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Free-Jet Feasibility Study of a Thermal Acoustic Shield Concept for AST/VCE Application--Dual Stream Nozzles

Comprehensive Data Report

Volume I

Test Nozzles and Acoustic Data

by

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16. Abstract

Acoustic and diagnostic data that were obtained to determine the influence of selected geometric and aerodynamic flow variables of coannular nozzles with thermal acoustic shields are summarized in this comprehensive data report. A total of 136 static and simulated flight acoustic test points were conducted with 9 scale-model nozzles. The tested nozzles included baseline (unshielded), 180^{0} shielded, and 360^{0} shielded dual flow coannular plug configurations. The baseline configurations include a high radius ratio unsuppressed coannular plug nozzle and a coannular plug nozzle and a coannular plug nozzle with a 20-chute outer stream suppressor. The tests were conducted at nozzle temperatures and pressures typical of operating conditions of variable cycle engine. Aerodynamic laser velocimeter measurements were made for four selected plumes. In addition, static pressure data in the chute base region of the suppressor configurations were obtained to assess the influence of the shield stream on the suppressor base drag.

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1.0 INTRODUCTION

This and the companion volume constitute the Comprehensive Data Report that summarize the data obtained with dual-flow coannular nozzles as a part of the investigation performed under NASA Contract NAS3-22137 titled, "Free Jet Feasibility Study of a Thermal Acoustic Shield Concept for AST/VCE Application". Data obtained earlier with single-flow annular nozzles are presented in a separate data report.* The objective of both of the single and dual-flow studies of this contract is to develop a technology base for a thermal acoustic shield (TAS) concept for AST/VCE application. The needed data base has been obtained by experimental evaluation of a family of unsuppressed and mechanically suppressed configurations with and without thermal acoustic shields under both static and simulated flight conditions.

Detailed schematics of the model coannular configurations, tabulations of aerodynamic test conditions and computer listings of the measured acoustic data are presented in Volume I. Aerodynamic conditions of the Laser Velocimeter (LV) tests along with the LV plume data are summarized in Volume II. The base pressure data measured on the mechanically suppressed coannular configurations, with and without the thermal acoustic shields, are presented also in Volume II.

The major results of the single and dual flow studies of this contract are discussed under separate cover in two final technical reports, NASA CR-3758 and NASA CR- , respectively.

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*"Free Jet Feasibility Study of a Thermal Acoustic Shield Concept for AST/VCE Application", Comprehensive Data Report, Volumes I and II by Majjigi, R.K., Brausch, J.F., Janardan, B.A., Hoerst, D.J., Price, A.O., and Knott, P.R., R82AEB493, July 1982 (NASA CR-168302).

2.0 SCALE MODEL CONFIGURATIONS

Nine configurations were designed and fabricated to meet the objectives of this dual-flow thermal acoustic shield phase of this program. Four of these configurations are with an unsuppressed coannular plug nozzle and five are with a coannular nozzle having a 20-chute outer-stream mechanical suppressor.

As the three-flow nozzle system (inner, outer and TAS flows) was supplied from a two-flow facility, the outer flow stream was split and flow-conditioned through choke plates to provide proper TAS flow parameters. Due to the unique flow conditioning design, as well as transitioning a full 360° annular flow to a 180° arc flow for the TAS, an aerodynamic instrumentation package was designed to aid in diagnosis of the TAS flow development.

The nine (9) nozzle configurations selected are as follows; shown in schematic Figures 2-1 through 2-6 and in Photo Figures 2.7 through 2.9:

CONFIGURATION	DESCRIPTION
TAS-10	Baseline Unsuppressed Coannular Plug Nozzle, Figure 2.1.
TAS-11	Unsuppressed Coannular Plug Nozzle with 180° Shield, $V_r^{s,o}$ = .64, Figures 2.2, 2.7, 2.8 and 2.9.
TAS-12	Unsuppressed Coannular Plug Nozzle with 180° Shield, $V_r^{s,o}$ = .83, Figures 2.2, 2.7 and 2.8.
TAS-14	Unsuppressed Coannular Plug Nozzle with 360° Shield, $V_r^{s,o}$ = .83, Figure 2.3.
TAS-15	Unshielded Coannular Plug Nozzle with 20-Chute Outer-Stream Mechanical Suppressor, Figures 2.4 and 2.9.

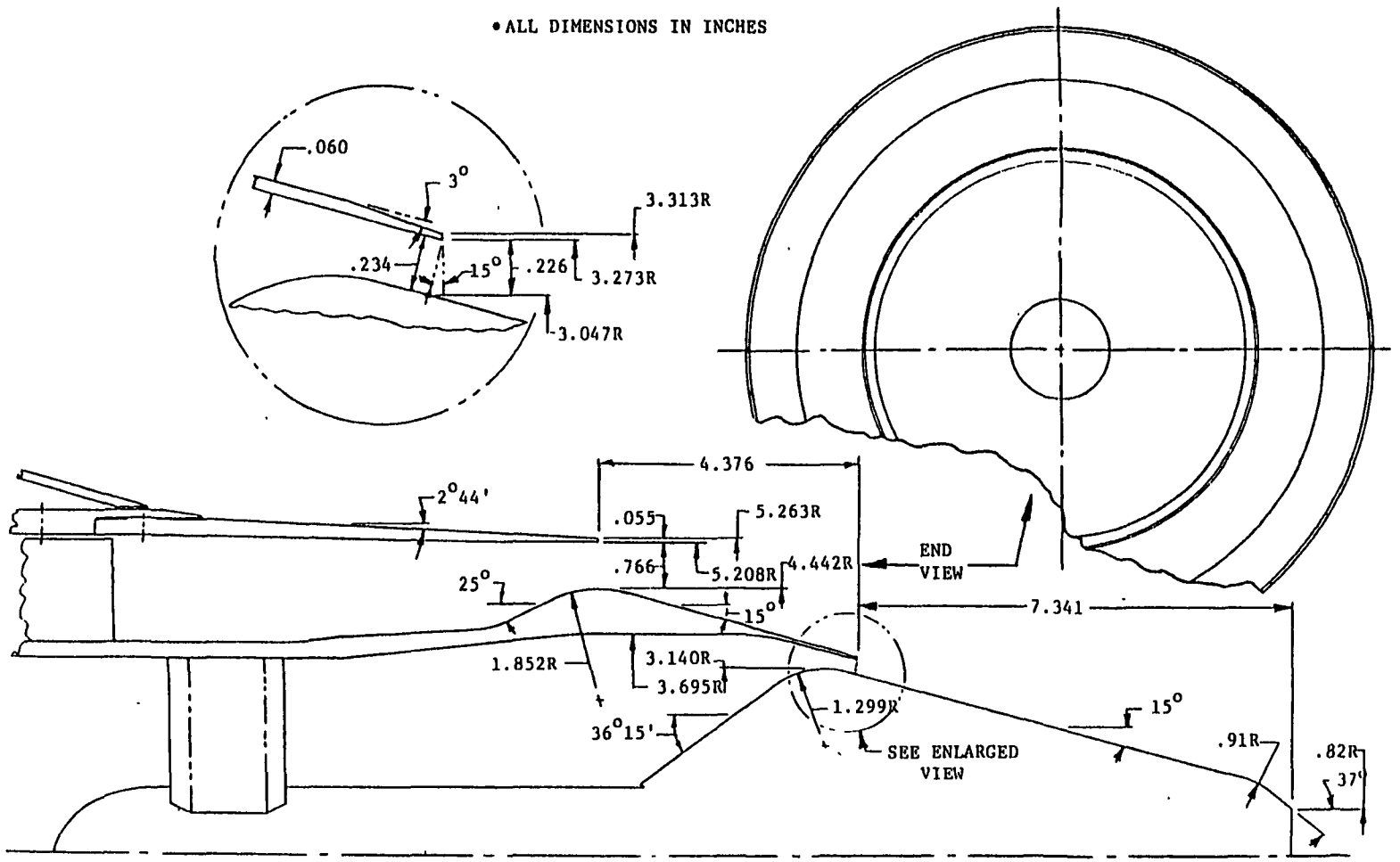

FIGURE 2.1 SCHEMATIC OF BASELINE UNSUPPRESSED COANNULAR PLUG NOZZLE, CONFIGURATION TAS-10.

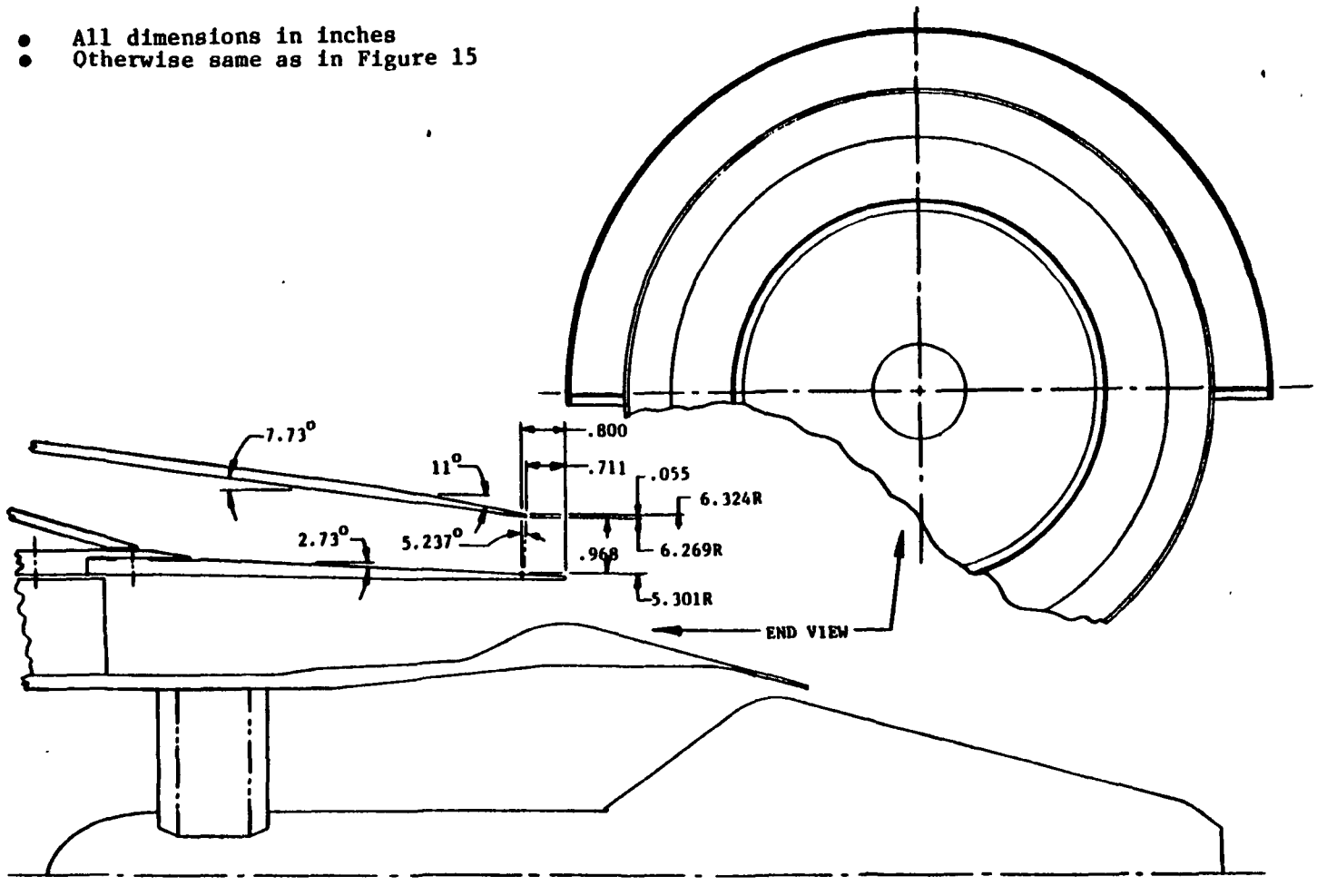

Figure 2.2 Schematic of Unsuppressed Coannular Plug Nozzle with 180° Shield, Configurations TAS-11 and TAS-12.

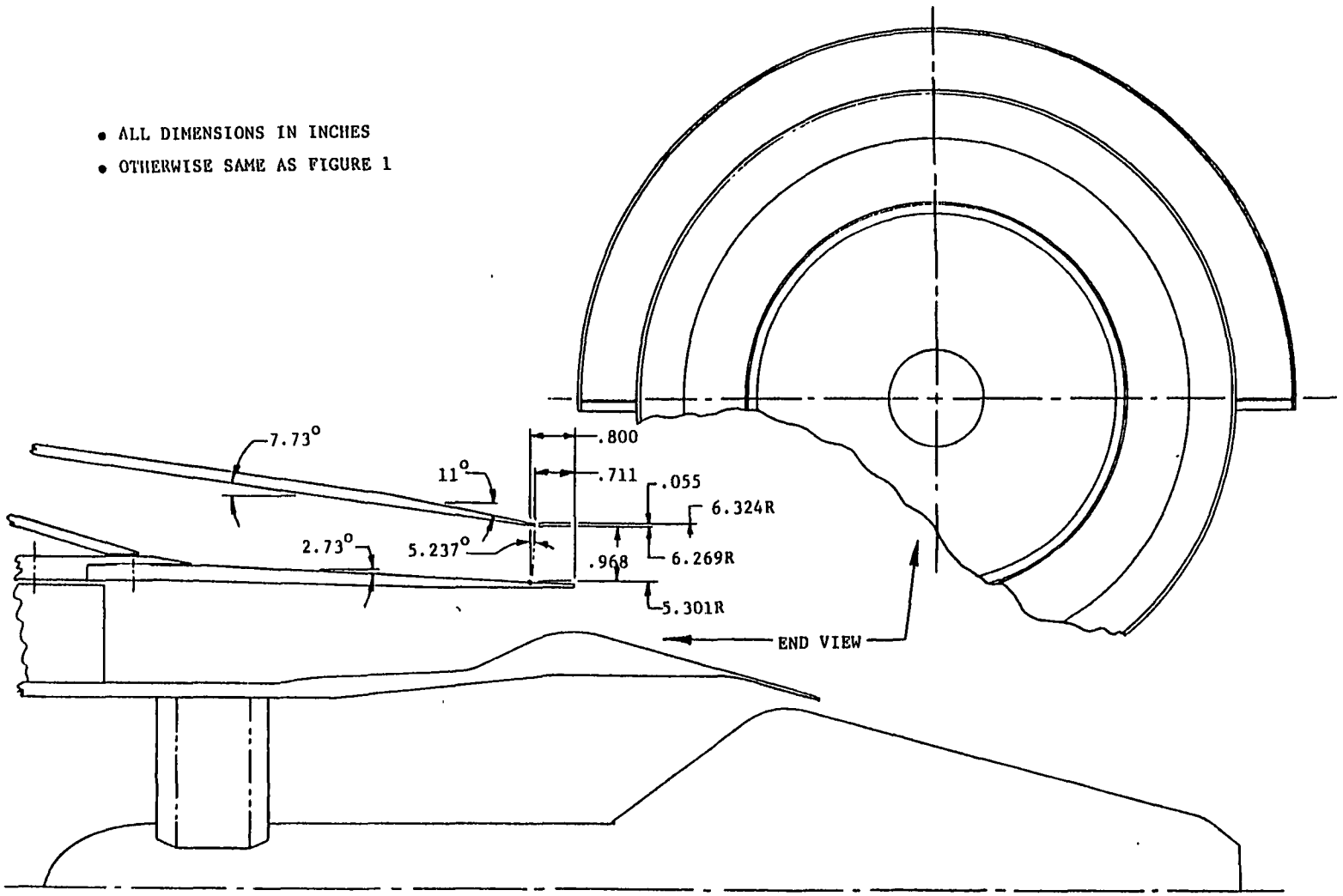

FIGURE 2.3 SCHEMATIC OF UNSUPPRESSED COANNULAR PLUG NOZZLE WITH 360° SHIELD, CONFIGURATION TAS-14.

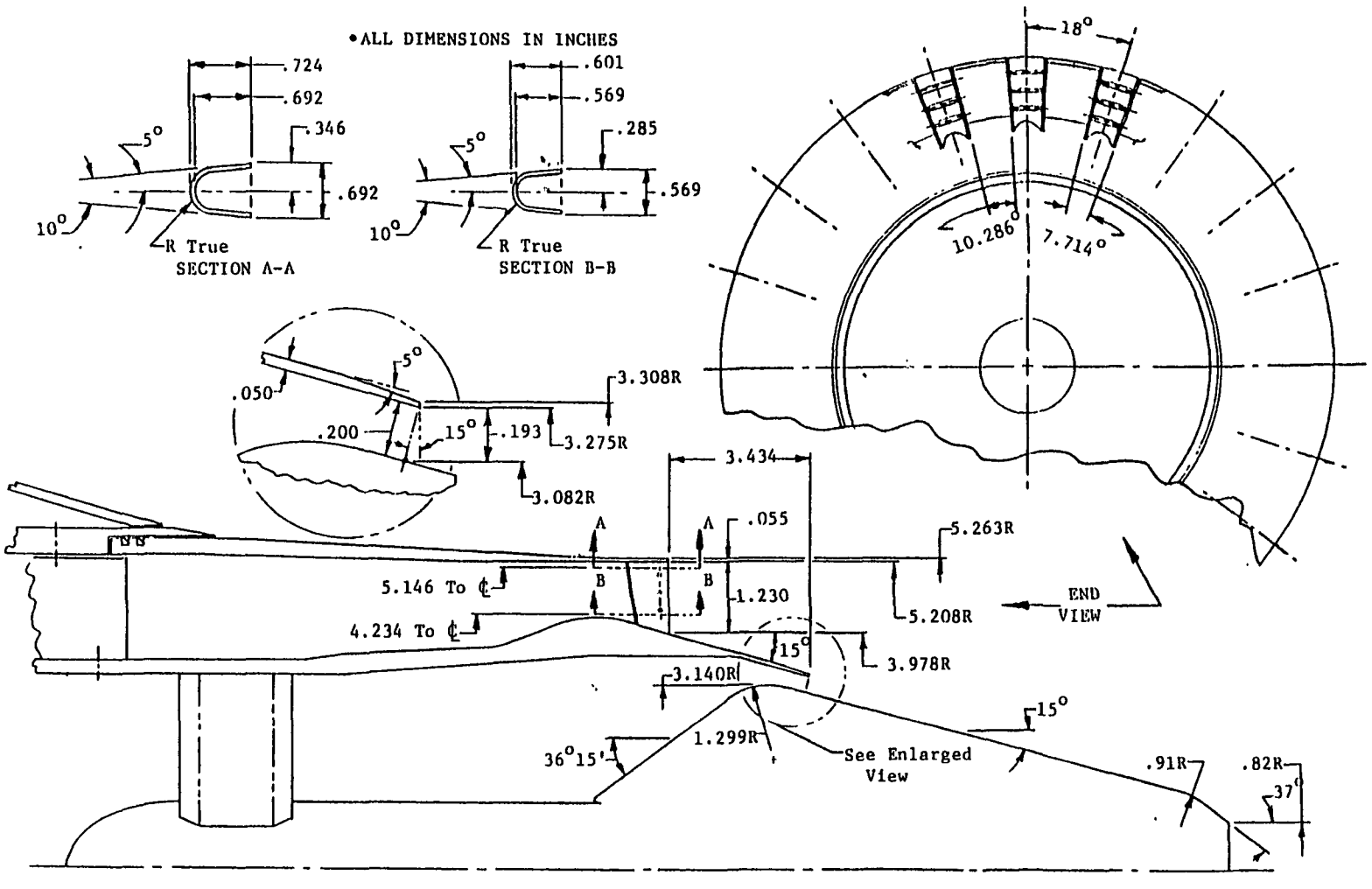

FIGURE 2.4. SCHEMATIC OF COANNULAR PLUG NOZZLE WITH 20-CHUTE OUTER-STREAM MECHANICAL SUPPRESSOR, CONFIGURATION TAS-15

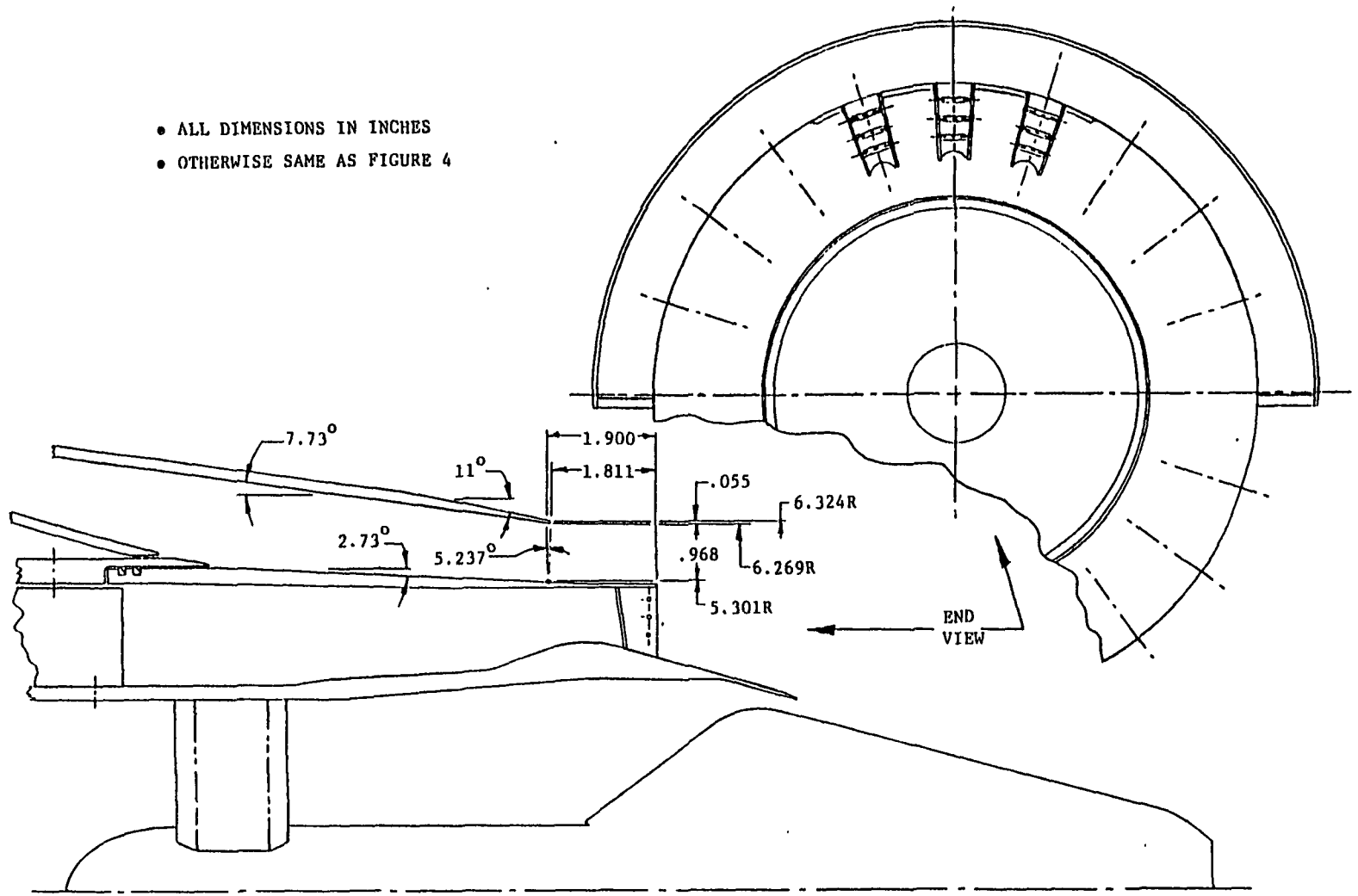

FIGURE 2.5 SCHEMATIC OF COANNULAR PLUG NOZZLE WITH 20-CHUTE OUTER-STREAM MECHANICAL SUPPRESSOR WITH 180° SHIELD, CONFIGURATIONS TAS-16, TAS-17 AND TAS-18.

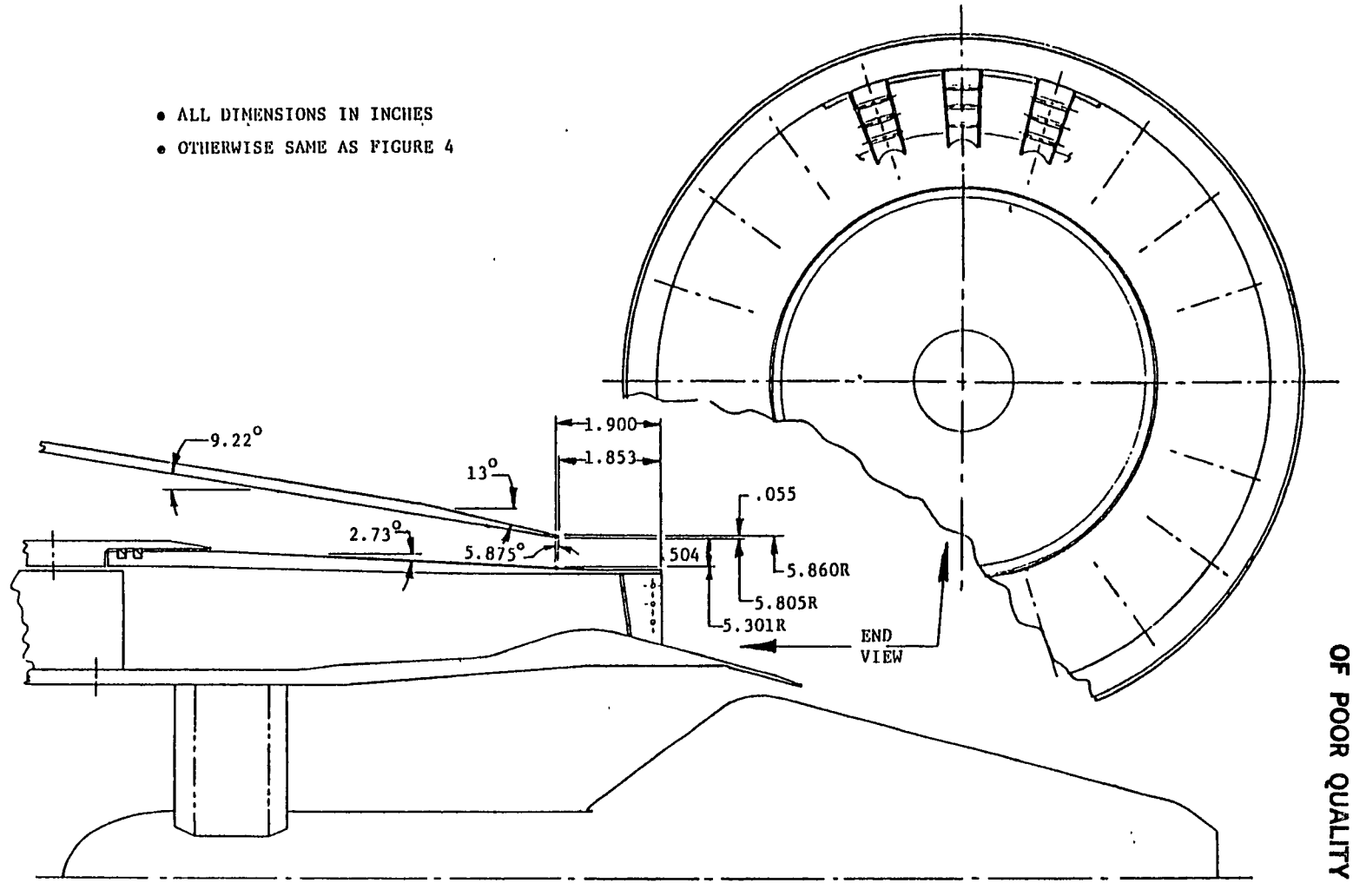

FIGURE 2.6 SCHEMATIC OF COANNULAR PLUG NOZZLE WITH 20-CHUTE OUTER-STREAM MECHANICAL SUPPRESSOR WITH 360° SHIELD, CONFIGURATION TAS-19.

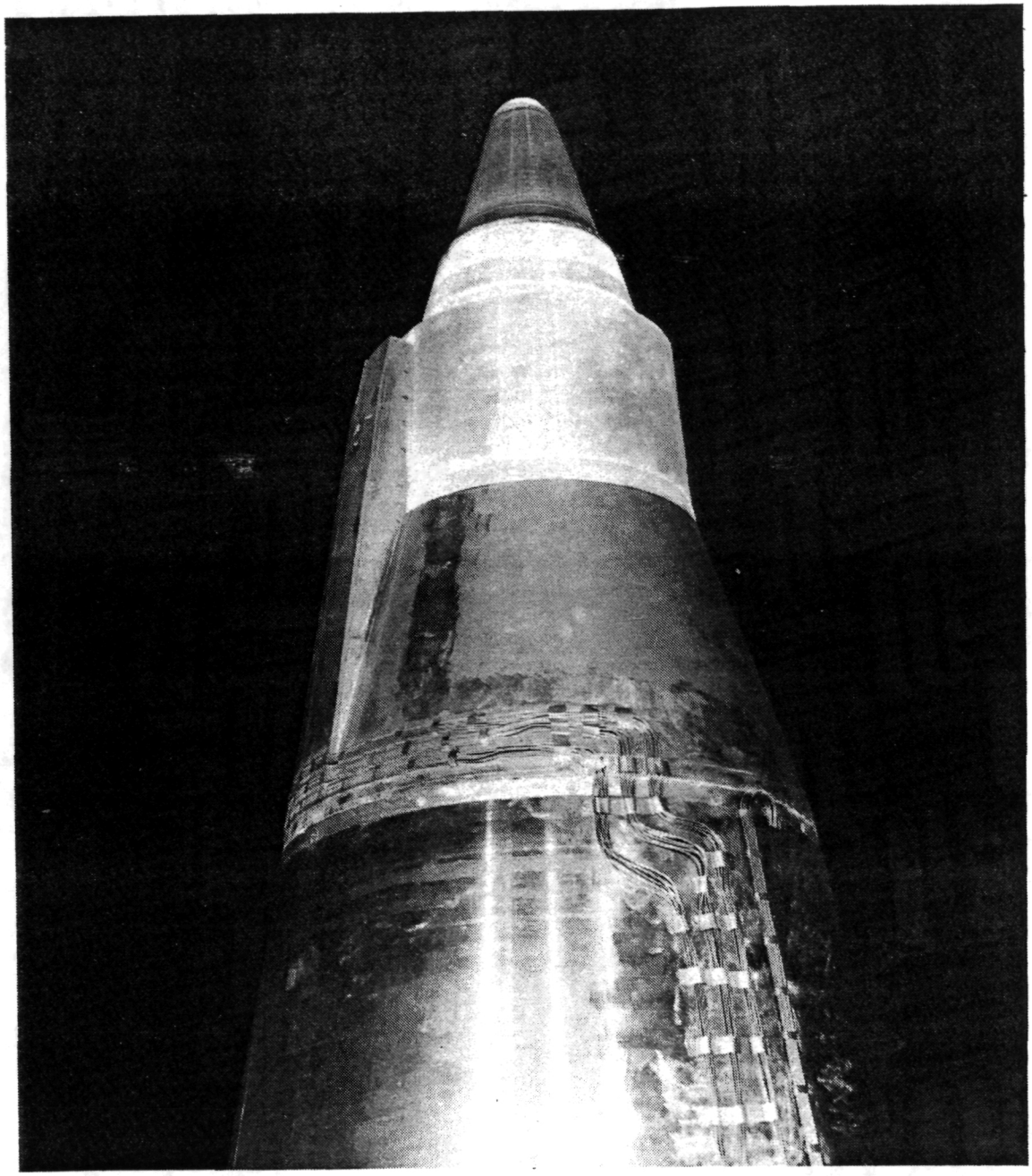

Figure 2.7. Photo of Unsuppressed Coannular Plug Nozzle With 180° Shield in Anechoic Test Facility, Configurations TAS-11 and TAS-12.

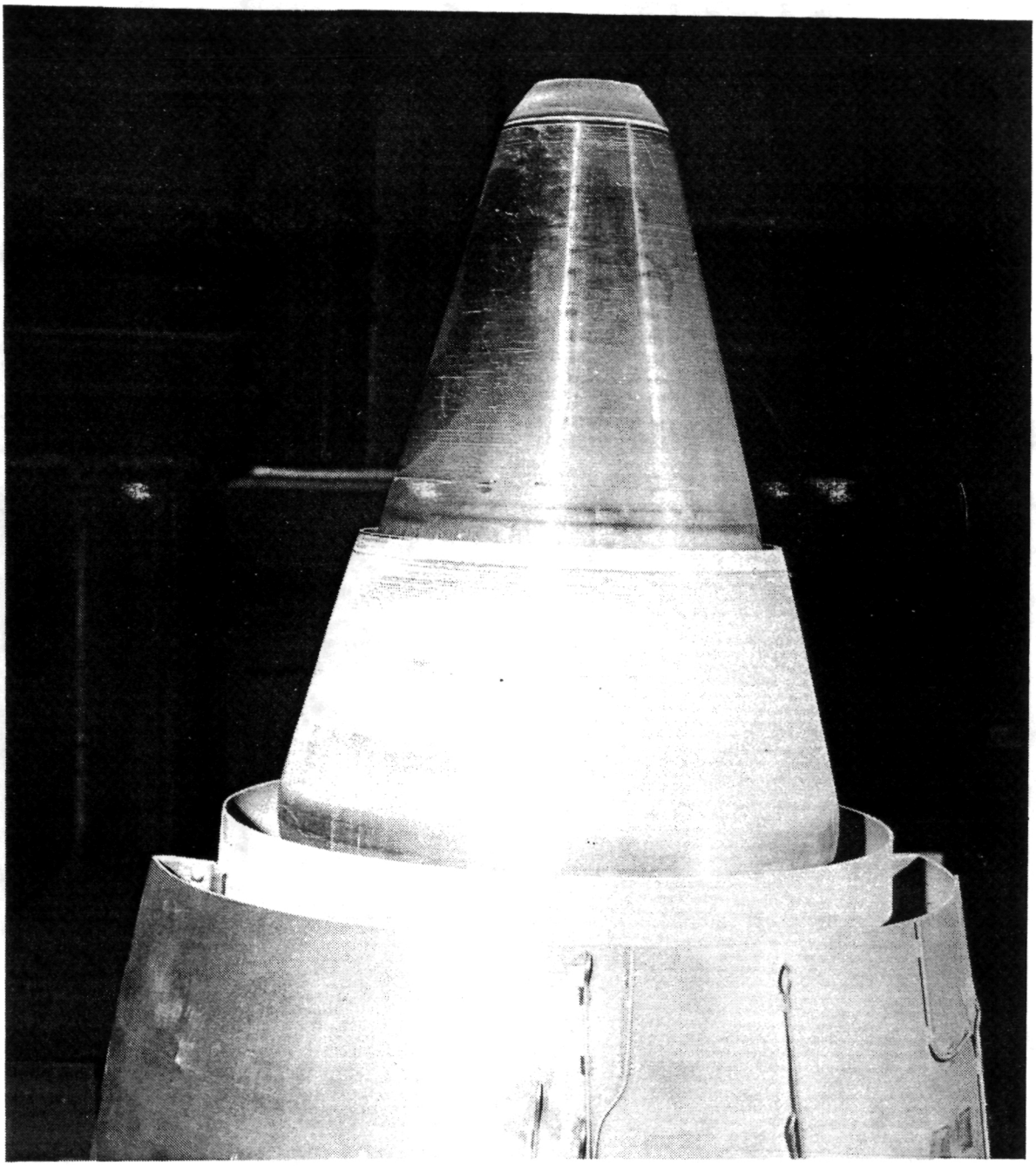

Figure 2.8. Photo of Unsuppressed Coannular Plug Nozzle With 180° Shield in Anechoic Test Facility, Configurations TAS-11 and TAS-12.

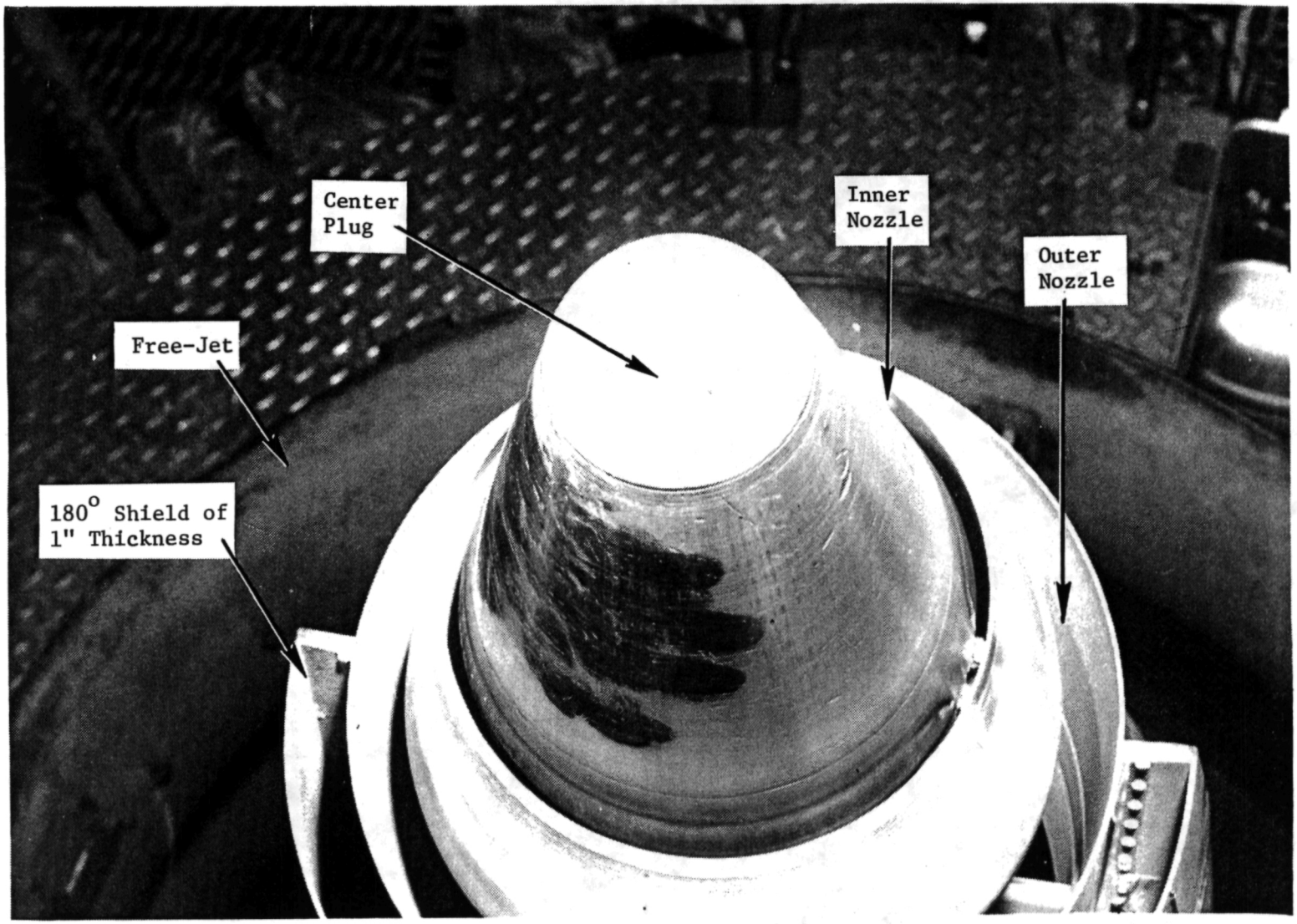

Figure 2.9. Photograph of Coannular Plug Nozzle With 180° TAS (TAS 11 and TAS 12) Assembled in Anechoic Jet Noise Facility.

CONFIGURATION	DESCRIPTION
TAS-16	Coannular Plug Nozzle with 20-Chute Outer-Stream Mechanical Suppressor with 180° Shield, $V_r^{s,o}$ = .64, Figure 2.5.
TAS-17	Coannular Plug Nozzle with 20-Chute Outer-Stream Mechanical Suppressor with 180° Shield, $V_r^{s,o}$ = .83, Figure 2.5.
TAS-18	Coannular Plug Nozzle with 20-Chute Outer-Stream Mechanical Suppressor with 180° Shield, $V_r^{s,o}$ = .48, Figure 2.5.
TAS-19	Coannular Plug Nozzle with 20-Chute Outer-Stream Mechanical Suppressor with 360° Shield, $V_r^{s,o}$ = .83, Figure 2.6.

Tables 2-I and 2-II present detailed listings of the configurations' salient geometries parameters; Table 2-I defining the coannular nozzle properties and Table 2-II doing likewise for the applied TAS nozzles. Details of the individual hardware pieces of the assemblies are provided in the design report*.

The nine (9) configurations are grouped as baseline nozzles (i.e., Configurations TAS-10 and -15) and thermal acoustic shield nozzles (i.e., Configurations TAS-11, -12, -14, -16, -17, -18 and -19). The test configuration design details are discussed in Sections 2.1 and 2.2 for the two groups, respectively. Further details of the model system design and methods of TAS flow conditioning through choke plates are discussed in Section 2.3. A description of the diagnostic aerodynamic instrumentation package, which has been designed to measure the impact on flow characteristics of unique features of the flow conditioning system and thermal shield nozzles, is given in Section 2.4.

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*"Model Hardware Design Report for a Thermal Acoustic Shield Concept for AST/VCE Application - Dual Stream Nozzle Designs" by J.F. Brausch, R84AEB389, November, 1984.2

TABLE 2-I - COANNULAR NOZZLE GEOMETRIC PARAMETERS

	CONFIGURATION	
	TAS-10, -11, -12 & -14	TAS-15, -16, -17, -18 & -19
OUTER STREAM		
o Unsuppressed/20-Chute	Unsuppr.	20-Chute
o Throat Height, h^o, in.	.766	1.230
o Physical Throat Area, A^o, in.^{2}	23.222	19.90
o Deg. Based on A^o, in.	5.438	5.03
o Hub Radius at Throat, R^o_h, in.	4.442	3.978
o Tip Radius at Throat, R^o_t, in.	5.208	5.208
o Throat Radius Ratio, R^o_r	.853	.764
o Termination Shape	Convg.	Convg.
o Exit Plane Discharge Angle Re Vert., ϕ^o_{th}, deg.	0	0
o Number of Suppressor Elements	-	20
o Supr. Elemental Planform Shape	-	Radial
o Suppressor Area Ratio, AR	-	1.75
o Angle Subtended by Each Chute, θ_{Chute}, deg.	-	7.714
o Angle Subtended by Each Flow Element, θ_{Flow}, deg.	-	10.286
o Chute Depth-to-Width Ratio	-	1.0
o Chute Entrance Design Mach Number	-	0.7
INNER STREAM		
o Throat Height, h^i, in.	.234	.200
o Phys. Throat Area, A^i, in.^{2}	4.644	3.99
o Deq Based on A^i, in.	2.432	2.254
o Hub Radius at Throat, R^i_h, in.	3.047	3.082
o Tip Radius at Throat, R^i_t, in.	3.273	3.275
o Throat Radius Ratio, R^i_r	.931	.941
o Termination Shape	Convg.	Convg.
o Exit Plane Discharge Angle Re Vert., ϕ^i_{th}, deg.	15	15

TABLE 2-II - THERMAL ACOUSTIC SHIELD GEOMETRIC PARAMETERS

	CONFIGURATION			
	TAS-11 & -12	TAS-14	TAS-16, -17 & -18	TAS-19
o Shield Arc, deg.	180	360	180	360
o Shield Height, h^S, in.	.968	.504	.968	.504
o Hub Radius @ Throat, R_h^S, in.	5.301	5.301	5.301	5.301
o Tip Radius @ Throat, R_t^S, in.	6.269	5.805	6.269	5.805
o Radius Ratio @ Throat, R_r^S	.846	.913	.846	.913
o Physical Throat Area, A^S, in.^{2}	17.664	17.664	17.664	17.664
o $D_{eq_t}^S$ Based on A^S, in.	4.742	4.742	4.742	4.742
o Shield Hub Flowpath Angle @ Throat, Θ_h^S, deg.	2.73	2.73	2.73	2.73
o Shield Tip Flowpath Angle @ Throat, Θ_t^S, deg.	7.73	9.22	7.73	9.22
o Axial Distance, Shield to Primary Nozzle Exit Plane, X, in.	.711	.753	1.811	1.853
o Exit Plane Discharge Angle Re Vent, Θ_{th}^S, deg.	5.237	5.875	5.237	5.875

2.1 BASELINE ACOUSTIC NOZZLES

Configurations TAS-10 and -15 are nozzles without a thermal acoustic shield and are used as baseline cases to be compared with the nozzles with a thermal acoustic shield, to evaluate the shield's effectiveness and the influence of geometric and aero/acoustic variables for different conditions. The nozzle's outer flow surfaces are aerodynamically clean such that, when tested in the open throat free-jet system, the impact of simulated flight relative to static can also be evaluated.

2.1.1 Unsuppressed Coannular Plug Nozzle; TAS-10

The unshielded unsuppressed coannular plug nozzle (Configuration TAS-10, Figure 2.1 and Table 2-I) has geometric flow areas of A^o = 23.222 in^2, A^i = 4.644 in^2, and A^T = 27.866 in^2 for a total area equivalent diameter, $D_{eq}{}^T$, of 5.957", and a system area ratio, $A_r{}^{i,o}$, of 0.20. The nozzle has convergent flowpath terminations and is the baseline to which shielded unsuppressed nozzles are compared. The final aerodynamic flowlines are a close replication of the baseline coannular nozzle system tested in engine size on the YJ101*, including plug angles, relative spacing of outer-to-inner exit planes and plug-tip-truncation. As a starting point for sizing the new hardware system and to assure commonality of TAS hardware, the outer nozzles outer-flowpath physical dimensions were set to those of the existing 20-chute suppressor nozzles (Configuration TAS-15); as it was available hardware. Therefore, (1) 180° TAS and (1) 360° TAS were required to be fabricated, interchangeable to unsuppressed and mechanically suppressed coannular systems.

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*"Aerodynamic/Acoustic Performance of YJ101/Double Bypass VCE with Coannular Plug Nozzle", NASA CR-159869, January, 1981.

2.1.2 Coannular Plug Nozzles with 20-Chute Outer-Stream Mechanical Suppressor; TAS-15

The 20-chute coannular suppressor (Configuration TAS-15, Figures 2.4 and 2.10, Table 2.1) was built and tested under Contract NAS3-21608, then subsequently tested as a single flow turbojet suppressor within Contract NAS3-22514 and as a dual flow system within Contract NAS3-23166. Within the last two contracts, it served as baseline for single and dual flow shock noise studies. The nozzle is a scaled model of a test-bed engine suppressor that was built for the YJ101 Engine.

The nozzle utilizes 20-chutes of radial exit-plane-planform and a suppressor area ratio, $A_{Annulus}/A_{Flow}$, of 1.75. Physical flow areas of $A^o = 19.90in^2$ and $A^i = 3.99\ in^2$ result in total flow area of $23.89in^2$, a total area equivalent diameter of 5.52", and a system area ratio of 0.20.

2.2 Thermal Acoustic Shield Nozzle Configurations

Two shield nozzles, a 180° shield and a 360° shield, were designed and fabricated into physical hardware. Each was designed to be interchangeable with the baseline unsuppressed (TAS-10) and the mechanically suppressed (TAS-15) coannular nozzles, to implement shield Configurations TAS-11, -12, -14, -16, -17, -18 and -19. As both shield and outer streams are supplied from the same facility flow source, variations in shield-to-outer stream velocity ratio, $V_r^{s,o}$, were accomplished through physical changes in choke plate flow conditioning hardware.

As a base point for shield design, the following "takeoff" aero cycle was selected for the unsuppressed coannular nozzle system:

$P_r^o = 3.426$	$P_r^i = 2.362$	$V_r^{i,o} = 0.6$
$T_T^o = 1730°R$	$T_T^i = 860°R$	$A_r^{i,o} = 0.20$
$V^o = 2500ft/s$	$V^i = 1500ft/s$	
$A^o = 23.222in^2$	$A^i = 4.644\ in^2$	
$C_D^o = .98$		
$A_e^o = 22.758in^2$		
$W_o = 14.29pps$		

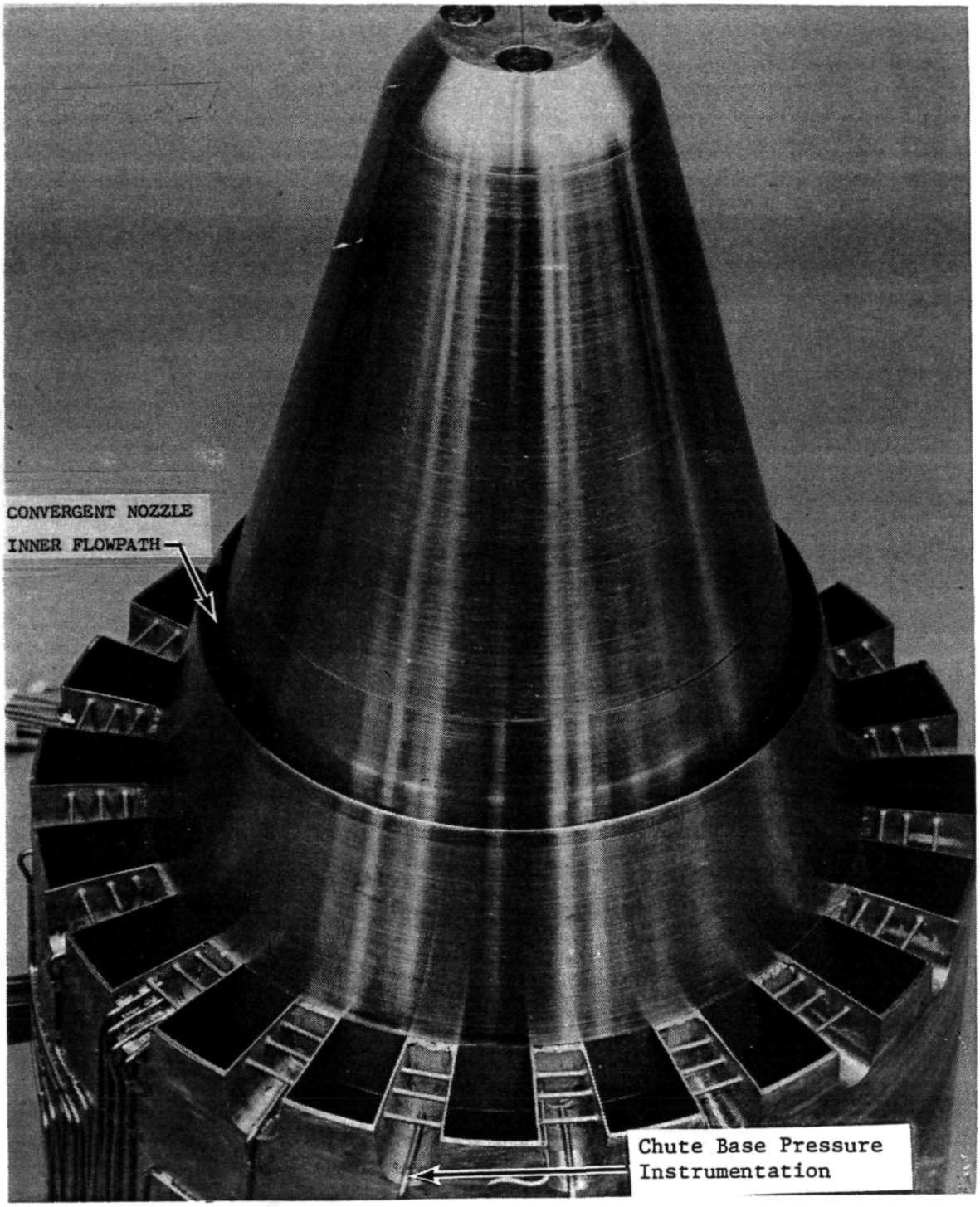

Figure 2.10. Photo of Coannular Plug Nozzle With 20-Chute Outer-Stream Mechanical Suppressor, Configuration TAS-15.

The desired shield exit plane aero conditions were selected as:

- o $V_r^{s,o}$ = 0.6, therefore, V^s = 1500ft/s
- o T_T^s = 1760°R; supplied from the same source as the outer stream
- o P_r^s = 1.489
- o $W^{s,o}$ = .15, therefore, W^s = 2.14 pps

- o The above parameters, therefore, set A_e^s = 16.251 in^2, and, using a predicted discharge coefficient of C_D^s = .92, A^s = 17.664 in^2 design.

The 180° and 360° shields are designed for the same exit area, therefore, resulting in shield exit plane thicknesses of .968" and .504", respectively. These are in concert with shield thicknesses of .48" and .97", tested within the earlier single-flow phase of this contract. For identical aero conditions, the two shield designs will carry approximately the same weight flow through the shield jets.

Photos of the 180° TAS as applied to the unsuppressed coannular nozzle are per Figures 2.7 and 2.9.

For set-back of the 180° and 360° TAS exit planes relative to the outer stream of the baseline coannular nozzle, similar distances to those of the Single Flow TAS designs were maintained, i.e, .71 and .75" for the dual flow compared to .75 and .77" for the previous single flow designs.

For 180° and 360° TAS application to the 20-chute, 1.81 and 1.85" set-backs were used, substantially less than the 3.2" of TAS application to the 32 chute single flow nozzle. The 20-chute is much shallower in cross section depth at the tip than the 32 chute; .72" relative to 2.0, respectively. The design parameter maintained constant, however, was the distance from the TAS throat plane to the leading edge of the chute cross section at the tip; approximately 1.2" in both designs.

2.2.1 Unsuppressed Coannular Plug Nozzle with Thermal Acoustic Shields; TAS-11, -12 and -14

Application of the 180° and 360° shields to the baseline unsuppressed coannular nozzle results in two physical nozzle systems. However, as the flow to the outer nozzle and to the TAS system is supplied from a common source, through flow-conditioning choke plates in the TAS stream (see Section 2.3), each test configuration has a "design-point" shield-to-outer stream velocity ratio, $V_r^{s,o}$, to which the upstream flow conditioning hardware is initially configured. In designing the flow conditioning hardware, sufficient mechanical flexibility was allowed to tune-in the physical hardware during calibration testing, to effect the desired design point $V_r^{s,o}$. Off-design-point operation was accomplished by setting desired inner and outer stream flow conditions, while maintaining the same physical TAS stream choke plate geometry, and validating the resultant shield exit cycle through instrumentation measurements.

Subsequent to the initial "takeoff" design point selection, used for sizing the shield nozzles, the Single Flow TAS test results indicated greater noise suppression could be obtained with the shield operating on a somewhat lower outer stream velocity. A "derated-takeoff" cycle was, therefore, selected as the prime point around which shield influence would be investigated. Excursions to higher and lower cycle points were still planned. The selected derated-takeoff cycle is as follows:

P_r^o	= 3.025	P_r^i	= 2.056	$V_r^{i,o}$	= 0.60
T_T^o,°R	= 1630	T_T^i,°R	= 870		
V^o,ft/s	= 2325	V^i,ft/s	= 1395		
W^o,pps	= 13.4	W^i,pps	= 2.5		

The following TAS configurations, applied to the baseline coannular plug nozzles, were then selected:

o TAS-11, Unsuppressed Coannular Plug Nozzle with 180° shield, $V_r^{s,o}$ = .64 (Figure 2.2).

P_r^s	= 1.50	W^s,pps	= 4.8
T_T^s,°R	= 1630	$V_r^{s,o}$	.64
V^s,ft/s	= 1465	$W_r^{s,o}$	.35

o TAS-12, Unsuppressed Coannular Plug Nozzle with 180° Shield, $V_r^{s,o}$ = .83 (Figure 2.2).

P_r^s	= 2.04	W^s, pps	= 6.7
T_T^s, °R	= 1630	$V_r^{s,o}$	.83
V^s, ft/s	= 1910	$W_r^{s,o}$	.50

o TAS-14, Unsuppressed Coannular Plug Nozzle with 360° Shield, $V_r^{s,o}$ = .83 (Figure 2.3).

- Cycle conditions same as for TAS-12.

2.2.2 Coannular Plug Nozzle with 20-Chute Outer Stream Mechanical Suppressor with Thermal Acoustic Shields, TAS-16, -17, -18 and -19

Application of the same two 180° and 360° shields to the basic coannular plug nozzle with 20-chute outer-stream mechanical suppressor, and selection of cycle points, resulted in the following test configurations:

o TAS-16, Coannular Plug Nozzle With 20-Chute Outer-Stream Mechanical Suppressor With 180° Shield, $V_r^{s,o}$ = .64 (Figure 2.5):

P_r^s	= 1.50	W^s, pps	= 4.8
T_T^s, °R	= 1630	$V_r^{s,o}$	.64
V^s, ft/s	= 1465	$W_r^{s,o}$	.35

- TAS-17, Coannular Plug Nozzle With 20-Chute Outer-Stream Mechanical Suppressor With 180° Shield, $V_r^{s,o}$ = .83 (Figure 2.5):

P_r^s	= 2.04	W^s, pps	= 6.7
T_T^s, °R	= 1630	$V_r^{s,o}$	.83
V^s, ft/s	= 1910	$W_r^{s,o}$	.50

- TAS-18, Coannular Plug Nozzle With 20-Chute Outer Stream Mechanical Suppressor With 180° Shield, $V_r^{s,o}$ = .48 (Figure 2.5):

P_r^s	= 1.235	W^s, pps	= 3.3
T_T^s, °R	= 1630	$V_r^{s,o}$	.48
V^s, ft/s	= 1070	$W_r^{s,o}$	.25

- TAS-19, Coannular Plug Nozzle With 20-Chute Outer Stream Mechanical Suppressor With 360° Shield, $V_r^{s,o}$ = .83 (Figure 2.6):

  - Cycle conditions same as for TAS-17.

