |
| 250    | 88.5  | 89.6  | 89.3  | 88.5  | 88.1  | 89.3  | 92.9  | 98.0  | 104.1 | 107.5 | 108.8 | 141.2 |
| 315    | 88.5  | 89.8  | 89.8  | 89.8  | 89.8  | 91.1  | 90.3  | 94.2  | 100.9 | 106.7 | 109.3 | 142.9 |
| 400    | 88.7  | 91.2  | 90.8  | 90.0  | 90.4  | 89.7  | 94.0  | 91.2  | 96.6  | 104.2 | 110.3 | 145.3 |
| 500    | 90.6  | 91.8  | 89.9  | 90.8  | 90.8  | 91.9  | 93.4  | 98.6  | 107.5 | 113.6 | 114.2 | 147.8 |
| 630    | 90.9  | 91.9  | 92.2  | 91.3  | 91.9  | 93.1  | 95.0  | 101.3 | 108.4 | 115.8 | 114.0 | 148.9 |
| 800    | 91.2  | 92.7  | 94.1  | 92.4  | 93.6  | 93.5  | 93.9  | 96.7  | 102.8 | 108.8 | 116.4 | 149.5 |
| 1000   | 94.3  | 93.6  | 94.5  | 93.3  | 94.5  | 94.0  | 95.9  | 97.7  | 103.5 | 107.5 | 115.4 | 148.5 |
| 1250   | 96.7  | 95.0  | 95.4  | 94.3  | 97.7  | 95.4  | 97.0  | 98.4  | 104.0 | 107.0 | 114.9 | 147.9 |
| 1500   | 96.3  | 100.4 | 99.2  | 97.7  | 98.0  | 97.7  | 99.0  | 99.5  | 104.5 | 107.2 | 113.0 | 147.2 |
| 2000   | 97.8  | 96.8  | 98.5  | 97.1  | 97.0  | 97.5  | 98.3  | 100.4 | 104.5 | 107.5 | 110.6 | 145.8 |
| 2500   | 98.2  | 97.0  | 98.2  | 96.8  | 98.0  | 98.5  | 99.2  | 100.9 | 105.5 | 107.0 | 110.0 | 145.7 |
| 313150 | 98.7  | 98.4  | 97.4  | 98.3  | 98.7  | 100.3 | 101.9 | 105.5 | 106.0 | 108.2 | 104.9 | 145.1 |
| 313400 | 99.0  | 98.9  | 98.5  | 97.1  | 98.1  | 100.3 | 102.7 | 105.5 | 105.6 | 107.3 | 104.9 | 144.9 |
| 315000 | 99.0  | 98.4  | 98.8  | 97.7  | 99.1  | 99.6  | 100.6 | 102.8 | 106.0 | 105.4 | 106.4 | 145.1 |
| 33000  | 100.5 | 100.6 | 100.4 | 98.7  | 99.8  | 99.1  | 100.8 | 102.7 | 105.3 | 104.3 | 105.3 | 145.0 |
| 5000   | 100.3 | 101.0 | 101.5 | 99.3  | 100.7 | 102.0 | 106.5 | 106.1 | 106.0 | 104.2 | 106.5 | 146.1 |
| 8000   | 99.3  | 101.9 | 103.0 | 101.6 | 103.4 | 102.1 | 101.9 | 103.0 | 107.0 | 106.3 | 106.2 | 147.7 |
| 10000  | 99.3  | 101.9 | 103.0 | 101.6 | 103.4 | 102.1 | 101.9 | 103.0 | 107.0 | 106.3 | 106.2 | 147.7 |
| 12500  | 101.3 | 103.4 | 104.3 | 103.1 | 103.3 | 102.5 | 101.9 | 102.7 | 105.8 | 104.4 | 105.9 | 148.3 |
| 15000  | 101.8 | 102.7 | 104.1 | 102.6 | 102.2 | 101.4 | 100.8 | 101.2 | 103.3 | 101.2 | 102.5 | 148.1 |
| 16000  | 101.8 | 102.7 | 104.1 | 102.6 | 102.2 | 101.4 | 100.8 | 101.2 | 103.3 | 101.2 | 102.5 | 148.1 |
| 20000  | 98.8  | 100.4 | 101.7 | 99.8  | 101.1 | 100.4 | 99.5  | 99.1  | 103.2 | 101.1 | 101.8 | 148.5 |
| 25000  | 96.0  | 97.3  | 98.8  | 98.0  | 100.5 | 99.6  | 98.3  | 99.5  | 97.3  | 98.5  | 98.6  | 148.8 |
| 31500  | 95.0  | 96.3  | 98.4  | 96.8  | 95.3  | 95.6  | 94.0  | 93.4  | 97.4  | 94.6  | 96.7  | 149.1 |
| 315000 | 95.0  | 96.3  | 98.4  | 96.8  | 95.3  | 95.6  | 94.0  | 93.4  | 97.4  | 94.6  | 96.7  | 149.1 |
| 4000   | 87.1  | 90.1  | 91.4  | 89.4  | 92.5  | 91.8  | 90.8  | 94.1  | 91.5  | 92.6  | 91.9  | 148.7 |
| 5000   | 82.9  | 86.2  | 88.0  | 86.3  | 88.7  | 87.5  | 86.9  | 91.0  | 88.5  | 87.6  | 84.8  | 149.2 |
| 63000  | 78.5  | 81.1  | 83.0  | 81.7  | 84.7  | 84.7  | 82.2  | 82.6  | 88.2  | 87.3  | 84.6  | 150.9 |
| 80000  | 71.3  | 74.9  | 77.7  | 76.4  | 79.9  | 80.2  | 77.1  | 76.7  | 78.4  | 77.4  | 74.8  | 150.9 |
| GASPL  | 111.1 | 112.0 | 112.7 | 111.3 | 112.2 | 111.7 | 112.2 | 113.4 | 117.2 | 119.0 | 124.3 | 161.9 |
| FNL    | 121.7 | 122.0 | 120.7 | 121.7 | 121.8 | 123.1 | 125.0 | 128.6 | 130.2 | 133.9 | 131.7 | 132.3 |
| PWLT   | 121.7 | 123.5 | 120.7 | 121.7 | 121.8 | 123.1 | 125.0 | 128.6 | 130.2 | 133.9 | 131.7 | 132.3 |
| DBA    | 193.7 | 196.9 | 199.4 | 198.1 | 201.4 | 201.6 | 198.8 | 198.8 | 201.8 | 200.7 | 198.3 | 193.9 |

ORIGINAL PAGE IS  
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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES  
NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH158 TEST DATE = 06-25-82  
IAPLHA = SB59 IEQA = NO  
WIND DIR = DEG WIND VEL = MPH  
EXT AREA = FULL SPHERE PWL AREA = 40.0 FT  
EXT DIST = 40.0 FT  
EXT CONF1 = ARC  
TAMB F = 78.00  
PAMB HG = 29.40  
RELHUM = 83.1 PCT  
FLVEL = 400. FPS  
MODEL = AX  
MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM XNH  
FNAMB = LBS XNLR = RPM XNHR = RPM XNH  
RAMP = LBS XNL RPM XNH XNHR = RPM XNH

RUNPT = 82F-400-0608 TAPE = X0608F TEST PT NO = 0608 NC = AE048 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - B2F-400-0608 X06081

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50    | 67.7 | 71.8 | 72.4 | 72.4 | 73.2 | 72.6 | 76.8 | 73.6 | 78.3 | 84.8 | 89.3 | 88.8  | 83.4  | 163.7 |
| FREQ  |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
| 50    | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150.  | 160.  | PWL   |
| 63    | 69.6 | 72.4 | 73.3 | 72.2 | 73.5 | 73.7 | 74.6 | 75.7 | 80.2 | 88.1 | 92.6 | 91.0  | 84.5  | 166.3 |
| 80    | 69.8 | 72.4 | 73.6 | 74.6 | 75.1 | 75.8 | 77.3 | 82.9 | 88.9 | 94.8 | 90.8 | 84.8  | 167.4 |       |
| 100   | 70.1 | 73.2 | 75.6 | 74.6 | 76.3 | 76.3 | 76.5 | 78.9 | 84.4 | 89.3 | 95.3 | 90.9  | 85.2  | 168.0 |
| 125   | 73.1 | 74.0 | 76.0 | 76.0 | 75.5 | 77.1 | 76.7 | 78.5 | 79.9 | 85.0 | 87.9 | 89.2  | 84.3  | 167.0 |
| 150   | 75.2 | 75.2 | 76.7 | 76.4 | 80.1 | 79.0 | 79.5 | 80.4 | 85.3 | 87.2 | 93.5 | 87.0  | 83.3  | 166.4 |
| 200   | 74.6 | 80.3 | 80.3 | 79.6 | 80.4 | 80.2 | 81.4 | 81.4 | 85.6 | 87.2 | 91.3 | 85.9  | 82.4  | 165.7 |
| 250   | 75.8 | 76.5 | 79.3 | 78.8 | 79.1 | 79.8 | 80.4 | 82.0 | 85.4 | 87.2 | 88.5 | 83.1  | 79.8  | 164.3 |
| 315   | 75.8 | 76.4 | 78.8 | 78.2 | 79.8 | 80.5 | 81.0 | 82.3 | 86.1 | 86.4 | 87.6 | 82.2  | 78.4  | 164.2 |
| 400   | 75.8 | 77.4 | 78.6 | 78.4 | 79.9 | 80.4 | 81.8 | 83.0 | 85.7 | 85.0 | 85.3 | 79.2  | 77.1  | 163.6 |
| 500   | 75.6 | 77.4 | 78.4 | 77.9 | 79.3 | 79.8 | 81.5 | 83.5 | 84.2 | 83.9 | 78.0 | 74.9  | 163.4 |       |
| 630   | 75.1 | 76.5 | 78.3 | 78.2 | 80.1 | 80.7 | 81.6 | 83.3 | 85.6 | 83.6 | 82.5 | 76.8  | 74.1  | 163.5 |
| 800   | 76.1 | 78.4 | 79.7 | 78.9 | 80.5 | 80.1 | 81.6 | 83.0 | 84.6 | 82.1 | 80.9 | 74.8  | 71.3  | 163.4 |
| 1000  | 75.5 | 78.5 | 80.5 | 79.3 | 80.6 | 80.1 | 81.3 | 82.0 | 85.5 | 83.6 | 81.2 | 75.7  | 71.9  | 164.6 |
| 1250  | 74.0 | 79.1 | 81.9 | 81.5 | 83.9 | 82.8 | 82.4 | 82.8 | 85.9 | 83.4 | 80.8 | 76.1  | 71.4  | 166.2 |
| 1500  | 75.1 | 80.0 | 82.7 | 82.6 | 83.5 | 82.9 | 82.1 | 82.2 | 84.2 | 80.9 | 79.7 | 73.4  | 68.1  | 166.8 |
| 1600  | 75.1 | 80.0 | 82.7 | 82.6 | 83.5 | 82.9 | 82.1 | 82.2 | 84.2 | 80.9 | 79.7 | 73.4  | 68.1  | 166.8 |
| 2000  | 74.6 | 78.6 | 82.1 | 82.0 | 82.2 | 81.6 | 80.9 | 80.5 | 81.3 | 77.2 | 75.3 | 69.4  | 62.6  | 166.6 |
| 2500  | 69.8 | 75.1 | 78.8 | 78.5 | 80.6 | 80.1 | 79.0 | 77.7 | 80.3 | 75.8 | 72.8 | 67.0  | 56.4  | 167.0 |
| 3150  | 63.7 | 69.7 | 74.1 | 75.0 | 78.6 | 77.7 | 77.7 | 75.4 | 74.7 | 69.6 | 66.2 | 58.6  | 43.9  | 167.2 |
| 4000  | 56.5 | 63.9 | 69.8 | 70.6 | 70.4 | 71.1 | 69.1 | 67.2 | 68.8 | 62.2 | 58.2 | 47.0  | 27.3  | 167.6 |
| 5000  | 38.7 | 50.1 | 56.6 | 57.7 | 62.7 | 62.5 | 62.0 | 59.2 | 59.3 | 51.5 | 44.3 | 29.3  | 0.9   | 167.2 |
| 6300  | 16.8 | 32.0 | 41.2 | 43.9 | 48.8 | 49.5 | 47.5 | 44.5 | 44.2 | 34.3 | 21.5 | 167.7 |       |       |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |       |       | 169.3 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |       |       | 169.4 |

ORIGINAL PAGE IS  
OF POOR QUALITY

80000  
63000  
50000  
40000  
31500  
25000  
20000  
16000  
12500  
10000

OASPL 86.8 89.6 91.7 91.3 92.8 92.5 93.0 93.9 97.0 98.3 102.5 98.4 93.3 180.3  
 PNL 95.2 98.9 101.9 101.7 103.0 102.7 102.4 102.4 104.8 103.3 104.6 99.4 94.5  
 DBA 84.2 87.8 90.4 90.1 91.6 91.1 91.1 91.1 91.5 93.9 91.9 91.7 86.1 82.3

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NDZ SC-6/NAS3-22514

VEHICLE = ADH158 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 LEGA = NO PVL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.40 RELHUM = 83.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBRF  
 FNINI = LBS XNL RPM XNH RPM V8 = 2387.2 FPS AEB = 19.9 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM V18 = 2387.2 FPS AE18 = 0. SQ IN  
 RU B2F-400-0608 TAPE = X06081 TEST PT NO = 06 NC = AE048 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0611 X0611F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.3  | 83.8  | 84.6  | 81.4  | 83.2  | 80.6  | 86.7  | 84.6  | 85.1  | 86.7  | 93.5  | 94.5  | 99.9  | 129.4 |
| 63    | 83.5  | 91.0  | 92.5  | 91.1  | 91.6  | 88.8  | 96.9  | 94.1  | 91.0  | 93.8  | 99.0  | 99.4  | 93.6  | 136.2 |
| 80    | 86.4  | 91.2  | 88.2  | 88.3  | 88.9  | 91.0  | 90.9  | 90.5  | 91.5  | 90.1  | 93.7  | 96.1  | 97.8  | 133.5 |
| 100   | 87.5  | 94.5  | 90.0  | 91.1  | 92.6  | 92.0  | 92.5  | 94.6  | 92.5  | 94.8  | 98.2  | 101.4 | 102.8 | 137.3 |
| 125   | 83.9  | 88.6  | 90.7  | 91.2  | 92.8  | 93.4  | 94.5  | 94.5  | 94.5  | 93.9  | 96.7  | 102.6 | 105.3 | 139.8 |
| 150   | 84.0  | 83.8  | 88.6  | 88.6  | 88.7  | 89.3  | 96.7  | 91.3  | 92.6  | 97.6  | 103.5 | 106.7 | 108.6 | 140.8 |
| 200   | 86.3  | 86.1  | 87.6  | 87.9  | 90.3  | 92.4  | 93.8  | 94.4  | 98.1  | 100.0 | 105.1 | 109.8 | 111.2 | 143.3 |
| 250   | 85.5  | 89.6  | 89.6  | 90.4  | 90.2  | 92.1  | 94.0  | 97.1  | 98.6  | 104.9 | 110.5 | 113.5 | 113.4 | 146.7 |
| 315   | 84.8  | 89.1  | 89.1  | 89.1  | 92.5  | 94.6  | 96.5  | 97.4  | 100.8 | 107.7 | 112.0 | 115.0 | 114.9 | 148.4 |
| 400   | 86.1  | 89.7  | 90.2  | 90.5  | 92.8  | 93.2  | 100.8 | 98.0  | 101.9 | 111.0 | 114.4 | 116.3 | 114.7 | 149.9 |
| 500   | 87.2  | 90.0  | 91.3  | 91.8  | 94.5  | 96.6  | 99.5  | 103.8 | 112.8 | 116.2 | 116.6 | 115.0 | 151.0 |       |
| 630   | 88.5  | 91.1  | 92.8  | 93.1  | 94.4  | 96.1  | 97.7  | 100.6 | 104.8 | 115.1 | 117.8 | 117.7 | 116.1 | 152.5 |
| 800   | 92.9  | 93.4  | 94.5  | 94.2  | 96.1  | 97.5  | 98.8  | 102.5 | 106.5 | 115.8 | 119.4 | 118.1 | 116.5 | 153.5 |
| 1000  | 98.3  | 98.6  | 97.1  | 97.5  | 98.6  | 100.5 | 103.4 | 107.8 | 115.4 | 119.3 | 117.9 | 116.2 | 153.6 |       |
| 1250  | 97.0  | 102.3 | 102.6 | 101.9 | 101.4 | 101.6 | 101.9 | 104.4 | 107.8 | 115.4 | 119.3 | 117.9 | 116.2 | 153.6 |
| 1500  | 97.0  | 98.6  | 98.9  | 99.2  | 100.8 | 101.7 | 103.3 | 105.1 | 108.4 | 113.5 | 119.6 | 117.3 | 115.1 | 153.2 |
| 2000  | 96.3  | 97.7  | 98.4  | 97.7  | 98.3  | 99.7  | 101.9 | 105.2 | 108.1 | 113.1 | 117.4 | 115.4 | 113.2 | 151.6 |
| 2500  | 96.3  | 98.6  | 99.4  | 97.9  | 99.0  | 100.1 | 102.1 | 105.2 | 107.8 | 112.8 | 116.4 | 113.4 | 110.9 | 150.6 |
| 3150  | 96.4  | 97.5  | 98.0  | 97.5  | 99.1  | 100.4 | 102.8 | 105.5 | 108.1 | 111.9 | 115.7 | 112.1 | 110.1 | 150.0 |
| 4000  | 94.8  | 96.2  | 97.0  | 96.6  | 98.1  | 99.6  | 101.5 | 105.3 | 107.4 | 109.9 | 113.1 | 110.2 | 108.4 | 148.3 |
| 5000  | 95.6  | 98.3  | 98.0  | 97.2  | 98.9  | 99.9  | 101.5 | 105.2 | 106.7 | 107.8 | 110.6 | 108.2 | 106.2 | 147.2 |
| 6300  | 94.0  | 96.8  | 96.8  | 98.4  | 97.4  | 98.8  | 99.0  | 101.5 | 105.2 | 106.7 | 107.8 | 110.6 | 108.2 | 147.2 |
| 8000  | 92.7  | 96.5  | 97.8  | 97.7  | 98.2  | 99.3  | 100.7 | 104.1 | 105.3 | 107.4 | 108.6 | 106.9 | 104.5 | 146.4 |
| 10000 | 92.5  | 96.4  | 97.5  | 97.7  | 98.8  | 100.5 | 101.0 | 103.2 | 105.1 | 107.2 | 107.4 | 105.8 | 104.3 | 146.5 |
| 12500 | 93.5  | 95.7  | 99.0  | 97.7  | 98.8  | 100.2 | 99.8  | 101.7 | 103.3 | 105.0 | 106.0 | 104.5 | 103.0 | 146.1 |
| 15000 | 90.9  | 94.9  | 96.6  | 96.4  | 98.7  | 98.9  | 99.3  | 100.4 | 101.2 | 102.1 | 104.2 | 102.5 | 100.0 | 145.7 |
| 20000 | 88.7  | 91.4  | 94.3  | 94.3  | 97.1  | 97.8  | 97.7  | 98.0  | 99.2  | 99.6  | 102.6 | 100.3 | 98.4  | 145.5 |
| 25000 | 85.3  | 89.7  | 92.6  | 92.6  | 96.7  | 96.4  | 96.5  | 97.7  | 97.8  | 98.2  | 98.2  | 94.1  | 146.0 |       |
| 31500 | 80.0  | 84.7  | 86.7  | 87.3  | 90.7  | 92.3  | 91.6  | 91.5  | 93.5  | 94.9  | 97.1  | 93.7  | 87.4  | 145.0 |
| 40000 | 78.9  | 81.7  | 85.2  | 84.5  | 89.2  | 90.3  | 89.6  | 89.8  | 91.3  | 93.3  | 96.0  | 92.3  | 85.2  | 147.3 |
| 50000 | 74.2  | 79.2  | 82.1  | 82.2  | 86.1  | 87.6  | 86.3  | 86.7  | 87.8  | 92.4  | 93.8  | 90.7  | 82.6  | 149.5 |
| 63000 | 69.6  | 75.6  | 79.0  | 82.5  | 84.6  | 86.3  | 84.6  | 87.1  | 91.2  | 92.6  | 88.1  | 79.2  | 152.8 |       |
| 80000 | 63.4  | 69.8  | 74.1  | 75.1  | 77.4  | 80.5  | 77.7  | 78.9  | 83.0  | 87.5  | 89.7  | 83.0  | 73.3  | 155.7 |
| QASPL | 107.2 | 109.8 | 110.7 | 110.2 | 111.4 | 112.4 | 114.0 | 116.4 | 119.0 | 124.8 | 128.6 | 127.7 | 126.1 | 164.7 |
| PNL   | 119.8 | 121.9 | 122.6 | 122.0 | 123.3 | 124.5 | 126.7 | 129.2 | 131.8 | 136.3 | 140.0 | 138.3 | 136.4 |       |
| PFLT  | 120.9 | 123.4 | 123.9 | 123.2 | 123.3 | 124.5 | 127.4 | 129.2 | 131.8 | 136.3 | 140.0 | 138.3 | 136.4 |       |
| DBA   | 185.3 | 191.5 | 195.5 | 196.3 | 198.9 | 201.7 | 199.1 | 200.5 | 204.2 | 208.6 | 210.6 | 204.5 | 195.1 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICL = ADH148 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
 IAPLVA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH RPM = LBS XNL RPM XNH RPM V8 = 2393.7 FPS AE8 = 19.9 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM = LBS XNLR RPM XNHR RPM V8 = 2393.7 FPS AE8 = 19.9 SQ IN

PT = ZER-0611 TAPE = X0611F TEST PT NO = 061 NC = AE048 CORR FAN SPEED = RPM

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AXCEL PAGE PRINTING SYSTEM - P118-00

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT., SL

IDENTIFICATION - 82F-ZER-0611 X06111

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

65.2 70.2 71.8 72.8 75.6 76.1 83.6 80.3 83.6 91.6 93.4 93.2 88.2 168.4

63 66.2 70.5 72.9 74.1 76.1 77.4 79.4 81.9 85.4 93.4 95.2 88.5 169.5

60 67.5 71.6 74.4 75.4 78.9 80.4 82.9 86.4 95.6 96.7 97.4 89.4 171.0

100 71.8 73.9 76.0 76.5 78.8 80.3 81.5 84.8 88.0 96.2 98.3 94.7 171.9

125 77.0 78.9 79.8 80.1 81.3 83.1 85.6 89.3 95.8 98.1 94.9 89.1 172.0

150 75.6 82.5 83.9 83.9 84.2 84.4 86.4 89.1 95.6 97.8 94.2 88.8 172.0

200 74.2 76.8 80.1 81.1 83.1 84.1 85.6 87.0 89.6 93.5 98.0 87.2 171.6

250 74.3 77.4 79.3 79.4 80.5 82.0 84.1 86.9 89.0 92.9 95.4 84.7 170.1

315 73.9 77.9 80.0 79.3 80.9 82.1 83.9 86.6 88.4 92.2 93.9 88.3 169.1

400 73.5 76.4 78.2 78.6 80.6 82.1 84.3 86.6 88.3 90.9 92.8 86.4 168.5

500 71.4 74.7 77.0 77.3 79.4 81.0 82.8 86.1 87.4 88.5 89.7 83.8 166.8

630 71.7 76.5 77.5 77.7 78.9 81.0 82.5 85.3 86.6 88.1 88.9 82.7 166.7

800 69.6 74.6 77.6 77.6 79.5 79.9 82.3 85.4 86.0 85.6 86.2 80.4 165.7

1000 67.8 74.0 76.9 77.9 78.8 80.1 81.3 84.1 84.3 84.9 83.8 78.4 164.9

1250 67.1 73.6 76.3 77.6 79.4 81.1 81.4 83.0 83.9 84.3 82.0 76.6 165.0

1600 67.3 72.2 77.4 77.3 78.9 80.6 80.0 81.3 81.7 79.8 73.9 64.5 164.6

2000 63.7 70.9 74.6 75.7 76.7 79.2 79.3 79.7 79.2 78.1 70.3 58.5 164.1

2500 59.7 66.2 71.4 72.9 76.5 77.6 77.1 76.7 76.3 74.3 73.6 65.2 164.0

3150 53.0 62.0 67.2 69.6 73.7 75.1 74.5 73.5 73.0 70.1 67.9 58.2 164.5

4000 41.5 52.3 58.1 61.1 65.9 67.9 66.7 65.3 64.9 62.5 58.5 44.7 163.5

5000 28.6 41.8 50.4 52.9 59.3 61.0 59.8 58.2 56.5 53.3 47.6 29.7 165.8

6300 8.1 25.1 35.2 39.8 46.2 48.4 46.4 44.3 42.9 38.2 27.6 4.0 168.0

8000 10.7 17.3 24.4 27.6 32.6 34.2 32.0 23.0 18.9 12.1 171.2 174.2

10000 12500 15000 183.0

GASPL 84.4 88.5 90.6 90.9 92.4 93.6 95.1 97.2 99.3 104.5 106.7 103.2 97.7 183.0

PNL 88.9 94.1 97.6 98.2 100.7 101.9 102.4 103.7 104.9 107.6 109.4 104.5 97.8

PNLT 89.5 94.8 98.2 98.8 100.7 101.9 102.4 103.7 105.4 108.2 110.4 105.7 97.8

DBA 78.4 83.3 86.2 86.8 88.8 90.0 90.9 93.0 93.9 95.5 96.7 91.5 84.8

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH148 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
TAPHA = SB59 LEA = NO PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CNFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2393.7 FPS AE8 = 19.9 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2393.7 FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0611 TAPE = X06111 TEST PT NO = 0611 NC = AE048 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0612 X0612C  
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 84.8 83.3 84.6 84.6 81.7 80.6 83.7 86.9 82.8 84.9 90.5 91.5 94.6 128.6

63 84.7 88.0 94.0 92.8 90.6 87.0 94.6 94.6 88.8 92.1 93.7 93.2 94.8 134.3

80 86.9 92.0 89.2 89.3 90.9 91.2 91.1 90.5 91.2 88.8 92.9 96.1 97.8 133.7

100 86.7 92.2 88.5 89.3 90.9 90.3 91.6 93.3 90.8 90.6 95.2 99.9 101.6 135.5

125 83.9 87.1 89.2 90.2 91.3 91.2 92.8 92.2 90.9 92.5 99.9 104.0 105.5 138.1

150 82.8 81.0 86.8 86.9 86.6 95.2 88.6 89.8 89.8 93.6 101.5 104.9 107.1 139.0

200 82.8 83.6 83.6 85.1 84.9 86.3 88.4 91.2 94.1 94.2 101.3 106.8 108.7 140.2

250 81.5 85.3 85.1 86.4 87.2 88.8 90.5 93.1 94.3 99.4 107.0 110.7 110.6 143.6

315 81.5 84.8 85.6 86.4 88.0 89.8 92.2 93.1 96.6 102.4 109.0 112.2 111.6 145.1

400 83.1 85.7 86.4 86.5 88.8 89.4 95.6 94.0 97.9 104.8 110.9 113.6 111.0 146.3

500 84.2 86.7 87.3 88.0 89.4 90.5 92.6 95.0 99.0 107.3 114.2 113.6 108.8 147.6

630 83.8 86.8 88.8 88.9 90.2 92.1 94.2 96.6 100.3 109.1 115.0 113.7 106.6 148.2

800 87.2 87.2 89.5 90.2 91.6 93.5 94.6 99.0 102.5 109.6 116.9 112.3 103.3 149.1

1000 91.0 90.3 91.6 91.4 92.5 93.8 96.2 99.6 103.4 108.9 116.6 111.5 101.4 148.7

1250 90.0 94.3 94.6 93.6 94.2 95.6 98.0 100.4 104.1 108.4 116.0 110.0 101.0 148.2

1600 90.1 91.0 93.2 93.2 95.6 96.7 97.9 99.3 101.3 105.0 107.3 114.7 108.1 147.1

2000 90.8 91.5 92.9 92.9 94.1 95.7 97.9 98.3 101.8 104.6 107.2 111.9 106.2 145.5

2500 91.8 92.3 93.2 92.9 94.5 96.4 98.3 102.2 104.3 106.8 109.9 103.9 96.9 144.4

3150 92.1 92.7 93.2 93.0 94.8 96.9 99.3 101.8 104.6 105.9 108.9 102.3 95.8 143.9

4000 92.2 93.8 93.5 94.6 96.8 98.2 101.8 103.7 104.6 106.1 100.4 94.9 142.6

5000 94.1 94.8 95.7 93.7 94.9 96.3 98.7 101.8 103.8 104.6 106.0 99.5 94.3 142.9

6300 94.6 95.7 96.5 95.3 96.2 98.4 98.9 101.9 104.1 103.2 104.3 98.3 93.6 142.7

8000 93.5 97.4 98.9 97.2 96.5 96.6 98.6 101.6 103.1 102.7 102.9 97.0 92.1 142.6

10000 93.5 97.4 98.9 98.9 99.4 98.9 99.9 101.6 104.0 104.3 103.1 98.3 93.1 144.3

12500 96.8 97.2 100.0 98.6 99.6 99.3 99.1 101.6 103.6 103.2 102.5 98.6 94.1 144.9

16000 93.8 95.9 97.8 97.5 98.8 98.0 98.9 100.2 101.7 101.0 101.3 97.4 92.7 144.8

20000 91.7 93.8 95.8 95.5 97.4 97.2 98.2 99.6 99.8 99.6 98.1 99.8 91.5 144.9

25000 88.8 91.7 94.3 93.7 96.8 97.2 97.3 98.6 98.3 96.3 96.5 94.7 88.4 145.8

31500 82.2 86.3 88.5 88.5 88.5 91.1 92.7 92.7 92.2 94.0 92.0 92.3 89.5 144.2

40000 78.4 82.9 86.1 85.8 89.6 89.9 90.0 90.4 89.1 89.4 89.1 89.9 86.0 145.7

50000 75.1 79.1 82.5 82.0 86.0 86.7 86.4 86.9 86.5 86.5 82.4 75.1 146.8

63000 69.5 74.9 78.2 78.3 83.0 83.0 81.9 83.5 85.9 83.8 82.9 77.7 68.9 148.5

80000 62.0 70.6 74.9 74.6 76.8 76.8 78.4 76.8 77.9 82.1 82.1 78.4 70.6 60.6 151.3

8ASPL 105.3 106.9 108.4 107.9 109.1 109.6 111.4 113.6 116.0 119.1 124.8 122.3 118.9 160.7

PML 116.8 118.0 119.0 118.4 119.6 121.0 123.4 125.8 128.4 130.6 134.9 130.8 126.6

DBA 103.4 104.7 105.7 105.2 106.4 107.5 109.7 112.7 115.4 118.5 124.3 120.1 114.0

NASA SHOCK CELL/20 EL ANN C-D SUPP NGZ SC-6/NAS3-22514

VEHICLE = ADH159 TEST DATE = 06-25-82 LOCAL = CAT ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS  
IAPR HA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.40 RELHUM = 65.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2395.0 FPS AEB = 19.9 SQ IN  
FNRAMB = LBS XNLR = XNLR RPM V18 = FPS AEB = 0. SQ IN

PUNPT = 82F-400-0612 TAPE = X0612C TEST PT NO = 0612 NC = AE048 CORR FAN SPEED = RPM

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DATPRC - FLTRAN

07/16/82 11.288 PAGE 3

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0612 X0612F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| PWL  |    |    |    |    |    |    |     |     |     |     |     |     |     |