2.3 Thermal Acoustic Shield Flow Conditioning Choke Plate System

As heated flow to both the outer stream of the coannular nozzle and to the TAS nozzle is supplied from a common facility source, the facility supply conditions are controllable only to effect the desired outer stream exit conditions. The TAS stream exit conditions are met through proper choke plate flow conditioning. The design of the flow conditioning system, therefore, is somewhat unique in that, unlike most choke plate systems, no flow adjustment is available through independent stream controls. Rather, the flow conditioning system is designed to balance mass flow rates and pressure drops across the system, such that desired TAS exit plane flow conditions are obtained to effect design point velocity ratios, $V_r^{s,o}$, of approximately 0.48, 0.64 and 0.83. The flow conditioning system's design was verified and fine-tuned by a series of calibration tests.

As shown schematically in Figure 2.11, a two stage choke plate system was designed into the hardware structure to condition the TAS flow stream. Selective application of choke plate covers having varying numbers of passage holes over the (20) thru-flow windows, allows for flow area variation through this first stage choke plate. Specifics of the available choke plate elements for this first stage choke plate are as follows:

ITEM NO.	HOLE DIA. d, in.	NO. OF HOLES PER PLATE	NO. OF PLATES	PLATE THK. L, in.	HOLE L/d
16	.257	15	20	.30	1.17
17	.257	12	10	.30	1.17
18	-	-	10	.30	-
26	.257	10	10	.30	1.17
27	.257	8	10	.30	1.17

The second choke plate was set at an axial location approximately ten hole diameters past choke plate 1, i.e., at approximately 2.7" aft. This choke plate is a full annular ring. To provide the range of flow area variation calculated as necessary within the preliminary design evaluation, (2) stage 2 choke plate rings were fabricated having the following specifications:

ITEM NO.	HOLE DIA. d, in.	NO. OF HOLES PER PLATE	PLATE THK. L, in.	HOLE L/d
19	.295	400	.447	1.52
20	.257	300	.447	1.74

For adjustment of flow area through these plates, cover plates are used to blank off four of the thru-flow holes at a time. For finer adjustment of flow area within choke plate 1 or 2, individual holes are covered on both upstream and downstream sides by tack welding thin "buttons" of nichrome over the holes. Symmetry of flow patterns within both choke plates is maintained

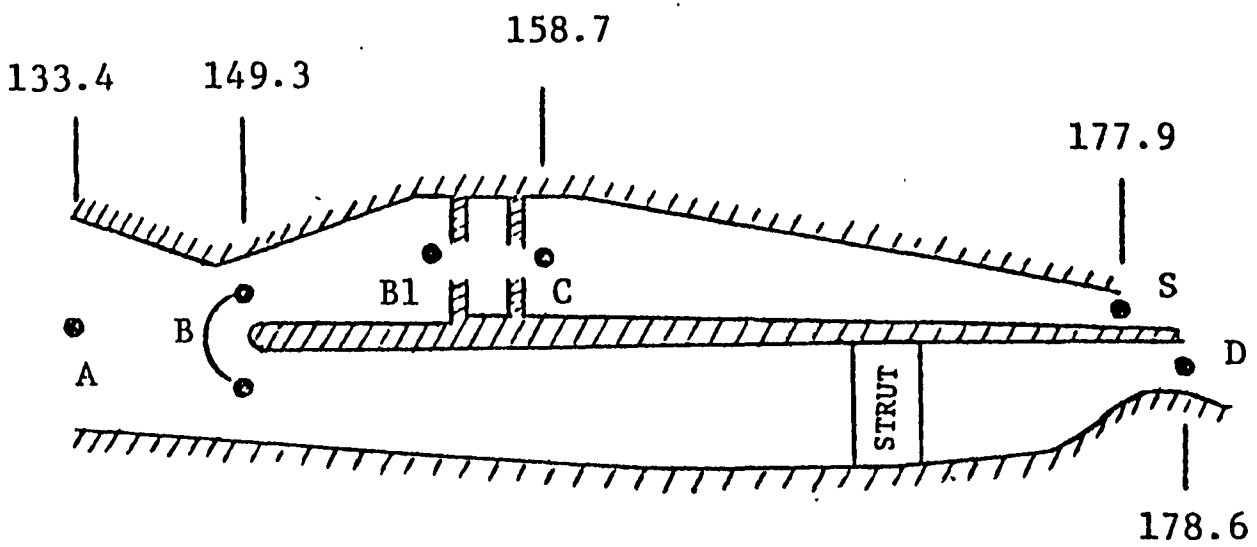

FIGURE 2.11 SCHEMATIC OF CHOKE PLATES SYSTEM.

as best possible within the annulus to create uniform flow profiles. Design of the flow conditioning choke plate system was primarily influenced by General Electric in-house experience and by SAE Manual* for discharge coefficient and pressure drop estimations. Within the preliminary design evaluation phase, exit flow coefficients for the TAS nozzles were computed from the Streamtube Curvature (STC) inviscid flow field output of the Stratford and Beavers boundary layer (SABBL) program. Because STC can handle only axisymmetric or two-dimensional geometries, the 180° TAS nozzle was treated as an axisymmetrical nozzle. The flow coefficient was then adjusted for the boundary layer thickness on the sidewalls. The calculations resulted in the predicted exit flow coefficients for the 360° and 180° TAS nozzles, as shown in Figure 2.12, and indicate that the 180° nozzle flow coefficient is about 0.2 percent lower than that of the 360° nozzle. The flow coefficients were then used to estimate TAS exit plane aerodynamic flow areas, required for initial designs of choke plate flow areas.

Total pressure losses within the TAS nozzles, outer stream nozzles and upstream supply ducting were also estimated within the preliminary design phase as shown in Figure 2.13. Accurate knowledge of the total pressure losses throughout the system was reqired in order to design the choke plates for a particular set of shield-to-outer nozzle exit conditions, or to compute exit conditions for a given set of choke plates. The DUCTLOSS computer program was used to calculate the skin friction losses in the upstream portion of the duct ahead of the splitter (see Figure 2.11, Sta. 133.4 to 149.3), in the outer nozzle duct (Sta. 149.3 to 178.6), and in the 360° shield nozzle (Sta. 158.7 to 177.9). The loss from the start of the splitter to the first choke plate is assumed small (.1 percent); however, flow separation or spillage would tend to increase this number.

The 180° shield nozzle loss is made up of a skin friction loss term, and a loss due to the diversion of the flow from a 360° annulus to the 180°

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*"SAE Aerospace Applied Thermodynamics Manual, SAE Committee AC-9 , Aircraft Environmental Systems, SAE Inc., New York.

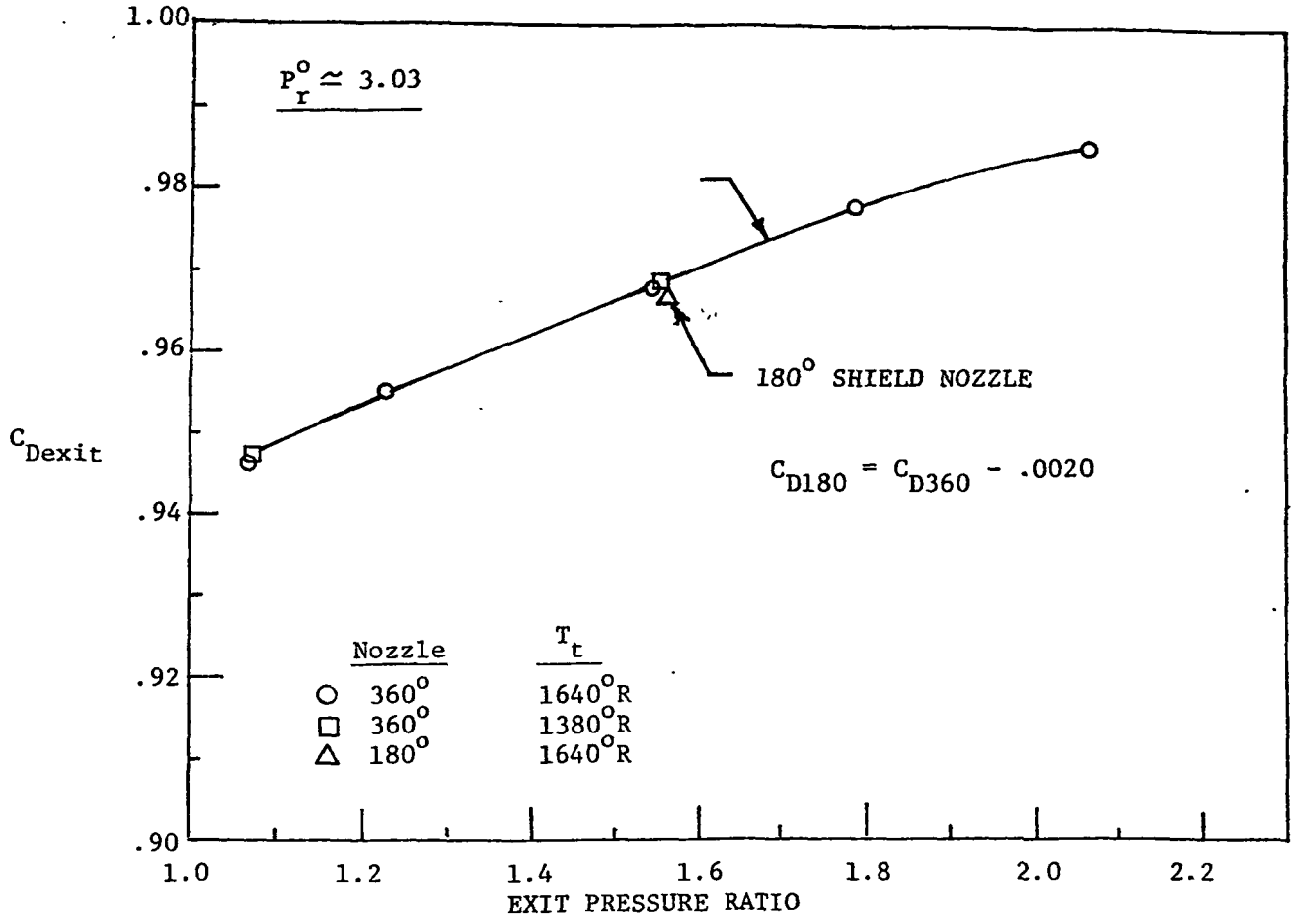

FIGURE 2.12 PREDICTED 180° AND 360° THERMAL ACOUSTIC SHIELD EXIT FLOW COEFFICIENTS.

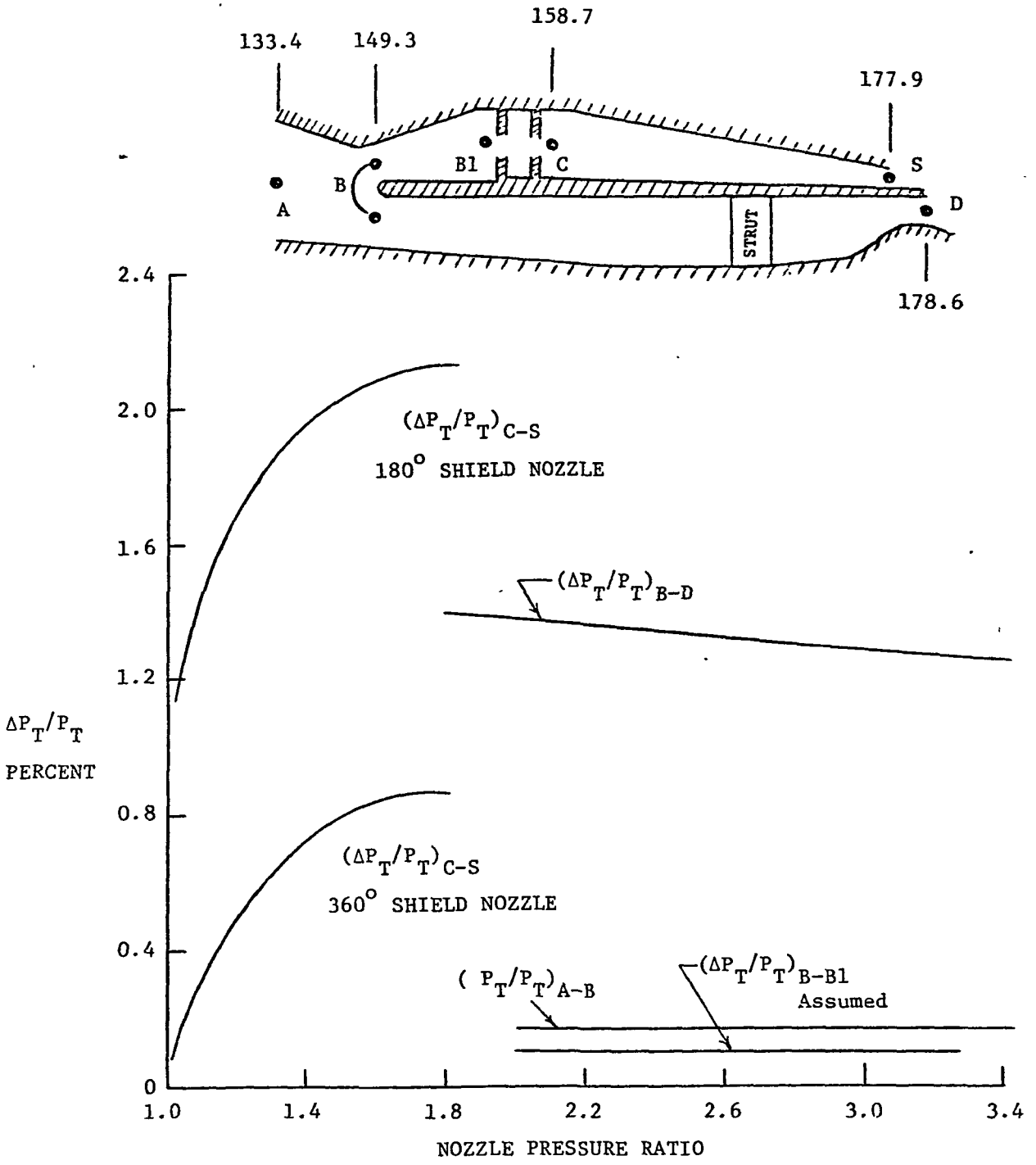

FIGURE 2.13 PREDICTED DFTAS TOTAL PRESSURE LOSSES IN TAS AND OUTER NOZZLE DUCTS.

nozzle. The total wetted area of the 180° nozzle is about 15 percent less than the 360° nozzle, but the Mach number through much of the duct is up because of the flow constriction. The net result is estimated to be a 20 percent increase in skin friction loss relative to the 360° nozzle.

The additional loss due to the diversion of the flow into the 180° section of the nozzle was estimated by treating the diverter or closure plate as a gate valve. The loss, using this aerodynamic analogy, is about 1.1 percent. Alternate models for this loss were considered and resulted in losses ranging from 0.6 to 2.0 percent.

2.4 Treatment Panel Application

Preliminary estimates of noise levels anticipated from the choke plate system indicated potential influence on the basic nozzle system's high frequency far field noise. To circumvent this potential problem, acoustic panels were fabricated and applied to Support Structure. The panel cavities were packed with ASTROQUARTZ MAT STYLE #550 bulk absorber material. Cavity depth was approximately 0.4" and packing material was compressed to a density of 2.0 lb. per cu. ft.

2.5 Annulus Centering Mechanisms

To assure annular concentricity at the throat planes, inner and outer stream struts were utilized to span the flows, at positions sufficiently forward of the throat planes to preclude wake influence in the flow (see Figure 10). The inner stream struts are integral part of the support structure, and, with close toleranced manufacturing, set near perfect annular-concentricity at the exit plane. The outer stream utilized centering screws over struts to center the outer annulus exit plane. Both sets of struts are designed for minimum vortex shedding; the design proven by earlier experience.

2.6 Aerodynamic Instrumentation

An aerodynamic instrumentation package has been defined and applied to the test configurations. Application is schematically illustrated in Figure 2.14. Level of instrumentation and purpose of application are discussed as follows:

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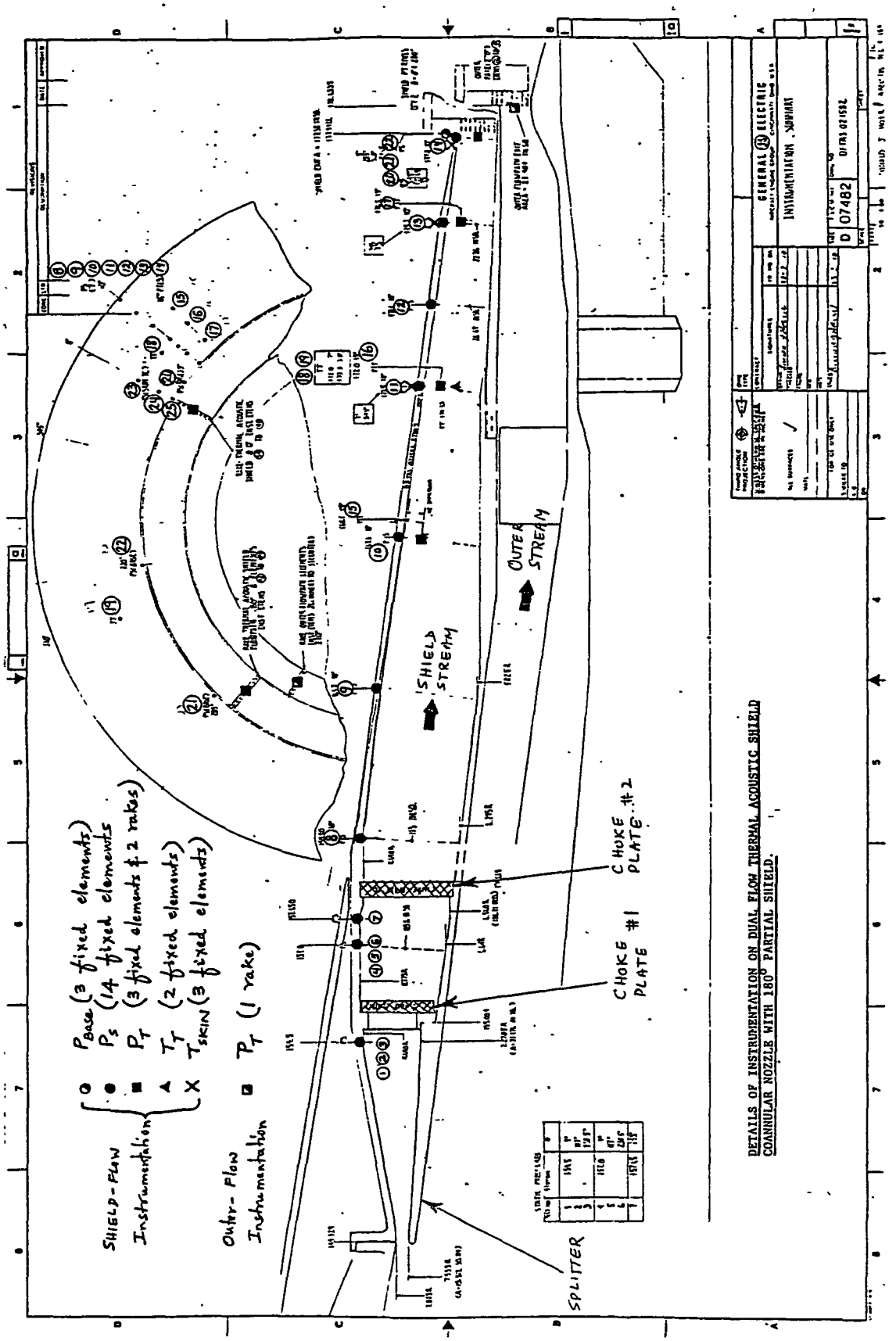


FIGURE 2.14.

- For Choke Plates:

  - (3) Ps taps prior to choke plate 1, instrumentation items 1 through 3, for indication of supply pressure within the plenum supplying choke plate.

  - (4) Ps taps interstage to choke plates 1 and 2, instrumentation items 4 through 7, for indication of pressure drop across choke plate 1 and of supply pressure within the plenum supplying choke plate 2.

- For the 180° TAS nozzle and the 360° TAS nozzle:

  - (7) Ps taps along the internal flowpath, instrumentation Items 8 through 14, for monitoring TAS stream static pressure.

  - (3) Single element P_T probes, instrumentation Items 15, 16 and 17, for monitoring P_T losses at three axial stations within the TAS flow.

  - (2) Single element T_T probes, instrumentation Items 18 and 19, for monitoring TAS stream total temperature.

  - (3) Static pressure base taps, instrumentation Items 20, 21 and 22, for monitoring local static pressure near the exit plane lip of the TAS nozzles, to which the TAS flow expands.

  - (3) Single element static temperature thermocouples, instrumentation Items 23, 24 and 25, imbedded within the metal wall of the TAS nozzles, with measuring elements near the skin surface, to measure metal temperature for an indication of nozzle growth rate for exit plane flow area calculation.

- For outer stream exit plane measurements:

  - (1) 8-element P_T rake, instrumentation Items 26 (hub) through 33 (tip), applied to measure P_T distribution across the outer stream annulus during calibration testing, as a gauge of P_T loss

through the core flow system so that, when removed, facility instrumentation could be used to set test conditions. For rake application, see Photo Figures 2.15, 2.16 and 2.17. Note that of the eight P_T elements on the rake, the first six are within the core stream annulus; the remaining two are not monitored.

- o For 180° TAS stream exit plane measurements:

  - (2) 8-element P_T rakes applied to measure P_T distribution across the TAS flow annulus, to gauge exit plane conditions as effected by choke plate geometry and to calibrate the exit plane conditions so that acoustic testing could be performed with the rakes removed. Rakes were positioned at $\theta = 0°$ (aft-looking-fwd), instrumentation Items 34 (hub) to 41 (tip), and at 280°, instrumentation items 42 (hub) to 49 (tip); $\theta = 0°$ being centerline of the 180° TAS flow, located east (toward microphones) in the facility. See Photo Figures 2.15 and 2.16 for application.

- o For 360° TAS stream exit plane measurements:

  - (3) 8-element P_T rakes applied for measurements similar to those for the 180° TAS nozzle. Rakes were positioned at $\theta = 90°$, instrumentation items 26 (hub) to 33 (tip); at 210°, instrumentation items 34 (hub) to 41 (tip); and at 330°, instrumentation items 42 (hub) to 49 (tip); $\theta = 0°$ being due north in the facility. Note that on each of these three rakes, only the first four P_T elements penetrated the TAS flow and were monitored for TAS exit plane P_T.

- o For 20-chute base pressure measurements:

  - (8) static pressure taps, instrumentation items 50 through 57, located in the chute base region, used to assess the influence of the shield stream on the suppressor base pressure and hence the nozzle thrust coefficient. Details of base pressure instrumentation are provided in Section 6.0.

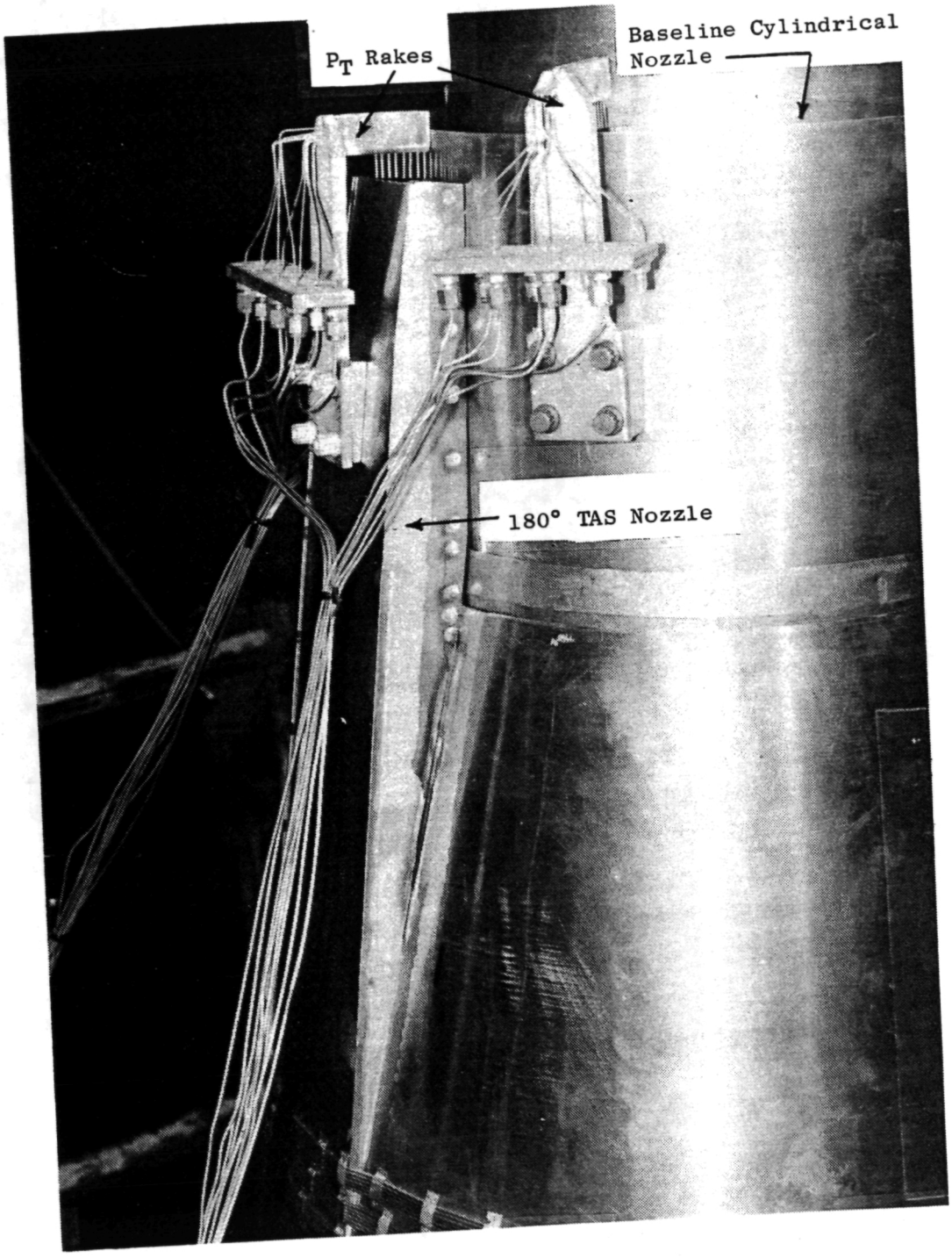


Figure 2.15. P_T Rakes Applied to Outer Stream of Unsuppressed Coannular Nozzle and to 180° TAS Nozzle.

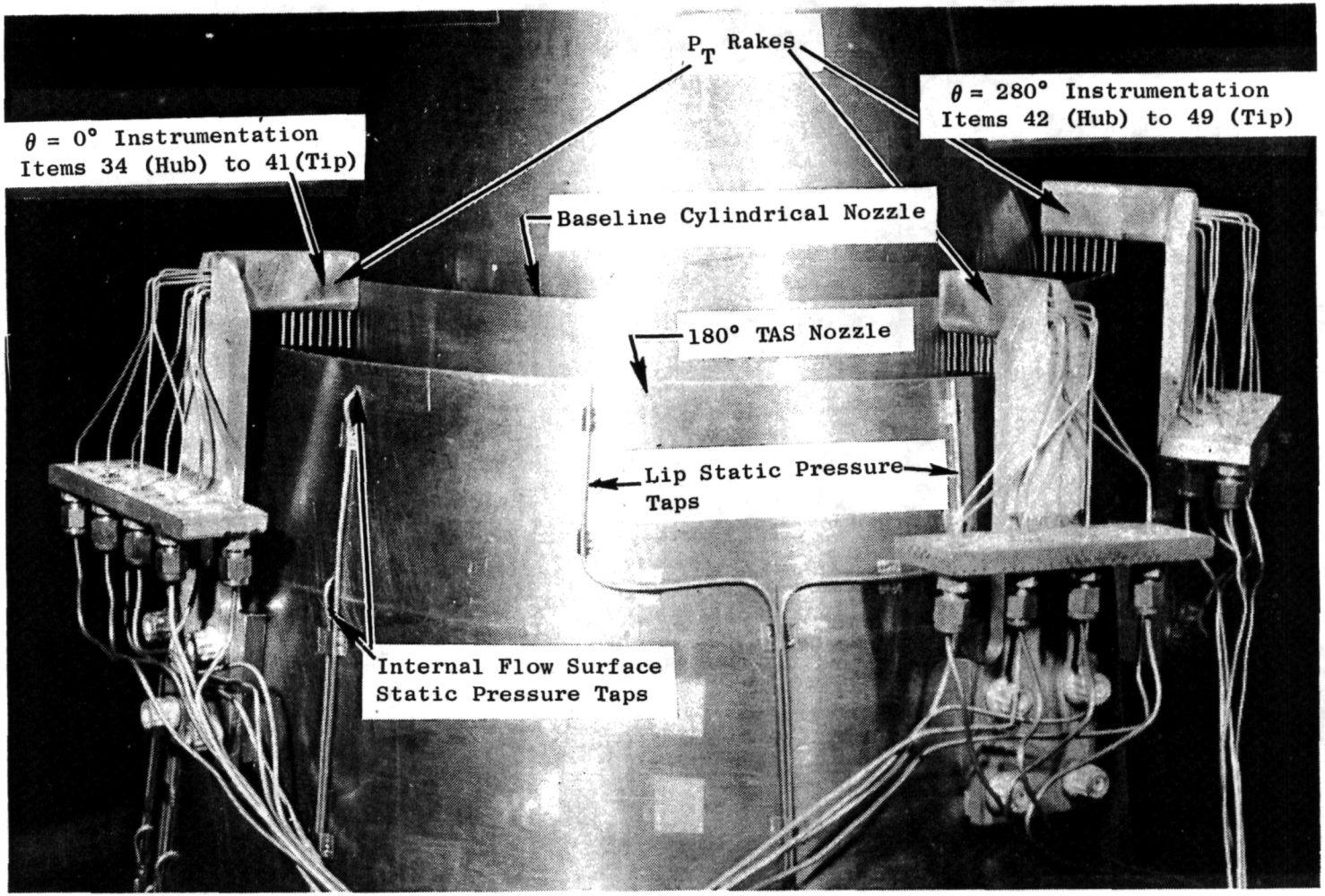


Figure 2.16. P_T Rakes Applied to Outer Stream of Unsuppressed Coannular Nozzle and to 180° TAS Nozzle.

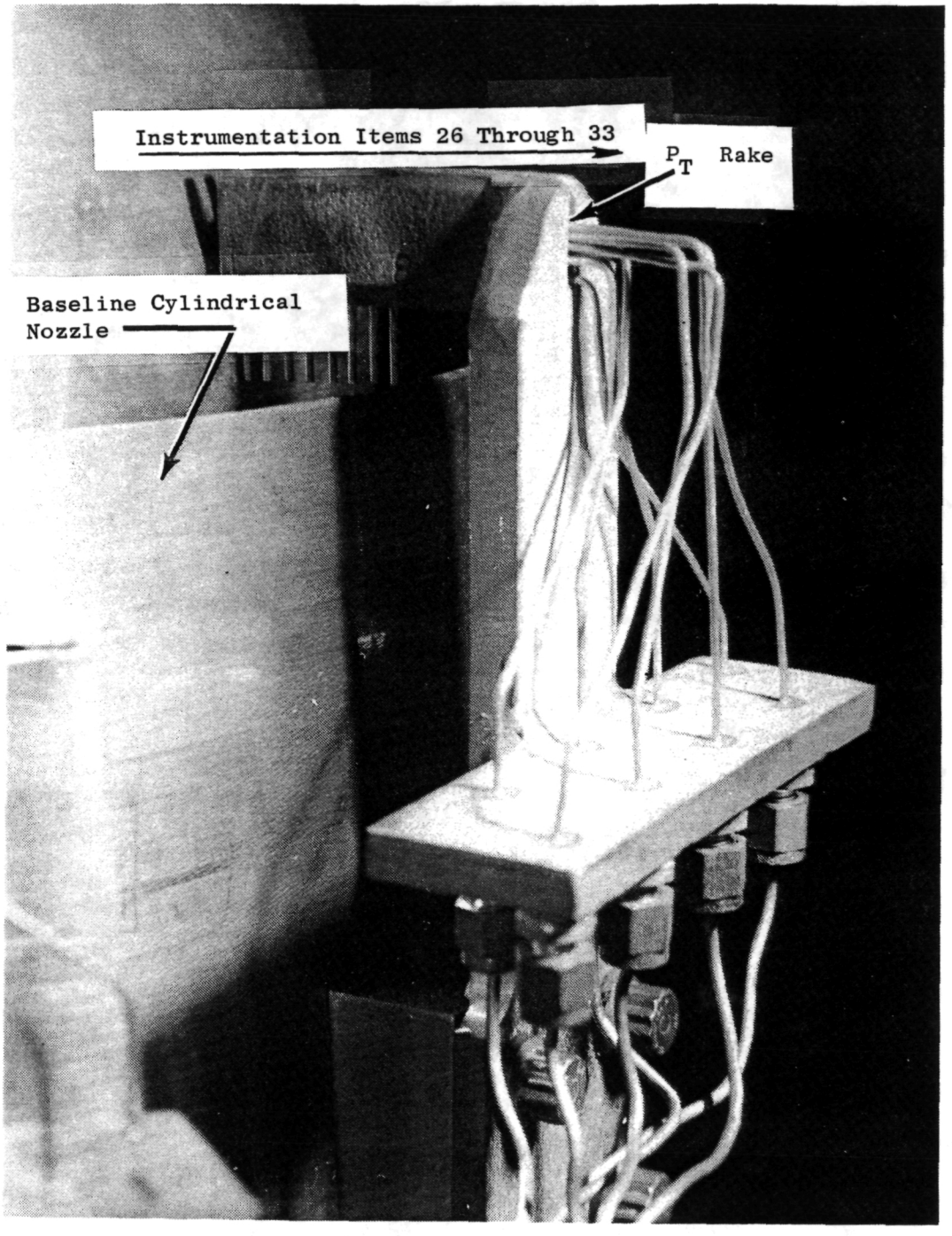


Figure 2.17. P_T Rake Application to Outer Stream of Unsuppressed Coannular Plug Nozzle.

As indicated earlier, required outer and shield streams of the dual flow thermal acoustic shield nozzles were obtained from a single facility flow. Prior to the acoustic tests, a series of calibration tests were conducted using the above described instrumentation to determine the exact flow conditions of the individual outer and shield streams from a measured facility flow with different sets of choke plates.

3.0 AERODYNAMIC CONDITIONS OF ACOUSTIC TEST POINTS

A total of 136 acoustic test points were conducted with the coannular con-figurations described in Section 2.0. The distribution of the test points over unsuppressed and mechanically suppressed coannular test configurations is summarized in Table 3-I. Majority of the test points simulate an operating line of AST/VCE engines subject to taking into consideration the facility total temperature limits (a maximum of 1730°R).

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 International System of Units and in English Units.

3.1 Definition of Variables

The presented variables are defined in Table 3-II. Sample sheets specifying the variables listed in the tables that summarize the aerodynamic flow conditions are presented in Table 3-III. In addition to the inner, outer and shield jet parameters, the tabulated data contain the mixed conditions that are calculated on a mass-averaged basis for velocity and total temperature. The mass-averaged velocity (V^{mix}) and the mass-averaged total temperature are calculated using the following expressions:

$$V^{mix} = \frac{W^O V^O + W^i V^i + W^S V^S}{W^O + W^i + W^S}$$

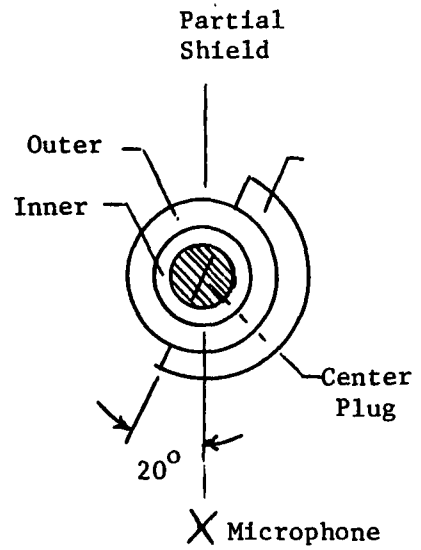
and

$$T_T^{mix} = \frac{W^O T_T^O + W^i T_T^i + W^S T_T^S}{W^O + W^i + W^S}$$

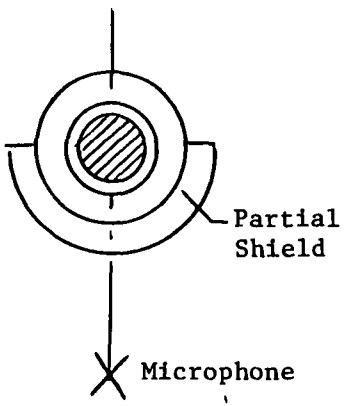
One may note that V^{mix} also can be referred to as specific thrust since it is defined as (total thrust/total weight flow) and T_T^{mix} also can be referred to as stagnation specific enthalpy since it is defined as (total stagnation enthalpy/total weight flow). From the known V^{mix} and T_T^{mix} other mixed flow parameters have been calculated by using standard isentropic relations.

Table 3-I. Summary of Acoustic Tests.

BASELINE NOZZLE	SHIELD		TEST POINTS		V^s/V^o	CONFIG. NAME
	TYPE	ORIENT.	STATIC	FLIGHT		
Unsuppressed Coannular Plug Nozzle	No Shield	-	14	7	0.0	TAS-10
	180° Partial Shield	Sideline	5	5	0.64	TAS-11
		Community	5	5		
		Sideline	6	7	0.83	TAS-12
	360° Full Shield	Axi-Symmetric	7	6	0.83	TAS-14
Mechanically Suppressed Coannular Plug Nozzle with 20-Shallow-Chute Suppressor in Outer Stream	No Shield	-	6	6	0.0	TAS-15
	180° Partial Shield	Sideline	5	5	0.64	TAS-16
		Community	7	5		
		Community	7	6	0.83	TAS-17
		Community	5	5	0.48	TAS-18
	360° Full Shield	Axi-Symmetric	6	6	0.83	TAS-19
		Total	73	63		
			136			



Sideline Orientation



Community Orientation

Note: The Shield to Outer Stream Velocity Ratios of This Table Correspond to a Typical Takeoff Condition of $P_r^o \sim 3.025$, $T_T^o \sim 1640^oR$ and $P_r^i \sim 2.28$, $T_T^i \sim 880^oR$

Table 3-II. Definition of Symbols Used in Aerodynamic Data Tables.

F	Ideal Thrust
F_{ref}	Reference Thrust, 22,820N (5130 lb)
LBM	Defined as 10 log $\left[\sqrt{M^2-1}\right]$
LVM	Defined as 10 log $\left[V^{mix}/a_{amb}\right]$
NF	PNL Normalization Factor
PNL	Perceived Noise Level
P_{amb}	Ambient Pressure
P_r	Pressure Ratio
RH	Relative Humidity
T_{amb}	Dry Bulb Ambient Temperature
T_T	Total (Stagnation) Temperature
V	Nozzle Exhaust Ideal Velocity
V_{ac}	Freejet Velocity
W	Calculated Ideal Weight Flow Rate

Superscripts

i	Inner Jet Condition
o	Outer Jet Condition
mix	Mass Averaged Condition
s	Thermal Acoustic Shield Jet Condition

Subscripts

r	Ratio
ref	Reference
T	Total (Stagnation)

Table 3-III. Description of Aerodynamic Data Sheet (English Units).

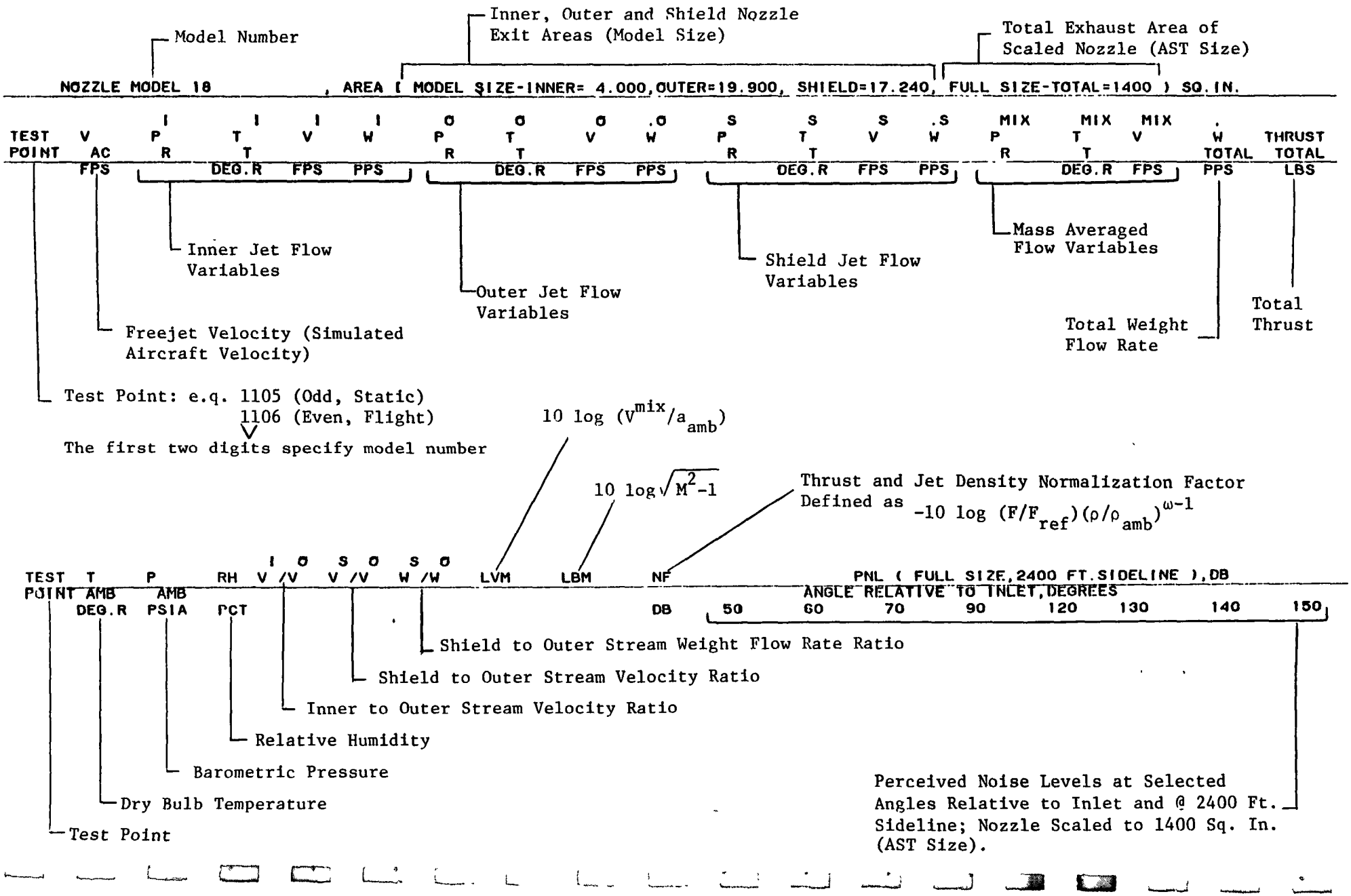
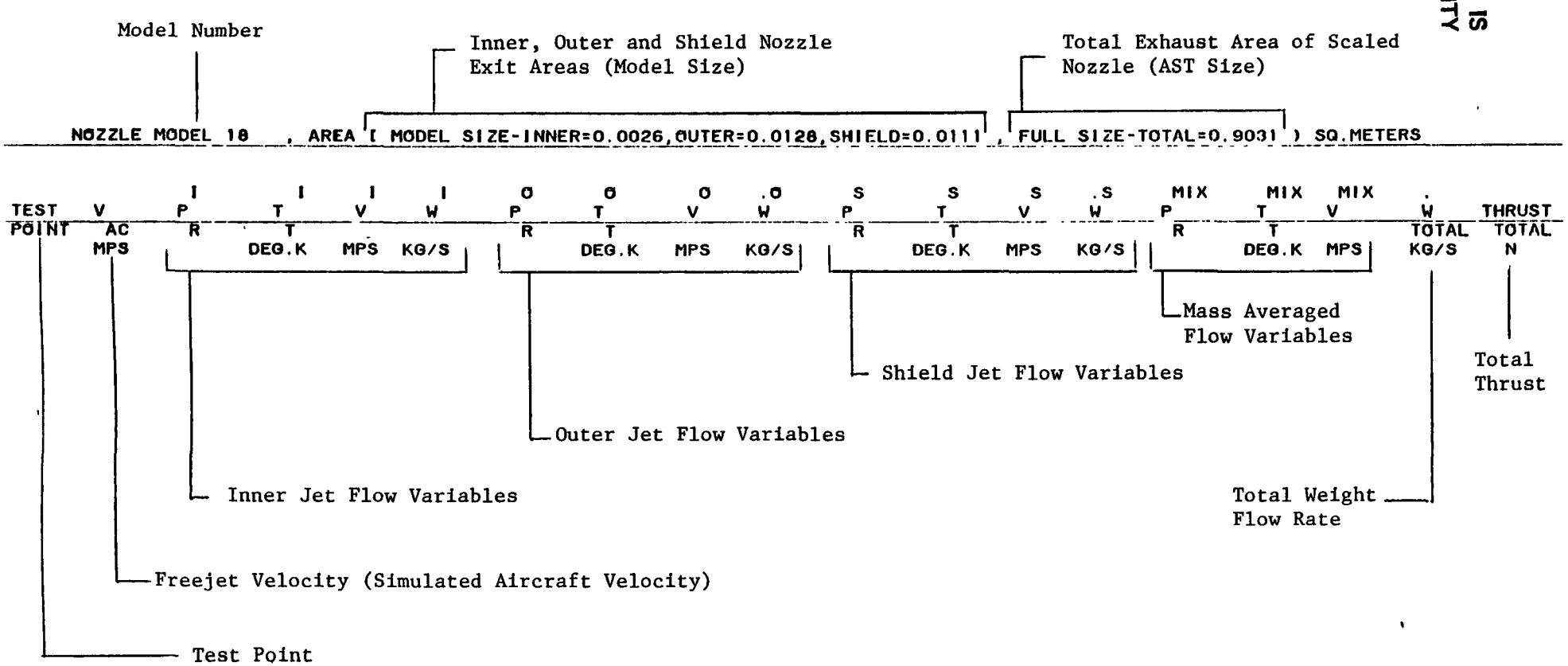


Table 3-III. Description of Aerodynamic Data Sheet (Concluded).
(International Units)



The ambient pressure and temperature, along with the relative humidity in the GE Anechoic Facility at the time of the test, and acoustic data extrapolated to a 731.5m (2400-ft) sideline and scaled to an AST product size of $0.902m^2$ (1400 $in.^2$) also are presented in the tables. The selected acoustic data correspond to microphone locations of θ_j = 50°, 60°, 70°, 90°, 120°, 130° and 140°.

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

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

Where

$$\text{NF} = -10 \log (F/F_{ref})(\rho^{mix}/\rho_{amb})^{\omega-1}$$

The aerodynamic flow conditions and selected PNL acoustic data of the test points are presented in Table 3-IV through 3-XII in Subsections 3.2 and 3.3.

3.2 Test Matrices of Unsuppressed Coannular Plug Nozzles

A total of 67 acoustic test points was completed on the unsuppressed coannular plug nozzle with and without thermal acoustic shields. The test configurations consisted of:

a. the baseline coannular nozzle (TAS-10)
b. the baseline TAS-10 with the 1" thick 180° shield and the choke plates selected to give V^S/V^O of 0.64 and 0.83 (TAS-11 and TAS-12) at a typical takeoff condition
c. the baseline TAS-10 with the 1/2" thick 360° shield (TAS-14) with the choke plates identical to those of TAS-12 to give $V^S/V^O \approx 0.83$.

Figures 3.1 and 3.2 describe the scope of acoustic tests on an engine operating line in terms of shield to outer stream velocity ratios as a function of mass averaged velocity, V^{mix}, and outer stream pressure ratio, P^O_r.

3.2.1 Test Matrix for Unsuppressed Baseline Coannular Plug Nozzle (TAS-10)

Table 3-IV summarizes the test matrix for the baseline coannular plug nozzle. The distribution of the test points is as follows:

a. Test Points 1001, 1003, 1005, 1007, 1009, 1011, 1021 and 1002, 1004, 1006, 1008, 1010, 1012 and 1022 simulate typical engine operating conditions under static and simulated flight, respectively. The aero conditions of these test points have been selected to yield an inner to outer stream velocity ratio that is in the neighborhood of 0.6.

b. Test Points 1015, 1019, 1009, 1021, 1023, 1025 and 1027 yield variation in P^i_r (1.75, 1.90, 2.04, 2.28, 2.61, 2.82 and 3.01 respectively) for a fixed P^O_r of 3.02. The objective of these tests is to determine whether front quadrant noise can be reduced for a given supersonic outer stream by tuning the inner stream such that expansion waves of one stream cancel the compression waves of the other.

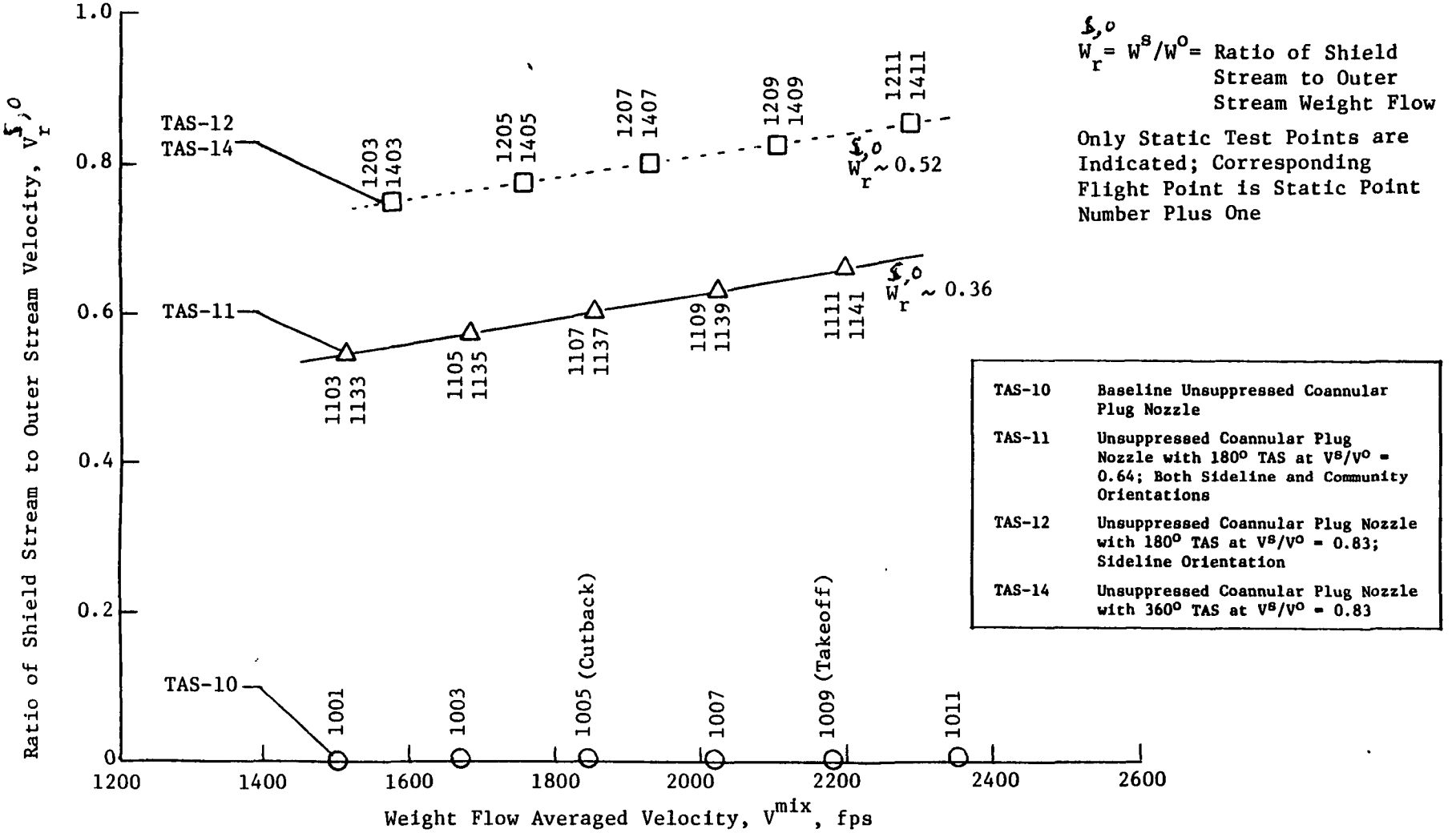


Figure 3.1 Description of Acoustic Tests as a Function of Weight Flow Averaged Velocity: Unsuppressed Coannular Plug Nozzles.

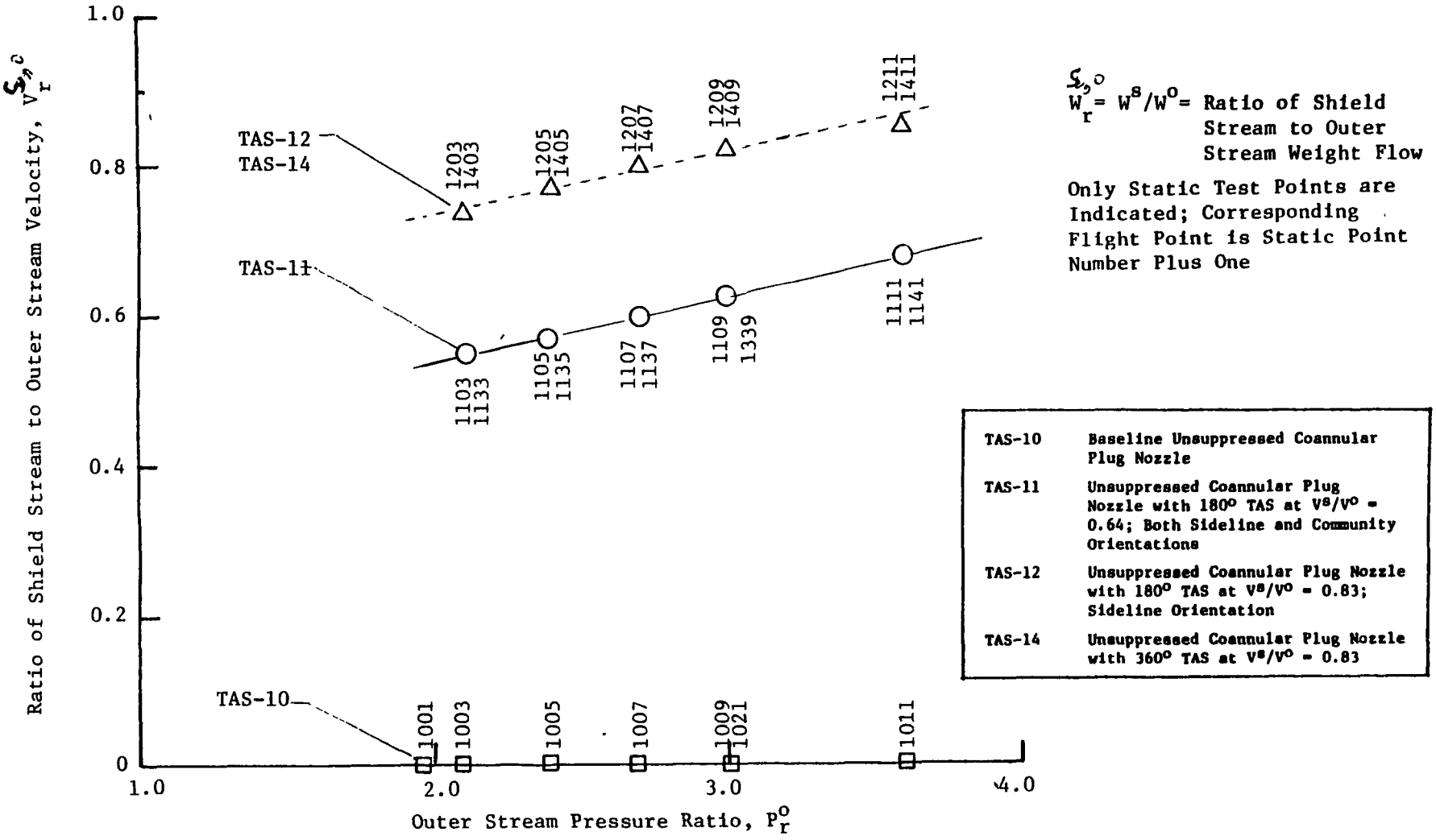


Figure 3.2 Description of Acoustic Tests as a Function of Outer Stream Pressure Ratio; Unsuppressed Coannular Plug Nozzles.

Table 3-IV. Test Matrix for Baseline Coannular Plug Nozzle; TAS-10 (English Units)

NOZZLE MODEL 10 , AREA (MODEL SIZE-INNER= 4.640,OUTER=23 400, SHIELD= 0 000, FULL SIZE-TOTAL=1399) SQ.IN.