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250   | 89.3  | 91.6  | 89.9  | 88.6  | 88.8  | 88.6  | 89.5  | 93.1  | 98.0  | 104.1 | 107.8 | 109.0 | 141.3 |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 400   | 89.2  | 91.2  | 89.5  | 89.8  | 89.7  | 89.7  | 94.3  | 91.2  | 97.0  | 104.6 | 111.3 | 110.4 | 145.7 |
| 500   | 90.8  | 92.1  | 91.4  | 89.9  | 91.3  | 90.8  | 91.9  | 93.2  | 99.0  | 107.4 | 113.4 | 114.0 | 147.7 |
| 630   | 91.9  | 92.1  | 92.2  | 91.5  | 92.2  | 92.5  | 93.6  | 95.0  | 101.2 | 108.4 | 116.0 | 114.2 | 149.1 |
| 800   | 91.4  | 93.6  | 92.4  | 93.6  | 94.0  | 93.8  | 97.1  | 102.7 | 108.2 | 116.5 | 114.8 | 112.0 | 149.6 |
| 1000  | 94.8  | 93.6  | 94.5  | 93.8  | 94.3  | 94.5  | 95.7  | 98.0  | 103.5 | 107.8 | 116.1 | 113.5 | 149.1 |
| 1250  | 96.7  | 95.3  | 95.7  | 94.4  | 96.3  | 96.4  | 97.5  | 98.9  | 104.6 | 106.8 | 115.0 | 111.8 | 148.2 |
| 1500  | 96.2  | 99.8  | 99.0  | 98.0  | 98.2  | 97.4  | 98.0  | 98.7  | 101.6 | 105.4 | 107.2 | 110.5 | 148.4 |
| 2000  | 97.8  | 97.6  | 98.5  | 97.1  | 96.8  | 97.0  | 98.0  | 98.0  | 100.8 | 104.7 | 107.2 | 111.0 | 146.1 |
| 2500  | 98.4  | 98.0  | 98.2  | 96.5  | 97.4  | 98.0  | 98.7  | 101.6 | 105.4 | 107.2 | 110.5 | 107.4 | 145.9 |
| 3150  | 99.4  | 98.9  | 98.6  | 97.1  | 98.1  | 98.9  | 100.1 | 101.5 | 105.3 | 106.1 | 108.3 | 106.0 | 145.2 |
| 4000  | 99.7  | 98.4  | 98.8  | 97.4  | 98.3  | 98.4  | 99.7  | 102.3 | 105.3 | 105.9 | 104.3 | 106.8 | 145.2 |
| 5000  | 99.8  | 98.9  | 99.5  | 98.2  | 98.7  | 99.3  | 100.5 | 102.3 | 106.2 | 105.1 | 106.9 | 104.3 | 145.2 |
| 6300  | 100.2 | 100.6 | 100.8 | 98.1  | 100.0 | 99.4  | 101.1 | 102.9 | 105.3 | 104.7 | 105.6 | 103.0 | 145.2 |
| 8000  | 100.6 | 101.3 | 101.5 | 99.6  | 100.5 | 99.9  | 100.8 | 102.7 | 106.5 | 106.6 | 106.0 | 104.7 | 146.4 |
| 10000 | 100.0 | 100.2 | 102.4 | 100.9 | 103.5 | 101.9 | 102.2 | 102.8 | 107.1 | 106.5 | 106.2 | 105.4 | 147.7 |
| 12500 | 102.3 | 103.5 | 104.1 | 102.9 | 103.6 | 102.3 | 101.6 | 103.2 | 105.6 | 104.7 | 105.3 | 104.4 | 148.4 |
| 15000 | 102.9 | 102.6 | 104.6 | 102.2 | 102.9 | 101.0 | 101.3 | 101.9 | 103.8 | 101.7 | 103.5 | 102.3 | 148.6 |
| 20000 | 99.7  | 101.1 | 102.1 | 100.8 | 101.4 | 100.4 | 100.4 | 103.5 | 101.2 | 101.6 | 102.5 | 103.0 | 149.0 |
| 25000 | 97.1  | 98.4  | 99.2  | 98.5  | 100.2 | 99.7  | 98.4  | 100.2 | 98.0  | 98.8  | 99.2  | 99.4  | 149.2 |
| 31500 | 93.4  | 95.5  | 97.2  | 95.6  | 95.7  | 95.7  | 95.1  | 94.1  | 98.2  | 95.8  | 97.3  | 96.8  | 149.2 |
| 40000 | 88.7  | 91.5  | 92.3  | 90.7  | 94.2  | 92.9  | 92.4  | 92.1  | 95.5  | 93.2  | 93.9  | 93.3  | 150.0 |
| 50000 | 84.5  | 87.7  | 89.5  | 87.7  | 90.6  | 89.7  | 88.8  | 88.2  | 92.4  | 89.9  | 87.3  | 85.9  | 150.7 |
| 63000 | 80.3  | 83.0  | 84.9  | 83.1  | 85.9  | 86.0  | 83.8  | 84.1  | 89.9  | 89.3  | 86.0  | 81.2  | 152.5 |
| 80000 | 73.2  | 77.3  | 79.2  | 77.7  | 81.4  | 81.4  | 78.6  | 78.3  | 80.1  | 79.5  | 76.2  | 71.4  | 152.4 |
| QASPL | 111.6 | 112.3 | 112.8 | 111.2 | 112.4 | 111.7 | 112.3 | 113.6 | 117.3 | 119.0 | 124.5 | 123.0 | 162.5 |
| PNL   | 122.3 | 122.4 | 122.2 | 120.7 | 121.7 | 121.9 | 123.0 | 124.9 | 128.6 | 130.2 | 134.2 | 132.1 | 132.6 |
| PWLT  | 123.3 | 123.5 | 122.2 | 120.7 | 121.7 | 121.9 | 123.0 | 124.9 | 128.6 | 130.2 | 134.2 | 132.1 | 132.6 |
| DBA   | 195.5 | 199.1 | 201.0 | 199.4 | 202.8 | 202.8 | 200.3 | 200.1 | 203.4 | 202.7 | 199.7 | 195.4 | 193.0 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH159 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.40 RELHUM = 65.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2395.0 FPS AE8 = 19.9 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR = RPM V8 = 2395.0 FPS AE8 = 19.9 SQ IN  
 RUNPT = 82F-400-0612 TAPE = X0612F TEST PT NO = 0612 NC = AE048 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0612 X06121

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PNL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 68.2 | 71.8 | 72.2 | 72.1 | 73.4 | 72.6 | 77.0 | 73.6 | 78.7 | 85.2 | 90.3 | 88.7 | 83.9  | 164.2 |
| 63    | 69.8 | 72.6 | 73.0 | 72.2 | 74.0 | 73.7 | 74.6 | 75.5 | 80.7 | 88.0 | 92.4 | 90.8 | 84.8  | 166.2 |
| 80    | 70.8 | 72.6 | 73.8 | 73.8 | 74.9 | 75.3 | 77.3 | 77.3 | 82.8 | 88.9 | 95.0 | 91.0 | 84.6  | 167.5 |
| 100   | 70.3 | 73.7 | 75.4 | 74.6 | 76.3 | 76.8 | 76.5 | 79.4 | 84.2 | 88.6 | 95.4 | 91.5 | 85.2  | 168.1 |
| 125   | 73.6 | 74.0 | 76.0 | 76.0 | 76.9 | 77.2 | 78.2 | 80.2 | 85.0 | 88.1 | 94.9 | 90.0 | 84.8  | 167.6 |
| 160   | 75.3 | 75.5 | 77.0 | 76.4 | 78.8 | 79.0 | 80.0 | 80.9 | 85.9 | 87.0 | 93.5 | 88.1 | 83.3  | 166.6 |
| 200   | 74.5 | 79.7 | 80.2 | 78.8 | 80.4 | 80.2 | 81.4 | 81.9 | 85.8 | 87.2 | 91.0 | 86.4 | 81.9  | 165.6 |
| 250   | 75.8 | 77.3 | 78.8 | 78.9 | 79.3 | 80.2 | 80.2 | 82.5 | 85.6 | 86.9 | 89.0 | 84.0 | 80.4  | 164.6 |
| 315   | 76.0 | 77.4 | 78.8 | 77.9 | 79.3 | 80.0 | 80.6 | 83.0 | 86.0 | 88.1 | 82.3 | 79.0 | 164.4 |       |
| 400   | 76.4 | 77.9 | 78.8 | 78.2 | 79.6 | 80.6 | 81.6 | 82.6 | 85.5 | 85.1 | 85.4 | 80.3 | 77.4  | 163.7 |
| 500   | 76.3 | 77.9 | 78.7 | 78.2 | 79.6 | 79.8 | 81.0 | 83.0 | 85.2 | 84.5 | 84.6 | 78.6 | 75.7  | 163.6 |
| 630   | 75.9 | 77.1 | 78.7 | 79.1 | 79.7 | 80.5 | 81.5 | 82.8 | 85.8 | 83.3 | 83.0 | 77.2 | 74.4  | 163.7 |
| 800   | 75.8 | 78.4 | 80.1 | 78.3 | 80.8 | 80.3 | 81.9 | 83.1 | 84.6 | 82.5 | 81.2 | 75.3 | 72.0  | 163.6 |
| 1000  | 75.8 | 78.8 | 80.6 | 79.6 | 81.1 | 80.7 | 81.4 | 82.7 | 85.5 | 84.1 | 81.2 | 76.2 | 72.1  | 164.9 |
| 1250  | 74.7 | 79.5 | 81.2 | 80.8 | 84.0 | 82.6 | 82.7 | 82.6 | 85.9 | 83.6 | 80.9 | 76.2 | 71.8  | 166.2 |
| 1500  | 76.1 | 80.1 | 82.5 | 82.5 | 83.8 | 82.7 | 81.7 | 82.7 | 84.2 | 81.3 | 79.1 | 73.8 | 68.1  | 166.8 |
| 2000  | 75.7 | 78.6 | 82.6 | 81.5 | 82.9 | 81.3 | 81.3 | 81.2 | 81.8 | 77.7 | 76.3 | 70.1 | 63.2  | 167.0 |
| 2500  | 70.8 | 75.8 | 79.3 | 79.4 | 80.9 | 80.1 | 79.9 | 78.9 | 80.6 | 75.9 | 72.6 | 67.4 | 56.6  | 167.5 |
| 3150  | 64.7 | 70.7 | 74.4 | 75.6 | 79.0 | 78.6 | 77.8 | 75.4 | 70.3 | 66.5 | 59.1 | 44.6 | 167.7 |       |
| 4000  | 54.8 | 63.1 | 68.6 | 69.4 | 70.8 | 71.2 | 70.2 | 67.9 | 69.6 | 63.4 | 58.8 | 47.8 | 27.8  | 167.6 |
| 5000  | 40.3 | 51.5 | 57.5 | 59.1 | 64.3 | 63.6 | 62.6 | 60.5 | 60.7 | 53.2 | 45.5 | 30.7 | 2.3   | 168.5 |
| 6300  | 18.4 | 33.5 | 42.6 | 45.3 | 50.6 | 50.5 | 48.9 | 45.8 | 45.5 | 35.7 | 23.2 | 0.6  |       | 169.2 |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |       | 171.0 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 170.9 |

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OF POOR QUALITY

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH159 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = S859 IEGA = NO PWL AREA = FULL SPHERE TAMR F = 82.00 PAMB HG = 29.40 RELHUM = 65.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNHR = RPM XNH = RPM V8 = 2395.0 FPS AEB = 19.9 SO IN  
 FNFRMB = LBS XNLR = RPM XNHR = RPM V18 = 2395.0 FPS AEB = 19.9 SO IN  
 RU 82F-400-0612 TAPE = X06121 TEST PT NO = 061 NC = AEO48 CORR FAN SPEED = RPM



DATPRC - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0613 X0613C

BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.3 83.6 85.1 80.6 80.2 79.8 84.5 86.4 85.1 85.2 94.3 93.5 90.1 129.1

63 84.5 90.7 92.8 89.6 89.1 88.0 95.9 93.8 90.0 89.0 89.3 100.0 98.9 94.3 135.7

80 86.7 92.0 89.0 89.0 89.1 91.2 91.1 91.3 91.7 90.6 94.9 97.1 98.0 134.1

100 88.0 94.2 90.3 91.1 92.4 92.5 93.1 94.8 93.0 94.6 98.0 101.7 103.1 137.4

125 84.6 88.9 90.9 91.2 93.0 93.9 94.5 94.7 94.2 96.5 102.6 105.3 106.7 140.0

150 84.8 83.8 88.8 87.6 89.4 89.6 96.7 91.8 93.1 97.9 104.0 106.9 109.1 141.2

200 86.6 85.6 87.9 87.9 90.5 92.6 94.3 94.7 98.4 100.0 105.3 109.5 111.2 143.3

250 86.5 89.6 90.1 90.9 91.0 92.1 94.5 97.6 98.3 105.4 111.0 114.0 113.9 147.2

315 85.3 89.1 90.1 89.9 92.5 94.1 96.5 97.1 101.1 107.9 112.3 115.2 115.1 148.6

400 86.6 89.9 90.9 90.5 93.1 93.7 100.8 98.2 102.4 111.3 114.6 116.6 115.0 150.2

500 88.0 90.2 91.0 92.0 93.4 94.5 96.1 99.5 103.3 112.8 116.7 116.9 115.0 151.2

630 88.5 90.8 92.8 92.8 94.4 96.1 97.7 100.6 104.1 115.6 118.0 118.0 115.9 152.7

800 92.9 93.2 94.7 94.7 96.1 97.7 98.8 103.0 107.0 116.5 119.7 118.1 116.0 153.7

1000 97.8 98.6 98.8 97.4 98.2 98.6 100.5 103.6 107.6 115.9 119.5 119.2 115.4 153.8

1250 95.8 102.1 102.3 101.9 101.7 102.1 101.7 104.4 108.1 114.9 119.8 118.2 115.5 153.7

1500 95.4 96.3 98.4 98.7 100.8 101.9 103.8 108.7 113.5 118.9 117.3 114.1 115.3 153.2

2000 96.0 97.4 98.6 97.7 98.6 100.0 102.4 105.7 108.4 113.1 118.4 115.7 113.0 152.1

2500 96.8 98.6 99.7 98.4 99.3 100.6 102.1 105.4 108.1 113.3 116.4 113.9 110.2 150.8

3150 96.1 97.7 98.2 97.8 97.1 100.7 102.8 105.8 108.6 111.9 115.9 112.6 109.8 150.3

4000 94.5 95.7 97.8 97.1 98.6 100.1 101.5 105.3 107.7 110.9 112.9 110.7 108.7 148.6

5000 95.1 97.3 98.2 97.5 98.4 100.1 101.8 105.1 107.6 110.2 112.5 109.5 106.5 148.2

6300 93.5 96.3 98.1 97.9 99.3 99.7 101.0 104.7 106.7 108.1 110.9 108.4 105.7 147.3

8000 92.2 96.0 97.1 97.2 98.0 99.3 100.7 103.8 105.8 107.4 108.6 106.1 103.7 146.3

10000 93.0 96.2 97.7 97.5 98.7 100.2 101.2 103.7 105.3 106.9 108.1 106.6 103.3 146.7

12500 93.5 96.7 99.5 98.7 98.5 100.2 99.8 102.5 103.8 105.0 106.0 104.8 102.0 146.3

15000 90.2 94.9 97.1 97.4 99.5 99.2 99.0 100.4 101.7 102.6 104.5 103.3 99.5 146.0

20000 87.9 91.7 94.3 95.0 97.1 98.1 98.2 98.5 99.4 99.8 100.8 97.9 94.1 145.8

25000 85.3 89.3 92.5 93.3 95.8 96.7 96.9 96.5 97.7 98.6 100.2 98.9 94.1 145.3

31500 79.5 84.7 87.2 87.8 90.5 92.3 91.8 92.5 93.5 95.2 97.4 94.7 88.6 145.3

40000 76.4 82.5 85.0 85.5 88.9 90.0 89.8 89.8 91.5 92.6 93.5 92.6 86.2 147.5

50000 73.4 79.0 82.9 82.9 86.6 86.4 86.8 86.9 89.3 92.6 94.5 91.0 83.1 149.9

63000 69.6 75.4 79.4 79.2 83.2 84.6 84.6 84.6 87.6 90.9 92.9 88.3 79.7 152.9

80000 63.6 70.5 74.6 74.6 77.4 77.4 80.3 77.7 78.6 82.5 87.0 90.7 84.0 72.3 156.0

GASPL 107.0 109.7 110.8 110.4 111.5 112.6 114.0 116.6 119.3 125.1 128.9 128.0 125.9 165.0

PFLT 120.8 123.3 124.0 123.5 123.4 124.7 127.4 129.4 132.1 136.6 140.3 138.5 136.1

DBA 106.7 109.0 110.0 109.5 110.5 111.7 113.1 116.2 119.1 124.7 128.7 127.1 124.4

|            |              |                |          |              |              |              |       |           |       |          |            |
|------------|--------------|----------------|----------|--------------|--------------|--------------|-------|-----------|-------|----------|------------|
| VEHICL =   | ADH149       | TEST DATE =    | 06-25-82 | LOCAT =      | CAT ANECH CH | CONFIG =     | 6     | MODEL =   | AX    | FLVEL =  | 0. FPS     |
| IAPLHA =   | SB59         | LEGA =         | NO       | PWL AREA =   | FULL SPHERE  | TAMB F =     | 79.00 | PAMB HG = | 29.45 | RELHUM = | 47.2 PCT   |
| WIND DIR = |              | DEG WIND VEL = | MPH      | EXT DIST =   | 40.0 FT      | EXT CONFIG = | ARC   | MIKE HT = |       | NBFR =   |            |
| FNNI =     | LBS XNL      | RPM XNHR       |          |              |              | V8           | RPM   |           |       | AE8      | 19.9 SQ IN |
| FNRAMB =   | LBS XNLR     | RPM XNHR       |          |              |              | V18          | RPM   |           |       | AE18     | 0. SQ IN   |
| RUNPT =    | 82F-ZER-0613 | TAPE           | X0613C   | TEST PT NO = | 0613         | NC           |       |           |       |          | RPM        |

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035

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0613 X0613F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 81.3 83.6 85.1 80.6 80.2 79.8 84.5 86.4 85.1 85.2 94.3 93.5 90.1 129.1

63 84.5 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6 89.6

80 86.7 92.0 89.0 89.0 89.1 91.2 91.1 91.3 91.7 90.6 94.9 97.1 98.0 134.1

100 88.0 94.2 90.3 91.1 92.4 92.5 93.1 94.8 93.0 94.6 98.0 101.7 103.1 137.4

125 84.6 88.9 90.9 91.2 93.0 93.9 94.5 94.7 94.2 96.5 102.6 105.3 106.7 140.0

150 84.8 83.8 87.6 88.8 87.6 89.4 89.6 96.7 91.8 93.1 97.9 104.0 106.9 141.2

200 86.6 85.6 87.9 87.9 89.5 92.6 94.3 94.7 98.4 100.0 105.3 109.5 111.2 143.3

250 86.5 89.6 90.1 90.9 91.0 92.1 94.5 97.6 98.3 105.4 111.0 114.0 113.9 147.2

315 85.3 89.1 89.9 92.5 94.1 96.5 97.1 101.1 107.9 112.3 115.2 115.1 148.6

400 86.6 89.9 90.9 90.5 93.1 93.7 100.8 98.2 102.4 111.3 114.6 116.6 115.0 150.2

500 88.0 90.2 91.0 92.0 93.4 94.5 96.1 99.5 103.3 112.8 116.7 116.9 115.0 151.2

630 88.5 90.8 92.8 92.9 94.4 96.1 97.7 100.6 104.1 115.6 118.0 118.0 115.9 152.7

800 92.9 93.2 94.7 94.7 96.1 97.7 98.7 100.6 104.1 115.6 118.0 118.0 115.9 152.1

1000 95.8 102.1 102.3 101.9 101.7 102.1 101.7 104.4 108.1 114.9 119.8 118.2 115.5 153.7

1250 95.4 100.8 100.8 100.8 100.8 100.8 100.8 100.8 100.8 100.8 100.8 100.8 100.8 150.8

1500 96.1 97.7 98.2 97.8 99.1 100.7 102.8 105.8 108.6 111.9 115.9 112.6 109.8 150.3

2000 94.5 95.7 97.1 97.8 97.1 98.6 100.1 101.5 103.3 107.7 110.9 112.5 109.5 148.6

2500 93.5 97.3 98.2 97.5 98.4 100.1 101.8 105.1 107.6 110.2 112.5 109.5 106.5 148.2

3150 93.5 96.3 98.1 97.9 99.3 99.7 101.0 104.7 106.7 108.1 110.9 108.4 105.7 147.3

4000 93.5 96.3 98.1 97.9 99.3 99.7 101.0 104.7 106.7 108.1 110.9 108.4 105.7 147.3

5000 76.4 82.5 85.0 85.5 88.9 90.0 89.9 89.8 89.8 89.8 89.8 89.8 89.8 147.5

63000 63.6 70.5 74.6 74.6 77.4 80.3 77.7 78.6 82.5 87.0 90.7 84.0 72.3 156.0

80000 69.6 75.4 79.4 79.2 83.2 84.6 82.6 84.6 86.9 89.3 92.6 94.5 91.0 149.9

100000 73.4 79.0 82.9 82.9 86.6 88.4 86.8 86.9 89.3 92.6 94.5 91.0 83.1 149.9

120000 120.8 123.3 124.0 123.5 123.4 124.7 127.4 129.4 132.1 136.6 140.3 138.5 136.1

150000 119.7 121.7 122.8 122.2 123.4 124.7 126.7 129.4 132.1 136.6 140.3 138.5 136.1

180000 107.0 109.7 110.8 110.4 111.5 112.6 114.0 116.6 119.3 125.1 128.9 128.0 125.9 165.0

540

WELL PAGE PRINTING SYSTEM - P189-02

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

VEHICLE = ADH149 TEST DATE = 06-25-82

IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00

WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CNF1G = ARC MIKE HT = NBFR

FNRANR = LBS XNL RPM XNH RPM XNHR RPM V8 = 2409.7 FPS AE8 = 19.9 SQ IN

TEST PT NO = 0613F NC = AE048 CORR FAN SPEED = RPM

ZER-0613 TAPE = X0613F

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0614 X0614C  
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 85.0 84.8 85.3 83.6 81.0 79.8 86.2 85.4 82.6 86.2 91.0 91.0 96.4 129.2

63 87.0 92.5 94.5 90.6 88.1 86.5 95.6 94.3 87.8 91.3 93.0 91.7 96.8 134.4

100 87.7 92.0 88.7 89.5 89.4 91.2 90.9 90.8 91.5 91.8 93.6 91.3 96.0 133.9

125 84.6 87.9 89.9 90.2 91.8 91.4 92.8 92.9 91.4 93.5 100.4 104.8 106.0 138.7

160 82.5 80.8 86.8 87.2 87.1 95.9 88.6 90.3 95.1 101.3 104.7 107.4 139.1

200 83.3 83.9 85.4 84.9 86.3 88.6 91.5 91.4 94.4 95.4 101.6 107.0 140.6

250 82.0 85.3 85.1 86.1 87.2 88.3 90.7 93.6 94.3 100.4 107.0 110.5 143.5

315 81.5 84.8 85.8 86.4 88.2 90.1 93.0 93.6 96.6 103.9 109.0 112.7 145.6

400 83.1 85.7 86.7 88.8 89.4 96.3 94.0 97.7 106.3 112.1 113.8 111.2 147.0

500 83.9 85.7 87.3 88.0 89.1 90.5 93.1 95.3 98.8 108.8 114.0 114.4 109.3 148.0

630 84.3 86.8 89.3 88.9 90.4 92.1 94.4 96.9 100.1 110.9 115.8 114.2 106.9 149.0

800 87.2 87.4 89.0 92.1 93.7 95.6 99.2 103.0 111.3 116.9 117.1 111.2 104.3 149.4

1000 91.0 90.6 91.9 91.6 93.5 94.3 96.7 99.9 103.9 110.7 117.1 111.2 101.6 149.2

1250 90.3 95.1 95.3 94.6 95.2 95.8 96.7 99.9 104.1 110.4 116.8 109.7 101.0 149.0

1600 90.4 91.3 93.2 93.5 96.1 97.4 99.5 101.3 105.0 109.0 115.7 107.8 100.8 148.0

2000 90.3 91.7 93.1 93.5 94.8 96.2 98.7 102.3 104.6 108.7 112.9 105.6 146.3

2500 92.1 93.3 94.2 93.4 95.0 97.1 99.1 102.4 104.6 109.3 111.1 103.7 97.2 145.6

3150 91.9 93.5 94.0 93.8 95.8 96.9 100.0 103.0 105.1 107.9 109.9 102.1 96.3 145.0

4000 92.2 93.8 94.0 95.6 97.3 98.7 102.5 104.2 106.6 107.1 101.2 95.2 143.7

5000 93.6 95.5 95.7 93.9 95.6 97.1 99.2 102.0 104.3 106.9 106.5 100.5 94.8 143.8

6300 93.1 95.7 96.8 96.0 96.7 96.9 99.2 102.1 103.6 105.5 104.5 98.3 93.8 143.2

8000 92.5 96.1 96.7 96.0 96.6 97.6 99.1 102.1 103.6 104.9 103.4 97.0 92.6 143.3

10000 95.0 97.9 97.7 98.4 98.4 98.2 99.7 101.9 104.0 105.6 103.1 98.1 93.1 144.5

12500 96.8 99.2 100.8 99.1 99.6 100.1 99.6 101.6 104.1 105.2 103.0 98.9 93.9 145.7

16000 93.3 97.1 97.8 98.0 99.3 99.0 99.1 100.5 102.5 102.3 101.5 97.6 92.9 145.4

20000 90.7 93.8 93.7 96.0 97.4 98.1 98.2 98.5 99.9 99.4 99.8 96.1 91.5 145.2

25000 88.3 91.7 94.3 93.7 96.3 97.7 97.8 97.1 98.5 99.1 96.5 94.4 88.4 146.1

31500 81.2 86.8 88.5 88.5 91.6 93.2 92.7 92.2 94.3 93.7 92.3 89.3 82.6 144.6

40000 78.4 83.6 85.6 85.3 89.3 90.4 90.3 89.6 91.2 90.4 90.1 86.2 79.4 145.8

50000 74.4 79.6 82.0 82.0 87.2 86.9 86.5 85.7 86.2 82.2 74.3 69.2 64.8 148.9

63000 69.8 75.2 77.8 81.3 83.2 82.7 82.7 78.5 77.3 78.4 82.1 83.9 78.2 148.8

80000 64.5 70.9 74.4 74.4 76.8 76.8 78.5 78.5 77.3 78.4 82.1 83.9 78.2 151.8

GASPL 105.0 107.7 108.6 108.0 109.3 110.2 111.8 113.9 116.2 120.9 125.4 122.6 119.3 161.2

PNL 116.5 119.5 119.2 118.7 120.2 121.4 124.6 126.5 128.6 132.6 135.7 131.0 127.0

DBA 103.1 105.1 105.9 105.5 106.9 108.1 110.2 113.1 115.6 120.3 124.9 120.2 114.5

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH160 TEST DATE = 06-25-82 LOCAL = CAT ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.30 RELHUM = 65.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNNI = LBS XNL RPM XNH RPM = V8 = 2413.9 FPS AEB = 19.9 SQ IN  
FNRA = LBS XNLR RPM XNHR RPM = V8 = AE18 = 0. SQ IN  
IPT = 82F-400-0614 TAPE = X0614C TEST PT NO = 0614 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE #  
OF POOR QUALITY

CELL PAGE PRINTING SYSTEM- P188-02

542

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0614 X0614F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 50 60 70 80 90 100 110 120 130 140 150 160 PWL

|     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 630 | 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 800 | 630 | 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|      |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 1000 | 800 | 630 | 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|      |      |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 1250 | 1000 | 800 | 630 | 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|      |      |      |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|      |      |      |      |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 3000 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

|      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |
|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| 3500 | 3000 | 2500 | 2000 | 1600 | 1250 | 1000 | 800 | 630 | 500 | 400 | 315 | 250 | 200 | 160 | 125 | 100 | 80 | 63 | 50 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 |
|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|

VEHICL = ADH160 TEST DATE = 06-25-82  
 IAPLHA = SB59 DEG WIND VEL = NO MPH  
 WIND DIR = SB59  
 PML AREA = FULL SPHERE EXT DIST = 40.0 FT  
 EXT CNFIG = ARC  
 MODEL = AX PAMB HG = 29.30 RELHUM = 65.5 PCT  
 FLTVL = 400. FPS  
 LCAT = C41 ANECH CH CNFIG = 6  
 TAMB F = 82.00 MIKE HT = NBRF =  
 RPM XNL = RPM XNH = RPM V8 = 2413.9 FPS AEB = 19.9 SQ IN  
 XNHR = V16 = FPS AE16 = 0. SQ IN  
 = X0614F TEST FT NO = 0614 NC = AE048 CORR FAN SPEED = RPM  
 RUNPT = 82F-400-0614 TAPE

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0614 X06141

ANGLES MEASURED FROM INLET, DEGREES

| FREQ | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150.  | 160.  |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| PWL  | 68.2 | 71.8 | 72.4 | 72.1 | 73.4 | 72.6 | 77.8 | 73.6 | 78.9 | 86.5 | 89.9 | 89.3  | 84.2  |
| 50   | 68.2 | 71.8 | 72.4 | 72.1 | 73.4 | 72.6 | 77.8 | 73.6 | 78.9 | 86.5 | 89.9 | 89.3  | 84.2  |
| 55   | 69.8 | 72.6 | 73.3 | 73.8 | 73.7 | 75.1 | 75.7 | 80.5 | 89.9 | 93.5 | 91.6 | 85.5  | 167.2 |
| 60   | 70.6 | 73.8 | 73.8 | 75.1 | 75.3 | 76.5 | 77.6 | 83.4 | 90.5 | 95.1 | 91.3 | 85.4  | 168.0 |
| 65   | 70.8 | 73.7 | 73.7 | 75.9 | 74.6 | 77.0 | 77.6 | 84.6 | 90.2 | 95.7 | 91.1 | 85.4  | 168.4 |
| 70   | 70.8 | 73.7 | 73.7 | 75.9 | 74.6 | 77.0 | 77.6 | 84.6 | 90.2 | 95.7 | 91.1 | 85.4  | 168.4 |
| 75   | 73.6 | 74.2 | 76.2 | 75.8 | 78.0 | 77.7 | 78.7 | 80.3 | 84.8 | 89.8 | 95.4 | 89.5  | 167.9 |
| 80   | 73.6 | 74.2 | 76.2 | 75.8 | 78.0 | 77.7 | 78.7 | 80.3 | 84.8 | 89.8 | 95.4 | 89.5  | 167.9 |
| 85   | 75.8 | 76.2 | 77.6 | 79.1 | 78.9 | 79.8 | 80.8 | 81.2 | 87.8 | 88.8 | 81.8 | 79.3  | 165.0 |
| 90   | 75.8 | 76.2 | 77.6 | 79.1 | 78.9 | 79.8 | 80.8 | 81.2 | 87.8 | 88.8 | 81.8 | 79.3  | 165.0 |
| 95   | 76.1 | 78.9 | 79.8 | 78.7 | 80.6 | 82.3 | 83.7 | 85.7 | 86.7 | 86.0 | 80.7 | 77.5  | 164.4 |
| 100  | 76.1 | 78.9 | 79.8 | 78.7 | 80.6 | 82.3 | 83.7 | 85.7 | 86.7 | 86.0 | 80.7 | 77.5  | 164.4 |
| 105  | 76.7 | 79.8 | 80.6 | 81.3 | 81.3 | 83.6 | 85.4 | 86.5 | 84.8 | 79.3 | 76.0 | 164.4 |       |
| 110  | 76.7 | 79.8 | 80.6 | 81.3 | 81.3 | 83.6 | 85.4 | 86.5 | 84.8 | 79.3 | 76.0 | 164.4 |       |
| 115  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 120  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 125  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 130  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 135  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 140  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 145  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 150  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 155  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 160  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 165  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 170  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 175  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 180  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 185  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 190  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 195  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 200  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 205  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 210  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 215  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 220  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 225  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 230  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 235  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 240  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 245  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 250  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 255  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 260  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 265  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 270  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 275  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 280  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 285  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 290  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 295  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 300  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 305  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 310  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 315  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 320  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 325  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 330  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 335  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 340  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 345  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 350  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 355  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |
| 360  | 77.1 | 79.3 | 79.9 | 80.9 | 80.9 | 82.9 | 84.9 | 82.6 | 81.0 | 78.0 | 73.1 | 168.0 |       |

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| QASPL | 87.1 | 90.6  | 92.1  | 91.5  | 93.2  | 93.1  | 93.4  | 94.2  | 97.2  | 100.0 | 103.2 | 98.8 | 93.9 | 181.3 |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| PWL   | 95.6 | 100.2 | 103.6 | 101.9 | 103.6 | 103.4 | 103.2 | 103.1 | 105.3 | 105.0 | 105.3 | 99.9 | 96.3 |       |
| PNL   | 95.6 | 100.2 | 103.6 | 101.9 | 103.6 | 103.4 | 103.2 | 103.1 | 105.3 | 105.0 | 105.3 | 99.9 | 96.3 |       |
| DBA   | 84.5 | 88.9  | 90.8  | 90.2  | 91.9  | 91.8  | 91.5  | 91.9  | 94.1  | 93.7  | 92.3  | 86.6 | 82.9 |       |

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH160 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 82.00 PAMB HG = 29.30 RELHUM = 65.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =

FNINI = LBS XNL RPM XNHR = RPM V8 = 2413.9 FPS AER = 19.9 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR = RPM V18 = 2413.9 FPS AE18 = 0. SQ IN  
 CORR FAN SPEED = RPM = AEO48

| FREQ   | 40.                  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  |
|--|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50   | 82.0                 | 84.3  | 82.8  | 80.9  | 81.0  | 80.6  | 84.7  | 86.1  | 86.1  | 86.4  | 93.5  | 94.0  | 90.9  |
| 63   | 85.7                 | 90.7  | 92.3  | 89.3  | 87.8  | 95.9  | 93.3  | 92.8  | 92.3  | 92.3  | 99.0  | 99.2  | 93.6  |
| 80   | 87.4                 | 92.5  | 89.0  | 89.3  | 89.9  | 92.0  | 91.6  | 91.5  | 92.2  | 92.2  | 90.6  | 94.4  | 99.1  |
| 100  | 88.0                 | 94.7  | 90.3  | 91.3  | 92.6  | 92.8  | 93.6  | 95.1  | 93.3  | 95.8  | 98.7  | 102.4 | 103.6 |
| 125  | 84.9                 | 89.1  | 91.2  | 91.7  | 93.3  | 93.9  | 95.0  | 95.4  | 94.4  | 97.2  | 103.1 | 106.0 | 107.0 |
| 160  | 84.8                 | 84.8  | 89.6  | 88.1  | 89.2  | 89.8  | 96.7  | 92.1  | 93.6  | 98.6  | 104.3 | 107.2 | 109.6 |
| 200  | 86.6                 | 86.1  | 88.4  | 86.4  | 91.0  | 92.9  | 95.3  | 94.4  | 98.1  | 99.7  | 105.6 | 109.8 | 111.9 |
| 250  | 86.8                 | 89.8  | 90.6  | 90.6  | 91.0  | 92.1  | 94.5  | 97.6  | 98.8  | 105.4 | 111.0 | 114.2 | 114.7 |
| 315  | 85.5                 | 89.6  | 90.1  | 90.1  | 92.7  | 94.3  | 96.5  | 97.1  | 101.3 | 107.9 | 112.8 | 115.2 | 117.3 |
| 400  | 86.9                 | 90.4  | 91.2  | 90.5  | 93.3  | 93.7  | 101.3 | 98.2  | 102.7 | 111.3 | 115.1 | 117.1 | 115.5 |
| 500  | 88.0                 | 90.7  | 91.0  | 92.3  | 93.6  | 95.5  | 96.4  | 99.8  | 104.0 | 113.1 | 117.0 | 117.6 | 116.0 |
| 630  | 89.0                 | 91.1  | 93.3  | 93.4  | 94.7  | 96.6  | 98.4  | 101.1 | 104.8 | 115.4 | 118.5 | 116.9 | 153.0 |
| 800  | 93.2                 | 93.9  | 95.2  | 94.5  | 96.3  | 97.7  | 98.8  | 103.5 | 106.7 | 116.3 | 120.2 | 118.6 | 117.3 |
| 1000   | 98.0                 | 99.3  | 98.6  | 97.9  | 97.7  | 99.1  | 100.2 | 103.9 | 107.6 | 115.9 | 119.5 | 119.0 | 116.6 |
| 1250   | 96.5                 | 102.3 | 102.1 | 101.9 | 101.7 | 102.1 | 102.2 | 104.6 | 108.6 | 115.6 | 119.8 | 116.2 | 154.2 |
| 1600   | 96.4                 | 97.3  | 98.9  | 99.0  | 100.6 | 101.4 | 102.3 | 108.7 | 114.5 | 119.6 | 118.1 | 114.6 | 153.4 |
| 2000   | 96.8                 | 98.2  | 98.9  | 97.2  | 98.8  | 100.0 | 102.4 | 105.7 | 108.9 | 113.9 | 118.2 | 112.7 | 152.1 |
| 2500   | 97.3                 | 98.8  | 99.9  | 99.9  | 99.8  | 100.6 | 101.8 | 106.2 | 108.3 | 114.1 | 116.9 | 113.9 | 110.9 |
| 3150   | 96.1                 | 98.0  | 98.7  | 98.0  | 99.1  | 101.2 | 103.0 | 106.3 | 108.6 | 112.4 | 112.6 | 109.6 | 150.5 |
| 4000   | 94.5                 | 96.2  | 97.5  | 97.3  | 98.6  | 99.9  | 101.5 | 105.6 | 107.7 | 110.9 | 113.6 | 111.2 | 107.7 |
| 5000   | 94.6                 | 97.1  | 97.7  | 97.0  | 98.4  | 100.1 | 102.0 | 105.1 | 107.8 | 110.7 | 112.5 | 110.0 | 106.8 |
| 6300   | 93.7                 | 96.3  | 97.6  | 97.6  | 98.5  | 99.2  | 101.5 | 104.7 | 107.2 | 108.8 | 111.4 | 108.2 | 106.2 |
| 8000   | 92.7                 | 96.3  | 97.0  | 97.0  | 97.7  | 99.8  | 103.8 | 105.5 | 107.6 | 109.4 | 106.1 | 104.2 | 146.5 |
| 10000  | 94.2                 | 97.7  | 98.5  | 97.2  | 98.7  | 99.5  | 101.0 | 103.7 | 105.1 | 107.4 | 107.9 | 103.8 | 146.7 |
| 12500  | 94.5                 | 96.9  | 96.9  | 100.2 | 99.2  | 98.8  | 99.7  | 99.8  | 102.7 | 103.6 | 105.5 | 106.7 | 104.5 |
| 15000  | 91.2                 | 95.6  | 97.3  | 97.9  | 99.7  | 99.2  | 99.0  | 100.4 | 101.5 | 103.1 | 104.5 | 102.5 | 100.0 |
| 16000  | 89.2                 | 91.9  | 94.5  | 94.8  | 97.1  | 98.6  | 97.9  | 98.0  | 98.9  | 99.3  | 102.6 | 100.8 | 98.6  |
| 20000  | 86.2                 | 91.9  | 94.5  | 92.6  | 95.4  | 96.7  | 96.6  | 96.5  | 96.5  | 96.5  | 98.8  | 101.0 | 98.4  |
| 25000  | 86.3                 | 90.0  | 93.2  | 92.6  | 92.6  | 96.7  | 96.6  | 96.7  | 96.5  | 96.5  | 98.8  | 101.0 | 98.4  |
| 31500  | 80.0                 | 85.2  | 87.0  | 87.8  | 91.0  | 92.6  | 91.8  | 91.5  | 93.2  | 95.2  | 97.4  | 94.9  | 88.9  |
| 40000  | 77.7                 | 82.5  | 85.5  | 85.7  | 89.0  | 89.6  | 89.0  | 92.0  | 93.5  | 96.2  | 92.3  | 86.2  | 147.5 |
| 50000  | 74.7                 | 79.7  | 82.4  | 86.4  | 87.9  | 87.6  | 86.7  | 91.8  | 93.1  | 95.3  | 90.5  | 83.1  | 150.5 |
| 63000  | 70.1                 | 76.4  | 79.2  | 79.5  | 83.0  | 84.6  | 82.6  | 84.1  | 91.6  | 91.2  | 94.1  | 87.8  | 79.7  |
| 80000  | 64.1                 | 71.3  | 74.8  | 75.1  | 77.9  | 80.0  | 77.7  | 79.6  | 90.0  | 87.5  | 91.7  | 84.8  | 73.6  |
| QASPL  | 107.4                | 110.1 | 111.0 | 110.5 | 111.6 | 112.6 | 114.2 | 116.8 | 119.4 | 125.4 | 129.1 | 128.4 | 126.6 |
| PML  | 120.0                | 122.1 | 122.9 | 123.3 | 124.9 | 126.9 | 129.7 | 132.2 | 137.1 | 140.5 | 138.8 | 136.4 | 136.4 |
| DBA  | 107.1                | 109.5 | 110.1 | 109.6 | 110.5 | 111.6 | 113.3 | 116.4 | 119.3 | 125.1 | 128.8 | 127.6 | 125.1 |
| NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514 |                      |       |       |       |       |       |       |       |       |       |       |       |       |
| VEHICL   | = ADH150             |       |       |       |       |       |       |       |       |       |       |       |       |
| IAPLHA   | = SB59               |       |       |       |       |       |       |       |       |       |       |       |       |
| WIND DIR   | = DEG WIND VEL = MPH |       |       |       |       |       |       |       |       |       |       |       |       |
| LOCAT  | = C41 ANECH CH       |       |       |       |       |       |       |       |       |       |       |       |       |
| CONFIG   | = 6                  |       |       |       |       |       |       |       |       |       |       |       |       |
| MODEL  | = AX                 |       |       |       |       |       |       |       |       |       |       |       |       |
| FLTVEL   | = 0. FPS             |       |       |       |       |       |       |       |       |       |       |       |       |
| RELHUM   | = 47.2 PCT           |       |       |       |       |       |       |       |       |       |       |       |       |
| NBFR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| MIKE HT  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| PAMB HG  | = 29.45              |       |       |       |       |       |       |       |       |       |       |       |       |
| TAMB F   | = 79.00              |       |       |       |       |       |       |       |       |       |       |       |       |
| EXT CONFIG   | = ARC                |       |       |       |       |       |       |       |       |       |       |       |       |
| EXT DIST   | = 40.0 FT            |       |       |       |       |       |       |       |       |       |       |       |       |
| FWL AREA   | = FULL SPHERE        |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINI  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHL   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNL  | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| LBS XNLR   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB   | =                    |       |       |       |       |       |       |       |       |       |       |       |       |
| F  |                      |       |       |       |       |       |       |       |       |       |       |       |       |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0615 X0615F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.0  | 84.3  | 82.8  | 80.9  | 81.0  | 80.6  | 84.7  | 86.1  | 86.1  | 86.4  | 93.5  | 94.0  | 90.9  | 129.2 |
| 63    | 85.7  | 90.7  | 92.3  | 89.3  | 89.6  | 87.8  | 95.9  | 93.3  | 92.8  | 92.3  | 99.0  | 99.2  | 93.6  | 135.7 |
| 80    | 87.4  | 92.5  | 89.0  | 89.3  | 89.9  | 92.0  | 91.6  | 91.5  | 92.2  | 90.6  | 94.4  | 98.1  | 93.6  | 134.6 |
| 100   | 88.0  | 94.7  | 90.3  | 91.3  | 92.6  | 92.8  | 93.6  | 95.1  | 93.3  | 95.8  | 98.7  | 102.4 | 103.6 | 137.9 |
| 125   | 84.9  | 89.1  | 91.2  | 93.3  | 93.3  | 93.9  | 95.0  | 95.4  | 94.4  | 97.2  | 103.1 | 106.0 | 107.0 | 140.4 |
| 150   | 84.8  | 84.8  | 89.6  | 88.1  | 89.2  | 89.8  | 96.7  | 92.1  | 93.6  | 98.6  | 104.3 | 107.2 | 109.6 | 141.6 |
| 200   | 86.6  | 86.1  | 88.4  | 88.4  | 91.0  | 92.9  | 95.3  | 94.4  | 98.1  | 99.7  | 105.6 | 109.8 | 111.9 | 143.6 |
| 250   | 86.8  | 89.8  | 90.6  | 90.6  | 91.0  | 92.1  | 94.5  | 97.6  | 98.6  | 105.4 | 111.0 | 114.2 | 114.1 | 147.4 |
| 315   | 85.5  | 89.6  | 90.1  | 90.1  | 92.7  | 94.3  | 96.5  | 97.1  | 101.3 | 107.9 | 112.8 | 115.2 | 115.6 | 148.8 |
| 400   | 86.9  | 90.4  | 91.2  | 90.5  | 93.3  | 93.7  | 101.3 | 98.2  | 102.7 | 111.3 | 115.1 | 117.1 | 115.5 | 150.6 |
| 500   | 88.0  | 90.7  | 91.0  | 92.3  | 93.6  | 95.5  | 96.4  | 99.8  | 104.0 | 113.1 | 117.0 | 117.6 | 116.0 | 151.7 |
| 630   | 89.0  | 91.1  | 93.3  | 93.4  | 94.7  | 96.6  | 98.4  | 101.1 | 104.8 | 115.4 | 118.3 | 118.5 | 116.9 | 153.0 |
| 800   | 93.2  | 93.9  | 95.2  | 94.5  | 96.3  | 97.7  | 98.8  | 103.5 | 106.7 | 116.3 | 120.2 | 118.6 | 117.3 | 154.1 |
| 1000  | 98.0  | 99.3  | 98.6  | 97.9  | 97.9  | 100.2 | 103.9 | 107.6 | 115.9 | 119.5 | 119.9 | 116.6 | 153.9 |       |
| 1250  | 96.5  | 102.3 | 102.1 | 101.9 | 101.7 | 102.1 | 102.2 | 104.6 | 108.6 | 115.6 | 119.4 | 116.2 | 154.2 |       |
| 1500  | 96.4  | 97.3  | 98.9  | 99.0  | 100.6 | 101.4 | 103.3 | 105.3 | 108.7 | 114.5 | 119.6 | 118.1 | 114.6 | 153.4 |
| 2000  | 96.8  | 98.2  | 98.9  | 97.7  | 98.8  | 100.0 | 102.4 | 105.7 | 108.9 | 113.9 | 118.2 | 115.7 | 112.7 | 152.1 |
| 2500  | 97.3  | 98.8  | 99.9  | 98.7  | 99.8  | 100.6 | 101.8 | 106.2 | 108.3 | 114.1 | 116.9 | 113.9 | 110.9 | 151.3 |
| 3150  | 96.1  | 98.0  | 98.7  | 98.0  | 99.1  | 101.2 | 103.0 | 106.3 | 108.6 | 112.4 | 116.2 | 109.6 | 109.6 | 150.5 |
| 4000  | 94.5  | 96.2  | 97.5  | 97.3  | 98.6  | 99.9  | 101.5 | 105.6 | 107.7 | 110.9 | 113.6 | 111.2 | 107.7 | 148.9 |
| 5000  | 94.6  | 97.1  | 97.7  | 97.0  | 98.4  | 100.1 | 102.0 | 107.8 | 110.7 | 112.5 | 110.0 | 106.8 | 148.4 |       |
| 6300  | 93.7  | 96.3  | 97.6  | 97.6  | 98.5  | 99.2  | 101.5 | 104.7 | 107.2 | 108.8 | 111.4 | 108.2 | 147.6 |       |
| 8000  | 92.7  | 96.3  | 97.3  | 97.0  | 97.7  | 99.8  | 100.7 | 103.8 | 105.5 | 107.6 | 109.4 | 106.1 | 104.2 | 146.5 |
| 10000 | 94.2  | 97.2  | 98.5  | 97.2  | 98.7  | 99.5  | 101.0 | 103.7 | 105.1 | 107.4 | 107.9 | 103.8 | 146.7 |       |
| 12500 | 94.5  | 96.9  | 99.2  | 98.8  | 99.8  | 99.8  | 102.7 | 103.6 | 105.5 | 106.7 | 104.5 | 102.0 | 146.5 |       |
| 15000 | 91.2  | 95.6  | 97.3  | 97.9  | 99.2  | 99.2  | 99.0  | 100.4 | 101.5 | 103.1 | 104.5 | 102.5 | 100.0 | 146.1 |
| 20000 | 89.2  | 91.9  | 94.5  | 94.8  | 97.1  | 98.6  | 97.9  | 98.0  | 98.9  | 99.3  | 102.6 | 100.8 | 98.6  | 145.6 |
| 25000 | 86.3  | 90.0  | 92.6  | 92.6  | 95.4  | 96.7  | 96.6  | 95.7  | 96.5  | 98.8  | 101.0 | 98.4  | 94.1  | 146.2 |
| 31500 | 80.0  | 80.0  | 87.0  | 87.0  | 91.0  | 92.6  | 91.8  | 91.5  | 93.2  | 95.2  | 97.4  | 94.9  | 88.9  | 145.3 |
| 40000 | 77.7  | 82.5  | 85.0  | 85.5  | 88.7  | 90.3  | 89.6  | 90.1  | 92.0  | 93.5  | 96.2  | 92.3  | 86.2  | 147.5 |
| 50000 | 74.7  | 79.7  | 82.4  | 82.7  | 86.4  | 87.9  | 87.6  | 86.7  | 91.6  | 93.1  | 95.3  | 90.5  | 83.1  | 150.5 |
| 63000 | 70.1  | 76.4  | 79.2  | 79.5  | 83.0  | 84.6  | 84.1  | 81.2  | 91.2  | 91.8  | 97.8  | 79.7  | 75.0  | 154.0 |
| 80000 | 64.1  | 71.3  | 74.8  | 75.1  | 77.9  | 80.0  | 77.7  | 79.6  | 90.0  | 87.5  | 91.7  | 84.8  | 73.6  | 157.9 |
| GASPL | 107.4 | 110.1 | 111.0 | 110.5 | 111.6 | 112.6 | 114.2 | 116.8 | 119.4 | 125.4 | 129.1 | 128.4 | 126.6 | 165.5 |
| PNL   | 120.0 | 122.1 | 122.9 | 122.3 | 123.5 | 124.9 | 126.9 | 129.7 | 132.2 | 137.1 | 140.5 | 138.8 | 136.4 |       |
| PMLT  | 121.0 | 123.4 | 124.0 | 123.5 | 123.5 | 124.9 | 127.7 | 129.7 | 132.2 | 137.1 | 140.5 | 138.8 | 136.4 |       |
| DBA   | 166.0 | 192.8 | 196.1 | 196.4 | 199.4 | 201.4 | 199.2 | 200.9 | 210.7 | 208.6 | 212.5 | 205.7 | 195.4 |       |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH150 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF

ENINI = LBS XNL RPM XNH RPM = LBS XNL RPM XNH RPM = LBS XNL RPM XNH RPM  
 CORR FAN SPEED = RPM AEA8 = 2422.7 FPS AEA9 = 19.9 SQ IN  
 RPM = 2422.7 FPS AEA8 = 19.9 SQ IN

ZER-0615 TAPE = X0615F TEST PT NO = 0615 NC = AE048 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

545

CELL PAGE PRINTING SYSTEM - P118-02



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0615 X06151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 65.9 | 71.0 | 72.8 | 72.8 | 76.1 | 76.6 | 84.1 | 80.6 | 84.3 | 91.8 | 94.2 | 93.9 | 89.0  |
| 60    | 67.0 | 71.3 | 72.6 | 74.6 | 76.4 | 78.4 | 79.1 | 82.1 | 85.6 | 93.6 | 96.0 | 94.4 | 89.5  |
| 80    | 68.0 | 71.6 | 74.9 | 75.7 | 77.4 | 79.4 | 81.2 | 83.4 | 86.4 | 95.9 | 97.2 | 95.2 | 90.2  |
| 100   | 72.0 | 74.4 | 76.7 | 76.8 | 79.0 | 80.5 | 81.5 | 85.8 | 88.2 | 96.7 | 99.0 | 95.2 | 90.4  |
| 125   | 75.8 | 79.7 | 80.0 | 80.1 | 80.3 | 81.8 | 82.8 | 86.1 | 89.0 | 96.3 | 98.3 | 95.4 | 89.6  |
| 160   | 75.1 | 82.5 | 83.4 | 83.9 | 84.2 | 84.7 | 84.7 | 86.7 | 89.9 | 95.8 | 98.3 | 95.7 | 88.8  |
| 200   | 74.7 | 77.3 | 80.1 | 80.9 | 82.9 | 83.9 | 85.6 | 87.2 | 89.8 | 94.5 | 98.0 | 94.0 | 86.7  |
| 250   | 74.8 | 77.9 | 79.4 | 81.0 | 82.6 | 84.6 | 87.4 | 89.8 | 93.6 | 96.2 | 91.2 | 84.2 | 170.6 |
| 315   | 74.9 | 78.2 | 80.5 | 80.1 | 81.6 | 82.6 | 83.7 | 87.6 | 88.9 | 93.5 | 94.4 | 88.8 | 169.8 |
| 400   | 73.2 | 76.9 | 79.0 | 79.1 | 80.6 | 82.9 | 84.6 | 87.3 | 88.8 | 91.4 | 93.3 | 86.9 | 169.0 |
| 500   | 71.1 | 74.7 | 77.3 | 77.5 | 79.4 | 81.3 | 82.8 | 86.3 | 87.6 | 89.5 | 90.2 | 84.8 | 167.3 |
| 630   | 70.7 | 75.3 | 77.3 | 77.5 | 79.4 | 81.3 | 83.0 | 85.6 | 87.4 | 88.8 | 88.6 | 83.0 | 166.9 |
| 800   | 69.3 | 74.1 | 76.9 | 77.8 | 79.3 | 80.2 | 82.3 | 84.9 | 86.5 | 86.6 | 87.0 | 80.4 | 166.0 |
| 1000  | 67.8 | 73.8 | 76.4 | 77.0 | 78.3 | 80.6 | 81.3 | 83.9 | 84.6 | 85.1 | 84.5 | 77.7 | 165.0 |
| 1250  | 68.9 | 74.9 | 77.3 | 77.1 | 79.2 | 80.1 | 81.4 | 83.5 | 83.9 | 84.6 | 82.5 | 76.6 | 165.1 |
| 1600  | 68.3 | 73.5 | 78.6 | 78.8 | 78.9 | 80.1 | 80.0 | 82.3 | 82.0 | 82.1 | 80.5 | 73.9 | 165.0 |
| 2000  | 64.0 | 71.6 | 75.3 | 77.2 | 79.7 | 79.5 | 79.0 | 79.7 | 79.5 | 79.1 | 77.3 | 70.3 | 164.6 |
| 2500  | 60.2 | 66.7 | 71.7 | 73.4 | 76.5 | 78.3 | 77.4 | 76.7 | 76.1 | 74.1 | 73.6 | 65.7 | 164.1 |
| 3150  | 54.0 | 62.3 | 68.5 | 69.6 | 73.5 | 75.1 | 74.7 | 72.8 | 71.7 | 71.1 | 68.7 | 58.4 | 164.7 |
| 4000  | 41.5 | 52.8 | 58.4 | 61.6 | 66.1 | 68.1 | 67.0 | 65.3 | 64.6 | 62.7 | 58.8 | 46.0 | 163.7 |
| 5000  | 29.4 | 42.5 | 50.2 | 53.9 | 58.8 | 61.0 | 59.8 | 58.5 | 57.2 | 53.5 | 47.9 | 29.7 | 166.0 |
| 6300  | 8.6  | 25.6 | 35.5 | 40.3 | 46.4 | 48.7 | 47.6 | 44.3 | 44.9 | 38.9 | 29.1 | 3.7  | 168.9 |
| 8000  |      |      | 11.0 | 17.8 | 24.9 | 27.6 | 24.5 | 22.5 | 23.4 | 12.1 |      |      | 172.5 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      | 176.4 |

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MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
 NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHCL = ADH150 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX PAMB HG = 29.45 RELHUM = 47.2 PCT  
 IAPLHA = SB859 DEG WIND VEL = NO PWL AREA = FULL SPHERE TAMB F = 79.00 EXT CONFIG = SL MIKE HT = NBRF  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT  
 FINI = LBS XNL RPM XNHR = RPM XNHR = RPM V8 = 2422.7 FPS AER = 19.9 SQ IN  
 FNRAMB = LBS XNL RPM XNHR = RPM XNHR = RPM V8 = 2422.7 FPS AER = 19.9 SQ IN  
 RUNPT = 82F-ZER-0615 TAPE = X06151 TEST PT NO = 0615 NC = AE048 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0616 X0616C BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 55.8  | 56.3  | 56.1  | 51.4  | 51.2  | 51.1  | 57.5  | 56.1  | 53.8  | 55.7  | 51.5  | 56.9  | 129.7 |       |
| 63    | 56.7  | 51.7  | 54.0  | 57.8  | 59.6  | 58.0  | 57.1  | 55.1  | 59.3  | 50.1  | 51.7  | 52.9  | 134.7 |       |
| 80    | 57.4  | 52.5  | 59.0  | 59.8  | 59.1  | 52.0  | 51.6  | 51.3  | 51.7  | 51.8  | 52.6  | 58.5  | 134.2 |       |
| 100   | 57.7  | 53.7  | 59.5  | 59.3  | 51.9  | 51.5  | 53.1  | 54.1  | 51.8  | 52.8  | 51.2  | 102.8 | 136.7 |       |
| 125   | 54.9  | 58.1  | 59.9  | 50.4  | 51.8  | 52.2  | 53.5  | 53.4  | 52.2  | 53.7  | 100.6 | 104.8 | 138.9 |       |
| 150   | 53.5  | 51.3  | 57.6  | 56.1  | 57.4  | 57.1  | 55.2  | 58.8  | 50.6  | 55.4  | 102.3 | 105.4 | 139.8 |       |
| 200   | 53.3  | 54.1  | 55.6  | 54.7  | 58.4  | 52.0  | 51.7  | 54.4  | 50.7  | 54.4  | 107.3 | 109.7 | 140.9 |       |
| 250   | 52.0  | 55.3  | 55.3  | 56.4  | 57.2  | 59.1  | 50.5  | 53.9  | 54.3  | 108.0 | 111.5 | 111.4 | 144.4 |       |
| 315   | 52.0  | 55.1  | 56.3  | 56.6  | 58.7  | 50.1  | 52.7  | 53.6  | 56.8  | 104.1 | 109.5 | 112.5 | 145.6 |       |
| 400   | 53.4  | 55.9  | 56.7  | 56.5  | 58.8  | 59.7  | 56.6  | 54.7  | 57.9  | 106.5 | 111.9 | 114.3 | 147.1 |       |
| 500   | 54.2  | 56.0  | 56.0  | 58.3  | 59.4  | 51.0  | 52.9  | 55.5  | 59.8  | 109.3 | 114.5 | 114.4 | 148.3 |       |
| 630   | 54.3  | 57.0  | 56.9  | 59.3  | 59.4  | 51.8  | 54.2  | 57.4  | 100.3 | 111.4 | 115.8 | 113.7 | 149.0 |       |
| 800   | 57.2  | 57.7  | 50.2  | 50.3  | 52.1  | 53.5  | 55.6  | 59.0  | 103.0 | 111.8 | 117.2 | 112.8 | 149.7 |       |
| 1000  | 51.0  | 50.6  | 52.4  | 51.6  | 53.5  | 54.3  | 57.0  | 100.1 | 103.9 | 111.7 | 117.3 | 112.2 | 149.7 |       |
| 1250  | 50.5  | 55.1  | 54.6  | 55.5  | 56.6  | 57.7  | 100.6 | 104.8 | 110.9 | 116.8 | 110.5 | 102.7 | 149.2 |       |
| 1500  | 51.4  | 51.0  | 53.5  | 53.7  | 56.3  | 57.4  | 99.8  | 101.8 | 105.5 | 109.8 | 116.2 | 108.8 | 148.5 |       |
| 2000  | 52.3  | 52.5  | 53.6  | 53.5  | 55.1  | 56.2  | 99.2  | 102.3 | 109.7 | 113.7 | 106.5 | 99.8  | 147.0 |       |
| 2500  | 52.3  | 54.3  | 54.3  | 54.5  | 56.9  | 59.1  | 102.2 | 105.3 | 109.6 | 111.4 | 104.4 | 97.7  | 145.9 |       |
| 3150  | 52.6  | 53.7  | 54.5  | 54.3  | 56.6  | 57.4  | 99.8  | 102.3 | 104.4 | 107.1 | 107.9 | 101.9 | 145.5 |       |
| 4000  | 52.7  | 52.9  | 53.8  | 54.0  | 55.4  | 56.8  | 99.2  | 102.3 | 104.4 | 107.1 | 107.9 | 101.9 | 144.0 |       |
| 5000  | 53.6  | 55.0  | 54.7  | 55.6  | 57.3  | 100.0 | 102.0 | 104.5 | 106.6 | 107.2 | 100.8 | 95.5  | 144.0 |       |
| 6300  | 53.1  | 55.4  | 55.8  | 54.8  | 56.2  | 96.7  | 102.9 | 104.6 | 106.0 | 105.8 | 99.6  | 94.1  | 143.8 |       |
| 8000  | 52.8  | 55.1  | 56.1  | 56.3  | 57.6  | 97.7  | 102.9 | 104.6 | 106.0 | 105.8 | 99.6  | 94.1  | 143.8 |       |
| 10000 | 52.8  | 55.1  | 56.1  | 56.3  | 57.6  | 97.6  | 99.3  | 101.7 | 104.1 | 104.9 | 104.2 | 97.5  | 143.4 |       |
| 12500 | 52.8  | 55.1  | 56.1  | 56.3  | 57.6  | 99.0  | 100.2 | 101.9 | 104.3 | 105.9 | 103.8 | 98.6  | 144.7 |       |
| 15000 | 58.1  | 100.0 | 101.5 | 100.1 | 99.4  | 99.9  | 99.4  | 100.7 | 102.5 | 102.8 | 102.8 | 97.6  | 145.8 |       |
| 16000 | 93.8  | 97.9  | 98.9  | 98.2  | 99.6  | 99.1  | 99.4  | 100.7 | 102.5 | 102.8 | 102.3 | 97.6  | 145.8 |       |
| 20000 | 91.5  | 94.1  | 95.8  | 96.4  | 97.9  | 98.2  | 98.0  | 98.6  | 99.9  | 99.7  | 100.6 | 96.1  | 145.4 |       |
| 25000 | 89.4  | 92.3  | 93.8  | 93.8  | 96.4  | 97.5  | 97.6  | 96.9  | 99.1  | 98.2  | 97.1  | 94.7  | 146.3 |       |
| 31500 | 82.0  | 86.9  | 88.9  | 88.9  | 88.1  | 91.4  | 93.0  | 92.5  | 92.1  | 94.4  | 92.9  | 89.6  | 144.5 |       |
| 40000 | 78.8  | 83.5  | 86.0  | 85.7  | 89.5  | 90.1  | 90.2  | 90.5  | 91.3  | 91.1  | 89.8  | 86.4  | 146.0 |       |
| 50000 | 75.8  | 80.4  | 83.2  | 82.4  | 85.9  | 87.4  | 86.6  | 86.7  | 89.1  | 88.5  | 87.2  | 84.9  | 147.4 |       |
| 63000 | 70.8  | 76.5  | 79.0  | 78.8  | 81.3  | 83.5  | 81.9  | 84.0  | 86.2  | 86.2  | 84.9  | 77.7  | 149.3 |       |
| 80000 | 65.5  | 74.5  | 74.5  | 74.5  | 77.3  | 79.5  | 76.8  | 77.9  | 82.9  | 82.9  | 80.5  | 70.9  | 152.1 |       |
| DBA   | 103.6 | 105.2 | 105.9 | 105.4 | 106.8 | 108.0 | 110.4 | 113.1 | 116.0 | 120.9 | 125.3 | 120.6 | 114.9 |       |
| PFLT  | 116.9 | 119.9 | 119.1 | 118.8 | 120.1 | 121.5 | 124.7 | 126.3 | 129.1 | 133.1 | 136.1 | 131.4 | 127.4 |       |
| GASPL | 105.7 | 108.0 | 108.8 | 108.1 | 109.3 | 110.1 | 112.0 | 114.0 | 116.6 | 121.4 | 125.7 | 122.9 | 119.7 | 161.5 |

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH161 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS  
 IAPLHA = SB59 LEGA = NG PML AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.25 RELHUM = 62.5 PCT  
 WIND DIR = DE8 WIND VEL = MPH EXT DIST = 40.0 FT EXT CNFIG = ARC MIKE HT = NBFRR =  
 FNINI = LBS XNL RPM XNH RPM XNHR = = = = V8 = 2438.0 FPS AEB = 19.9 SQ IN  
 FNRAMB = LBS XNLR = = = = V8 = 2438.0 FPS AE18 = 0. SQ IN  
 TEST PT NO = 0616 NC = AE048 CORR FAN SPEED = RPM  
 TAPE = X0616C

ORIGINAL PAGE IS  
OF POOR QUALITY

548

FILE PAGE PRINTING SYSTEM - P1188-02

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0616 X0616F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

PML

FREQ

50

63

80

100

125

150

200

250

315

400

500

630

800

1000

1250

1500

2000

2500

3150

4000

5000

6300

8000

10000

12500

15000

16000

18000

20000

25000

31500

40000

50000

63000

80000

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 80000 | 84.9  | 88.4  | 89.4  | 87.6  | 90.5  | 90.4  | 88.9  | 87.9  | 92.4  | 91.8  | 90.9  | 86.7  | 84.8  | 151.1 |
| 63000 | 81.0  | 84.3  | 85.7  | 83.3  | 85.9  | 85.0  | 84.3  | 83.3  | 85.9  | 85.0  | 84.3  | 81.4  | 77.8  | 153.2 |
| 50000 | 84.9  | 88.4  | 89.4  | 87.6  | 90.5  | 90.4  | 88.9  | 87.9  | 92.4  | 91.8  | 90.9  | 86.7  | 84.8  | 151.1 |
| 40000 | 88.5  | 92.1  | 92.7  | 90.4  | 94.1  | 93.1  | 92.6  | 92.1  | 95.4  | 94.5  | 93.9  | 92.4  | 92.4  | 150.1 |
| 31500 | 93.9  | 96.1  | 97.3  | 95.7  | 96.0  | 96.0  | 94.9  | 93.7  | 97.9  | 97.5  | 96.9  | 96.9  | 97.1  | 149.3 |
| 25000 | 96.9  | 98.7  | 99.5  | 99.1  | 100.4 | 100.5 | 100.1 | 98.8  | 100.2 | 99.1  | 99.2  | 99.3  | 99.6  | 149.5 |
| 20000 | 99.7  | 103.1 | 103.2 | 101.6 | 102.0 | 101.2 | 100.5 | 100.4 | 104.4 | 103.2 | 102.5 | 103.1 | 104.2 | 149.9 |
| 16000 | 102.7 | 104.3 | 105.4 | 103.3 | 103.6 | 102.1 | 101.7 | 102.1 | 104.4 | 103.8 | 105.0 | 103.4 | 105.7 | 149.5 |
| 12500 | 101.6 | 103.7 | 102.9 | 100.8 | 103.1 | 102.9 | 101.7 | 103.2 | 106.1 | 106.2 | 106.3 | 105.0 | 107.9 | 148.5 |
| 10000 | 99.9  | 101.5 | 101.2 | 100.6 | 101.5 | 102.0 | 102.3 | 102.7 | 107.0 | 108.2 | 106.1 | 105.6 | 107.9 | 147.7 |
| 8000  | 100.1 | 101.8 | 101.3 | 99.4  | 100.4 | 101.4 | 102.4 | 106.3 | 107.7 | 106.3 | 104.5 | 106.7 | 106.7 | 146.6 |
| 6300  | 100.9 | 101.7 | 101.2 | 99.5  | 100.2 | 99.7  | 101.5 | 103.3 | 105.9 | 106.5 | 106.4 | 103.1 | 106.2 | 145.9 |
| 5000  | 100.3 | 98.6  | 98.7  | 97.4  | 98.6  | 98.5  | 99.4  | 101.3 | 106.1 | 106.1 | 109.1 | 111.9 | 107.6 | 147.0 |
| 4000  | 100.2 | 100.4 | 100.0 | 98.6  | 99.1  | 99.4  | 100.6 | 102.6 | 105.9 | 107.8 | 109.1 | 106.1 | 108.2 | 146.2 |
| 3150  | 99.3  | 100.5 | 100.1 | 97.7  | 98.9  | 99.4  | 100.5 | 101.8 | 103.3 | 109.8 | 107.3 | 108.6 | 108.6 | 146.4 |
| 2500  | 99.3  | 98.6  | 98.7  | 97.4  | 98.6  | 98.5  | 99.4  | 101.3 | 106.1 | 106.1 | 109.1 | 111.9 | 107.6 | 147.0 |
| 2000  | 99.0  | 97.6  | 97.6  | 97.6  | 97.7  | 97.5  | 99.2  | 101.2 | 105.4 | 109.6 | 112.1 | 108.7 | 109.5 | 147.2 |
| 1600  | 96.7  | 100.5 | 99.5  | 97.9  | 98.8  | 98.5  | 99.5  | 100.4 | 105.1 | 109.5 | 114.3 | 110.6 | 111.2 | 148.4 |
| 1250  | 97.2  | 96.0  | 96.7  | 94.8  | 97.5  | 96.4  | 97.3  | 99.2  | 104.9 | 109.1 | 116.2 | 112.4 | 111.3 | 149.2 |
| 1000  | 94.8  | 94.1  | 95.3  | 93.8  | 95.0  | 96.4  | 98.4  | 98.4  | 104.4 | 110.4 | 117.0 | 114.1 | 113.6 | 150.2 |
| 800   | 91.9  | 93.5  | 94.3  | 92.9  | 94.1  | 94.0  | 94.9  | 97.2  | 103.1 | 110.8 | 117.2 | 115.5 | 112.7 | 150.5 |
| 630   | 91.9  | 92.4  | 93.0  | 91.8  | 92.4  | 92.2  | 93.6  | 95.8  | 101.8 | 110.5 | 116.3 | 114.8 | 112.5 | 149.8 |
| 500   | 91.0  | 92.3  | 91.6  | 89.9  | 91.3  | 91.3  | 92.1  | 93.6  | 99.1  | 109.8 | 114.4 | 114.2 | 112.4 | 148.6 |
| 400   | 89.7  | 91.4  | 91.3  | 90.0  | 90.7  | 89.9  | 95.3  | 92.0  | 97.5  | 106.3 | 111.2 | 112.3 | 111.2 | 146.1 |
| 250   | 89.6  | 91.6  | 90.1  | 89.6  | 90.5  | 90.3  | 91.4  | 90.8  | 94.7  | 102.4 | 107.4 | 110.6 | 110.1 | 143.8 |
| 200   | 89.6  | 90.1  | 89.6  | 88.8  | 89.1  | 88.6  | 90.3  | 93.4  | 99.8  | 104.6 | 108.0 | 109.5 | 141.8 |       |

VEHICL = ADH161 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS  
 IAPHA = SB59 IEGA = NO PML AREA = FULL SPHERE TAMB F = 83.00 MIKE HG = 29.25 RELHUM = 62.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =  
 FNINI = LBS XNL RPM XNH XNHR RPM = = XNHR RPM XNH XNHR RPM = = XNHR RPM XNH XNHR RPM = =  
 FNRAMB = LBS XNLR RPM XNLR RPM = = XNLR RPM XNLR RPM = = XNLR RPM XNLR RPM = =  
 RUNPT = 82F-400-0616 TAPE = X0616F TEST PT NO = 0616 NC = AE048 CORR FAN SPEED = RPM

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514  
 MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

GASPL 111.8 113.0 113.1 111.5 112.5 112.3 112.7 113.8 117.7 121.2 125.3 123.5 123.0 163.2  
 PNL 122.7 123.2 122.9 121.5 122.2 122.4 123.6 125.2 129.1 132.4 135.2 132.7 133.4  
 DBA 196.5 200.5 201.7 199.8 203.2 203.7 200.3 200.1 204.1 203.8 201.6 195.4 192.5

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OF POOR QUALITY



DATPRG - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0619 X0619C  
BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|  |              |                |          |              |              |            |       |                  |       |          |          |       |       |       |
|--|--------------|----------------|----------|--------------|--------------|------------|-------|------------------|-------|----------|----------|-------|-------|-------|
| 50   | 82.0         | 84.8           | 85.8     | 83.6         | 81.5         | 81.3       | 87.5  | 89.4             | 85.3  | 83.7     | 84.0     | 93.7  | 94.6  | 130.3 |
| 60   | 84.0         | 92.2           | 95.0     | 92.8         | 91.1         | 88.8       | 97.1  | 97.1             | 90.3  | 89.6     | 99.7     | 90.1  | 137.1 |       |
| 80   | 87.7         | 92.5           | 89.2     | 89.3         | 89.6         | 91.7       | 91.9  | 91.5             | 92.2  | 90.3     | 94.4     | 97.4  | 98.3  | 134.4 |
| 100  | 88.7         | 95.0           | 91.0     | 91.6         | 92.9         | 93.0       | 93.6  | 95.6             | 93.5  | 95.6     | 98.5     | 102.2 | 103.8 | 138.0 |
| 125  | 84.9         | 89.1           | 91.2     | 91.7         | 93.3         | 93.9       | 94.5  | 95.2             | 94.4  | 97.0     | 102.9    | 106.0 | 106.7 | 140.3 |
| 150  | 85.0         | 84.5           | 89.1     | 88.1         | 89.4         | 89.8       | 96.7  | 92.6             | 94.3  | 99.4     | 104.8    | 107.7 | 109.9 | 142.0 |
| 160  | 85.0         | 84.5           | 89.1     | 88.1         | 89.4         | 89.8       | 96.7  | 92.6             | 94.3  | 99.4     | 104.8    | 107.7 | 109.9 | 142.0 |
| 200  | 86.1         | 86.6           | 88.1     | 88.7         | 90.3         | 92.9       | 94.5  | 94.7             | 98.4  | 100.7    | 105.6    | 110.0 | 111.7 | 143.7 |
| 250  | 86.0         | 90.6           | 90.3     | 90.9         | 91.2         | 92.3       | 95.0  | 97.4             | 99.1  | 105.9    | 111.0    | 114.0 | 114.4 | 147.4 |
| 315  | 85.3         | 89.6           | 90.1     | 89.9         | 93.2         | 95.1       | 97.0  | 97.4             | 101.3 | 108.7    | 112.8    | 115.5 | 115.6 | 149.0 |
| 400  | 86.9         | 90.7           | 91.4     | 91.0         | 93.3         | 93.7       | 101.6 | 98.2             | 102.7 | 112.0    | 115.1    | 116.8 | 115.2 | 150.6 |
| 500  | 88.2         | 90.7           | 91.5     | 91.8         | 93.4         | 95.0       | 96.6  | 99.5             | 104.3 | 113.8    | 117.0    | 117.4 | 115.5 | 151.7 |
| 600  | 89.5         | 91.6           | 93.1     | 93.6         | 95.2         | 96.8       | 98.4  | 100.4            | 104.8 | 116.1    | 118.5    | 118.5 | 116.4 | 153.3 |
| 800  | 93.2         | 94.2           | 95.5     | 94.7         | 96.8         | 97.7       | 99.3  | 103.2            | 107.2 | 116.8    | 119.7    | 119.1 | 117.0 | 154.1 |
| 1000   | 99.3         | 99.8           | 99.1     | 97.4         | 98.0         | 98.8       | 100.5 | 103.6            | 108.3 | 116.9    | 120.5    | 119.2 | 116.4 | 154.5 |
| 1250   | 97.0         | 103.1          | 103.1    | 102.4        | 101.9        | 102.1      | 102.2 | 104.6            | 108.6 | 116.1    | 120.0    | 117.1 | 116.5 | 154.2 |
| 1500   | 96.1         | 97.3           | 99.4     | 99.7         | 101.3        | 102.2      | 103.3 | 105.8            | 109.4 | 115.3    | 120.1    | 117.1 | 114.6 | 153.7 |
| 2000   | 96.8         | 98.9           | 99.6     | 98.2         | 98.8         | 100.7      | 102.4 | 105.7            | 109.4 | 114.4    | 118.9    | 115.5 | 112.7 | 152.5 |
| 2500   | 98.1         | 99.3           | 100.2    | 98.9         | 100.3        | 100.9      | 102.3 | 105.9            | 109.1 | 114.8    | 117.4    | 113.7 | 110.4 | 151.7 |
| 3150   | 97.4         | 99.0           | 99.2     | 98.5         | 99.8         | 101.2      | 103.0 | 106.0            | 109.1 | 113.2    | 116.4    | 112.1 | 109.3 | 150.7 |
| 4000   | 94.8         | 98.4           | 98.3     | 97.3         | 99.1         | 100.1      | 102.0 | 105.3            | 107.9 | 111.6    | 114.1    | 110.7 | 107.9 | 149.2 |
| 5000   | 94.6         | 97.1           | 97.5     | 97.5         | 98.9         | 100.6      | 102.3 | 105.3            | 107.8 | 111.4    | 114.0    | 110.0 | 106.5 | 149.1 |
| 6300   | 93.5         | 96.3           | 97.6     | 96.9         | 99.0         | 99.7       | 101.5 | 105.2            | 107.2 | 109.6    | 112.1    | 108.2 | 105.7 | 148.0 |
| 8000   | 92.4         | 96.3           | 97.3     | 96.7         | 99.5         | 100.7      | 104.3 | 106.3            | 107.9 | 110.6    | 105.9    | 104.0 | 104.0 | 147.0 |
| 10000  | 93.0         | 97.4           | 98.7     | 97.5         | 98.7         | 100.0      | 101.0 | 103.4            | 105.3 | 107.7    | 109.1    | 105.6 | 103.3 | 147.0 |
| 12500  | 93.5         | 96.9           | 100.2    | 99.2         | 99.5         | 99.7       | 99.6  | 102.2            | 103.8 | 105.5    | 107.2    | 104.3 | 101.5 | 146.6 |
| 15000  | 90.4         | 95.4           | 97.3     | 94.8         | 99.4         | 99.3       | 100.9 | 99.3             | 100.7 | 103.6    | 104.7    | 102.5 | 99.8  | 146.3 |
| 20000  | 88.7         | 91.7           | 94.5     | 94.8         | 97.6         | 99.1       | 97.9  | 97.8             | 99.7  | 100.3    | 104.3    | 100.0 | 98.6  | 146.2 |
| 25000  | 85.6         | 89.7           | 93.0     | 93.3         | 95.6         | 97.2       | 96.9  | 96.2             | 97.7  | 99.0     | 101.5    | 98.2  | 94.4  | 146.6 |
| 31500  | 76.7         | 79.3           | 84.7     | 87.8         | 91.2         | 92.8       | 92.1  | 91.2             | 93.5  | 94.9     | 97.6     | 93.2  | 88.9  | 145.2 |
| 40000  | 73.4         | 78.2           | 85.2     | 85.3         | 88.9         | 90.5       | 89.6  | 91.5             | 93.8  | 93.8     | 96.7     | 91.6  | 85.7  | 147.6 |
| 50000  | 73.4         | 79.2           | 82.6     | 82.9         | 86.9         | 88.1       | 87.3  | 86.2             | 89.8  | 93.1     | 94.5     | 89.7  | 82.9  | 150.0 |
| 63000  | 70.1         | 75.6           | 79.4     | 79.7         | 83.7         | 85.4       | 82.8  | 84.1             | 87.4  | 91.7     | 94.4     | 88.1  | 79.5  | 153.6 |
| 80000  | 63.4         | 69.8           | 75.3     | 74.9         | 78.4         | 80.0       | 77.4  | 79.1             | 83.5  | 89.8     | 91.4     | 82.5  | 72.3  | 157.1 |
| GASPL  | 107.7        | 110.5          | 111.4    | 110.7        | 111.9        | 112.9      | 114.3 | 116.8            | 119.8 | 126.1    | 129.5    | 128.2 | 126.4 | 165.5 |
| PWLT   | 120.4        | 122.6          | 122.6    | 123.9        | 123.9        | 125.1      | 127.8 | 129.7            | 132.6 | 137.8    | 140.9    | 138.5 | 136.3 |       |
| DBA  | 107.5        | 109.9          | 110.6    | 109.8        | 110.9        | 111.9      | 113.4 | 116.4            | 119.7 | 125.8    | 129.3    | 127.3 | 125.0 |       |
| NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514 |              |                |          |              |              |            |       |                  |       |          |          |       |       |       |
| VEHICL =   | ADH151       | TEST DATE =    | 06-25-82 | LOCAT =      | CAT ANECH CH | CONFIG =   | 6     | MODEL =          | AX    | FLTVL =  | 0. FPS   |       |       |       |
| IAPLHA =   | SBS9         | LEGA =         | NO       | PWL AREA =   | FULL SPHERE  | TAMB F =   | 79.00 | PAMB HG =        | 29.45 | RELHUM = | 47.2 PCT |       |       |       |
| WIND DIR =   |              | DEG WIND YEL = | MPH      | LOCAL =      | 40.0 FT      | EXT DIST = | ARC   | MIKE HT =        |       | NBFR =   |          |       |       |       |
| FNRAMB =   |              | LBS XNLR =     |          | RPM XNHR =   |              | RPM V18 =  |       | FPS AE18 =       |       | SO IN =  |          |       |       |       |
| RUNPT =  | 82F-ZER-0619 | TAPE =         | X0619C   | TEST PT NO = | 0619         | NC =       | AE048 | CORR FAN SPEED = |       | RPM =    |          |       |       |       |

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0619 X06191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 65.9 | 71.2 | 73.1 | 73.3 | 76.1 | 76.6 | 84.3 | 80.6 | 84.3 | 92.6 | 94.2 | 93.7 | 88.7 | 169.1 |
| 63    | 67.2 | 71.3 | 73.1 | 74.1 | 77.9 | 79.4 | 81.9 | 85.9 | 84.2 | 89.4 | 96.0 | 94.2 | 89.0 | 170.2 |
| 80    | 68.5 | 72.1 | 74.7 | 75.9 | 79.7 | 81.2 | 82.7 | 86.4 | 82.7 | 86.6 | 97.7 | 95.2 | 89.7 | 171.8 |
| 100   | 72.0 | 74.6 | 77.0 | 79.5 | 80.5 | 82.0 | 85.5 | 88.7 | 82.0 | 85.5 | 97.2 | 98.5 | 95.7 | 172.6 |
| 125   | 78.0 | 80.2 | 80.5 | 79.6 | 80.6 | 81.6 | 83.1 | 85.8 | 89.8 | 97.3 | 99.3 | 95.7 | 89.3 | 173.0 |
| 160   | 75.6 | 83.2 | 84.4 | 84.4 | 84.7 | 84.7 | 86.7 | 89.9 | 86.7 | 89.9 | 96.3 | 98.6 | 94.7 | 172.7 |
| 200   | 74.4 | 77.3 | 80.6 | 81.6 | 83.6 | 84.6 | 85.6 | 87.7 | 90.6 | 95.2 | 98.5 | 93.0 | 86.7 | 172.1 |
| 250   | 74.8 | 78.7 | 80.5 | 79.9 | 81.0 | 83.0 | 84.6 | 87.4 | 90.3 | 94.1 | 96.9 | 91.0 | 84.2 | 171.0 |
| 315   | 75.7 | 78.7 | 80.7 | 80.3 | 82.1 | 82.9 | 84.2 | 87.3 | 89.6 | 94.2 | 94.9 | 88.6 | 81.1 | 170.1 |
| 400   | 74.5 | 77.9 | 79.5 | 79.6 | 81.4 | 82.9 | 84.6 | 87.1 | 89.3 | 92.1 | 93.5 | 86.4 | 79.0 | 169.2 |
| 500   | 71.4 | 75.0 | 78.2 | 78.1 | 80.4 | 81.5 | 83.3 | 86.1 | 87.9 | 90.2 | 90.7 | 84.3 | 76.6 | 167.7 |
| 630   | 70.7 | 75.3 | 77.0 | 78.0 | 79.9 | 81.8 | 83.3 | 85.8 | 87.4 | 89.6 | 90.1 | 83.0 | 74.2 | 167.6 |
| 800   | 69.1 | 74.1 | 76.9 | 77.1 | 79.8 | 80.7 | 82.3 | 85.4 | 86.5 | 87.4 | 87.7 | 80.4 | 72.1 | 166.4 |
| 1000  | 67.6 | 73.8 | 76.4 | 76.8 | 78.3 | 80.3 | 81.3 | 84.4 | 85.3 | 85.4 | 85.8 | 77.4 | 69.3 | 165.5 |
| 1250  | 67.6 | 74.6 | 77.5 | 77.3 | 79.2 | 80.6 | 81.4 | 83.3 | 84.1 | 84.8 | 83.8 | 76.3 | 67.2 | 165.5 |
| 1600  | 67.3 | 73.5 | 78.6 | 78.8 | 79.7 | 80.1 | 79.7 | 81.8 | 82.2 | 82.1 | 81.0 | 73.7 | 63.0 | 165.1 |
| 2000  | 63.2 | 71.4 | 75.3 | 77.4 | 80.0 | 79.7 | 79.3 | 80.2 | 79.7 | 79.6 | 77.6 | 70.3 | 58.3 | 164.8 |
| 2500  | 59.7 | 66.4 | 71.7 | 73.4 | 77.0 | 78.8 | 77.4 | 76.4 | 76.8 | 75.1 | 75.4 | 65.0 | 52.2 | 164.7 |
| 3150  | 53.3 | 62.0 | 68.2 | 70.4 | 73.7 | 75.6 | 75.0 | 73.3 | 73.0 | 71.3 | 69.2 | 58.2 | 39.6 | 165.0 |
| 4000  | 40.7 | 52.3 | 58.9 | 61.6 | 66.4 | 68.4 | 67.2 | 65.0 | 64.9 | 62.5 | 59.0 | 44.2 | 19.6 | 163.7 |
| 5000  | 28.4 | 42.8 | 50.4 | 53.7 | 59.1 | 61.2 | 60.3 | 58.0 | 56.7 | 53.8 | 48.4 | 28.9 |      | 166.1 |
| 6300  | 7.3  | 25.1 | 35.7 | 40.5 | 46.9 | 48.9 | 47.4 | 43.8 | 42.9 | 38.9 | 28.4 | 3.0  |      | 168.4 |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |      | 172.1 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 175.6 |

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|       |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| DASPL | 84.9 | 89.2 | 91.3 | 91.4 | 93.0  | 94.1  | 95.4  | 97.6  | 100.1 | 105.8 | 107.5 | 103.7 | 97.9 | 183.8 |
| PWL   | 89.4 | 94.6 | 98.4 | 99.1 | 101.5 | 102.6 | 102.7 | 104.0 | 105.6 | 109.0 | 110.2 | 104.6 | 97.6 |       |
| PWL   | 90.1 | 95.4 | 99.0 | 99.8 | 102.0 | 102.6 | 103.2 | 104.0 | 106.2 | 109.6 | 111.3 | 105.8 | 97.6 |       |
| DBA   | 78.6 | 83.7 | 86.8 | 87.3 | 89.3  | 90.4  | 91.0  | 93.3  | 94.6  | 96.8  | 97.8  | 91.6  | 84.5 |       |

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
 NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NA53-22514

VEHICLE = ADH151 TEST DATE = 06-25-82 LOCAL = C41 ANEGH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = S859 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 MIKE HI = PAMB HG = 29.45 RELHUM = 47.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL NBR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2432.8 FPS AER AE18 = 19.9 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2432.8 FPS AER AE18 = 19.9 SQ IN

RUNPT = 82F-ZER-0619 TAPE = X06191 TEST PT NO = 0619 NC = AE048 CORR FAN SPEED = RPM

CGI







921

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0620 X06201

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 69.0 | 72.0 | 72.9 | 72.6 | 73.6 | 72.8 | 78.0 | 74.6 | 79.1 | 86.8 | 89.9 | 89.5 | 84.6  | 164.6 |
| 63    | 70.1 | 73.0 | 73.7 | 74.8 | 74.7 | 74.6 | 77.7 | 74.6 | 80.7 | 84.2 | 91.8 | 92.3 | 86.9  | 167.6 |
| 80    | 70.8 | 73.1 | 74.3 | 74.3 | 75.9 | 75.6 | 77.0 | 77.8 | 84.2 | 91.8 | 96.1 | 92.3 | 86.9  | 169.1 |
| 100   | 71.8 | 73.9 | 75.9 | 75.4 | 77.3 | 76.8 | 77.6 | 80.0 | 85.1 | 91.8 | 96.8 | 92.7 | 86.9  | 169.6 |
| 125   | 73.8 | 74.7 | 76.0 | 76.3 | 78.2 | 77.7 | 79.0 | 85.2 | 90.8 | 96.6 | 99.9 | 86.5 | 169.1 |       |
| 150   | 75.7 | 76.9 | 77.8 | 76.7 | 80.5 | 79.7 | 80.2 | 81.3 | 86.5 | 89.9 | 95.4 | 85.8 | 168.4 |       |
| 160   | 75.4 | 77.8 | 77.8 | 76.7 | 80.6 | 81.4 | 81.9 | 82.7 | 86.8 | 89.9 | 93.5 | 87.6 | 167.6 |       |
| 200   | 75.4 | 81.1 | 81.8 | 80.6 | 81.4 | 81.9 | 83.9 | 86.0 | 86.6 | 86.2 | 79.9 | 77.1 | 165.0 |       |
| 250   | 76.8 | 77.5 | 80.3 | 80.0 | 80.0 | 79.8 | 81.4 | 83.2 | 86.2 | 90.2 | 91.0 | 85.8 | 166.5 |       |
| 315   | 77.1 | 77.8 | 79.4 | 78.7 | 80.8 | 81.0 | 81.5 | 83.6 | 87.1 | 88.9 | 90.4 | 84.2 | 166.3 |       |
| 400   | 77.2 | 79.5 | 80.5 | 79.4 | 81.7 | 82.1 | 82.4 | 83.5 | 85.9 | 87.9 | 87.0 | 82.1 | 165.3 |       |
| 500   | 75.6 | 78.4 | 80.5 | 79.9 | 80.6 | 81.4 | 81.9 | 83.9 | 86.0 | 86.6 | 86.2 | 79.9 | 165.0 |       |
| 630   | 75.1 | 77.1 | 79.0 | 80.7 | 81.7 | 81.8 | 83.7 | 85.7 | 85.2 | 83.9 | 78.2 | 74.8 | 164.4 |       |
| 800   | 75.6 | 78.3 | 79.5 | 81.7 | 80.8 | 82.1 | 83.6 | 84.9 | 85.0 | 82.0 | 75.8 | 72.9 | 164.4 |       |
| 1000  | 74.9 | 78.3 | 79.7 | 80.3 | 80.5 | 80.9 | 81.7 | 83.1 | 85.8 | 85.6 | 81.2 | 76.2 | 165.2 |       |
| 1250  | 74.6 | 78.4 | 79.5 | 80.2 | 82.5 | 82.4 | 82.3 | 83.1 | 85.9 | 84.7 | 81.4 | 76.7 | 166.2 |       |
| 1500  | 75.6 | 80.3 | 81.1 | 80.5 | 84.2 | 83.5 | 82.2 | 83.1 | 85.2 | 83.2 | 80.0 | 75.1 | 166.2 |       |
| 2000  | 75.9 | 80.4 | 83.9 | 83.4 | 84.9 | 83.3 | 82.1 | 81.7 | 82.7 | 79.7 | 77.4 | 71.5 | 168.4 |       |
| 2500  | 70.8 | 77.1 | 79.6 | 80.7 | 81.7 | 81.4 | 79.9 | 79.6 | 81.5 | 78.8 | 73.7 | 68.2 | 168.5 |       |
| 3150  | 64.5 | 70.3 | 74.0 | 75.9 | 79.6 | 79.4 | 78.2 | 75.6 | 75.7 | 72.1 | 66.8 | 59.7 | 168.1 |       |
| 4000  | 57.2 | 65.2 | 69.7 | 71.4 | 71.6 | 71.8 | 70.3 | 67.7 | 69.8 | 64.8 | 58.9 | 48.0 | 168.5 |       |
| 5000  | 40.4 | 51.6 | 57.7 | 59.2 | 63.9 | 64.3 | 62.7 | 60.0 | 60.8 | 54.3 | 46.3 | 30.5 | 168.7 |       |
| 6300  | 18.5 | 34.2 | 42.1 | 45.2 | 51.1 | 51.3 | 49.3 | 45.8 | 46.0 | 37.7 | 24.6 |      | 169.7 |       |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      | 171.8 |       |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      | 171.8 |       |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 15000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |

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NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

DBA 84.6 88.5 90.5 90.5 90.5 92.5 92.0 91.6 92.3 94.5 94.2 93.3 87.8 83.9

PWLT 97.1 100.9 104.0 103.2 105.0 103.8 103.8 103.9 105.8 105.7 107.3 101.1 96.4

PWL 96.1 100.2 102.8 102.7 104.5 103.8 103.2 103.4 105.8 105.7 106.3 101.1 96.4

PASPL 87.4 90.4 92.1 91.9 93.7 93.4 93.6 94.7 97.7 101.0 104.2 100.0 95.2 181.9

VEHICL = ADH162 TEST DATE = 06-25-82 LOCAL = C4 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 400. FPS

IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMF F = 83.00 PAMB HG = 29.25 RELHUM = 62.5 PCT

WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2447.4 FPS AEB = 19.9 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 2447.4 FPS AE18 = 0. SQ IN

RU 82F-400-0620 TAPE = X06201 TEST PT NO = 062 NC = AE048 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 8ZF-ZER-0621 X0621F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

50 61.8 63.3 63.8 64.9 61.5 61.1 66.0 66.9 67.1 65.9 93.3 93.5 94.4 129.9

63 65.0 62.5 63.8 60.6 68.8 67.1 96.1 92.8 91.3 98.5 97.7 99.6 136.7

80 68.2 63.0 69.8 60.6 63.0 61.5 93.2 91.1 95.2 98.1 99.0 135.1

100 68.7 65.5 61.8 63.4 93.8 94.6 96.1 94.0 96.1 99.0 102.7 104.6 138.6

125 65.6 60.1 62.2 62.2 94.3 94.7 96.0 96.2 94.9 98.0 104.1 107.3 108.0 141.5

160 65.3 65.0 68.3 69.7 90.3 69.7 93.3 94.1 98.6 105.0 108.2 110.4 142.3

200 67.3 66.9 68.9 61.3 93.4 95.0 95.2 98.6 100.7 106.1 110.5 112.7 144.3

250 67.3 60.3 90.6 91.1 92.2 92.1 94.7 97.6 99.3 106.2 111.8 115.0 148.1

315 66.0 90.1 90.6 92.7 95.1 97.2 97.6 101.6 108.4 113.3 116.0 116.1 149.4

400 67.6 60.7 91.4 91.5 93.6 94.2 102.1 98.7 102.7 112.0 115.6 117.3 151.0

500 68.5 61.0 61.5 92.5 94.4 95.5 96.6 99.8 104.3 113.3 118.0 118.1 152.3

630 69.3 62.3 63.6 64.1 65.4 67.1 68.7 101.4 105.3 115.9 118.8 118.7 153.4

800 63.2 64.4 66.8 68.2 69.6 68.7 99.6 101.5 104.1 108.3 116.9 121.0 155.0

1000 68.8 102.3 102.8 102.1 102.4 102.3 102.9 104.9 109.1 116.4 121.3 119.4 116.7 155.0

1500 97.1 98.3 99.9 100.0 101.6 102.4 103.5 105.8 109.4 115.3 120.6 118.3 115.1 154.2

2000 98.0 98.7 99.9 100.1 100.7 100.9 100.7 102.2 109.4 114.6 119.7 115.7 113.5 153.1

2500 99.6 100.6 101.2 99.7 100.5 101.4 103.1 106.4 108.8 115.1 117.9 113.9 110.7 152.0

3150 98.2 99.7 100.2 99.8 100.8 101.9 103.5 106.8 109.3 113.7 117.2 112.8 109.3 151.4

4000 95.5 97.4 99.1 98.6 100.2 101.4 103.0 106.1 108.5 111.9 114.3 110.3 106.8 149.7

5000 95.6 98.1 99.5 98.7 99.9 101.1 102.8 105.8 108.3 111.9 114.3 110.3 106.8 149.6

6300 95.3 97.6 97.9 97.9 100.1 100.8 102.6 106.0 107.5 110.4 112.2 108.7 105.4 148.5

8000 95.0 97.6 98.9 97.8 98.8 100.3 101.8 104.6 106.6 108.7 110.4 106.7 104.1 147.5

10000 95.1 98.6 100.6 99.1 99.0 100.5 101.5 104.3 105.9 108.3 109.0 106.2 102.7 147.6

12500 94.6 98.1 100.9 100.9 100.9 101.2 102.9 104.7 106.2 107.6 105.2 102.7 102.7 147.5

16000 92.1 95.9 98.6 98.4 100.9 100.9 100.2 101.6 102.7 104.1 105.7 103.5 100.7 147.2

20000 90.2 93.0 95.9 96.1 98.4 99.6 99.0 99.4 100.5 101.5 102.9 101.8 97.9 147.1

25000 87.7 90.9 94.7 96.8 98.1 97.5 97.5 98.9 99.8 99.8 102.7 100.3 95.8 147.7

31500 81.4 86.7 89.0 89.0 91.9 94.0 93.0 92.9 94.5 97.0 98.8 96.1 90.0 146.7

40000 78.6 84.2 87.2 86.5 89.8 91.4 91.0 90.8 93.0 95.3 97.6 94.0 86.8 148.8

50000 75.6 80.8 84.6 83.7 87.9 89.3 88.1 87.7 90.5 94.4 96.5 91.2 84.1 151.3

63000 71.5 76.8 81.0 80.6 84.4 85.5 83.5 83.3 87.7 93.0 94.7 88.5 80.1 154.3

80000 64.3 70.9 76.2 75.3 78.1 80.7 77.6 79.0 83.4 90.0 91.0 84.2 72.8 157.1

100000 61.5 68.1 73.4 72.5 75.3 77.9 75.3 76.6 80.4 87.0 88.0 81.0 68.8 156.1

125000 58.8 65.4 70.7 69.8 72.6 75.2 72.6 73.9 77.7 84.4 85.4 78.0 65.1 154.3

150000 56.1 62.7 68.0 67.1 70.0 72.6 69.0 70.3 74.1 80.8 81.8 74.0 62.4 152.5

200000 53.4 60.0 65.3 64.4 67.3 69.9 66.3 67.6 71.4 78.0 79.0 71.0 59.5 150.7

250000 50.7 57.3 62.6 61.7 64.6 67.2 63.6 64.9 68.7 75.3 76.3 68.0 56.8 148.9

315000 48.0 54.6 59.9 59.0 62.0 64.6 60.0 61.3 65.1 71.8 72.8 65.0 54.1 147.1

400000 45.3 51.9 57.2 56.3 59.2 61.8 57.3 58.6 62.4 68.7 69.7 61.0 51.4 145.3

500000 42.6 49.2 54.5 53.6 56.5 59.1 55.0 56.3 60.1 66.6 67.6 58.0 48.7 143.5

630000 40.0 46.6 51.9 51.0 54.0 56.6 51.9 53.2 57.0 63.5 64.5 55.0 46.0 141.7

800000 37.3 43.9 49.2 48.3 51.2 53.8 49.3 50.6 54.8 60.0 61.0 52.0 43.0 139.9

1000000 34.6 41.2 46.5 45.6 48.5 51.1 47.0 48.3 52.6 57.0 58.0 49.0 40.0 138.1

1250000 32.0 38.6 43.9 43.0 46.0 48.6 44.1 45.4 49.4 54.0 55.0 46.0 37.0 136.3

1500000 29.4 36.0 41.3 40.4 43.3 45.9 41.4 42.7 46.3 51.0 52.0 43.0 34.0 134.5

2000000 26.7 33.3 38.6 37.7 40.6 43.2 39.0 40.3 43.6 48.0 49.0 40.0 31.0 132.7

VEHICLE = ADH152 TEST DATE = 06-25-82 LCAT = CAT ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS  
IAPLHA = SB59 LEGA = NO PML AREA = FULL SPHERE TAMB F = 80.00 MIKE HT = 29.45 PAMB HG = 41.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC WIND VEL = 19.9 SQ IN  
FNNI = LBS XNLR = RPM XNH = RPM V8 = 2462.0 FPS AEB = 19.9 SQ IN  
NRAMB = LBS XNLR = RPM XNH = RPM V8 = 2462.0 FPS AEB = 19.9 SQ IN  
PT = 1 ZER-0621 TAPE = X0621F TEST PT NO = 0621 NC = AE048 CORR FAN SPEED = RPM

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514  
MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

ORIGINAL PAGE IS  
OF POOR QUALITY

CELL PAGE PRINTING SYSTEM- P1188-03

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0621 X06211

ANGLES MEASURED FROM INLET, DEGREES

| FREQ                                      | 50   | 60   | 70   | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|---|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL                                       | 66.7 | 71.2 | 73.1 | 73.8  | 76.3  | 77.1  | 84.8  | 81.1  | 84.3  | 92.6  | 94.7  | 94.2  |
| 50  | 67.5 | 71.5 | 73.1 | 74.9  | 77.1  | 78.4  | 79.4  | 82.1  | 85.9  | 93.9  | 97.0  | 94.9  |
| 63  | 68.2 | 72.8 | 75.2 | 76.4  | 78.2  | 79.9  | 81.4  | 83.7  | 86.9  | 96.4  | 97.7  | 95.4  |
| 80  | 68.2 | 72.8 | 75.2 | 76.4  | 78.2  | 79.9  | 81.4  | 83.7  | 86.9  | 96.4  | 97.7  | 95.4  |
| 100                                       | 72.0 | 74.9 | 77.5 | 78.0  | 79.5  | 81.0  | 82.3  | 85.5  | 89.0  | 97.2  | 99.5  | 95.7  |
| 125                                       | 76.5 | 79.4 | 80.8 | 80.1  | 81.3  | 82.3  | 84.1  | 86.3  | 89.8  | 97.3  | 99.8  | 97.3  |
| 150                                       | 79.4 | 80.8 | 80.1 | 81.3  | 82.3  | 84.1  | 86.3  | 89.8  | 97.3  | 99.8  | 97.3  | 97.3  |
| 175                                       | 82.5 | 84.1 | 84.2 | 84.9  | 84.9  | 85.4  | 86.9  | 90.4  | 96.6  | 99.8  | 95.7  | 89.3  |
| 200                                       | 75.4 | 78.3 | 81.1 | 81.9  | 83.9  | 84.9  | 85.8  | 87.7  | 90.6  | 95.2  | 99.0  | 94.2  |
| 250                                       | 76.0 | 78.4 | 80.7 | 82.2  | 83.0  | 84.8  | 87.9  | 90.3  | 94.4  | 97.7  | 91.2  | 85.0  |
| 315                                       | 77.2 | 80.0 | 81.7 | 81.1  | 82.4  | 83.4  | 84.9  | 87.8  | 89.4  | 94.5  | 95.4  | 88.9  |
| 400                                       | 75.2 | 78.7 | 80.5 | 80.8  | 82.4  | 83.6  | 85.1  | 87.8  | 89.6  | 92.6  | 94.3  | 87.1  |
| 500                                       | 72.1 | 76.0 | 79.0 | 79.4  | 81.4  | 82.8  | 84.3  | 86.9  | 88.4  | 90.5  | 91.3  | 85.1  |
| 630                                       | 71.7 | 76.3 | 79.1 | 79.2  | 80.9  | 82.3  | 83.8  | 86.3  | 87.9  | 90.1  | 90.4  | 83.3  |
| 800                                       | 70.9 | 75.4 | 77.7 | 78.1  | 80.8  | 81.7  | 83.3  | 86.2  | 86.8  | 88.2  | 87.8  | 80.9  |
| 1000                                      | 75.1 | 78.0 | 77.8 | 79.4  | 81.1  | 82.0  | 84.1  | 84.7  | 85.5  | 83.6  | 77.4  | 64.2  |
| 1250                                      | 69.7 | 76.0 | 79.4 | 78.9  | 79.5  | 81.2  | 82.0  | 84.1  | 84.7  | 85.5  | 83.6  | 77.4  |
| 1500                                      | 68.4 | 74.6 | 79.3 | 80.4  | 81.1  | 81.3  | 81.4  | 82.4  | 83.1  | 82.8  | 81.4  | 74.6  |
| 2000                                      | 65.0 | 71.9 | 76.6 | 77.7  | 81.0  | 81.2  | 80.3  | 80.9  | 80.7  | 80.1  | 78.6  | 71.2  |
| 2500                                      | 61.2 | 67.7 | 73.0 | 74.7  | 77.8  | 79.4  | 78.4  | 78.0  | 77.7  | 76.2  | 76.0  | 66.8  |
| 3150                                      | 55.4 | 63.2 | 69.7 | 71.8  | 74.9  | 76.5  | 75.6  | 74.2  | 74.2  | 72.1  | 70.3  | 60.3  |
| 4000                                      | 42.9 | 54.2 | 60.4 | 62.8  | 67.1  | 69.6  | 68.2  | 66.8  | 65.9  | 64.6  | 60.3  | 47.2  |
| 5000                                      | 30.2 | 44.2 | 52.4 | 54.9  | 60.0  | 62.1  | 61.2  | 59.2  | 58.2  | 55.3  | 49.3  | 31.3  |
| 6300                                      | 9.5  | 26.6 | 37.8 | 41.3  | 47.9  | 50.1  | 48.1  | 45.3  | 43.7  | 40.2  | 30.4  | 4.5   |
| 8000                                      | 12.8 | 19.0 | 26.3 | 28.5  | 25.4  | 23.6  | 19.5  | 14.0  |       |       |       |       |
| 10000                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 12500                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 15000                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 16000                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 20000                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 25000                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 31500                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 40000                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 50000                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 63000                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| 80000                                     |      |      |      |       |       |       |       |       |       |       |       |       |
| OASPL                                     | 85.4 | 89.5 | 91.9 | 92.1  | 93.7  | 94.7  | 96.1  | 98.1  | 100.3 | 105.8 | 108.2 | 104.3 |
| PWL                                       | 90.5 | 95.5 | 99.3 | 100.1 | 102.4 | 103.3 | 103.5 | 104.7 | 106.0 | 109.3 | 110.8 | 105.5 |
| PNLT                                      | 90.5 | 96.1 | 99.9 | 100.7 | 102.9 | 103.8 | 104.1 | 104.7 | 106.5 | 110.0 | 110.8 | 106.7 |
| DBA                                       | 79.9 | 84.7 | 87.9 | 88.4  | 90.2  | 91.3  | 91.9  | 93.9  | 95.0  | 97.3  | 98.3  | 92.3  |
| MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN )   |      |      |      |       |       |       |       |       |       |       |       |       |
| SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) |      |      |      |       |       |       |       |       |       |       |       |       |
| DIAMETER RATIO = 8.392                    |      |      |      |       |       |       |       |       |       |       |       |       |
| FREQ SHIFT = -9                           |      |      |      |       |       |       |       |       |       |       |       |       |