TEST POINT	V AC	I P R	I T T	I V	I W	O P R	O T T	O V	O W	S P R	S T T	S V	S W	MIX P R	MIX T T	MIX V	W TOTAL	THRUST TOTAL
	FPS		DEG.R	FPS	PPS		DEG R	FPS	PPS		DEG.R	FPS	PPS		DEG.R	FPS	PPS	LBS
1001	0	1.676	814	1092	97 5	1.940	1236	1604	489.3	1 000	519	0	0	1.873	1166	1519	586.8	27703
1002	400	1.674	874	1130	93 9	1.948	1256	1622	483.4	1.000	519	0	0.	1.880	1194	1542	577.4	27664
1003	0	1.669	817	1089	96.8	2.060	1380	1765	488.4	1.000	519	0	0.	1.967	1287	1653	585.2	30063
1004	400	1.681	892	1147	93.5	2.093	1349	1762	499 6	1.000	519	0	0	2.000	1277	1665	593.1	30686
1005	0	1.747	808	1197	110.8	2.330	1474	1958	535.3	1.000	519	0	0.	2.213	1360	1828	646.1	36700
1006	400	1.761	856	1239	108.6	2.403	1531	2028	536.8	1.000	519	0	0.	2.276	1417	1895	645.4	38025
1007	0	1.862	875	1308	113.9	2.631	1553	2133	589.4	1.000	519	0	0.	2.482	1444	2000	703.4	43718
1008	400	1.878	900	1335	113.3	2.704	1567	2170	597.1	1.000	519	0	0.	2.545	1461	2036	710.4	44966
1009	0	2 043	893	1408	122.1	2 986	1629	2305	659.5	1 000	519	0	0.	2.805	1514	2165	781.8	52597
1010	400	2.087	911	1440	121.1	3.048	1653	2341	655 2	1.000	519	0	0.	2.864	1537	2201	776.3	53096
1011	0	2.316	929	1543	133.9	3.594	1668	2493	774.4	1.000	519	0	0.	3.356	1559	2353	908.3	66430
1012	400	2.336	916	1539	135.2	3.619	1676	2505	772.9	1 000	519	0	0.	3.377	1563	2361	908.2	66640
1013	0	1.752	842	1223	108.9	2.692	1552	2154	601.9	1.000	519	0	0.	2.514	1443	2012	710.7	44441
1015	0	1.750	841	1221	108.8	3 024	1626	2314	659.4	1 000	519	0	0.	2.787	1515	2160	768.2	51567
1017	0	1.742	875	1241	106.1	3.598	1670	2495	774.3	1 000	519	0	0.	3.274	1574	2344	880.5	64153
1019	0	1.899	886	1335	113.0	3.021	1663	2341	654.7	1 000	519	0	0.	2.812	1549	2193	767.7	52317
1021	0	2 279	897	1503	134.7	3 010	1620	2306	660 2	1 000	519	0	0	2 859	1497	2170	794 9	53601
1022	400	2.297	867	1484	136.7	3.039	1666	2348	650 8	1.000	519	0	0.	2.879	1527	2198	787.5	53804
1023	0	2.611	898	1608	153.4	3.023	1628	2316	658.5	1 000	519	0	0.	2.918	1490	2182	811.9	55066
1025	0	2.815	919	1681	163.8	3 020	1630	2316	658 5	1 000	519	0	0.	2.948	1488	2190	822.4	55964
1027	0	3.011	912	1720	176.0	3.013	1628	2313	657 6	1 000	519	0	0.	2.971	1477	2188	833.5	56681

TEST POINT	T AMB	P AMB	RH	I O V /V	S O V /V	S O W /W	LVM	LBM	NF	PNL (FULL SIZE,2400 FT.SIDELINE),DB ANGLE RELATIVE TO INLET,DEGREES						
	DEG.R	PSIA	PCT						DB	50	60	70	90	120	130	140	150
1001	511	14.368	41.	0.68	0	0.	1.37	-10 00	-4 6	82 2	84.6	84.6	91.4	94.9	95.1	94.5	91.4
1002	510	14.257	64	0 70	0.	0.	1.44	-10 00	-4 4	84 0	85.7	84 2	88.7	90.4	89.1	86.7	80.8
1003	513	14.306	39.	0.62	0.	0.	1.73	-5.58	-4.5	84 0	86.4	86 7	93.2	96.7	97.4	96.7	94.4
1004	509	14 229	69.	0.65	0.	0.	1.77	-4.95	-4 6	86.4	88.3	87.3	91.4	92.9	92.4	89.7	83.8
1005	513	14.340	39.	0.61	0.	0.	2 16	-2.68	-5 2	88 2	91 1	91 2	97.3	100 2	100.9	100.6	99.5
1006	509	14.222	71.	0.61	0.	0.	2.34	-2.34	-5.2	92 9	95 1	94.0	97.4	98.5	98.0	96.2	91 0
1007	513	14.364	41.	0.61	0.	0.	2 55	-1 51	-5.8	91 7	94.2	94 6	100.2	103 3	104.5	105.9	104.4
1008	510	14 221	70.	0.62	0.	0	2 65	-1.32	-5.9	96.5	98.1	97.0	101.0	102 7	102.3	100.9	95.7
1009	512	14.504	42.	0 61	0.	0.	2.90	-0 68	-6.6	98 4	100 2	100.2	104.5	107.0	109.7	113.6	110.4
1010	509	14.219	74	0 62	0.	0.	2 99	-0 57	-6 6	98 8	100 6	100.0	103 4	105.3	105.1	105.0	99.8
1011	511	14.312	58.	0 62	0	0.	3.27	0.17	-7 7	99.1	101 1	101.8	107 5	109.4	112.1	115.0	108.4
1012	509	14 221	74	0.61	0.	0.	3 29	0.20	-7.7	103 7	105.4	104 4	107.9	108.6	109.5	109.5	103.2
1013	511	14.322	58.	0 57	0	0	2 59	-1 41	-5 9	92 0	94 6	95 2	100 4	103 7	105 0	106.0	103.8
1015	513	14 306	43.	0.53	0	0	2 89	-0 72	-6 5	94 3	96.8	97.7	102.9	105 9	107.6	109.0	106.0
1017	512	14 302	51.	0 50	0	0	3 25	0.06	-7 5	97 5	100.2	100.8	106 6	109.2	112.2	114.2	108.8
1019	512	14.385	40.	0 57	0.	0.	2 96	-0.67	-6 5	94 9	97 2	98.0	103 3	106.1	108 0	110 1	106 3
1021	513	14 360	41.	0 65	0	0.	2.91	-0.57	-6.7	96 8	98.8	98 6	104.3	106.4	108.1	110.8	108.0
1022	509	14.227	74.	0 63	0.	0.	2.98	-0.52	-6 7	99.7	101.1	100.2	103 6	105 8	105.8	104.9	100.2
1023	513	14 297	41.	0 69	0.	0.	2.93	-0 45	-6.9	95 2	97.9	98 5	103.9	106.8	108.7	110.8	107.3
[illegible]	513	[illegible]320	[illegible]	0 73	[illegible]	[illegible]	2[illegible]	-0.[illegible]	-7 0	[illegible]5.0	[illegible]5	[illegible]	10[illegible]	10[illegible]	108.[illegible]	[illegible]12.8	[illegible]7.3
1027	513	[illegible]326	[illegible]	0.74	[illegible]	[illegible]	2[illegible]	-0[illegible]	-7 1	[illegible]7 7	[illegible]0	[illegible]	1[illegible]	10[illegible]	108.[illegible]	12.1	[illegible]7.2

Table 3-IV. Test Matrix for Baseline Coannular Plug Nozzle: TAS-10 (International Units)

NOZZLE MODEL 10 , AREA (MODEL SIZE-INNER=0 0030,OUTER=0 0151,SHIELD=0 0000 , FULL SIZE-TOTAL=0.9031) SQ.METERS

TEST POINT	V AC MPS	I P R	I T DEG.K	I V MPS	I W KG/S	O P R	O T DEG K	O V MPS	O W KG/S	S P R	S T DEG K	S V MPS	S W KG/S	MIX P R	MIX T DEG.K	MIX V MPS	W TOTAL KG/S	THRUST TOTAL N
1001	0	1.576	452	333	44.2	1 940	687	489	221.9	1 000	288	0	0.	1.873	648	463	266.2	7702
1002	122	1.574	485	344	42 6	1.948	698	494	219.3	1 000	288	0	0.	1.880	663	470	261.9	7591
1003	0	1.569	454	332	43.9	2.060	767	538	221.6	1.000	288	0	0.	1.967	715	504	265.4	8358
1004	122	1.581	495	349	42.4	2.093	749	537	226 6	1 000	288	0	0.	2 000	709	507	269 0	8531
1005	0	1.747	449	365	50.3	2.330	819	597	242.8	1.000	288	0	0.	2.213	756	557	293.1	10203
1006	122	1.761	475	378	49.3	2 403	851	618	243.5	1.000	288	0	0.	2 276	787	578	292.8	10571
1007	0	1.862	486	399	51.7	2 631	863	650	267 4	1 000	288	0	0.	2 482	802	610	319.0	12154
1008	122	1.878	500	407	51 4	2.704	871	661	270 8	1.000	288	0	0	2.545	812	621	322.2	12501
1009	0	2.043	496	429	55.4	2 986	905	703	299.1	1 000	288	0	0	2 805	841	660	354.5	14623
1010	122	2.087	506	439	54 9	3.048	918	714	297.2	1.000	288	0	0	2.864	854	671	352.1	14761
1011	0	2.316	516	470	60.7	3 594	927	760	351.3	1 000	288	0	0	3.356	866	717	412.0	18468
1012	122	2.336	509	469	61.3	3.619	931	763	350 6	1.000	288	0	0.	3.377	868	720	411.9	18527
1013	0	1.752	468	373	49 4	2.692	862	657	273 0	1.000	288	0	0	2.514	802	613	322.4	12355
1015	0	1.750	467	372	49.3	3 024	903	705	299.1	1.000	288	0	0.	2.787	842	658	348.5	14336
1017	0	1.742	486	378	48.1	3.598	928	761	351.2	1 000	288	0	0.	3 274	875	715	399.4	17835
1019	0	1.899	492	407	51.3	3.021	924	713	297 0	1 000	288	0	0.	2.812	860	668	348.2	14545
1021	0	2 279	498	458	61 1	3.010	900	703	299 5	1.000	288	0	0	2 859	832	661	360.5	14902
1022	122	2.297	482	452	62.0	3.039	925	716	295.2	1.000	288	0	0.	2.879	848	670	357.2	14958
1023	0	2.611	499	490	69 6	3.023	904	706	298.7	1.000	288	0	0.	2.918	828	665	368.3	15309
1025	0	2.815	510	512	74.3	3.020	905	706	298.7	1 000	288	0	0.	2 948	827	667	373.0	15559
1027	0	3.011	507	524	79.8	3.013	905	705	298 3	1 000	288	0	0.	2 971	821	667	378.1	15758

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c. Test Points 1013, 1015 and 1017 having subsonic inner streams are to be compared with 1007, 1021 and 1011 that have supersonic inner streams to determine, if any, the benefit of subsonic inner streams on front quadrant shock noise.

3.2.2 Test Matrices for Unsuppressed Coannular Plug Nozzle With 180° Thermal Acoustic Shield (TAS-11 and -12)

As described in Table 3-I, the unsuppressed coannular plug nozzle with the 180° partial thermal acoustic shield was tested at shield to outer stream velocity ratio, $V_r^{s,o}$ of 0.64* (TAS-11) and 0.83* (TAS-12) to investigate the sensitivity of $V_r^{s,o}$ on the acoustic benefit of a thermal acoustic shield. Tables 3-V and 3-VI summarize the test matrices for TAS-11 and TAS-12, respectively. The distribution of test points is as follows:

a. Test Points 1103 through 1112 and 1133 through 1142 of TAS-11 simulate typical engine operating conditions with the shield in sideline and community orientations, respectively.

b. V^{mix} of Static Test Points 1103/1133, 1105/1135, 1107/1137, 1109/1139 and 1111/1141 match reasonably with those of 1001, 1003, 1005, 1007 and 1021 of the unshielded baseline coannular nozzle (TAS-10), respectively. Similarly, V^{mix} of corresponding flight points of TAS-11 and TAS-10 match with one another.

c. Test Points 1203 through 1212 of TAS-12 simulate typical engine operating conditions with the 180° shield in sideline orientation.

d. Typical take-off Test Point 1209/1210 of TAS-12 has $V^i/V^o \approx$ 0.65 and $V^s/V^o \approx$ 0.83. The inner stream of this test point was modified during Test Point 1221/1222 to yield $V^i/V^o \approx V^s/V^o \approx$ 0.83 such that the effect of equal shear by the shield and inner streams on the primary outer stream can be determined.

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*These ratios refer to a typical AST/VCE take-off condition only.

Table 3-V. Test Matrix of Unsuppressed Coannular Plug Nozzle with 180° TAS at V_r = 5.0 0.64, Sideline and Community Orientations; TAS-11 (English Units)

NOZZLE MODEL 11 , AREA (MODEL SIZE-INNER= 4 640,OUTER=23 400, SHIELD=17 240, FULL SIZE-TOTAL=1400) SQ.IN.

TEST POINT	V AC FPS	I P R	I T DEG.R	I V FPS	I W PPS	O P R	O T DEG R	O V FPS	O W PPS	S P R	S T DEG.R	S V FPS	S W PPS	MIX P R	MIX T DEG R	MIX V FPS	W TOTAL PPS	THRUST TOTAL LBS
1103	0	1.566	824	1091	59.5	2 111	1397	1802	308.1	1 235	1380	987	110.9	1.735	1322	1525	478.5	22676
1104	400	1.571	825	1096	59.7	2 092	1390	1788	306.8	1.241	1356	989	113.3	1 727	1312	1513	479.9	22567
1105	0	1.746	831	1212	67.6	2.389	1468	1993	339.7	1.307	1468	1142	122.4	1.920	1399	1697	529.7	27932
1106	400	1.753	837	1221	67.7	2.377	1478	1981	338.2	1.317	1445	1148	25.3	1.917	1388	1688	531.1	27856
1107	0	1.673	879	1317	70.8	2.685	1554	2154	373.6	1.393	1534	1294	134.7	2.117	1467	1851	579.2	33326
1108	400	1.675	856	1300	71.9	2.693	1506	2122	379.4	1.410	1471	1288	140.5	2.125	1418	1824	591.8	33550
1109	0	2.272	910	1512	82.7	3.025	1657	2338	407 0	1.499	1640	1472	146.1	2.371	1556	2031	635.7	40137
1110	400	2.286	942	1543	81.5	3.043	1653	2340	408.7	1.523	1616	1488	150.4	2 391	1554	2038	640.6	40580
1111	0	2.317	906	1524	84.5	3 604	1631	2466	489 5	1.709	1613	1665	173.8	2 763	1545	2174	747.8	50517
1112	400	2.327	893	1517	85 4	3.609	1639	2474	488.0	1.731	1602	1678	177.0	2.772	1546	2177	750.3	50773
1133	0	1.579	821	1099	60.3	2.081	1383	1778	305.4	1.223	1370	960	108.4	1.718	1309	1504	474.0	22164
1134	400	1.573	834	1103	59.5	2.092	1382	1783	306 1	1.238	1350	980	112.7	1 726	1307	1509	478 3	22436
1135	0	1.747	825	1208	67 9	2 385	1501	2000	336 3	1.299	1485	1136	120.2	1.915	1410	1700	524.4	27699
1136	400	1.756	820	1210	68 5	2.388	1483	1989	336.8	1.317	1446	1150	125.3	1.921	1389	1690	530.6	27875
1137	0	1.869	865	1304	71 2	2 677	1543	2143	372 5	1.383	1529	1278	133.4	2 108	1456	1840	577.1	32995
1138	400	1.875	888	1324	70.5	2.696	1575	2172	369.7	1.408	1538	1315	137.0	2.125	1482	1865	577.2	33460
1139	0	2.283	905	1512	83.0	3.009	1632	2314	406 3	1.487	1617	1447	145.3	2 359	1533	2011	634.5	39659
1140	400	2.275	943	1540	80 8	3.020	1642	2325	405 7	1 514	1607	1473	149.6	2 374	1545	2025	636.1	40035
1141	0	2 319	886	1508	85 2	3.619	1613	2456	492.7	1.707	1595	1654	174.6	2.768	1527	2162	752.5	50571
1142	400	2.327	889	1513	85 1	3.624	1617	2459	491.0	1.734	1585	1671	178.3	2 780	1527	2166	754.4	50792

TEST POINT	T AMB DEG R	P AMB PSIA	RH PCT	I O V /V	S O V /V	S O W /W	LVM	LBM	NF DB	PNL (FULL SIZE,2400 FT SIDELINE),DB ANGLE RELATIVE TO INLET,DEGREES 50	60	70	90	120	130	140	150
1103	488	14.310	66.	0.61	0 55	0 36	1 48	-10.00	-3 4	83 9	85 6	85.6	92 4	96.7	97.9	96.2	92.9
1104	489	14 346	66.	0 61	0.55	0.37	1.45	-10.00	-3 3	84.7	85 5	84 7	89 4	90.6	90.8	88.4	83.4
1105	488	14.400	61.	0.61	0 57	0 36	1.95	-8 94	-3.9	88 5	90 1	90.7	96.3	100.1	101.9	101.2	99.0
1106	490	14.357	49.	0 62	0 58	0 37	1 92	-9 16	-3 9	89 9	91 8	90.5	94.3	94 8	95.8	93.9	89.6
1107	488	14.406	63.	0.61	0 60	0.36	2.33	-3 62	-4 5	92 0	93.5	93.5	99.7	103.0	104.6	105.3	102.0
1108	491	14 344	59.	0 61	0 61	0.37	2 25	-3 52	-4 7	93 3	95 1	94 0	98 0	98 4	99 3	98.1	93 6
1109	488	14.395	70.	0.65	0 63	0.36	2 73	-2 01	-5 2	94 8	96 3	96 6	103.0	107 1	109.6	109 3	103.3
1110	489	14.347	64.	0 66	0 64	0.37	2.74	-1 93	-5.2	97.4	98 4	97.1	101 3	102.3	104 7	104.6	98.7
1111	489	14 390	64.	0 62	0.68	0 36	3.02	-0 85	-6 4	99.6	101 0	101 3	106 7	108.7	112.9	112 9	105 7
1112	490	14 368	55.	0.61	0 68	0.36	3 02	-0 82	-6 4	102 9	103 7	102 8	106.7	106 6	108 5	108.4	102 9
1133	496	14 316	85.	0 62	0 54	0.35	1.39	-10.00	-3.3	82.9	84 9	84.5	91.3	94.8	94 9	93.7	91.9
1134	496	14 272	83	0 62	0 55	0 37	1.40	-10 00	-3 4	84.3	85 4	84 0	88 6	88 8	89 7	88.6	82 5
1135	496	14.348	82	0 60	0 57	0.36	1 92	-9 64	-3 9	86 9	89 2	89 2	95.2	98 0	99.8	99.7	96.5
1136	496	14 254	82	0 61	0 58	0 37	1 90	-8 43	-3 9	89 3	91 2	90 0	93 5	93 3	94.8	93.8	89.2
1137	496	14 353	81	0 61	0 60	0 36	2 26	-3 70	-4.5	90-9	93 0	92 8	98 9	101 7	102.8	103.0	100.3
1138	496	14 297	81.	0 61	0 61	0 37	2.32	-3.51	-4 5	93.0	94.6	93 2	97 6	97.8	99 9	98.8	93.9
1139	496	14 330	82	0 65	0 63	0 36	2.65	-2 07	-5 2	93 9	96 0	95 7	101.9	105.1	107 8	107.8	102 1
1140	496	14 302	81.	0 66	0 63	0 37	2 68	-2.00	-5 2	96 6	98.2	97 0	100 5	101 0	104.5	104.1	97.8
1141	496	14 342	84	0 61	0.67	0 35	2.97	-0 83	-6 4	99 1	101 0	100.5	106 3	107 3	110.3	110.0	103.7
1142	496	14 289	83.	0 62	0 68	0 36	2 98	-0 80	-6.4	102 5	103.9	102 6	106 0	105 5	107 8	108 0	101 8

Table 3-V. Test Matrix of Unsuppressed Coannular Plug Nozzle with 180° TAS at $V_r^{S,O} \sim 0.64$, Sideline and Community Orientations; TAS-11 (International Units).

NOZZLE MODEL 11 , AREA (MODEL SIZE-INNER=0 0030,OUTER=0 0151,SHIELD=0 0111 , FULL SIZE-TOTAL=0.9031) SQ.METERS

TEST POINT	V AC MPS	I P R	I T DEG.K	I V MPS	I W KG/S	O P R	O T DEG.K	O V MPS	O W KG/S	S P R	S T DEG K	S V MPS	S W KG/S	MIX P R	MIX T DEG.K	MIX V MPS	W TOTAL KG/S	THRUST TOTAL N
1103	0	1.566	458	333	27.0	2.111	776	549	139.7	1.235	767	301	50.3	1.735	734	465	217.0	6304
1104	122	1.571	459	334	27.1	2.092	772	545	139.2	1.241	753	301	51.4	1.727	729	461	217.7	6274
1105	0	1.746	462	369	30.7	2.389	827	607	154.1	1.307	815	348	55.5	1.920	777	517	240.3	7765
1106	122	1.753	465	372	30.7	2.377	821	604	153.4	1.317	803	350	56.8	1.917	771	514	240.9	7744
1107	0	1.873	489	401	32.1	2.685	863	656	169.5	1.393	852	394	61.1	2.117	815	564	262.7	9265
1108	122	1.875	475	396	32.6	2.693	836	647	172.1	1.410	817	393	63.7	2.125	788	556	268.4	9327
1109	0	2.272	506	461	37.5	3.025	921	713	184.6	1.499	911	449	66.2	2.371	865	619	288.3	11159
1110	122	2.286	523	470	37.0	3.043	918	713	185.4	1.523	898	453	68.2	2.391	863	621	290.6	11282
1111	0	2.317	503	465	38.3	3.604	906	752	222.0	1.709	896	508	78.8	2.763	858	663	339.2	14044
1112	122	2.327	496	462	38.7	3.609	911	754	221.3	1.731	890	511	80.3	2.772	859	664	340.3	14116
1133	0	1.579	456	335	27.3	2.081	769	542	138.5	1.223	761	293	49.2	1.718	727	459	215.0	6162
1134	122	1.573	463	336	27.0	2.092	768	543	138.9	1.238	750	299	51.1	1.726	726	460	217.0	6238
1135	0	1.747	458	368	30.8	2.385	834	610	152.5	1.299	825	346	54.5	1.915	783	518	237.8	7701
1136	122	1.756	455	369	31.1	2.388	824	606	152.8	1.317	803	350	56.8	1.921	771	515	240.7	7750
1137	0	1.869	481	397	32.3	2.677	857	653	169.0	1.383	849	390	60.5	2.108	809	561	261.8	9173
1138	122	1.875	493	404	32.0	2.696	875	662	167.7	1.408	855	401	62.1	2.125	823	568	261.8	9302
1139	0	2.283	503	461	37.6	3.009	907	705	184.3	1.487	899	441	65.9	2.359	852	613	287.8	11026
1140	122	2.275	524	470	36.7	3.020	912	709	184.0	1.514	893	449	67.8	2.374	858	617	288.5	11130
1141	0	2.319	492	460	38.7	3.619	896	748	223.5	1.707	886	504	79.2	2.768	848	659	341.3	14059
1142	122	2.327	494	461	38.6	3.624	898	750	222.7	1.734	881	509	80.9	2.780	848	660	342.2	14121

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Table 3-VI. Test Matrix of Unsuppressed Coannular Plug Nozzle with 180° TAS at $V_r^{S,O} \sim 0.83$, Sideline Orientation; TAS-12 (English Units).

NOZZLE MODEL 12 , AREA (MODEL SIZE-INNER= 4 640,OUTER=23 400, SHIELD=17 240, FULL SIZE-TOTAL=1400) SQ.IN

TEST POINT	V AC	I P R	I T T	I V	I W	O P R	O T T	O V	O W	S P R	S T T	S V	S W	MIX P R	MIX T T	MIX V	W TOTAL	THRUST TOTAL
	FPS		DEG.R	FPS	PPS		DEG R	FPS	PPS		DEG R	FPS	PPS		DEG R	FPS	PPS	LBS
1203	0	1.568	842	1105	59 0	2.084	1404	1793	307 8	1 480	1390	1333	156 1	1.797	1336	1578	522.8	25644
1204	400	1.579	836	1109	59 7	2.108	1395	1799	311 3	1.509	1360	1349	162 3	1 821	1322	1585	533 3	26271
1205	0	1.756	824	1213	68.3	2.389	1497	1919	339 6	1 640	1468	1540	172 9	2 029	1415	1770	580 7	31947
1206	400	1.747	829	1212	67 7	2 395	1487	1995	341 9	1 673	1458	1553	178 9	2 044	1403	1771	588 5	32388
1207	0	1.867	896	1326	69.9	2 693	1563	2163	376 4	1 831	1553	1728	191 0	2 272	1487	1940	637.3	38438
1208	400	1.881	880	1321	71 1	2 682	1560	2157	373 9	1 864	1530	1738	193 0	2 281	1476	1937	638.0	38413
1209	0	2 279	908	1513	83 7	3 033	1657	2340	411 3	2 058	1642	1927	206 0	2 575	1563	2120	701 0	46182
1210	400	2 286	930	1534	82 8	3.033	1649	2334	411 3	2 081	1620	1927	209 4	2 586	1556	2119	703 5	46326
1211	0	2.324	901	1523	85 5	3 613	1539	2395	508 8	2 444	1531	2045	253 5	3 036	1472	2202	847.8	58033
1212	400	2.325	912	1532	85.0	3.607	1550	2403	505 7	2 473	1531	2057	256 5	3 043	1480	2211	847.2	58217
1220	400	3 031	827	1642	116 4	3 048	1668	2353	411 0	2.090	1637	1442	209 1	2 657	1536	2124	736.5	48619
1221	0	3 021	1144	1931	98.6	3 033	1653	2337	411 7	2 059	1603	1925	206 3	2 642	1578	2162	716 6	48165
1222	400	3.030	1137	1927	99 0	3 053	1656	2345	412 6	2 095	1626	1936	210 2	2 686	1576	2169	721.8	48668

TEST POINT	T AMB	P AMB	RH	I O V /V	S O V /V	S O W /W	LVM	LBM	NF	PNL (FULL SIZE,2400 FT SIDELINE),DB ANGLE RELATIVE TO INLET,DEGREES						
	DEG R	PSIA	PCT						DB	50	60	70	90	120	130	140	150
1203	503	14 522	46.	0.62	0 74	0 51	1.57	-10 00	-3.6	83.5	86 0	84 1	92 9	96.3	98.0	97.6	94.2
1204	502	14 468	48	0 62	0 75	0 52	1 59	-10 00	-3 8	86 0	86 8	85 3	89 8	91 4	92 2	90.5	84 8
1205	504	14.441	45	0 61	0 77	0 51	2 06	-4 45	-4 4	87 7	90 2	88 5	96 3	99 6	102 4	102 6	99 7
1206	502	14.451	42.	0.61	0.78	0 52	2 07	-4 24	-4.5	90 0	92.1	90 7	94 7	95.7	96 8	95.5	90 1
1207	503	14.512	47	0.61	0 80	0.51	2 47	-2 42	-5.1	91 7	93 8	92 2	100 1	104 0	106 6	107.1	103.2
1208	502	14 463	47.	0.61	0 81	0 52	2 46	-2 38	-5 1	93.3	95.0	94 0	98 4	99 0	101.1	99.8	95.2
1209	503	14 508	45	0 65	0 82	0 50	2 65	-1 27	-5.8	96 4	98 5	97.7	103 7	106 5	110 4	110 7	105.3
1210	502	14 474	49.	0.66	0.83	0 51	2.65	-1 24	-5 8	99 0	100 0	98.3	102 0	103.2	105 5	105 3	99 8
1211	503	14 470	46.	0 64	0 85	0 50	3.02	-0 31	-7 3	98.4	100 0	100 2	105 9	108 3	112.5	113 3	107.7
1212	501	14 468	47.	0 64	0.86	0.51	3.04	-0 30	-7.3	101.7	103 4	101.8	105.5	105 5	107.5	109.0	102.5
1220	503	14 475	84	0 70	0 83	0 51	2 86	-1.01	-6.1	102 4	104 0	101 8	104 5	104 3	106.0	106 0	100.5
1221	502	14.499	46.	0.83	0 82	0 50	2 94	-1 06	-6 0	99 2	101 2	100 9	105 7	107 5	111.8	112 2	105 8
1222	504	14 458	44.	0 82	0 83	0 51	2 95	-1 00	-6 1	102 4	103 6	101 8	104 9	104 8	106.5	107 8	100 8

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Table 3-VI. Test Matrix of Unsuppressed Coannular Plug Nozzle with 180° TAS at V_T ≈ 0.83, Sideline Orientation; TAS-12 (International Units).

NOZZLE MODEL 12 , AREA (MODEL SIZE-INNER=0 0030,OUTER=0 0151,SHIELD=0 0111 , FULL SIZE-TOTAL=0 9031) SQ.METERS

TEST POINT	V AC MPS	I P R	I T DEG K	I V MPS	I W KG/S	O P R	O T DEG K	O V MPS	O W KG/S	S P R	S T DEG K	S V MPS	S W KG/S	MIX P R	MIX T DEG K	MIX V MPS	W TOTAL KG/S	THRUST TOTAL N
1203	0	1.568	468	337	26 8	2.084	780	546	139.6	1.480	772	406	70 8	1.797	742	481	237 2	7129
1204	122	1 579	464	338	27.1	2 108	775	548	141 2	1 509	756	411	73 6	1 821	734	483	241 9	7304
1205	0	1.756	458	370	31 0	2 389	831	609	154 0	1 640	827	469	78 4	2 029	786	539	263 4	8882
1206	122	1.747	461	369	30 7	2 395	826	608	155 1	1 673	810	473	81 1	2 044	779	540	267 0	9004
1207	0	1 867	498	404	31 7	2 693	868	659	170 7	1.831	863	527	86 6	2 272	826	591	289 1	10686
1208	122	1.881	489	403	32 2	2 682	867	657	169 6	1 864	850	530	87 5	2 281	820	590	289.4	10679
1209	0	2 279	504	461	38.0	3 033	920	713	186 6	2 058	912	587	93 4	2 575	868	646	318.0	12039
1210	122	2.286	517	468	37 5	3.033	916	711	186 6	2 081	900	587	95 0	2 586	864	646	319.1	12079
1211	0	2 324	501	464	38.8	3 613	855	730	230 8	2 444	851	623	115 0	3 036	818	671	304.5	16134
1212	122	2.325	507	467	38 5	3 607	861	712	229 4	2 473	850	627	116 4	3 043	822	674	304 3	16185
1220	122	3 031	459	501	52.8	3.048	927	717	186 4	2 090	910	592	94 9	2 657	848	647	334.1	13517
1221	0	3.021	636	589	44.7	3.033	918	712	186 7	2 059	910	587	93 6	2 662	877	659	325.1	13391
1222	122	3.030	632	587	44 9	3.053	920	715	187 2	2 095	903	591	95 3	2 686	876	661	327 4	13531

3.2.3 Test Matrix for Unsuppressed Coannular Plug Nozzle with 360° Thermal Acoustic Shield (TAS-14)

Configuration TAS-14 employs a full 360° thermal acoustic shield of 1/2" thickness on the baseline coannular plug nozzle (TAS-10). The shield flow area of this configuration is equal to that of the 1" thick 180° partial shield of TAS-11 and TAS-12. This configuration was tested with the choke plates identical to those used with TAS-12 so that the shield to outer stream velocity and weight flow ratios of TAS-12 and TAS-14 are comparable. A comparison of the acoustic data of these two configurations should indicate the benefit of a partial thick shield over a thinner full shield of equal area.

The test matrix of this configuration is presented in Table 3-VII . The distribution of the test points is as follows:

a. Test Points 1403-1412 simulate typical engine operating conditions with a shield to outer stream velocity ratio of 0.83 at take-off.

b. Typical take-off Test Point 1409/1410 has $V^i/V^o \approx 0.65$ and $V^s/V^o \approx 0.83$. The inner stream was modified for Test Point 1421/1422 to yield $V^i/V^o \approx V^s/V^o \approx 0.83$.

Table 3-VII. Test Matrix of Unsuppressed Coannular Plug Nozzle with 360° TAS at $V_r \sim 0.83$, TAS-14 (English Units).

NOZZLE MODEL 14 , AREA (MODEL SIZE-INNER= 4.640,OUTER=23 400, SHIELD=17.770, FULL SIZE-TOTAL=1399) SQ.IN.

TEST POINT	V AC	I P R	I T T	I V	I W	O P R	O T T	O V	O W	S P R	S T T	S V	S W	MIX P R	MIX T T	MIX V	W TOTAL	THRUST TOTAL
	FPS		DEG.R	FPS	PPS		DEG.R	FPS	PPS		DEG.R	FPS	PPS		DEG.R	FPS	PPS	LBS
1403	0	1.610	858	1145	59 7	2.054	1413	1783	296 9	1 500	1406	1362	161.2	1.789	1347	1578	517.8	25403
1404	400	1.604	823	1118	60.7	2 056	1432	1796	295.2	1 522	1390	1377	165 5	1.796	1348	1584	521.4	25665
1405	0	1.747	847	1225	66 2	2.310	1505	1970	323 3	1.651	1491	1551	177.3	1.987	1424	1752	566.8	30864
1406	400	1.752	843	1224	66 6	2 326	1507	1978	325.0	1 685	1466	1567	183.2	2.008	1417	1760	574.8	31436
1407	0	1.879	893	1330	69.7	2 614	1581	2146	356 9	1.848	1563	1746	195 9	2.232	1498	1929	622.5	37317
1408	400	1.889	890	1333	70.2	2.629	1558	2136	359 7	1 886	1521	1748	198.0	2.258	1472	1924	627.9	37544
1409	0	2.279	884	1493	83.3	2.940	1657	2312	391 3	2.074	1637	1933	210.5	2.525	1557	2096	685.1	44629
1410	400	2.293	952	1554	80.8	2.956	1660	2319	393.4	2.120	1623	1950	216.3	2.556	1565	2114	690.5	45366
1411	0	2.330	934	1552	82.8	3 494	1531	2363	485 2	2 478	1512	2046	262.5	2.981	1466	2182	830.5	56323
1412	400	2.318	944	1556	82.0	3 500	1530	2363	486 7	2 517	1500	2053	268.0	2.998	1463	2185	836.7	56815
1415	0	1.748	856	1232	65.9	2.919	1654	2303	389.2	2 071	1634	1929	210.5	2.462	1569	2079	665.6	43008
1421	0	3.034	1168	1955	96 2	2.966	1662	2323	394.2	2 085	1639	1941	211.5	2.631	1587	2157	701.9	47068
1422	400	3.074	1168	1965	97.3	2 957	1653	2314	393 3	2 120	1617	1947	216.2	2.644	1576	2154	706.8	47314

TEST POINT	T AMB	P AMB	RH	I O V /V	S O V /V	S O W /W	LVM	LBM	NF	PNL (FULL SIZE,2400 FT.SIDELINE),DB ANGLE RELATIVE TO INLET,DEGREES						
	DEG.R	PSIA	PCT						DB	50	60	70	90	120	130	140	150
1403	513	14.426	75.	0.64	0.76	0.54	1 53	-10.00	-3 6	83 6	85 7	84.9	92.2	96 1	97.8	97.4	94.8
1404	513	14.432	61.	0.62	0 77	0.56	1 54	-10.00	-3.6	84 4	85.8	84 2	88 6	88.8	92.3	90.3	86.3
1405	513	14.429	75.	0.62	0.79	0 55	1 98	-5 17	-4.1	87 3	89.5	88.7	95.3	100.1	101.3	101.3	99.3
1406	514	14.412	60.	0.62	0.79	0.56	1.99	-4 76	-4.3	89 0	90 1	88.5	93 0	93.1	96.9	95.7	91.9
1407	513	14.432	74.	0.62	0.81	0.55	2 40	-2.63	-4.9	91 3	93 2	92 4	98 9	103.4	105.3	106.1	102.7
1408	512	14.350	64.	0.62	0.82	0.55	2.39	-2.50	-5 0	91.6	93.3	92.1	96.7	97.5	100.7	100.0	95 9
1409	514	14.411	67.	0.65	0 84	0.54	2.75	-1.40	-5 6	96 2	98.2	97.2	102 9	106.2	108.3	110.8	105.6
1410	512	14.417	68.	0.67	0 84	0.55	2.80	-1.32	-5.7	98 3	99.9	97 8	101.4	103.0	105.3	105.6	101.5
1411	513	14.408	68.	0.66	0.87	0 54	2 93	-0 40	-7 2	95 9	97 9	97.3	103.4	108.1	111.1	112.5	106.8
1412	512	14.418	68.	0.66	0 87	0.55	2.94	-0 37	-7.2	98.6	100 2	98 6	103.2	105.5	107.9	108.8	104.7
1415	513	14.422	71.	0.53	0 84	0.54	2.72	-1.62	-5.4	93.3	95.3	94.6	101.5	106.0	108.5	110.1	106.0
1421	512	14.408	70.	0.84	0.84	0 54	2 89	-1.14	-5 9	99.7	101.6	101 1	105.7	107.8	110.6	112.4	106.0
1422	513	14.382	66.	0 85	0.84	0.55	2.88	-1 10	-5 9	104 0	104 9	102 3	104 8	105.4	106.5	108.5	103.4

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Table 3-VII. Test Matrix of Unsuppressed Coannular Plug Nozzle with 360° TAS at $V_r \sim 0.83$, TAS-14 (International Units).

NOZZLE MODEL 14 , AREA (MODEL SIZE-INNER=0 0030,OUTER=0 0151,SHIELD=0 0115 , FULL SIZE-TOTAL=0.9031) SQ.METERS

TEST POINT	V AC MPS	I P R	I T T DEG.K	I V MPS	I W KG/S	O P R	O T T DEG.K	O V MPS	O W KG/S	S P R	S T T DEG.K	S V MPS	S W KG/S	MIX P R	MIX T T DEG.K	MIX V MPS	W TOTAL KG/S	THRUST TOTAL N
1403	0	1.610	477	349	27.1	2 054	785	543	134.7	1.500	781	415	73 1	1 789	748	481	234 9	7062
1404	122	1 604	457	341	27 5	2.056	795	547	133 9	1 522	772	420	75 1	1.796	749	483	236.5	7135
1405	0	1.747	471	373	30 0	2.310	836	600	146 6	1 651	828	473	80.4	1.987	791	534	257.1	8581
1406	122	1.752	468	373	30 2	2 326	837	603	147 4	1 685	815	478	83.1	2.008	787	536	260.7	8740
1407	0	1.879	496	405	31.6	2.614	878	654	161.9	1 848	868	532	88.9	2.232	832	588	282.4	10375
1408	122	1.889	494	406	31.8	2.629	866	651	163 2	1 886	845	533	89.8	2.258	818	586	284.8	10438
1409	0	2.279	491	455	37.8	2.940	921	705	177 5	2 074	909	589	95 5	2.525	865	639	310.8	12407
1410	122	2.293	529	474	36.7	2 956	922	707	178.4	2 120	902	595	98 1	2 556	870	644	313.2	12612
1411	0	2.330	519	473	37.6	3 494	851	720	220 1	2 478	840	624	119.1	2.981	814	665	376.7	15658
1412	122	2.318	524	474	37.2	3.500	850	720	220 8	2 517	833	626	121.5	2.998	813	666	379.5	15795
1415	0	1.748	476	376	29.9	2 919	919	702	176 5	2 071	908	588	95.5	2.462	872	634	301.9	11957
1421	0	3.034	649	596	43 6	2 966	923	708	178 8	2 085	910	592	95 9	2 631	882	658	318.4	13086
1422	122	3.074	649	599	44.1	2 957	919	705	178 4	2 120	898	593	98.1	2 644	875	656	320 6	13154

3.3 Test Matrices of Suppressed Coannular Plug Nozzles

A total of 69 acoustic test points was completed on the mechanically suppressed coannular plug nozzle with and without thermal acoustic shields. The test configurations consisted of:

a. The baseline coannular configuration with the 20-shallow-chute mechanical suppressor in the outer stream (TAS-15).

b. The baseline TAS-15 with the 1" thick 180° shield and the choke plates selected to give V^s/V^o of 0.64, 0.83 and 0.48 (TAS-16, -17 and -18) at a typical take-off condition.

c. The baseline TAS-15 with 1/2" thick 360° shield (TAS-19) with the choke plates identical to these of TAS-17 to give V^s/V^o of 0.83.

Figures 3.3 and 3.4 describe the scope of acoustic tests on an engine operating line in terms of shield to outer stream velocity ratios as a function of mass averaged velocity, V^{mix} and outer stream pressure ratio, P^o_r.

3.3.1 Test Matrix for Suppressed Baseline Coannular Plug Nozzle (TAS-15)

Table 3-VIII summarizes the test matrix for the baseline suppressor coannular plug configuration. The test points simulate typical engine operating conditions under static and simulated flight.

3.3.2 Test Matrix for Suppressed Coannular Plug Nozzle With 180° Thermal Acoustic Shield (TAS-16, -17 AND -18)

As described in Table 3-I, the suppressed coannular plug nozzle with 180° thermal acoustic shield was tested at shield to outer stream velocity ratio, $V^{s,o}_r$, of 0.64 (TAS-16), 0.83 (TAS-17) and 0.48 (TAS-18) to investigate the sensitivity of $V^{s,o}_r$ on the acoustic benefit of the thermal acoustic shield. Tables 3-IX, 3-X and 3-XI summarize the test matrices for TAS-16, TAS-17 and TAS-18, respectively. The distribution of the test points is as follows:

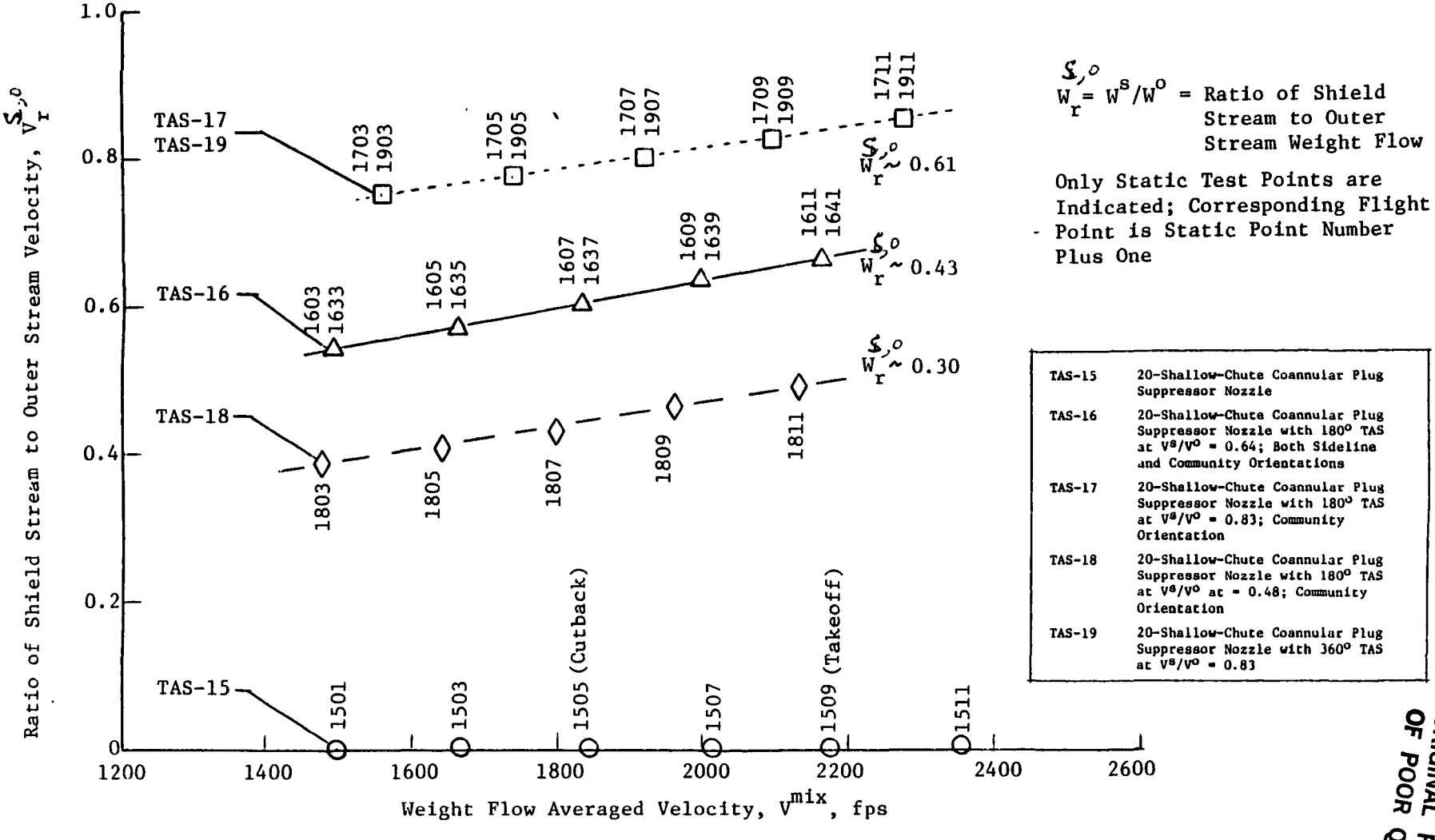

Figure 3.3 Description of Acoustic Tests as a Function of Weight Flow Averaged Velocity: Suppressed Coannular Plug Nozzles.

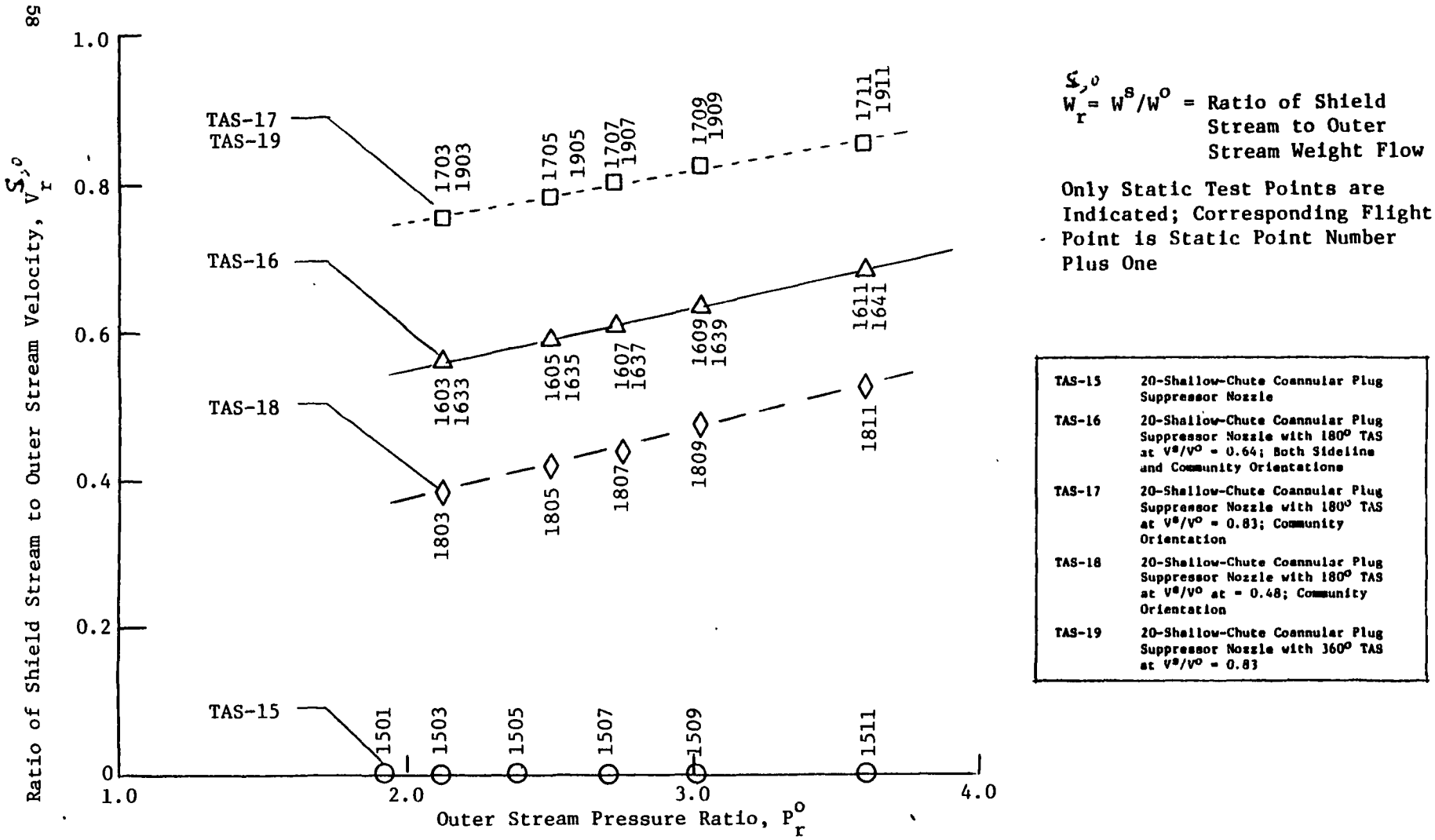

Figure 3.4 Description of Acoustic Tests as a Function of Outer Stream Pressure Ratio; Suppressed Coannular Plug Nozzles.

Table 3-VIII. Test Matrix for Suppressed Baseline Coannular Plug Nozzle; TAS-15 (English Units).

NOZZLE MODEL 15 , AREA (MODEL SIZE-INNER= 4 000,OUTER=19.900, SHIELD= 0 001, FULL SIZE-TOTAL=1400) SQ.IN.

TEST POINT	V AC FPS	I P R	I T DEG.R	I V FPS	I W PPS	O P R	O T DEG.R	O V FPS	O W PPS	S P R	S T DEG.R	S V FPS	S W PPS	MIX P R	MIX T DEG.R	MIX V FPS	W TOTAL PPS	THRUST TOTAL LBS
1501	0	1.578	827	1102	98 0	1 926	1203	1574	494 8	1.000	519	0	0.	1.863	1141	1496	592.8	27568
1502	400	1.600	823	1114	100.0	1.978	1223	1617	496.1	1 000	519	0	0.	1.908	1156	1532	596.1	28392
1503	0	1.571	820	1093	97 8	2.116	1310	1747	520.1	1.000	519	0	0.	2.016	1233	1643	617.9	31559
1504	400	1.604	817	1114	100.6	2.122	1397	1808	495 9	1 000	519	0	0	2.021	1300	1691	596.5	31351
1505	0	1.689	817	1277	121 0	2.330	1466	1954	540.1	1.000	519	0	0.	2.235	1349	1830	661.1	37601
1506	400	1.786	819	1225	114 0	2.428	1491	2012	548.1	1.000	519	0	0.	2.298	1376	1876	662.1	38611
1507	0	1.745	874	1243	107 6	2 688	1560	2159	603.8	1 000	519	0	0.	2.512	1456	2020	711.5	44671
1508	400	1.907	884	1338	113.5	2.747	1561	2180	606 2	1 000	519	0	0.	2.587	1454	2047	719.8	45790
1509	0	2.328	899	1522	139 9	3 029	1642	2328	662.8	1 000	519	0	0.	2.880	1512	2187	802.6	54564
1510	400	2.318	908	1527	136.1	3.087	1641	2344	663 7	1 000	519	0	0.	2.928	1516	2205	799.8	54803
1511	0	2.326	898	1520	139.7	3.599	1671	2496	780.4	1.000	519	0	0.	3.354	1554	2348	920.2	67158
1512	400	2.371	903	1540	139 8	3 654	1672	2509	779 5	1 000	519	0	0	3.407	1555	2362	919.3	67485

TEST POINT	T AMB DEG R	P AMB PSIA	RH PCT	I O V /V	S O V /V	S O W /W	LVM	LBM	NF DB	50	PNL (FULL SIZE,2400 FT SIDELINE),DB ANGLE RELATIVE TO INLET,DEGREES 60	70	90	120	130	140	150
1501	505	14.464	59.	0.70	0.	0.	1.33	-10 00	-4.7	84 0	86.9	88.0	94 3	95.6	94.2	92.0	88.3
1502	513	14 238	48.	0 69	0.	0.	1 40	-8.51	-4 7	89 5	91.7	90 9	95.2	95.3	91.7	87.2	82.1
1503	506	14.465	58.	0.63	0.	0.	1.73	-4.67	-4 9	86.2	89 1	90.0	96.4	97.4	96.2	94.9	91 8
1504	513	14.226	47.	0.62	0	0.	1.82	-4 51	-4 6	91 4	93 5	93.2	97.5	98 3	95.0	91.0	85.6
1505	507	14 471	55.	0.65	0.	0.	2.19	-2.55	-5 4	91.1	94.1	95.4	100.1	100 0	99.0	96.2	93 7
1506	513	14.206	49.	0.61	0.	0	2.27	-2 22	-5 4	96 1	97 5	97.6	100 8	101.2	98 6	94.8	89.5
1507	507	14.460	55.	0 58	0.	0.	2 62	-1 43	-5 9	93 8	97.6	98.4	103 0	103 4	101 2	100.1	96 5
1508	511	14.209	50.	0.61	0.	0.	2.66	-1.20	-6.1	98.8	101 5	101.6	104 0	103.9	101.5	98.4	92.7
1509	509	14.459	54.	0.65	0.	0.	2 96	-0 52	-6 8	95.6	99 5	100 6	105 4	104 8	103.6	102 3	99.1
1510	511	14 200	51.	0.65	0	0	2 98	-0 44	-6 8	100 8	103 7	103 3	106.3	105 9	103 9	100.7	95.1
1511	510	14.449	51.	0.61	0.	0.	3.27	0.18	-7.7	97 6	101.0	101 9	107.3	106 7	105.9	105.3	103 6
1512	511	14.217	49.	0.61	0.	0	3.29	0.24	-7 8	102 7	105 3	104.3	107.9	107.9	105.8	102.2	97.3

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Table 3-VIII. Test Matrix for Suppressed Baseline Coannular Plug Nozzle; TAS-15 (International Units).

NOZZLE MODEL 15 , AREA (MODEL SIZE-INNER=0.0026,OUTER=0.0128,SHIELD=0.0000 , FULL SIZE-TOTAL=0.9031) SQ.METERS

TEST POINT	V AC MPS	I P R	I T T DEG.K	I V MPS	I W KG/S	O P R	O T T DEG.K	O V MPS	O W KG/S	S P R	S T T DEG K	S V MPS	S W KG/S	MIX P R	MIX T T DEG.K	MIX V MPS	W TOTAL KG/S	THRUST TOTAL N
1501	0	1.578	459	336	44.5	1.926	668	480	224.4	1 000	288	0	0.	1.863	634	456	268.9	7664
1502	122	1.600	457	340	45 4	1.978	680	493	225.0	1.000	288	0	0.	1.908	642	467	270.4	7893
1503	0	1.571	456	333	44 4	2 116	728	532	235 9	1.000	288	0	0.	2.016	685	501	280.3	8774
1504	122	1.604	454	339	45.6	2.122	776	551	224.9	1.000	288	0	0.	2.021	722	515	270.6	8716
1505	0	1.889	454	389	54 9	2.330	815	595	245.0	1 000	288	0	0.	2.235	749	558	299.9	10454
1506	122	1.786	455	374	51.7	2.428	829	613	248.6	1 000	288	0	0.	2.298	764	572	300.3	10734
1507	0	1.745	485	379	48 8	2.688	867	658	273.9	1 000	288	0	0.	2.512	809	616	322 7	12419
1508	122	1.907	491	408	51.5	2.747	867	664	275.0	1 000	288	0	0.	2.587	808	624	326.5	12730
1509	0	2.328	499	464	63 4	3.029	912	709	300.6	1 000	288	0	0.	2 880	840	667	364.1	15170
1510	122	2.318	505	465	61.7	3.087	912	714	301 0	1.000	288	0	0.	2.928	842	672	362.8	15236
1511	0	2.326	499	463	63.4	3.599	929	761	354.0	1 000	288	0	0	3.354	863	716	417.4	18671
1512	122	2.371	501	469	63.4	3 654	929	765	353 6	1.000	288	0	0.	3 407	864	720	417.0	18762

P1188-09

Table 3-IX. Test Matrix for Suppressed Coannular Plug Nozzle with 180° TAS at V_r 2.0 0.64, Sideline and Community Orientations; TAS-16 (English Units).

NOZZLE MODEL 16 , AREA (MODEL SIZE-INNER= 4.000,OUTER=19.900, SHIELD=17.210, FULL SIZE TOTAL=1400) SQ.IN.