ORIGINAL RECORD OF DATA

NASA SHOCK CELL/20 EL ANN C-D SUPP NDZ SC-6/NAS3-22514

VEHICL = ADH152 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = S859 TEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 MIKE HI = NBR =  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HI = NBR =  
 FNINI = LBS XNL = RPM XNH = RPM V8 = 2462.0 FPS AEB = 19.9 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2462.0 FPS AEB = 19.9 SQ IN  
 RUNPT = 82F-ZER-0621 TAPE = X06211 TEST PT NO = 0621 NC = AEO48 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0622 X0622C  
BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FREQ 85.5 86.3 85.8 82.1 84.0 81.6 87.2 84.9 87.3 85.2 91.8 91.7 95.4 129.6

53 86.5 93.7 95.3 90.1 91.1 87.3 96.1 92.1 93.3 88.8 93.7 93.4 96.3 134.9

60 88.4 92.5 89.0 90.0 90.1 91.7 92.1 91.5 92.5 89.8 94.2 96.6 99.0 134.5

100 88.2 93.7 89.5 90.3 92.1 91.8 92.9 94.6 92.3 92.3 97.0 101.4 103.3 137.0

125 85.1 88.6 89.9 90.4 92.3 92.7 93.8 93.7 92.4 94.5 100.9 105.3 106.7 139.4

160 83.8 81.5 88.1 88.3 87.7 87.6 89.5 89.6 91.1 95.6 102.0 105.9 108.4 140.0

200 84.1 84.9 85.9 84.9 87.3 88.9 93.0 92.2 95.1 96.4 102.3 108.0 109.9 141.4

250 82.8 86.1 86.1 86.9 86.6 86.9 89.3 91.5 94.1 95.3 101.4 108.0 111.7 144.7

315 82.5 86.6 86.6 86.9 89.0 90.8 93.2 94.1 97.6 104.6 110.0 113.5 113.1 146.4

400 84.1 86.2 87.2 86.7 89.6 90.4 96.6 94.7 98.7 107.3 112.6 115.1 112.2 147.9

500 84.7 88.8 90.4 88.8 90.9 92.3 94.7 97.6 101.1 111.9 116.8 115.0 108.9 150.0

630 85.3 87.6 90.1 89.6 90.9 92.3 94.7 97.6 101.1 111.9 116.8 115.0 108.9 150.0

800 87.9 88.2 90.2 91.0 92.6 94.0 95.8 97.0 99.2 102.5 105.6 111.4 115.7 108.0 102.0 148.6

2000 94.6 94.7 94.9 94.0 95.3 97.0 99.2 102.5 105.6 111.4 115.7 108.0 102.0 148.6

2500 94.1 96.6 97.2 95.7 96.0 97.1 99.1 102.7 105.3 110.8 113.9 106.7 100.2 147.6

3150 93.1 94.3 94.9 95.2 95.9 98.1 100.0 102.8 105.0 107.9 109.0 101.8 96.3 145.0

4000 92.0 93.2 94.8 94.5 96.6 98.1 99.2 103.0 104.9 108.4 109.6 102.9 97.2 145.2

5000 93.1 94.3 94.9 95.2 95.9 98.1 100.0 102.8 105.0 107.9 109.0 101.8 96.3 145.0

6300 94.4 94.5 95.3 95.0 96.5 97.2 99.5 103.1 104.4 106.7 107.1 100.3 95.6 144.3

8000 94.5 95.9 96.7 95.3 97.3 98.6 100.9 103.9 104.9 105.2 105.5 98.5 93.4 143.8

10000 97.3 98.9 99.7 97.2 97.5 99.0 99.7 102.4 104.3 105.9 104.9 98.9 93.6 145.0

12500 92.2 99.3 103.1 100.9 100.4 100.7 100.5 103.7 105.1 103.8 99.2 94.2 146.2

16000 94.1 96.8 99.5 98.8 101.2 100.4 100.7 102.9 102.9 103.2 103.1 98.2 93.0 146.6

20000 91.7 94.0 96.4 95.7 98.0 99.1 98.9 99.2 99.8 100.6 100.7 96.8 91.9 145.8

25000 89.6 92.0 94.8 94.2 96.8 97.9 98.1 97.6 98.8 99.4 98.3 94.9 89.4 146.8

31500 83.2 87.2 89.1 92.2 94.2 94.2 93.3 93.1 94.2 94.4 93.6 90.4 83.6 145.3

40000 79.6 83.9 87.4 86.3 89.5 90.9 90.5 92.4 91.7 91.9 86.4 79.8 146.7

50000 76.4 80.3 83.9 82.8 86.3 88.0 87.0 87.6 90.0 89.5 88.6 82.9 75.1 148.1

63000 71.8 76.6 80.6 79.4 83.4 84.5 83.0 84.1 86.8 88.3 86.0 78.3 69.7 150.5

80000 65.9 73.8 75.9 75.3 77.7 80.3 77.7 78.8 83.6 85.4 81.9 71.3 60.5 153.3

QASPL 106.2 108.2 109.8 108.6 109.9 110.7 112.3 114.5 116.9 122.2 127.2 123.8 120.6 162.5

PMLT 117.5 119.4 120.8 120.2 119.8 121.1 122.1 124.8 126.9 129.4 134.0 137.8 132.7 128.5

DBA 104.5 105.9 106.8 106.1 107.4 108.6 110.5 113.6 116.3 121.9 126.9 121.7 116.2

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH163 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS

WIND DIR = 8859 LEGA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = 29.25 RELHUM = 59.2 PCT

FNRMB = LBS XNLR = RPM XNHR = RPM V8 = 2460.7 FPS AEB = 19.9 SQ IN

FNINI = LBS XNL = RPM XNH = RPM V8 = 2460.7 FPS AEB = 19.9 SQ IN

MPT = 82F-400-0622 TAPE = X0622C TEST PT NO = 0622 NC = AE048 CORR FAN SPEED = RPM

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0.51



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0622 X06221

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.  
PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 69.2 | 72.5 | 73.2 | 72.6 | 74.2 | 73.6 | 78.0 | 74.3 | 79.2 | 87.4 | 91.3 | 89.9 | 85.5  | 165.5 |
| 63    | 70.8 | 73.1 | 73.8 | 72.5 | 75.0 | 74.7 | 75.6 | 76.2 | 81.4 | 90.7 | 94.1 | 91.9 | 86.9  | 167.8 |
| 80    | 71.3 | 73.1 | 74.6 | 74.6 | 75.6 | 75.6 | 76.8 | 78.3 | 84.4 | 92.0 | 96.5 | 92.4 | 87.9  | 169.4 |
| 100   | 71.8 | 74.4 | 76.6 | 75.4 | 77.3 | 77.3 | 77.9 | 80.6 | 85.4 | 92.5 | 97.6 | 92.9 | 87.7  | 170.2 |
| 125   | 74.3 | 75.0 | 76.7 | 76.8 | 77.9 | 78.2 | 79.5 | 80.9 | 85.9 | 91.3 | 97.5 | 91.6 | 87.2  | 169.9 |
| 160   | 76.1 | 76.6 | 78.3 | 76.8 | 80.7 | 79.5 | 80.5 | 81.6 | 86.6 | 90.2 | 96.9 | 90.2 | 86.2  | 169.5 |
| 200   | 78.3 | 81.0 | 81.6 | 80.3 | 81.9 | 81.4 | 82.1 | 82.8 | 86.8 | 91.4 | 94.7 | 88.1 | 85.6  | 168.6 |
| 250   | 78.3 | 80.8 | 80.8 | 79.7 | 80.5 | 80.8 | 81.3 | 83.2 | 86.5 | 90.8 | 92.9 | 86.7 | 83.6  | 167.6 |
| 315   | 77.5 | 78.9 | 79.6 | 78.6 | 80.5 | 80.8 | 81.3 | 83.4 | 87.2 | 89.6 | 91.6 | 85.1 | 83.6  | 167.6 |
| 400   | 76.7 | 80.6 | 81.7 | 80.2 | 82.1 | 81.9 | 82.7 | 83.8 | 86.5 | 88.5 | 88.6 | 82.5 | 79.5  | 166.1 |
| 500   | 77.3 | 79.7 | 81.2 | 81.4 | 81.6 | 82.1 | 81.9 | 84.1 | 86.2 | 87.5 | 87.3 | 80.6 | 77.5  | 165.7 |
| 630   | 75.6 | 78.1 | 80.1 | 79.7 | 80.9 | 82.2 | 82.6 | 83.6 | 85.4 | 86.2 | 87.5 | 80.6 | 77.5  | 165.7 |
| 800   | 76.1 | 78.8 | 80.0 | 80.2 | 81.3 | 81.1 | 81.8 | 83.8 | 84.7 | 84.3 | 83.1 | 76.1 | 72.7  | 164.5 |
| 1000  | 75.9 | 78.5 | 80.0 | 79.8 | 80.4 | 81.0 | 83.4 | 85.3 | 85.1 | 82.4 | 76.2 | 72.2 | 165.2 |       |
| 1250  | 75.3 | 78.8 | 80.6 | 79.5 | 81.6 | 82.7 | 82.2 | 82.9 | 85.5 | 82.0 | 76.8 | 72.1 | 166.3 |       |
| 1600  | 75.8 | 80.0 | 82.2 | 80.3 | 84.6 | 84.1 | 83.0 | 83.0 | 85.1 | 83.4 | 81.3 | 75.3 | 69.3  | 167.7 |
| 2000  | 75.7 | 80.4 | 85.6 | 83.7 | 85.2 | 83.7 | 83.1 | 82.9 | 82.3 | 80.7 | 78.0 | 71.8 | 64.6  | 169.0 |
| 2500  | 71.1 | 76.7 | 80.9 | 80.8 | 81.5 | 81.8 | 80.8 | 79.6 | 81.1 | 79.2 | 74.9 | 68.5 | 58.6  | 168.8 |
| 3150  | 64.7 | 70.9 | 75.3 | 75.5 | 79.0 | 79.3 | 78.6 | 76.4 | 75.4 | 72.6 | 67.8 | 60.1 | 45.8  | 168.4 |
| 4000  | 55.5 | 63.4 | 69.1 | 69.9 | 71.9 | 72.6 | 70.8 | 68.6 | 70.0 | 65.2 | 60.0 | 47.6 | 28.1  | 168.4 |
| 5000  | 41.4 | 52.4 | 58.7 | 59.7 | 64.2 | 64.6 | 62.9 | 60.3 | 61.3 | 55.3 | 46.6 | 30.2 | 1.7   | 169.1 |
| 6300  | 19.6 | 34.5 | 43.9 | 45.7 | 50.9 | 51.8 | 49.3 | 46.2 | 46.1 | 39.8 | 25.8 | 0.4  |       | 170.4 |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |       | 172.8 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 172.6 |

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|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| DASPL | 87.9 | 90.8  | 93.0  | 92.1  | 93.7  | 93.7  | 93.8  | 94.9  | 97.8  | 101.5 | 105.2 | 100.3 | 96.0 | 182.5 |
| PNL   | 96.3 | 100.3 | 104.0 | 102.9 | 104.6 | 104.1 | 103.8 | 104.0 | 105.6 | 106.1 | 107.4 | 101.5 | 97.3 |       |
| PFLT  | 96.3 | 101.0 | 105.3 | 103.9 | 104.6 | 104.7 | 103.8 | 104.5 | 105.6 | 106.7 | 107.4 | 102.9 | 97.3 |       |
| DBA   | 85.1 | 88.7  | 91.6  | 90.6  | 92.5  | 92.3  | 91.9  | 92.6  | 94.3  | 94.6  | 94.5  | 88.3  | 84.7 |       |

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
 NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH163 TEST DATE = 06-25-82  
 IAPLHA = S859 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 LOCAL = C41 ANECH CH CONFIG = 6  
 MODEL = AX  
 FLTVEL = 400. FPS  
 PAMB HG = 29.25  
 RELHUM = 59.2 PCT  
 MIKE HT =  
 NBRF =  
 EXT AREA = FULL SPHERE  
 TAMB F = 83.00  
 EXT DIST = 2400.0 FT  
 EXT CONFIG = SL  
 FB = 19.9 SQ IN  
 AE8 = 19.9 SQ IN  
 AE18 = 0. SQ IN  
 XNLR =  
 XNHR =  
 XNHL =  
 RPM =  
 V8 = 2460.7 FPS  
 AER =  
 V18 =  
 FPS =  
 AER =  
 AE18 =  
 O. SQ IN  
 TEST PT NO = 062  
 NC = AEO48  
 CORR FAN SPEED =  
 RPM =





FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0623 X0623F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 82.8 83.3 83.6 83.1 83.2 81.1 86.2 84.9 87.1 86.4 93.8 93.5 94.4 129.8

63 87.0 91.5 93.0 91.1 92.6 89.5 95.6 93.1 93.5 93.3 99.7 97.7 98.3 136.3

80 88.9 93.5 90.0 90.5 91.1 93.2 93.1 92.3 93.7 91.6 95.2 98.9 100.0 135.7

100 89.5 96.7 92.3 93.1 94.4 94.0 94.9 96.3 94.3 96.8 99.7 103.7 105.3 139.3

125 86.1 90.4 92.9 95.0 95.7 96.3 96.9 96.2 98.7 104.6 107.8 108.7 142.1

160 86.0 85.8 90.3 88.8 90.4 91.3 97.7 94.1 95.1 99.4 106.3 108.9 111.1 143.2

200 88.1 87.6 89.9 91.8 94.4 95.8 95.9 99.4 101.2 106.8 112.9 124.9

250 87.8 90.3 91.3 92.4 92.5 93.8 95.5 98.6 99.6 106.9 112.5 115.4 148.8

315 86.8 90.6 90.8 91.4 93.5 95.3 98.0 98.4 102.6 109.9 114.3 117.0 150.3

400 88.4 91.7 92.4 92.2 94.6 95.2 102.6 99.2 103.7 113.3 116.9 119.7 152.1

500 89.5 91.7 93.0 93.5 94.9 96.5 97.6 100.5 105.3 115.3 119.2 128.9 153.5

630 90.3 92.3 94.3 94.6 95.9 97.8 99.2 101.9 106.1 117.1 120.3 120.0 154.7

800 94.2 96.5 96.0 97.6 99.0 100.6 104.2 108.5 118.5 121.7 120.1 118.0 155.7

1000 88.5 100.1 100.3 98.6 99.2 100.1 102.2 105.4 109.6 118.7 121.8 120.5 155.9

1250 97.5 103.3 103.6 103.4 103.2 102.8 103.9 105.9 110.1 118.4 121.8 119.9 155.9

1600 99.1 99.0 101.2 102.6 102.7 104.5 106.6 110.7 117.5 121.9 117.8 115.3 155.2

2000 99.8 100.4 101.4 99.7 100.1 101.7 103.8 107.2 110.6 117.1 120.2 118.0 154.0

2500 89.8 101.6 102.7 101.4 101.8 101.9 103.8 107.2 110.6 117.1 118.4 114.9 153.2

3150 98.7 99.7 101.0 101.0 102.1 103.2 105.0 107.5 110.6 115.9 117.7 113.6 152.5

4000 95.8 97.4 99.6 101.2 102.6 104.0 107.3 109.5 114.4 115.2 112.5 109.5 151.0

5000 96.1 97.6 99.0 99.2 100.2 102.4 104.3 106.8 109.8 113.9 115.0 111.3 150.8

6300 95.3 97.8 98.9 99.1 100.6 100.8 103.6 106.7 109.0 111.9 113.2 110.5 149.7

8000 95.0 98.1 99.2 98.3 99.5 100.8 102.5 106.1 108.1 110.7 111.2 107.7 148.7

10000 94.3 97.8 100.1 99.1 100.0 101.3 102.5 105.3 107.4 109.8 109.7 107.7 148.6

12500 93.9 96.1 99.6 99.6 100.4 100.6 101.7 103.6 105.5 107.7 108.1 106.4 147.9

16000 92.1 95.6 97.8 98.4 100.2 100.4 100.7 102.6 103.7 105.4 106.5 104.0 147.7

20000 89.4 92.7 93.6 96.4 98.9 99.6 99.7 99.6 101.3 103.2 105.2 102.8 147.7

25000 86.9 90.7 93.9 94.2 96.8 97.6 97.8 97.6 99.4 100.2 102.8 103.7 148.4

31500 80.9 86.7 89.0 89.2 92.4 93.8 93.0 92.9 96.0 99.5 99.8 95.8 147.6

40000 78.3 83.0 83.0 87.0 86.2 90.3 91.4 91.3 91.8 94.0 99.5 98.6 150.3

50000 75.4 80.3 83.9 83.7 87.4 89.1 88.1 88.7 85.5 89.8 96.8 94.5 152.9

63000 71.3 76.5 80.3 80.6 83.4 85.0 83.7 85.5 89.8 96.8 94.5 88.7 155.8

80000 64.3 70.6 75.2 75.5 77.8 80.2 78.8 79.8 85.4 93.8 91.5 84.2 159.1

109.0 111.4 112.5 112.1 113.3 114.1 115.8 118.2 121.3 128.1 131.0 129.5 127.6 167.3

122.0 123.9 125.1 124.6 125.7 126.7 128.7 131.0 134.1 139.9 142.2 139.8 137.5

122.0 125.2 125.1 125.9 126.7 126.7 129.5 131.0 134.1 139.9 142.2 139.8 137.5

186.5 192.4 196.7 197.0 199.5 201.7 200.3 201.5 206.6 214.7 212.5 205.6 197.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0. , DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH153 TEST DATE = 06-25-82  
IAPLHA = SB59 WIND VEL = MPH  
WIND DIR = DEG

FNNI = LBS XNL RPM XNHR = RPM  
XNHL = LBS XNL RPM XNHR = RPM

VRAM = LBS XNL RPM XNHR = RPM  
VR = 2509.2 FPS AE8 = 19.9 SQ IN  
CORR FAN SPEED = RPM

TEST PT NO = 0623 NC = AE048  
CORR FAN SPEED = RPM

FR-0623 TAPE = X0623F  
TEST PT NO = 0623

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ALL PAGE PRINTING SYSTEM- P118F-02



DATPROG - FLIRAN  
UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC  
IDENTIFICATION - MODEL 82F-400-0624 X0624C BACKGROUND 82F-400-0600 X06000

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 87.3 86.6 84.1 84.1 84.5 81.6 87.0 86.9 87.1 87.4 95.3 92.2 96.4 130.9

63 86.2 93.2 91.8 92.6 88.5 97.4 93.3 90.3 93.1 100.0 92.7 97.3 136.2

80 86.7 93.5 93.7 91.3 91.1 92.7 92.4 92.0 92.2 90.6 94.9 97.1 100.0 135.1

100 89.2 94.7 90.5 91.3 93.4 92.8 94.1 95.3 93.3 93.3 97.7 102.4 104.1 137.9

125 86.4 89.1 90.9 91.9 93.5 93.4 94.3 94.2 93.4 95.0 101.9 106.3 107.7 140.3

150 84.5 82.3 88.6 88.9 88.8 88.8 96.2 90.8 91.8 96.6 103.8 106.9 109.6 141.2

200 85.1 85.1 86.6 85.4 88.0 89.4 93.3 93.4 96.1 97.2 103.3 108.8 111.4 142.5

250 83.3 86.6 88.1 88.7 90.1 92.5 95.1 96.3 102.4 109.5 113.0 112.9 145.9

315 83.0 86.1 87.9 89.2 90.8 94.5 94.6 98.1 106.1 111.0 114.5 114.1 147.5

400 84.4 86.7 88.4 87.7 89.8 90.7 97.6 95.5 99.9 108.5 113.6 116.1 148.9

500 85.2 86.7 88.8 89.5 90.6 92.5 94.6 96.8 101.0 111.1 116.0 116.1 150.0

630 85.5 88.3 90.4 92.2 93.6 95.2 96.8 100.3 104.7 114.3 119.4 116.5 151.3

800 88.2 88.4 91.2 91.5 93.6 95.2 96.8 100.3 104.7 114.3 119.4 116.5 152.0

1000 93.0 92.3 93.6 93.4 95.0 95.6 98.7 101.6 105.6 114.4 119.8 114.5 152.2

1250 92.5 97.8 97.6 96.9 98.0 98.3 99.7 101.9 106.3 114.2 120.3 113.2 152.4

1500 93.4 93.5 95.7 98.1 99.2 99.2 101.3 103.3 107.2 113.0 119.7 112.3 151.8

2000 93.6 96.4 96.4 95.3 96.8 96.8 97.5 100.7 104.5 112.9 117.4 110.5 150.3

2500 93.6 96.7 96.7 96.9 97.5 98.4 100.1 104.4 106.8 112.8 115.6 108.4 149.3

3150 93.6 95.2 95.5 96.0 97.8 98.6 100.5 104.8 107.6 111.4 114.2 107.1 148.4

4000 92.7 93.7 95.8 96.9 98.6 98.6 100.5 104.8 107.6 111.4 114.2 105.4 146.9

5000 93.1 94.8 95.7 96.2 96.9 96.9 98.6 100.7 103.8 106.3 110.1 111.2 146.8

6300 93.7 95.5 96.3 95.5 97.7 98.4 100.5 104.1 106.4 107.7 107.8 102.8 145.5

8000 96.8 96.6 97.1 98.4 98.4 100.5 103.2 105.1 106.9 106.5 100.2 95.1 144.9

10000 95.5 98.2 99.2 98.2 98.0 99.7 100.5 103.4 105.6 106.6 100.6 94.1 145.7

12500 96.9 98.0 100.6 100.4 100.2 101.9 101.5 103.6 105.2 105.6 104.3 99.9 146.7

15000 94.4 97.5 99.5 99.3 100.7 101.9 102.0 103.3 103.9 103.9 99.0 93.8 147.4

20000 91.7 92.0 96.7 98.3 99.8 99.6 101.0 102.0 102.0 101.3 102.0 97.5 146.8

25000 89.1 92.0 94.5 94.7 97.3 98.4 98.1 98.6 98.6 99.9 98.3 95.9 147.3

31500 83.2 87.2 89.2 89.6 92.2 94.5 93.3 93.8 95.7 95.2 94.6 90.6 145.8

40000 79.1 80.4 86.9 86.8 89.8 89.8 91.6 91.6 93.2 92.2 92.2 80.1 147.2

50000 75.9 80.8 83.4 82.6 86.8 86.5 87.5 88.8 90.8 90.8 89.8 83.7 148.9

63000 71.3 75.8 79.1 79.9 82.6 85.0 82.7 85.1 87.8 89.8 88.5 79.0 151.4

80000 65.6 71.8 75.9 75.3 77.2 80.1 77.7 80.3 86.1 88.9 88.9 72.3 155.2

QASPL 106.2 108.4 109.5 109.4 110.6 111.8 113.3 115.7 118.2 124.0 128.5 125.2 121.7 163.8

PNL 117.8 119.5 120.4 120.4 121.9 123.2 125.5 128.2 130.9 135.8 139.2 134.4 129.6

PMLT 117.8 121.2 120.4 120.4 121.9 123.2 126.0 128.2 130.9 135.8 139.2 134.4 129.6

DBA 104.5 106.3 107.4 107.2 108.4 109.6 111.7 114.9 117.7 123.8 128.3 123.4 117.3

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH164 TEST DATE = 06-25-82 LOCAL = CAT ANECH CH CONFIG = 6 MODEL = AX FLTVL = 400. FPS  
IAPLHA = SB59 LEQA = NO PWL AREA = FULL SPHERE EXT DIST = 40.0 FT. EXT CONFIG = ARC MIKE HT = 29.25 RELHUM = 59.2 PCT  
WIND DIR = DEG WIND/VEL = MPH  
FNIN1 = LBS XNL RPM XNH XNHR = RPM XNHR = RPM V8 = 2513.0 FPS AEB = 19.9 SQ IN  
FNRM8 = LBS XNLR = RPM XNLR = RPM V18 = 2513.0 FPS AEB = 0. SQ IN  
JNPT = 82F-400-0624 TAPE = X0624C TEST PT NO = 0624 NC = AE048 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG, F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0624 X06241

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 69.7 | 73.0 | 73.7 | 73.6 | 74.4 | 73.8 | 79.0 | 75.1 | 80.3 | 88.5 | 91.6 | 90.7 | 86.4  | 166.1 |
| 63    | 71.0 | 73.6 | 75.0 | 73.5 | 75.3 | 75.7 | 76.6 | 77.1 | 82.6 | 92.4 | 95.1 | 93.4 | 88.1  | 169.1 |
| 80    | 71.8 | 73.6 | 75.3 | 76.9 | 76.8 | 78.0 | 79.0 | 85.3 | 93.6 | 97.7 | 94.4 | 88.7 | 170.8 |       |
| 100   | 72.1 | 75.2 | 77.1 | 76.1 | 78.3 | 78.5 | 78.9 | 80.8 | 86.5 | 94.1 | 98.7 | 94.5 | 89.2  | 171.5 |
| 125   | 74.6 | 75.2 | 77.7 | 77.7 | 79.4 | 79.0 | 80.8 | 82.2 | 87.0 | 93.6 | 98.8 | 92.9 | 87.8  | 171.3 |
| 150   | 77.3 | 77.5 | 79.0 | 78.4 | 82.5 | 81.7 | 81.7 | 82.2 | 88.0 | 92.6 | 98.3 | 92.1 | 87.4  | 171.0 |
| 200   | 77.1 | 83.3 | 82.1 | 82.9 | 82.7 | 83.8 | 87.7 | 92.8 | 87.7 | 92.8 | 96.4 | 90.5 | 86.9  | 170.2 |
| 250   | 79.0 | 79.8 | 81.8 | 81.3 | 81.5 | 81.0 | 82.9 | 85.2 | 87.9 | 92.7 | 94.5 | 88.3 | 85.0  | 169.2 |
| 315   | 77.8 | 80.0 | 81.9 | 80.4 | 82.3 | 82.0 | 82.3 | 85.1 | 88.9 | 91.5 | 93.3 | 87.0 | 83.7  | 168.8 |
| 400   | 78.3 | 80.7 | 82.3 | 82.2 | 82.6 | 83.4 | 84.1 | 85.5 | 88.0 | 90.7 | 90.0 | 85.0 | 81.0  | 167.7 |
| 500   | 77.8 | 80.4 | 81.0 | 81.2 | 81.9 | 82.6 | 83.1 | 85.8 | 87.4 | 89.7 | 89.5 | 83.5 | 79.0  | 167.4 |
| 630   | 76.4 | 78.6 | 80.8 | 81.0 | 81.9 | 82.7 | 83.3 | 84.6 | 87.4 | 87.2 | 85.9 | 81.2 | 76.7  | 166.2 |
| 800   | 76.1 | 79.3 | 80.8 | 81.2 | 82.5 | 82.3 | 82.8 | 84.7 | 86.0 | 86.1 | 84.1 | 78.0 | 74.5  | 165.8 |
| 1000  | 76.1 | 79.5 | 81.0 | 80.3 | 81.7 | 82.2 | 82.0 | 83.7 | 86.5 | 85.7 | 83.0 | 77.9 | 72.6  | 166.0 |
| 1250  | 76.3 | 80.0 | 81.2 | 80.9 | 82.5 | 83.4 | 82.9 | 83.9 | 86.9 | 85.5 | 82.4 | 77.5 | 72.2  | 167.1 |
| 1600  | 75.8 | 80.6 | 82.7 | 81.9 | 84.4 | 85.3 | 83.9 | 84.4 | 86.2 | 84.3 | 82.1 | 76.1 | 70.2  | 168.5 |
| 2000  | 76.1 | 79.6 | 83.3 | 83.4 | 84.7 | 85.2 | 84.4 | 84.2 | 84.6 | 81.6 | 79.7 | 73.3 | 65.9  | 169.5 |
| 2500  | 71.4 | 77.5 | 80.9 | 81.3 | 81.8 | 82.5 | 81.5 | 81.3 | 82.6 | 79.7 | 75.0 | 69.8 | 59.2  | 169.5 |
| 3150  | 64.7 | 70.7 | 75.3 | 76.5 | 80.0 | 79.8 | 78.6 | 77.4 | 76.4 | 72.8 | 68.3 | 60.0 | 45.6  | 168.8 |
| 4000  | 57.8 | 65.7 | 70.6 | 71.6 | 73.1 | 70.7 | 69.1 | 61.3 | 61.7 | 56.0 | 47.2 | 30.2 | 1.3   | 169.5 |
| 5000  | 41.4 | 52.4 | 58.2 | 60.2 | 64.5 | 65.3 | 63.4 | 49.6 | 47.1 | 46.9 | 41.1 | 28.2 | 1.1   | 171.3 |
| 6300  | 19.1 | 34.8 | 43.4 | 46.2 | 51.4 | 52.3 | 49.6 | 47.1 | 46.9 | 41.1 | 28.2 | 1.1  | 171.3 | 173.4 |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 15000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |       |       |

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DASPL 88.6 91.6 93.3 93.0 94.4 94.8 94.9 96.1 99.1 103.2 106.5 102.0 97.2 183.7  
 PNL 96.8 100.5 103.3 103.3 104.9 105.3 104.8 105.2 107.0 107.6 108.7 103.2 98.4  
 PNLT 97.8 101.2 104.0 103.9 105.4 105.3 105.4 105.7 107.0 108.1 108.7 104.4 99.5  
 DBA 85.6 89.2 91.4 91.3 92.8 93.4 92.9 93.7 95.7 95.9 95.9 90.2 85.8  
 MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
 NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/MAS3-22514

VEHICL = ADH164 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.25  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT =  
 FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 2513.0 FPS AEB = 19.9 SQ IN  
 FNRAMB = LBS XNLR = RPM V18 = 2513.0 FPS AE18 = 0. SQ IN  
 RUN = 82F-400-0624 TAPE = X06241 TEST PT NO = 062 NC = AEO48 CORR FAN SPEED = RPM









UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1607 X1607C  
BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL 78.5 83.3 84.1 79.6 78.7 76.8 84.5 86.4 77.6 79.7 85.0 86.7 86.4 125.0

50 78.5 83.3 84.1 79.6 78.7 76.8 84.5 86.4 77.6 79.7 85.0 86.7 86.4 125.0

63 82.5 82.5 94.5 90.1 88.1 85.0 94.9 95.1 84.3 88.3 89.0 92.2 89.3 133.5

80 83.4 88.0 84.5 85.3 84.4 87.0 87.4 87.0 86.7 86.6 87.9 92.1 93.3 129.5

100 83.5 86.5 84.5 85.3 86.9 86.8 87.1 89.3 88.0 88.6 92.5 96.7 98.1 132.0

125 81.9 85.4 87.7 87.7 88.8 88.9 89.3 89.2 88.7 90.2 95.9 102.0 134.7

150 80.8 84.6 85.6 85.2 86.0 87.1 90.3 90.4 91.4 92.7 98.1 103.8 105.9 137.5

200 80.8 84.6 85.6 85.2 86.0 87.1 90.3 90.4 91.4 92.7 98.1 103.8 105.9 137.5

250 80.0 86.1 85.3 84.6 86.5 89.1 90.7 91.9 92.6 97.4 103.8 108.2 109.4 141.4

315 82.5 86.3 86.6 88.4 89.7 89.6 92.0 93.1 95.1 99.2 104.3 109.7 110.9 142.8

400 82.1 86.4 87.2 88.6 89.4 89.4 93.7 95.1 95.4 107.1 111.8 112.7 144.9

500 84.0 86.7 87.5 88.9 90.0 91.9 94.0 96.0 102.8 108.2 112.9 113.0 145.7

630 84.5 87.8 89.1 89.4 90.4 91.3 92.4 94.9 96.8 104.1 109.3 113.5 146.3

800 82.8 83.6 83.6 85.6 86.1 87.5 89.6 94.5 96.9 104.7 108.5 112.2 145.8

1000 92.8 93.6 93.6 95.6 94.1 94.2 93.6 94.5 96.9 99.3 104.7 108.5 112.2 145.8

1250 90.8 94.1 93.6 95.6 96.7 98.1 98.4 98.1 98.6 103.9 107.0 110.8 112.2 145.2

1500 92.6 93.0 93.9 93.5 94.8 95.2 96.5 98.3 99.9 103.3 106.4 108.8 110.1 143.8

2000 95.3 95.4 95.1 93.7 93.8 93.7 95.9 98.2 100.1 104.1 104.7 107.0 108.5 142.9

2500 95.3 95.0 93.9 93.5 94.8 95.2 96.5 98.3 99.9 103.3 106.4 108.8 110.1 143.8

3150 97.8 98.4 99.3 98.1 97.9 97.1 96.2 96.5 98.0 100.1 103.4 102.9 103.8 142.3

4000 97.8 98.4 99.3 98.1 97.9 97.1 96.2 96.5 98.0 100.1 103.4 102.9 103.8 142.3

5000 77.9 81.7 84.1 84.2 86.9 88.1 86.8 85.4 86.0 83.9 83.8 83.5 80.4 146.7

63000 74.4 78.4 81.9 80.7 83.4 85.1 82.3 82.6 82.6 81.4 81.3 81.1 76.0 148.8

80000 67.9 73.8 76.8 76.4 78.4 80.5 77.9 76.6 78.2 76.3 76.9 75.8 69.3 150.8

GASPL 107.7 109.0 110.0 109.2 109.6 109.7 109.9 110.7 111.6 115.2 118.2 121.8 122.5 159.0

PWL 120.8 121.7 122.2 121.3 122.2 121.0 121.3 122.6 124.1 127.5 128.8 131.1 131.9

DBA 107.5 108.2 108.8 107.8 107.9 107.7 107.9 109.3 110.9 114.7 117.1 120.3 120.9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH137 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS

TAPLHA = SRS9 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT

WIND DIR = DEG WIND/VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRFR =

FNNINI = LBS XNLR = RPM XNHR = RPM V8 = 1699.0 FPS AEB = 19.9 SQ IN

FNRAMB = LBS XNLR = RPM XNHR = RPM V8 = 1699.0 FPS AEB = 19.9 SQ IN

TUNPT = 82F-ZER-1607 TAPE = X1607C TEST PT NO = 1607 NC = AE048 CORR FAN SPEED = RPM

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WELL PAGE PRINTING SYSTEM - P1185-02

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1607 X16071

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50    | 61.2 | 67.0 | 68.8 | 68.1 | 71.3 | 72.3 | 77.8 | 77.8 | 76.1 | 77.1 | 82.8 | 86.2 | 88.7  | 86.2  | 163.4 |
| 63    | 63.0 | 67.3 | 69.1 | 69.9 | 71.6 | 72.9 | 74.6 | 76.4 | 77.6 | 83.4 | 87.2 | 89.7 | 88.7  | 86.2  | 163.4 |
| 80    | 63.5 | 68.3 | 70.7 | 71.7 | 73.2 | 74.2 | 75.2 | 77.2 | 78.4 | 84.6 | 88.2 | 90.2 | 86.7  | 164.8 | 164.1 |
| 100   | 66.8 | 69.4 | 72.7 | 73.5 | 74.8 | 75.5 | 76.0 | 78.8 | 80.2 | 84.7 | 88.0 | 89.5 | 86.4  | 164.6 | 164.3 |
| 125   | 71.5 | 73.9 | 77.0 | 76.3 | 76.3 | 76.8 | 76.3 | 77.1 | 80.8 | 85.0 | 87.3 | 88.7 | 85.3  | 164.3 | 163.6 |
| 160   | 69.3 | 74.2 | 75.1 | 77.7 | 79.2 | 80.7 | 80.9 | 80.2 | 80.9 | 84.1 | 85.6 | 86.9 | 84.8  | 163.6 | 163.6 |
| 200   | 70.9 | 73.0 | 75.1 | 75.4 | 77.1 | 77.6 | 78.8 | 80.2 | 81.1 | 83.2 | 84.7 | 84.7 | 82.2  | 162.2 | 162.2 |
| 250   | 73.3 | 75.2 | 76.0 | 76.0 | 77.4 | 76.9 | 77.7 | 79.3 | 81.0 | 83.9 | 82.7 | 82.5 | 80.0  | 161.4 | 161.4 |
| 315   | 76.9 | 77.4 | 78.7 | 77.3 | 77.4 | 76.9 | 77.7 | 79.3 | 80.1 | 83.5 | 81.2 | 80.3 | 76.1  | 160.9 | 160.9 |
| 400   | 76.2 | 77.9 | 79.2 | 78.8 | 78.6 | 77.9 | 78.1 | 80.3 | 82.4 | 80.0 | 78.1 | 74.0 | 160.7 | 160.7 | 160.7 |
| 500   | 73.7 | 77.5 | 79.5 | 79.0 | 78.7 | 79.3 | 78.0 | 78.1 | 80.0 | 77.7 | 75.3 | 70.9 | 159.9 | 159.9 | 159.9 |
| 630   | 74.4 | 77.0 | 79.2 | 78.8 | 79.2 | 78.5 | 77.5 | 78.6 | 79.1 | 80.0 | 77.1 | 74.2 | 160.2 | 160.2 | 160.2 |
| 800   | 71.8 | 75.3 | 78.4 | 78.6 | 79.8 | 78.7 | 78.0 | 78.4 | 78.2 | 77.9 | 75.5 | 72.7 | 159.9 | 159.9 | 159.9 |
| 1000  | 70.6 | 75.0 | 77.6 | 77.8 | 78.6 | 77.6 | 78.6 | 78.3 | 77.1 | 74.8 | 70.9 | 64.1 | 159.9 | 159.9 | 159.9 |
| 1250  | 70.6 | 76.1 | 78.5 | 78.8 | 79.2 | 79.9 | 78.9 | 78.5 | 77.6 | 74.8 | 70.9 | 64.1 | 159.9 | 159.9 | 159.9 |
| 1600  | 69.3 | 73.0 | 78.1 | 78.5 | 79.2 | 79.4 | 79.2 | 78.8 | 76.0 | 73.6 | 72.0 | 68.7 | 161.1 | 161.1 | 161.1 |
| 2000  | 66.2 | 72.1 | 75.1 | 76.7 | 78.7 | 79.0 | 77.8 | 77.9 | 75.2 | 71.3 | 69.1 | 65.5 | 161.7 | 161.7 | 161.7 |
| 2500  | 62.7 | 67.9 | 72.7 | 74.4 | 76.5 | 77.3 | 75.9 | 73.9 | 67.6 | 65.1 | 60.0 | 48.5 | 161.5 | 161.5 | 161.5 |
| 3150  | 56.0 | 63.5 | 68.8 | 70.9 | 75.0 | 75.6 | 73.7 | 71.3 | 68.5 | 64.6 | 59.7 | 53.4 | 162.7 | 162.7 | 162.7 |
| 4000  | 44.7 | 54.3 | 59.9 | 62.6 | 66.6 | 68.4 | 66.5 | 63.5 | 61.6 | 55.5 | 49.0 | 39.5 | 161.3 | 161.3 | 161.3 |
| 5000  | 32.1 | 44.8 | 51.9 | 54.7 | 59.3 | 61.2 | 59.5 | 56.5 | 53.0 | 46.3 | 38.1 | 23.4 | 163.2 | 163.2 | 163.2 |
| 6300  | 11.8 | 27.5 | 37.2 | 41.8 | 46.9 | 48.9 | 46.9 | 43.0 | 39.1 | 29.7 | 17.6 |      | 165.1 | 165.1 | 165.1 |
| 8000  |      |      | 13.7 | 19.1 | 25.4 | 28.1 | 24.2 | 21.0 | 14.4 | 2.4  |      |      | 167.3 | 167.3 | 167.3 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      | 169.2 | 169.2 | 169.2 |

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH137 TEST DATE = 06-25-82

IAPLHA = S859 IEGA = NO

WIND DIR = DEG WIND VEL = MPH

FNINI = LBS XNLR = RPM

FNINB = LBS XNLR = RPM

TEST PT NO = 1607 NC = AE048

RUNTIME = 82F-ZER-1607 TAPE = X16071

CORR FAN SPEED = RPM

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DATPROC - - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

07/16/82 18.257 PAGE 1

IDENTIFICATION - 82F-ZER-1611 X16111

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160   | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 61.2 | 67.7 | 69.6 | 69.1 | 72.1 | 72.8 | 78.3 | 76.3 | 77.3 | 83.1 | 86.4 | 88.7 | 86.0  | 163.4 |
| 63    | 63.0 | 67.3 | 68.9 | 69.6 | 71.9 | 73.6 | 75.1 | 76.6 | 77.9 | 83.4 | 88.2 | 90.2 | 86.5  | 164.6 |
| 80    | 63.7 | 68.8 | 71.2 | 71.9 | 73.4 | 74.4 | 75.7 | 77.4 | 78.4 | 84.6 | 88.5 | 90.7 | 87.2  | 165.2 |
| 100   | 66.8 | 69.4 | 72.5 | 73.5 | 75.0 | 75.5 | 76.3 | 79.0 | 80.5 | 84.7 | 88.5 | 90.2 | 87.2  | 165.2 |
| 125   | 71.5 | 75.2 | 78.0 | 77.1 | 77.1 | 76.8 | 77.1 | 79.3 | 81.0 | 84.5 | 87.1 | 89.2 | 85.6  | 164.5 |
| 150   | 68.8 | 73.7 | 75.6 | 77.7 | 80.4 | 80.9 | 80.7 | 79.9 | 80.9 | 84.8 | 85.8 | 87.2 | 85.5  | 164.0 |
| 160   | 68.8 | 73.7 | 75.6 | 77.7 | 80.4 | 80.9 | 80.7 | 79.9 | 80.9 | 84.8 | 85.8 | 87.2 | 85.5  | 164.0 |
| 200   | 72.4 | 74.3 | 76.3 | 75.6 | 77.1 | 77.9 | 79.1 | 80.0 | 81.8 | 83.7 | 85.0 | 82.7 | 162.6 |       |
| 250   | 76.0 | 76.9 | 77.3 | 76.2 | 76.2 | 76.5 | 77.6 | 79.9 | 81.0 | 83.9 | 83.2 | 80.5 | 161.9 |       |
| 315   | 79.4 | 80.2 | 81.0 | 79.6 | 78.9 | 77.6 | 77.7 | 80.1 | 84.0 | 81.7 | 80.6 | 77.3 | 161.9 |       |
| 400   | 77.5 | 80.4 | 81.7 | 81.1 | 81.4 | 79.9 | 78.6 | 79.6 | 80.6 | 82.6 | 80.5 | 78.4 | 161.8 |       |
| 500   | 75.9 | 78.2 | 80.5 | 79.6 | 80.9 | 80.5 | 79.0 | 79.1 | 79.4 | 80.5 | 77.7 | 74.7 | 160.8 |       |
| 630   | 74.5 | 78.5 | 80.5 | 79.7 | 80.2 | 79.8 | 79.6 | 79.6 | 80.3 | 77.6 | 74.7 | 68.9 | 161.0 |       |
| 800   | 72.6 | 76.3 | 79.1 | 79.8 | 80.3 | 79.7 | 79.0 | 78.7 | 78.4 | 76.0 | 73.2 | 66.6 | 160.6 |       |
| 1000  | 71.3 | 76.0 | 78.1 | 78.5 | 79.6 | 78.3 | 79.4 | 78.6 | 77.9 | 74.5 | 71.7 | 64.6 | 160.6 |       |
| 1250  | 71.1 | 76.6 | 79.0 | 78.8 | 79.7 | 80.4 | 79.7 | 78.5 | 78.1 | 76.8 | 74.5 | 71.3 | 161.5 |       |
| 1500  | 69.8 | 74.0 | 78.6 | 78.5 | 79.9 | 80.1 | 79.2 | 79.5 | 76.7 | 74.1 | 71.8 | 69.2 | 161.9 |       |
| 2000  | 66.2 | 72.4 | 75.8 | 76.9 | 79.0 | 79.0 | 77.8 | 78.2 | 75.7 | 71.8 | 69.1 | 65.5 | 161.9 |       |
| 2500  | 62.7 | 68.2 | 72.7 | 74.4 | 77.3 | 77.6 | 76.6 | 74.2 | 72.8 | 68.4 | 65.4 | 61.5 | 162.0 |       |
| 3150  | 56.5 | 63.8 | 69.3 | 71.1 | 74.7 | 75.6 | 74.2 | 71.3 | 69.0 | 64.3 | 59.4 | 54.4 | 37.1  | 162.9 |
| 4000  | 44.7 | 54.8 | 60.1 | 62.6 | 66.6 | 68.6 | 66.5 | 63.8 | 61.6 | 55.5 | 49.3 | 40.5 | 16.4  | 161.5 |
| 5000  | 32.6 | 44.8 | 51.9 | 54.9 | 59.8 | 61.2 | 59.8 | 57.0 | 53.7 | 45.8 | 38.1 | 24.2 |       | 163.4 |
| 6300  | 11.8 | 27.5 | 37.2 | 41.8 | 47.4 | 49.2 | 46.6 | 43.5 | 39.1 | 30.2 | 17.6 |      |       | 165.4 |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |       | 167.4 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 169.6 |

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NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NASA3-22514

VEHCL = ADH138 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6  
 IAPLHA = SB59 = NO PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF  
 FNIN1 = LBS XNL RPM XNHR = RPM V8 = 1709.1 FPS AEB = 19.9 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1709.1 FPS AEB = 19.9 SQ IN  
 RUNPT = 82F-ZER-1611 TAPE = X16111 TEST PT NO = 1611 NC = AEO48 CORR FAN SPEED = RPM

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1611 X1611C

BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|  |                      |                      |                  |                    |                    |                 |            |                        |                |                 |                   |            |            |         |
|--|----------------------|----------------------|------------------|--------------------|--------------------|-----------------|------------|------------------------|----------------|-----------------|-------------------|------------|------------|---------|
| 50   | 78.0                 | 80.1                 | 82.3             | 83.6               | 81.7               | 78.1            | 85.7       | 84.4                   | 80.8           | 79.4            | 86.8              | 85.0       | 87.4       | 125.2   |
| FREQ   | 50                   | 60                   | 70               | 80                 | 90                 | 100             | 110        | 120                    | 130            | 140             | 150               | 160        |            |         |
| 50   | 82.5                 | 90.5                 | 92.8             | 89.9               | 86.5               | 96.9            | 84.6       | 88.8                   | 88.6           | 82.5            | 88.7              | 93.6       | 134.2      |         |
| 60   | 82.9                 | 87.7                 | 85.0             | 84.9               | 86.7               | 87.6            | 87.0       | 88.8                   | 88.0           | 86.6            | 88.4              | 91.9       | 93.0       | 129.4   |
| 70   | 83.7                 | 83.7                 | 85.0             | 84.8               | 85.3               | 87.1            | 86.8       | 87.4                   | 90.3           | 88.0            | 86.6              | 93.0       | 96.4       | 132.2   |
| 80   | 82.6                 | 85.6                 | 88.2             | 88.4               | 89.3               | 89.4            | 89.5       | 89.9                   | 88.7           | 90.5            | 96.6              | 100.8      | 102.7      | 135.4   |
| 90   | 81.5                 | 79.5                 | 85.3             | 83.1               | 85.7               | 86.1            | 90.9       | 86.6                   | 87.1           | 90.4            | 97.0              | 100.9      | 104.1      | 135.5   |
| 100  | 82.8                 | 84.6                 | 85.9             | 85.2               | 86.0               | 87.1            | 90.0       | 90.9                   | 91.9           | 93.0            | 98.8              | 104.3      | 106.7      | 138.1   |
| 125  | 80.5                 | 80.8                 | 84.6             | 85.9               | 86.2               | 86.0            | 90.9       | 86.6                   | 87.1           | 90.4            | 97.0              | 100.9      | 104.1      | 135.5   |
| 150  | 80.5                 | 80.8                 | 84.6             | 85.9               | 86.2               | 86.0            | 90.9       | 86.6                   | 87.1           | 90.4            | 97.0              | 100.9      | 104.1      | 135.5   |
| 160  | 81.5                 | 79.5                 | 85.3             | 83.1               | 85.7               | 86.1            | 90.9       | 86.6                   | 87.1           | 90.4            | 97.0              | 100.9      | 104.1      | 135.5   |
| 200  | 80.8                 | 84.6                 | 85.9             | 85.2               | 86.0               | 87.1            | 90.0       | 90.9                   | 91.9           | 93.0            | 98.8              | 104.3      | 106.7      | 138.1   |
| 250  | 80.5                 | 80.8                 | 84.6             | 85.9               | 86.2               | 86.0            | 90.9       | 86.6                   | 87.1           | 90.4            | 97.0              | 100.9      | 104.1      | 135.5   |
| 315  | 82.3                 | 86.8                 | 87.1             | 88.4               | 90.0               | 90.3            | 92.2       | 93.4                   | 95.1           | 99.9            | 105.0             | 110.2      | 111.9      | 143.5   |
| 400  | 82.1                 | 87.2                 | 86.7             | 86.9               | 86.3               | 89.9            | 95.6       | 94.0                   | 95.7           | 102.5           | 107.4             | 111.8      | 112.5      | 144.9   |
| 500  | 84.0                 | 86.7                 | 87.3             | 87.3               | 86.9               | 90.8            | 92.4       | 94.3                   | 96.3           | 102.8           | 109.2             | 113.4      | 113.0      | 146.1   |
| 630  | 84.8                 | 88.3                 | 89.6             | 89.6               | 90.7               | 91.6            | 92.9       | 95.1                   | 96.8           | 104.1           | 109.5             | 114.0      | 113.9      | 146.7   |
| 800  | 87.9                 | 88.9                 | 89.8             | 89.8               | 91.2               | 92.7            | 93.6       | 96.7                   | 99.0           | 104.3           | 109.7             | 113.6      | 114.0      | 146.8   |
| 1000   | 92.8                 | 94.8                 | 96.6             | 94.9               | 94.5               | 94.1            | 94.5       | 97.1                   | 99.6           | 104.2           | 108.3             | 112.7      | 112.6      | 146.0   |
| 1250   | 90.3                 | 93.6                 | 94.3             | 95.6               | 97.9               | 98.3            | 98.2       | 97.9                   | 99.6           | 104.6           | 107.3             | 110.9      | 113.0      | 145.6   |
| 1500   | 94.1                 | 94.3                 | 95.2             | 93.7               | 94.8               | 95.4            | 96.8       | 98.1                   | 100.7          | 103.8           | 106.6             | 109.1      | 110.6      | 144.1   |
| 2000   | 98.0                 | 97.2                 | 96.4             | 94.5               | 94.1               | 94.2            | 95.4       | 98.2                   | 100.1          | 104.1           | 105.2             | 107.7      | 109.0      | 143.4   |
| 2500   | 101.8                | 100.4                | 98.2             | 97.0               | 95.6               | 95.8            | 98.7       | 99.6                   | 104.6          | 104.1           | 105.7             | 106.7      | 107.4      | 143.4   |
| 3150   | 100.4                | 101.5                | 100.0            | 99.8               | 98.2               | 97.0            | 98.5       | 100.3                  | 103.7          | 103.4           | 104.1             | 104.6      | 104.3      | 143.3   |
| 4000   | 99.3                 | 99.7                 | 100.5            | 98.8               | 99.6               | 99.1            | 97.7       | 98.3                   | 99.4           | 101.9           | 101.1             | 102.4      | 102.4      | 142.3   |
| 5000   | 98.4                 | 100.3                | 101.0            | 99.2               | 99.2               | 98.6            | 98.8       | 99.1                   | 100.1          | 102.2           | 101.5             | 101.8      | 101.3      | 142.6   |
| 6300   | 97.0                 | 98.5                 | 99.9             | 99.6               | 99.5               | 98.7            | 98.3       | 99.2                   | 99.5           | 100.6           | 100.4             | 100.9      | 100.2      | 142.1   |
| 8000   | 96.2                 | 98.5                 | 99.1             | 98.5               | 99.0               | 98.8            | 97.7       | 99.3                   | 99.5           | 100.4           | 99.4              | 100.6      | 99.1       | 143.0   |
| 10000  | 96.5                 | 99.4                 | 100.2            | 99.0               | 99.2               | 99.7            | 99.3       | 99.7                   | 99.8           | 99.9            | 100.6             | 99.2       | 142.1      |         |
| 12500  | 96.0                 | 97.4                 | 100.2            | 99.0               | 99.8               | 99.7            | 99.1       | 100.0                  | 98.3           | 97.5            | 98.0              | 99.8       | 98.5       | 143.5   |
| 15000  | 93.4                 | 96.4                 | 97.8             | 97.6               | 99.0               | 98.7            | 97.8       | 98.9                   | 97.7           | 95.9            | 96.2              | 97.8       | 96.5       | 143.5   |
| 16000  | 93.4                 | 96.4                 | 97.8             | 97.6               | 99.0               | 98.7            | 97.8       | 98.9                   | 97.7           | 95.9            | 96.2              | 97.8       | 96.5       | 143.5   |
| 20000  | 91.7                 | 93.4                 | 95.8             | 97.8               | 97.2               | 95.5            | 95.7       | 93.6                   | 94.4           | 96.5            | 94.9              | 94.3       | 94.3       | 143.5   |
| 25000  | 88.8                 | 91.5                 | 94.0             | 96.6               | 97.2               | 96.1            | 94.2       | 93.8                   | 92.0           | 91.7            | 94.4              | 91.9       | 94.4       | 144.4   |
| 31500  | 83.3                 | 87.2                 | 88.7             | 88.8               | 91.5               | 93.1            | 91.3       | 90.0                   | 90.2           | 87.9            | 89.4              | 85.6       | 85.6       | 143.0   |
| 40000  | 80.9                 | 84.7                 | 86.5             | 86.7               | 86.5               | 89.7            | 86.5       | 88.6                   | 88.5           | 86.8            | 86.8              | 82.7       | 82.7       | 145.0   |
| 50000  | 77.9                 | 81.7                 | 84.2             | 86.4               | 86.3               | 86.6            | 85.9       | 86.0                   | 84.4           | 83.8            | 84.7              | 80.1       | 80.1       | 146.9   |
| 63000  | 73.9                 | 78.6                 | 81.2             | 81.0               | 83.7               | 85.1            | 82.5       | 82.9                   | 83.4           | 81.4            | 81.1              | 81.3       | 75.5       | 148.9   |
| 80000  | 67.6                 | 73.8                 | 77.0             | 77.1               | 78.6               | 80.8            | 77.9       | 77.4                   | 78.7           | 76.3            | 76.9              | 77.0       | 68.5       | 151.1   |
| GASPL  | 108.9                | 110.2                | 111.0            | 109.9              | 110.5              | 110.4           | 110.4      | 111.1                  | 112.0          | 115.4           | 118.6             | 122.3      | 122.9      | 159.4   |
| PNL  | 122.1                | 123.3                | 123.6            | 122.4              | 122.6              | 122.1           | 123.0      | 124.4                  | 127.8          | 129.2           | 131.5             | 132.3      |            |         |
| PMLT   | 123.4                | 124.5                | 124.9            | 123.7              | 123.4              | 122.6           | 123.0      | 124.4                  | 127.8          | 129.2           | 131.5             | 132.3      |            |         |
| DBA  | 109.0                | 109.7                | 110.2            | 108.8              | 109.1              | 108.6           | 108.5      | 109.7                  | 111.2          | 115.0           | 117.4             | 120.8      | 121.4      |         |
| NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514 |                      |                      |                  |                    |                    |                 |            |                        |                |                 |                   |            |            |         |
| VEHICLE = ADH138                                       | TEST DATE = 06-25-82 | LOCAT = C41 ANECH CH | CONFIG = 6       | MODEL = AX         | FLTVL = 0. FPS     | IAPLHA = S859   | LEGA = NO  | PWL AREA = FULL SPHERE | TAMB F = 79.00 | PAMB HG = 29.50 | RELHUM = 47.1 PCT | WIND DIR = | MIND DIR = |         |
| FNRMB =  | LBS XNLR =           | RPM XNHR =           | RPM XNHL =       | RPM XNLR =         | LBS XNLR =         | FNRMB =         | LBS XNLR = | RPM XNHR =             | RPM XNHL =     | RPM XNLR =      | LBS XNLR =        | FNRMB =    | LBS XNLR = |         |
| TEST PT NO = 1611                                      | NC = AE048           | CORR FAN SPEED =     | RPM =            | EXT DIST = 40.0 FT | EXT CNFIG = ARC    | MIKE HT =       | NBFR =     | FLTVL =                | RELHUM =       | PAMB HG =       | TAMB F =          | CONFIG =   | MODEL =    |         |
| TAPE = X1611C  | TEST PT NO = 1611    | NC = AE048           | CORR FAN SPEED = | RPM =              | EXT DIST = 40.0 FT | EXT CNFIG = ARC | MIKE HT =  | NBFR =                 | FLTVL =        | RELHUM =        | PAMB HG =         | TAMB F =   | CONFIG =   | MODEL = |

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DATPROC - FLTRAN 07/16/82 11.288 PAGE 1  
 UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
 59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1613 X1613C  
 BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|     |       |       |      |      |      |      |       |       |       |       |       |       |       |       |
|-----|-------|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50  | 78.5  | 81.6  | 83.8 | 82.6 | 81.0 | 77.8 | 86.7  | 86.4  | 79.6  | 79.4  | 86.3  | 86.0  | 87.9  | 125.8 |
| 55  | 81.7  | 80.0  | 80.8 | 80.4 | 85.3 | 86.9 | 86.0  | 86.0  | 86.3  | 82.2  | 89.2  | 88.2  | 93.1  | 134.1 |
| 60  | 82.9  | 87.5  | 84.5 | 85.0 | 84.9 | 86.7 | 87.1  | 87.0  | 87.2  | 86.3  | 88.2  | 91.9  | 93.3  | 129.4 |
| 65  | 83.7  | 89.0  | 86.1 | 87.9 | 87.3 | 87.4 | 90.1  | 88.0  | 89.3  | 93.5  | 97.2  | 98.6  | 132.6 |       |
| 70  | 82.5  | 86.8  | 86.8 | 86.9 | 90.0 | 90.3 | 92.2  | 93.6  | 95.3  | 99.4  | 104.8 | 110.2 | 143.6 |       |
| 75  | 82.6  | 87.2  | 86.0 | 86.9 | 89.7 | 95.6 | 94.2  | 96.2  | 102.3 | 107.6 | 112.1 | 113.0 | 145.2 |       |
| 80  | 84.0  | 87.0  | 87.5 | 87.5 | 89.6 | 90.8 | 92.4  | 94.3  | 96.5  | 103.3 | 109.0 | 113.6 | 146.2 |       |
| 85  | 85.0  | 88.3  | 89.6 | 90.1 | 90.7 | 91.8 | 93.4  | 95.4  | 96.8  | 104.6 | 110.0 | 114.5 | 147.1 |       |
| 90  | 86.2  | 89.2  | 91.2 | 91.5 | 92.3 | 93.8 | 97.2  | 99.7  | 105.0 | 112.7 | 118.1 | 123.3 | 147.3 |       |
| 95  | 87.5  | 94.8  | 95.1 | 95.0 | 94.3 | 95.0 | 97.4  | 99.8  | 104.7 | 108.8 | 112.7 | 113.1 | 146.3 |       |
| 100 | 88.5  | 94.8  | 96.3 | 95.1 | 94.3 | 95.0 | 97.4  | 99.8  | 104.7 | 108.8 | 112.7 | 113.1 | 146.3 |       |
| 105 | 89.3  | 97.9  | 96.9 | 95.0 | 94.6 | 94.2 | 96.2  | 98.5  | 100.1 | 104.4 | 105.2 | 108.0 | 143.7 |       |
| 110 | 90.9  | 98.7  | 97.3 | 95.6 | 95.1 | 96.1 | 98.4  | 100.1 | 104.6 | 103.9 | 106.2 | 107.4 | 143.6 |       |
| 115 | 91.5  | 99.1  | 98.0 | 96.9 | 96.9 | 98.1 | 100.3 | 102.2 | 101.2 | 101.2 | 101.5 | 102.0 | 142.4 |       |
| 120 | 92.0  | 99.4  | 98.5 | 97.5 | 98.5 | 99.1 | 100.3 | 102.2 | 101.2 | 101.2 | 101.5 | 102.0 | 142.4 |       |
| 125 | 92.5  | 99.7  | 98.8 | 97.8 | 98.5 | 99.7 | 100.2 | 100.6 | 100.6 | 100.6 | 100.9 | 100.7 | 142.1 |       |
| 130 | 93.0  | 99.9  | 98.9 | 97.9 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.7  | 141.9 |       |       |
| 135 | 93.5  | 100.0 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 140 | 94.0  | 100.1 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 145 | 94.5  | 100.2 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 150 | 95.0  | 100.3 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 155 | 95.5  | 100.4 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 160 | 96.0  | 100.5 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 165 | 96.5  | 100.6 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 170 | 97.0  | 100.7 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 175 | 97.5  | 100.8 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 180 | 98.0  | 100.9 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 185 | 98.5  | 101.0 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 190 | 99.0  | 101.1 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 195 | 99.5  | 101.2 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 200 | 100.0 | 101.3 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 205 | 100.5 | 101.4 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 210 | 101.0 | 101.5 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 215 | 101.5 | 101.6 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 220 | 102.0 | 101.7 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 225 | 102.5 | 101.8 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 230 | 103.0 | 101.9 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 235 | 103.5 | 102.0 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 240 | 104.0 | 102.1 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 245 | 104.5 | 102.2 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 250 | 105.0 | 102.3 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 255 | 105.5 | 102.4 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 260 | 106.0 | 102.5 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 265 | 106.5 | 102.6 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 270 | 107.0 | 102.7 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 275 | 107.5 | 102.8 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 280 | 108.0 | 102.9 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 285 | 108.5 | 103.0 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 290 | 109.0 | 103.1 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 295 | 109.5 | 103.2 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 300 | 110.0 | 103.3 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 305 | 110.5 | 103.4 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 310 | 111.0 | 103.5 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 315 | 111.5 | 103.6 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 320 | 112.0 | 103.7 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 325 | 112.5 | 103.8 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 330 | 113.0 | 103.9 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 335 | 113.5 | 104.0 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 340 | 114.0 | 104.1 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 345 | 114.5 | 104.2 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 350 | 115.0 | 104.3 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 355 | 115.5 | 104.4 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 360 | 116.0 | 104.5 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 365 | 116.5 | 104.6 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 370 | 117.0 | 104.7 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 375 | 117.5 | 104.8 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 380 | 118.0 | 104.9 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 385 | 118.5 | 105.0 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 390 | 119.0 | 105.1 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 395 | 119.5 | 105.2 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 400 | 120.0 | 105.3 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 405 | 120.5 | 105.4 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 410 | 121.0 | 105.5 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 415 | 121.5 | 105.6 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 420 | 122.0 | 105.7 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 425 | 122.5 | 105.8 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 430 | 123.0 | 105.9 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 435 | 123.5 | 106.0 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 440 | 124.0 | 106.1 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 445 | 124.5 | 106.2 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 450 | 125.0 | 106.3 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 455 | 125.5 | 106.4 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 460 | 126.0 | 106.5 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 465 | 126.5 | 106.6 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 470 | 127.0 | 106.7 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 475 | 127.5 | 106.8 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |
| 480 | 128.0 | 106.9 | 99.0 | 98.0 | 98.5 | 99.5 | 99.6  | 100.1 | 99.6  | 100.1 | 99.6  | 141.9 |       |       |



11157

| FREQ  | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PWL   | 78.5  | 81.6  | 83.8  | 82.6  | 81.0  | 77.8  | 86.7  | 86.4  | 79.6  | 79.4  | 86.3  | 86.0  | 87.9  |
| 50    | 78.5  | 81.6  | 83.8  | 82.6  | 81.0  | 77.8  | 86.7  | 86.4  | 79.6  | 79.4  | 86.3  | 86.0  | 87.9  |
| 50    | 81.7  | 90.0  | 94.0  | 89.4  | 85.3  | 96.9  | 86.0  | 86.3  | 92.2  | 89.2  | 93.1  | 134.1 |       |
| 80    | 82.9  | 87.5  | 84.5  | 85.0  | 84.9  | 86.7  | 87.1  | 87.0  | 87.2  | 86.3  | 88.2  | 91.3  | 129.4 |
| 100   | 83.7  | 89.0  | 85.3  | 86.1  | 87.9  | 87.3  | 87.4  | 90.1  | 88.0  | 89.3  | 93.5  | 97.2  | 98.6  |
| 125   | 82.1  | 85.6  | 87.7  | 87.9  | 89.0  | 89.2  | 89.5  | 89.2  | 88.7  | 90.7  | 96.9  | 101.0 | 135.2 |
| 150   | 81.3  | 79.5  | 85.6  | 82.8  | 85.4  | 85.6  | 90.7  | 86.8  | 87.6  | 90.1  | 96.8  | 104.1 | 135.4 |
| 200   | 80.8  | 84.6  | 85.6  | 85.4  | 86.0  | 87.1  | 90.3  | 90.9  | 91.9  | 93.0  | 98.6  | 104.3 | 137.9 |
| 250   | 80.3  | 86.8  | 85.8  | 85.1  | 87.0  | 89.6  | 91.2  | 92.4  | 92.8  | 97.9  | 104.0 | 108.7 | 142.1 |
| 315   | 82.5  | 86.8  | 86.8  | 86.9  | 90.0  | 92.2  | 93.6  | 95.3  | 95.3  | 99.4  | 110.2 | 112.1 | 143.6 |
| 400   | 82.6  | 87.2  | 87.9  | 86.0  | 89.1  | 89.7  | 95.6  | 94.2  | 96.2  | 102.3 | 107.6 | 113.0 | 145.2 |
| 500   | 84.0  | 87.0  | 87.5  | 89.6  | 90.8  | 92.4  | 94.3  | 96.5  | 103.3 | 109.0 | 113.6 | 113.3 | 146.2 |
| 630   | 85.0  | 88.3  | 89.8  | 90.1  | 90.7  | 91.8  | 93.4  | 95.4  | 96.8  | 104.6 | 110.0 | 114.5 | 147.1 |
| 800   | 88.2  | 89.2  | 91.2  | 91.5  | 92.3  | 93.2  | 93.8  | 97.2  | 99.7  | 105.0 | 114.1 | 114.5 | 147.3 |
| 1000  | 93.5  | 94.8  | 96.3  | 95.1  | 95.0  | 94.3  | 95.0  | 97.4  | 99.8  | 104.7 | 108.8 | 112.7 | 146.3 |
| 1250  | 90.5  | 94.1  | 94.8  | 95.9  | 97.7  | 98.6  | 98.9  | 104.9 | 107.5 | 111.7 | 113.0 | 113.0 | 145.9 |
| 1500  | 94.4  | 94.3  | 95.4  | 95.3  | 95.2  | 97.3  | 98.6  | 100.4 | 104.0 | 106.4 | 110.1 | 111.1 | 144.6 |
| 2000  | 99.3  | 97.9  | 96.9  | 95.0  | 94.6  | 94.2  | 96.2  | 100.1 | 104.4 | 105.2 | 108.0 | 109.2 | 143.7 |
| 2500  | 101.6 | 100.8 | 100.9 | 98.7  | 97.3  | 95.6  | 96.1  | 98.4  | 100.1 | 104.6 | 103.9 | 106.2 | 143.6 |
| 3150  | 100.1 | 100.7 | 101.2 | 100.5 | 99.8  | 98.2  | 97.5  | 98.8  | 100.3 | 103.4 | 103.2 | 104.1 | 143.3 |
| 4000  | 98.0  | 98.4  | 100.0 | 99.1  | 98.9  | 99.1  | 98.0  | 98.8  | 99.7  | 101.9 | 101.9 | 102.7 | 142.3 |
| 5000  | 97.6  | 99.3  | 100.2 | 99.5  | 98.7  | 98.9  | 98.5  | 99.1  | 100.3 | 102.2 | 101.5 | 102.0 | 142.4 |
| 6300  | 96.7  | 98.0  | 99.4  | 98.6  | 99.0  | 98.2  | 98.5  | 99.7  | 100.2 | 100.6 | 100.6 | 100.7 | 142.1 |
| 8000  | 98.4  | 98.5  | 99.3  | 98.0  | 98.0  | 97.5  | 98.8  | 99.5  | 99.9  | 100.1 | 99.7  | 141.9 |       |
| 10000 | 96.7  | 98.9  | 100.5 | 99.2  | 98.7  | 99.2  | 98.7  | 99.1  | 99.7  | 100.1 | 99.6  | 142.9 |       |
| 12500 | 96.0  | 97.9  | 100.7 | 99.5  | 99.8  | 99.3  | 99.2  | 98.1  | 97.8  | 98.5  | 99.8  | 143.4 |       |
| 15000 | 93.7  | 96.4  | 97.8  | 97.9  | 97.2  | 97.8  | 98.1  | 97.2  | 95.4  | 96.7  | 97.8  | 143.4 |       |
| 20000 | 91.9  | 93.7  | 95.8  | 96.0  | 98.1  | 97.8  | 97.2  | 95.8  | 95.2  | 94.6  | 95.5  | 143.5 |       |
| 25000 | 89.1  | 91.7  | 94.0  | 94.1  | 96.9  | 97.2  | 96.6  | 94.5  | 94.3  | 92.0  | 92.2  | 144.6 |       |
| 31500 | 83.5  | 87.2  | 89.5  | 88.8  | 91.7  | 93.3  | 92.1  | 90.5  | 90.0  | 87.9  | 88.6  | 143.3 |       |
| 40000 | 80.7  | 85.2  | 87.0  | 86.8  | 89.9  | 89.5  | 89.6  | 89.1  | 88.3  | 86.0  | 86.7  | 145.1 |       |
| 50000 | 78.2  | 82.2  | 84.6  | 84.4  | 87.9  | 88.1  | 87.1  | 86.2  | 86.3  | 84.1  | 84.3  | 147.1 |       |
| 63000 | 74.1  | 78.9  | 81.4  | 81.0  | 84.2  | 85.1  | 83.3  | 83.4  | 83.6  | 81.6  | 81.8  | 149.3 |       |
| 80000 | 67.9  | 74.3  | 77.0  | 76.9  | 79.1  | 80.5  | 77.9  | 77.6  | 79.0  | 76.0  | 77.1  | 151.2 |       |
| QASPL | 108.9 | 109.9 | 111.0 | 110.1 | 110.4 | 110.3 | 110.5 | 111.2 | 112.1 | 115.6 | 118.7 | 122.6 | 123.2 |
| PNL   | 122.0 | 122.9 | 123.5 | 122.7 | 122.5 | 122.1 | 122.3 | 123.3 | 124.5 | 127.8 | 129.2 | 131.8 | 132.7 |
| PMLT  | 123.4 | 123.9 | 124.6 | 123.3 | 122.5 | 123.4 | 122.8 | 123.3 | 124.5 | 127.8 | 129.2 | 131.8 | 132.7 |
| DBA   | 189.8 | 195.6 | 198.3 | 198.1 | 200.6 | 201.9 | 199.5 | 199.3 | 200.3 | 197.6 | 198.5 | 198.3 | 192.0 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 0, DIAM (IN) = 48.00 REFRR CORR YES, TURB CORR YES  
 NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH139 TEST DATE = 06-25-82 L0CAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT  
 WIND DIR = SB59 DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNNI = LBS XNL RPM XNH RPM = V8 = 1714.3 FPS AE8 = 19.9 SQ IN = 0.50 IN  
 FNRAMB = LBS XNL RPM XNHR RPM = V18 = 1714.3 FPS AE18 = 19.9 SQ IN = 0.50 IN  
 RUNPT = 82F-ZER-1613 TAPE = X1613F TEST PT NO = 1613 NC = AE048 CORR FAN SPEED = RPM

IDENTIFICATION - 82F-ZER-1613 X1613F ANGLES MEASURED FROM INLET, DEGREES

ORIGINAL PAGE IS  
 OF POOR QUALITY

IDENTIFICATION - 82F-ZER-1613 X16131

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PML

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50   | 61.7 | 67.7 | 69.6 | 68.3 | 71.8 | 72.6 | 78.3 | 76.6 | 77.8 | 82.8 | 86.7 | 88.9 | 86.5 | 163.7 |
| 63   | 63.0 | 67.5 | 69.1 | 67.9 | 72.4 | 73.6 | 75.1 | 76.6 | 78.1 | 83.9 | 88.0 | 90.4 | 86.7 | 164.7 |
| 80   | 64.0 | 68.8 | 71.4 | 72.4 | 73.4 | 74.7 | 76.2 | 77.7 | 78.4 | 85.1 | 89.0 | 91.2 | 87.4 | 165.6 |
| 100  | 67.0 | 69.6 | 72.7 | 73.8 | 75.0 | 76.0 | 76.5 | 79.5 | 81.2 | 85.5 | 89.0 | 90.7 | 87.7 | 165.8 |
| 125  | 72.3 | 75.2 | 77.8 | 77.3 | 77.6 | 77.1 | 77.6 | 79.6 | 81.3 | 85.0 | 87.6 | 89.2 | 86.1 | 164.7 |
| 150  | 69.1 | 74.2 | 76.1 | 77.9 | 80.2 | 81.2 | 81.4 | 80.4 | 81.6 | 85.1 | 86.1 | 87.9 | 85.5 | 164.4 |
| 160  | 72.7 | 74.3 | 76.6 | 77.6 | 77.6 | 79.6 | 80.5 | 81.6 | 84.0 | 84.7 | 86.0 | 87.0 | 83.2 | 163.0 |
| 200  | 72.7 | 74.3 | 76.6 | 77.6 | 77.6 | 79.6 | 80.5 | 81.6 | 84.0 | 84.7 | 86.0 | 87.0 | 83.2 | 163.0 |
| 250  | 77.3 | 77.7 | 77.8 | 76.7 | 76.7 | 76.5 | 78.3 | 80.2 | 81.0 | 84.1 | 83.2 | 83.5 | 80.7 | 162.1 |
| 315  | 79.2 | 80.2 | 81.5 | 80.1 | 79.1 | 77.6 | 77.9 | 79.8 | 80.6 | 84.0 | 81.4 | 81.1 | 78.1 | 162.1 |
| 400  | 77.2 | 79.7 | 81.5 | 81.6 | 81.4 | 79.9 | 79.1 | 79.8 | 80.6 | 82.4 | 80.3 | 78.4 | 74.8 | 161.7 |
| 500  | 74.6 | 77.0 | 80.0 | 79.8 | 80.2 | 80.5 | 79.3 | 79.6 | 79.6 | 80.5 | 78.5 | 76.3 | 71.6 | 160.8 |
| 630  | 73.7 | 77.5 | 79.8 | 80.0 | 79.7 | 80.0 | 79.5 | 79.6 | 79.9 | 80.3 | 77.4 | 74.5 | 69.7 | 160.9 |
| 800  | 72.3 | 75.8 | 78.6 | 78.8 | 79.8 | 79.2 | 79.3 | 79.9 | 79.5 | 78.4 | 76.2 | 73.2 | 67.1 | 160.5 |
| 1000 | 71.6 | 76.0 | 78.4 | 78.0 | 78.6 | 79.3 | 78.1 | 78.9 | 78.6 | 77.4 | 74.8 | 71.7 | 65.1 | 160.4 |
| 1250 | 71.4 | 76.1 | 79.3 | 79.1 | 79.2 | 79.9 | 79.2 | 78.5 | 77.9 | 76.8 | 74.8 | 71.3 | 63.5 | 161.4 |
| 1500 | 69.8 | 74.5 | 79.0 | 79.1 | 79.0 | 79.9 | 78.5 | 78.8 | 76.5 | 74.3 | 72.3 | 69.2 | 60.0 | 161.9 |
| 2000 | 66.5 | 72.4 | 75.8 | 77.2 | 79.2 | 79.0 | 77.8 | 77.4 | 75.2 | 71.3 | 69.6 | 65.5 | 55.5 | 161.9 |
| 2500 | 62.9 | 68.4 | 72.9 | 74.7 | 77.5 | 77.6 | 76.6 | 74.4 | 72.3 | 68.1 | 65.6 | 60.5 | 49.0 | 162.0 |
| 3150 | 56.8 | 64.0 | 69.3 | 71.1 | 75.0 | 75.6 | 74.7 | 71.5 | 69.5 | 64.3 | 59.9 | 54.2 | 37.3 | 163.1 |
| 4000 | 45.0 | 54.8 | 60.9 | 62.6 | 66.9 | 68.9 | 67.2 | 64.3 | 61.4 | 55.5 | 50.0 | 40.7 | 16.4 | 161.8 |
| 5000 | 32.4 | 45.3 | 52.2 | 55.2 | 60.1 | 61.2 | 59.8 | 57.5 | 53.5 | 46.0 | 38.4 | 24.2 |      | 163.6 |
| 6300 | 12.0 | 28.0 | 37.7 | 42.0 | 47.9 | 48.9 | 47.9 | 43.8 | 39.4 | 29.9 | 18.1 |      |      | 165.6 |
| 8000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 169.6 |

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MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH139 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = S859 LEGA = NO PML AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 47.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =  
FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1714.3 FPS AEB = 19.9 SQ IN  
FNAMB = LBS XNLR RPM XNHR = RPM V18 = 1714.3 FPS AE18 = 0. SQ IN  
RPM = X16131 TEST PT NO = 16 NC = AE048 CORR FAN SPEED = RPM

085

DATPRG - FLTRAN

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1615 X1615C

BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

FWL

50 78.3 80.6 82.3 83.1 79.0 78.1 86.5 86.6 79.1 77.7 86.0 95.0 87.1 127.5

63 81.0 88.2 90.8 91.3 88.6 85.3 97.1 96.8 87.0 83.1 91.2 93.4 90.1 134.1

80 83.7 88.2 84.5 85.8 85.9 87.5 87.9 87.8 87.9 87.8 87.5 88.9 93.9 130.2

100 84.2 89.5 85.8 86.3 87.9 87.8 87.9 91.1 88.8 89.1 89.2 97.7 98.8 133.0

125 82.9 86.4 88.2 88.2 89.2 89.4 90.0 89.7 89.2 89.5 96.6 101.0 102.7 135.5

150 81.0 80.0 85.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

200 82.0 80.0 85.1 85.6 86.3 87.9 90.5 91.4 92.9 93.0 99.1 104.5 107.2 138.5

250 81.3 89.3 85.6 85.9 87.0 89.6 91.7 92.9 93.6 97.7 104.5 108.7 110.4 142.2

315 83.3 86.8 86.8 89.1 90.5 90.6 92.5 93.9 95.8 99.7 105.5 110.7 112.1 143.9

400 82.6 87.4 87.7 87.0 89.6 90.2 95.8 94.7 96.2 102.3 108.1 112.3 113.0 145.4

500 84.5 87.5 87.8 88.0 89.6 91.3 92.9 94.3 97.0 103.6 109.5 113.4 113.5 146.3

630 85.3 88.6 90.1 91.2 91.8 93.4 95.4 97.1 104.4 110.0 115.0 115.1 147.6

800 89.2 89.9 91.7 91.7 93.1 93.5 94.3 97.5 99.5 105.0 110.7 114.1 114.8 147.5

1000 93.3 94.8 96.6 95.4 95.0 94.3 96.0 97.9 100.3 104.7 109.3 113.5 114.1 146.9

1250 91.0 94.6 94.6 95.9 97.7 98.6 98.7 98.4 100.3 104.4 108.0 112.2 114.0 146.4

1500 95.1 95.3 95.4 94.5 94.8 95.7 97.5 98.8 100.8 104.8 108.8 112.3 145.2

2000 99.0 97.7 97.6 95.7 95.1 94.7 95.9 99.0 100.4 104.1 105.4 108.7 110.2 144.1

2500 100.8 99.8 100.7 98.7 97.8 96.4 96.3 99.4 100.3 104.8 103.9 107.4 107.9 143.9

3150 100.1 101.0 100.5 99.8 99.1 98.4 98.2 99.1 99.9 103.7 103.4 105.8 106.1 143.6

4000 97.5 98.4 99.8 99.3 98.9 98.4 98.2 99.1 99.9 101.9 101.6 103.9 103.9 142.4

5000 97.6 98.8 99.5 98.5 98.9 98.6 98.5 99.3 100.1 102.4 101.7 103.0 102.3 142.4

6300 96.7 98.3 99.1 97.9 98.5 98.0 98.0 99.5 100.2 100.3 100.4 102.7 101.2 142.0

8000 97.0 99.0 99.1 97.7 97.5 97.2 98.5 99.3 99.7 99.6 102.4 99.5 141.9

10000 97.0 99.7 100.7 99.0 98.7 98.5 98.7 99.3 99.7 99.6 101.4 99.8 143.1

12500 96.0 98.2 100.2 99.7 100.3 100.0 98.6 99.0 98.1 97.5 98.5 102.3 99.0 143.7

15000 93.4 96.6 98.1 98.1 99.2 98.0 98.1 97.2 94.8 96.2 100.5 97.3 143.8

20000 91.7 94.2 96.0 96.3 98.3 97.2 96.0 95.2 92.6 94.6 99.5 95.6 144.0

25000 88.8 88.8 92.0 94.5 94.3 96.6 97.7 96.9 94.7 94.2 91.5 92.0 94.9 144.8

31500 83.3 86.9 89.7 89.0 92.0 93.1 91.8 91.0 90.5 87.7 87.9 90.9 86.4 143.4

40000 78.7 84.7 87.0 89.9 90.5 90.1 89.1 88.8 86.0 86.5 88.6 84.2 145.3

50000 78.2 82.7 84.9 87.9 88.9 87.6 85.7 87.0 83.9 84.0 86.2 80.6 147.4

63000 74.4 79.4 81.7 81.5 84.2 85.9 83.3 83.4 84.1 81.2 81.6 83.6 76.5 149.6

80000 68.1 74.5 77.8 77.8 77.4 79.7 81.5 78.7 79.8 76.0 76.7 78.8 70.1 151.8

QASPL 108.8 110.0 110.8 110.0 110.5 110.4 110.6 111.5 112.3 115.5 119.1 123.1 123.8 160.0

PMLT 122.9 123.8 124.3 122.9 123.0 123.7 123.7 124.7 124.7 127.9 129.4 132.8 133.4

DBA 108.7 109.3 109.8 108.8 108.8 108.5 108.8 110.3 111.6 115.1 118.0 121.8 122.6

N:3A SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH140 TEST DATE = 06-25-82

LAPLHA = SB59 LEGA = NO

WIND DIR = DEG WIND VEL = MPH

FNINI = LBS XNL RPM XNH XNHR =

FNRAMB = LBS XNL RPM XNH XNHR =

RUNPT = 82F-ZER-1615 TAPE = X1615C

TEST PT NO = 1615 NC = AE048 CORR FAN SPEED = RPM

LOCAT = C41 ANECH CH CONFIG = 6

PWL AREA = FULL SPHERE EXT DIST = 40.0 FT

EXT CNFNG = ARC MIKE HT =

TAMB F = 79.00 FAMB HG = 29.45

RELHUM = 47.2 PCT

MODEL = AX FLTVEL = 0. FPS

ORIGINAL PAGE IS OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1615 X1615F

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PML 78.3 80.6 82.3 83.1 79.0 78.1 86.5 86.6 79.1 77.7 86.0 95.0 87.1 127.5

50 78.3 80.6 82.3 83.1 88.6 85.3 97.1 96.8 87.0 83.1 91.2 93.4 90.1 134.1

60 81.0 88.2 90.8 91.3 88.6 85.3 97.1 96.8 87.0 83.1 91.2 93.4 90.1 134.1

70 83.7 88.2 84.5 85.8 85.9 87.5 87.9 87.8 87.5 86.6 88.9 93.9 93.5 130.2

80 84.2 89.5 85.8 86.3 87.9 87.8 87.9 87.9 87.1 88.8 89.1 93.2 97.7 98.8 133.0

90 84.2 89.5 85.8 86.2 89.5 89.4 90.0 89.7 89.2 90.5 96.6 101.0 102.7 135.5

100 82.9 86.4 88.2 88.2 89.5 89.4 90.0 89.7 89.2 90.5 96.6 101.0 102.7 135.5

110 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

120 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

130 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

140 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

150 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

160 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

170 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

180 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

190 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

200 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

210 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

220 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

230 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

240 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

250 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

260 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

270 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

280 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

290 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

300 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

310 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

320 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

330 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

340 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

350 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

360 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

370 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

380 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

390 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

400 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

410 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

420 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

430 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

440 82.0 80.0 85.8 83.8 86.2 86.3 91.4 87.1 87.6 90.1 97.3 101.4 104.4 135.8

|                 |                      |                        |                  |                 |                   |
|-----------------|----------------------|------------------------|------------------|-----------------|-------------------|
| VEHICL = ADH140 | TEST DATE = 06-25-82 | LOCAT = C41 ANECH CH   | CONFIG = 6       | MODEL = AX      | FLVEL = 0. FPS    |
| IAPLHA = SB59   | LEGA = NO            | PML AREA = FULL SPHERE | TAMB F = 79.00   | FAMB HG = 29.45 | RELHUM = 47.2 PCT |
| WIND DIR =      | WIND VEL =           | EXT DIST = 40.0 FT     | EXT CONFIG = ARC | MIKE HT =       | NBFR =            |
| FNINI =         | LBS XNL              | RPM XNH                | RPM V8           | FPS AE8         | 19.9 SQ IN        |
| MIRAMB =        | LBS XNLR             | RPM XNHR               | RPM V18          | FPS AE18        | 0. SQ IN          |
| IPT =           | -ZER-1615 TAPE       | = X1615F               | TEST PT NO = 161 | NC = AE048      | CORR FAN SPEED =  |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| GASPL | 108.8 | 110.0 | 110.5 | 110.4 | 110.6 | 111.5 | 112.3 | 115.5 | 119.1 | 123.1 | 123.8 | 128.8 | 160.0 |
| PNL1  | 121.8 | 123.4 | 123.1 | 121.9 | 122.5 | 123.7 | 124.7 | 127.9 | 129.4 | 132.8 | 133.4 | 133.4 |       |
| PNL2  | 122.9 | 122.3 | 123.1 | 123.0 | 123.7 | 124.7 | 127.9 | 129.4 | 132.8 | 133.4 | 133.4 |       |       |
| DBA   | 190.0 | 195.9 | 199.0 | 198.6 | 201.0 | 202.8 | 200.1 | 199.6 | 201.0 | 197.5 | 198.1 | 200.1 | 192.1 |
| 50000 | 78.2  | 82.7  | 84.9  | 84.7  | 87.9  | 88.9  | 87.6  | 85.7  | 87.0  | 83.9  | 84.0  | 86.2  | 80.6  |
| 63000 | 74.4  | 79.4  | 81.7  | 81.5  | 84.2  | 85.9  | 83.3  | 83.4  | 84.1  | 81.6  | 83.6  | 76.5  | 149.6 |
| 40000 | 80.7  | 84.7  | 87.0  | 87.0  | 89.9  | 90.5  | 90.1  | 89.1  | 88.8  | 86.0  | 86.5  | 88.6  | 84.2  |
| 25000 | 88.8  | 92.0  | 94.3  | 96.6  | 97.7  | 96.9  | 94.2  | 91.5  | 92.0  | 94.9  | 91.9  | 144.8 |       |
| 20000 | 91.7  | 94.2  | 96.0  | 96.3  | 98.3  | 98.3  | 97.2  | 96.0  | 95.2  | 94.6  | 99.5  | 144.0 |       |
| 16000 | 93.4  | 96.6  | 98.1  | 98.1  | 99.7  | 99.2  | 98.0  | 96.1  | 97.2  | 94.8  | 96.2  | 143.8 |       |
| 12500 | 96.0  | 99.2  | 100.2 | 99.7  | 100.3 | 100.0 | 98.6  | 99.0  | 97.5  | 98.5  | 102.3 | 143.7 |       |
| 10000 | 97.0  | 99.7  | 100.7 | 99.7  | 99.0  | 98.7  | 98.5  | 98.7  | 99.3  | 99.7  | 99.6  | 143.1 |       |
| 8000  | 97.2  | 99.0  | 99.1  | 97.7  | 97.5  | 97.2  | 98.8  | 99.5  | 99.9  | 99.9  | 101.4 | 141.9 |       |
| 6300  | 96.7  | 98.3  | 99.1  | 97.9  | 98.5  | 98.0  | 98.0  | 99.5  | 100.2 | 100.3 | 102.7 | 142.0 |       |
| 5000  | 97.6  | 98.8  | 99.5  | 98.5  | 98.6  | 98.5  | 99.3  | 100.1 | 102.4 | 103.7 | 103.3 | 142.4 |       |
| 4000  | 97.5  | 98.4  | 99.8  | 99.3  | 98.9  | 98.4  | 98.2  | 99.1  | 99.9  | 101.9 | 103.9 | 142.4 |       |
| 3150  | 100.1 | 101.0 | 100.5 | 99.8  | 99.1  | 98.4  | 98.0  | 99.5  | 100.6 | 103.7 | 103.4 | 143.6 |       |
| 2500  | 100.8 | 99.8  | 100.7 | 98.7  | 98.4  | 96.3  | 99.4  | 100.3 | 104.8 | 103.9 | 107.4 | 143.9 |       |
| 2000  | 99.0  | 97.7  | 97.6  | 95.7  | 95.1  | 94.7  | 95.9  | 99.0  | 100.4 | 104.1 | 105.4 | 144.1 |       |
| 1600  | 95.1  | 95.3  | 95.4  | 94.5  | 95.8  | 95.7  | 97.5  | 98.8  | 100.9 | 103.8 | 106.9 | 145.2 |       |
| 1250  | 91.0  | 94.6  | 95.9  | 97.7  | 98.6  | 98.7  | 98.4  | 100.3 | 104.4 | 108.0 | 112.2 | 146.4 |       |
| 1000  | 93.3  | 94.8  | 96.6  | 95.4  | 95.0  | 94.3  | 96.0  | 97.9  | 100.3 | 104.7 | 109.3 | 146.9 |       |
| 800   | 89.2  | 89.9  | 91.7  | 93.1  | 93.5  | 94.3  | 97.5  | 99.5  | 105.0 | 110.7 | 114.1 | 147.5 |       |
| 630   | 85.3  | 86.6  | 90.1  | 91.2  | 91.8  | 93.4  | 95.4  | 97.1  | 104.4 | 110.0 | 115.1 | 147.6 |       |
| 500   | 84.5  | 87.5  | 88.0  | 89.6  | 91.3  | 92.9  | 94.3  | 97.0  | 103.6 | 109.5 | 113.4 | 146.3 |       |
| 400   | 82.6  | 87.4  | 87.7  | 87.0  | 89.6  | 90.2  | 95.8  | 94.7  | 96.2  | 102.3 | 108.1 | 145.4 |       |
| 315   | 83.3  | 86.8  | 86.8  | 89.1  | 90.5  | 90.6  | 92.5  | 93.9  | 95.8  | 99.7  | 105.5 | 143.9 |       |
| 250   | 81.3  | 89.3  | 85.9  | 87.0  | 89.6  | 91.7  | 92.9  | 93.6  | 97.7  | 104.5 | 108.7 | 142.2 |       |
| 200   | 81.3  | 85.1  | 85.6  | 86.3  | 87.9  | 90.5  | 91.4  | 92.9  | 93.0  | 99.1  | 104.5 | 107.2 | 138.5 |
| 160   | 82.0  | 80.0  | 85.8  | 83.8  | 86.2  | 86.3  | 91.4  | 87.1  | 87.6  | 90.1  | 97.3  | 101.4 | 135.8 |

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DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 2400.0 FT., SL

IDENTIFICATION - 82F-ZER-1615 X16151

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 61.7 | 68.0 | 69.3 | 69.3 | 72.3 | 73.1 | 78.6 | 77.1 | 77.8 | 82.8 | 87.2 | 89.2 | 86.5  | 163.9 |
| 63    | 63.5 | 68.0 | 69.4 | 70.4 | 72.4 | 74.1 | 75.6 | 76.6 | 78.6 | 84.1 | 88.5 | 90.2 | 87.0  | 164.8 |
| 80    | 64.2 | 69.1 | 71.7 | 72.4 | 73.9 | 74.7 | 76.2 | 77.7 | 78.7 | 84.9 | 89.0 | 91.7 | 88.4  | 166.1 |
| 100   | 68.0 | 70.4 | 73.2 | 74.0 | 75.8 | 76.3 | 77.0 | 79.8 | 81.0 | 85.5 | 89.5 | 90.7 | 87.9  | 165.9 |
| 125   | 72.0 | 75.2 | 78.0 | 77.6 | 77.6 | 77.1 | 78.6 | 80.1 | 81.8 | 85.0 | 88.1 | 89.9 | 87.1  | 165.4 |
| 160   | 69.6 | 74.7 | 75.9 | 77.9 | 80.2 | 81.2 | 80.4 | 81.6 | 84.6 | 86.6 | 88.4 | 86.5 | 164.9 |       |
| 200   | 73.4 | 75.3 | 76.6 | 76.4 | 78.1 | 78.1 | 79.8 | 80.7 | 82.1 | 83.7 | 85.2 | 86.7 | 84.4  | 163.7 |
| 250   | 77.0 | 77.4 | 78.5 | 77.4 | 77.2 | 77.0 | 78.1 | 80.7 | 83.3 | 83.9 | 84.2 | 81.7 | 162.6 |       |
| 315   | 78.4 | 79.2 | 81.2 | 80.1 | 79.6 | 78.4 | 78.2 | 80.8 | 80.9 | 84.2 | 81.4 | 75.8 | 162.4 |       |
| 400   | 77.2 | 79.9 | 80.7 | 80.8 | 80.6 | 80.1 | 79.6 | 80.6 | 80.8 | 82.6 | 80.5 | 80.1 | 75.8  | 162.1 |
| 500   | 74.1 | 77.0 | 79.7 | 80.1 | 80.2 | 79.8 | 79.5 | 79.8 | 79.9 | 80.5 | 78.2 | 77.6 | 72.6  | 160.9 |
| 630   | 73.7 | 77.0 | 79.0 | 79.0 | 79.9 | 79.8 | 79.5 | 79.8 | 79.8 | 80.6 | 77.9 | 76.0 | 69.9  | 160.9 |
| 800   | 72.3 | 76.1 | 78.4 | 78.1 | 79.3 | 78.9 | 78.8 | 79.7 | 79.5 | 78.1 | 76.0 | 74.9 | 67.6  | 160.5 |
| 1000  | 72.3 | 76.5 | 78.1 | 77.8 | 78.3 | 78.3 | 77.8 | 78.9 | 78.6 | 77.4 | 75.0 | 72.9 | 64.8  | 160.4 |
| 1250  | 71.6 | 76.9 | 79.5 | 79.6 | 79.4 | 78.9 | 78.5 | 78.1 | 76.8 | 74.3 | 73.1 | 63.7 | 161.6 |       |
| 1600  | 69.6 | 74.7 | 78.6 | 79.3 | 80.4 | 80.4 | 78.7 | 78.5 | 76.5 | 74.1 | 72.3 | 71.7 | 60.5  | 162.2 |
| 2000  | 66.2 | 72.6 | 76.1 | 77.4 | 79.7 | 79.5 | 78.0 | 77.4 | 75.2 | 70.8 | 69.1 | 68.3 | 55.8  | 162.3 |
| 2500  | 62.7 | 68.9 | 73.2 | 74.9 | 77.8 | 78.1 | 76.6 | 74.7 | 72.3 | 67.3 | 65.6 | 64.5 | 49.2  | 162.5 |
| 3150  | 56.5 | 64.3 | 69.7 | 71.4 | 74.7 | 76.1 | 75.0 | 71.8 | 69.5 | 63.8 | 59.7 | 54.9 | 37.1  | 163.3 |
| 4000  | 44.7 | 54.5 | 61.1 | 62.8 | 67.1 | 68.6 | 67.0 | 64.8 | 61.9 | 55.2 | 49.3 | 42.0 | 17.1  | 161.9 |
| 5000  | 32.4 | 44.8 | 52.2 | 55.4 | 60.1 | 61.2 | 60.3 | 57.5 | 54.0 | 46.0 | 38.1 | 25.9 |       | 163.8 |
| 6300  | 12.1 | 28.6 | 38.0 | 42.3 | 47.9 | 49.7 | 47.6 | 43.3 | 40.1 | 29.7 | 17.9 |      |       | 165.9 |
| 8000  |      |      |      |      |      |      |      |      |      |      |      |      |       | 168.1 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 170.3 |

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MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9  
NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHCL = ADH140 TEST DATE = 06-25-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = S859 IEGA = NO PML AREA = FULL SPHERE TAMBF = 79.00 PAMB HG = 29.45 MIKE HT = NBRF  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL

FNINI = LBS XNL RPM XNH XNHR = RPM V8 = 1728.7 FPS AEB = 19.9 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1728.7 FPS AE18 = 0 SQ IN

RUNPT = 82F-ZER-1615 TAPE = X16151 TEST PT NO = 1615 NC = AE048 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

ANGLES MEASURED FROM INLET, DEGREES

IDENTIFICATION - MODEL 82F-ZER-1619 X1619C  
BACKGROUND 82F-400-0600

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 78.5  | 79.8  | 83.8  | 84.4  | 81.7  | 78.1  | 86.7  | 87.6  | 80.6  | 79.4  | 87.0  | 86.0  | 87.1  | 126.2 |
| 63    | 80.7  | 89.2  | 89.4  | 84.8  | 87.4  | 84.8  | 87.4  | 87.1  | 88.5  | 87.8  | 92.5  | 90.6  | 134.8 |       |
| 80    | 83.4  | 88.0  | 84.5  | 85.5  | 85.4  | 87.5  | 87.6  | 87.3  | 88.7  | 87.1  | 88.7  | 88.7  | 93.8  | 129.9 |
| 100   | 84.0  | 89.5  | 86.3  | 86.3  | 87.4  | 87.8  | 88.4  | 90.6  | 88.5  | 89.1  | 93.2  | 96.9  | 98.6  | 132.7 |
| 125   | 83.4  | 86.6  | 88.4  | 88.7  | 89.8  | 89.7  | 90.3  | 90.2  | 89.4  | 91.2  | 97.6  | 101.8 | 103.2 | 136.1 |
| 160   | 82.0  | 79.5  | 85.8  | 84.1  | 86.2  | 86.6  | 91.4  | 87.3  | 87.8  | 90.4  | 97.5  | 101.7 | 104.9 | 136.1 |
| 200   | 81.3  | 85.1  | 86.1  | 85.9  | 87.0  | 87.9  | 91.0  | 91.4  | 92.4  | 93.7  | 99.3  | 104.3 | 107.2 | 138.5 |
| 250   | 81.5  | 89.1  | 86.3  | 85.9  | 87.2  | 90.1  | 91.7  | 92.9  | 93.3  | 98.4  | 105.0 | 109.5 | 110.4 | 142.6 |
| 315   | 83.3  | 87.1  | 87.3  | 88.9  | 90.5  | 90.6  | 92.7  | 94.1  | 95.6  | 100.2 | 105.8 | 111.0 | 112.4 | 144.1 |
| 400   | 83.1  | 87.4  | 88.2  | 87.0  | 89.6  | 90.4  | 96.1  | 94.7  | 96.4  | 103.0 | 108.4 | 113.3 | 113.2 | 146.0 |
| 500   | 85.0  | 87.2  | 88.0  | 88.3  | 89.6  | 91.3  | 92.9  | 94.8  | 97.3  | 103.8 | 109.7 | 114.4 | 114.0 | 147.0 |
| 630   | 86.0  | 89.3  | 90.8  | 90.4  | 91.7  | 92.3  | 93.4  | 95.9  | 97.6  | 104.9 | 110.5 | 115.2 | 114.9 | 147.8 |
| 800   | 89.2  | 89.9  | 92.2  | 92.2  | 93.3  | 94.3  | 98.0  | 99.2  | 105.5 | 110.9 | 114.8 | 115.0 | 147.9 |       |
| 1000  | 94.3  | 96.1  | 97.1  | 95.4  | 95.7  | 94.8  | 95.5  | 98.1  | 100.1 | 105.2 | 109.5 | 114.2 | 114.1 | 147.3 |
| 1250  | 94.3  | 96.4  | 97.9  | 96.4  | 97.9  | 99.3  | 99.7  | 98.9  | 100.3 | 105.1 | 108.3 | 112.7 | 113.7 | 146.7 |
| 1500  | 97.1  | 96.8  | 96.2  | 95.5  | 95.8  | 96.4  | 97.8  | 99.6  | 101.4 | 104.3 | 107.4 | 110.8 | 113.3 | 145.8 |
| 2000  | 102.0 | 99.9  | 99.4  | 97.0  | 95.8  | 95.5  | 96.4  | 99.5  | 101.1 | 104.6 | 105.9 | 109.5 | 111.2 | 145.0 |
| 2500  | 102.6 | 102.3 | 102.9 | 100.7 | 99.3  | 97.4  | 97.1  | 99.4  | 100.3 | 105.1 | 104.6 | 107.4 | 108.7 | 144.8 |
| 3150  | 100.6 | 102.5 | 101.5 | 101.3 | 100.7 | 98.8  | 99.5  | 101.1 | 104.2 | 104.4 | 106.1 | 107.1 | 144.6 |       |
| 4000  | 98.5  | 99.4  | 100.6 | 100.6 | 100.9 | 100.4 | 99.5  | 99.8  | 102.6 | 102.6 | 104.4 | 104.7 | 143.4 |       |
| 5000  | 98.6  | 99.8  | 100.5 | 99.5  | 99.7  | 99.9  | 99.8  | 100.8 | 102.7 | 102.7 | 103.5 | 103.3 | 143.3 |       |
| 6300  | 98.0  | 99.5  | 99.9  | 99.8  | 99.8  | 98.5  | 98.5  | 100.5 | 101.2 | 101.6 | 101.4 | 101.9 | 142.8 |       |
| 8000  | 97.7  | 100.0 | 100.3 | 99.8  | 99.8  | 98.0  | 99.6  | 100.6 | 100.6 | 100.6 | 100.6 | 100.7 | 142.7 |       |
| 10000 | 97.2  | 100.4 | 102.0 | 101.0 | 99.7  | 100.0 | 99.0  | 99.4  | 100.1 | 100.4 | 100.4 | 100.3 | 143.8 |       |
| 12500 | 96.5  | 98.2  | 101.2 | 100.7 | 101.5 | 101.2 | 99.1  | 99.7  | 98.8  | 97.8  | 98.5  | 100.5 | 144.3 |       |
| 16000 | 94.2  | 97.1  | 98.6  | 98.1  | 100.2 | 99.9  | 99.3  | 98.6  | 97.5  | 95.6  | 97.0  | 98.5  | 144.2 |       |
| 20000 | 92.2  | 94.4  | 96.5  | 96.3  | 98.6  | 98.8  | 97.9  | 96.3  | 95.4  | 93.1  | 95.1  | 96.0  | 144.1 |       |
| 25000 | 89.3  | 92.0  | 94.7  | 94.3  | 97.4  | 98.8  | 96.9  | 95.0  | 92.3  | 92.3  | 93.9  | 92.4  | 145.2 |       |
| 31500 | 83.3  | 87.4  | 89.5  | 89.0  | 92.2  | 93.6  | 92.3  | 91.5  | 90.7  | 88.4  | 89.1  | 89.7  | 143.7 |       |
| 40000 | 80.4  | 85.2  | 88.0  | 87.3  | 90.4  | 91.0  | 89.0  | 89.0  | 87.7  | 86.8  | 87.7  | 87.6  | 145.6 |       |
| 50000 | 78.4  | 82.7  | 85.4  | 84.9  | 88.1  | 89.1  | 87.6  | 86.2  | 84.1  | 81.7  | 82.4  | 82.1  | 147.6 |       |
| 63000 | 74.4  | 79.1  | 82.2  | 81.7  | 85.2  | 86.1  | 83.6  | 84.1  | 84.1  | 81.7  | 82.4  | 82.1  | 149.9 |       |
| 80000 | 68.6  | 74.5  | 78.6  | 77.6  | 79.7  | 81.8  | 78.4  | 77.9  | 79.8  | 77.3  | 77.7  | 76.5  | 152.0 |       |
| CASPL | 110.0 | 111.1 | 112.0 | 111.0 | 111.4 | 111.3 | 111.2 | 112.0 | 112.0 | 112.7 | 116.1 | 119.5 | 123.6 | 124.1 |
| 160.4 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| PNL   | 123.1 | 124.3 | 124.5 | 123.7 | 123.7 | 123.3 | 123.2 | 124.1 | 125.2 | 128.4 | 130.1 | 133.0 | 134.1 |       |
| 134.1 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| PMLT  | 124.4 | 125.5 | 125.6 | 124.3 | 123.7 | 124.6 | 124.3 | 124.1 | 125.2 | 128.4 | 130.1 | 133.0 | 134.1 |       |
| 134.1 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| DBA   | 110.2 | 110.8 | 111.2 | 110.1 | 110.0 | 109.7 | 109.5 | 110.8 | 112.0 | 115.6 | 118.4 | 122.3 | 122.9 |       |