TEST POINT	V AC FPS	I P R	I T DEG.R	I V FPS	I W PPS	O P R	O T DEG.R	O V FPS	O W PPS	S P R	S T DEG.R	S V FPS	S W PPS	MIX P	MIX T DEG.R	MIX V FPS	W TOTAL PPS	THRUST TOTAL LBS
1603	0	1.565	821	1088	56.5	2.090	1307	1785	290.9	1.242	1373	996	124.1	1.699	1316	1494	471.5	21898
1604	400	1.581	831	1107	56.9	2.110	1403	1806	290.0	1.258	1369	1024	123.3	1.714	1325	1511	475.2	22318
1605	0	1.749	832	1215	64.2	2.376	1486	1908	318.9	1.317	1422	1159	135.5	1.803	1103	1675	519.7	27053
1606	400	1.766	839	1229	64.6	2.401	1521	2021	316.5	1.336	1479	1190	140.0	1.909	1425	1699	521.1	27525
1607	0	1.872	869	1309	67.5	2.685	1547	2148	353.1	1.407	1520	1310	151.2	2.075	1462	1828	571.6	32481
1608	400	2.096	885	1424	66.4	2.993	1556	2253	352.4	1.475	1518	1389	163.4	2.215	1163	1916	582.2	34073
1609	0	2.276	904	1509	79.4	2.970	1607	2307	378.9	1.500	1618	1463	162.0	2.203	1530	1964	620.3	38253
1610	400	2.296	893	1506	80.0	3.055	1619	2340	385.9	1.546	1608	1502	169.4	2.351	1513	2014	615.3	39763
1611	0	2.328	891	1515	81.7	3.615	1665	2495	457.3	1.734	1646	1703	192.4	2.713	1571	2177	731.4	49497
1612	400	2.343	901	1529	81.3	3.623	1670	2501	455.0	1.764	1632	1720	197.0	2.729	1574	2183	728.3	49757
1633	0	1.580	785	1075	58.5	2.097	1389	1790	286.9	1.243	1371	996	124.3	1.700	1310	1492	479.6	21774
1634	400	1.587	832	1112	57.2	2.125	1385	1802	290.1	1.269	1351	1035	131.8	1.722	1310	1509	479.1	22462
1635	0	1.755	841	1225	64.1	2.376	1495	1992	314.0	1.322	1476	1168	137.3	1.801	1109	1677	515.4	26068
1636	400	1.764	842	1230	64.5	2.405	1514	2017	314.2	1.346	1473	1203	144.5	1.902	1419	1697	521.2	27495
1637	0	1.877	889	1326	66.9	2.703	1567	2169	348.8	1.416	1543	1326	152.0	2.006	1431	1844	567.8	32547
1638	400	1.898	915	1356	64.6	2.721	1578	2183	347.3	1.445	1538	1362	157.3	2.108	1492	1862	559.3	32953
1639	0	2.286	901	1510	79.0	3.042	1651	2338	382.3	1.527	1628	1497	165.6	2.335	1530	2012	626.8	39193
1640	400	2.310	899	1516	79.3	3.071	1672	2362	380.7	1.563	1629	1537	170.8	2.362	1563	2032	630.8	39848
1641	0	2.334	918	1540	79.7	3.615	1687	2512	448.5	1.740	1663	1717	192.1	2.713	1506	2193	720.3	49092
1642	400	2.347	931	1555	79.2	3.615	1688	2520	449.6	1.785	1646	1744	198.5	2.745	1591	2203	727.3	49709
1645	0	3.032	1118	1911	93.9	3.038	1669	2350	379.1	1.520	1615	1498	163.6	2.412	1582	2066	636.5	40883
1651	0	1.707	882	1225	60.7	3.041	1652	2339	302.0	1.526	1630	1497	165.3	2.281	1569	1999	607.9	37769

TEST POINT	T AMB DEG R	P AMB PSIA	RH PCT	I O V/V	S O V/V	S O W/W	LVM	LBM	NF DB	PNL (FULL SIZE,2400 FT SIDELINE),DB ANGLE RELATIVE TO INLET,DEGREES 50	60	70	90	120	130	140	150
1603	518	14.525	48.	0.61	0.56	0.43	1.27	-10.00	-3.2	83.5	85.0	86.3	93.5	93.2	93.4	90.9	87.7
1604	524	14.421	46.	0.61	0.57	0.44	1.29	-10.00	-3.2	87.7	88.2	88.0	93.2	90.6	88.7	84.2	79.7
1605	519	14.523	48.	0.61	0.58	0.43	1.76	-10.00	-3.8	87.6	89.4	90.7	96.5	96.3	96.9	94.3	90.9
1606	523	14.421	46.	0.61	0.59	0.44	1.80	-10.00	-3.8	91.8	91.8	91.2	96.5	94.0	93.1	88.3	84.5
1607	520	14.511	48.	0.61	0.61	0.43	2.13	-4.04	-4.4	90.9	92.4	93.9	99.1	98.5	99.1	97.8	95.2
1608	523	13.021	48.	0.63	0.62	0.46	2.33	-2.48	-4.6	94.4	95.0	94.8	99.4	96.1	95.2	91.2	87.3
1609	521	14.492	48.	0.65	0.63	0.43	2.49	-2.39	-5.0	92.8	94.4	95.7	100.9	101.4	102.4	102.1	99.1
1610	523	14.397	48.	0.64	0.64	0.44	2.54	-2.09	-5.1	95.6	96.6	97.0	101.2	99.1	98.4	95.7	91.0
1611	522	14.480	48.	0.61	0.68	0.42	2.89	-0.96	-6.2	94.7	96.6	98.0	103.9	105.3	106.9	106.9	103.9
1612	524	14.394	48.	0.61	0.69	0.43	2.89	-0.92	-6.2	98.0	99.1	99.5	103.7	102.9	102.7	100.9	97.2
1633	514	14.284	44.	0.60	0.56	0.43	1.27	-10.00	-3.2	82.8	85.6	85.7	93.2	92.1	90.6	88.8	84.9
1634	517	14.240	38.	0.62	0.57	0.45	1.31	-10.00	-3.3	86.9	89.0	87.8	93.0	88.7	84.4	83.2	76.8
1635	515	14.331	42.	0.61	0.59	0.44	1.78	-10.00	-3.7	87.5	90.5	90.4	96.6	96.1	95.6	93.0	90.4
1636	519	14.262	37.	0.61	0.60	0.45	1.82	-10.00	-3.7	90.9	92.6	91.0	96.4	92.9	89.9	87.8	81.3
1637	516	14.334	40.	0.61	0.61	0.44	2.19	-3.89	-4.4	89.4	92.8	93.3	99.5	98.6	99.2	97.1	94.9
1638	517	14.232	37.	0.62	0.62	0.45	2.23	-3.65	-4.4	93.8	96.4	94.7	99.3	95.7	91.9	91.5	85.9
1639	516	14.335	39.	0.65	0.64	0.43	2.57	-2.16	-5.0	91.4	94.7	95.2	101.2	100.7	101.8	102.1	99.7
1640	516	14.234	39.	0.64	0.65	0.45	2.61	-2.02	-5.1	96.3	98.3	96.9	101.1	99.3	99.2	99.5	96.1
1641	517	14.300	37.	0.61	0.68	0.43	2.93	-0.96	-6.0	93.6	96.6	97.3	104.1	101.1	106.2	106.5	102.8
1642	517	14.217	38.	0.62	0.69	0.44	2.95	-0.88	-6.1	98.6	100.7	98.6	103.3	101.6	102.3	101.4	96.8
1645	517	14.317	38	0.61	0.64	0.43	2.68	-1.87	-5.2	91.6	91.9	93.1	101.5	102.0	102.6	102.0	100.7
1651	517	14.336	38	0.52	0.64	0.43	2.54	-2.44	-4.8	91.1	91.5	93.0	100.4	100.4	101.5	101.1	99.0

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Table 3-IX. Test Matrix for Suppressed Coannular Plug Nozzle with 180° TAS at $V_r \sim 0.64$, Sideline and Community Orientations; TAS-16 (International Units).

NOZZLE MODEL 16 , AREA (MODEL SIZE-INNER=0.0026,OUTER=0.0120,SHIELD=0.0111 , FULL SIZE-TOTAL=0.9031) SQ METERS

TEST POINT	V AC MPS	I P R	I T T DEG K	I V MPS	I W KG/S	O P R	O T T DEG K	O V MPS	O W KG/S	S P R	S T T DEG K	S V MPS	S W KG/S	MIX P R	MIX T T DEG K	MIX V MPS	W TOTAL KG/S	THRUST TOTAL N
1603	0	1.565	456	332	25.6	2.090	771	544	132.0	1.242	763	304	56.3	1.699	731	455	213.9	6088
1604	122	1.581	462	337	25.8	2.110	779	550	131.5	1.256	761	312	58.2	1.714	736	461	215.6	6205
1605	0	1.749	462	370	29.1	2.376	827	606	144.7	1.317	818	353	61.9	1.882	780	510	235.7	7521
1606	122	1.766	466	375	29.3	2.401	845	616	143.5	1.336	822	363	63.5	1.900	792	518	236.4	7652
1607	0	1.872	483	399	30.6	2.595	859	655	160.2	1.407	849	399	68.6	2.079	812	557	259.4	9030
1608	122	2.096	492	434	30.1	2.803	864	687	176.8	1.475	841	423	74.1	2.246	816	584	264.1	9640
1609	0	2.276	502	460	36.0	2.970	909	703	171.9	1.500	899	446	73.5	2.293	853	605	281.4	10635
1610	122	2.296	496	459	36.3	3.055	916	713	175.0	1.546	891	460	76.0	2.351	857	614	288.2	11055
1611	0	2.328	495	462	37.1	3.615	925	761	207.4	1.734	914	519	87.3	2.713	874	664	331.8	13761
1612	122	2.343	500	466	36.9	3.628	925	762	206.4	1.761	907	521	86.3	2.726	875	665	332.6	13833
1633	0	1.580	436	328	26.5	2.097	772	546	130.1	1.243	763	304	56	1.700	728	455	213.0	6053
1634	122	1.587	462	339	25.9	2.125	770	549	131.6	1.269	751	316	59.8	1.722	728	460	217.3	6245
1635	0	1.755	467	373	29.1	2.376	831	607	142.4	1.322	820	356	62.3	1.881	783	511	233.8	7470
1636	122	1.764	468	375	29.2	2.405	841	615	142.5	1.346	818	367	64.6	1.902	789	517	236.4	7644
1637	0	1.877	494	404	30.4	2.703	870	661	158.2	1.416	857	405	68.9	2.080	823	562	257.5	9049
1638	122	1.898	508	413	29.3	2.721	877	665	157.5	1.415	855	415	71.4	2.108	829	568	258.2	9161
1639	0	2.286	501	460	35.8	3.042	917	713	173.4	1.527	904	456	75.1	2.325	861	613	284.3	10896
1640	122	2.310	500	462	36.0	3.071	929	720	172.7	1.563	905	468	77.5	2.367	869	619	286.1	11078
1641	0	2.334	510	470	36.2	3.615	937	766	203.4	1.740	924	523	87.1	2.713	887	668	326.7	13648
1642	122	2.347	517	474	35.9	3.645	938	768	203.9	1.765	915	532	90.1	2.745	886	671	329.9	13845
1645	0	3.032	621	583	42.6	3.038	927	716	171.9	1.520	914	457	74.2	2.412	879	630	298.7	11366
1651	0	1.707	490	373	27.5	3.041	918	713	173.3	1.526	903	456	75.0	2.381	872	603	276.0	10500

P1189-03

Table 3-X. Test Matrix of Suppressed Coannular Plug Nozzle with 180° TAS at V_r 0.83, Community Orientation; TAS-17 (English Units).

NOZZLE MODEL 17 , AREA (MODEL SIZE-INNER= 4 000,OUTER=19.900, SHIELD=17 240, FULL SIZE-TOTAL=1400) SQ.IN.

TEST POINT	V AC FPS	I P R	I T T DEG.R	I V FPS	I W PPS	O P R	O T T DEG.R	O V FPS	O W PPS	S P R	S T T DEG R	S V FPS	S W PPS	MIX P R	MIX T T DEG.R	MIX V FPS	W TOTAL PPS	THRUST TOTAL LBS
1703	0	1.572	852	1114	55.8	2 100	1431	1819	283.1	1.492	1417	1359	172.0	1.788	1363	1587	510.9	25205
1704	400	1.587	833	1113	57.1	2.075	1385	1776	283.4	1.516	1356	1355	180.1	1.786	1314	1557	520.7	25201
1705	0	1.746	850	1226	63.4	2.395	1533	2027	311.7	1.656	1515	1568	190.6	2 011	1451	1782	565.7	31339
1706	400	1.761	839	1227	64.4	2.385	1484	1988	314 4	1 693	1451	1565	200 0	2 022	1401	1757	578.9	31618
1707	0	1.678	897	1333	66.7	2 686	1590	2179	343 0	1.834	1571	1740	209.4	2 239	1509	1939	619.1	37316
1708	400	1.679	879	1320	67.4	2 704	1566	2169	346.9	1 888	1532	1755	211.9	2.274	1481	1938	626.2	37710
1709	0	2.286	900	1509	78.8	3 060	1671	2356	380 8	2 072	1649	1939	224 3	2.562	1575	2123	683.9	45126
1710	400	2.297	913	1523	78 2	3.059	1655	2346	380 9	2.131	1618	1954	232.0	2 587	1559	2121	691.1	45556
1711	0	2.329	908	1530	79 8	3.593	1654	2482	449 4	2.441	1636	2114	265 4	2 983	1573	2264	794 6	55900
1712	400	2.337	919	1542	79.6	3.667	1676	2515	455.5	2 538	1646	2162	275.0	3.060	1592	2300	810.1	57905
1715	0	1.758	899	1268	62 2	3.041	1666	2349	379.0	2.065	1645	1932	223.9	2.502	1587	2108	665.1	43570
1721	0	3.021	1158	1944	91.6	3.057	1650	2342	382 9	2 071	1632	1928	225 5	2 643	1580	2157	700.1	46930
1722	400	3.046	1135	1929	93.0	3 054	1653	2343	380 6	2 116	1620	1947	230.3	2 660	1574	2159	704.0	47231

TEST POINT	T AMB DEG.R	P AMB PSIA	RH PCT	I O V /V	S O V /V	S O W /W	LVM	LBM	NF DB	PNL (FULL SIZE,2400 FT.SIDELINE),DB ANGLE RELATIVE TO INLET,DEGREES 50	60	70	90	120	130	140	150
1703	520	14 299	21	0.61	0 75	0.61	1.52	-10.00	-3.5	83.8	86 9	88.4	95 4	92.3	92.0	91.5	87.1
1704	510	14.245	29.	0 63	0 76	0 64	1 48	-10 00	-3 7	88 9	91.0	90.6	95.3	90.1	87.9	84.5	77.6
1705	520	14 300	21	0.61	0 77	0 61	2.02	-4 71	-4.1	87.8	91 0	91.8	97 8	97.4	96.5	95.9	92.7
1706	512	14 242	24.	0 62	0.79	0 64	2.00	-4 52	-4.3	92 4	93 8	93.8	98 4	93.3	92.5	89.8	83.0
1707	520	14.294	19.	0.61	0.80	0.61	2.39	-2 59	-4 8	89.7	93.1	94.4	100.3	100.7	99.8	100.1	97.5
1708	514	14 249	27.	0.61	0.81	0.61	2.41	-2 41	-5.0	94 9	96.8	96.3	100.5	96.8	96.1	93.7	87.3
1709	520	14.288	22.	0.64	0 82	0 59	2.78	-1.31	-5.7	92 3	95.9	96.2	102 4	103.8	103.5	104.4	101.6
1710	516	14.221	26.	0.65	0 83	0.61	2 80	-1.23	-5.8	96.3	98 6	97.9	102.2	100.3	99.9	98.4	93 4
1711	518	14.269	25.	0.62	0 85	0.59	3.07	-0 39	-6 8	95 3	98 4	98.9	104 5	107.0	108.4	109.6	104.8
1712	518	14.266	20.	0.61	0 86	0.60	3 14	-0 26	-6.9	100.0	101.9	100.8	103.9	105.7	105.1	105.8	99.7
1715	520	14 289	25.	0 54	0.82	0.59	2.75	-1.50	-5.4	91.7	95.7	96 9	102 0	103.8	103.3	104.6	101.6
1721	519	14.286	24.	0.83	0.82	0.59	2.86	-1 11	-5 9	92 3	95.6	97.1	102.9	104.2	104.8	106.8	102.9
1722	516	14 228	25	0 82	0 83	0.61	2 87	-1 06	-5 9	96 9	99.3	97.9	102 0	100 2	100.3	99.8	94 7

P1189-02

Table 3-X. Test Matrix of Suppressed Coannular Plug Nozzle with 180° TAS at $V_r \sim 0.83$, Community Orientation; TAS-17 (International Units).

NOZZLE MODEL 17 , AREA (MODEL SIZE-INNER=0 0026,OUTER=0 0128,SHIELD=0.0111 , FULL SIZE-TOTAL=0 9031) SQ.METERS

TEST POINT	V AC MPS	I P R	I T DEG.K	I V MPS	I W KG/S	O P R	O T DEG.K	O V MPS	O W KG/S	S P R	S T DEG.K	S V MPS	S W KG/S	MIX P R	MIX T DEG.K	MIX V MPS	W TOTAL KG/S	THRUST TOTAL N
1703	0	1.572	473	339	25.3	2.100	795	554	128.4	1.492	787	414	78.0	1.788	757	484	231.8	7007
1704	122	1.587	463	339	25.9	2 075	769	541	126 6	1.516	753	413	81.7	1.786	730	475	236.2	7006
1705	0	1.746	472	374	28 8	2.395	852	618	141 4	1.656	842	478	86 4	2.011	806	543	256.6	8713
1706	122	1.761	466	374	29 2	2.385	824	606	142 6	1.693	806	477	90.7	2 022	778	536	262.6	8790
1707	0	1.878	498	406	30 3	2.686	883	664	155 6	1 834	873	530	95 0	2 239	838	591	280.8	10374
1708	122	1.879	488	402	30.6	2.704	870	661	157 4	1.888	851	535	96 1	2 274	823	591	284.0	10484
1709	0	2.286	500	460	35 7	3.060	929	719	172.7	2 072	916	591	101.8	2.562	875	647	310.2	12546
1710	122	2.297	507	464	35 5	3 059	919	715	172 8	2 131	899	595	105 2	2 587	866	646	313.5	12665
1711	0	2 329	504	466	36.2	3.593	919	756	203 8	2 441	909	644	120.4	2 983	874	690	360.4	15541
1712	122	2.337	511	470	36.1	3.667	931	767	206 6	2.538	914	659	124 8	3 060	884	701	367 5	16099
1715	0	1.758	499	386	28.2	3.041	926	716	171.9	2.065	914	589	101.6	2 502	882	642	301.7	12113
1721	0	3.021	644	592	41.6	3 057	917	714	173.7	2 071	907	588	102.3	2.643	878	657	317.6	13047
1722	122	3.046	630	588	42 2	3 054	918	714	172.7	2.116	900	593	104.5	2 660	874	658	319.3	13131

P1165-03

Table 3-XI. Test Matrix for Suppressed Coannular Plug Nozzle with 180° TAS at V_r ≈ 0.48, Community Orientation; TAS-18 (English Units).

NOZZLE MODEL 18 , AREA (MODEL SIZE-INNER= 4 000,OUTER=19 900, SHIELD=17 240, FULL SIZE-TOTAL=1400) SQ.IN.

TEST POINT	V AC FPS	I P R	I T T DEG.R	I V FPS	I W PPS	O P R	O T T DEG.R	O V FPS	O W PPS	S P R	S T T DEG R	S V FPS	S W PPS	MIX P R	MIX T T DEG R	MIX V FPS	W TOTAL PPS	THRUST TOTAL LBS
1803	0	1.544	837	1084	55.0	2 056	1359	1749	289.6	1.096	1343	645	79 4	1 670	1288	1456	424 0	19186
1804	400	1 583	844	1117	56.6	2.105	1392	1796	286.8	1.123	1339	724	90 0	1.691	1310	1485	433.4	20000
1805	0	1 747	818	1204	64.7	2.361	1493	1985	313.1	1.142	1477	815	92 2	1 846	1397	1648	470.0	24067
1806	400	1.768	856	1244	64.1	2.404	1507	2012	314 7	1.164	1447	860	99.9	1.869	1408	1669	478.7	24832
1807	0	1 906	891	1343	65.2	2.719	1565	2173	345.9	1 185	1545	938	102 4	2.052	1475	1821	513.5	29066
1808	400	1.886	906	1344	66 7	2.717	1585	2187	346 3	1.212	1523	991	110.4	2 051	1485	1827	523.3	29716
1809	0	2.272	879	1486	79 6	3.021	1659	2338	379.2	1.256	1635	1115	116 7	2 256	1546	1972	575.6	35275
1810	400	2 300	861	1480	80.9	3 055	1682	2365	377.9	1.272	1616	1138	120 9	2 274	1554	1985	579.6	35763
1811	0	2.321	907	1527	79 9	3 588	1644	2473	452 3	1 375	1619	1304	141 1	2 586	1551	2116	673.3	44272
1812	400	2 336	912	1535	79.8	3.621	1647	2482	453 5	1 385	1594	1308	144.0	2 605	1549	2121	677.3	44650

TEST POINT	T AMB DEG.R	P AMB PSIA	RH PCT	I O V /V	S O V /V	S O W /W	LVM	LBM	NF DB	PNL (FULL SIZE,2400 FT SIDELINE),DB ANGLE RELATIVE TO INLET,DEGREES 50	60	70	90	120	130	140	150
1803	525	14 545	68.	0.62	0.37	0.27	1.12	-10 00	-3.1	81.5	84.2	84.6	91 8	91.7	90.4	89.0	83.7
1804	523	14.251	74.	0.62	0.40	0.31	1.22	-10 00	-3.1	87 2	88 7	87.8	92.6	88.9	86.1	83.9	78.4
1805	523	14.374	73.	0 61	0 41	0.29	1.67	-10.00	-3.7	86.7	89 4	90.0	95.7	95.2	94.2	93.2	89.3
1806	520	14.260	81.	0 62	0.43	0.32	1.74	-10.00	-3.6	90 6	92 8	91 5	96 3	93 0	90.4	88.4	82 0
1807	521	14 120	77	0 62	0 43	0 30	2 11	-5 17	-4 2	89 9	93.3	93 9	99.4	97 9	97.3	96.7	93 7
1808	519	14.242	85	0.61	0 45	0.32	2.14	-5 00	-4.2	94 0	96.2	95.6	99.9	95.9	93.6	91.8	85 2
1809	521	14.358	80.	0.64	0.48	0.31	2.46	-2 84	-4.8	92.3	95 4	95.9	101.6	101 8	101.7	101.4	99 3
1810	519	14 247	86	0.63	0.48	0 32	2 49	-2 68	-4.8	96 6	98 9	98.0	101.9	98.9	97.0	95.6	89.1
1811	520	14 332	80	0.62	0.53	0 31	2 77	-1.40	-5.8	94.3	97.1	97 6	104.1	104.3	105 2	106.2	102 7
1812	520	14 251	81.	0 62	0.53	0.32	2 78	-1.34	-5 9	98 3	100 2	99 2	103 6	101 5	100.2	99 6	93.6

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Table 3-XI. Test Matrix for Suppressed Coannular Plug Nozzle with 180° TAS at $V_r \sim 0.48$, Community Orientation; TAS-18 (International Units).

NOZZLE MODEL 18 , AREA (MODEL SIZE-INNER=0 0026,OUTER=0.0128,SHIELD=0 0111 , FULL SIZE-TOTAL=0.9031) SQ.METERS

TEST POINT	V AC MPS	I P R	I T DEG.K	I V MPS	I W KG/S	O P R	O T DEG.K	O V MPS	O W KG/S	S P R	S T DEG K	S V MPS	S W KG/S	MIX P R	MIX T DEG.K	MIX V MPS	W TOTAL KG/S	THRUST TOTAL N
1803	0	1.544	465	330	24.9	2.056	755	533	131 4	1.096	746	197	36.0	1.670	716	444	192.3	5334
1804	122	1.583	469	340	25.7	2.105	774	547	130 1	1.123	744	221	40.8	1.691	728	453	196.6	5560
1805	0	1.747	455	367	29.3	2.361	830	605	142.0	1.142	821	248	41.8	1.846	776	502	213.2	6691
1806	122	1.768	476	379	29.1	2.404	837	613	142 7	1.164	804	262	45.3	1.869	782	509	217.1	6904
1807	0	1.906	495	409	29.6	2.719	869	662	156 9	1 185	858	286	46 4	2.052	820	555	232.9	8081
1808	122	1.886	503	410	30.2	2.717	881	666	157 1	1.212	846	302	50 1	2 051	825	557	237 4	8262
1809	0	2.272	488	453	36 1	3.021	922	713	172 0	1.256	908	340	52 9	2 256	859	601	261.1	9607
1810	122	2.300	478	451	36 7	3.055	934	721	171 4	1 272	898	347	54.8	2 274	863	605	262 9	9943
1811	0	2.321	504	465	36.3	3.588	913	754	205.1	1.375	899	398	64 0	2.586	862	645	305.4	12308
1812	122	2 336	506	468	36.2	3.621	915	757	205 7	1 385	886	399	65.3	2 605	861	646	307.2	12413

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a. Test Points 1603 through 1612 and 1633 through 1642 of TAS-16 simulate typical engine operating conditions with the shield in sideline and community orientation, respectively. Test Points 1651, 1639 and 1645 yield variation in P_r^i (1.71, 2.28 and 3.03) for a fixed P_r^o ($\approx$ 3.04). The objective of these three test points is to determine, if any, the benefit of subsonic inner stream on front quadrant shock associated noise.

b. Test Points 1703 through 1712 of TAS-17 simulate typical engine operating conditions with shield in community orientation. The typical take-off Test Point 1709/1720 of this configuration has $V^i/V^o \approx$ 0.64 and $V^s/V^o \approx$ 0.83. The inner stream of this test point was modified during Test Point 1721/1722 to yield $V^i/V^o \approx V^s/V^o \approx$ 0.83 such that the effect of equal stress by the shield and inner streams on the primary outer stream can be determined.

c. Test Points 1803 through 1812 of TAS-18 simulate typical engine operating conditions with shield in community orientation.

3.3.3 Test Matrix for Suppressed Coannular Plug Nozzle With 360° Thermal Acoustic Shield (TAS-19)

Configuration TAS-19 employs a full 360° thermal acoustic shield of 1/2" thickness on the suppressor baseline coannular plug nozzle (TAS-15). The shield flow area of this configuration is equal to that of the 1" thick 180° partial shield of TAS-16 through TAS-18. This configuration was tested with the choke plates identical to those used with TAS-17 so that the shield to outer stream velocity and weight flow ratios of TAS-17 and TAS-19 are comparable.

The test matrix of this configuration is presented in Table 3-XII. The distribution of the test points is as follows:

Table 3-XII. Test Matrix for Suppressed Coannular Plug Nozzle with 360° TAS at $V_r \sim 0.83$; TAS-19 (English Units).

NOZZLE MODEL 19 , AREA (MODEL SIZE-INNER= 4 000,OUTER=19 900, SHIELD=17 770, FULL SIZE-TOTAL=1399) SQ.IN.

TEST POINT	V AC FPS	I P R	I T T DEG.R	I V FPS	I W PPS	O P R	O T T DEG.R	O V FPS	O W PPS	S P R	S T T DEG R	S V FPS	S W PPS	MIX P R	MIX T T DEG.R	MIX V FPS	W TOTAL PPS	THRUST TOTAL LBS
1903	0	1.678	817	1095	56.5	2.101	1379	1785	285 7	1.532	1369	1377	185 1	1.802	1315	1568	527.4	25703
1904	400	1.673	832	1102	55.8	2.110	1390	1798	284 8	1.561	1360	1400	190 4	1.817	1321	1582	531 0	26109
1905	0	1.751	830	1214	63.6	2.381	1477	1982	312.4	1.700	1465	1579	203.6	2.019	1402	1756	579.6	31639
1906	400	1.751	819	1206	64.0	2.376	1488	1988	309.4	1 727	1458	1596	207 7	2 027	1404	1762	581.0	31818
1907	0	1.871	871	1310	66.6	2.691	1563	2162	343 0	1.904	1546	1774	217 5	2.269	1483	1937	627.1	37746
1908	400	1.877	881	1320	66.4	2.701	1556	2161	344 2	1 945	1524	1788	223.2	2.292	1474	1941	633.8	38241
1909	0	2.278	905	1510	77.6	3.032	1649	2334	376.4	2.144	1631	1968	238.6	2.571	1559	2116	692.6	45543
1910	400	2.283	895	1503	77.9	3.042	1647	2335	376 3	2.189	1615	1983	243.8	2 595	1552	2119	698.0	45981
1911	0	2.324	896	1518	79.4	3 614	1658	2490	447 1	2 565	1643	2170	284.2	3.035	1578	2283	810.7	57515
1912	400	2.322	906	1526	78.7	3.613	1639	2475	448 6	2.607	1609	2164	291.2	3.054	1558	2273	818.5	57820
1921	0	3.018	1128	1916	91.8	3.045	1663	2348	375 9	2 155	1641	1981	238.7	2.662	1586	2168	706.4	47595
1922	400	3.033	1143	1933	91 3	3 043	1656	2342	375.1	2.188	1624	1987	242.7	2.677	1579	2168	709.1	47782

TEST POINT	T AMB DEG R	P AMB PSIA	RH PCT	I O V /V	S O V /V	S O W /W	LVM	LBM	NF DB	PNL (FULL SIZE,2400 FT.SIDELINE),DB ANGLE RELATIVE TO INLET,DEGREES 50	60	70	90	120	130	140	150
1903	493	14.333	49.	0.61	0.77	0.65	1.58	-10.00	-3 7	84.8	87 5	88.5	95.4	94.2	94.4	93.3	89.1
1904	496	14 282	42.	0.61	0 78	0.67	1.61	-10.00	-3.8	89 7	91 7	91 1	96.1	90 9	89 6	86 5	80.2
1905	494	14 326	43	0.61	0.80	0.65	2 07	-4.58	-4 3	87.4	90.5	91.9	98.0	96.6	98.0	97.9	95.1
1906	495	14.269	43.	0.61	0 80	0.67	2.08	-4.45	-4.3	91.7	94.5	94.1	98.6	94 0	92 7	90 5	84 5
1907	495	14.324	44.	0.61	0 82	0 63	2 49	-2 44	-5 0	89 8	92 5	93.7	99 9	99 2	101.5	101.8	99.4
1908	495	14.283	45.	0.61	0 83	0.65	2 50	-2 32	-5.1	93 0	95.8	95 4	99.8	97.0	95.1	94.7	90 3
1909	496	14 339	39	0.65	0 84	0.63	2.87	-1 28	-5.8	91 7	94 0	95.1	101.1	103.3	105.3	107.8	103 6
1910	495	14.277	43.	0.64	0.85	0.65	2 88	-1 21	-5 8	95 3	97 3	96 6	100.8	100.4	99.5	100.0	95.9
1911	496	14.311	41.	0.61	0.87	0.64	3 20	-0 30	-6 9	94.3	96.5	97 4	104.1	106.5	109.8	111.8	104.7
1912	495	14.275	42.	0 62	0.87	0.65	3.18	-0.27	-7 0	97 5	99 7	99.1	103.2	104 2	104.9	104.3	99.7
1921	495	14.318	46.	0.62	0 84	0.63	2 98	-1 06	-5.9	92 7	95 0	96.0	102 3	104 2	107.2	110.6	104.4
1922	496	14.262	39.	0.63	0.85	0.65	2 98	-1 02	-6 0	96 2	97 8	97.2	101.4	100.6	101.4	102.0	97.4

Table 3-XII. Test Matrix for Suppressed Coannular Plug Nozzle with 360° TAS at V_r 0.63; TAS-19 (International Units).

NOZZLE MODEL 19 , AREA (MODEL SIZE-INNER=0 0026,OUTER=0 0128,SHIELD=0 0115 , FULL SIZE-TOTAL=0.9031) SQ.METERS

TEST POINT	V AC MPS	I P R	I T T DEG.K	I V MPS	I W KG/S	O P R	O T T DEG K	O V MPS	O W KG/S	S P R	S T T DEG K	S V MPS	S W KG/S	MIX P R	MIX T T DEG K	MIX V MPS	W TOTAL KG/S	THRUST TOTAL N
1903	0	1.578	454	334	25 6	2.101	766	544	129 6	1.532	761	420	84.0	1.802	731	478	239.2	7146
1904	122	1.573	462	336	25.3	2.110	772	548	129.2	1.561	756	427	86.4	1.817	734	482	240.8	7259
1905	0	1.751	461	370	28 8	2.381	821	604	141.7	1.700	814	461	92.3	2.019	779	535	262.9	8796
1906	122	1 751	455	368	29.0	2.376	827	606	140 3	1.727	810	487	94.2	2.027	780	537	263 6	8846
1907	0	1.871	484	399	30.2	2 691	868	659	155 6	1 904	859	541	98 6	2 269	824	590	284.4	10494
1908	122	1.877	489	402	30.1	2.701	865	659	156.1	1.945	847	545	101.2	2.292	819	592	287.5	10632
1909	0	2.278	503	460	35 2	3 032	916	711	170.8	2 144	906	600	108 2	2.571	866	645	314.2	12662
1910	122	2.283	497	458	35.3	3 042	915	712	170 7	2 189	897	604	110 6	2 595	862	646	316.6	12783
1911	0	2.324	498	463	36.0	3.614	921	759	202 8	2 565	913	662	128.9	3.035	877	696	367.7	15990
1912	122	2.322	503	465	35.7	3.613	911	754	203.5	2.607	894	659	132.1	3.054	866	693	371.3	16075
1921	0	3.018	627	584	41 7	3.045	924	716	170 5	2 155	912	604	108.3	2.662	881	661	320.4	13232
1922	122	3.033	635	589	41.4	3.043	920	714	170 2	2.188	902	606	110.1	2.677	877	661	321.7	13284

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a. Test Points 1903 through 1912 simulate typical engine operating conditions with shield to outer stream velocity ratio of 0.83 at takeoff.

b. Typical takeoff Test Point 1909/1910 has $V^i/V^o \approx 0.65$ and $V^s/V^o \approx 0.83$. The inner stream was modified for Test Point 1921/1922 to yield $V^i/V^o \approx V^s/V^o \approx 0.83$.

4.0 ACOUSTIC TEST DATA

The far-field acoustic data measured with the test nozzles described in Section 2.0 at each of the test conditions defined in Section 3.0 are presented in this section. A brief description of the acoustic tables is provided in Subsection 4.1. This is followed by the acoustic data tables that are presented under Subsection 4.2.

A summary of the acoustic data acquisition and reduction procedures along with a brief description of the General Electric's Anechoic Test Facility is provided in the comprehensive data report on the single flow thermal acoustic study of this program*.

4.1 Description of Acoustic Data Tables

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

SAMPLE SHEET	SIZE	EXTRAPOLATED DISTANCE	TYPE OF DATA
Table 4-I	Actual Size	12.2m (40 ft.) Arc	Untransformed, but corrected for background noise and standard day (15° C and 75% relative humidity, Shield and Bass air attenuation model).

*"Free Jet Feasibility Study of a Thermal Acoustic Shield Concept for AST/VCE Application - Single Flow", Comprehensive Data Report, Volumes I and II by Majjigi, R.K., Brausch, J.F., Janardan, B.A., Hoerst, D.J., Price, A.O. and Knott, P.R., R82AEB493, July 1982. (NASA CR-168302)

TABLE 4-I. DESCRIPTION OF ACOUSTIC DATA SHEET - PAGE 1 OF TEST POINT DATA SET

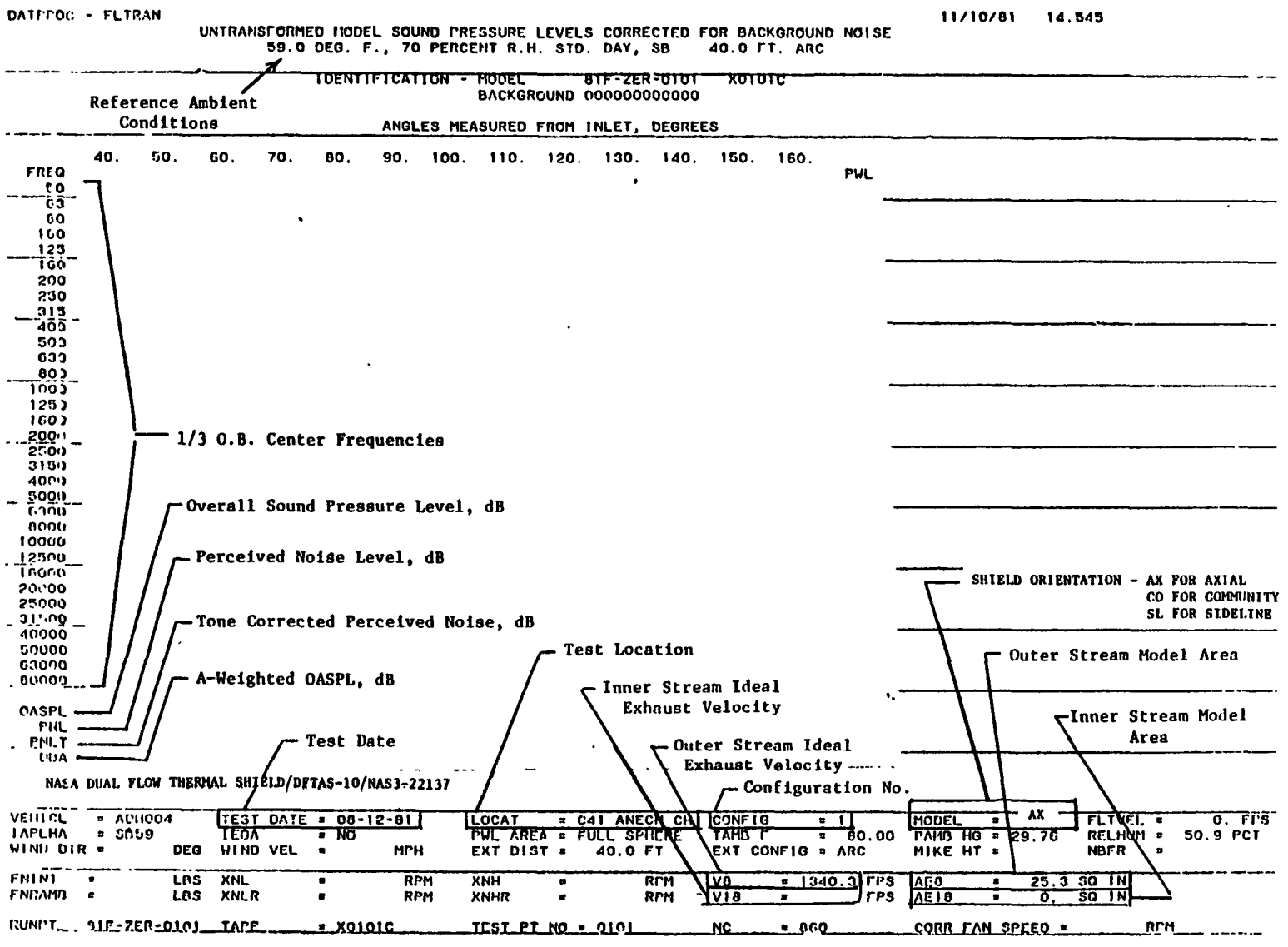


TABLE 4-II. DESCRIPTION OF ACOUSTIC DATA SHEET - PAGE 2 OF TEST POINT DATA SET

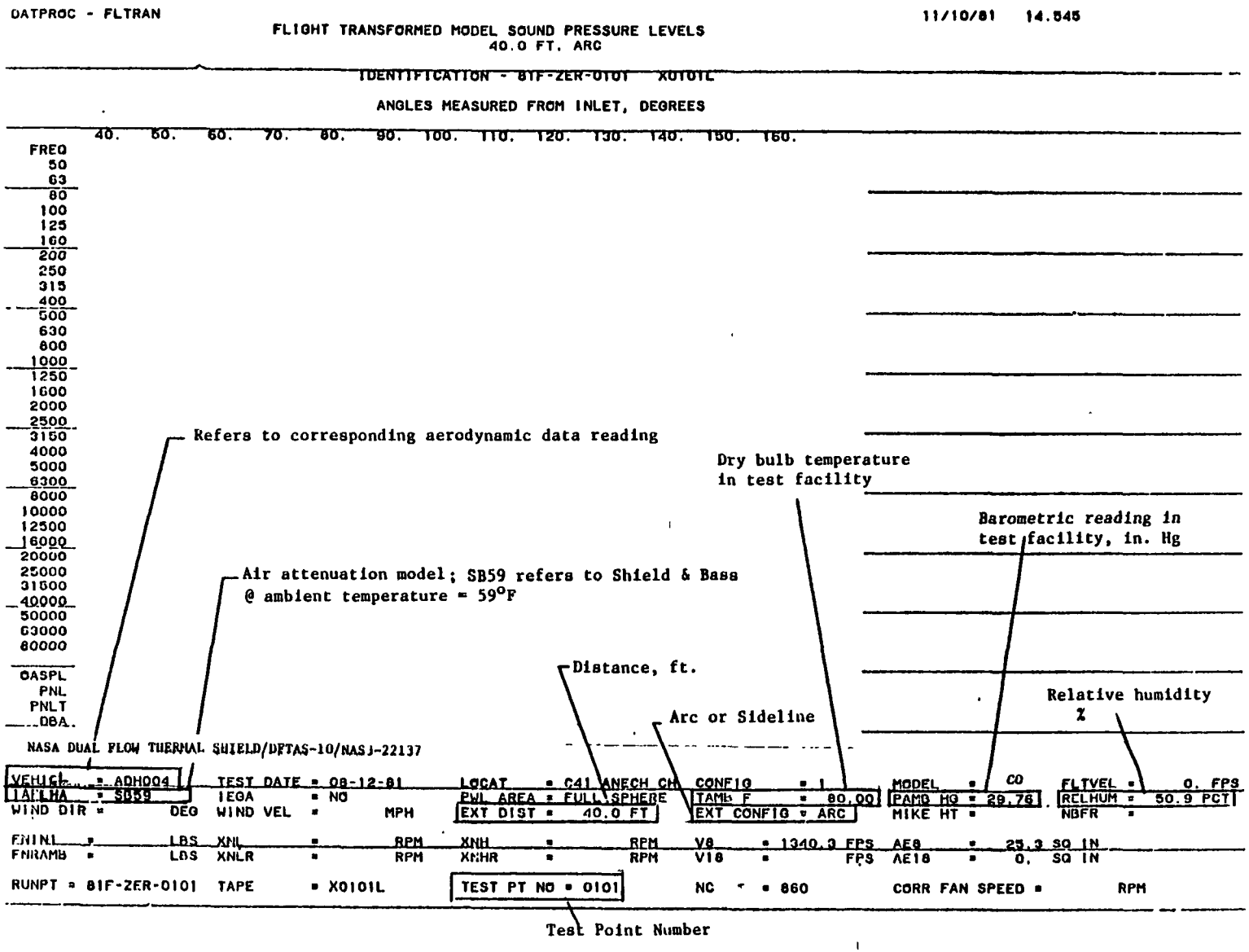
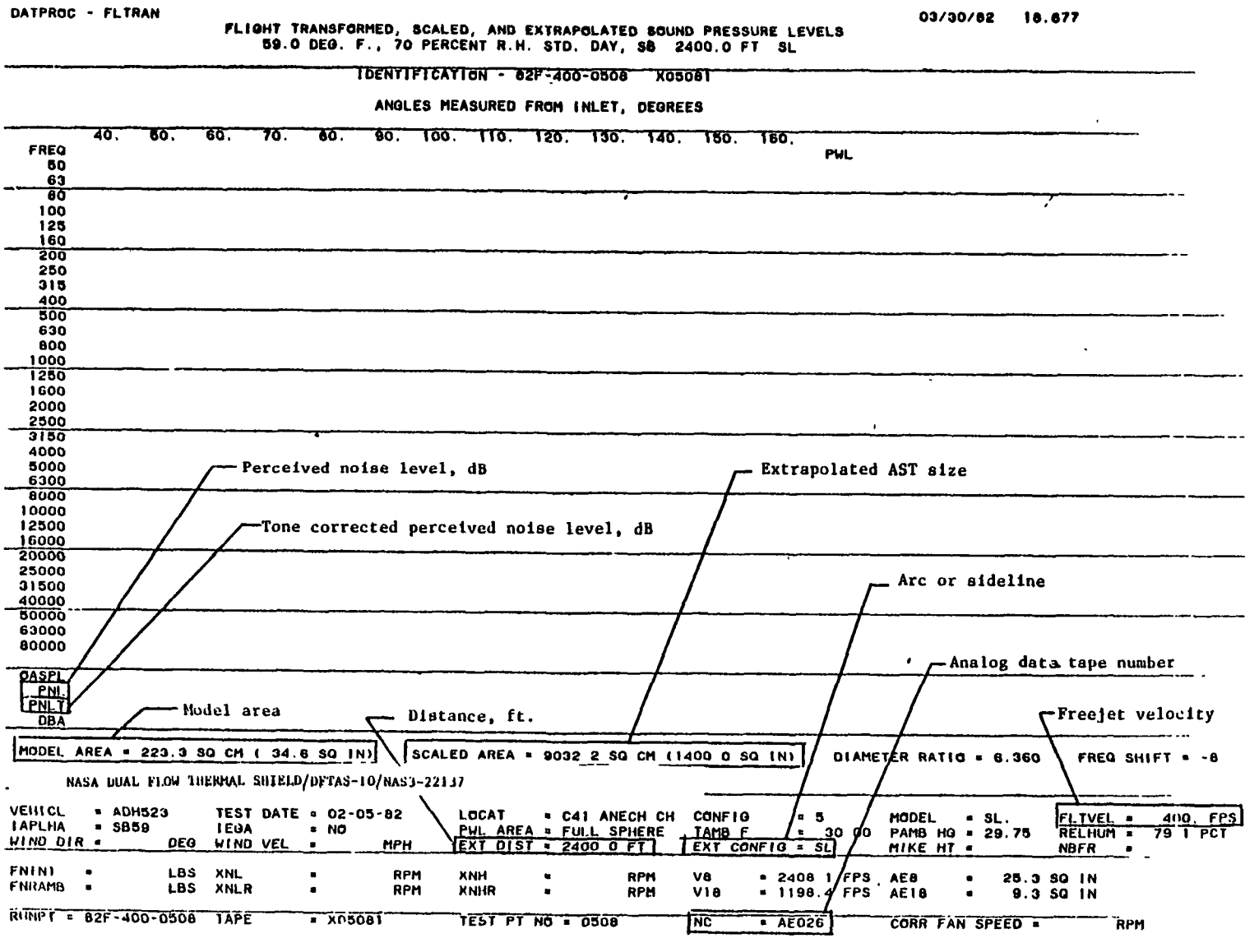


TABLE 4-III. DESCRIPTION OF ACOUSTIC DATA SHEET - PAGE 3 OF TEST POINT DATA SET



SAMPLE SHEET	SIZE	EXTRAPOLATED DISTANCE	TYPE OF DATA
Table 4-II	Actual Model	12.2m (40 ft.) Arc	Flight-transformed model data. Refraction and turbulence corrections applied. (For static test points, this is identical to untransformed, but corrected for background standard day data).
Table 4-III	0.9032m^2	731.5m (2400 ft.) Sideline	Flight-tranformed model data that is scaled and extrapolated to a typical AST case.

The far-field acoustic data provided in these tables consist of 1/3-octave-band sound pressure levels (SPL, Reference 20 N/m^2) and overall sound pressure levels (OASPL) at angles to the inlet of 40^o through 160^o (in 10^o increments). In addition, the perceived noise level (PNL), the tone corrected perceived noise level (PNLT) and A-weighted overall sound pressure level (dBA) have been computed at each of the microphone angles and are presented.

4.2 Acoustic Data of Unsuppressed Coannular Plug Nozzles

For easy reference, the scope of acoustic tests with the unsuppressed coannular configurations summarized in Table 3-I is repeated in Table 4-IV and the acoustic test points associated with each of the test configurations identified.

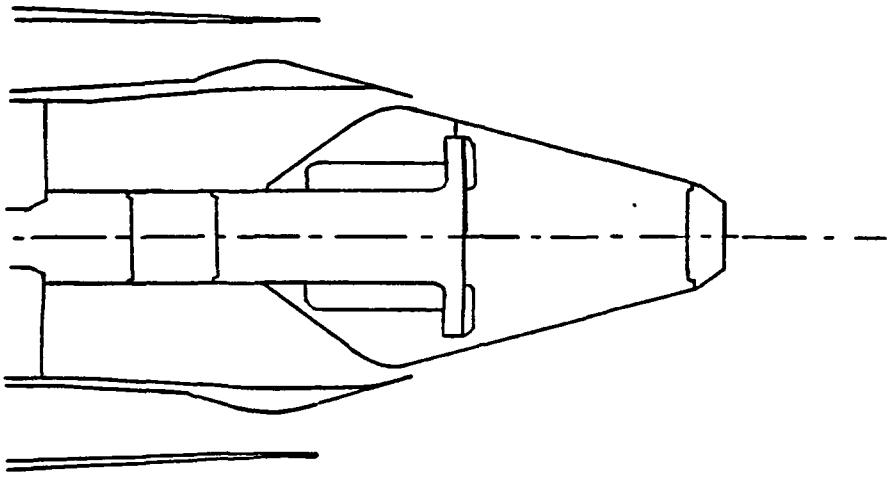
The acoustic data are presented in Subsections 4.2.1 through 4.2.3.

Table 4-IV. IDENTIFICATION OF ACOUSTIC TEST POINTS OF UNSUPPRESSED COANNULAR PLUG NOZZLES.

BASELINE NOZZLE	SHIELD		TEST POINTS		V^s/V^o	CONFIG. NAME	ACOUSTIC TEST POINTS
	TYPE	ORIENT.	STATIC	FLIGHT			
Unsuppressed Coannular Plug Nozzle	No Shield	-	14	7	0.0	TAS-10	1001 thru 1012 1013, 1015, 1017, 1019, 1021, 1022, 1023, 1025,1027
	180^o Partial Shield	Sideline	5	5	0.64	TAS-11	1103-1112
		Community	5	5			1133-1142
		Sideline	6	7	0.83	TAS-12	1203-1212 1220, 1221, 1222
	360^o Full Shield	Axi-Symmetric	7	6	0.83	TAS-14	1403- 1412 1415, 1421, 1422

NOTE: The Shield to Outer Stream Velocity Ratios of This Table Correspond to a Typical Takeoff Condition of $P_r^o \sim 3.025$, $T_T^o \sim 1640^oR$, $P_r^i \sim 2.28$, $T_T^i \sim 880^oR$.

4.2.1 Acoustic Data of Unsuppressed Baseline Coannular Plug Nozzle (TAS-10).



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 83F-ZER-1001 X1001C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.1	80.2	80.4	76.7	75.6	78.7	77.8	83.0	79.9	80.7	83.9	87.3	81.5	123.0
63	88.3	87.5	80.8	84.4	82.2	86.6	86.5	92.6	86.1	84.6	86.3	91.7	88.4	130.2
80	82.3	88.6	84.3	82.6	82.2	87.8	87.0	87.1	86.8	88.4	90.5	91.2	74.4	129.1
100	81.7	88.2	84.9	83.8	85.4	88.8	88.1	89.8	87.8	91.1	93.2	95.9	77.8	131.2
125	79.9	84.9	87.4	86.2	87.3	89.7	89.3	89.0	89.2	92.3	98.4	100.6	83.0	134.1
160	80.2	80.0	85.0	81.3	83.1	86.7	95.6	87.8	88.0	92.6	97.9	100.6	88.8	134.3
200	80.8	82.8	86.3	82.4	84.5	87.6	90.2	91.4	92.1	94.1	99.5	104.2	91.9	136.2
250	78.8	86.3	85.6	82.6	85.0	89.3	90.2	92.1	94.1	99.2	104.0	107.5	95.1	139.6
315	81.6	85.1	86.6	84.9	87.3	90.4	92.3	93.2	94.6	100.0	105.1	108.3	98.9	140.6
400	81.1	85.1	86.4	84.7	86.5	89.4	100.5	94.4	96.9	102.9	106.6	109.5	100.2	142.5
500	82.3	86.1	86.9	85.2	87.0	90.9	91.5	94.2	96.9	103.2	106.8	109.0	100.9	142.1
630	82.3	86.1	87.1	85.9	88.2	91.8	93.0	95.4	97.6	103.7	107.5	108.2	101.1	142.2
800	84.3	86.1	87.6	86.4	88.8	92.4	93.0	96.2	98.9	103.7	105.8	106.0	101.2	141.2
1000	87.8	90.3	90.3	88.1	89.7	93.3	93.4	97.6	99.6	103.6	105.5	103.9	100.1	140.9
1250	85.4	90.5	90.0	88.9	90.6	94.0	93.9	97.5	99.5	102.8	103.7	103.4	99.8	140.2
1600	86.6	88.7	89.7	88.3	90.5	94.7	95.5	98.3	100.4	102.0	104.6	102.8	100.4	140.4
2000	87.6	89.6	89.8	88.4	90.2	93.6	95.3	98.4	99.8	102.6	103.6	102.4	101.1	140.2
2500	86.5	89.3	89.8	88.3	91.0	93.8	94.5	98.1	99.5	101.8	102.3	100.8	100.1	139.5
3150	86.6	88.9	89.5	88.2	90.1	93.9	95.0	97.7	100.8	100.7	100.9	99.0	98.2	138.9
4000	85.6	87.7	89.1	87.2	89.9	93.4	94.5	97.6	98.7	99.0	98.9	98.5	98.0	137.9
5000	84.7	88.2	88.3	86.9	89.4	93.1	93.3	97.1	98.1	99.3	98.3	97.3	98.1	137.6
6300	83.7	87.3	87.4	86.7	89.0	92.7	93.2	96.4	97.5	97.2	97.4	97.1	98.1	137.0
8000	81.9	85.3	86.3	85.5	87.9	91.4	92.4	95.0	96.0	95.7	96.1	95.5	97.1	136.1
10000	81.1	85.0	86.5	85.5	87.6	91.4	91.6	94.4	95.9	94.6	94.9	95.2	95.8	136.0
12500	79.2	82.7	84.5	83.9	86.4	90.1	90.5	92.7	94.1	93.5	93.5	93.9	94.9	135.4
16000	77.0	82.5	83.0	83.2	84.2	88.2	89.0	91.7	92.6	90.9	91.8	91.5	91.9	135.0
20000	75.5	79.8	81.4	80.9	82.1	86.1	86.7	88.6	89.5	88.3	88.7	89.5	89.0	134.1
25000	73.1	77.1	78.9	79.2	79.8	84.4	84.3	83.9	86.6	85.3	85.6	86.9	86.3	133.6
31500	70.0	74.1	75.4	77.1	76.9	81.1	80.0	80.8	82.9	81.8	82.3	82.2	82.2	133.1
40000	65.7	69.8	72.3	72.7	73.3	77.7	76.5	76.5	78.6	78.4	78.9	78.6	77.5	133.4
50000	60.3	64.2	66.3	67.1	68.1	72.9	71.3	71.1	73.2	72.3	73.3	72.9	70.9	132.2
63000	55.3	58.9	61.4	61.5	62.1	67.6	65.2	65.3	68.1	65.8	68.5	66.2	63.8	131.9
80000	50.2	52.4	54.4	54.1	55.6	61.4	58.3	58.9	60.6	59.1	61.0	58.9	55.2	131.8
OASPL	98.2	101.3	101.9	100.2	102.1	105.7	107.6	109.4	111.0	114.0	116.5	117.7	112.0	153.1
PNL	110.8	113.6	114.2	112.8	114.7	118.4	119.7	122.1	124.2	125.7	127.1	127.0	123.9	
PNLT	110.8	113.6	114.2	113.4	115.2	118.4	121.1	122.1	124.2	125.7	127.1	127.0	123.9	
DBA	97.2	100.1	100.6	99.2	101.3	104.9	106.1	108.8	110.7	113.2	115.0	115.0	111.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH127 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 51.41 PAMB HG = 29.25 RELHUM = 40.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1091.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1603.9 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1001 TAPE = X1001C TEST PT NO = 1001 NC = AE090 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 - 83F-ZER-1001 X1001F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.1	80.2	80.4	76.7	75.6	78.7	77.8	83.0	79.9	80.7	83.9	87.3	81.5	123.0
63	88.3	87.5	90.6	84.4	82.2	86.6	86.5	92.6	86.1	84.6	86.3	91.7	88.4	130.2
80	82.3	88.6	84.3	82.6	82.2	87.8	87.0	87.1	86.8	88.4	90.5	91.2	74.4	129.1
100	81.7	88.2	84.0	83.8	85.4	88.8	88.1	89.8	87.8	91.1	93.2	95.9	77.8	131.2
125	79.9	84.9	87.4	86.2	87.3	89.7	89.3	89.0	89.2	92.3	98.4	100.6	83.0	134.1
160	80.2	80.0	85.0	81.3	83.1	86.7	95.6	87.8	88.0	92.6	97.9	100.6	88.8	134.3
200	80.8	82.8	86.3	82.4	84.5	87.6	90.2	91.4	92.1	94.1	99.5	104.2	91.9	136.2
250	78.8	86.3	85.6	82.6	85.0	89.3	90.2	92.1	94.1	99.2	104.0	107.5	95.1	139.6
315	81.6	85.1	86.6	84.9	87.3	90.4	92.3	93.2	94.6	100.0	105.1	108.3	98.9	140.6
400	81.1	85.1	86.4	84.7	86.5	89.4	100.5	94.4	96.9	102.9	106.6	109.5	100.2	142.5
500	82.3	86.1	86.9	85.2	87.0	90.9	91.5	94.2	96.9	103.2	106.8	109.0	100.9	142.1
630	82.3	86.1	87.1	85.9	88.2	91.8	93.0	95.4	97.6	103.7	107.5	108.2	101.1	142.2
800	84.3	86.1	87.6	86.4	88.8	92.4	93.0	96.2	98.9	103.7	105.8	106.0	101.2	141.2
1000	87.8	90.3	90.3	88.1	89.7	93.3	93.4	97.6	99.6	103.6	105.5	103.9	100.1	140.9
1250	85.4	90.5	90.0	88.9	90.6	94.0	93.9	97.5	99.5	102.8	103.7	103.4	99.8	140.2
1600	86.6	88.7	89.7	88.3	90.5	94.7	95.5	98.3	100.4	102.0	104.6	102.8	100.4	140.4
2000	87.6	89.6	89.8	88.4	90.2	93.6	95.3	98.4	99.8	102.6	103.6	102.4	101.1	140.2
2500	86.5	89.3	89.8	88.3	91.0	93.8	94.5	98.1	99.5	101.8	102.3	100.8	100.1	139.5
3150	86.6	88.9	89.5	88.2	90.1	93.9	95.0	97.7	100.8	100.7	100.9	99.0	98.2	138.9
4000	85.6	87.7	89.1	87.2	89.9	93.4	94.5	97.6	98.7	99.0	98.9	98.5	98.0	137.9
5000	84.7	88.2	88.3	86 9	89.4	93.1	93.3	97.1	98.1	99.3	98.3	97.3	98.1	137.6
6300	83.7	87.3	87.4	86.7	89.0	92.7	93.2	96.4	97.5	97.2	97.4	97.1	98.1	137.0
8000	81.9	85.3	86.3	85.5	87.9	91.4	92.4	95.0	96.0	95.7	96.1	95.5	97.1	136.1
10000	81.1	85.0	86.5	85.5	87.6	91.4	91.6	94.4	95.9	94.6	94.9	95.2	95.8	136.0
12500	79.2	82.7	84.5	83.9	86.4	90.1	90.5	92.7	94.1	93.5	93.5	93.9	94.9	135.4
16000	77.0	82.5	83.0	83 2	84.2	88.2	89.0	91.7	92.6	90.9	91.8	91.5	91.9	135.0
20000	75.5	79.8	81.4	80.9	82.1	86.1	86.7	88.6	89.5	88.3	88.7	89.5	89.0	134.1
25000	73.1	77.1	78.9	79.2	79.8	84.4	84.3	83.9	86.6	85.3	85.6	86.9	86.3	133.6
31500	70.0	74.1	75.4	77.1	76.9	81.1	80.0	80.8	82.9	81.8	82.3	82.2	82.2	133.1
40000	65.7	69.8	72.3	72.7	73.3	77.7	76.5	76.5	78.8	78.4	78.9	78.6	77.5	133.4
50000	60.3	64.2	66.3	67.1	68.1	72.9	71.3	71.1	73.2	72.3	73.3	72.9	70.9	132.2
63000	55.3	58.9	61.4	61.5	62.1	67.6	65.2	65.3	68.1	65.8	68.5	66.2	63.8	131.9
80000	50.2	52.4	54.4	54.1	55.6	61.4	58.3	58.9	60.6	59.1	61.0	58.9	55.2	131.8
OASPL	98.2	101.3	101.9	100.2	102.1	105.7	107.6	109.4	111.0	114.0	116.5	117.7	112.0	153.1
PNL	110.8	113.6	114.2	112.8	114.7	118.4	119.7	122.1	124.2	125.7	127.1	127.0	123.9	
PNLT	110.8	113.6	114.2	113.4	115.2	118.4	121.1	122.1	124.2	125.7	127.1	127.0	123.9	
DBA	171.9	174.6	176.8	176.7	177.9	183.5	180.8	181.1	183.2	181.6	183.6	181.7	178.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH127 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 51.41 PAMB HG = 29.85 RELHUM = 40.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1091.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1603.9 FPS AE18 = 23.4 SQ IN

JNPT 83F-ZER-1001 TAPE = X1001F TEST PT = 1001 NC AE CORR SP RP

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

IDENTIFICATION - 83F-ZER-1001 X10011

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	59.1	64.2	66.8	65.8	68.5	71.8	73.5	74.0	74.8	79.0	82.6	83.6	70.9	157.6
63	58.6	64.1	66.5	65.5	67.7	70.7	71.7	75.2	77.0	82.0	84.1	84.8	72.1	159.5
80	59.8	65.1	67.0	66.0	68.2	72.2	72.7	75.0	77.0	82.2	84.3	84.3	72.8	159.0
100	59.7	65.0	67.1	66.6	69.4	73.1	74.1	76.1	77.6	82.6	84.9	83.4	72.8	159.2
125	61.6	65.0	67.6	67.1	69.9	73.6	74.1	76.9	78.8	82.6	83.1	81.0	72.6	158.2
160	64.8	69.0	70.1	68.6	70.7	74.4	74.4	78.1	79.4	82.3	82.6	78.7	71.2	157.9
200	62.2	68.9	69.6	69.2	71.4	74.9	74.7	77.9	79.1	81.3	80.5	77.8	70.4	157.1
250	63.1	66.9	69.0	68.4	71.1	75.4	76.1	78.4	79.8	80.2	81.1	76.7	70.4	157.4
315	63.6	67.4	68.8	68.3	70.6	74.1	75.7	78.3	78.8	80.4	79.6	75.8	70.3	157.2
400	62.0	66.7	68.5	67.8	70.9	74.0	74.5	77.6	78.2	79.2	77.8	73.6	68.2	156.4
500	61.6	65.9	67.8	67.4	69.7	73.7	74.7	76.9	79.1	77.6	75.9	71.1	65.3	155.9
630	60.1	64.3	67.0	66.1	69.3	72.9	73.9	76.4	76.7	75.5	73.4	69.8	64.0	154.8
800	58.6	64.2	65.8	65.4	68.5	72.3	72.3	75.6	75.7	75.4	72.2	67.8	62.8	154.6
1000	57.0	62.9	64.6	64.9	67.7	71.6	72.0	74.6	74.7	72.8	70.7	66.8	61.5	154.0
1250	54.5	60.4	63.1	63.3	66.3	70.0	70.8	72.8	72.8	70.8	68.7	64.2	58.9	153.0
1600	52.6	59.2	62.6	62.7	65.5	69.4	69.5	71.6	71.9	68.9	66.4	62.3	55.0	153.0
2000	49.1	55.8	59.7	60.3	63.6	67.6	67.6	69.1	69.3	66.6	63.5	58.8	50.6	152.4
2500	44.8	54.0	56.8	58.6	60.5	64.7	65.3	67.1	66.5	62.4	59.6	53.2	42.3	152.0
3150	39.3	48.2	52.8	54.1	56.3	60.7	60.9	61.8	60.9	56.7	52.5	45.7	30.3	151.0
4000	29.9	40.0	45.7	48.4	50.3	55.3	54.8	53.0	53.4	48.3	42.4	33.3	12.3	150.5
5000	16.2	28.6	35.1	40.0	41.6	46.3	44.7	43.7	42.6	36.3	28.5	14.1		150.1
6300		9.7	19.5	24.4	27.5	32.7	30.7	28.3	26.1	18.3	6.9			150.3
8000					3.2	9.2	6.4	2.6						149.2
10000														148.9
12500														148.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	73.0	77.7	79.6	79.0	81.6	85.2	87.2	88.5	89.6	91.9	92.8	91.5	81.7	169.8
PNL	76.7	82.2	84.6	84.6	87.4	91.4	92.0	94.0	94.9	95.1	94.5	91.4	83.1	
PNLT	76.7	82.2	84.6	84.6	87.9	91.9	92.6	94.6	94.9	95.1	94.5	91.4	83.1	
DBA	66.8	71.9	74.1	73.9	76.7	80.5	81.0	83.5	84.1	83.5	82.1	78.3	72.1	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.086 FREQ SHIFT = -6

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH127 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 51.41 PAMB HG = 28.25 RELHUM = 40.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FN1N1 = LBS XNL = RPM XNH = RPM V8 = 1091.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1603.9 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1001 TAPE = X10011 TEST PT NO = 1001 NC = AE090 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 83F-400-1002 X1002C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.2	81.2	77.7	74.3		77.8	76.7	82.0	79.7	81.3	85.4	90.0		123.4
63			87.6			84.6	83.3	90.1	86.4		86.8	93.0		127.5
80	81.3	86.7	83.1	81.2	78.2	86.5	85.3	86.0	88.2		86.5	89.5		127.3
100	79.9	85.5	82.0	79.9	79.0	85.7	84.9	86.7	85.8	86.8	89.1	93.8		128.1
125	77.9	80.8	83.4	81.4	80.8	86.1	85.2	85.2	86.0	86.7	93.3	97.0		129.9
160		75.8	81.4	77.0	74.1	81.5	89.7	84.5	86.6	87.8	93.9	97.1		130.1
200			81.9	75.8		81.7	83.5	86.9	89.2	88.5	94.2	99.9	87.5	131.5
250	73.1	78.0	79.1	77.1	76.7	82.5	84.1	85.9	88.8	93.3	98.8	102.0	89.5	134.1
315			79.7			83.4	84.2	87.9	89.5	93.8	99.6	102.3	91.6	134.6
400	75.7	78.7	79.6	77.8	77.7	83.6		87.2	90.8	96.6	101.1	102.5	90.3	135.6
500	76.8	79.2	80.7	78.5	78.3	84.2	85.6	88.1	91.1	97.7	101.6	100.8	87.2	135.5
630	76.7	79.7	80.7	79.2	79.9	85.7	86.9	88.8	91.6	98.1	102.0	98.5	84.5	135.4
800	78.4	79.8	81.3	79.9	79.7	86.5	87.2	90.1	93.1	98.2	100.6	95.5	83.0	134.6
1000	80.4	80.7	82.2	80.7	81.0	87.2	87.9	91.8	93.8	97.9	99.8	92.7	84.1	134.3
1250	78.8	82.6	82.7	81.5	81.2	87.4	88.3	91.2	94.2	97.3	97.4	90.8	82.3	133.3
1600	79.5	81.4	82.3	82.2	82.4	88.6	89.2	92.5	95.1	97.2	97.1	89.5	82.3	133.6
2000	80.0	80.5	82.2	81.3	81.5	87.8	89.5	92.8	94.7	97.2	96.3	88.3	82.2	133.4
2500	79.8	81.7	82.7	81.4	82.2	88.7	88.9	92.5	94.4	96.7	95.0	87.2	82.3	132.9
3150	79.7	81.0	82.8	81.7	81.4	87.9	89.6	92.1	95.4	96.0	93.8	86.4	80.5	132.7
4000	79.4	80.8	82.6	80.8	81.9	87.6	89.3	91.6	93.8	93.7	92.2	85.5	80.4	131.5
5000	80.2	81.1	82.3	80.8	81.9	88.3	89.2	91.6	93.4	93.9	91.6	85.3	79.5	131.6
6300	78.6	80.7	82.0	80.7	81.3	87.5	88.0	91.5	92.1	91.6	90.5	85.0	79.0	130.7
8000	78.5	79.5	81.3	80.4	80.4	86.6	87.4	89.2	90.8	90.8	89.1	83.5	78.9	129.9
10000	78.1	80.2	81.4	80.4	80.6	86.5	87.3	89.3	90.8	90.6	88.1	83.7	78.6	130.3
12500	77.4	78.7	80.0	78.9	79.4	85.8	85.9	87.6	89.1	87.7	86.4	83.4	78.3	129.5
16000	76.3	78.2	78.9	79.3	77.7	83.8	84.9	86.3	87.8	85.1	84.7	81.7	76.3	129.3
20000	75.3	76.8	77.7	76.8	75.4	82.1	83.2	83.4	85.1	82.4	81.5	79.1	74.0	128.7
25000	73.2	74.8	75.8	75.3	73.8	80.0	80.9	79.4	82.0	79.7	78.3	76.9	71.3	128.4
31500	70.4	71.8	72.8	73.4	71.4	77.1	76.8	76.4	78.3	75.8	75.0	73.2	66.8	128.2
40000	66.6	68.8	69.9	70.2	68.0	74.4	74.0	73.1	74.3	71.8	71.8	69.8	63.1	128.9
50000	61.9	62.8	64.1	65.0	63.6	69.7	68.6	67.7	69.1	66.4	66.6	63.9	57.2	128.1
63000	56.7	57.7		59.6	57.6	64.6	62.9	62.8	64.0	60.2	61.7	58.3	51.2	127.9
80000	48.5	48.8		52.6		58.9	55.8	56.6	57.3		53.1	50.8	42.6	127.5
OASPL	92.4	95.0	96.3	94.1	93.9	100.4	101.3	103.9	105.9	108.5	110.7	110.3	98.2	147.0
PNL	103.9	105.8	108.0	106.0	105.9	112.8	113.7	116.6	119.1	120.4	120.7	117.9	107.1	
PNLT	110.5	112.5	108.0	112.7	112.6	112.8	120.4	116.6	119.1	127.1	120.7	117.9	107.1	
DBA	90.9	92.5	93.8	92.6	92.9	99.2	100.1	103.1	105.4	107.9	108.8	105.3	95.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH142 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.96 PAMB HG = 29.08 RELHUM = 64.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1130.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1621.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1002 TAPE = X1002C TEST PT NO = 1002 NC = AE090 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 - 83F-400-1002 X1002F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	81.5	84.7	84.2	80.4	78.4	82.5	82.7	83.0	87.3	91.0	96.6	100.0	91.5	132.4
315	81.5	84.7	84.2	80.4	79.0	83.6	83.2	86.0	88.5	93.8	98.2	100.8	91.5	133.6
400	82.0	84.7	84.6	80.8	79.5	83.9	83.9	85.1	88.7	94.8	98.7	99.5	89.8	133.5
500	83.0	84.9	84.4	81.1	80.1	84.5	84.6	85.7	89.2	95.3	99.4	97.9	88.9	133.4
630	83.9	85.2	85.4	81.8	81.8	86.1	85.8	86.4	91.2	95.8	98.5	96.2	90.0	133.2
800	84.4	86.1	85.7	82.7	81.7	87.1	86.2	87.8	92.5	96.2	98.8	95.1	94.1	133.6
1000	86.1	86.2	86.3	83.5	83.1	87.9	87.1	89.7	92.9	95.7	96.4	93.1	92.1	132.9
1250	88.1	87.2	87.3	84.3	83.5	88.2	87.6	89.2	94.0	95.8	96.2	91.9	92.1	133.1
1600	86.5	89.1	87.8	85.2	84.8	89.6	88.7	90.7	93.9	96.1	95.7	91.0	92.4	133.4
2000	87.1	87.9	87.6	86.0	84.2	89.1	89.3	91.3	94.1	96.1	95.0	90.7	93.3	133.4
2500	87.6	87.1	87.5	85.3	85.7	90.3	89.2	91.5	95.6	95.8	94.0	89.9	91.3	133.5
3150	90.2	90.5	89.9	86.7	85.2	90.0	90.4	91.5	95.2	94.7	93.9	90.6	93.1	133.8
4000	90.1	90.0	90.1	87.2	86.2	90.2	91.1	92.2	94.9	95.0	93.2	90.4	92.4	133.9
5000	89.8	89.7	90.1	86.6	86.5	91.3	91.3	92.3	94.1	93.4	92.9	90.9	92.6	133.8
6300	90.5	90.1	89.8	86.8	85.9	90.5	90.3	92.6	93.2	93.0	92.0	89.9	92.7	133.6
8000	88.7	89.5	89.4	86.5	85.0	89.6	89.6	90.5	93.5	93.1	91.3	90.3	92.7	133.5
10000	88.4	88.2	88.6	86.1	85.2	89.5	89.6	90.6	92.8	91.3	90.5	90.6	92.5	133.5
12500	87.8	88.6	88.4	85.7	84.0	88.8	88.3	89.4	92.1	89.3	89.5	89.5	91.2	133.4
16000	86.6	86.5	86.4	83.8	81.7	86.8	87.4	88.2	90.0	87.1	86.4	86.9	88.7	132.8
20000	82.2	83.4	83.2	82.6	79.5	85.1	85.7	85.3	87.2	84.6	83.4	84.9	86.0	132.0
25000	80.6	81.4	81.4	79.5	77.8	83.0	83.2	81.1	84.6	81.9	81.5	82.6	83.1	131.9
31500	77.7	78.6	78.7	77.2	75.4	80.1	79.3	78.3	81.2	78.5	78.9	79.7	79.8	132.0
40000	74.1	74.7	74.9	74.5	72.1	77.4	76.3	74.7	76.6	73.7	74.4	74.7	74.9	132.2
50000	69.9	71.3	71.6	70.9	68.2	72.7	70.9	69.5	72.6	68.9	71.0	70.7	70.5	132.4
63000	67.1	66.7	66.5	65.9	62.2	67.6	65.4	64.8	67.2	63.5	64.1	65.1	64.0	132.5
80000	60.4	60.1	59.7	59.0	55.4	61.9	58.0	58.2	57.4	53.7	54.3	55.3	54.2	132.1
OASPL	100.3	100.8	100.7	97.9	96.9	101.5	101.4	102.8	105.8	107.2	108.6	107.8	104.8	147.2
PNL	112.7	113.2	112.9	110.0	109.1	113.5	113.7	115.1	118.1	119.0	118.8	116.4	116.7	
PNLT	112.7	113.2	112.9	110.0	109.1	113.5	113.7	115.1	118.1	119.0	118.8	116.4	117.7	
DBA	182.4	182.3	182.0	181.3	177.8	183.7	180.6	180.4	181.2	177.6	178.4	179.1	178.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH142 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.96 PAMB HG = 29.00 RELHUM = 64.0 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 = 1130.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1621.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1002 TAPE = X1002F TEST PT NO = 1002 NC = AE090 CORR FAN SPEED = RPM

ORIGINAL PAGE IS OF POOR QUALITY

83

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

IDENTIFICATION - 83F-400-1002 X10021

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	59.0	63.8	64.3	61.3	60.3	65.0	64.5	66.8	68.6	72.9	75.7	76.1	63.5	150.6
63	59.5	63.7	64.8	61.6	60.7	65.3	65.1	65.9	68.8	73.8	76.2	74.8	61.8	150.4
80	60.4	63.9	64.5	61.9	61.3	65.9	65.8	66.5	69.3	74.3	76.8	73.1	60.7	150.4
100	61.2	64.2	65.5	62.5	63.0	67.4	67.0	67.1	71.2	74.8	75.9	71.3	61.6	150.2
125	61.7	64.9	65.6	63.4	62.8	68.3	67.3	68.5	72.4	75.1	76.0	70.1	65.5	150.6
160	63.2	64.9	66.1	64.1	64.1	69.0	68.0	70.2	72.7	74.3	73.4	67.9	63.2	149.9
200	64.9	65.6	66.9	64.7	64.3	69.2	68.4	69.6	73.7	74.2	73.0	66.3	62.7	150.1
250	63.0	67.3	67.2	65.4	65.4	70.4	69.3	70.9	73.3	74.3	72.1	65.0	62.3	150.4
315	63.2	65.8	66.6	65.9	64.5	69.5	69.6	71.2	73.2	73.9	71.0	64.1	62.4	150.4
400	63.1	64.5	66.2	64.8	65.7	70.5	69.2	71.0	74.3	73.2	69.5	62.6	59.4	150.4
500	65.3	67.5	68.2	65.9	64.9	69.8	70.0	70.7	73.5	71.7	68.9	62.6	60.2	150.8
630	64.5	66.5	68.0	66.1	65.5	69.7	70.4	71.0	72.8	71.6	67.7	61.7	58.4	150.9
800	63.6	65.8	67.6	65.1	65.6	70.5	70.4	70.8	71.7	69.4	66.8	61.4	57.3	150.8
1000	63.8	65.8	67.0	65.0	64.7	69.4	69.0	70.8	70.4	68.6	65.3	59.6	56.2	150.6
1250	61.4	64.6	66.2	64.4	63.4	68.3	68.1	68.3	70.3	68.2	63.9	59.1	54.6	150.4
1600	59.9	62.4	64.6	63.3	63.1	67.6	67.5	67.8	68.9	65.5	62.0	57.7	51.7	150.4
2000	57.8	61.7	63.6	62.2	61.2	66.2	65.5	65.9	67.2	62.4	59.4	54.5	46.8	150.3
2500	54.3	58.0	60.3	59.1	57.9	63.3	63.6	63.5	63.8	58.6	54.2	48.7	39.0	149.8
3150	46.0	51.8	54.6	55.8	53.7	59.7	59.9	58.5	58.6	53.0	47.2	41.0	27.3	149.0
4000	37.4	44.4	48.2	48.7	48.3	53.8	53.6	50.3	51.4	44.9	38.3	29.0	9.2	148.8
5000	23.9	33.1	38.4	40.1	40.1	45.3	43.9	41.2	40.9	33.1	25.1	11.6		149.0
6300	2.1	14.7	22.1	26.3	26.2	32.4	30.4	26.5	23.8	13.7	2.4			149.2
8000				2.5	3.3	8.9	6.0	1.0						149.4
10000														149.5
12500														149.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	74.9	77.5	78.6	76.7	76.3	81.1	80.7	81.8	84.1	85.0	85.0	81.5	73.3	164.1
PNL	80.6	84.0	85.7	84.2	83.5	88.7	88.2	88.7	90.4	89.1	86.7	80.8	75.5	
PNLT	80.6	84.0	85.7	84.8	84.0	89.2	88.8	89.3	90.4	89.1	87.7	80.8	76.0	
DBA	71.3	73.8	75.3	73.6	73.1	77.9	77.8	78.5	80.0	78.3	75.3	69.5	65.7	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH142 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB50 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.96 PAMB HG = 29.08 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 V8 = 1130.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1621.6 FPS AE18 = 23.4 SQ IN

INPT 83F-400-1002 TAPE = X10021 PT = 10 NC AE CORR SPD RP

DATPROC - FLTRAN

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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 83F-ZER-1003 X1003C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.4	80.2	79.9	78.5	76.1	80.4	79.3	86.0	80.9	78.7	86.6	88.1	80.2	124.3
63	86.5	86.0	85.3	85.6	82.7	87.6	86.5	92.4	86.8	87.4	93.8	92.5	90.4	130.9
80	83.8	88.8	85.6	84.1	84.7	88.8	88.0	88.4	89.1	89.2	91.5	92.2	79.1	130.2
100	83.5	89.7	85.8	85.0	86.9	89.5	88.6	91.0	89.5	92.6	94.5	96.6	80.1	132.4
125	80.9	85.4	86.2	87.0	88.3	90.7	89.6	89.7	89.7	93.0	98.9	101.3	84.2	134.8
160	80.7	81.0	85.5	82.5	84.1	88.0	93.4	89.8	90.0	94.3	99.7	102.6	90.0	135.6
200	82.0	82.6	86.1	83.4	85.7	88.6	90.5	92.6	94.3	95.6	101.3	106.0	93.4	137.8
250	81.3	86.8	87.1	84.6	86.5	90.3	92.0	93.6	95.1	100.7	105.8	108.7	97.1	141.1
315	82.1	85.9	85.9	85.9	88.5	91.9	93.3	94.7	96.1	101.5	107.3	109.5	100.4	142.2
400	83.1	86.8	87.9	85.7	87.8	91.1	101.0	95.2	98.4	104.9	108.8	111.5	102.4	144.4
500	83.8	87.9	88.1	86.4	88.5	92.4	93.0	95.7	98.1	105.0	108.6	110.8	102.9	143.8
630	83.8	87.3	88.3	87.1	90.0	93.6	94.2	96.4	99.1	105.7	109.5	110.0	103.6	144.1
800	85.6	87.4	89.4	87.7	90.0	94.4	94.5	97.7	100.4	105.7	107.8	108.3	103.9	143.2
1000	89.3	92.0	91.8	89.4	91.4	94.8	95.7	98.9	101.6	105.4	107.8	106.4	103.1	143.0
1250	87.2	91.7	91.7	90.4	92.6	95.7	95.6	98.8	101.7	104.8	106.2	106.1	103.0	142.4
1600	87.8	90.0	90.9	90.3	92.0	95.9	97.0	99.3	101.7	104.5	106.6	106.5	103.9	142.7
2000	89.0	91.1	91.5	90.2	92.0	95.4	97.1	99.9	101.8	104.3	105.8	106.1	103.9	142.5
2500	88.5	91.3	91.6	89.6	92.4	96.1	96.2	99.9	101.5	104.3	104.8	103.8	103.6	141.8
3150	88.1	90.4	91.2	89.5	91.5	95.4	96.7	99.5	102.6	103.4	103.4	103.8	102.7	141.5
4000	86.9	89.2	90.8	88.7	91.2	95.4	95.8	99.1	101.0	101.2	102.4	103.4	102.3	140.6
5000	86.0	89.4	90.0	88.4	90.7	94.9	94.8	98.6	100.4	101.3	101.3	102.3	100.8	140.0
6300	84.7	88.3	88.9	87.7	90.7	94.4	95.0	98.4	99.7	99.4	99.9	101.6	100.1	139.4
8000	83.1	86.8	88.1	87.3	89.4	93.2	94.1	96.5	97.8	98.2	98.3	100.0	99.1	138.3
10000	82.9	86.7	88.3	87.3	89.4	92.9	93.4	95.9	97.9	97.4	96.4	98.7	98.3	138.1
12500	81.9	85.2	87.3	86.4	88.2	91.9	92.0	94.2	95.4	95.5	95.0	97.9	97.2	137.4
16000	79.9	84.6	85.8	86.0	86.6	90.0	90.9	93.3	94.2	92.5	92.9	95.6	94.3	137.0
20000	77.9	82.4	83.8	84.0	84.8	88.0	88.6	89.5	91.5	90.2	90.8	92.9	91.9	136.2
25000	74.8	79.3	80.9	81.7	82.8	86.9	86.3	86.1	88.6	87.3	87.6	89.6	89.0	135.8
31500	71.5	74.9	77.4	79.7	79.2	83.3	82.8	82.9	84.7	83.6	84.6	85.7	84.2	135.4
40000	67.3	71.7	73.6	75.0	75.7	80.1	78.9	79.4	80.2	80.3	81.0	81.7	80.0	135.6
50000	62.1	65.7	67.8	69.8	70.2	74.8	73.2	73.7	75.4	74.7	75.2	76.3	74.0	134.5
63000	56.9	60.6	63.1	63.4	64.3	69.6	66.9	68.7	70.5	69.1	70.4	70.7	67.5	134.4
80000	51.4	53.6	56.1	55.8	57.3	63.1	60.5	61.9	63.8	61.4	64.0	63.5	60.1	134.4
OASPL	89.5	102.5	103.2	101.7	103.7	107.4	108.8	110.8	112.8	116.0	118.6	119.9	114.8	155.1
PNL	112.2	115.0	115.7	114.1	116.2	120.0	121.2	123.7	126.0	127.9	129.5	130.2	127.0	
PNLT	112.2	115.0	115.7	114.6	116.2	120.0	122.5	123.7	126.0	127.9	129.5	130.2	127.0	
DBA	98.7	101.6	102.2	100.6	102.9	106.6	107.6	110.3	112.5	115.3	117.2	117.8	114.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH128	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.80	PAMB HG = 29.18	RELHUM = 38.9 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1088.7 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1764.6 FPS	AE18 = 20.4 SQ IN	

RUNPT = 83F-ZER-1003 TAPE = X1003C TEST PT NO = 1003 NC = AE090 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 - 83F-ZER-1003 X1003F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.4	80.2	79.9	78.5	76.1	80.4	79.3	86.0	80.9	78.7	86.6	88.1	80.2	124.3
63	86.5	86.0	88.3	85.6	82.7	87.6	86.5	92.4	86.8	87.4	93.8	92.5	90.4	130.9
80	83.8	88.8	85.6	84.1	84.7	88.8	88.0	88.4	89.1	89.2	91.5	92.2	79.1	130.2
100	83.5	89.7	85.8	85.0	86.9	89.5	88.6	91.0	89.5	92.6	94.5	96.6	80.1	132.4
125	80.9	85.4	88.2	87.0	88.3	90.7	89.6	89.7	89.7	93.0	98.9	101.3	84.2	134.8
160	80.7	81.0	85.5	82.5	84.1	88.0	93.4	89.8	90.0	94.3	99.7	102.6	90.0	135.6
200	82.0	82.6	86.1	83.4	85.7	88.6	90.5	92.6	94.3	95.6	101.3	106.0	93.4	137.8
250	81.3	86.8	87.1	84.6	86.5	90.3	92.0	93.6	95.1	100.7	105.8	108.7	97.1	141.1
315	82.1	85.9	85.9	85.9	88.5	91.9	93.3	94.7	96.1	101.5	107.3	109.5	100.4	142.2
400	83.1	86.6	87.9	85.7	87.8	91.1	101.0	95.2	98.4	104.9	108.8	111.5	102.4	144.4
500	83.8	87.9	88.1	86.4	88.5	92.4	93.0	95.7	98.1	105.0	108.6	110.8	102.9	143.8
630	83.8	87.3	88.3	87.1	90.0	93.6	94.2	96.4	99.1	105.7	109 5	110.0	103.6	144.1
800	85.6	87.4	89.4	87.7	90.0	94.4	94.5	97.7	100.4	105.7	107.8	108.3	103.9	143.2
1000	89.3	92.0	91.8	89.4	91.4	94.8	95.7	98.9	101.6	105.4	107.8	106.4	103.1	143.0
1250	87.2	91.7	91.7	90.4	92.6	95.7	95.6	98.8	101.7	104.8	106.2	106.1	103.0	142.4
1600	87.8	90.0	90.9	90.3	92.0	95.9	97.0	99.3	101.7	104.5	106.6	106.5	103.9	142.7
2000	89.0	91.1	91.5	90.2	92.0	95.4	97.1	99.9	101.8	104.3	105.8	106.1	103.9	142.5
2500	88.5	91.3	91.6	89.6	92.4	96.1	96.2	99.9	101.5	104.3	104.8	103.8	103.6	141.8
3150	88.1	90.4	91.2	89.5	91.5	95.4	96.7	99.5	102.6	103.4	103.4	103.8	102.7	141.5
4000	86.9	89.2	90.8	88.7	91.2	95.4	95.8	99.1	101.0	101.2	102.4	103.4	102.3	140.6
5000	86.0	89.4	90.0	88.4	90.7	94.9	94.8	98.6	100.4	101.3	101.3	102.3	100.8	140.0
6300	84.7	88.3	88.9	87.7	90.7	94.4	95.0	98.4	99.7	99.4	99.9	101.6	100.1	139.4
8000	83.1	86.8	88.1	87.3	89.4	93.2	94.1	96.5	97.8	98.2	98.3	100.0	99.1	138.3
10000	82.9	86.7	88.3	87.3	89.4	92.9	93.4	95.9	97.9	97.4	96.4	98.7	98.3	138.1
12500	81.9	85.2	87.3	86.4	88.2	91.9	92.0	94.2	95.4	95.5	95.0	97.9	97.2	137.4
16000	79.9	84.6	85.8	86.0	86.6	90.0	90.9	93.3	94.2	92.5	92.9	95.6	94.3	137.0
20000	77.9	82.4	83.8	84.0	84.8	88.0	88.6	89.5	91.5	90.2	90.8	92.9	91.9	136.2
25000	74.8	79.3	80.9	81.7	82.8	86.9	86.3	86.1	88.6	87.3	87.6	89.6	89.0	135.8
31500	71.5	74.9	77.4	79.7	79.2	83.3	82.8	82.9	84.7	83.6	84.6	85.7	84.2	135.4
40000	67.3	71.7	73.6	75.0	75.7	80.1	78.9	79.4	80.2	80.3	81.0	81.7	80.0	135.6
50000	62.1	65.7	67.8	69.8	70.2	74.8	73.2	73.7	75.4	74.7	75.2	76.3	74.0	134.5
63000	56.9	60.6	63.1	63.4	64.3	69.6	66.9	68.7	70.5	69.1	70.4	70.7	67.5	134.4
80000	51.4	53.6	56.1	55.8	57.3	63.1	60.5	61.9	63.8	61.4	64.0	63.5	60.1	134.4
OASPL	99.5	102.5	103.2	101.7	103.7	107.4	108.8	110.8	112.8	116.0	118.6	119.9	114.8	155.1
PNL	112.2	115.0	115.7	114.1	116.2	120.0	121.2	123.7	126.0	127.9	129.5	130.2	127.0	
PNLT	112.2	115.0	115.7	114.6	116.2	120.0	122.5	123.7	126.0	127.9	129.5	130.2	127.0	
DBA	173.2	176.0	178.5	178.7	179.8	185.3	182.9	184.2	186.1	184.2	186.1	186.1	182.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH128 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.80 PAMB HG = 29.10 RELHUM = 38.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1088.7 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1764.6 FPS AE18 = 23.4 SQ IN

UNP 83F- -100 TAPE = 03F PT = 1 NC = A CORR SP = R

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

IDENTIFICATION - 83F-ZER-1003 X10031

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	59.6	64.9	66.0	66.8	69.8	73.3	74.5	75.5	76.3	80.5	84.9	84.9	72.4	159.2
63	60.6	65.6	66.0	66.5	69.0	72.5	82.2	76.0	76.5	84.0	86.3	86.8	74.4	161.4
80	61.3	66.9	66.2	67.2	69.7	73.7	74.2	76.5	78.2	84.0	86.1	86.0	74.8	160.8
100	61.2	66.3	66.4	67.9	71.1	74.9	75.4	77.1	79.1	84.6	86.9	85.1	75.3	161.1
125	62.8	66.2	69.3	68.4	71.1	75.6	75.6	78.4	80.3	84.6	85.1	83.2	75.4	160.2
160	66.3	70.7	71.6	69.9	72.4	75.9	76.7	79.4	81.4	84.1	84.8	81.2	74.2	160.0
200	64.0	70.2	71.3	70.7	73.4	76.7	76.4	79.1	81.3	83.3	83.0	80.5	73.6	159.4
250	64.3	68.2	70.3	70.4	72.6	76.6	77.6	79.4	81.0	82.7	83.1	80.5	73.9	159.7
315	65.1	68.9	70.6	70.0	72.3	75.8	77.4	79.8	80.8	82.1	81.9	79.5	73.0	159.4
400	64.0	68.7	70.3	69.1	72.4	76.2	76.2	79.4	80.2	81.7	80.3	76.6	71.7	158.8
500	63.1	67.4	69.5	68.7	71.2	75.2	76.4	78.7	80.9	80.4	78.4	75.8	69.8	158.5
630	61.3	65 7	68.8	67.6	70.5	74.9	75.1	77.9	78.9	77.7	76.9	74.7	68.3	157.5
800	59.8	65.5	67.6	66.9	69.7	74.1	73.8	77.1	77.9	77.4	75.2	72.8	65.5	157.0
1000	58.0	63.9	66.0	65.9	69.5	73.4	73.7	76.6	76.9	75.1	73.2	71.3	63.5	156.4
1250	55.8	61.9	64.9	65.1	67.8	71.8	72.6	74.3	74.6	73.3	71.0	68.7	60.9	155.3
1600	54.3	61.0	64.3	64.5	67.3	71.0	71.3	73.1	73.9	71.6	67.9	65.8	57.5	155.1
2000	51.9	58.4	62.5	62.9	65.4	69.3	69.2	70.7	70.6	68.6	65.0	62.9	52.9	154.4
2500	47.7	56.1	59.7	61.4	62.8	66.5	67.1	68.7	68.1	64.0	60.7	57.3	44.6	154.0
3150	41.7	50.9	55.2	57.2	59.0	62.6	62.8	62.7	62.8	58.7	54.7	49.1	33.2	153.2
4000	31.6	42.3	47.7	50.9	53.3	57.8	56.8	55.3	55.4	50.3	44.4	36.0	15.0	152.8
5000	17.7	29.4	37.2	42.6	43.9	48.5	47.5	45.8	44.4	38.2	30.8	17.6		152.4
6300		11.6	20.9	26.7	29.8	35.0	33.0	31.1	27.4	20.2	9.0			152.6
8000				1.3	5.3	11.0	8.3	5.2	0.4					151.5
10000														151.4
12500														151.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	74.4	79.2	81.1	80.4	83.1	87.0	88.5	89.9	91.4	93.9	94.9	93.7	84.4	171.7
PNL	78.5	84.0	86.4	86.7	89.2	93.2	93.7	95.6	96.7	97.4	96.7	94.4	86.2	
PNLT	78.5	84.0	86.4	87.2	89.8	93.8	94.3	96.2	97.3	97.4	96.7	94.4	86.2	
DBA	68.3	73.5	75.9	75.5	78.3	82.3	82.7	85.1	86.0	85.8	84.6	82.1	75.3	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH128 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.80 PAMB HG = 29.13 RELHUM = 38.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1088.7 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1764.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1003 TAPE = X10031 TEST PT NO = 1003 NC = AE090 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 83F-400-1004 X1004C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.4	83.2	79.2	77.5	75.8	79.4	78.3	83.5	82.2	82.7	87.4	89.8	86.7	125.2
63	86.0	85.5	87.6	82.9	80.7	85.8	85.4	90.1	88.6	87.1	88.3	93.0	91.4	129.7
80	82.8	88.8	85.3	83.6	82.7	88.1	87.7	87.6	89.3	88.9	90.5	91.2	85.9	129.8
100	81.5	87.7	84.0	83.0	83.6	87.8	87.1	88.8	87.5	89.6	91.7	96.1	86.6	130.6
125	79.6	82.9	84.9	83.7	84.3	87.4	87.3	87.0	86.9	89.5	95.9	99.1	88.5	132.1
160	77.7	78.2	82.7	79.5	79.9	84.2	95.9	86.0	90.2	90.8	96.2	99.1	89.8	133.3
200	79.3	79.3	82.3	78.9	79.5	84.1	88.0	88.1	91.3	90.4	96.5	102.0	91.6	133.7
250	76.5	80.3	80.8	79.4	80.7	84.3	85.7	87.6	90.6	95.2	100.5	103.7	91.9	135.9
315	78.1	80.4	81.6	79.9	81.3	85.4	87.5	90.2	91.9	96.5	101.6	104.0	93.9	136.7
400	78.3	80.8	82.1	79.7	81.0	85.4	92.0	89.2	92.9	99.2	103.6	104.5	92.4	138.0
500	78.6	80.9	82.4	81.2	82.0	86.4	89.3	90.2	92.9	99.7	103.8	103.3	90.4	137.8
630	78.5	81.6	83.1	81.6	83.2	87.6	89.0	91.1	93.6	100.7	104.3	101.2	88.6	137.8
800	80.6	81.4	83.6	81.9	83.8	87.6	88.8	91.9	95.6	101.2	102.8	98.3	87.2	137.1
1000	82.5	83.0	84.3	83.1	84.2	89.1	89.9	93.6	96.3	100.9	102.3	94.9	85.6	136.8
1250	81.2	84.7	84.7	83.6	85.1	89.0	90.1	93.3	96.7	100.0	100.2	93.3	85.5	135.9
1600	81.8	83.5	84.6	84.5	86.0	90.6	91.5	94.5	97.4	100.0	100.3	92.5	85.2	136.3
2000	82.5	83.3	84.0	83.9	85.4	89.8	91.8	94.6	97.7	100.0	98.5	91.1	84.4	135.9
2500	82.1	84.2	84.8	83.7	86.4	90.2	91.2	95.0	97.2	99.9	97.5	89.8	85.0	135.7
3150	82.0	83.3	84.6	83.9	85.4	90.8	91.9	94.1	97.7	99.5	96.5	89.4	83.9	135.5
4000	81.9	83.0	84.4	83.8	85.7	90.5	91.6	94.4	96.3	97.3	95.0	88.5	83.6	134.4
5000	82.0	83.6	84.8	83.4	85.4	90.7	91.8	94.1	95.6	97.5	94.3	88.1	82.8	134.4
6300	82.1	83.7	84.5	83.8	85.1	90.1	90.9	93.8	94.8	95.5	93.5	87.5	82.0	133.7
8000	82.4	84.0	84.8	83.5	84.9	89.2	90.2	92.0	93.6	93.9	92.3	87.3	81.9	132.9
10000	83.3	84.4	85.6	84.5	85.3	89.3	89.6	91.3	93.2	93.4	91.0	87.7	82.5	133.1
12500	84.9	84.6	85.1	84.3	84.1	88.8	88.7	90.1	91.7	91.3	89.6	86.9	82.1	132.8
16000	82.4	84.3	84.8	84.5	83.1	87.3	87.9	89.3	90.2	88.9	87.9	85.1	79.6	132.8
20000	80.4	82.2	83.1	82.3	81.8	85.6	85.7	86.1	87.0	86.0	84.9	82.3	77.0	132.0
25000	76.7	78.7	80.0	80.5	79.9	84.7	83.9	82.4	84.5	82.5	82.0	80.7	74.0	132.0
31500	72.9	74.8	75.8	78.2	76.7	81.1	80.6	79.9	81.1	78.9	78.8	76.2	70.1	131.8
40000	68.9	71.1	72.4	73.4	73.2	78.0	77.1	76.2	76.7	74.8	75.2	72.9	66.4	132.0
50000	63.6	64.9	66.5	68.5	67.6	72.9	71.8	70.7	71.4	69.8	69.5	67.4	60.7	131.1
63000	58.0	59.7	61.4	62.3	62.2	68.2	66.0	65.3	66.6	64.1	64.9	61.0	54.7	131.1
80000	52.8	53.9	54.9	55.1	55.4	61.7	58.9	59.7	59.6	57.2	57.4	54.6	47.0	131.3
OASPL	96.1	98.1	98.6	97.3	98.2	102.7	104.4	106.0	108.3	111.4	113.1	112.4	102.3	149.6
PNL	107.3	109.0	110.0	109.0	110.5	115.2	116.6	118.8	121.4	123.8	123.2	120.2	111.6	
PNLT	107.3	109.0	110.0	109.0	110.5	115.2	118.0	118.8	121.4	123.8	123.2	120.2	111.6	
DBA	93.5	95.1	96.1	95.2	96.8	101.4	102.6	105.3	107.9	110.9	111.3	107.7	97.9	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH143	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 50.05	PAMB HG = 28.97	RELHUM = 69.3 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 = 1146.6 FPS	AE8 = 4.8 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1761.5 FPS	AE18 = 23.4 SQ IN	

RUNPT = 83F-400-1004 TAPE = X1004C TEST PT NO = 1004 NC = AE090 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 - 83F-400-1004 X1004F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	83.7	86.3	85.4	82.5	82.2	84.3	84.3	84.7	89.6	93.6	98.6	101.8	93.8	134.4
315	83.7	86.3	85.4	82.5	83.0	85.6	86.5	88.2	90.4	96.2	100.6	102.7	93.5	135.8
400	85.5	86.6	86.5	83.3	82.8	85.6	90.9	86.9	90.6	96.9	101.1	102.2	93.1	136.0
500	85.2	86.7	86.7	82.9	83.9	86.7	88.2	87.9	91.4	98.0	101.8	100.9	93.2	136.1
630	86.3	87.3	87.4	84.6	85.2	88.0	87.9	88.8	93.8	99.0	101.0	99.2	94.4	135.9
800	86.2	88.0	88.1	85.1	85.8	88.2	87.8	89.6	94.8	99.1	101.0	97.0	95.2	135.9
1000	88.3	87.8	88.7	85.5	86.3	89.7	89.1	91.4	95.5	98.5	99.2	95.8	95.5	135.5
1250	90.2	89.5	89.4	86.7	87.4	89.8	89.4	91.3	96.3	98.6	99.5	95.0	95.2	135.8
1600	88.8	91.2	89.9	87.3	88.5	91.7	91.0	92.7	96.9	98.8	97.8	93.6	94.2	135.8
2000	89.5	90.0	89.9	88.4	88.1	91.1	91.6	93.1	96.8	99.3	97.3	93.0	95.8	135.9
2500	90.2	89.9	89.3	87.9	89.3	91.9	91.3	93.9	97.8	99.3	96.8	92.9	94.7	136.1
3150	89.8	90.8	90.2	87.9	89.3	92.8	92.5	93.4	97.7	98.3	96.6	93.6	96.3	136.2
4000	92.4	92.2	91.9	89.4	90.0	93.0	93.3	94.9	97.0	98.5	95.8	93.0	95.4	136.5
5000	92.3	92.0	91.9	89.6	90.0	93.7	93.8	94.7	96.6	96.9	95.6	93.1	95.2	136.4
6300	92.2	92.6	92.3	89.4	89.7	93.1	93.1	94.7	96.0	95.9	95.0	93.5	95.5	136.3
8000	92.2	92.5	91.9	89.7	89.0	92.2	92.4	93.1	96.2	96.2	94.5	94.5	96.5	136.5
10000	89.6	90.4	90.3	88.0	89.4	92.3	91.9	92.8	95.4	94.6	93.3	93.5	95.7	136.1
12500	90.2	90.5	90.9	88.7	88.1	91.8	91.1	91.9	94.4	93.0	92.5	92.8	94.2	136.2
16000	91.2	90.2	89.9	88.0	87.1	90.3	90.3	91.1	91.8	90.5	89.7	90.0	91.5	136.0
20000	88.3	89.5	89.1	87.9	85.9	88.6	88.1	88.0	89.4	87.2	86.9	88.4	88.5	135.8
25000	85.8	86.8	86.8	85.0	83.9	87.7	86.0	83.9	87.2	84.8	85.0	85.3	86.1	135.9
31500	81.2	82.5	82.9	82.5	80.8	84.1	82.9	81.6	82.9	80.8	81.5	82.0	82.3	135.4
40000	76.8	77.8	77.9	79.3	77.8	81.0	79.1	77.3	78.3	76.5	76.6	77.3	77.4	135.4
50000	75.0	76.0	75.8	75.2	72.2	75.9	73.9	72.0	75.0	72.5	73.8	72.9	73.5	135.9
63000	68.8	68.8	68.9	69.4	66.8	71.2	68.4	67.0	69.6	67.2	68.1	68.3	67.7	135.5
80000	61.6	62.1	62.4	61.7	60.0	64.7	61.2	61.4	59.8	57.4	58.2	58.5	57.9	134.9
OASPL	102.7	103.2	102.9	100.6	100.8	104.0	104.0	105.0	108.2	110.3	111.1	110.3	107.7	150.0
PNL	114.8	115.1	114.7	112.3	112.9	115.9	116.1	117.4	120.6	122.2	121.5	119.2	119.7	
PNLT	114.8	115.1	114.7	112.3	112.9	115.9	116.7	117.4	120.6	122.2	121.5	119.2	119.7	
DBA	184.1	184.5	184.7	184.4	182.4	186.8	183.7	183.2	183.5	181.2	182.1	182.2	181.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH143 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.05 PAMB HG = [illegible] RELHUM = 69.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = [illegible] NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1146.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1761.5 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1004 TAPE = X1004F TEST PT NO = 1004 NC = AE090 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 - 83F-400-1004 X10041

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	61.2	65.3	65.6	63.3	64.3	67.0	67.8	69.0	70.6	75.3	78.1	78.1	65.5	152.8
63	63.0	65.6	66.6	64.1	64.0	67.0	72.2	67.8	70.7	75.9	78.6	77.5	65.0	153.0
80	62.7	65.7	66.8	63.7	65.1	68.1	69.4	68.7	71.5	77.0	79.3	76.1	65.0	153.0
100	63.6	66.2	67.4	65.4	66.4	69.3	69.1	69.5	73.8	77.9	78.4	74.3	66.1	152.9
125	63.5	66.8	68.1	65.8	66.9	69.4	68.9	70.3	74.8	77.9	78.3	72.0	66.7	152.9
160	65.3	66.5	68.5	66.0	67.3	70.8	70.1	72.0	75.3	77.2	76.3	70.5	66.6	152.5
200	67.0	68.0	69.0	67.1	68.2	70.7	70.2	71.6	75.9	77.0	76.3	69.4	65.8	152.8
250	65.3	69.4	69.3	67.5	69.1	72.4	71.6	72.9	76.3	77.0	74.3	67.5	64.1	152.8
315	65.5	67.8	68.9	68.3	68.4	71.6	71.9	72.9	75.8	77.1	73.4	66.4	64.9	152.9
400	65.7	67.3	68.0	67.4	69.3	72.0	71.3	73.4	76.4	76.7	72.3	65.6	62.8	153.1
500	64.8	67.8	68.5	67.1	68.9	72.6	72.2	72.6	76.0	75.2	71.6	65.6	63.4	153.1
630	66.8	68.8	69.8	68.2	69.4	72.6	72.7	73.7	74.9	75.0	70.3	64.3	61.4	153.5
800	66.2	68.1	69.4	68.1	69.1	72.9	72.9	73.2	74.1	73.0	69.4	63.6	60.0	153.4
1000	65.5	68.3	69.5	67.6	68.5	72.0	71.8	72.9	73.2	71.5	68.3	63.2	58.9	153.3
1250	64.8	67.6	68.7	67.5	67.4	70.8	70.9	71.0	73.0	71.4	67.1	63.2	58.4	153.5
1600	61.1	64.6	66.4	65.3	67.2	70.4	69.8	70.0	71.5	68.9	64.8	60.6	54.9	153.1
2000	60.2	63.6	66.0	65.2	65.3	69.3	68.3	68.4	69.6	66.1	62.5	57.7	49.9	153.2
2500	59.0	61.7	63.7	63.4	63.4	66.8	66.6	66.5	65.7	62.0	57.5	51.7	41.8	153.0
3150	52.2	58.0	60.5	61.1	60.1	63.1	62.4	61.2	60.8	55.6	50.7	44.5	29.8	152.8
4000	42.6	49.8	53.6	54.2	54.4	58.6	56.5	53.0	54.0	47.8	41.8	31.7	12.1	152.8
5000	27.4	37.1	42.6	45.4	45.4	49.3	47.5	44.5	42.6	35.3	27.7	13.9		152.4
6300	4.6	17.7	25.2	31.0	31.9	36.0	33.2	29.0	25.5	16.5	4.6			152.4
8000			0.8	6.7	7.3	12.1	9.0	3.5						152.9
10000														152.5
12500														151.9
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	77.0	79.6	80.7	79.1	80.1	83.3	83.4	84.0	86.6	88.0	87.5	84.0	76.1	166.9
PNL	83.4	86.4	88.3	87.3	87.9	91.4	91.0	91.1	92.9	92.4	89.7	83.8	78.4	
PNLT	83.4	86.4	88.3	87.9	88.5	92.0	91.5	91.7	92.9	92.4	89.7	83.8	78.4	
DBA	73.5	76.2	77.5	76.3	77.1	80.6	80.3	80.8	82.5	81.6	78.0	72.5	68.6	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH143	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB50	IEQA = NO	PWL AREA = FULL SPHERE	TAMB F = 50.05	PAMB HG = 28.97	RELHUM = 69.3 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBER =
FNINI = LBS	XNL = RPM	XNH = RPM	V8 = 1146.6 FPS	AE8 = 4.8 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1761.5 FPS	AE18 = 23.4 SQ IN

NPT 83F-400-1004 TAPE = X10041 TEST PT NO = 10 NC AEC88 CORR FAN SPEED RPM

DATPROC - FLTRAN

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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 83F-ZER-1005 X1005C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	82.1	82.2	81.7	78.2	78.8	82.2	79.8	85.7	83.2	82.2	88.1	90.1	80.2	125.7
63	87.8	87.3	90.1	84.9	85.0	89.1	87.7	94.1	89.1	86.4	93.3	95.2	89.6	132.1
80	86.3	91.8	88.1	86.6	86.7	91.3	90.0	90.6	90.8	91.2	94.3	94.5	78.1	132.6
100	85.7	91.7	88.0	87.8	88.6	92.3	91.9	93.3	92.0	95.1	96.5	99.4	81.8	134.8
125	83.9	87.7	89.9	88.7	90.3	93.2	92.6	92.5	92.4	95.8	102.1	104.6	87.2	137.8
160	82.9	83.5	87.2	84.5	86.4	90.5	96.9	91.8	92.2	97.1	102.4	105.4	92.8	138.3
200	84.3	85.1	88.1	85.1	88.0	91.6	93.0	94.6	96.8	98.1	104.0	108.7	96.1	140.5
250	83.3	89.3	89.3	87.1	88.5	92.1	94.2	95.9	97.8	103.2	108.5	111.7	99.4	143.8
315	84.3	88.1	88.1	87.2	90.8	93.9	95.8	96.4	98.6	104.2	109.8	112.8	102.9	145.0
400	85.3	88.6	89.6	87.7	90.3	93.4	104.0	97.7	101.1	107.4	111.8	114.5	104.4	147.2
500	86.6	89.6	90.6	88.4	90.8	94.6	95.3	97.9	101.6	107.7	112.6	114.5	106.2	147.4
630	86.5	90.1	90.8	89.9	92.2	95.3	97.0	99.4	102.1	108.7	112.8	114.2	107.6	147.6
800	88.8	90.6	92.1	90.7	92.5	96.4	97.3	100.2	103.9	109.0	111.3	114.0	108.4	147.4
1000	94.5	96.8	95.8	92.9	94.2	97.8	98.4	101.9	104.8	108.9	111.0	112.4	108.6	147.0
1250	91.4	95.2	95.2	94.4	96.1	99.0	98.1	101.8	105.2	107.8	109.2	111.9	108.8	146.3
1600	91.3	93.5	94.4	92.8	95.0	99.2	99.2	102.5	105.9	107.7	109.9	112.5	109.2	146.8
2000	93.5	95.9	95.8	93.4	95.0	98.1	99.1	103.4	105.3	107.8	109.8	112.1	109.6	146.8
2500	91.7	95.0	95.6	93.6	95.9	98.8	99.2	102.6	105.2	107.8	109.3	110.1	108.6	146.1
3150	91.6	94.2	94.7	93.0	94.5	98.4	99.5	102.7	105.8	106.9	107.9	109.3	105.4	145.3
4000	90.1	93.0	93.8	91.7	94.7	98.4	99.0	102.3	104.5	105.5	107.4	107.9	104.3	144.4
5000	89.5	92.9	93.5	91.4	93.7	97.6	98.3	101.1	103.6	105.3	106.1	106.1	103.3	143.6
6300	89.2	93.5	93.9	91.9	94.2	97.4	98.2	101.7	103.5	103.2	105.4	104.9	101.8	143.1
8000	88.1	92.5	94.1	92.5	93.4	96.4	97.6	100.0	101.5	101.5	102.8	103.2	100.3	141.9
10000	87.6	92.0	94.0	92.8	94.4	96.9	96.6	99.4	100.9	100.9	101.1	102.5	100.0	141.8
12500	86.2	90.5	92.8	91.9	94.0	97.2	96.0	97.5	99.2	99.0	99.3	101.4	98.5	141.3
16000	84.9	89.7	90.6	91.6	92.3	95.6	95.1	96.3	97.5	96.3	97.0	98.6	95.5	140.6
20000	81.9	86.7	88.3	88.8	90.0	93.8	92.6	93.5	94.2	94.3	93.6	96.0	92.9	139.9
25000	78.4	83.4	85.2	86.0	87.1	91.4	90.8	89.9	91.9	90.9	90.7	92.4	90.0	139.5
31500	75.6	79.2	81.5	83.2	83.3	88.2	87.1	86.9	88.3	87.5	87.7	88.8	85.5	139.2
40000	71.1	75.5	77.2	78.6	79.5	84.4	83.2	83.2	84.3	84.7	84.4	85.2	81.9	139.5
50000	65.7	69.5	71.9	73.4	73.6	78.9	77.8	77.3	79.3	79.4	79.0	79.9	75.6	138.4
63000	60.0	63.4	66.7	67.0	67.9	74.2	71.5	71.8	74.4	73.0	73.5	74.5	69.5	138.2
80000	53.7	56.7	59.3	60.6	61.1	67.5	64.6	65.2	67.5	66.3	67.6	68.1	62.2	138.4
OASPL	103.1	106.3	106.8	105.2	107.0	110.4	111.7	113.7	116.2	119.2	122.1	124.2	118.8	158.8
PNL	115.7	118.7	119.3	117.4	119.4	122.8	124.0	126.7	129.3	131.3	133.5	135.0	131.0	
PNLT	117.2	120.0	119.3	117.4	119.4	122.8	125.4	126.7	129.3	131.3	133.5	135.0	131.0	
DBA	102.8	105.6	106.0	104.1	106.1	109.5	110.4	113.4	116.1	118.7	121.0	122.8	118.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH129	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.29	PAMB HG = 28.80	RELHUM = 38.7 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1196.5 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNIIR = RPM	V18 = 1958.1 FPS	AE18 = 23.4 SQ IN	