NASA SHOCK CELL/20 EL ANN C-D SUPP NO2 SC-6/NAS3-22514

VEHICLE = ADH14 TEST DATE = 06-25-82 LOCAL = CAT ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS  
LAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.45 RELHUM = 47.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNINI = LBS XNL RPM XNH = RPM XNHR = RPM V8 = 1738.0 FPS AE8 = 19.9 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

TEST = 82F-ZER-1619 TAPE = X1619C TEST PT NO = 1619 NC = AE048 CORR FAN SPEED = RPM

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FLTRAN PRINTING SYSTEM - P15B-02







DATPRC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1619 X16191

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| 50    | 62.2 | 68.0 | 69.8 | 72.3 | 73.3 | 73.8 | 78.8 | 77.1 | 78.1 | 83.6 | 87.4 | 90.2 | 86.7  | 164.5 |
| 63    | 64.0 | 67.8 | 69.6 | 70.6 | 72.4 | 74.1 | 75.6 | 77.1 | 78.9 | 84.4 | 88.7 | 91.2 | 87.5  | 165.4 |
| 80    | 65.0 | 69.8 | 72.4 | 72.7 | 74.4 | 75.2 | 76.2 | 78.2 | 79.2 | 85.4 | 89.5 | 91.9 | 88.2  | 166.3 |
| 100   | 68.0 | 70.4 | 73.7 | 74.5 | 76.0 | 76.5 | 77.0 | 80.3 | 80.7 | 86.0 | 89.8 | 91.5 | 88.2  | 166.4 |
| 125   | 69.0 | 76.4 | 78.5 | 77.6 | 78.3 | 77.6 | 78.1 | 80.3 | 81.5 | 85.5 | 88.3 | 90.7 | 87.1  | 165.8 |
| 160   | 73.0 | 76.4 | 78.5 | 78.4 | 80.4 | 81.9 | 82.2 | 80.9 | 81.6 | 85.3 | 86.8 | 88.9 | 86.3  | 165.1 |
| 200   | 75.4 | 76.8 | 77.3 | 77.4 | 78.1 | 78.9 | 80.1 | 81.5 | 82.6 | 84.2 | 85.7 | 86.7 | 85.4  | 164.3 |
| 250   | 80.0 | 80.3 | 78.7 | 78.0 | 77.7 | 78.6 | 81.2 | 82.0 | 84.4 | 83.9 | 85.0 | 82.7 | 163.5 |       |
| 315   | 80.2 | 81.7 | 83.5 | 82.1 | 81.1 | 79.4 | 78.9 | 80.8 | 80.9 | 84.5 | 82.2 | 82.3 | 79.3  | 163.2 |
| 400   | 77.7 | 81.4 | 82.5 | 82.6 | 82.9 | 82.4 | 80.3 | 80.6 | 81.3 | 83.1 | 81.5 | 80.4 | 76.8  | 163.1 |
| 500   | 74.7 | 78.0 | 80.7 | 81.3 | 81.8 | 80.8 | 80.6 | 80.1 | 81.2 | 79.0 | 78.1 | 73.4 | 161.9 |       |
| 630   | 74.7 | 78.0 | 80.0 | 80.0 | 80.7 | 81.0 | 80.8 | 80.8 | 80.4 | 80.8 | 78.9 | 76.5 | 71.2  | 161.8 |
| 800   | 73.6 | 77.3 | 79.1 | 79.1 | 80.5 | 79.4 | 79.3 | 80.7 | 80.5 | 79.4 | 77.0 | 74.2 | 68.6  | 161.3 |
| 1000  | 72.8 | 77.5 | 79.4 | 79.0 | 79.3 | 79.3 | 78.6 | 79.6 | 79.6 | 78.1 | 75.3 | 72.2 | 66.1  | 161.1 |
| 1250  | 71.9 | 77.6 | 80.8 | 80.2 | 80.6 | 79.4 | 79.3 | 78.9 | 77.6 | 77.6 | 75.0 | 71.6 | 64.2  | 162.3 |
| 1600  | 70.3 | 74.7 | 79.6 | 80.3 | 81.7 | 81.6 | 79.2 | 79.3 | 77.2 | 74.3 | 72.3 | 69.9 | 61.0  | 162.8 |
| 2000  | 67.0 | 73.1 | 76.6 | 77.4 | 80.2 | 80.2 | 79.3 | 77.9 | 75.5 | 71.6 | 69.8 | 66.3 | 55.8  | 162.6 |
| 2500  | 63.2 | 69.2 | 73.7 | 74.9 | 78.0 | 78.6 | 77.4 | 74.9 | 72.6 | 67.8 | 66.1 | 61.0 | 49.7  | 162.6 |
| 3150  | 57.0 | 64.3 | 70.0 | 71.4 | 75.5 | 76.6 | 75.0 | 72.8 | 70.2 | 64.6 | 60.4 | 53.9 | 37.6  | 163.7 |
| 4000  | 44.7 | 55.0 | 60.9 | 62.8 | 67.4 | 69.1 | 67.5 | 65.3 | 62.1 | 56.0 | 50.5 | 40.7 | 16.8  | 162.2 |
| 5000  | 32.1 | 45.3 | 53.2 | 55.7 | 60.6 | 61.7 | 60.3 | 57.5 | 54.2 | 46.8 | 39.4 | 24.9 |       | 164.1 |
| 6300  | 12.3 | 28.6 | 38.5 | 42.5 | 48.2 | 49.9 | 47.6 | 43.8 | 39.9 | 30.4 | 18.6 |      |       | 166.1 |
| 8000  |      |      | 0.1  | 14.0 | 20.1 | 27.1 | 29.1 | 25.5 | 22.5 | 15.9 | 2.6  |      |       | 168.4 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |       | 170.4 |

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NASA SHOCK CELL/20 EL ANN C-D SUPP NDZ SC-6/NAS3-22514

VEHICL = ADH141 TEST DATE = 06-25-82  
 IAPLHA = S859 LEGA = NO  
 WIND DIR = DEG WIND VEL = MPH  
 PML AREA = C41 ANECH CH CONFIG = 6  
 PML AREA = FULL SPHERE TAMB F = 79.00  
 EXT DIST = 2400.0 FT EXT CONFIG = SL  
 MIKE HI = 29.45  
 RELHUM = 47.2 PCT  
 NBR =

FINI = LBS XNL RPM XNH RPM V8 = 1738.0 FPS AEB = 19.9 SQ IN  
 FNRAMB = LBS XNLR RPM XNHR RPM V18 = 1738.0 FPS AE18 = 19.9 SQ IN  
 RUNPT = 82F-ZER-1619 TAPE = X16191 TEST PT NO = 1619 NC = AEO48 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

DATE

07/19/82 8.658 PA

59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1621 X1621C

BACKGROUND 82F-400-0600

ANGLES MEASURED FROM INLET, DEGREES

| FREQ   | 50                                   | 60    | 70    | 80    | 90    | 100   | 110   | 120   | 130   | 140   | 150   | 160   |       |       |
|--|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50   | 78.0                                 | 80.1  | 81.6  | 83.1  | 82.7  | 79.3  | 84.7  | 87.1  | 81.1  | 79.9  | 85.8  | 86.5  | 87.9  | 125.6 |
| 63   | 81.0                                 | 83.7  | 88.2  | 86.9  | 85.5  | 85.6  | 87.7  | 88.1  | 87.8  | 88.3  | 87.8  | 89.0  | 90.6  | 133.8 |
| 80   | 83.0                                 | 81.7  | 88.2  | 86.9  | 85.5  | 85.6  | 87.7  | 88.1  | 87.8  | 88.3  | 87.8  | 89.0  | 90.6  | 133.8 |
| 100  | 84.2                                 | 89.5  | 87.9  | 86.3  | 88.1  | 87.8  | 87.9  | 90.6  | 89.0  | 89.1  | 93.2  | 97.4  | 99.1  | 133.0 |
| 125  | 82.9                                 | 88.4  | 89.2  | 88.4  | 89.5  | 89.8  | 90.2  | 88.9  | 89.2  | 88.9  | 90.7  | 97.1  | 101.3 | 135.7 |
| 160  | 82.0                                 | 79.8  | 81.8  | 83.8  | 86.4  | 86.8  | 91.9  | 87.3  | 88.3  | 90.9  | 97.5  | 101.7 | 105.1 | 136.3 |
| 200  | 81.6                                 | 85.6  | 85.9  | 86.2  | 86.8  | 88.1  | 90.5  | 91.9  | 93.1  | 93.7  | 99.6  | 104.8 | 107.7 | 138.9 |
| 250  | 81.8                                 | 89.3  | 87.8  | 86.4  | 87.5  | 90.1  | 92.2  | 93.4  | 93.6  | 98.4  | 104.8 | 109.2 | 110.9 | 142.6 |
| 315  | 83.3                                 | 87.8  | 88.5  | 89.1  | 91.0  | 90.8  | 93.0  | 94.6  | 96.1  | 100.2 | 105.8 | 110.7 | 112.6 | 144.2 |
| 400  | 83.1                                 | 87.9  | 87.6  | 87.2  | 89.8  | 89.9  | 96.1  | 94.7  | 96.9  | 103.3 | 108.6 | 113.3 | 114.0 | 146.3 |
| 500  | 85.0                                 | 87.7  | 88.1  | 88.5  | 90.1  | 91.0  | 92.9  | 95.0  | 97.8  | 104.1 | 109.5 | 113.9 | 114.3 | 146.8 |
| 630  | 86.0                                 | 89.3  | 89.8  | 90.4  | 91.7  | 92.3  | 93.7  | 96.1  | 97.8  | 105.1 | 111.0 | 115.2 | 115.4 | 148.1 |
| 800  | 89.2                                 | 89.9  | 91.3  | 93.6  | 93.7  | 94.6  | 98.0  | 100.0 | 105.8 | 111.2 | 114.8 | 115.3 | 148.1 | 148.1 |
| 1000   | 94.3                                 | 96.1  | 96.1  | 96.1  | 95.7  | 94.8  | 96.0  | 98.4  | 100.8 | 105.7 | 109.8 | 114.7 | 114.6 | 147.8 |
| 1250   | 91.5                                 | 94.8  | 95.6  | 96.4  | 98.4  | 99.3  | 99.4  | 98.9  | 101.1 | 105.4 | 109.0 | 113.2 | 114.5 | 147.2 |
| 1600   | 97.9                                 | 97.3  | 96.4  | 95.5  | 96.6  | 96.7  | 98.3  | 99.6  | 101.2 | 104.8 | 107.9 | 111.8 | 113.3 | 146.2 |
| 2000   | 102.3                                | 100.9 | 99.5  | 98.0  | 96.6  | 96.0  | 96.7  | 99.5  | 101.4 | 105.4 | 106.4 | 110.2 | 112.0 | 145.6 |
| 2500   | 102.6                                | 102.3 | 101.8 | 101.2 | 100.3 | 98.1  | 97.1  | 99.4  | 101.1 | 105.6 | 105.4 | 108.7 | 109.4 | 145.3 |
| 3150   | 101.1                                | 102.2 | 101.9 | 101.5 | 102.1 | 101.2 | 99.5  | 99.8  | 101.6 | 104.7 | 104.4 | 107.1 | 108.1 | 145.0 |
| 4000   | 98.5                                 | 99.7  | 100.0 | 100.3 | 100.6 | 100.4 | 99.5  | 100.3 | 100.9 | 102.6 | 103.1 | 105.2 | 105.7 | 143.7 |
| 5000   | 98.4                                 | 100.3 | 100.3 | 100.2 | 100.2 | 99.6  | 100.0 | 100.6 | 101.8 | 103.7 | 103.0 | 103.8 | 104.0 | 143.7 |
| 6300   | 98.2                                 | 99.8  | 99.4  | 99.1  | 100.3 | 99.2  | 99.3  | 100.3 | 101.7 | 101.8 | 101.6 | 101.6 | 102.7 | 143.2 |
| 8000   | 97.7                                 | 100.5 | 99.9  | 99.2  | 98.7  | 99.0  | 98.2  | 100.3 | 100.8 | 100.9 | 100.4 | 101.6 | 101.5 | 143.0 |
| 10000  | 97.5                                 | 99.9  | 100.4 | 101.0 | 100.7 | 100.2 | 99.0  | 99.9  | 100.3 | 100.7 | 100.9 | 101.6 | 101.3 | 144.0 |
| 12500  | 96.7                                 | 99.4  | 100.7 | 101.5 | 101.7 | 101.5 | 99.6  | 99.5  | 99.3  | 98.0  | 99.2  | 100.8 | 100.3 | 144.4 |
| 16000  | 93.9                                 | 96.9  | 98.1  | 100.5 | 100.2 | 99.0  | 98.0  | 96.8  | 95.9  | 96.1  | 97.5  | 98.5  | 144.2 |       |
| 20000  | 92.2                                 | 93.9  | 95.1  | 96.3  | 98.6  | 98.6  | 98.2  | 96.8  | 95.9  | 93.6  | 95.4  | 96.8  | 96.9  | 144.2 |
| 25000  | 88.8                                 | 91.7  | 93.0  | 94.3  | 97.1  | 98.0  | 97.4  | 95.7  | 95.3  | 92.3  | 92.7  | 94.9  | 92.9  | 145.1 |
| 31500  | 83.8                                 | 87.2  | 88.2  | 89.3  | 92.2  | 93.6  | 92.3  | 91.5  | 88.2  | 89.1  | 90.4  | 87.1  | 143.7 |       |
| 40000  | 80.7                                 | 85.2  | 86.3  | 87.3  | 90.4  | 91.3  | 89.4  | 89.3  | 89.0  | 86.5  | 87.7  | 87.6  | 84.4  | 145.6 |
| 50000  | 79.2                                 | 82.2  | 83.5  | 84.7  | 88.1  | 89.3  | 87.3  | 86.2  | 87.3  | 84.4  | 85.5  | 85.2  | 81.4  | 147.6 |
| 63000  | 75.1                                 | 79.1  | 80.4  | 81.7  | 85.2  | 85.6  | 83.3  | 83.9  | 84.4  | 81.4  | 82.8  | 83.1  | 78.5  | 149.8 |
| 80000  | 68.4                                 | 74.0  | 75.7  | 77.4  | 80.1  | 81.5  | 78.6  | 78.1  | 80.0  | 77.0  | 78.4  | 77.8  | 71.3  | 151.9 |
| DASPL  | 110.2                                | 111.3 | 111.2 | 111.8 | 111.5 | 111.4 | 112.1 | 113.2 | 116.4 | 119.8 | 123.8 | 124.6 | 160.5 |       |
| PNL  | 123.1                                | 124.1 | 123.8 | 124.3 | 123.7 | 123.4 | 124.5 | 125.7 | 128.8 | 130.3 | 133.6 | 134.6 |       |       |
| PMLT   | 124.5                                | 125.5 | 124.1 | 124.4 | 124.3 | 124.9 | 123.9 | 124.5 | 125.7 | 128.8 | 130.3 | 133.6 | 134.6 |       |
| DBA  | 110.3                                | 111.0 | 110.6 | 110.4 | 110.5 | 110.0 | 109.8 | 111.0 | 112.5 | 116.1 | 118.8 | 122.6 | 123.4 |       |
| NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514 |                                      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| VEHICLE  | ADH142 = ADH142 TEST DATE = 06-25-82 |       |       |       |       |       |       |       |       |       |       |       |       |       |
| IAPLHA   | S859 = NO PWL AREA = FULL SPHERE     |       |       |       |       |       |       |       |       |       |       |       |       |       |
| WIND DIR   | DEG WIND VEL = MPH                   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| EXT DIST   | EXT DIST = 40.0 FT                   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| EXT CONFIG   | EXT CONFIG = ARC                     |       |       |       |       |       |       |       |       |       |       |       |       |       |
| MIKE HI  | MIKE HI =                            |       |       |       |       |       |       |       |       |       |       |       |       |       |
| PAMB HG  | PAMB HG = 29.50                      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| RELHUM   | RELHUM = 47.1 PCT                    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FLTVEL   | FLTVEL = 0. FPS                      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| MODEL  | MODEL = AX                           |       |       |       |       |       |       |       |       |       |       |       |       |       |
| CONFG  | CONFG = 6                            |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TAMB F   | TAMB F = 79.00                       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| AE18   | AE18 =                               |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FPS  | FPS = 1744.8                         |       |       |       |       |       |       |       |       |       |       |       |       |       |
| AE8  | AE8 = 19.9 SO IN                     |       |       |       |       |       |       |       |       |       |       |       |       |       |
| V8   | V8 =                                 |       |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | RPM =                                |       |       |       |       |       |       |       |       |       |       |       |       |       |
| XNHR   | XNHR =                               |       |       |       |       |       |       |       |       |       |       |       |       |       |
| XNH  | XNH =                                |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TEST PT NO   | TEST PT NO = 1621                    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| NC   | NC = AE048                           |       |       |       |       |       |       |       |       |       |       |       |       |       |
| CORR FAN SPEED   | CORR FAN SPEED =                     |       |       |       |       |       |       |       |       |       |       |       |       |       |
| RPM  | RPM =                                |       |       |       |       |       |       |       |       |       |       |       |       |       |

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DATP FLTRAN

07/19/82 8.658 PAC

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS 59.0 DEG. F., 70 PERCENT R.H., STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1621 X1621F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 78.0  | 80.1  | 81.6  | 83.1  | 82.7  | 79.3  | 84.7  | 87.1  | 81.1  | 79.9  | 85.8  | 86.5  | 87.9  | 125.6 |
| 63    | 81.0  | 88.7  | 89.9  | 91.1  | 90.6  | 86.8  | 86.4  | 86.6  | 88.3  | 87.8  | 89.0  | 89.2  | 90.6  | 133.8 |
| 80    | 83.7  | 88.2  | 86.9  | 85.5  | 85.6  | 87.7  | 88.1  | 87.8  | 87.5  | 86.8  | 88.7  | 88.7  | 92.9  | 130.2 |
| 83    | 81.0  | 87.8  | 86.3  | 88.1  | 87.8  | 87.9  | 90.6  | 89.0  | 89.1  | 93.2  | 97.4  | 99.1  | 101.7 | 133.0 |
| 100   | 84.2  | 89.5  | 87.9  | 86.3  | 88.1  | 87.8  | 87.9  | 90.6  | 89.0  | 89.1  | 93.2  | 97.4  | 101.7 | 133.0 |
| 125   | 82.9  | 86.1  | 87.3  | 88.4  | 89.5  | 89.8  | 89.8  | 90.2  | 88.9  | 90.7  | 97.1  | 101.3 | 103.0 | 135.7 |
| 160   | 82.0  | 79.8  | 81.8  | 83.8  | 86.4  | 86.8  | 81.9  | 87.3  | 88.3  | 88.3  | 90.9  | 97.5  | 101.7 | 136.3 |
| 200   | 81.6  | 85.6  | 85.9  | 86.2  | 86.8  | 88.1  | 90.5  | 91.9  | 93.1  | 93.7  | 99.6  | 104.8 | 107.7 | 138.9 |
| 250   | 81.8  | 89.3  | 87.8  | 86.4  | 87.5  | 90.1  | 92.2  | 93.4  | 93.6  | 98.4  | 104.8 | 109.2 | 110.9 | 142.6 |
| 315   | 83.3  | 87.8  | 88.5  | 89.1  | 91.0  | 90.8  | 93.0  | 94.6  | 96.1  | 100.2 | 105.8 | 110.7 | 112.6 | 144.2 |
| 400   | 83.1  | 87.9  | 87.6  | 87.2  | 89.8  | 89.9  | 96.1  | 94.7  | 96.9  | 103.3 | 108.6 | 113.3 | 114.0 | 146.3 |
| 500   | 85.0  | 87.7  | 88.1  | 88.5  | 90.1  | 91.0  | 92.9  | 95.0  | 97.8  | 104.1 | 109.5 | 113.9 | 114.3 | 146.8 |
| 630   | 86.0  | 89.3  | 89.8  | 90.4  | 91.7  | 92.3  | 93.7  | 96.1  | 97.8  | 105.1 | 111.0 | 115.2 | 115.4 | 148.1 |
| 800   | 89.2  | 89.9  | 91.3  | 92.7  | 93.6  | 93.7  | 94.6  | 98.0  | 100.0 | 105.8 | 111.2 | 114.8 | 115.3 | 148.1 |
| 1000  | 94.3  | 96.1  | 96.1  | 95.7  | 94.8  | 96.0  | 98.4  | 100.8 | 105.7 | 109.8 | 114.7 | 114.6 | 114.6 | 147.8 |
| 1250  | 91.5  | 94.8  | 95.6  | 96.4  | 96.6  | 96.7  | 98.3  | 99.6  | 101.1 | 105.4 | 109.0 | 113.2 | 114.5 | 147.2 |
| 1600  | 97.9  | 97.3  | 96.4  | 95.5  | 96.6  | 96.7  | 98.3  | 99.6  | 101.2 | 104.8 | 107.9 | 111.8 | 113.3 | 146.2 |
| 2000  | 102.3 | 100.9 | 99.5  | 98.0  | 96.6  | 96.0  | 96.7  | 99.5  | 101.4 | 105.4 | 106.4 | 110.2 | 112.0 | 145.6 |
| 2500  | 102.6 | 101.8 | 101.2 | 100.3 | 98.1  | 97.1  | 99.4  | 101.1 | 105.6 | 105.4 | 108.7 | 109.4 | 115.3 | 145.3 |
| 3150  | 101.1 | 102.2 | 101.9 | 101.5 | 102.1 | 101.2 | 99.5  | 99.8  | 101.6 | 104.7 | 104.4 | 107.1 | 108.1 | 145.0 |
| 4000  | 98.5  | 99.7  | 100.0 | 100.3 | 100.6 | 100.4 | 99.5  | 100.3 | 100.9 | 102.6 | 103.1 | 105.2 | 105.7 | 143.7 |
| 5000  | 98.4  | 100.3 | 100.3 | 100.2 | 99.6  | 100.0 | 100.6 | 101.8 | 103.7 | 103.0 | 103.8 | 104.0 | 104.3 | 143.7 |
| 6300  | 98.2  | 99.8  | 99.4  | 99.1  | 100.3 | 99.2  | 99.3  | 100.7 | 101.7 | 101.6 | 102.7 | 103.2 | 103.2 | 143.2 |
| 8000  | 97.7  | 100.5 | 99.9  | 99.2  | 98.7  | 98.0  | 98.2  | 100.8 | 100.9 | 100.4 | 101.6 | 101.5 | 101.5 | 143.0 |
| 10000 | 97.5  | 99.9  | 100.4 | 101.0 | 100.7 | 100.2 | 99.0  | 99.9  | 100.3 | 100.7 | 100.9 | 101.6 | 101.3 | 144.0 |
| 12500 | 96.7  | 98.2  | 97.5  | 98.4  | 100.7 | 101.5 | 99.6  | 99.5  | 99.3  | 98.0  | 99.2  | 100.3 | 100.3 | 144.4 |
| 16000 | 93.9  | 96.9  | 97.5  | 98.1  | 100.5 | 100.2 | 99.0  | 98.4  | 98.0  | 96.1  | 97.5  | 98.8  | 98.5  | 144.2 |
| 20000 | 92.2  | 93.9  | 95.1  | 96.3  | 98.6  | 98.6  | 98.2  | 96.8  | 95.9  | 93.6  | 95.4  | 96.8  | 96.9  | 144.2 |
| 25000 | 88.8  | 91.7  | 93.0  | 94.3  | 97.1  | 98.0  | 97.4  | 95.3  | 92.3  | 92.7  | 94.9  | 92.9  | 92.9  | 145.1 |
| 31500 | 83.8  | 87.2  | 88.2  | 89.3  | 92.2  | 93.6  | 92.3  | 91.5  | 91.0  | 88.2  | 89.1  | 90.4  | 90.4  | 143.7 |
| 40000 | 80.7  | 85.2  | 86.3  | 87.3  | 90.4  | 91.3  | 90.4  | 89.3  | 89.0  | 86.5  | 87.7  | 87.6  | 84.4  | 145.6 |
| 50000 | 79.2  | 82.2  | 83.5  | 84.7  | 88.1  | 89.3  | 87.3  | 83.3  | 83.9  | 84.4  | 85.5  | 85.2  | 81.4  | 147.6 |
| 63000 | 75.1  | 79.1  | 80.4  | 81.7  | 85.2  | 85.6  | 83.3  | 83.9  | 84.4  | 81.4  | 82.8  | 83.1  | 78.5  | 149.8 |
| 80000 | 68.4  | 74.0  | 75.7  | 77.4  | 80.1  | 81.5  | 78.6  | 78.1  | 80.0  | 77.0  | 78.4  | 77.8  | 71.3  | 151.9 |
| DASPL | 110.2 | 111.3 | 111.2 | 111.2 | 111.8 | 111.5 | 111.4 | 112.1 | 113.2 | 116.4 | 119.8 | 123.8 | 124.6 | 160.5 |
| PWL   | 123.1 | 124.3 | 124.1 | 123.8 | 124.3 | 123.7 | 123.4 | 124.5 | 125.7 | 128.8 | 130.3 | 133.6 | 134.6 |       |
| PMLT  | 124.5 | 125.5 | 124.1 | 124.4 | 124.3 | 124.9 | 123.9 | 124.5 | 125.7 | 128.8 | 130.3 | 133.6 | 134.6 |       |
| DBA   | 190.4 | 195.5 | 197.1 | 198.6 | 201.6 | 202.8 | 200.0 | 199.7 | 201.2 | 198.3 | 199.7 | 199.2 | 193.5 |       |

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NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICL = ADH142 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLVEL = 0. FPS

WIND DIR = S859 DEG WIND VEL = MPH PWL AREA = FULL SPHERE EXT DIST = 40.0 FT

FNINI = LBS XNLR = RPM XNHR = RPM V8 = 1744.8 FPS AEB = 19.9 SO IN

RUNPT = 82F-ZER-1621 TAPE = X1621F TEST PT NO = 1621 NC = AE048 CORR FAN SPEED = RPM

685

DATPROC - FLTRAN

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1621 X16211

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

PWL

50 62.2 68.5 69.2 69.6 72.6 72.8 78.8 77.1 78.6 83.8 87.7 90.2 87.5 164.8

63 64.0 68.3 69.8 70.9 72.9 73.9 75.6 77.4 79.4 84.6 88.5 90.7 87.7 165.3

80 65.0 69.8 71.4 72.7 74.4 75.2 76.4 78.4 79.4 85.6 90.0 91.9 88.7 166.5

100 68.0 70.4 72.9 75.0 76.3 76.5 77.3 78.3 80.3 81.5 86.2 90.0 91.5 88.4 166.5

125 73.0 76.4 77.5 78.3 78.3 77.6 78.6 80.6 82.3 86.0 88.6 91.2 87.6 166.2

160 70.1 75.0 76.9 78.4 80.9 81.9 81.9 80.9 82.4 85.6 87.6 89.4 87.0 165.7

200 76.2 77.3 77.5 77.4 78.9 79.1 80.6 81.5 82.3 84.7 86.2 87.7 85.4 164.7

250 80.3 80.7 80.4 79.7 78.7 78.2 78.8 81.2 82.3 85.1 84.4 85.7 83.5 164.1

315 80.2 81.7 82.3 82.6 82.1 80.1 78.9 80.8 81.6 85.0 82.9 83.6 80.1 163.7

400 78.2 81.2 82.6 83.6 82.9 81.1 80.8 81.8 81.8 83.6 81.5 81.4 77.8 163.5

500 75.1 78.2 79.9 81.1 81.9 81.8 80.8 81.1 80.9 81.2 79.7 78.8 74.4 162.1

630 74.5 78.5 79.9 80.7 81.2 80.8 81.0 81.1 81.4 81.8 79.1 76.7 71.7 162.2

800 73.8 77.6 78.7 79.3 81.0 80.2 80.0 79.6 77.2 74.9 69.1 161.7

1000 72.8 78.0 78.9 79.3 79.8 78.8 80.4 79.8 78.4 75.5 73.2 66.8 161.5

1250 72.1 77.1 79.3 80.8 81.2 80.9 79.4 79.8 79.1 77.8 75.5 72.3 65.2 162.4

1500 70.5 74.7 77.8 80.3 81.7 82.1 79.7 79.0 77.7 74.6 73.0 70.2 61.8 162.9

1600 70.5 74.7 77.8 80.3 81.7 82.1 79.7 79.0 77.7 74.6 73.0 70.2 61.8 162.9

2000 66.7 72.9 75.5 77.4 80.5 80.5 79.0 77.7 76.0 72.1 70.3 66.5 57.0 162.7

2500 63.2 68.7 72.2 74.9 78.0 78.3 77.6 75.4 73.1 68.4 66.4 61.7 50.5 162.6

3150 56.5 64.0 68.3 71.4 75.2 76.4 75.5 72.8 70.5 64.6 60.4 54.9 38.1 163.6

4000 45.2 54.8 59.7 63.1 67.4 69.1 67.5 65.3 62.4 55.7 50.5 41.5 17.9 162.2

5000 32.4 45.3 51.5 55.7 60.6 62.0 60.5 57.7 54.2 46.5 39.4 24.9 9 164.1

6300 13.0 28.0 36.6 42.3 48.2 50.2 47.4 43.8 40.4 30.2 19.4 4 166.1

8000 0.1 12.2 20.1 27.1 28.6 25.2 22.2 16.1 2.4 168.3 170.4

10000

12500

15000

16000

20000

25000

31500

40000

50000

63000

80000

DASPL 87.0 89.7 90.8 91.7 92.6 92.5 92.1 92.6 93.1 95.8 97.7 99.5 96.5 178.8

PWL 92.5 96.0 98.2 99.9 101.8 101.9 101.2 100.4 99.7 99.9 99.5 100.0 96.0

PNL 93.2 96.7 98.7 99.9 101.8 102.5 101.7 100.4 100.3 100.6 99.5 100.0 96.0

DBA 82.5 86.3 87.9 89.2 90.5 90.4 89.3 89.2 88.7 88.4 86.9 86.6 82.9

MODEL AREA = 128.3 SQ CM ( 19.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.392 FREQ SHIFT = -9

NASA SHOCK CELL/20 EL ANN C-D SUPP NOZ SC-6/NAS3-22514

VEHICLE = ADH142 TEST DATE = 06-25-82 LOCAL = C41 ANECH CH CONFIG = 6 MODEL = AX FLTVL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMR F = 79.00 PAMB HG = 29.50 RELHIM = 47.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBRF =  
LBS XNLR = RPM XNH = M V18 = FPS AE8 = 1744.8 FPS AE8 = 19.9 SQ IN  
LBS XNLR = RPM XNHR = M V18 = FPS AE18 = 0. SQ IN

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