RUNPT = 83F-ZER-1005 TAPE = X1005C TEST PT NO = 1005 NC = AE090 CORR FAN SPEED = RPM

HONEYWELL PAGE PRINTING SYSTEM- P1184-0

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

IDENTIFICATION - 83F-ZER-1005 X1005F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	82.1	82.2	81.7	78.2	78.8	82.2	79.8	85.7	83.2	82.2	88.1	90.1	80.2	125.7
63	87.8	87.3	90.1	84.9	85.0	89.1	87.7	94.1	89.1	86.4	93.3	95.2	89.6	132.1
80	86.3	91.8	88.1	86.6	86.7	91.3	90.0	90.6	90.8	91.2	94.3	94.5	78.1	132.6
100	85.7	91.7	88.0	87.8	88.6	92.3	91.9	93.3	92.0	95.1	96.5	99.4	81.8	134.8
125	83.9	87.7	89.9	88.7	90.3	93.2	92.6	92.5	92.4	95.8	102.1	104.6	87.2	137.8
160	82.9	83.5	87.2	84.5	86.4	90.5	96.9	91.8	92.2	97.1	102.4	105.4	92.8	138.3
200	84.3	85.1	88.1	85.1	88.0	91.6	93.0	94.6	96.8	98.1	104.0	108.7	96.1	140.5
250	83.3	89.3	89.3	87.1	88.5	92.1	94.2	95.9	97.8	103.2	108.5	111.7	99.4	143.8
315	84.3	88.1	88.1	87.2	90.8	93.9	95.8	96.4	98.6	104.2	109.8	112.8	102.9	145.0
400	85.3	88.6	89.6	87.7	90.3	93.4	104.0	97.7	101.1	107.4	111.8	114.5	104.4	147.2
500	86.6	89.6	90.6	88.4	90.8	94.6	95.3	97.9	101.6	107.7	112.6	114.5	106.2	147.4
630	86.5	90.1	90.8	89.9	92.2	95.3	97.0	99.4	102.1	108.7	112.8	114.2	107.6	147.6
800	88.8	90.6	92.1	90.7	92.5	96.4	97.3	100.2	103.9	109.0	111.3	114.0	108.4	147.4
1000	94.5	96.8	95.8	92.9	94.2	97.8	98.4	101.9	104.8	108.9	111.0	112.4	108.6	147.0
1250	91.4	95.2	95.2	94.4	96.1	99.0	98.1	101.8	105.2	107.8	109.2	111.9	108.8	146.3
1600	91.3	93.5	94.4	92.8	95.0	99.2	99.2	102.5	105.9	107.7	109.9	112.5	109.2	146.8
2000	93.5	95.9	95.8	93.4	95.0	98.1	99.1	103.4	105.3	107.8	109.8	112.1	109.6	146.8
2500	91.7	95.0	95.6	93.6	95.9	98.8	99.2	102.6	105.2	107.8	109.3	110.1	108.6	146.1
3150	91.6	94.2	94.7	93.0	94.5	98.4	99.5	102.7	105.8	106.9	107.9	109.3	105.4	145.3
4000	90.1	93.0	93.8	91.7	94.7	98.4	99.0	102.3	104.5	105.5	107.4	107.9	104.3	144.4
5000	89.5	92.9	93.5	91.4	93.7	97.6	98.3	101.1	103.6	105.3	106.1	106.1	103.3	143.6
6300	89.2	93.5	93.9	91.9	94.2	97.4	98.2	101.7	103.5	103.2	105.4	104.9	101.8	143.1
8000	88.1	92.5	94.1	92.5	93.4	96.4	97.6	100.0	101.5	101.5	102.8	103.2	100.3	141.9
10000	87.6	92.0	94.0	92.8	94.4	96.9	96.6	99.4	100.9	100.9	101.1	102.5	100.0	141.8
12500	86.2	90.5	92.8	91.9	94.0	97.2	96.0	97.5	99.2	99.0	99.3	101.4	98.5	141.3
16000	84.9	89.7	90.6	91.6	92.3	95.6	95.1	96.3	97.5	96.3	97.0	98.6	95.5	140.8
20000	81.9	86.7	88.3	88.8	90.0	93.8	92.6	93.5	94.2	94.3	93.6	96.0	92.9	139.9
25000	78.4	83.4	85.2	86.0	87.1	91.4	90.8	89.9	91.9	90.9	90.7	92.4	90.0	139.5
31500	75.6	79.2	81.5	83.2	83.3	88.2	87.1	86.9	88.3	87.5	87.7	88.8	85.5	139.2
40000	71.1	75.5	77.2	78.6	79.5	84.4	83.2	83.2	84.3	84.7	84.4	85.2	81.9	139.5
50000	65.7	69.5	71.9	73.4	73.6	78.9	77.8	77.3	79.3	79.4	79.0	79.9	75.6	138.4
63000	60.0	63.4	66.7	67.0	67.9	74.2	71.5	71.8	74.4	73.0	73.5	74.5	69.5	138.2
80000	53.7	56.7	59.3	60.6	61.1	67.5	64.6	65.2	67.5	66.3	67.6	68.1	62.2	138.4
OASPL	103.1	106.3	106.8	105.2	107.0	110.4	111.7	113.7	116.2	119.2	122.1	124.2	118.8	158.8
PNL	115.7	118.7	119.3	117.4	119.4	122.8	124.0	126.7	129.3	131.3	133.5	135.0	131.0	
PNLT	117.2	120.0	119.3	117.4	119.4	122.8	125.4	126.7	129.3	131.3	133.5	135.0	131.0	
DBA	175.9	179.2	181.9	183.0	183.5	189.7	187.2	187.5	189.8	188.7	189.6	190.3	185.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH129	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = [illegible]	FLTVEL = 0. FPS		
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.29	PAMB HG = [illegible]	RELHUM = 38.7 PCT		
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =		
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1196.5 FPS	AE8 = 4.6 SQ IN			
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1958.1 FPS	AE18 = 23.4 SQ IN			

INPT [illegible]3F-[illegible] 1005 TAPE [illegible] = [illegible]05F [illegible] PT [illegible] = 10[illegible] [illegible]IC [illegible] AE[illegible] CORR [illegible] SPEED [illegible] 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 - 83F-ZER-1005 X10051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	61.9	67.2	68.3	68.0	72.0	75.3	77.0	77.3	78.8	83.3	87.4	88.1	74.9	162.0
63	62.8	67.6	69.7	68.5	71.5	74.7	85.2	78.5	81.2	86.5	89.3	89.8	76.4	164.2
80	64.0	68.8	70.7	69.2	72.0	76.0	76.5	78.7	81.7	86.7	90.1	89.8	78.0	164.3
100	63.9	69.0	70.9	70.6	73.4	76.6	78.1	80.1	82.1	87.6	90.2	89.4	79.3	164.6
125	66.1	69.5	72.1	71.4	73.6	77.6	78.4	80.9	83.8	87.8	88.6	89.0	79.9	164.3
160	71.6	75.5	75.6	73.4	75.2	78.9	79.4	82.4	84.6	87.6	88.1	87.2	79.7	164.0
200	68.2	73.7	74.8	74.7	76.9	79.9	78.9	82.1	84.8	86.3	86.0	86.3	79.4	163.3
250	67.8	71.7	73.8	72.9	75.6	79.9	79.8	82.7	85.3	85.9	86.3	86.5	79.1	163.8
315	69.6	73.7	74.8	73.3	75.3	78.6	79.4	83.3	84.3	85.6	85.9	85.5	78.8	163.8
400	67.2	72.4	74.3	73.1	75.9	79.0	79.2	82.1	83.9	85.2	84.8	82.8	76.7	163.1
500	66.6	71.2	73.0	72.1	74.2	78.2	79.2	81.9	84.1	83.9	82.9	81.3	72.5	162.3
630	64.6	69.5	71.8	70.6	74.0	77.9	78.4	81.2	82.4	82.0	81.9	79.2	70.3	161.4
800	63.3	69.0	71.1	69.9	72.7	76.8	77.3	79.6	81.2	81.4	79.9	76.6	68.0	160.6
1000	62.5	69.2	71.0	70.1	73.0	76.3	77.0	79.8	80.6	78.8	78.7	74.6	65.3	160.1
1250	60.8	67.6	70.9	70.3	71.8	75.0	76.1	77.8	78.3	76.6	75.5	72.0	62.1	158.9
1600	59.1	66.2	70.1	70.0	72.3	75.0	74.5	76.6	76.9	75.1	72.6	69.6	59.2	158.8
2000	56.2	63.6	68.0	68.4	71.1	74.6	73.2	73.9	74.3	72.2	69.3	66.4	54.1	158.3
2500	52.7	61.2	64.5	66.9	68.6	72.0	71.4	71.7	71.4	67.8	64.7	60.3	45.9	157.8
3150	45.7	55.2	59.7	62.0	64.3	68.3	66.9	66.8	65.6	62.7	57.5	52.1	34.3	156.9
4000	35.2	46.3	52.0	55.2	57.6	62.3	61.3	59.1	58.7	53.9	47.5	38.8	16.1	156.4
5000	21.7	33.8	41.2	46.1	47.9	53.4	51.8	49.8	48.0	42.0	33.9	20.6		156.2
6300		15.4	24.5	30.3	33.7	39.3	37.4	34.9	31.5	24.6	12.4			156.4
8000				4.9	8.7	15.1	12.9	8.8	4.2					155.4
10000														155.2
12500														155.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	78.3	83.0	84.7	83.8	86.3	89.9	91.3	92.9	94.8	97.1	98.4	98.1	88.7	175.4
PNL	82.7	88.2	91.1	91.2	93.6	97.3	97.2	98.7	100.2	100.9	100.6	99.5	90.7	
PNLT	83.4	88.9	91.1	91.8	94.2	97.8	97.8	99.4	100.8	100.9	100.6	99.5	90.7	
DBA	72.3	77.9	80.3	79.8	82.2	85.7	85.9	88.3	89.5	89.4	88.9	87.2	79.4	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH129 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.29 PAMB HG = 29.20 RELHUM = 38.7 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 = 1196.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1958.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1005 TAPE = X10051 TEST PT NO = 1005 NC = AE090 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. 83F-400-1006 X1006C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.9	85.2	81.7	79.7	78.1	82.4	80.8	85.5	84.7	84.0	91.4	91.8	92.7	128.1
63	88.5	88.3	91.1	85.4	83.7	88.6	88.9	91.4	90.3	87.4	93.0	95.0	94.9	132.2
80	86.3	91.6	87.3	86.9	86.2	90.8	90.0	90.6	91.3	90.9	93.5	94.2	94.6	132.7
100	85.0	90.7	87.5	86.5	86.4	90.5	90.6	92.3	91.0	92.6	94.7	98.4	93.6	133.7
125	83.1	86.4	88.7	87.7	87.8	91.2	91.1	90.7	90.7	93.0	99.1	102.8	96.7	135.9
160	81.9	81.5	86.0	82.5	83.4	87.0	93.9	89.3	90.7	94.3	100.4	103.4	96.0	136.3
200	82.8	82.6	85.3	81.9	83.0	87.1	89.7	91.4	94.3	94.6	100.8	106.5	97.4	137.9
250	79.8	83.1	84.3	82.9	84.0	87.8	89.0	91.1	93.8	99.4	105.5	108.7	97.9	140.7
315	81.3	84.1	84.9	83.4	84.3	88.9	90.8	92.9	95.6	101.2	106.8	109.0	99.4	141.6
400	81.8	84.1	85.4	83.2	84.8	89.1	96.3	93.2	97.9	103.4	108.3	110.0	97.9	143.0
500	82.3	84.9	86.4	84.4	85.8	90.1	92.8	94.2	97.6	105.0	109.6	109.3	97.2	143.4
630	82.8	85.3	86.6	85.4	86.5	91.3	92.2	95.4	98.8	106.4	109.8	107.7	93.9	143.4
800	84.1	84.6	87.1	85.7	86.8	91.9	93.0	96.4	99.9	106.0	108.3	104.5	93.4	142.3
1000	86.5	87.5	88.3	86.6	88.4	93.3	94.2	97.8	100.8	105.9	107.3	101.4	92.6	141.8
1250	85.2	88.9	89.2	87.9	88.8	93.2	94.1	98.3	101.2	105.0	105.2	98.8	91.3	140.8
1600	85.8	87.7	89.4	88.5	89.8	94.9	96.0	99.0	102.9	105.2	106.1	97.3	90.7	141.5
2000	86.5	87.6	88.5	87.9	89.4	94.3	96.0	100.1	102.5	105.5	105.0	96.8	91.1	141.3
2500	86.1	88.2	89.0	87.7	90.1	94.7	95.7	99.5	101.7	105.4	104.2	95.8	91.0	140.9
3150	87.3	88.3	89.6	88.1	89.2	94.8	96.6	99.6	102.9	104.5	103.0	96.2	89.6	140.8
4000	87.2	88.3	89.6	88.1	90.0	95.2	96.1	99.9	101.5	102.7	102.7	95.5	89.4	140.1
5000	90.7	92.1	91.5	88.7	89.7	95.2	95.8	99.6	100.9	103.7	101.8	94.6	89.8	140.2
6300	91.9	94.2	93.5	90.6	90.9	94.8	95.4	99.6	100.3	101.7	101.5	96.3	90.3	140.0
8000	91.4	93.5	94.8	93.0	91.7	94.2	95.4	98.3	99.0	100.6	100.3	96.0	89.6	139.6
10000	90.8	92.8	94.4	93.2	92.8	96.1	95.6	97.3	98.7	99.6	99.5	95.7	90.5	139.8
12500	89.3	90.5	92.6	92.3	92.1	95.8	95.4	96.1	97.5	97.7	97.1	94.8	89.9	139.4
16000	87.1	90.6	91.5	92.0	91.1	94.8	94.4	95.3	96.6	95.1	95.6	92.8	87.8	139.5
20000	84.7	87.2	88.8	88.8	88.3	92.6	92.7	93.3	94.0	93.0	92.1	90.5	85.2	138.9
25000	81.2	83.9	86.0	86.3	86.1	91.2	90.9	89.7	91.2	89.8	89.2	88.2	82.5	138.7
31500	78.2	80.3	81.6	83.5	82.2	87.6	87.3	87.2	87.9	85.9	86.0	84.2	78.6	138.4
40000	73.7	76.2	77.7	79.2	78.2	83.9	82.9	83.3	84.0	82.6	83.0	80.9	75.2	138.6
50000	68.5	70.5	71.8	73.6	73.2	79.0	77.7	77.6	79.0	76.9	76.9	74.7	68.5	137.5
63000	62.6	64.3	66.8	67.1	67.3	73.6	70.9	71.9	73.5	70.8	71.3	68.6	62.3	137.0
80000	56.0	57.6	59.4	59.7	59.8	67.4	64.3	65.3	66.3	64.9	64.1	61.7	53.9	137.2
OASPL	101.4	103.5	104.2	102.8	103.1	107.4	108.4	110.9	113.2	116.7	118.6	117.7	108.5	155.0
PNL	113.6	115.6	115.8	113.7	114.8	119.5	120.9	123.8	126.3	128.9	129.4	125.9	117.8	
PNLT	113.6	115.6	115.8	114.3	114.8	119.5	121.6	123.8	126.3	128.9	129.4	125.9	117.8	
DBA	99.5	101.4	102.1	100.4	101.2	105.9	107.0	110.4	112.9	116.2	117.1	113.7	104.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH144	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 50.05	PAMB HG = 29.96	RELHUM = 70.6 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 = 1239.0 FPS	AE8 = 4.8 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2028.3 FPS	AE18 = 23.4 SQ IN

RUNPT = 83F-400-1006 TAPE = X1006C TEST PT NO = 1006 NC = AE090 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 - 83F-400-1006   X1006F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	87.4	89.3	89.1	86.1	85.5	87.8	87.4	87.9	93.4	98.4	103.9	106.8	99.3	139.3
315	87.4	89.3	89.1	86.1	86.0	89.1	89.8	91.0	95.6	100.7	105.5	108.4	99.1	140.9
400	88.7	90.3	89.7	86.7	86.6	89.4	95.3	91.1	95.4	102.3	107.0	108.3	100.0	141.7
500	89.2	90.3	90.2	86.5	87.7	90.5	91.8	92.0	96.7	103.8	107.4	107.5	98.6	141.8
630	90.0	91.3	91.4	87.9	88.4	91.7	91.2	93.1	98.2	104.0	106.8	105.8	101.0	141.4
800	90.5	91.7	91.6	88.9	88.8	92.4	92.1	94.3	99.6	104.5	106.5	104.2	102.8	141.5
1000	91.8	91.1	92.2	89.3	90.6	93.9	93.4	95.8	100.1	103.7	104.5	101.6	101.5	140.5
1250	94.2	94.0	93.4	90.2	91.1	94.0	93.5	96.3	101.8	103.8	105.2	99.7	100.6	140.9
1600	92.8	95.4	94.4	91.6	92.2	95.9	95.5	97.2	101.8	104.5	104.6	99.8	101.7	141.3
2000	93.5	94.2	94.6	92.4	92.1	95.6	95.9	98.6	101.4	104.9	104.3	99.3	102.1	141.4
2500	94.2	94.1	93.8	91.9	93.1	96.4	95.9	98.5	103.1	104.4	103.5	100.0	100.9	141.4
3150	93.8	94.8	94.5	91.9	92.5	96.8	97.2	98.9	102.5	103.3	103.8	100.0	101.3	141.4
4000	94.8	95.0	95.2	92.5	94.2	97.8	97.3	99.9	101.9	104.4	103.1	99.2	102.0	141.8
5000	97.5	97.3	97.1	93.9	93.7	98.2	97.5	99.9	102.1	103.2	103.7	101.9	103.3	142.3
6300	97.5	98.4	97.1	93.3	94.6	97.8	97.4	100.3	101.2	102.6	103.0	102.1	102.9	142.3
8000	97.1	99.1	98.0	94.5	95.5	97.2	97.5	99.2	101.8	102.4	102.8	102.0	103.8	142.8
10000	96.9	98.7	99.5	97.0	96.9	99.1	98.0	98.9	100.7	100.3	99.7	100.2	102.1	142.7
12500	97.7	99.0	99.6	97.4	96.1	98.8	97.6	97.6	100.7	98.6	99.2	99.2	100.9	143.1
16000	95.7	96.1	97.3	96.0	95.1	97.8	96.7	96.9	97.8	96.3	95.6	96.8	98.3	142.5
20000	93.1	95.8	95.8	95.3	92.3	95.6	94.6	94.4	94.2	92.2	92.0	93.9	95.2	142.0
25000	90.0	91.8	92.5	91.5	90.7	94.2	92.3	89.7	92.5	90.2	90.5	91.5	92.8	141.7
31500	88.5	90.0	90.6	89.3	86.8	90.6	89.1	87.8	90.0	88.2	88.7	89.4	90.5	142.4
40000	84.7	85.6	85.4	85.7	82.8	86.9	84.9	84.3	86.2	83.9	84.1	84.8	85.4	142.2
50000	79.8	81.0	81.1	81.0	77.8	82.0	80.0	79.3	82.0	79.0	79.9	80.2	80.7	141.9
63000	73.6	74.4	74.3	74.5	71.9	76.6	73.4	73.8	76.3	74.9	74.8	75.7	75.0	141.5
80000	66.3	66.7	67.8	66.5	64.4	70.4	66.8	67.2	66.5	65.1	65.0	65.9	65.2	140.5
OASPL	107.5	108.6	108.6	106.2	106.0	109.1	108.8	110.3	113.4	115.8	117.2	116.6	114.3	155.9
PNL	119.0	119.5	119.2	116.2	117.1	120.5	120.3	122.4	125.5	127.9	128.3	126.1	126.0	
PNLT	119.0	119.5	119.2	116.2	117.1	120.5	121.1	122.4	125.5	127.9	128.3	126.1	126.0	
DBA	189.0	189.6	190.2	189.6	187.1	192.5	189.2	189.5	190.3	188.7	188.7	189.5	189.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH144   TEST DATE = 03-17-83   LOCAT = C41 ANECH CH   CONFIG = 10   MODEL = AX   FLTVEL = 400. FPS
IAPLHA = SB59   IEGA = NO   PWL AREA = FULL SPHERE   TAMB F = 50.05   PAMB HG = 28.96   RELHUM = 70.6 PCT
WIND DIR = DEG   WIND VEL = MPH   EXT DIST = 40.0 FT   EXT CONFIG = ARC   MIKE HT =   NBFR =

FNIN1 = LBS   XNL = RPM   XNH = RPM   V8 = 1239.0 FPS   AE8 = 4.6 SQ IN
FNRAMB = LBS   XNLR = RPM   XNHR = RPM   V18 = 2028.3 FPS   AE18 = 23.4 SQ IN

RUNPT = 83F-400-1006   TAPE = X1006F   TEST PT NO = 1006   NC = AE090   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 - 83F-400-1006 X10061

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.9	68.4	69.3	66.9	67.3	70.5	71.1	71.8	75.7	79.8	83.1	83.7	71.1	157.8
63	66.2	69.3	69.8	67.6	67.8	70.8	76.5	71.9	75.6	81.3	84.5	83.6	71.9	158.7
80	66.6	69.3	70.3	67.3	68.9	71.8	73.0	72.8	76.8	82.8	84.9	82.7	70.4	158.8
100	67.4	70.2	71.4	68.6	69.6	73.0	72.4	73.8	78.2	82.9	84.2	81.0	72.7	158.4
125	67.7	70.6	71.6	69.6	69.9	73.6	73.2	74.9	79.6	83.3	83.8	79.2	74.3	158.4
160	68.8	69.7	72.0	69.8	71.6	75.1	74.4	76.4	79.9	82.4	81.5	76.3	72.6	157.4
200	71.0	72.5	73.0	70.6	71.9	75.0	74.3	76.7	81.4	82.3	82.0	74.1	71.2	157.9
250	69.3	73.6	73.8	71.7	72.8	76.6	76.1	77.4	81.1	82.7	81.1	73.8	71.6	158.3
315	69.5	72.1	73.7	72.3	72.4	76.1	76.2	78.5	80.4	82.7	80.3	72.7	71.3	158.4
400	69.7	71.5	72.5	71.4	73.1	76.5	75.9	78.0	81.7	81.8	79.0	72.7	69.0	158.4
500	68.8	71.8	72.8	71.1	72.1	76.6	76.9	78.1	80.8	80.3	78.8	72.0	68.4	158.3
630	69.3	71.5	73.1	71.3	73.6	77.3	76.7	78.7	79.9	81.0	77.5	70.5	68.0	158.7
800	71.4	73.3	74.6	72.4	72.7	77.4	76.5	78.4	79.6	79.3	77.6	72.4	68.0	159.3
1000	70.8	74.1	74.2	71.5	73.3	76.8	76.1	78.5	78.3	78.2	76.3	71.8	66.4	159.3
1250	69.7	74.3	74.8	72.4	73.9	75.8	76.0	77.0	78.6	77.6	75.4	70.7	65.7	159.8
1600	69.4	72.9	75.6	74.2	74.7	77.1	75.8	76.1	76.8	74.6	71.2	67.3	61.3	159.7
2000	67.7	72.1	74.8	73.9	73.3	76.2	74.8	74.1	75.8	71.7	69.2	64.1	56.5	160.1
2500	63.5	67.6	71.2	71.4	71.3	74.3	72.9	72.3	71.7	67.8	63.4	58.5	48.6	159.5
3150	53.9	64.2	67.2	68.6	66.6	70.1	68.9	67.6	65.6	60.7	55.8	50.1	36.6	159.0
4000	46.8	54.7	59.3	60.7	61.2	65.1	62.8	58.8	59.3	53.1	47.3	37.9	18.9	158.7
5000	34.7	44.6	50.3	52.2	51.5	55.8	53.7	50.7	49.7	42.7	34.9	21.3		159.4
6300	12.7	25.5	32.6	37.5	37.0	41.8	39.0	36.0	33.5	23.8	12.1			159.2
8000			6.1	12.5	12.9	18.2	15.1	10.8	7.0					158.9
10000														158.4
12500														157.5
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	81.4	84.4	85.7	83.9	84.8	88.1	87.9	89.0	91.6	93.4	93.4	90.3	82.6	172.8
PNL	88.9	92.9	95.1	94.0	94.2	97.4	96.5	96.7	98.5	98.0	96.2	91.0	85.3	
PNLT	90.0	92.9	95.1	94.6	94.7	98.0	97.0	97.3	99.1	98.0	97.3	91.0	85.3	
DBA	78.5	82.1	83.7	82.3	82.9	86.1	85.3	86.4	87.7	87.4	85.2	79.7	75.3	

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MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL	= ADH144	TEST DATE	= 03-17-83	LOCAT	= C41 ANECH CH	CONFIG	= 10	MODEL	= AX	FLTVEL =	400. FPS
IAPLHA	= SB60	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 50.05	PAMB HG	= 29.98	RELHUM =	70.6 PCT
WIND DIR =	DEG	WIND VEL	= MPH	EXT DIST	= 2400.0 FT	EXT CONFIG	= SL	MIKE HT	=	NBFR =	
FNIN1 =	LBS	XNL	= RPM	XNH	= RPM	V8	= 1239.0 FPS	AE8	= 4.6 SQ IN		
FNRAMB =	LBS	XNLR	= RPM	XNHR	= RPM	V18	= 2028.3 FPS	AE18	= 23.4 SQ IN		

RUNPT 83F-[illegible] 1006 TAPE = X10061 TEST PT NO = 1[illegible] NC = AE[illegible] CORR FAN SPEED = RPM

DATPROC - FLTRAN

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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 83F-ZER-1007 X1007C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.6	84.7	83.4	80.7	80.6	83.7	80.8	86.0	87.4	86.0	89.9	95.1	84.2	128.6
63	89.8	89.8	90.8	87.4	88.2	91.8	89.2	92.4	94.3	93.9	94.3	101.5	91.4	135.1
80	87.5	93.1	88.8	87.9	88.2	92.6	92.2	92.9	92.3	92.9	96.5	97.0	80.9	134.4
100	88.2	95.2	90.5	90.3	91.6	94.8	94.4	96.3	94.3	97.1	99.0	102.1	85.1	137.5
125	85.1	89.2	92.4	91.7	92.8	95.7	94.8	95.0	94.2	97.5	104.6	106.6	90.0	140.0
160	84.7	84.7	88.7	86.3	87.9	91.7	98.4	94.3	94.2	99.6	105.4	107.9	95.0	140.8
200	85.8	86.6	89.8	87.1	90.2	93.8	94.7	96.4	99.3	100.6	106.5	111.7	99.1	143.2
250	85.3	90.3	91.1	89.1	90.5	93.8	95.7	97.9	99.3	106.2	111.5	114.7	102.1	146.7
315	86.8	90.1	89.9	89.9	92.3	96.1	97.3	98.7	101.1	107.5	113.3	115.5	105.7	148.0
400	88.1	90.8	91.9	89.9	92.3	95.1	105.8	99.2	103.6	110.7	115.8	117.0	107.7	150.3
500	88.8	92.1	92.1	91.2	92.8	96.6	97.0	100.2	103.9	111.2	116.6	118.0	108.9	150.9
630	89.3	92.6	93.1	91.9	94.5	97.8	99.0	101.1	104.8	112.2	117.3	118.5	110.6	151.6
800	92.6	93.1	94.6	92.4	94.8	98.9	98.8	102.4	105.9	112.2	116.3	118.8	112.7	151.6
1000	97.0	100.0	98.1	95.9	96.4	99.8	100.2	104.4	107.3	111.9	115.8	117.4	112.6	151.1
1250	96.2	100.5	99.5	98.6	99.4	101.5	101.1	104.3	107.7	111.1	114.2	117.9	113.8	151.0
1600	95.1	97.0	98.2	96.5	98.5	101.6	102.2	104.8	108.7	111.0	115.4	118.3	113.9	151.5
2000	96.5	99.1	98.5	96.6	97.5	100.8	102.3	105.9	108.3	111.5	115.1	117.4	112.9	151.1
2500	94.7	98.3	99.1	96.6	98.7	101.1	101.7	105.6	107.7	111.5	114.5	114.8	111.3	150.1
3150	95.1	98.4	98.7	97.0	97.5	100.9	102.2	105.2	109.0	110.6	114.4	113.5	108.9	149.6
4000	93.6	97.7	98.1	96.2	97.1	100.9	101.5	105.3	107.5	108.7	112.6	111.7	107.8	148.2
5000	92.4	97.6	98.0	95.6	97.2	100.6	100.8	104.6	107.1	109.3	111.8	110.0	106.5	147.7
6300	91.7	97.3	97.8	96.2	98.0	100.4	101.0	104.2	106.2	107.4	110.6	108.3	105.3	146.9
8000	90.8	96.0	97.3	96.2	97.1	100.1	100.3	102.7	104.7	105.7	108.3	107.7	103.8	145.8
10000	90.1	95.2	96.7	96.0	97.9	100.6	100.6	102.6	104.6	104.8	106.6	106.5	103.5	145.7
12500	88.9	92.7	95.5	94.9	96.7	100.1	99.7	101.0	102.6	102.5	104.5	105.9	102.2	145.1
16000	87.1	92.4	93.6	94.5	95.3	98.3	98.6	99.8	100.7	99.7	103.2	103.6	99.3	144.6
20000	85.1	89.7	91.1	92.0	93.3	97.0	97.1	97.3	99.0	97.7	99.9	101.0	96.4	144.1
25000	82.2	85.9	88.2	89.8	90.9	95.2	94.9	93.9	95.9	94.4	96.9	97.7	92.8	143.7
31500	79.3	82.3	84.6	86.8	87.3	91.2	90.9	90.5	91.8	91.3	93.3	93.3	88.5	143.0
40000	75.4	79.1	81.1	82.9	83.3	87.7	87.3	86.3	87.6	88.2	90.4	90.3	84.4	143.5
50000	69.5	72.9	75.2	76.9	77.4	83.0	81.6	80.6	83.1	82.9	85.1	85.2	78.4	142.6
63000	63.9	67.3	69.8	70.6	71.9	77.7	75.8	75.4	78.5	77.1	80.6	78.3	73.1	142.5
80000	57.3	61.1	62.8	63.0	65.2	71.1	69.0	69.3	71.8	71.1	74.7	73.2	66.3	143.1
OASPL	106.1	109.8	109.9	108.5	109.9	113.0	114.2	116.3	119.1	122.6	126.8	128.4	122.6	162.7
PNL	118.8	122.4	122.7	121.0	122.2	125.4	126.5	129.2	132.2	134.9	138.7	139.4	134.2	
PNLT	118.8	123.5	122.7	121.6	122.7	125.4	127.9	129.2	132.2	134.9	138.7	139.4	134.2	
DBA	105.9	109.4	109.5	107.7	109.1	112.1	113.0	116.0	118.9	122.2	126.0	127.5	122.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH130 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB50 ISOA = NO PWL AREA = FULL SPHERE TAMB F = 53.53 PAMB HG = 29.64 RELHUM = 40.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNII = RPM V8 = 1307.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2133.5 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1007 TAPE = X1007C TEST PT NO = 1007 NC = AE090 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 - 83F-ZER-1007 X1007F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.6	84.7	83.4	80.7	80.6	83.7	80.8	86.0	87.4	86.0	89.9	95.1	84.2	128.6
63	89.8	89.5	90.8	87.4	88.2	91.8	89.2	92.4	94.3	93.9	94.3	101.5	91.4	135.1
80	87.5	93.1	88.8	87.9	88.2	92.6	92.2	92.9	92.3	92.9	96.5	97.0	80.9	134.4
100	88.2	95.2	90.5	90.3	91.6	94.8	94.4	96.3	94.3	97.1	99.0	102.1	85.1	137.5
125	85.1	89.2	92.4	91.7	92.8	95.7	94.8	95.0	94.2	97.5	104.6	106.6	90.0	140.0
160	84.7	84.7	88.7	86.3	87.9	91.7	98.4	94.3	94.2	99.6	105.4	107.9	95.0	140.8
200	85.8	86.6	89.8	87.1	90.2	93.8	94.7	96.4	99.3	100.6	106.5	111.7	99.1	143.2
250	85.3	90.3	91.1	89.1	90.5	93.8	95.7	97.9	99.3	106.2	111.5	114.7	102.1	146.7
315	86.8	90.1	89.9	89.9	92.3	96.1	97.3	98.7	101.1	107.5	113.3	115.5	105.7	148.0
400	88.1	90.8	91.9	89.9	92.3	95.1	105.8	99.2	103.6	110.7	115.8	117.0	107.7	150.3
500	88.8	92.1	92.1	91.2	92.8	96.6	97.0	100.2	103.9	111.2	116.6	118.0	108.9	150.9
630	89.3	92.6	93.1	91.9	94.5	97.8	99.0	101.1	104.8	112.2	117.3	118.5	110.6	151.6
800	92.6	93.1	94.6	92.4	94.8	98.9	98.8	102.4	105.9	112.2	116.3	118.8	112.7	151.6
1000	97.0	100.0	98.1	95.9	96.4	99.8	100.2	104.4	107.3	111.9	115.8	117.4	112.6	151.1
1250	96.2	100.5	99.5	98.6	99.4	101.5	101.1	104.3	107.7	111.1	114.2	117.9	113.8	151.0
1600	95.1	97.0	98.2	96.5	98.5	101.6	102.2	104.8	108.7	111.0	115.4	118.3	113.9	151.5
2000	96.5	99.1	98.5	96.6	97.5	100.8	102.3	105.9	108.3	111.5	115.1	117.4	112.9	151.1
2500	94.7	98.3	99.1	96.6	98.7	101.1	101.7	105.6	107.7	111.5	114.5	114.8	111.3	150.1
3150	95.1	98.4	98.7	97.0	97.5	100.9	102.2	105.2	109.0	110.6	114.4	113.5	108.9	149.6
4000	93.6	97.7	98.1	96.2	97.1	100.9	101.5	105.3	107.5	108.7	112.6	111.7	107.8	148.2
5000	92.4	97.6	98.0	95.6	97.2	100.6	100.8	104.6	107.1	109.3	111.8	110.0	106.5	147.7
6300	91.7	97.3	97.8	96.2	98.0	100.4	101.0	104.2	106.2	107.4	110.6	108.3	105.3	146.9
8000	90.8	96.0	97.3	96.2	97.1	100.1	100.3	102.7	104.7	105.7	108.3	107.7	103.8	145.8
10000	90.1	95.2	96.7	96.0	97.9	100.6	100.6	102.6	104.6	104.8	106.6	106.5	103.5	145.7
12500	88.9	92.7	95.5	94.9	96.7	100.1	99.7	101.0	102.6	102.5	104.5	105.9	102.2	145.1
16000	87.1	92.4	93.6	94.5	95.3	98.3	98.6	99.8	100.7	99.7	103.2	103.6	99.3	144.6
20000	85.1	89.7	91.1	92.0	93.3	97.0	97.1	97.3	99.0	97.7	99.9	101.0	96.4	144.1
25000	82.2	85.9	88.2	89.8	90.9	95.2	94.9	93.9	95.9	94.4	96.9	97.7	92.8	143.7
31500	79.3	82.3	84.6	86.8	87.3	91.2	90.9	90.5	91.8	91.3	93.3	93.3	88.5	143.0
40000	75.4	79.1	81.1	82.9	83.3	87.7	87.3	86.3	87.6	88.2	90.4	90.3	84.4	143.5
50000	69.5	72.9	75.2	76.9	77.4	83.0	81.6	80.6	83.1	82.9	85.1	85.2	78.4	142.6
63000	63.9	67.3	69.8	70.6	71.9	77.7	75.8	75.4	78.5	77.1	80.6	78.3	73.1	142.5
80000	57.3	61.1	62.8	63.0	65.2	71.1	69.0	69.3	71.8	71.1	74.7	73.2	66.3	143.1
OASPL	106.1	109.8	109.9	108.5	109.9	113.0	114.2	116.3	119.1	122.6	126.8	128.4	122.6	162.7
PNL	118.8	122.4	122.7	121.0	122.2	125.4	126.5	129.2	132.2	134.9	138.7	139.4	134.2	
PNLT	118.8	123.5	122.7	121.6	122.7	125.4	127.9	129.2	132.2	134.9	138.7	139.4	134.2	
DBA	179.6	183.3	185.3	185.9	187.6	193.3	191.4	191.4	194.0	193.2	196.6	195.1	188.7	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH130 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.53 PAMB HG = 29.34 RELHUM = 40.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBER =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1307.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2133.5 FPS AE18 = 23.4 SQ IN

NPT IF-Z 007 PE = X 7F T PT 10 AEC RR SPE 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 - 83F-ZER-1007 X10071

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.4	69.2	70.0	70.8	73.5	77.5	78.5	79.5	81.3	86.5	90.9	90.9	77 7	165.0
63	65.6	69.9	72.0	70.7	73.5	76.5	87.0	80.0	83.7	89.7	93.3	92.3	79.6	167.3
80	66.3	71.1	72.2	72.0	74.0	78.0	78.2	81.0	84.0	90.2	94.1	93.3	80.8	167.9
100	66.7	71.5	73.1	72.6	75.6	79.1	80.1	81.9	84.9	91.1	94.7	93.6	82.3	168.6
125	69.8	72.0	74.8	73.1	75.9	80.1	79.9	83.1	85.8	91.1	93.6	93.7	84.1	168.6
160	74.1	78.7	77.9	76.4	77.4	80.9	81.2	84.9	87.1	90.6	92.8	92.2	83.7	168.1
200	73.0	78.9	79.1	79.0	80.2	82.4	81.9	84.6	87.3	89.5	91.0	92.2	84.4	168.0
250	71.6	75.2	77.5	76.7	79.1	82.4	82.8	84.9	88.0	89.2	91.8	92.2	83.9	168.5
315	72.6	76.9	77.6	76.5	77.8	81.3	82.7	85.8	87.3	89.4	91.1	90.8	82.0	168.1
400	70.2	75.7	77.8	76.1	78.7	81.2	81.7	85.1	86.4	88.9	90.1	87.6	79.5	167.0
500	70.1	75.4	77.0	76.1	77.2	80.7	81.9	84.4	87.4	87.6	89.4	85.6	76.0	166.6
630	68.0	74.2	76.0	75.1	76.5	80.4	80.8	84.2	85.4	85.2	87.1	83.0	73.7	165.2
800	66.3	73.7	75.5	74.1	76.2	79.8	79.8	83.1	84.6	85.3	85.7	80.6	71.3	164.7
1000	65.0	72.9	75.0	74.3	76.7	79.3	79.7	82.3	83.4	83.0	83.9	78.0	68.8	163.9
1250	63.5	71.1	74.1	74.0	75.5	78.8	78.8	80.5	81.5	80.8	80.9	76.4	65 6	162.8
1600	61.6	69.5	72.8	73.2	75.7	78.7	78.5	79.8	80.6	79.1	78.1	73.5	62.7	162.7
2000	58.9	65.8	70.7	71.4	73.9	77.6	76.9	77.4	77.8	75.6	74.5	70.8	57.8	162.0
2500	54.9	63.9	67.4	69.9	71.5	74.8	74.8	75.2	74.6	71.2	71.0	65.3	49.6	161.6
3150	49.0	58.2	62.5	65.3	67.5	71.6	71.4	70.5	70.4	66.2	63.7	57.1	37.8	161.1
4000	39.0	48.8	55.0	58.9	61.3	66.1	65.3	63.1	62.7	57.4	53.7	44.1	18.8	160.6
5000	25.5	36.8	44.3	49.7	52.0	56.4	55.6	53.4	51.5	45.8	39.5	25.2		160.0
6300	3.4	19.0	28.3	34.6	37.5	42.6	41.4	38.0	34.9	28.2	18.4			160.5
8000			0.2	8.5	12.5	19.2	16.7	12.2	8.1					159.6
10000														159.5
12500														160.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	81.5	86.7	88.0	87.3	89.2	92.4	93.7	95.5	97.6	100.5	103.1	102.4	92.5	179.4
PNL	85.8	91.7	94.2	94.6	96.6	100.2	100.3	101.7	103.3	104.5	105.9	104.4	94.7	
PNLT	85.8	92.3	94.9	95.2	97.2	100.7	100.9	102.3	103.9	104.5	105.9	104.4	94.7	
DBA	75.3	81.6	83.8	83.4	85.4	88.7	88.9	91.2	92.6	93.1	94.3	91.9	83.0	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH130 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.53 PAMB HG = 29.84 RELHUM = 40.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1307.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2133.5 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1007 TAPE = X10071 TEST PT NO = 1007 NC = AE090 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

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IDENTIFICATION - MODEL 83F-400-1008 X1008C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.9	87.4	83.7	82.0	81.6	83.9	83.8	86.5	88.9	87.7	92.4	93.8	84.0	129.5
63	90.8	89.8	91.6	87.4	87.4	91.1	90.9	90.9	94.3	93.6	94.5	95.5	90.4	133.8
80	89.5	94.6	90.1	89.4	90.2	93.8	93.5	93.1	93.6	93.9	96.8	97.5	85.4	135.4
100	87.7	93.7	89.3	89.3	90.9	93.8	94.4	95.8	93.8	95.3	97.7	101.9	87.1	136.7
125	85.9	88.9	90.7	90.5	92.6	94.7	94.3	94.2	93.7	96.5	103.1	106.3	90.7	139.2
160	83.9	83.5	87.2	85.5	87.1	89.7	97.1	90.5	93.5	97.1	103.4	106.4	94.3	139.1
200	84.5	84.3	87.1	84.6	87.5	91.1	93.0	93.9	96.8	97.9	104.3	109.5	96.9	140.9
250	82.5	86.1	87.1	86.4	89.0	91.8	92.5	94.9	97.1	103.4	109.3	111.7	99.1	144.0
315	84.1	87.1	87.6	86.7	89.5	92.9	94.0	96.2	98.9	105.7	111.1	113.0	101.2	145.6
400	85.1	87.8	88.4	86.9	90.0	92.9	98.8	96.7	101.6	108.7	113.6	114.5	100.4	147.7
500	85.8	88.4	89.6	88.2	91.3	94.1	95.3	97.7	101.9	110.5	115.1	113.8	97.7	148.4
630	86.3	88.8	89.8	88.9	92.0	94.6	96.7	99.1	102.3	110.4	115.3	112.7	95.6	148.3
800	87.3	88.4	89.9	88.9	92.5	95.6	97.3	100.2	103.6	110.0	113.3	109.3	93.7	146.8
1000	92.0	94.0	92.6	90.6	94.2	97.3	98.4	101.8	105.6	110.6	113.0	106.4	93.3	146.8
1250	90.7	95.2	93.5	91.9	94.8	97.7	98.8	101.8	106.0	110.0	111.2	103.8	93.5	145.9
1600	89.3	91.5	92.1	92.0	94.5	98.4	99.5	102.5	106.9	109.5	110.1	102.0	92.2	145.5
2000	91.0	92.8	93.0	91.9	93.9	97.8	99.3	103.4	106.0	109.5	109.0	100.6	93.6	145.1
2500	93.4	94.7	94.3	92.5	95.9	98.5	99.2	103.5	105.9	109.7	108.2	100.0	94.0	145.1
3150	94.0	95.3	95.1	93.1	94.9	98.8	100.4	103.4	106.9	108.5	107.5	101.2	93.6	145.0
4000	93.9	94.8	95.9	93.6	96.0	98.7	99.3	103.2	105.3	107.0	106.7	100.8	93.9	144.1
5000	93.2	96.4	96.3	93.9	96.2	98.9	99.3	102.9	105.1	108.0	107.3	100.8	93.8	144.6
6300	93.4	95.7	96.0	94.1	96.4	98.8	99.6	102.8	104.6	106.2	107.0	101.0	94.3	144.3
8000	93.2	95.7	96.3	94.3	95.7	98.7	99.7	101.3	103.7	104.8	105.1	99.8	94.1	143.5
10000	92.6	95.1	96.6	95.4	96.6	99.1	99.1	101.0	103.2	104.1	103.5	99.4	93.5	143.6
12500	91.8	94.0	95.1	94.3	96.3	99.3	99.1	100.1	102.0	101.7	101.1	98.8	92.6	143.2
16000	90.9	94.1	94.0	94.5	95.3	97.5	98.6	99.5	100.6	99.3	99.6	96.8	91.3	143.3
20000	87.9	90.7	91.6	91.8	93.1	95.6	96.4	96.8	97.5	97.0	96.6	94.5	89.0	142.5
25000	84.4	87.2	88.8	89.3	90.6	94.5	94.6	92.9	94.8	93.5	93.2	92.4	86.0	142.3
31500	81.0	83.6	84.7	87.1	87.5	91.2	90.9	90.8	91.9	90.0	89.8	88.2	82.2	142.2
40000	77.6	79.8	81.5	82.3	83.3	87.7	87.3	86.4	88.1	86.0	86.6	84.5	78.1	142.4
50000	71.3	73.9	75.0	76.7	77.8	82.9	81.8	80.9	81.9	80.8	81.0	78.3	71.9	141.2
63000	65.3	67.7	69.7	70.6	71.5	77.0	75.3	75.8	77.4	75.0	75.7	72.3	66.0	140.9
80000	59.1	62.1	63.4	62.9	65.3	71.3	68.3	68.5	70.1	67.9	68.6	65.4	57.6	141.0
OASPL	104.8	107.2	107.3	106.0	108.0	111.0	112.1	114.4	117.2	121.1	123.6	121.9	109.3	159.2
PNL	117.5	119.4	119.7	117.9	120.2	123.2	124.5	127.2	130.3	133.2	133.9	130.3	120.0	
PNLT	118.5	119.4	119.7	118.4	120.8	123.2	125.2	127.2	130.3	133.2	133.9	130.3	120.0	
DBA	103.7	105.8	105.9	104.2	106.6	109.6	110.7	113.9	117.0	120.6	122.1	118.2	106.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH145	TEST DATE = 03-17-83		LOCAT = C41 ANECH CH		CONFIG = 10		MODEL = [illegible]		FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO		PWL AREA = FULL SPHERE		TAMB F = 50.64		PAMB HG = [illegible]		RELHUM = 70.0 PCT
WIND DIR = DEG	WIND VEL =	MPH	EXT DIST = 40.0 FT		EXT CONFIG = ARC		MIKE HT = [illegible]		NBFR =
FNIN1 = LBS	XNL =	RPM	XNH =	RPM	V8 = 1335.3 FPS		AE8 = [illegible] SQ IN		
FNRAMB = LBS	XNLR =	RPM	XNHR =	RPM	V18 = 2169.5 FPS		AE18 = 20.4 SQ IN		
RUNPT = 83F-400-1008	TAPE = X1008C		TEST PT NO = 1008		NC = AE090		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 - 83F-400-1008 X1008F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.4	92.5	92.0	89.7	90.6	91.8	91.0	92.1	96.4	102.7	107.9	110.6	100.9	143.1
315	90.4	92.5	92.0	89.7	91.3	93.1	93.0	94.0	99.1	105.7	110.5	112.7	101.5	145.3
400	91.8	93.5	92.6	90.1	91.8	93.1	97.7	94.4	99.4	107.4	112.1	112.4	100.2	146.2
500	92.7	94.2	93.3	90.3	93.2	94.5	94.2	95.3	100.1	107.7	112.8	112.4	100.2	146.5
630	93.5	94.8	94.6	91.6	93.9	95.0	95.7	96.8	101.8	107.7	111.5	110.2	100.9	145.5
800	94.0	95.2	94.9	92.4	94.6	96.2	96.3	97.9	104.0	108.8	111.7	108.4	102.8	145.8
1000	95.0	94.8	95.0	92.5	96.1	97.9	97.6	99.6	104.6	108.3	109.9	105.9	102.9	145.0
1250	98.2	99.5	97.0	93.8	97.0	98.5	98.1	99.7	105.7	107.8	108.8	103.8	101.0	144.8
1600	97.5	101.2	98.3	95.4	97.0	99.4	99 0	100.7	105.1	108.3	108.3	103.1	103.5	144.9
2000	97.0	98.0	97.4	95.9	96.6	99.1	99.1	101.8	105.5	108.9	108.0	103.1	104.6	145.1
2500	98.7	99.4	98.3	95.9	98.8	100.1	99.3	102.4	107.1	108.4	108.0	105.1	105.1	145.7
3150	100.8	101.1	99.6	96.6	98.1	100.8	101.0	102.7	106.3	107.7	108.0	105.5	106.1	145.8
4000	100.9	101.5	100.4	97.3	99.7	101.3	100.6	103.2	106.1	108.6	108.5	105.4	105.9	146.3
5000	101.5	101.5	101.6	98.2	100.2	101.9	100.8	103.0	105.9	107.3	108.7	106.2	106.9	146.5
6300	100.7	103.1	102.1	98.8	100.4	101.8	101.2	103.1	105.8	106.7	107.6	105.7	107.4	146.5
8000	100.7	102.2	101.7	98.8	99.7	101.7	101.7	102.1	105.8	106.5	106.5	105.8	107.1	146.6
10000	100.3	102.1	101.8	98.8	100.6	102.1	101.3	102.2	105.5	104.9	104.7	105.5	106.2	146.6
12500	99.4	101.2	101.8	99.7	100.4	102.3	101.5	101.8	104.8	103.1	103.7	103.8	105.1	146.8
16000	98.2	99.6	99.8	98.0	99.4	100.5	101.1	101.3	102.1	101.0	100.8	101.4	102.6	146.4
20000	96.8	99.2	98.3	97.8	97.1	98.6	98.8	98.7	98.7	97.0	96.9	98.9	99.4	145.8
25000	93.2	95.3	95.3	94.5	95.2	97.5	96.4	93.7	97.5	95.2	95.2	96.4	97.1	145.7
31500	91.6	93.3	93.4	92.4	92.1	94.2	93.0	92.1	95.0	92.5	93.3	94.0	94.3	146.3
40000	87.5	88.9	88.4	89.3	87.9	90.7	89.6	88.1	89.3	88.0	88.5	88.6	89.0	146.0
50000	83.7	84.6	84.9	84.1	82.4	85.9	84.2	82.6	85.8	83.3	84.5	84.2	84.9	145.8
63000	76.5	77.8	77.4	77.6	76.1	80.0	77.8	77.7	80.0	77.9	79.2	79.3	78.7	145.1
80000	68.9	70.2	70.7	70.0	69.9	74.3	70.7	70.4	70.2	68.1	69.4	69.5	68.8	144.2
OASPL	111.9	112.7	112.0	109.5	111.0	112.8	112.5	113.7	117.4	120.0	122.0	120.9	117.3	159.9
PNL	123.3	124.3	123.4	120.4	122.5	124.2	123.9	125.8	129.4	132.0	132.9	130.6	129.2	
PNLT	123.3	124.3	123.4	120.4	122.5	124.2	124.6	125.8	129.4	132.0	132.9	130.6	129.2	
DBA	191.9	193.1	193.3	192.9	192.1	196.3	193.3	192.9	194.1	191.9	193.2	193.3	192.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH145 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.64 PAMB HG = 28.95 RELHUM = 70.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1335.3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2169.5 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1008 TAPE = X1008F TEST PT NO = 1008 NC = AE090 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 - 83F-400-1008 X10081

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.0	71.6	72.2	70.5	72.6	74.5	74.2	74.9	79.3	84.8	88.1	88.0	73.5	162.3
63	69.3	72.6	72.7	70.9	73.1	74.5	78.9	75.2	79.5	86.5	89.6	87.7	72.1	163.1
80	70.2	73.2	73.4	71.1	74.4	75.8	75.4	76.1	80.2	86.7	90.3	87.6	72.1	163.5
100	70.9	73.7	74.7	72.4	75.1	76.3	76.9	77.6	81.8	86.7	88.9	85.4	72.6	162.5
125	71.2	74.1	74.8	73.1	75.7	77.4	77.4	78.6	84.0	87.6	88.9	83.4	74.3	162.8
160	72.1	73.5	74.8	73.0	77.1	79.1	78.6	80.2	84.4	87.0	87.0	80.6	74.0	162.0
200	75.0	77.9	76.6	74.2	77.8	79.5	79.0	80.1	85.3	86.3	85.6	78.2	71.6	161.7
250	74.0	79.3	77.7	75.5	77.6	80.1	79.6	80.8	84.5	86.5	84.8	77.1	73.4	161.9
315	73.0	75.8	76.4	75.8	76.9	79.6	79.4	81.7	84.6	86.8	84.0	76.5	73.7	162.1
400	74.2	76.8	77.0	75.4	78.8	80.3	79.3	81.9	85.8	85.8	83.5	77.8	73.2	162.7
500	75.8	78.1	77.9	75.8	77.8	80.6	80.7	81.9	84.6	84.7	83.1	77.5	73.2	162.8
630	75.4	78.1	78.3	76.2	79.0	80.8	79.9	82.0	84.0	85.1	82.9	76.7	71.8	163.3
800	75.4	77.6	79.2	76.7	79.3	81.1	79.8	81.5	83.4	83.4	82.6	76.7	71.6	163.4
1000	74.0	78.7	79.3	76.9	79.2	80.8	79.9	81.3	83.0	82.3	80.9	75.4	70.8	163.5
1250	73.3	77.3	78.4	76.6	78.1	80.3	80.2	79.9	82.5	81.6	79.2	74.5	68.9	163.5
1600	71.8	76.4	77.9	76.0	78.5	80.1	79.2	79.4	81.5	79.2	76.2	72.6	65.4	163.6
2000	69.4	74.3	77.0	76.1	77.5	79.7	78.7	78.2	80.0	76.2	73.6	68.7	60.7	163.8
2500	66.0	71.1	73.7	73.4	75.6	77.0	77.3	76.7	76.0	72.5	68.6	63.1	53.0	163.3
3150	60.6	67.7	69.7	71.1	71.3	73.1	73.1	71.9	70.1	65.5	60.7	55.0	40.7	162.8
4000	50.0	58.2	62.1	63.7	65.7	68.4	66.9	62.8	64.3	58.2	52.0	42.8	23.2	162.7
5000	37.9	47.8	53.1	55.3	56.8	59.3	57.7	55.0	54.7	47.1	39.5	25.9		163.3
6300	15.5	28.8	35.7	41.0	42.1	45.6	43.8	39.8	36.6	27.9	16.5			163.0
8000			9.9	15.6	17.5	22.1	19.3	14.3	10.8					162.8
10000														162.0
12500														161.2
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.5	88.8	89.3	87.5	89.9	91.8	91.5	92.5	95.7	97.6	98.2	94.7	84.5	176.8
PNL	92.2	96.5	98.1	97.0	99.0	101.0	100.6	100.6	102.7	102.3	100.9	95.7	88.3	
PNLT	93.4	96.5	98.1	97.6	99.5	101.6	101.2	101.2	102.7	102.3	102.0	95.7	88.3	
DBA	82.5	86.2	87.3	85.7	87.7	89.7	89.0	89.7	91.9	91.6	89.8	84.2	78.9	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL	= ADH145	TEST DATE	= 03-17-83	LOCAT	= C41 ANECH CH	CONFIG	= 10	MODEL	= AX	FLTVEL =	400. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 50.64	PAMB HG	= 29.95	RELHUM =	70.0 PCT
WIND DIR =	DEG	WIND VEL	= MPH	EXT DIST	= 2400.0 FT	EXT CONFIG	= SL	MIKE HT	=	NBFR	=
FNIN1 =	LBS	XNL	= RPM	XNH	= RPM	V8	= 1335.3 FPS	AE8	= 4.6 SQ IN		
FNRAMB =	LBS	XNLR	= RPM	XNHR	= RPM	V18	= 2169.5 FPS	AE18	= 23.4 SQ IN		

RUNPT 33F-400-1008 TAPE = X10081 TEST PT NO = 1008 NC = AE... 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   83F-ZER-1009   X1009C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	86.9	84.2	83.0	83.3	87.7	87.3	90.5	89.7	87.2	96.1	97.1	93.5	132.2
63	90.8	89.5	89.6	88.6	90.2	94.3	93.0	94.6	95.6	90.1	100.5	100.0	100.1	136.8
80	90.0	96.1	91.6	90.4	91.5	96.1	95.0	94.6	95.8	95.9	99.0	100.0	87.1	137.2
100	90.0	97.7	93.3	92.8	93.9	97.0	96.6	98.3	96.5	99.6	101.0	104.6	89.3	139.8
125	86.4	91.4	94.2	93.5	94.8	97.7	96.8	97.0	97.2	100.5	106.9	109.1	93.0	142.3
160	85.4	87.2	90.7	88.8	89.9	93.2	99.9	95.5	96.2	102.1	107.4	109.9	97.8	142.8
200	87.8	88.1	90.8	89.4	92.5	95.8	98.0	98.4	102.1	103.4	108.8	113.7	101.6	145.4
250	87.3	92.3	93.3	91.9	93.5	95.8	98.0	100.4	103.1	109.4	114.5	116.5	104.4	149.2
315	88.6	91.9	91.6	91.2	94.3	98.4	99.8	101.2	104.1	111.2	116.6	117.8	107.9	150.8
400	91.1	94.1	94.6	92.4	94.5	97.9	107.0	102.9	106.6	115.4	119.8	119.5	109.9	153.7
500	91.6	94.9	95.6	94.2	96.3	99.6	100.3	103.7	108.1	117.2	120.8	120.0	111.4	154.6
630	92.8	96.8	96.8	95.1	97.7	101.6	101.7	105.1	109.6	119.2	122.3	120.5	113.1	156.0
800	95.6	97.1	98.1	96.4	98.0	102.1	102.8	106.2	110.6	117.7	121.6	120.8	114.7	155.5
1000	100.0	104.0	102.6	99.6	100.7	103.6	104.4	107.6	111.3	116.4	121.0	120.2	115.6	155.2
1250	105.4	111.2	111.0	110.1	109.6	110.2	108.1	110.0	113.2	119.1	127.7	128.9	123.0	161.9
1600	98.6	101.5	101.9	100.5	102.0	105.1	105.7	108.3	112.2	115.0	120.9	121.0	115.2	155.2
2000	99.5	103.3	102.3	99.9	101.2	104.6	105.6	109.1	112.3	115.5	120.3	119.1	113.6	154.6
2500	101.2	106.3	105.6	102.3	103.7	105.3	105.2	109.1	112.0	116.5	121.0	118.3	114.3	155.1
3150	98.8	102.9	103.4	102.0	102.3	105.6	105.5	108.7	112.3	114.9	119.1	116.5	111.2	153.6
4000	97.1	101.2	102.6	101.0	103.1	105.3	105.0	108.6	111.0	113.2	118.1	115.4	110.0	152.6
5000	96.4	101.4	102.5	100.1	102.2	105.6	104.8	107.8	110.3	114.0	117.3	113.5	108.8	152.1
6300	95.4	100.3	101.8	100.6	102.7	105.4	105.7	108.4	109.9	111.4	115.8	112.8	107.5	151.3
8000	93.8	98.2	100.5	100.2	101.6	104.6	104.6	107.2	108.2	110.4	114.0	111.2	105.8	150.2
10000	93.1	98.4	99.7	99.7	101.6	104.8	104.6	105.8	107.6	109.3	113.1	110.2	104.7	150.0
12500	91.6	95.9	98.3	98.4	100.7	104.4	104.0	105.2	106.4	107.5	111.5	108.4	103.9	149.5
16000	90.6	95.4	97.0	98.0	99.3	102.8	102.9	104.0	104.9	105.5	109.4	106.6	101.2	149.2
20000	87.9	92.5	94.6	95.5	96.8	100.8	100.9	101.0	102.2	103.2	106.4	103.2	98.2	148.3
25000	85.2	89.7	91.7	93.0	94.1	98.7	97.9	97.4	99.7	98.0	100.0	98.7	93.8	146.8
31500	82.6	85.8	88.4	90.3	90.6	95.0	94.5	94.5	95.9	95.1	97.8	95.3	89.3	146.7
40000	78.5	82.4	84.6	85.7	86.6	91.3	90.3	90.6	92.4	91.8	95.0	91.6	85.5	147.1
50000	73.1	76.4	78.5	80.5	81.5	86.3	84.9	85.2	87.2	87.0	90.2	86.5	79.7	146.4
63000	67.7	71.1	73.1	74.7	75.5	81.3	79.1	80.2	82.8	82.4	85.2	81.6	75.2	146.7
80000	61.6	64.4	66.6	67.3	69.3	75.6	72.5	74.4	77.3	77.7	79.5	76.3	68.8	147.8
OASPL	110.7	115.4	115.5	114.2	115.1	117.6	117.8	120.0	122.9	127.9	133.0	132.7	126.6	167.7
PNL	123.1	127.6	127.6	125.6	127.0	129.7	130.0	132.7	135.7	139.6	144.2	143.6	137.4	
PNLT	125.2	131.4	130.5	129.0	129.7	131.7	131.1	132.7	135.7	140.7	146.5	146.4	140.0	
DBA	110.9	115.7	115.6	114.1	114.8	117.0	116.9	119.7	122.8	127.4	132.8	132.5	126.8	

ORIGINAL PAGE IS OF POOR QUALITY

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH132	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.31	PAMB HG = 29.59	RELHUM = 41.7 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 = 1407.6 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2305.3 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-ZER-1009	TAPE = X1009C	TEST PT NO = 1009	NC = AE090	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 - 83F-ZER-1009 X1009F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	86.9	84.2	83.0	83.3	87.7	87.3	90.5	89.7	87.2	96.1	97.1	93.5	132.2
63	90.8	89.5	89.6	88.6	90.2	94.3	93.0	94.6	95.6	90.1	100.5	100.0	100.1	136.8
80	90.0	96.1	91.6	90.4	91.5	96.1	95.0	94.6	95.8	95.9	99.0	100.0	87.1	137.2
100	90.0	97.7	93.9	92.8	93.9	97.0	96.6	98.3	96.5	99.6	101.0	104.6	89.3	139.8
125	86.4	91.4	94.2	93.5	94.8	97.7	96.8	97.0	97.2	100.5	106.9	109.1	93.0	142.3
160	85.4	87.2	90.7	88.8	89.9	93.2	99.9	95.5	96.2	102.1	107.4	109.9	97.8	142.8
200	87.8	88.1	90.8	89.4	92.5	95.8	98.0	98.4	102.1	103.4	108.8	113.7	101.6	145.4
250	87.3	92.3	93.3	91.9	93.5	95.8	98.0	100.4	103.1	109.4	114.5	116.5	104.4	149.2
315	88.6	91.9	91.6	91.2	94.3	98.4	99.8	101.2	104.1	111.2	116.6	117.8	107.9	150.8
400	91.1	94.1	94.6	92.4	94.5	97.9	107.0	102.9	106.6	115.4	119.8	119.5	109.9	153.7
500	91.6	94.9	95.6	94.2	96.3	99.6	100.3	103.7	108.1	117.2	120.8	120.0	111.4	154.6
630	92.8	96.8	96.8	95.1	97.7	101.6	101.7	105.1	109.6	119.2	122.3	120.5	113.1	156.0
800	95.6	97.1	98.1	96.4	98.0	102.1	102.8	106.2	110.6	117.7	121.6	120.8	114.7	155.5
1000	100.0	104.0	102.6	99.6	100.7	103.6	104.4	107.6	111.3	116.4	121.0	120.2	115.6	155.2
1250	105.4	111.2	111.0	110.1	109.6	110.2	108.1	110.0	113.2	119.1	127.7	128.9	123.0	161.9
1600	98.6	101.5	101.9	100.5	102.0	105.1	105.7	108.3	112.2	115.0	120.9	121.0	115.2	155.2
2000	99.5	103.3	102.3	99.9	101.2	104.6	105.6	109.1	112.3	115.5	120.3	119.1	113.6	154.6
2500	101.2	106.3	105.6	102.3	103.7	105.3	105.2	109.1	112.0	116.5	121.0	118.3	114.3	155.1
3150	98.8	102.9	103.4	102.0	102.3	105.6	105.5	108.7	112.3	114.9	119.1	116.5	111.2	153.6
4000	97.1	101.2	102.6	101.0	103.1	105.3	105.0	108.6	111.0	113.2	118.1	115.4	110.0	152.6
5000	96.4	101.4	102.5	100.1	102.2	105.6	104.8	107.8	110.3	114.0	117.3	113.5	108.8	152.1
6300	95.4	100.3	101.8	100.6	102.7	105.4	105.7	108.4	109.9	111.4	115.8	112.8	107.5	151.3
8000	93.8	98.2	100.5	100.2	101.6	104.6	104.6	107.2	108.2	110.4	114.0	111.2	105.8	150.2
10000	93.1	98.4	99.7	99.7	101.6	104.8	104.6	105.8	107.6	109.3	113.1	110.2	104.7	150.0
12500	91.6	95.9	98.3	98.4	100.7	104.4	104.0	105.2	106.4	107.5	111.5	108.4	103.9	149.5
16000	90.6	95.4	97.0	98.0	99.3	102.8	102.9	104.0	104.9	105.5	109.4	106.6	101.2	149.2
20000	87.9	92.5	94.6	95.5	96.8	100.8	100.9	101.0	102.2	103.2	106.4	103.2	98.2	148.3
25000	85.2	89.7	91.7	93.0	94.1	98.7	97.9	97.4	99.7	98.0	100.0	98.7	93.8	146.8
31500	82.6	85.8	88.4	90.3	90.6	95.0	94.5	94.5	95.9	95.1	97.8	95.3	89.3	146.7
40000	78.5	82.4	84.6	85.7	86.6	91.3	90.3	90.6	92.4	91.8	95.0	91.6	85.5	147.1
50000	73.1	76.4	78.5	80.5	81.5	86.3	84.9	85.2	87.2	87.0	90.2	86.5	79.7	146.4
63000	67.7	71.1	73.1	74.7	75.5	81.3	79.1	80.2	82.8	82.4	85.2	81.6	75.2	146.7
80000	61.6	64.4	66.6	67.3	69.3	75.6	72.5	74.4	77.3	77.7	79.5	76.3	68.8	147.8
OASPL	110.7	115.4	115.5	114.2	115.1	117.6	117.8	120.0	122.9	127.9	133.0	132.7	126.6	167.7
PNL	123.1	127.6	127.6	125.6	127.0	129.7	130.0	132.7	135.7	139.6	144.2	143.6	137.4	
PNLT	125.2	131.4	130.5	129.0	129.7	131.7	131.1	132.7	135.7	140.7	146.5	146.4	140.0	
DBA	183.6	186.7	188.9	190.0	191.5	197.5	194.8	196.3	199.1	199.2	201.3	198.0	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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH132 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 53.31 PAMB HG = [illegible] RELHUM = 41.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1407.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2305.3 FPS AE18 = 23.4 SQ IN

NPT [illegible] 3F-[illegible] 1009 [illegible] PE [illegible] = [illegible] 9F [illegible] PT [illegible] 10 [illegible] C [illegible] AE [illegible] ORR [illegible] SPE [illegible] RP [illegible]

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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 - 83F-ZER-1009 X10091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.1	70.9	71.6	72.0	75.5	79.8	81.0	82.0	84.3	90.3	94.1	93.1	79.9	167.8
63	68.6	73.1	74.7	73.2	75.7	79.2	88.2	83.7	86.7	94.5	97.3	94.8	81.9	170.7
80	69.0	73.9	75.7	75.0	77.5	81.0	81.5	84.5	88.2	96.2	98.3	95.3	83.3	171.6
100	70.2	75.8	76.9	75.9	78.9	82.9	82.9	85.9	89.6	98.1	99.7	95.6	84.8	172.9
125	72.8	76.0	78.1	77.1	79.1	83.4	83.9	86.9	90.6	96.6	98.9	95.7	86.1	172.5
160	77.1	82.7	82.4	80.1	81.7	84.7	85.4	88.1	91.1	95.1	98.1	94.9	86.7	172.1
200	82.2	89.7	90.6	90.5	90.4	91.2	88.9	90.4	92.8	97.5	104.5	103.2	93.6	178.9
250	75.1	79.7	81.3	80.7	82.6	85.9	86.3	88.4	91.5	93.2	97.3	95.0	85.1	172.2
315	75.6	81.2	81.3	79.8	81.6	85.1	85.9	89.0	91.3	93.4	96.4	92.5	82.8	171.6
400	76.7	83.7	84.3	81.8	83.7	85.5	85.2	88.6	90.7	93.9	96.5	91.1	82.4	172.0
500	73.8	79.9	81.7	81.1	82.0	85.4	85.2	87.9	90.6	91.9	94.1	88.6	78.3	170.6
630	71.5	77.7	80.5	79.8	82.5	84.9	84.3	87.4	88.9	89.7	92.6	86.7	76.0	169.6
800	70.3	77.4	80.0	78.6	81.2	84.8	83.8	86.3	87.9	90.1	91.2	84.0	73.5	169.1
1000	68.7	75.9	79.0	78.8	81.4	84.3	84.4	86.6	87.1	87.0	89.1	82.5	71.0	168.3
1250	66.5	73.3	77.3	78.0	80.0	83.2	83.0	85.0	85.0	85.5	86.7	79.9	67.6	167.2
1600	64.5	72.7	75.8	76.9	79.5	82.9	82.5	83.0	83.6	83.5	84.6	77.3	63.9	167.0
2000	61.6	69.1	73.4	74.8	77.8	81.8	81.1	81.6	81.5	80.6	81.5	73.3	59.6	166.5
2500	58.4	66.9	70.9	73.4	75.5	79.3	79.1	79.4	78.8	77.0	77.2	68.3	51.6	166.2
3150	51.7	60.9	66.0	68.8	71.0	75.3	75.1	74.3	73.6	71.7	70.2	59.3	39.5	165.3
4000	42.0	52.6	58.5	62.2	64.6	69.6	68.4	66.6	66.5	60.9	56.8	45.1	19.9	163.8
5000	28.8	40.4	48.1	53.2	55.3	60.2	59.1	57.4	55.6	49.6	44.0	27.2		163.7
6300	6.5	22.3	31.9	37.5	40.8	46.2	44.5	42.3	39.7	31.7	23.0			164.1
8000			3.5	12.0	16.5	22.5	20.0	16.7	12.1	1.2				163.3
10000														163.7
12500														164.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	86.5	93.0	94.2	93.6	94.8	97.2	97.3	99.2	101.6	106.0	109.4	106.8	96.8	184.5
PNL	91.9	98.4	100.2	100.2	101.6	104.5	104.3	105.5	107.0	109.7	113.6	110.4	99.9	
PNLT	92.3	100.2	101.7	101.9	102.9	105.5	104.9	106.1	107.7	110.4	114.8	111.7	101.2	
DBA	79.7	86.5	88.5	88.2	90.2	93.3	92.9	94.9	96.2	97.8	100.7	96.6	86.8	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH198	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = [illegible]	FLTVEL = 0. FPS
IAPLHA = 8B59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.31	PAMB HG = [illegible]	RELHUM = 41.7 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT = [illegible]	NBFR =
FNINI = LBS	XNL = RPM	XNH = RPM	V8 = 1407.6 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2305.3 FPS	AE18 = 23.4 SQ IN	

RUNPT = 83F-ZER-1009 TAPE = X10091 TEST PT NO = 1009 NC = AE090 CORR FAN SPEED = RPM

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 83F-400-1010 X1010C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.4	88.4	83.9	84.0	82.3	84.4	84.6	89.0	89.4	88.5	93.6	93.8	90.0	130.5
63	92.5	91.0	93.3	91.1	89.2	92.1	91.7	91.4	93.8	92.1	96.0	95.2	92.4	134.6
80	90.3	96.8	91.6	91.6	92.7	95.8	94.7	94.1	95.3	94.9	98.0	98.5	89.1	136.9
100	89.0	96.0	91.3	90.8	93.4	96.3	96.4	97.3	95.5	96.8	99.2	103.4	92.1	138.5
125	87.6	90.4	92.9	92.7	94.6	96.4	95.6	95.7	95.2	97.3	104.6	108.3	94.0	140.9
160	85.2	84.5	88.7	86.3	88.1	90.7	97.1	93.0	94.2	99.1	105.2	107.9	96.8	140.5
200	85.3	86.1	87.8	85.9	88.7	91.6	94.0	95.4	98.3	98.6	104.8	111.2	99.9	142.3
250	82.8	87.3	87.8	87.4	89.7	92.1	94.0	96.1	98.3	104.6	110.3	114.0	101.9	145.7
315	84.8	87.6	88.1	87.4	90.3	93.4	94.8	96.9	100.4	106.5	112.3	114.8	104.2	147.1
400	85.6	88.6	89.9	87.7	90.5	93.4	98.3	97.2	102.6	109.2	114.6	115.8	103.9	148.7
500	86.1	88.9	90.4	88.7	91.5	94.1	95.5	98.7	102.6	111.0	116.1	115.8	102.4	149.6
630	86.5	90.3	90.8	89.6	92.7	95.3	97.2	100.4	103.8	111.7	116.8	115.2	100.6	150.0
800	89.3	89.9	91.9	90.2	93.0	96.4	97.5	100.9	105.4	112.0	115.8	113.5	98.9	149.3
1000	92.5	93.5	93.8	91.8	94.7	97.6	98.9	103.1	106.6	112.1	115.0	111.2	97.6	148.8
1250	91.2	95.2	94.5	93.6	96.3	98.5	98.8	103.3	107.0	110.8	113.4	108.3	96.5	147.5
1600	94.8	95.7	95.4	94.0	96.5	100.1	100.5	104.0	108.1	111.0	113.6	107.0	96.7	147.9
2000	98.0	98.8	96.7	93.9	96.7	99.1	100.8	105.1	108.2	112.0	113.5	106.1	97.1	148.2
2500	96.4	99.4	99.8	97.5	98.1	100.2	100.9	105.5	107.9	111.9	112.7	104.8	98.0	148.1
3150	96.5	97.8	98.8	97.6	99.9	101.0	101.9	105.6	108.9	111.3	112.3	105.4	97.8	148.0
4000	96.9	98.0	99.1	96.8	99.7	101.7	102.1	105.4	108.3	110.0	112.0	105.5	98.1	147.7
5000	96.5	98.1	99.2	97.2	98.9	101.6	101.8	105.6	107.8	111.0	111.0	104.6	97.8	147.7
6300	95.9	98.4	100.2	98.5	99.9	102.3	101.9	105.8	107.8	109.5	110.2	103.5	96.5	147.4
8000	94.9	96.9	98.5	98.2	99.9	101.2	101.6	104.7	106.7	107.8	108.5	102.0	95.3	146.5
10000	95.5	97.5	98.6	98.4	99.8	102.3	101.8	104.2	106.2	107.1	107.0	101.6	95.4	146.6
12500	94.8	96.2	98.1	97.0	99.0	101.8	101.6	103.5	105.2	105.4	105.0	101.0	95.3	146.3
16000	92.8	96.0	96.9	97.2	98.0	100.7	100.5	102.7	103.6	102.8	103.6	99.3	93.0	146.3
20000	90.6	92.6	94.3	95.2	96.2	99.2	99.6	99.7	101.4	100.4	100.3	97.2	91.4	145.8
25000	87.4	89.4	90.9	92.2	93.6	97.6	97.3	96.4	98.7	97.2	96.7	94.6	88.5	145.4
31500	83.5	86.1	87.6	90.0	90.0	93.6	92.9	93.2	95.1	93.4	93.8	91.0	84.4	145.0
40000	79.6	82.0	83.8	85.2	86.3	90.4	89.5	89.3	91.1	90.2	90.8	86.5	80.1	145.4
50000	73.4	75.7	78.0	79.5	80.9	85.2	84.1	83.7	85.4	85.1	84.8	80.8	73.4	144.2
63000	68.1	69.8	72.3	73.4	75.3	79.5	78.1	78.4	81.0	80.1	80.5	74.8	67.5	144.3
80000	63.2	63.9	65.7	66.0	67.6	73.9	70.9	71.9	74.2	74.3	72.9	68.0	59.4	144.5
OASPL	107.5	109.6	110.1	109.0	110.8	113.2	113.7	116.6	119.4	122.9	125.9	124.3	112.8	161.6
PNL	120.2	122.1	122.6	121.1	123.3	125.4	126.1	129.3	132.3	135.4	137.4	133.0	123.8	
PNLT	120.2	122.1	122.6	121.8	123.9	125.4	126.6	129.3	132.3	135.4	137.4	133.0	123.8	
DBA	106.8	108.6	109.1	107.5	109.5	111.7	112.3	116.0	119.0	122.6	125.0	121.3	110.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH146	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 49.68	PAMB HG = 28.98	RELHUM = 74.1 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1440.3 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2341.1 FPS	AE18 = 28.4 SQ IN	
RUNPT - 83F-400-1010	TAPE = X1010C	TEST PT NO = 1010	NC = AE090	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 - 83F-400-1010 X1010F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.7	93.8	92.8	90.7	91.3	92.1	92.5	93.1	98.1	103.7	109.4	112.6	104.0	144.7
315	90.7	93.8	92.8	90.7	92.1	93.6	93.8	94.9	100.3	106.4	111.8	114.1	105.1	146.6
400	92.5	94.0	93.1	90.8	92 3	93.6	97.2	95.0	100.4	108.3	113.5	114.8	105.2	147.8
500	93.2	95.0	94.8	91.1	93.4	94.5	94.5	96.5	101.8	109.3	114.7	115.3	105.5	148.7
630	93.8	95.3	95.4	92.1	94.7	95.7	96.3	98.2	103.8	110.1	114.5	115.0	106.7	148.8
800	94.2	96.7	95.9	93.1	95.1	96.9	96.7	98.8	105.4	110.8	114.3	114.0	107.9	148.7
1000	97.0	96.3	96.9	93.8	96.7	98.2	98.2	101.1	105.9	109.5	112.8	111.2	106.9	147.4
1250	98.9	99.2	98.4	95.1	98.6	99.3	98.2	101.4	107.2	109.8	113.0	109.9	10[illegible].1	147.7
1600	98.8	101.7	99.6	97.3	98.9	101.2	100.0	102.3	107.5	111.0	113.1	109.1	107.7	148.2
2000	101.8	101.8	100.3	97.7	98.8	100.3	100.6	103.6	107.7	111.5	112.9	108.5	109.3	148.5
2500	104.0	103.8	100.7	96.8	100.7	101.9	101.1	104.5	109.3	111.4	113.2	109.9	109.9	149.2
3150	101.9	104.5	104.1	100.9	103.2	103.0	102.6	105.1	109.4	110.9	113.5	110.5	110.6	149.7
4000	104.1	104.5	104.4	102.0	103.4	104.3	103.4	105.5	108.9	111.8	112.5	109.4	110.2	149.7
5000	104.5	104.7	104.9	101.5	103.0	104.6	103.3	105.8	108.9	110.3	111.6	108.3	108.8	149.3
6300	103.9	104.8	105.1	102.0	103.9	105.3	103.4	106.0	108.0	108.9	110.2	107.1	107.9	148.9
8000	103.2	105.0	105.9	103.2	103.9	104.2	103.2	104.9	108.3	109.0	109.5	107.6	108.8	149.3
10000	102.0	103.3	104.0	102.8	103.8	105.3	103.9	105.0	108.3	108.4	108.7	108.0	109.4	149.6
12500	102.4	103.7	103.8	102.6	103.1	104.8	103.9	104.9	107.3	106.3	107.8	106.8	107.7	149.6
16000	101.1	101.8	102.8	100.7	102.0	103.7	102.9	104.1	106.0	104.7	105.1	105.0	106.2	149.5
20000	98.8	101.2	101.2	100.5	100.8	102.2	102.0	101.5	104.1	102.3	102.0	102.8	103.5	149.5
25000	98.7	99.5	99.7	99.1	98.2	100.6	99.8	98.3	101.1	99.3	100.1	100.4	100.8	149.6
31500	94.7	95.5	95.6	95.3	94.6	96.6	95.3	95.0	97.8	96.8	98.1	97.0	97.8	149.3
40000	90.0	91.3	91.4	92.2	90.9	93.4	91.9	91.0	92.3	91.8	92.2	91.7	91.6	148.9
50000	85.7	86.9	87.2	87.1	85.5	88.2	86.4	85.2	88.3	87.0	88.2	86.0	86.3	148.4
63000	78.5	79.6	80.5	80.4	79.9	82.5	80.4	79.5	82.8	82.6	81.9	80.6	79.9	147.8
80000	71.7	72.2	73.3	72.8	72.2	76.9	73.1	73.0	73.0	72.8	72.1	70.8	70.1	146.8
OASPL	114.0	115.1	114.9	112.6	113.9	115.2	114.4	116.2	119.9	122.4	125.1	124.3	120.9	162.8
PNL	126.0	126.8	126.5	123.8	125.5	126.5	125.8	128.0	132.0	134.7	136.9	134.7	133.2	
PNLT	126.0	126.8	126.5	123.8	125.5	126.5	126.3	128.0	132.0	134.7	136.9	134.7	133.2	
DBA	194.3	195.1	196.0	195.7	195.0	198.8	195.8	195.3	196.8	196.5	196.1	194.7	194.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH146 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 49.68 PAMB HG = [illegible] RELHUM = 74.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1440.3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2341.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1010 TAPE = X1010F TEST PT NO = 1010 NC = AE090 CORR FAN SPEED = RPM

DATPROC - FLTRAN

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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 - 83F-400-1010 X10101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.2	72.8	72.9	71.5	73.3	75.0	75.1	75.8	80.5	85.5	89.3	89.4	77.1	163.6
63	70.0	73.1	73.2	71.7	73.6	75.0	76.5	75.9	80.5	87.3	91.0	90.1	77.1	164.8
80	70.7	74.0	74.9	71.9	74.6	75.8	75.7	77.3	81.9	88.3	92.1	90.5	77.3	165.6
100	71.1	74.2	75.4	72.9	75.9	77.0	77.4	78.9	83.9	89.1	91.9	90.2	78.4	165.8
125	71.5	75.6	75.8	73.8	76.2	78.1	77.8	79.5	85.3	89.6	91.6	89.0	79.3	165.7
160	74.1	75.0	76.7	74.3	77.6	79.3	79.2	81.6	85.7	88.2	89.8	85.9	77.9	164.4
200	75.8	77.6	78.0	75.5	79.4	80.2	79.0	81.7	86.8	88.2	89.8	84.3	77.7	164.6
250	75.3	79.9	79.0	77.5	79.5	81.9	80.6	82.5	86.9	89.2	89.6	83.1	77.7	165.2
315	77.8	79.6	79.4	77.6	79.1	80.8	81.0	83.5	86.8	89.3	89.0	81.9	78.5	165.4
400	79.6	81.2	79.4	76.4	80.7	82.0	81.1	84.0	88.0	88.8	88.7	82.6	78.0	166.1
500	76.9	81.4	82.4	80.1	82.9	82.9	82.2	84.2	87.7	87.9	88.5	82.6	77.7	166.6
630	78.5	81.0	82.3	80.8	82.8	83.8	82.7	84.4	86.9	88.3	86.9	80.7	76.1	166.7
800	78.4	80.8	82.4	80.0	82.0	83.8	82.3	84.3	86.5	86.3	85.5	78.8	73.5	166.3
1000	77.2	80.5	82.2	80.2	82.6	84.2	82.1	84.1	85.2	84.5	83.5	76.8	71.3	165.9
1250	75.8	80.1	82.7	81.1	82.3	82.8	81.6	82.8	85.0	84.1	82.1	76.3	70.7	166.2
1600	73.5	77.6	80.1	80.0	81.7	83.3	81.7	82.3	84.4	82.7	80.2	75.1	68.6	166.6
2000	72.4	76.8	79.0	79.1	80.2	82.2	81.1	81.4	82.5	79.5	77.8	71.7	63.4	166.6
2500	68.9	73.3	76.6	76.1	78.3	80.2	79.1	79.5	79.9	76.2	72.9	66.7	56.5	166.5
3150	62.6	69.6	72.6	73.7	75.1	76.8	76.3	74.7	75.5	70.7	65.8	58.9	44.8	166.4
4000	55.5	62.4	66.5	68.3	68.6	71.5	70.3	67.4	67.9	62.2	56.9	46.8	26.9	166.6
5000	40.9	50.0	55.3	58.2	59.2	61.8	59.9	57.9	57.5	51.3	44.2	28.9	1.1	166.2
6300	18.0	31.2	38.7	44.0	45.1	48.4	46.1	42.7	39.5	31.8	20.2			165.9
8000		1.1	12.2	18.6	20.6	24.4	21.5	16.8	13.2	1.2				165.4
10000														164.8
12500														163.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	88.0	91.1	92.1	90.5	92.7	94.0	93.1	94.7	97.9	99.8	101.2	98.2	88.9	179.7
PNL	94.8	98.8	100.6	100.0	101.7	103.4	102.4	103.2	105.3	105.1	105.0	99.8	92.6	
PNLT	94.8	99.5	101.2	100.6	102.3	104.0	103.0	103.8	105.3	105.8	106.2	99.8	92.6	
DBA	85.3	88.7	90.5	89.2	91.1	92.5	91.2	92.4	94.6	94.4	93.7	87.7	82.3	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.086 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH146. TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 49.68 PAMB HG = [illegible] RELHUM = 74.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1440.3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2341.1 FPS AE18 = 23.4 SQ IN

DUNPT - 83F-400-1010 TAPE = X10101 TEST PT NO = 1010 NC = AE090 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 83F-ZER-1011 X1011C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.4	88.4	86.7	84.5	86.8	88.4	89.6	91.5	92.4	96.7	97.9	97.6	88.0	134.3
63	92.5	92.6	94.1	90.4	94.0	96.1	95.0	94.1	96.6	101.6	101.8	101.2	94.4	138.9
80	93.0	98.8	94.1	93.4	95.5	98.6	97.5	97.4	98.1	98.2	101.8	102.2	88.6	139.8
100	93.0	100.5	96.3	95.5	97.4	100.3	99.9	101.8	99.5	102.1	103.7	107.9	91.6	142.8
125	89.4	93.4	96.4	96.0	98.3	100.7	100.6	100.0	99.7	103.0	109.9	112.3	96.5	145.4
160	87.9	90.0	92.2	90.8	92.6	96.0	103.9	99.0	99.5	104.6	110.2	113.4	101.5	146.0
200	91.3	90.3	93.6	92.1	95.2	98.8	100.7	100.6	104.3	105.4	111.5	117.2	105.1	148.5
250	89.8	94.1	95.3	94.6	96.7	98.3	99.7	102.9	104.8	111.7	117.0	120.0	108.1	152.1
315	90.6	93.9	94.1	93.2	96.5	99.4	101.3	103.4	105.9	113.5	118.8	120.5	111.4	153.3
400	92.8	95.3	95.9	94.2	96.5	99.6	105.0	103.7	108.1	116.9	121.1	122.3	112.4	155.4
500	93.8	96.4	96.9	95.4	98.0	100.6	101 8	105.2	109.4	118.5	122.8	122.3	113.7	156.5
630	94.5	97.8	97.6	96 6	99.2	102.3	103.7	106.4	110.1	119.7	124.3	123.2	115.6	157.8
800	98.1	98.4	99.1	97.7	100.0	102.9	103.8	107.7	111.9	119.7	124.8	123.0	116.9	158.1
1000	101.8	106.0	103.8	101.1	103.2	105.1	105.4	109.1	113.3	118.9	124.8	123.2	117.4	158.2
1250	101.9	108.0	107.2	105.1	106.1	107.0	106.6	110.0	113.5	118.0	124.9	123.1	116.3	158.2
1600	104.8	108.5	107.4	104.8	106.3	107.4	107.7	110.5	114.9	118.2	126.6	122.5	115.7	159.1
2000	105.8	107.1	106.7	105.6	106.2	106.6	107.6	111.1	114.2	118.8	125.3	119.9	114.6	158.0
2500	102.7	106.2	106.5	105.0	108.4	108.8	107.2	111.1	113.9	119.2	123.0	117.8	113.6	156.8
3150	100.8	104.8	105.4	103.9	106.5	109.8	109.2	111.1	114.7	118.3	121.6	116.5	111.1	155.9
4000	99.5	103.6	105.7	103.6	106.5	108.5	108.9	111.7	113.6	116.8	120.3	115.1	110.2	154.9
5000	98.3	103.7	105.3	103.7	106.3	108.7	108.6	111.7	112.9	116.8	118.9	113.6	108.4	154.4
6300	97.5	103.0	104.8	103.7	106.5	108.4	108.7	111.7	112.4	115.1	117.6	112.1	106.9	153.6
8000	96.6	101.9	104.2	103.9	106.3	108.1	107.8	110.2	111.2	113.5	116.0	110.7	105.7	152.7
10000	96.2	101.3	103.3	103.9	106.5	108.7	108.0	109.2	111.2	112.1	114.5	109.6	104.4	152.5
12500	94.8	99.3	101.9	102.3	105.8	108.0	107.1	107.6	109.7	110.8	112.8	107.8	103.1	152.0
16000	92.9	98.8	100.3	101.5	103.6	106.3	106.4	107.3	107.9	108.2	111.7	106.1	100.0	151.9
20000	91.1	95.4	97.8	98.3	101.0	104.3	104.1	104.3	105.7	106.0	109.1	103.4	97.6	151.2
25000	87.7	92.8	94.8	95.9	98.7	102.5	102.2	100.8	103.1	103.4	102.3	100.0	93.8	150.3
31500	84.6	89.2	91.2	93.9	95.1	99.0	98.2	97.8	99.5	100.8	99.6	95.6	89.5	150.2
40000	80.3	85.2	87.7	89.7	90.8	95.2	94.3	94.1	96.0	98.1	97.8	93.0	86.4	150.9
50000	74.1	79.5	82.6	84.4	85.8	90.3	89.0	89.1	92.0	94.0	93.1	88.0	80.7	150.7
63000	69.7	74.0	77.0	78.4	80.9	84.9	84.0	84.4	86.9	89.6	88.7	83.5	75.2	151.2
80000	63.4	67.6	70.8	71.5	74.9	80.0	77.2	79.1	81.3	84.4	82.8	78.1	69.1	152.4
OASPL	112.8	116.7	116.9	115.7	118.0	120.0	120.0	122.4	125.0	129.9	135.0	132.9	125.8	169.4
PNL	125.6	128.9	129.5	127.9	130.6	132.8	132.8	135.2	138.0	142.2	146.5	143.2	137.0	
PNLT	125.6	129.7	129.5	127.9	131.2	132.8	133.3	135.8	138.0	142.2	146.5	143.2	137.0	
DBA	113.0	116.8	116.9	115.2	117.4	119.1	119.1	122.0	124.9	129.6	134.8	131.8	125.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH139	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 51.64	PAMB HG = 29.14	RELHUM = 57.8 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1543.2 FPS	AE8 = 4.8 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2493.0 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-ZER-1011	TAPE = X1011C	TEST PT NO = 1011	NC = AE090	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 - 83F-ZER-1011 X1011F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.4	88.4	88.7	84.5	86.8	88.4	89.6	91.5	92.4	96.7	97.9	97.6	88.0	134.3
63	92.5	92.5	94.1	90.4	94.0	96.1	95.0	94.1	96.6	101.6	101.8	101.2	94.4	138.9
80	93.0	98.8	94.1	93.4	95.5	98.6	97.5	97.4	98.1	98.2	101.8	102.2	88.6	139.8
100	93.0	100.5	96.8	95.5	97.4	100.3	99.9	101.8	99.5	102.1	103.7	107.9	91.6	142.8
125	89.4	93.4	96.1	96.0	98.3	100.7	100.6	100.0	99.7	103.0	109.9	112.3	96.5	145.4
160	87.9	90.0	92.2	90.8	92.6	96.0	103.9	99.0	99.5	104.6	110.2	113.4	101.5	146.0
200	91.3	90.3	93.6	92.1	95.2	98.8	100.7	100.6	104.3	105.4	111.5	117.2	105.1	148.5
250	89.8	94.1	95.3	94.6	96.7	98.3	99.7	102.9	104.8	111.7	117.0	120.0	108.1	152.1
315	90.6	93.9	94.1	93.2	96.5	99.4	101.3	103.4	105.9	113.5	118.8	120.5	111.4	153.3
400	92.8	95.3	95.9	94.2	96.5	99.6	105.0	103.7	108.1	116.9	121.1	122.3	112.4	155.4
500	93.8	96.4	96.9	95.4	98.0	100.6	101.8	105.2	109.4	118.5	122.8	122.3	113.7	156.5
630	94.5	97.8	97.6	96.6	99.2	102.3	103.7	106.4	110.1	119.7	124.3	123.2	115.6	157.8
800	98.1	98.4	99.1	97.7	100.0	102.9	103.8	107.7	111.9	119.7	124.8	123.0	116.9	158.1
1000	101.8	106.0	103.8	101.1	103.2	105.1	105.4	109.1	113.3	118.9	124.8	123.2	117.4	158.2
1250	101.9	108.0	107.2	105.1	106.1	107.0	106.6	110.0	113.5	118.0	124.9	123.1	116.3	158.2
1600	104.8	108.5	107.4	104.8	106.3	107.4	107.7	110.5	114.9	118.2	126.6	122.5	115.7	159.1
2000	105.8	107.1	106.7	105.6	106.2	106.6	107.6	111.1	114.2	118.8	125.3	119.9	114.6	158.0
2500	102.7	106.2	106.5	105.0	108.4	108.8	107.2	111.1	113.9	119.2	123.0	117.8	113.6	156.8
3150	100.8	104.8	105.4	103.9	106.5	109.8	109.2	111.1	114.7	118.3	121.6	116.5	111.1	155.9
4000	99.5	103.6	105.7	103.6	106.5	108.5	108.9	111.7	113.6	116.8	120.3	115.1	110.2	154.9
5000	98.3	103.7	105.3	103.7	106.3	108.7	108.6	111.7	112.9	116.8	118.9	113.6	108.4	154.4
6300	97.5	103.0	104.8	103.7	106.5	108.4	108.7	111.7	112.4	115.1	117.6	112.1	106.9	153.6
8000	96.6	101.9	104.2	103.9	106.3	108.1	107.8	110.2	111.2	113.5	116.0	110.7	105.7	152.7
10000	96.2	101.3	103.3	103.9	106.5	108.7	108.0	109.2	111.2	112.1	114.5	109.6	104.4	152.5
12500	94.8	99.3	101.9	102.3	105.8	108.0	107.1	107.6	109.7	110.8	112.8	107.8	103.1	152.0
16000	92.9	98.8	100.3	101.5	103.6	106.3	106.4	107.3	107.9	108.2	111.7	106.1	100.0	151.9
20000	91.1	95.4	97.8	98.3	101.0	104.3	104.1	104.3	105.7	106.0	109.1	103.4	97.6	151.2
25000	87.7	92.8	94.8	95.9	98.7	102.5	102.2	100.8	103.1	103.4	102.3	100.0	93.8	150.3
31500	84.6	89.2	91.2	93.9	95.1	99.0	98.2	97.8	99.5	100.8	99.6	95.6	89.5	150.2
40000	80.3	85.2	87.7	89.7	90.8	95.2	94.3	94.1	96.0	98.1	97.8	93.0	86.4	150.9
50000	74.1	79.5	82.6	84.4	85.8	90.3	89.0	89.1	92.0	94.0	93.1	88.0	80.7	150.7
63000	68.7	74.0	77.0	78.4	80.9	84.9	84.0	84.4	86.9	89.6	88.7	83.5	75.2	151.2
80000	63.4	67.6	70.8	71.5	74.9	80.0	77.2	79.1	81.3	84.4	82.8	78.1	69.1	152.4
OASPL	113.8	116.7	116.9	115.7	118.0	120.0	120.0	122.4	125.0	129.9	135.0	132.9	125.8	169.4
PNL	125.6	128.9	129.5	127.9	130.6	132.8	132.8	135.2	138.0	142.2	146.5	143.2	137.0	
PNLT	125.8	129.7	129.5	127.9	131.2	132.8	133.3	135.8	138.0	142.2	146.5	143.2	137.0	
DBA	105.4	109.8	112.9	114.0	116.9	121.6	119.5	120.8	123.1	126.0	124.7	119.8	111.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH139 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 51.64 PAMB HG = 29.14 RELHUM = 57.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1543.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2493.0 FPS AE18 = 23.4 SQ IN

NPT F-Z 011 PE = F T PT 10 AE RR SPE RPI

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

IDENTIFICATION - 83F-ZER-1011 X10111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.1	72.9	74.3	74.0	77.8	80.8	82.5	84.3	86.0	92.5	96.4	95.9	83.4	170.3
63	70.3	74.4	76.0	75.0	77.7	81.0	86.2	84.5	88.2	96.0	98.6	97.5	84.4	172.4
80	71.3	75.4	77.0	76.2	79.2	82.0	83.0	86.0	89.5	97.5	100.3	97.5	85.5	173.5
100	71.9	76.8	77.8	77.4	80.4	83.6	84.9	87.1	90.1	98.6	101.7	98.4	87.3	174.8
125	75.3	77.2	79.1	78.4	81.1	84.1	84.9	88.4	91.8	98.6	102.1	98.0	88.4	175.1
160	78.8	84.7	83.8	81.6	84.2	86.2	86.4	89.6	93.1	97.6	101.8	97.9	88.4	175.2
200	78.7	86.4	86.8	85.5	86.9	87.9	87.4	90.4	93.1	96.5	101.7	97.5	86.9	175.2
250	81.3	86.7	86.8	84.9	86.9	88.1	88.3	90.7	94.3	96.4	103.1	96.5	85.6	176.1
315	81.8	84.9	85.8	85.5	86.5	87.0	87.9	91.0	93.3	96.6	101.3	93.3	83.7	175.0
400	78.2	83.6	85.2	84.5	88.4	88.9	87.2	90.6	92.6	96.6	98.5	90.5	81.7	173.7
500	75.8	81.8	83.7	83.1	86.2	89.6	88.9	90.3	93.0	95.3	96.6	88.5	78.2	172.9
630	73.9	80.1	83.6	82.4	85.9	88.0	88.2	90.5	91.5	93.3	94.7	86.4	76.1	171.9
800	72.2	79.8	82.9	82.2	85.3	87.9	87.6	90.2	90.5	92.9	92.7	84.2	73.1	171.3
1000	70.8	78.6	82.0	81.8	85.2	87.4	87.5	89.8	89.6	90.7	90.9	81.8	70.3	170.6
1250	69.2	77.0	81.0	81.7	84.7	86.7	86.2	88.0	87.9	88.6	88.6	79.4	67 6	169.7
1600	67.7	75.6	79.4	81.1	84.4	86.8	85.9	86.5	87.2	86.4	86.0	76.7	63.6	169.5
2000	64.8	72.4	77.0	78.7	83.0	85.5	84.3	84.0	84.9	83.9	82.8	72.7	58.7	169.0
2500	60.7	70.3	74.2	76.9	79.8	82.8	82.6	82.7	81.8	79.7	79.4	67.8	50.4	168.8
3150	54.9	63.9	69.2	71.5	75.2	78.8	78.3	77.5	77.1	74.4	72.9	59.6	39.0	168.1
4000	44.5	55.7	61.6	65.0	69.2	73.4	72.7	69.9	69.9	66.3	59.1	46.4	19.9	167.3
5000	30.8	43.7	50.9	56.8	59.8	64.2	62.9	60.7	59.2	55.3	45.8	27.4		167.2
6300	8.4	25.2	35.0	41.5	45.0	50.1	48.4	45.8	43.3	38.0	25.8	0.4		167.9
8000			7.5	15.9	20.9	26.6	24.1	20.6	16.9	8.2				167.6
10000														168.1
12500														169.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	88.4	93.9	95.1	94.5	97.2	99.1	99.1	101.3	103.5	107.8	111.3	106.9	96.2	186.2
PNL	93.4	99.1	101.1	101.8	105.1	107.5	107.1	108.2	109.4	112.1	115.0	108.4	97.3	
PNLT	93.4	99.1	101.7	102.3	105.6	108.1	107.7	108.8	110.0	112.8	115.0	108.4	97.3	
DBA	82.2	88.4	91.0	91.1	94.2	96.5	96.0	97.8	98.8	100.7	102.9	95.7	85.4	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH139 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AM FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 51.64 PAMB HG = 28.14 RELHUM = 57.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1543.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2493.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1011 TAPE = X10111 TEST PT NO = 1011 NC = AE090 CORR FAN SPEED = RPM

DATPROC - FLTRAN

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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 83F-400-1012 X1012C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.4	92.7	88.4	87.7	87.6	88.4	88.8	90.5	91.4	90.7	98.1	97.8	91.0	134.0
63	92.8	94.0	95.3	91.9	92.9	95.3	94.9	95.4	96.1	95.1	102.0	100.2	91.9	138.1
80	93.3	99.6	94.3	94.1	95.2	98.8	97.7	97.1	97.6	97.7	101.5	101.7	89.9	139.8
100	92.5	98.7	94.0	93.0	96.1	98.8	98.9	100.0	98.3	99.8	102.2	106.6	91.6	141.3
125	90.4	92.4	94.9	94.7	97.3	99.2	98.6	98.5	97.9	100.5	107.1	111.3	96.2	143.7
160	87.4	86.0	90.7	88.8	90.9	93.0	101.4	95.8	96.2	102.3	107.9	111.1	99.5	143.6
200	87.5	88.3	89.1	87.6	91.0	94.1	97.0	97.6	100.8	101.9	107.3	114.2	103.1	145.2
250	85.3	89.3	90.1	89.1	92.0	94.6	95.7	98.6	100.8	107.7	113.5	116.7	104.6	148.6
315	86.6	89.6	90.1	88.9	92.5	95.1	97.3	99.2	102.6	110.0	115.6	117.5	106 9	150.0
400	88.3	90.6	91.9	89.2	93.3	95.9	101.0	100.2	105.1	112.9	118.3	119.0	106.9	152.2
500	89.1	91.1	92.4	91.2	94.0	96.9	98.3	101.4	105.9	115.0	120.1	118.8	105.4	153.3
630	89.8	92.3	92.8	91.9	95.2	98.6	99.7	103.4	106.8	115.9	120.8	118.0	103.4	153.7
800	92.6	92.9	94.1	92.9	96.3	99.1	101.0	104.4	108.6	116.0	120.3	116.0	102.4	153.2
1000	96.8	98.0	97.8	95.6	97.7	100.8	102.2	106.1	110.1	115.6	120.8	114.9	101.1	153.4
1250	101.9	104.7	100.5	98.1	100.8	102.5	102.6	106.3	110.5	115.3	120.2	113.8	101.8	153.1
1600	103.1	106.0	106.1	103.0	101.5	103.6	104.5	107.5	111.9	115.0	121.1	112.8	102.2	153.8
2000	101.5	103.8	104.7	104.4	105.4	104.1	105.0	108.9	111.2	115.7	119.5	111.1	102.6	153.2
2500	99.6	101.9	102.8	101.5	106.1	107.5	105.7	108.5	110.9	116.4	118.2	109.5	102.5	152.8
3150	101.5	103.1	102.3	100.6	102.9	106.3	107.9	109.4	112.9	116.5	117.0	109.7	101.6	152.7
4000	101.4	103.0	103.1	101.0	103.5	105.2	106.8	109.9	111.8	114.7	115.5	108.0	101.6	151.6
5000	102.0	104.1	103.2	101.6	103.7	105.6	106.5	110.1	111.1	115.0	114.3	106.3	100.6	151.5
6300	101.8	104.4	104.2	102.3	104.1	106.1	106.4	110.0	111.3	113.5	113.5	106.2	99.7	151.2
8000	100.6	102.7	104.0	102.5	104.1	105.7	105.6	108.2	110.2	111.8	111.3	104.0	98.6	150.2
10000	100.0	102.0	103.8	102.9	104.5	106.8	105.8	108.0	109.9	111.1	109.7	103.6	97.9	150.4
12500	98.3	99.5	101.8	101.5	104.3	106.8	105.8	107.0	108.1	109.1	107.3	103.3	96.8	150.0
16000	95.8	98.7	100.1	100.4	102.0	104.7	105.0	106.4	107.0	106.5	105.8	101.0	94.7	149.8
20000	93.4	95.9	97.3	97.2	99.5	102.7	102 6	103.5	104.4	104.6	103.1	98.7	91.9	149.1
25000	90.4	92.9	94.2	94.5	97.1	100.9	100.3	99.9	101.9	101.2	99.4	96.9	89.7	148.7
31500	86.5	88.6	89.9	91.8	93.3	97.1	96.9	97.5	98.6	98.0	96.3	92.2	85.2	148.5
40000	83.1	85.1	86.1	88.1	89.4	94.0	93.1	93.4	94.7	95.3	93.7	88.6	81.1	149.0
50000	78.7	79.5	81.4	82.6	84.0	88.8	87.4	88.1	89.5	91.0	88.4	82.7	75.3	148.2
63000	71.2	74.7	76.0	77.3	78.4	83.2	81.5	82.8	85.4	86.5	84.2	77.5	69.2	148.6
80000	65.6	69.6	71.2	71.2	72.5	77.6	75.5	77.0	80.1	81.7	78.1	69.9	61.1	149.9
OASPL	112.4	114.7	114.8	113.4	115.4	117.4	117.8	120.3	122.7	127.1	130.6	127.4	116.0	165.7
PNL	124.9	126.9	126.9	125.3	128.0	129.7	130.7	133.1	135.8	139.9	142.0	136.6	127.3	
PNLT	124.9	126.9	128.1	125.9	128.6	130.3	131.3	133.1	135.8	139.9	142.0	136.6	127.3	
DBA	112.2	114.5	114.3	112.7	114.6	116.3	116.8	119.8	122.5	126.8	130.2	124.8	113.9	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH148 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.14 PAMB HG = 28.95 RELHUM = 73.8 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 = 1538.8 FPS AE8 = 4.8 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2504.7 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1012 TAPE = X1012C TEST PT NO = 1012 NC = AE090 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 - 83F-400-1012 X1012F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	93.2	95.8	95.0	92.4	93.6	94.6	94.3	95.7	100.3	107.0	112.5	115.2	106.7	147.6
315	93.2	95.8	95.0	92.4	94.3	95.3	96.3	97.1	102.7	110.0	115.4	117.3	108.1	149.9
400	94.3	96.0	95.1	92.3	95.1	96.1	100.0	98.0	103.5	112.1	117.3	117.6	108.1	151.2
500	96.0	97.0	96.8	92.6	95.9	97.2	97.2	99.1	104.7	113.3	118.4	117.7	108.0	151.9
630	96.8	97.5	97.4	94.6	97.2	99.0	98.7	101.1	106.9	113.9	118.7	117.2	109.9	152.2
800	97.5	98.7	97.9	95.4	98.3	99.7	100.1	102.2	108.8	114.1	119.8	117.5	111.2	153.0
1000	100.3	99.3	99.2	96.5	99.4	101.4	101.4	104.0	109.4	114.0	119.5	116.6	112.1	152.8
1250	102.1	102.7	101.6	98.4	102.6	103.3	102.0	104.4	111.0	113.8	120.5	115.6	112.6	153.4
1600	108.5	110.1	104.6	101.0	103.4	104.7	104.0	105.8	110.6	114.9	119.4	114.4	113.5	153.4
2000	109.3	111.1	110.1	105.9	107.9	105.3	104.9	107.5	110.7	116.0	118.4	113.2	113.8	153.8
2500	107.6	109.3	109.3	107.9	109.1	109.1	105.9	107.5	113.1	116.5	117.6	113.8	113.3	154.0
3150	107.3	108.6	108.2	105.7	106.1	108.3	108.5	108.7	112.8	115.4	116.8	112.7	113.8	153.4
4000	108.5	109.3	107.6	104.8	107.1	107.8	108.1	109.9	112.0	115.5	115.3	110.7	112.4	153.0
5000	108.3	109.3	108.6	105.5	107.6	108.6	108.0	110.2	112.3	114.1	114.7	110.8	111.8	153.0
6300	108.7	110.3	108.7	106.3	108.1	109.1	107.8	110.2	111.7	112.9	113.0	109.1	111.2	152.7
8000	108.7	110.7	109.7	106.9	108.2	108.7	107.5	108.6	111.9	112.8	112.1	109.4	111.3	153.0
10000	107.8	109.1	109.5	107.0	108.6	109.8	107.9	108.8	111.1	111.9	110.7	110.2	111.1	153.2
12500	106.9	108.2	109.0	107.1	108.9	109.8	108.1	108.3	110.7	110.0	110.0	108.6	109.8	153.5
16000	107.4	107.3	108.2	106.3	106.0	107.7	107.4	107.8	108.3	108.4	107.5	106.6	107.3	153.3
20000	101.7	103.9	104.5	103.8	104.1	105.7	104.9	104.8	107.0	106.2	105.1	105.9	106.0	152.6
25000	101.5	102.7	102.7	101.1	101.7	103.9	102.7	101.6	104.2	103.3	102.4	101.9	102.4	152.6
31500	97.7	99.0	98.8	97.6	97.9	100.1	99.3	99.0	100.6	101.0	100.1	98.5	98.9	152.4
40000	93.0	93.8	93.7	94.0	94.0	97.0	95.4	94.6	95.3	96.4	94.3	92.0	92.4	151.8
50000	89.2	90.0	89.5	89.9	88.6	91.8	89.5	88.9	91.6	92.1	90.1	86.4	85.0	151.5
63000	81.9	83.4	83.8	83.5	83.0	86.2	83.3	83.1	87.8	88.9	85.6	80.4	78.5	151.6
80000	74.9	77.1	76.9	76.7	77.1	80.6	77.3	77.4	78.0	79.1	75.8	70.5	68.7	151.0
OASPL	119.0	120.4	119.7	117.2	118.7	119.5	118.6	119.9	123.2	126.5	129.7	127.4	124.3	166.7
PNL	130.8	131.8	130.8	128.5	130.1	130.7	130.3	131.9	135.3	138.6	140.8	137.5	136.6	
PNLT	130.6	131.8	131.8	128.5	130.1	130.7	130.9	131.9	135.3	138.6	140.8	137.5	136.6	
DBA	197.6	199.4	199.3	199.1	199.1	202.5	199.5	199.4	201.5	202.6	199.4	194.6	193.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH148 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.14 PAMB HG = 28.98 RELHUM = 73.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1538.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2504.7 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1012 TAPE = X1012F TEST PT NO = 1012 NC = AE090 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 - 83F-400-1012 X10121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.7	74.8	75.2	73.3	75.6	76.7	77.5	78.0	82.9	89.1	92.9	92.6	80.1	166.9
63	71.8	75.1	75.2	73.2	76.3	77.5	81.2	78.8	83.6	91.1	94.8	92.9	80.0	168.1
80	73.4	76.0	76.9	73.4	77.1	78.6	78.4	79.9	84.8	92.3	95.9	93.0	79.9	168.9
100	74.1	76.5	77.4	75.4	78.4	80.3	79.9	81.8	86.9	92.8	96.1	92.3	81.6	169.2
125	74.7	77.6	77.8	76.1	79.4	80.9	81.2	82.9	88.7	92.9	97.1	92.5	82.6	170.0
160	77.3	78.0	79.0	77.0	80.4	82.6	82.4	84.6	89.2	92.6	96.6	91.4	83.2	169.8
200	78.9	81.2	81.2	78.8	83.4	84.2	82.8	84.7	90.6	92.2	97.3	90.0	83.2	170.4
250	85.0	88.3	84.0	81.1	84.0	85.4	84.6	86.0	90.0	93.1	95.8	88.4	83.4	170.4
315	85.4	89.0	89.2	85.8	88.2	85.8	85.2	87.3	89.8	93.8	94.5	86.6	83.0	170.8
400	83.1	86.7	88.0	87.4	89.1	89.3	85.9	87.0	91.8	93.9	93.2	86.5	81.4	171.0
500	82.3	85.5	86.5	84.9	85.8	88.1	88.2	87.9	91.1	92.4	91.8	84.8	80.9	170.4
630	82.9	85.8	85.6	83.7	86.5	87.3	87.4	88.8	89.9	92.0	89.8	82.0	78.4	170.0
800	82.1	85.3	86.1	84.0	86.7	87.8	87.0	88.7	89.9	90.2	88.6	81.3	76.5	170.0
1000	82.0	86.0	85.9	84.5	86.8	88.0	86.6	88.3	88.8	88.5	86.3	78.8	74.7	169.7
1250	81.3	85.8	86.5	84.7	86.6	87.3	85.9	86.5	88.7	87.9	84.7	78.2	73.2	170.0
1600	79.3	83.3	85.6	84.2	86.4	87.8	85.8	86.0	87.2	86.2	82.2	77.3	70.3	170.2
2000	76.9	81.3	84.2	83.6	86.0	87.2	85.3	84.8	85.9	83.1	79.9	73.6	65.5	170.4
2500	75.2	78.8	82.1	81.7	82.2	84.2	83.6	83.2	82.2	79.9	75.3	68.3	57.7	170.3
3150	65.8	72.4	75.8	77.0	78.3	80.3	79.2	78.0	78.4	74.7	69.0	62.1	47.4	169.6
4000	58.3	65.7	69.5	70.3	72.2	74.8	73.2	70.7	71.0	66.3	59.2	48.3	28.5	169.5
5000	43.9	53.5	58.5	60.5	62.5	65.3	63.9	61.9	60.4	55.6	46.2	30.4	2.2	169.4
6300	21.0	33.8	40.9	45.7	48.1	51.9	49.5	46.4	42.6	36.3	22.3			168.8
8000		4.1	14.5	21.4	23.7	28.0	24.6	20.4	16.6	6.3				168.5
10000														168.6
12500														168.0
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	93.2	96.7	97.0	95.3	97.5	98.4	97.4	98.3	101.2	103.9	106.1	101.5	92.8	183.6
PNL	99.7	103.7	105.4	104.4	106.7	107.9	106.7	106.9	108.6	109.5	109.5	103.2	96.2	
PNLT	99.7	104.2	106.0	105.0	107.2	108.5	107.3	107.4	108.6	110.1	110.8	103.2	96.2	
DBA	90.3	94.1	95.1	93.7	95.7	96.8	95.6	96.3	97.9	98.5	97.6	90.8	85.6	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH148	TEST DATE = 03-17-83		LOCAT = C41 ANECH CH	CONFIG = 10		MODEL = AX		FLTVEL =	400. FPS
IAPLHA = SB59	IEGA = NO		PWL AREA = FULL SPHERE	TAMB F =	50.14	PAMB HG = 29.95		RELHUM =	73.8 PCT
WIND DIR = DEG	WIND VEL =	MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL		MIKE HT =		NBFR =	
FNIN1 = LBS	XNL =	RPM	XNH = RPM	V8	= 1538.8 FPS	AE8 =	4.6 SQ IN		
FNRAMB = LBS	XNLR =	RPM	XNHR = RPM	V18	= 2504.7 FPS	AE18 =	23.4 SQ IN		

UNP 83F -10 TAPE 0121 T P = NC = A COR N SP = R

DATPROC - FLTRAN

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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 83F-ZER-1013 X1013C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.1	84.9	84.9	83.0	81.1	83.4	84.6	86.2	88.7	88.5	91.1	97.3	86.7	130.2
63	89.8	91.0	90.8	88.1	87.7	91.6	90.7	92.9	93.1	89.1	93.3	102.2	82.6	135.0
80	89.8	94.6	89.8	89.1	89.5	94.3	93.5	93.1	93.8	93.9	97.3	98.2	81.6	135.5
100	88.2	95.0	90.5	90.8	91.1	95.3	94.9	96.5	94.5	97.1	98.5	102.4	85.8	137.6
125	84.9	88.9	91.9	91.0	92.3	95.4	95.8	95.2	94.7	98.0	104.4	106.6	90.7	140.0
160	84.7	85.5	88.5	86.8	87.6	91.7	99.4	94.3	94.2	99.6	105.2	107.6	96.0	140.7
200	86.3	86.8	89.6	87.4	89.5	93.8	96.7	96.9	99.6	101.1	106.5	111.5	99.9	143.2
250	85.5	91.3	91.3	89.9	91.0	94.1	95.7	98.4	100.1	106.7	112.0	115.0	103.1	147.1
315	87.1	90.1	90.6	89.7	92.0	95.9	97.3	98.4	101.6	108.0	113.1	115.3	106.4	147.9
400	88.1	91.3	91.9	89.7	91.8	95.1	100.3	99.7	103.4	110.9	115.3	117.5	108.4	150.2
500	89.3	92.4	93.1	91.2	92.8	96.9	97.5	100.4	104.4	112.0	116.6	117.8	109.9	151.0
630	89.8	93.6	93.3	92.6	93.7	97.8	99.0	101.9	105.1	112.4	117.3	118.7	111.4	151.8
800	92.8	94.1	94.9	93.4	94.8	98.6	99.5	102.4	106.4	112.5	116.3	118.0	113.7	151.5
1000	97.5	101.8	99.1	95.8	96.4	99.8	100.4	103.8	107.3	112.1	115.8	117.4	113.9	151.3
1250	95.7	100.7	100.2	98.9	99.6	101.7	101.6	104.3	107.5	111.5	114.2	117.6	114.3	151.0
1600	95.3	97.2	98.1	96.5	98.0	101.9	102.2	105.0	108.9	111.5	115.8	117.5	114.2	151.4
2000	96.5	99.8	99.2	96.6	97.2	100.8	102.3	105.9	108.7	112.0	115.3	116.6	112.9	151.0
2500	94.4	99.0	99.8	97.5	98.6	101.8	101.7	105.6	108.4	111.7	115.0	114.8	111.8	150.3
3150	94.5	99.1	98.9	97.1	97.0	101.0	102.2	105.4	109.2	111.3	114.3	112.5	108.9	149.5
4000	93.5	98.1	99.4	96.9	98.3	100.7	101.6	105.2	108.1	109.5	112.5	111.6	108.2	148.4
5000	91.8	97.0	98.8	96.7	97.8	101.2	101.6	105.2	107.9	110.3	111.6	108.9	105.4	148.0
6300	91.0	96.5	98.1	97.2	99.0	101.4	102.0	104.7	106.9	108.1	110.6	108.4	104.3	147.2
8000	89.6	95.4	97.2	96.6	97.5	100.8	101.3	103.1	105.2	106.8	108.0	105.9	103.2	145.9
10000	88.7	94.5	96.3	96.4	97.7	101.0	101.0	103.0	104.9	105.6	106.5	105.6	102.2	145.8
12500	87.6	93.0	95.9	95.0	97.1	100.3	100.6	101.3	103.2	103.5	104.3	104.3	101.1	145.1
16000	86.1	92.6	94.5	95.5	95.8	99.0	99.1	100.5	101.9	100.9	103.1	101.6	98.5	145.0
20000	83.9	89.4	92.1	92.8	93.5	97.0	97.9	97.8	99.0	98.7	99.8	99.4	95.1	144.2
25000	80.7	86.3	89.1	89.6	90.7	95.5	95.4	94.0	96.3	95.6	95.1	96.5	91.6	143.6
31500	77.6	82.2	85.0	87.1	87.1	91.7	91.5	90.8	92.5	92.3	91.7	91.8	87.8	143.1
40000	78.9	78.5	80.5	82.5	82.8	88.2	87.3	86.9	88.8	88.6	88.8	89.3	83.4	143.4
50000	68.6	72.5	74.8	76.9	77.8	83.1	81.3	80.9	83.5	84.1	83.4	83.8	77.2	142.4
63000	62.5	66.8	69.5	70.5	71.7	77.7	75.5	76.0	79.2	77.9	79.8	78.0	72.5	142.6
80000	56.9	61.1	63.1	63.1	64.7	70.8	68.7	69.7	72.3	73.7	73.9	72.6	65.9	143.3
OASPL	106.0	110.2	110.4	109.0	110.0	113.3	114.1	116.5	119.4	123.1	126.8	128.2	123.0	162.8
PNL	118.5	122.8	123.3	121.4	122.5	125.6	126.6	129.4	132.5	135.4	138.7	139.0	134.5	
PNLT	119.6	124.3	123.3	121.4	122.5	125.6	127.1	129.4	132.5	135.4	138.7	139.0	134.5	
DBA	105.7	109.9	110.0	108.2	109.2	112.4	113.1	116.1	119.3	122.7	126.1	127.1	123.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH140 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AK FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 51.64 PAMB HG = 29.18 RELHUM = 58.3 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 = 1223.3 FPS AE8 = 4.8 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2154.4 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1013 TAPE = X1013C TEST PT NO = 1013 NC = AE090 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 - 83F-ZER-1013 X1013F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.1	84.9	84.9	83.0	81.1	83.4	84.6	86.2	88.7	88.5	91.1	97.3	86.7	130.2
63	89.8	91.0	90.8	88.1	87.7	91.6	90.7	92.9	93.1	89.1	93.3	102.2	82.6	135.0
80	89.8	94.6	89.6	89.1	89.5	94.3	93.5	93.1	93.8	93.9	97.3	98.2	81.6	135.5
100	88.2	95.0	90.5	90.8	91.1	95.3	94.9	96.5	94.5	97.1	98.5	102.4	85.8	137.6
125	84.9	88.9	91.0	91.0	92.3	95.4	95.8	95.2	94.7	98.0	104 4	106.6	90.7	140.0
160	84.7	85.5	88.5	86.8	87.6	91.7	99.4	94.3	94.2	99.6	105.2	107.6	96.0	140.7
200	86.3	86.8	89.6	87.4	89.5	93.8	96.7	96.9	99.6	101.1	106.5	111.5	99.9	143.2
250	85.5	91.3	91.3	89.9	91.0	94.1	95.7	98.4	100.1	106.7	112.0	115.0	103.1	147.1
315	87.1	90.1	90.6	89.7	92.0	95.9	97.3	98.4	101.6	108.0	113.1	115.3	106.4	147.9
400	88.1	91.3	91.9	89.7	91.8	95.1	100.3	99.7	103.4	110.9	115.3	117.5	108.4	150.2
500	89.3	92.4	93.1	91.2	92.8	96.9	97.5	100.4	104.4	112.0	116.6	117.8	109.9	151.0
630	89.8	93.6	93.3	92.6	93.7	97.8	99.0	101.9	105.1	112.4	117.3	118.7	111.4	151.8
800	92.8	94.1	94.9	93.4	94.8	98.6	99.5	102.4	106.4	112.5	116.3	118.0	113.7	151.5
1000	97.5	101.8	99.1	95.8	96.4	99.8	100.4	103.8	107.3	112.1	115.8	117.4	113.9	151.3
1250	95.7	100.7	100.2	98.9	99.6	101.7	101.6	104.3	107.5	111.5	114.2	117.6	114.3	151.0
1600	95.3	97.2	98.1	96.5	98.0	101.9	102.2	105.0	108.9	111.5	115.8	117.5	114.2	151.4
2000	96.5	99.8	99.2	96.6	97.2	100.8	102.3	105.9	108.7	112.0	115.3	116.6	112.9	151.0
2500	94.4	99.0	99.8	97.5	98.6	101.8	101.7	105.6	108.4	111.7	115.0	114.8	111.8	150.3
3150	94.5	99.1	98.9	97.1	97.0	101.0	102.2	105.4	109.2	111.3	114.3	112.5	108.9	149.5
4000	93.5	98.1	99.4	96.9	98.3	100.7	101.6	105.2	108.1	109.5	112.5	111.6	108.2	148.4
5000	91.8	97.0	98.8	96.7	97.8	101.2	101.6	105.2	107.9	110.3	111.6	108.9	105.4	148.0
6300	91.0	96.5	98.1	97.2	99.0	101.4	102.0	104.7	106.9	108.1	110.6	108.4	104.3	147.2
8000	89.6	95.4	97.2	96.6	97.5	100.8	101.3	103.1	105.2	106.8	108.0	105.9	103.2	145.9
10000	88.7	94.5	96.3	96.4	97.7	101.0	101.0	103.0	104.9	105.6	106.5	105.6	102.2	145.8
12500	87.6	93.0	95.9	95.0	97.1	100.3	100.6	101.3	103.2	103.5	104.3	104.3	101.1	145.1
16000	86.1	92.6	94.5	95.5	95.8	99.0	99.1	100.5	101.9	100.9	103.1	101.6	98.5	145.0
20000	83.9	89.4	92.1	92.8	93.5	97.0	97.9	97.8	99.0	98.7	99.8	99.4	95.1	144.2
25000	80.7	86.3	89.1	89.6	90.7	95.5	95.4	94.0	96.3	95.6	95.1	96.5	91.6	143.6
31500	77.6	82.2	85.0	87.1	87.1	91.7	91.5	90.8	92.5	92.3	91.7	91.8	87.8	143.1
40000	73.9	78.5	80.5	82.5	82.8	88.2	87.3	86.9	88.8	88.6	88.8	89.3	83.4	143.4
50000	68.6	72.5	74.8	76.9	77.8	83.1	81.3	80.9	83.5	84.1	83.4	83.8	77.2	142.4
63000	62.5	66.8	69.5	70.5	71.7	77.7	75.5	76.0	79.2	77.9	79.8	78.0	72.5	142.6
80000	56.9	61.1	63.1	63.1	64.7	70.8	68.7	69.7	72.3	73.7	73.9	72.6	65.9	143.3
OASPL	106.0	110.2	110.4	109.0	110.0	113.3	114.1	116.5	119.4	123.1	126.8	128.2	123.0	162.8
PNL	118.5	122.8	123.3	121.4	122.5	125.6	126.6	129.4	132.5	135.4	138.7	139.0	134.5	
PNLT	119.6	124.3	123.3	121.4	122.5	125.6	127.1	129.4	132.5	135.4	138.7	139.0	134.5	
DBA	178.9	183.1	185.3	185.9	187.2	193.2	191.2	191.8	194.6	195.2	195.7	194.5	188.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH140 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = 6X FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 51.64 PAMB HG = 29.18 RELHUM = 58.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBER =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1223.3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2154.4 FPS AE18 = 23.4 SQ IN

IPT 3F-Z 013 PE = 3F T PT 10 AF RR 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 - 83F-ZER-1013 X10131

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.6	69.2	70.8	70.5	73.3	77.3	78.5	79.3	81.8	87.0	90.6	90.6	78.4	164.9
63	65.6	70.4	72.0	70.5	73.0	76.5	81.5	80.5	83.5	90.0	92.8	92.8	80.4	167.2
80	66.8	71.4	73.2	72.0	74.0	78.2	78.7	81.2	84.5	91.0	94.1	93.0	81.8	168.0
100	67.2	72.5	73.4	73.4	74.9	79.1	80.1	82.6	85.1	91.4	94.7	93.9	83.1	168.8
125	70.1	73.0	74.8	74.1	75.9	79.9	80.6	83.1	86.3	91.3	93.6	93.0	85.1	168.5
160	74.6	80.5	78.9	76.4	77.4	80.9	81.4	84.4	87.1	90.8	92.8	92.2	84.9	168.3
200	72.5	79.2	79.8	79.2	80.4	82.7	82.4	84.6	87.1	90.0	91.0	92.0	84.9	168.0
250	71.8	75.4	77.5	76.7	78.6	82.6	82.8	85.2	88.3	89.7	92.3	91.5	84.1	168.4
315	72.6	77.7	78.3	76.5	77.5	81.3	82.6	85.7	87.8	89.8	91.3	90.0	82.0	168.0
400	69.9	76.4	78.5	77.0	78.6	81.9	81.7	85.1	87.1	89.1	90.5	87.5	79.9	167.3
500	69.5	76.1	77.2	76.3	76.6	80.9	81.8	84.6	87.5	88.3	89.3	84.5	76.0	166.5
630	67.9	74.6	77.4	75.7	77.6	80.3	81.0	84.0	86.0	86.1	87.0	82.9	74.1	165.4
800	65.7	73.0	76.4	75.2	76.8	80.4	80.6	83.7	85.5	86.4	85.5	79.4	70.1	164.9
1000	64.3	72.1	75.3	75.3	77.7	80.3	80.7	82.8	84.1	83.7	83.9	78.1	67.8	164.2
1250	62.2	70.5	74.0	74.5	76.0	79.5	79.7	81.0	81.9	81.9	80.6	74.6	65.1	162.9
1600	60.2	68.8	72.4	73.6	75.6	79.1	78.9	80.2	81.0	79.9	77.9	72.7	61.4	162.8
2000	57.5	66.2	71.0	71.5	74.2	77.7	77.8	77.8	78.4	76.6	74.3	69.2	56.7	162.1
2500	53.9	64.1	68.4	70.9	72.0	75.5	75.3	75.9	75.8	72.4	70.9	63.3	48.9	161.9
3150	47.7	57.9	63.5	66.0	67.7	71.6	72.1	71.0	70.4	67.2	63.7	55.6	36.5	161.2
4000	37.5	49.2	55.9	58.8	61.2	66.4	65.9	63.2	63.1	58.6	51.9	42.9	17.7	160.6
5000	23.8	36.7	44.7	50.0	51.8	56.9	56.1	53.7	52.2	46.8	37.8	23.7		160.1
6300	1.9	18.4	27.8	34.2	37.0	43.2	41.4	38.6	36.1	28.6	16.8			160.4
8000				8.5	12.9	19.3	16.4	12.4	8.5					159.4
10000														159.6
12500														160.3
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	81.5	87.3	88.6	87.7	89.2	92.7	93.3	95.6	97.9	101.0	103.1	102.1	93.2	179.5
PNL	85.5	92.0	94.6	95.2	96.8	100.4	100.7	102.0	103.7	105.0	106 0	103.8	94.9	
PNLT	86.1	92.8	94.6	95.7	97.3	101.0	101.3	102.6	104.3	105.0	106.0	103.8	94.9	
DBA	74.9	81.7	84.3	84.0	85.7	89.1	89.4	91.4	93.1	93.8	94.4	91.4	83.2	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -6

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH140 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 51.64 PAMB HG = 29.19 RELHUM = 58.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1223.3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2154.4 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1013 TAPE = X10131 TEST PT NO = 1013 NC = AE090 CORR FAN SPEED = RPM

DATPROC - FLTRAN

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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 83F-ZER-1015 X1015C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.1	85.7	84.7	82.2	82.3	84.7	79.3	89.0	89.7	88.5	96.6	96.8	86.2	131.5
63	90.0	89.6	91.8	88.4	90.2	93.1	86.2	92.1	94.6	92.9	101.5	102.2	93.9	136.8
80	90.3	96.1	91.1	90.1	91.5	95.6	89.0	94.4	95.8	95.2	98.8	99.5	84.4	136.6
100	90.0	97.2	92.5	92.0	93.9	97.0	91.4	98.3	96.8	99.3	100.5	104.4	88.1	139.3
125	86.4	91.7	94.2	93.5	95.1	97.9	92.3	97.5	96.9	100.0	106.1	109.3	93.2	142.1
160	85.2	86.7	89.7	88.0	89.6	93.0	94.6	95.5	95.5	101.8	107.2	109.6	98.0	142.3
200	88.5	87.8	91.3	89.1	92.7	95.3	92.2	98.1	101.3	102.6	108.3	114.0	102.1	145.3
250	87.0	92.1	92.6	91.9	93.2	95.6	92.5	100.1	101.8	108.2	113.5	117.0	105.1	148.8
315	88.3	91.6	91.4	91.4	94.0	97.1	94.0	100.4	103.6	110.0	115.3	117.5	108.9	150.1
400	89.8	92.8	93.9	92.2	93.8	97.1	100.5	101.2	105.9	112.9	117.6	119.5	109.9	152.2
500	91.1	93.9	94.6	92.9	94.8	98.4	93.8	102.9	106.6	114.2	118.8	119.5	111.7	153.0
630	91.5	94.8	95.1	93.9	96.2	99.6	95.7	103.6	107.3	114.7	119.8	120.5	114.1	154.0
800	95.1	95.6	96.6	94.7	97.0	100.4	95.8	104.9	108.9	114.7	119.3	121.0	115.7	154.2
1000	99.3	102.8	100.3	97.6	98.9	101.6	97.2	106.4	109.6	114.1	119.0	119.9	116.1	153.8
1250	98.7	103.2	103.0	101.6	102.1	103.5	98.1	106.8	110.2	114.1	117.7	120.1	116.0	153.6
1600	97.1	99.5	100.4	98.8	100.5	103.9	99.2	107.3	110.9	113.7	118.9	120.3	115.2	153.9
2000	97.3	100.6	100.5	98.1	99.7	102.8	98.8	107.9	110.8	114.3	118.8	118.1	113.6	153.3
2500	96.4	101.5	102.1	99.0	100.7	103.3	98.5	107.8	110.2	114.8	118.0	115.3	112.6	152.5
3150	96.1	100.7	101.4	99.4	100.0	103.3	99.5	107.9	111.3	113.6	116.6	114.0	110.2	151.6
4000	94.6	99.4	101.0	99.2	101.9	103.3	98.5	108.0	110.2	112.4	114.9	112.4	109.0	150.5
5000	93.7	99.3	101.2	99.1	101.4	103.8	98.2	106.8	109.3	113.2	113.7	111.0	107.2	150.1
6300	92.6	98.7	100.0	99.3	101.1	103.9	98.9	107.1	109.1	110.8	113.3	109.8	105.8	149.4
8000	91.5	97.4	99.0	98.4	100.5	103.6	98.8	106.1	107.9	109.1	111.0	108.1	104.2	148.3
10000	91.8	97.4	99.1	98.7	100.5	103.5	98.5	105.5	107.5	108.0	109.5	107.6	102.7	148.1
12500	91.1	95.9	98.0	98.3	100.4	103.1	97.2	104.4	105.8	106.2	107.4	106.1	101.6	147.5
16000	89.6	95.9	97.0	98.3	99.3	101.8	96.9	104.0	104.4	103.5	106.4	103.8	99.8	147.5
20000	87.2	92.5	94.7	95.4	96.8	99.8	94.7	100.6	102.1	101.1	102.9	101.3	96.2	146.5
25000	83.8	89.1	91.6	92.9	93.8	98.6	92.0	97.3	99.6	97.4	99.4	97.8	92.4	146.0
31500	80.6	85.6	87.6	90.1	90.4	94.7	88.5	94.3	95.4	93.9	96.1	94.1	88.0	145.6
40000	76.8	81.7	84.2	85.6	86.2	90.3	84.9	89.9	91.3	90.7	92.6	90.9	84.3	145.7
50000	71.2	75.9	78.2	79.9	80.9	86.2	79.1	84.6	86.6	85.8	88.6	85.1	78.3	145.2
63000	65.4	70.4	72.6	74.4	75.5	80.5	73.1	79.7	81.8	80.7	83.9	80.1	72.9	145.4
80000	60.8	64.0	66.5	66.6	68.8	74.9	66.6	73.2	76.2	76.1	77.6	74.3	64.6	146.3
OASPL	107.8	112.0	112.5	111.1	112.8	115.5	111.1	118.9	121.6	125.5	129.6	130.3	124.6	165.1
PNL	120.2	124.5	125.2	123.4	125.4	127.7	123.6	131.7	134.6	137.9	141.4	140.7	135.7	
PNLT	120.2	125.6	125.7	124.6	126.0	127.7	124.7	131.7	134.6	137.9	141.4	140.7	135.7	
DBA	107.5	111.7	112.1	110.3	111.9	114.5	110.0	118.5	121.4	125.1	129.0	129.3	124.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH137 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AK FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.62 PAMB HG = 29.18 RELHUM = 43.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM- V8 = 1221.4 FPS AE8 = 4.8 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2314.4 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1015 TAPE = X1015C TEST PT NO = 1015 NC = AE090 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 - 83F-ZER-1015 X1015F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.1	85.7	84.7	82.2	82.3	84.7	79.3	89.0	89.7	88.5	96.6	96.8	86.2	131.5
63	90.0	89.5	91.8	88.4	90.2	93.1	86.2	92.1	94.6	92.9	101.5	102.2	93.9	136.8
80	90.3	96.1	91.1	90.1	91.5	95.6	89.0	94.4	95.8	95.2	98.8	99.5	84.4	136.8
100	90.0	97.2	92.5	92.0	93.9	97.0	91.4	98.3	96.8	99.3	100.5	104.4	88.1	139.3
125	86.4	91.7	94.2	93.5	95.1	97.9	92.3	97.5	96.9	100.0	106.1	109.3	93.2	142.1
160	85.2	86.7	89.7	88.0	89.6	93.0	94.6	95.5	95.5	101.8	107.2	109.6	98.0	142.3
200	88.5	87.8	91.3	89.1	92.7	95.3	92.2	98.1	101.3	102.6	108.3	114.0	102.1	145.3
250	87.0	92.1	92.6	91.9	93.2	95.6	92.5	100.1	101.8	108.2	113.5	117.0	105.1	148.8
315	88.3	91.6	91.4	91.4	94.0	97.1	94.0	100.4	103.6	110.0	115.3	117.5	108.9	150.1
400	89.8	92.8	93.9	92.2	93.8	97.1	100.5	101.2	105.9	112.9	117.6	119.5	109.9	152.2
500	91.1	93.9	94.6	92.9	94.8	98.4	93.8	102.9	106.6	114.2	118.8	119.5	111.7	153.0
630	91.5	94.8	95.1	93.9	96.2	99.6	95.7	103.6	107.3	114.7	119.8	120.5	114.1	154.0
800	95.1	95.6	96.6	94.7	97.0	100.4	95.8	104.9	108.9	114.7	119.3	121.0	115.7	154.2
1000	99.3	102.8	100.3	97.6	98.9	101.6	97.2	106.4	109.6	114.1	119.0	119.9	116.1	153.8
1250	98.7	103.2	103.0	101.6	102.1	103.5	98.1	106.8	110.2	114.1	117.7	120.1	116.0	153.6
1600	97.1	99.5	100.4	98.8	100.5	103.9	99.2	107.3	110.9	113.7	118.9	120.3	115.2	153.9
2000	97.3	100.6	100.5	98.1	99.7	102.8	98.8	107.9	110.8	114.3	118.8	118.1	113.6	153.3
2500	96.4	101.5	102.1	99.0	100.7	103.3	98.5	107.8	110.2	114.8	118.0	115.3	112.6	152.5
3150	96.1	100.7	101.4	99.4	100.0	103.3	99.5	107.9	111.3	113.6	116.6	114.0	110.2	151.6
4000	94.6	99.4	101.0	99.2	101.9	103.3	98.5	108.0	110.2	112.4	114.9	112.4	109.0	150.5
5000	93.7	99.3	101.2	99.1	101.4	103.8	98.2	106.8	109.3	113.2	113.7	111.0	107.2	150.1
6300	92.6	98.7	100.0	99.3	101.1	103.9	98.9	107.1	109.1	110.8	113.3	109.8	105.8	149.4
8000	91.5	97.4	99.0	98.4	100.5	103.6	98.8	106.1	107.9	109.1	111.0	108.1	104.2	148.3
10000	91.8	97.4	99.1	98.7	100.5	103.5	98.5	105.5	107.5	108.0	109.5	107.6	102.7	148.1
12500	91.1	95.9	98.0	98.3	100.4	103.1	97.2	104.4	105.8	106.2	107.4	106.1	101.6	147.5
16000	89.6	95.9	97.0	98.3	99.3	101.8	96.9	104.0	104.4	103.5	106.4	103.8	99.8	147.5
20000	87.2	92.5	94.7	95.4	96.8	99.8	94.7	100.6	102.1	101.1	102.9	101.3	96.2	146.5
25000	83.8	89.1	91.6	92.9	93.8	98.6	92.0	97.3	99.6	97.4	99.4	97.8	92.4	146.0
31500	80.6	85.6	87.6	90.1	90.4	94.7	88.5	94.3	95.4	93.9	96.1	94.1	88.0	145.6
40000	76.8	81.7	84.2	85.6	86.2	90.3	84.9	89.9	91.3	90.7	92.6	90.9	84.3	145.7
50000	71.2	75.9	78.2	79.9	80.9	86.2	79.1	84.6	86.6	85.8	88.6	85.1	78.3	145.2
63000	65.4	70.4	72.6	74.4	75.5	80.5	73.1	79.7	81.8	80.7	83.9	80.1	72.9	145.4
80000	60.8	64.0	66.5	66.6	68.8	74.9	66.6	73.2	76.2	76.1	77.6	74.3	64.6	146.3
OASPL	107.8	112.0	112.5	111.1	112.8	115.5	111.1	118.9	121.6	125.5	129.6	130.3	124.6	165.1
PNL	120.2	124.5	125.2	123.4	125.4	127.7	123.6	131.7	134.6	137.9	141.4	140.7	135.7	
PNLT	120.2	125.6	125.7	124.6	126.0	127.7	124.7	131.7	134.6	137.9	141.4	140.7	135.7	
DBA	102.4	106.2	106.6	109.4	111.1	116.8	108.9	115.4	118.0	117.6	119.6	116.2	107.7	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH137 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 LEQA = NO PWL AREA = FULL SPHERE TAMB F = 53.62 PAMB HG = 29.18 RELHUM = 43.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1221.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2314.4 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1015 TAPE = X1015F TEST PT NO = 1015 NC = AE090 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 - 83F-ZER-1015 X10151

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.9	70.7	71.5	72.3	75.3	78.5	75.3	81.3	83.8	89.0	92.9	92.9	80.9	167.1
63	67.3	71.9	74.0	73.0	75.0	78.5	81.7	82.0	86.0	92.0	95.1	94.8	81.9	169.2
80	68.5	72.9	74.7	73.7	76.0	79.7	75.0	83.7	86.7	93.2	96.3	94.8	83.5	170.0
100	68.9	73.9	75.1	74.6	77.4	80.9	76.9	84.4	87.4	93.6	97.2	95.6	85.8	170.9
125	72.3	74.5	76.8	75.4	78.1	81.6	76.9	85.6	88.8	93.6	96.6	96.0	87.1	171.2
160	76.3	81.5	80.1	78.1	79.9	82.7	78.2	86.9	89.4	92.8	96.1	94.7	87.2	170.8
200	75.5	81.7	82.6	82.0	82.9	84.4	78.9	87.1	89.8	92.5	94.5	94.5	86.6	170.6
250	73.6	77.7	79.8	78.9	81.1	84.6	79.8	87.4	90.3	91.9	95.3	94.2	85.1	170.9
315	73.3	78.4	79.6	78.0	80.1	83.3	79.2	87.8	89.8	92.1	94.9	91.5	82.8	170.2
400	72.0	78.9	80.8	78.6	80.7	83.4	78.5	87.4	88.9	92.2	93.5	88.0	80.7	169.4
500	71.1	77.6	79.7	78.6	79.7	83.2	79.2	87.1	89.6	90.6	91.6	86.0	77.2	168.6
630	69.0	75.9	79.0	78.0	81.2	82.8	77.8	86.9	88.1	88.9	89.3	83.7	75.0	167.5
800	67.5	75.4	78.8	77.6	80.4	83.0	77.2	85.3	86.9	89.3	87.6	81.5	72.0	167.0
1000	65.9	74.3	77.2	77.5	79.9	82.8	77.6	85.3	86.3	86.4	86.6	79.5	69.2	166.4
1250	64.2	72.5	75.7	76.2	79.0	82.2	77.2	84.0	84.7	84.2	83.6	76.9	66.0	165.3
1600	63.2	71.6	75.2	75.9	78.4	81.6	76.4	82.7	83.6	82.2	81.0	74.7	61.9	165.1
2000	61.1	69.0	73.1	74.8	77.5	80.5	74.3	80.8	81.0	79.3	77.4	71.0	57.3	164.5
2500	57.4	67.4	70.9	73.7	75.5	78.3	73.1	79.4	78.3	75.0	74.2	65.5	50.1	164.5
3150	51.0	61.0	66.1	68.6	71.1	74.4	68.9	73.8	73.5	69.5	66.8	57.4	37.6	163.5
4000	40.6	52.0	58.4	62.1	64.2	69.5	62.5	66.5	66.4	60.3	56.2	44.2	18.5	163.0
5000	26.8	40.1	47.3	53.0	55.0	59.9	53.1	57.2	55.1	48.4	42.3	25.9		162.5
6300	4.8	21.7	31.5	37.3	40.3	45.3	39.0	41.6	38.5	30.6	20.6			162.6
8000			3.2	11.4	15.9	22.4	14.1	16.1	11.6					162.2
10000														162.4
12500														163.3
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	83.4	89.0	90.8	89.8	91.9	94.8	90.5	97.9	100.1	103.3	105.9	104.3	95.0	181.8
PNL	87.6	94.3	96.8	97.7	99.8	102.9	97.8	104.8	105.9	107.6	109.0	106.0	96.4	
PNLT	87.5	94.9	97.5	98.2	100.4	102.9	98.4	105.3	106.5	107.6	109.0	106.0	96.4	
DBA	76.7	83.7	86.4	86.3	88.7	91.6	86.4	94.0	95.3	96.4	97.2	93.2	84.5	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -6

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH107 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AN FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.62 PAMB HG = 29.18 RELHUM = 43.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1221.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2314.4 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1015 TAPE = 51 PT = 1 NC AE CORR SPEED RP

DATPROC - FLTRAN

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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 83F-ZER-1017 X1017C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.1	88.2	86.7	84.5	84.1	88.4	89.8	91.7	91.4	96.5	98.1	97.8	88.0	134.2
63	92.3	92.9	94.8	91.6	92.7	96.1	95.0	95.6	96.3	101.1	101.8	102.7	93.9	139.1
80	93.0	96.1	[illegible]	92.9	94.0	98.1	97.2	97.1	98.6	98.4	101.5	102.0	86.6	139.6
100	93.0	100.5	[illegible]	95.8	96.9	100.0	99.6	101.3	99.5	101.8	103.2	106.9	91.1	142.4
125	89.1	93.4	96.4	95.7	97.8	99.7	99.8	100.2	99.7	102.8	109.4	111.8	95.5	145.0
160	87.2	89.5	92.5	90.5	91.9	95.5	103.9	98.0	99.2	104.3	109.7	112.4	100.5	145.3
200	90.5	90.6	93.1	91.6	94.2	97.8	100.7	100.9	103.8	105.4	111.3	116.5	104.6	148.0
250	89.0	93.6	94.3	93.6	95.2	97.8	99.0	102.4	104.8	111.4	116.3	119.0	107.1	151.3
315	90.6	93.1	94.1	93.2	96.0	99.6	101.0	102.9	106.4	113.7	118.6	120.0	110.2	153.0
400	92.3	95.6	95.6	93.7	95.8	99.4	104.5	103.9	108.6	117.4	120.6	121.3	110.9	155.0
500	93.6	96.6	97.1	94.9	97.3	100.9	102.0	105.7	109.4	118.5	122.6	121.8	113.2	156.3
630	93.8	97.6	97.6	96.4	98.7	102.3	103.2	106.6	110.6	120.2	123.8	123.0	114.6	157.6
800	97.6	98.4	98.6	97.9	99.3	103.4	104.3	107.9	111.9	119.7	123.8	123.3	116.2	157.7
1000	100.8	104.5	103.1	101.1	101.9	104.3	105.4	109.3	113.3	119.6	124.8	122.9	116.4	158.2
1250	100.9	106.7	106.5	104.1	105.1	107.0	106.6	109.3	113.7	119.0	124.4	123.9	116.0	158.3
1600	101.6	106.0	105.9	103.0	104.5	107.4	107.7	110.3	114.4	118.7	125.8	123.0	115.7	158.8
2000	102.0	105.3	105.5	103.1	104.0	106.3	107.6	110.9	114.2	118.8	123.8	120.6	114.4	157.3
2500	99.9	104.7	105.5	103.0	105.2	107.5	106.7	111.1	113.4	119.0	122.0	117.8	112.3	156.1
3150	99.0	103.1	104.4	102.4	104.5	107.8	108.2	110.9	114.7	118.1	120.3	116.7	110.4	155.2
4000	97.3	102.3	104.0	102.6	104.6	107.3	107.9	110.7	113.1	116.8	118.8	116.1	109.2	154.2
5000	96.6	102.0	103.6	102.5	104.3	107.3	107.9	110.7	113.0	116.9	117.9	114.2	106.9	153.8
6300	96.0	101.6	103.2	102.5	104.5	107.2	108.0	110.7	112.0	114.9	117.2	113.2	105.7	153.2
8000	95.4	101.0	103.1	102.2	104.1	107.2	107.1	109.0	110.8	113.4	114.8	111.0	104.3	152.0
10000	95.1	100.2	102.7	102.7	104.6	107.3	106.9	108.6	110.5	112.5	113.8	110.2	103.5	152.0
12500	93.7	98.2	100.8	101.7	103.4	106.9	106.2	107.0	108.9	110.9	112.2	108.4	102.4	151.4
16000	92.0	97.7	99.2	100.9	101.9	105.2	105.2	106.9	107.3	108.6	111.5	107.0	100.1	151.5
20000	89.7	94.5	97.2	97.6	99.6	103.4	103.2	104.1	105.3	106.3	108.2	103.5	97.0	150.6
25000	87.0	91.8	93.9	95.4	96.5	101.6	101.2	100.0	102.4	102.7	101.6	100.0	93.1	149.5
31500	83.5	87.8	90.1	92.5	93.3	97.9	96.9	97.2	99.4	100.2	99.3	95.5	89.0	149.5
40000	79.7	84.5	87.0	88.0	89.9	94.8	93.1	93.1	95.6	97.8	96.3	92.3	85.4	150.2
50000	74.0	78.6	81.2	83.3	84.2	89.3	87.4	88.0	90.4	93.4	91.6	88.0	79.4	149.5
63000	69.3	73.1	75.8	77.3	79.0	83.8	82.1	83.0	86.3	89.6	87.6	82.1	73.3	150.3
80000	62.9	66.3	68.8	70.5	72.5	79.0	76.5	77.6	80.0	84.4	81.1	76.2	67.2	151.4
OASPL	110.8	115.3	115.8	114.5	116.1	119.0	119.5	121.9	124.9	130.1	134.3	132.9	125.1	168.9
PNL	123.2	127.6	128.4	126.7	128.5	131.5	132.1	134.7	137.9	142.2	145.6	143.4	136.0	
PNLT	123.2	128.4	128.4	126.7	129.1	131.5	132.7	134.7	137.9	142.2	145.6	143.4	136.0	
DBA	110.7	115.2	115.7	113.8	115.5	118.2	118.6	121.6	124.7	129.8	134.0	132.0	124.8	

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ORIGINAL PAGE IS OF POOR QUALITY

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH138 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = [illegible] FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.17 PAMB HG = [illegible] RELHUM = 51.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = [illegible] NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1241.4 FPS AE8 = [illegible] SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2495.4 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1017 TAPE = X1017C TEST PT NO = 1017 NC = AE090 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 - 83F-ZER-1017 X1017F

ANGLES MEASURED FROM INLFT, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.1	88.2	86.7	84.5	84.1	88.4	89.8	91.7	91.4	96.5	98.1	97.8	88.0	134.2
63	92.3	92.3	94.8	91.6	92.7	96.1	95.0	95.6	96.3	101.1	101.8	102.7	93.9	139.1
80	93.0	98.1	93.6	92.9	94.0	98.1	97.2	97.1	98.6	98.4	101.5	102.0	86.6	139.8
100	93.0	100.5	95.8	95.8	96 9	100.0	99.6	101.3	99.5	101.8	103.2	106.9	91.1	142.4
125	89.1	93.4	96.4	95.7	97.8	99.7	99.8	100.2	99.7	102.8	109.4	111.8	95.5	145.0
160	87.2	89.5	92.5	90.5	91.9	95.5	103.9	98.0	99.2	104.3	109.7	112.4	100.5	145.3
200	90.5	90.6	93.1	91.6	94.2	97.8	100.7	100.9	103.8	105.4	111.3	116.5	104.6	148.0
250	89.0	93.6	94.3	93.6	95.2	97.8	99.0	102.4	104.8	111.4	116.3	119.0	107.1	151.3
315	90.6	93.1	94.1	93.2	96.0	99.6	101.0	102.9	106.4	113.7	118.6	120.0	110.2	153.0
400	92.3	95.6	95.6	93.7	95.8	99.4	104.5	103.9	108.6	117.4	120.6	121.3	110.9	155.0
500	93.6	96.6	97.1	94.9	97.3	100.9	102.0	105.7	109.4	118.5	122.6	121.8	113.2	156.3
630	93.8	97.6	97.6	96.4	98.7	102.3	103.2	106.6	110.6	120.2	123.8	123.0	114.6	157.6
800	97.6	98.4	98.6	97.9	99.3	103.4	104.3	107.9	111.9	119.7	123.8	123.3	116.2	157.7
1000	100.8	104.5	103.1	101.1	101.9	104.3	105.4	109.3	113.3	119.6	124.8	122.9	116.4	158.2
1250	100.9	106.7	106.5	104.1	105.1	107.0	106.6	109.3	113.7	119.0	124.4	123.9	116.0	158.3
1600	101.6	106.0	105.9	103.0	104.5	107.4	107.7	110.3	114.4	118.7	125.8	123.0	115.7	158.8
2000	102.0	105.3	105.5	103.1	104.0	106.3	107.6	110.9	114.2	118.8	123.8	120.6	114.4	157.3
2500	99.9	104.7	105.5	103.0	105.2	107.5	106.7	111.1	113.4	119.0	122.0	117.8	112.3	156.1
3150	99.0	103.1	104.4	102.4	104.5	107.8	108.2	110.9	114.7	118.1	120.3	116.7	110.4	155.2
4000	97.3	102.3	104.0	102.6	104.6	107.3	107.9	110.7	113.1	116.8	118.8	116.1	109.2	154.2
5000	96.6	102.0	103.6	102.5	104.3	107.3	107.9	110.7	113.0	116.9	117.9	114.2	106.9	153.8
6300	96.0	101.6	103.2	102.5	104.5	107.2	108.0	110.7	112.0	114.9	117.2	113.2	105.7	153.2
8000	95.4	101.0	103.1	102.2	104.1	107.2	107.1	109.0	110.8	113.4	114.8	111.0	104.3	152.0
10000	95.1	100.2	102.7	102.7	104.6	107.3	106.9	108.6	110.5	112.5	113.8	110.2	103.5	152.0
12500	93.7	98.2	100.8	101.7	103.4	106.9	106.2	107.0	108.9	110.9	112.2	108.4	102.4	151.4
16000	92.0	97.7	99.2	100.9	101.9	105.2	105.2	106.9	107.3	108.6	111.5	107.0	100.1	151.5
20000	89.7	94.5	97.2	97.6	99.6	103.4	103.2	104.1	105.3	106.3	108.2	103.5	97.0	150.6
25000	87.0	91.8	93.9	95.4	96.5	101.6	101.2	100.0	102.4	102.7	101.6	100.0	93.1	149.5
31500	83.5	87.8	90.1	92.5	93.3	97.9	96.9	97.2	99.4	100.2	99.3	95.5	89.0	149.5
40000	79.7	84.5	87.0	88.0	89.9	94.8	93.1	93.1	95.6	97.8	96.3	92.3	85.4	150.2
50000	74.0	78.6	81.2	83.3	84.2	89.3	87.4	88.0	90.4	93.4	91.6	88.0	79.4	149.5
63000	69.3	73.1	75.8	77.3	79.0	83.8	82.1	83.0	86.3	89.6	87.6	82.1	73.3	150.3
80000	62.9	66.3	68.8	70.5	72.5	79.0	76.5	77.6	80.0	84.4	81.1	76.2	67.2	151.4
OASPL	110.8	115.3	115.8	114.5	116.1	119.0	119.5	121.9	124.9	130.1	134.3	132.9	125.1	168.9
PNL	123.2	127.6	128.4	126.7	128.5	131.5	132.1	134.7	137.9	142.2	145.6	143.4	136.0	
PNLT	123.2	128.4	128.4	126.7	129.1	131.5	132.7	134.7	137.9	142.2	145.6	143.4	136.0	
DBA	185.0	188.7	191.3	192.9	194.7	200.6	198.4	199.4	202.0	205.9	203.1	198.2	189.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH138 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AK FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.17 PAMB HG = 29.12 RELHUM = 51.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1241.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2495.4 FPS AE18 = 23.4 SQ IN

RUNPT - 83F-ZER-1017 TAPE = X1017F TEST PT NO = 1017 NO = AEC20 CORR 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 - 83F-ZER-1017 X10171

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.1	72.2	74.3	74.0	77.3	81.0	82.3	83.8	86.5	92.8	96.1	95.4	82.2	170.0
63	69.8	74.6	75.7	74.5	77.0	80.7	85.7	84.7	88.7	96.5	98.1	96.5	82.9	172.0
80	71.0	75.6	77.2	75.7	78.5	82.2	83.2	86.5	89.5	97.5	100.1	97.0	85.0	173.2
100	71.2	76.5	77.6	77.1	79.9	83.6	84.4	87.4	90.6	99.1	101.2	98.1	86.3	174.6
125	74.8	77.2	78.6	78.6	80.4	84.6	85.4	88.6	91.8	98.6	101.1	98.2	87.6	174.7
160	77.8	83.2	82.9	81.6	82.9	85.4	86.4	89.9	93.1	98.3	101.8	97.7	87.4	175.2
200	77.7	85.2	86.1	84.5	85.9	87.9	87.4	89.6	93.3	97.5	101.2	98.2	88.6	175.3
250	78.1	84.2	85.3	83.2	85.1	88.1	88.3	90.4	93.8	96.9	102.3	97.0	85.6	175.8
315	78.1	83.2	84.6	83.0	84.3	86.8	87.9	90.7	93.3	96.6	99.8	94.0	83.5	174.3
400	75.4	82.1	84.2	82.5	85.2	87.7	86.7	90.6	92.1	96.4	97.5	90.5	80.4	173.1
500	74.0	80.1	82.7	81.6	84.2	87.6	87.9	90.1	93.0	95.1	95.3	88.8	77.5	172.2
630	71.7	78.9	81.9	81.5	83.9	86.8	87.3	89.6	91.1	93.4	93.3	87.4	75.2	171.2
800	70.5	78.1	81.2	81.0	83.3	86.5	86.9	89.2	90.5	92.9	91.8	84.7	71.7	170.8
1000	69.3	77.2	80.3	80.6	83.3	86.2	86.8	88.9	89.2	90.6	90.5	82.9	69.1	170.1
1250	68.0	76.1	79.8	80.1	82.6	85.8	85.6	86.8	87.5	88.5	87.4	79.7	66.2	168.9
1600	66.6	74.4	78.8	80.0	82.5	85.4	84.7	85.8	86.6	86.8	85.3	77.3	62.7	169.0
2000	63.7	71.3	75.9	78.1	80.6	84.3	83.4	83.4	84.0	84.1	82.2	73.4	58.1	168.4
2500	59.8	69.2	73.0	76.3	78.2	81.6	81.5	82.3	81.2	80.1	79.3	68.7	50.5	168.4
3150	53.5	63.0	68.6	70.8	73.8	77.9	77.4	77.3	76.7	74.8	72.0	59.7	38.3	167.6
4000	43.8	54.8	60.8	64.6	66.9	72.4	71.7	69.2	69.1	65.6	58.4	46.4	19.2	166.5
5000	29.7	42.4	49.8	55.4	57.9	63.1	61.5	60.1	59.1	54.7	45.5	27.4		166.4
6300	7.7	24.4	34.3	39.8	44.0	49.7	47.2	44.9	42.8	37.8	24.3			167.1
8000			6.2	14.9	19.3	25.5	22.5	19.6	15.3	7.6				166.5
10000														167.3
12500														168.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	86.9	92.4	94.1	93.2	95.3	98.3	98.6	100.9	103.4	108.0	110.7	106.9	95.5	165.7
PNL	91.0	97.5	100.2	100.8	103.1	106.6	106.4	107.8	109.2	112.2	114.2	108.8	96.7	
PNLT	91.0	97.5	100.8	101.3	103.7	107.2	106.9	108.3	109.8	112.9	114.2	108.8	96.7	
DBA	80.0	86.9	89.7	89.8	92.2	95.3	95.2	97.1	98.5	100.7	101.9	96.1	84.8	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = 1.0

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH198 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AH FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.17 PAMB HG = 28.18 RELHUM = 51.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1241.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2495.4 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1017 TAPE = X10171 TEST PT NO = 1017 NC = AE090 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 83F-ZER-1019 X1019C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.9	86.4	85.9	83.0	82.1	84.9	83.8	89.7	89.7	87.5	96.1	95.8	85.5	131.3
63	91.3	90.8	92.6	88.9	89.2	93.1	92.0	95.9	94.8	93.4	101.3	101.7	89.9	137.1
80	90.5	96.1	91.3	90.9	91.5	96.3	95.5	95.1	95.6	96.2	99.8	99.5	83.4	137.4
100	90.0	97.2	92.8	92.0	92.9	97.0	96.9	98.3	96.5	99.3	100.7	104.6	87.3	139.6
125	87.1	91.2	93.9	93.2	94.8	97.9	97.3	97.0	96.9	100.5	107.1	109.6	92.5	142.6
160	85.7	87.5	90.2	88.3	89.1	93.5	99.4	95.8	96.2	102.1	107.7	109.9	98.5	142.8
200	88.3	88.1	91.8	89.1	91.7	95.8	97.5	98.4	101.1	102.6	109.0	114.2	101.6	145.6
250	87.0	92.1	93.1	91.4	93.0	95.3	97.2	99.9	101.8	108.7	114.3	116.7	104.9	149.0
315	88.6	91.4	91.6	90.9	93.8	97.9	99.3	100.4	103.1	110.7	115.8	117.5	107.9	150.3
400	90.3	93.1	93.9	91.9	93.8	96.9	106.0	101.7	105.6	113.4	118.6	119.3	109.4	152.7
500	91.3	93.9	94.9	92.9	94.8	98.6	98.8	102.7	106.1	114.5	119.6	119.8	111.4	153.4
630	91.5	95.3	95.1	93.9	95.7	100.1	100.5	103.9	106.8	115.4	120.5	120.5	113.6	154.4
800	95.1	96.4	96.9	94.7	96.0	100.6	101.5	104.9	108.4	115.2	120.1	120.5	114.9	154.3
1000	100.0	103.0	101.3	98.1	99.2	101.8	102.4	106.6	109.3	114.9	120.0	120.4	115.4	154.4
1250	98.2	103.0	103.7	101.9	102.1	104.0	103.4	106.3	109.7	113.8	118.9	121.1	115.5	154.3
1600	97.6	100.0	100.4	99.3	101.5	104.4	104.7	107.8	111.2	113.7	120.1	120.3	114.2	154.4
2000	98.5	101.8	101.3	98.4	99.5	103.1	104.3	108.1	111.0	114.3	120.1	118.1	112.1	153.8
2500	98.2	102.5	102.8	99.6	100.4	103.8	103.5	108.1	110.7	115.0	119.5	116.1	111.6	153.3
3150	97.8	101.7	101.9	100.2	100.5	103.6	104.7	108.0	111.5	113.9	117.9	114.3	109.2	152.3
4000	95.6	99.7	101.1	99.7	101.6	103.9	103.7	108.1	110.5	112.4	116.4	112.7	108.0	151.2
5000	94.5	99.6	100.8	99.4	100.7	104.6	104.3	107.4	110.1	113.3	115.0	111.1	106.5	150.7
6300	93.4	99.3	100.4	99.7	100.7	104.7	105.0	107.7	109.5	110.9	114.4	110.3	105.3	150.1
8000	92.9	98.0	99.3	98.5	100.1	103.7	104.4	106.5	107.3	109.4	112.3	108.2	103.8	148.9
10000	92.1	97.5	99.2	99.0	100.1	104.1	104.1	105.9	107.8	108.6	110.6	108.2	103.5	148.9
12500	91.4	95.7	98.0	98.4	99.7	103.4	103.0	104.7	106.1	107.2	108.5	106.9	101.9	148.3
16000	90.1	95.6	97.0	98.8	98.3	102.0	102.6	104.0	104.9	104.2	106.9	104.6	99.7	148.2
20000	87.6	92.4	94.8	95.3	96.0	100.2	100.6	101.3	102.4	102.2	104.3	102.4	96.1	147.6
25000	84.6	89.8	92.1	92.9	93.5	99.1	98.3	96.8	99.1	98.9	99.6	98.4	93.0	146.7
31500	81.0	85.4	88.0	90.7	90.0	94.9	94.3	94.1	95.7	95.9	96.9	94.2	88.7	146.5
40000	77.6	81.7	84.7	86.1	86.4	91.4	90.6	90.4	91.7	92.3	94.0	90.7	84.6	146.9
50000	71.9	76.0	78.3	80.8	80.8	86.6	84.7	84.5	86.7	88.0	88.7	85.3	79.0	146.0
63000	67.0	70.4	73.1	74.7	75.0	80.8	78.9	80.0	82.6	83.4	85.2	80.4	73.2	146.6
80000	60.9	63.7	66.4	67.6	68.8	75.4	73.3	73.9	76.9	78.2	78.8	74.3	66.6	147.6
OASPL	108.5	112.5	112.9	111.4	112.5	116.0	116.6	119.1	121.7	125.8	130.6	130.4	123.9	165.6
PNL	121.3	125.2	125.6	123.9	125.2	128.2	129.0	131.9	134.8	138.1	142.6	140.9	134.9	
PNLT	122.4	126.3	125.6	125.0	125.9	128.2	130.1	131.9	134.8	138.1	142.6	140.9	134.9	
DBA	108.4	112.2	112.6	110.7	111.8	115.0	115.5	118.7	121.5	125.4	130.1	129.5	123.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH131	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = A[illegible]	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.26	PAMB HG = [illegible]	RELHUM = 40.3 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT = [illegible]	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1335.1 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2340.7 FPS	AE18 = 29.4 SQ IN	
RUNPT = 83F-ZER-1019	TAPE = X1019C	TEST PT NO = 1019	NC = AE090	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 - 83F-ZER-1019 X1019F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.9	86.4	85.9	83.0	82.1	84.9	83.8	89.7	89.7	87.5	96.1	95.8	85.5	131.3
63	91.3	90.8	92.8	88.9	89.2	93.1	92.0	95.9	94.8	93.4	101.3	101.7	89.9	137.1
80	90.5	96.1	91.3	90.9	91.5	96.3	95.5	95.1	95.6	96.2	99.8	99.5	83.4	137.4
100	90.0	97.2	92.8	92.0	92.9	97.0	96.9	98.3	96.5	99.3	100.7	104.6	87.3	139.6
125	87.1	91.2	93.9	93.2	94.8	97.9	97.3	97.0	96.9	100.5	107.1	109.6	92.5	142.6
160	85.7	87.5	90.2	88.3	89.1	93.5	99.4	95.8	96.2	102.1	107.7	109.9	98.5	142.8
200	88.3	88.1	91.6	89.1	91.7	95.8	97.5	98.4	101.1	102.6	109.0	114.2	101.6	145.6
250	87.0	92.1	93.1	91.4	93.0	95.3	97.2	99.9	101.8	108.7	114.3	116.7	104.9	149.0
315	88.6	91.4	91.6	90.9	93.8	97.9	99.3	100.4	103.1	110.7	115.8	117.5	107.9	150.3
400	90.3	93.1	93.9	91.9	93.8	96.9	106.0	101.7	105.6	113.4	118.6	119.3	109.4	152.7
500	91.3	93.9	94.9	92.9	94.8	98.6	98.8	102.7	106.1	114.5	119.6	119.8	111.4	153.4
630	91.5	95.3	95.1	93.9	95.7	100.1	100.5	103.9	106.8	115.4	120.5	120.5	113.6	154.4
800	95.1	96.4	96.9	94.7	96.0	100.6	101.5	104.9	108.4	115.2	120.1	120.5	114.9	154.3
1000	100.0	103.0	101.3	98.1	99.2	101.8	102.4	106.6	109.3	114.9	120.0	120.4	115.4	154.4
1250	98.2	103.0	103.7	101.9	102.1	104.0	103.4	106.3	109.7	113.8	118.9	121.1	115.5	154.3
1600	97.6	100.0	100.4	99.3	101.5	104.4	104.7	107.8	111.2	113.7	120.1	120.3	114.2	154.4
2000	98.5	101.8	101.3	98.4	99.5	103.1	104.3	108.1	111.0	114.3	120.1	118.1	112.1	153.8
2500	98.2	102.5	102.8	99.6	100.4	103.8	103.5	108.1	110.7	115.0	119.5	116.1	111.6	153.3
3150	97.8	101.7	101.9	100.2	100.5	103.6	104.7	108.0	111.5	113.9	117.9	114.3	109.2	152.3
4000	95.6	99.7	101.1	99.7	101.6	103.9	103.7	108.1	110.5	112.4	116.4	112.7	108.0	151.2
5000	94.5	98.6	100.8	99.4	100.7	104.6	104.3	107.4	110.1	113.3	115.0	111.1	106.5	150.7
6300	93.4	99.3	100.4	99.7	100.7	104.7	105.0	107.7	109.5	110.9	114.4	110.3	105.3	150.1
8000	92.9	98.0	99.3	98.5	100.1	103.7	104.4	106.5	107.3	109.4	112.3	108.2	103.8	148.9
10000	92.1	97.5	99.2	99.0	100.1	104.1	104.1	105.9	107.8	108.6	110.6	108.2	103.5	148.9
12500	91.4	95.7	98.0	98.4	99.7	103.4	103.0	104.7	106.1	107.2	108.5	106.9	101.9	148.3
16000	90.1	95.6	97.0	98.8	98.3	102.0	102.6	104.0	104.9	104.2	106.9	104.6	99.7	148.2
20000	87.6	92.4	94.8	95.3	96.0	100.2	100.6	101.3	102.4	102.2	104.3	102.4	96.1	147.6
25000	84.6	89.8	92.1	92.9	93.5	99.1	98.3	96.8	99.1	98.9	99.6	98.4	93.0	146.7
31500	81.0	85.4	88.0	90.7	90.0	94.9	94.3	94.1	95.7	95.9	96.9	94.2	88.7	146.5
40000	77.8	81.7	84.7	86.1	86.4	91.4	90.6	90.4	91.7	92.3	94.0	90.7	84.6	146.9
50000	71.9	76.0	78.3	80.8	80.8	86.6	84.7	84.5	86.7	88.0	88.7	85.3	79.0	146.0
63000	67.0	70.4	73.1	74.7	75.0	80.8	78.9	80.0	82.6	83.4	85.2	80.4	73.2	146.6
80000	60.9	63.7	66.4	67.6	68.8	75.4	73.3	73.9	76.9	78.2	78.8	74.3	66.6	147.6
OASPL	108.5	112.5	112.9	111.4	112.5	116.0	116.6	119.1	121.7	125.8	130.6	130.4	123.9	165.6
PNL	121.3	125.2	125.6	123.9	125.2	128.2	129.0	131.9	134.8	138.1	142.6	140.9	134.9	
PNLT	122.4	126.3	125.6	125.0	125.9	128.2	130.1	131.9	134.8	138.1	142.6	140.9	134.9	
DBA	102.9	106.0	106.7	106.2	107.0	107.3	105.3	105.9	108.6	109.8	110.8	106.3	109.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH131	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AA	FLTVEL = 0. FPS
IAPLHA = 8B59	JEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.26	PAMB HG = 28.69	RELHUM = 40.8 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NREF =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1335.1 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2340.7 FPS	AE18 = 23.4 SQ IN	

RUNPT = 83F-ZER-1019 TAPE = X1019F TEST PT NO = 1019 NC = AE090 CORR FAN SPEED = RPM

C27-1

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

IDENTIFICATION - 83F-ZER-1019 X10191

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.1	70.4	71.8	71.8	75.0	79.3	80.5	81.3	83.3	89.8	93.4	92.9	79.9	167.3
63	67.8	72.1	74.0	72.7	75.0	78.2	87.2	82.5	85.7	92.5	96.1	94.5	81.4	169.7
80	68.8	72.9	75.0	73.7	76.0	80.0	80.0	83.5	86.2	93.5	97.1	95.0	83.3	170.4
100	68.9	74.3	75.1	74.6	76.9	81.4	81.6	84.6	86.9	94.4	97.9	95.6	85.3	171.3
125	72.3	75.2	76.8	75.4	77.1	81.9	82.6	85.6	88.3	94.1	97.4	95.5	86.4	171.3
160	77.1	81.7	81.1	78.6	80.2	82.9	83.4	87.1	89.1	93.6	97.1	95.2	86.4	171.4
200	75.0	81.4	83.3	82.2	82.9	84.9	84.2	86.6	89.3	92.3	95.7	95.5	86.1	171.3
250	74.1	78.2	79.8	79.4	82.1	85.1	85.3	87.9	90.5	91.9	96.6	94.2	84.1	171.4
315	74.6	79.7	80.3	78.3	79.8	83.6	84.7	88.0	90.1	92.1	96.1	91.5	81.3	170.8
400	73.7	79.9	81.5	79.1	80.4	84.0	83.5	87.6	89.4	92.4	95.1	88.8	79.7	170.3
500	72.9	78.7	80.3	79.4	80.2	83.4	84.4	87.1	89.9	90.9	92.9	86.3	76.3	169.3
630	70.1	76.2	79.0	78.6	81.0	83.4	83.1	86.9	88.4	89.0	90.9	84.0	74.0	168.1
800	68.3	75.7	78.3	77.9	79.7	83.8	83.3	85.8	87.7	89.3	88.9	81.6	71.3	167.7
1000	66.7	74.9	77.5	77.8	79.4	83.6	83.7	85.8	86.6	86.5	87.7	80.0	68.8	167.1
1250	65.5	73.1	76.1	76.3	78.5	82.3	82.8	84.3	84.0	84.5	84.9	76.9	65.6	165.9
1600	63.6	71.7	75.3	76.2	78.0	82.2	82.0	83.1	83.9	82.8	82.1	75.3	62.7	165.9
2000	61.4	68.8	73.2	74.9	76.9	80.8	80.2	81.2	81.3	80.4	78.5	71.8	57.6	165.3
2500	57.9	67.1	70.9	74.2	74.5	78.5	78.8	79.4	78.8	75.7	74.7	66.3	50.1	165.2
3150	51.4	60.9	66.2	68.5	70.2	74.8	74.8	74.5	73.8	70.7	68.2	58.5	37.5	164.5
4000	41.4	52.8	58.9	62.1	64.0	70.0	68.8	66.0	65.9	61.8	56.4	44.8	19.0	163.7
5000	27.2	40.0	47.7	53.6	54.6	60.1	59.0	57.0	55.4	50.4	43.1	26.1		163.4
6300	5.8	21.6	31.9	37.8	40.6	46.3	44.8	42.1	39.0	32.3	22.1			163.8
8000			3.3	12.3	15.9	22.8	19.8	16.0	11.7	2.2				163.0
10000														163.6
12500														164.5
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	84.0	89.5	91.0	90.1	91.8	95.2	95.9	98.1	100.1	103.6	106.9	104.4	94.2	182.4
PNL	88.4	94.9	97.2	98.0	99.4	103.3	103.5	104.9	106.1	108.0	110.1	106.3	95.8	
PNLT	88.9	95.5	97.9	98.5	100.0	103.9	104.1	105.5	106.7	108.7	110.1	106.3	95.8	
DBA	77.7	84.3	86.7	86.6	88.3	92.1	92.1	94.2	95.5	96.6	98.5	93.5	83.6	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN)   SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)   DIAMETER RATIO = 7.086   FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH191   TEST DATE = 03-17-83   LOCAT = C41 ANECH CH   CONFIG = 10   MODEL = [illegible]   FLTVEL = 0. FPS
IAPLHA = SB58   IEGA = NO   PWL AREA = FULL SPHERE   TAMB F = 53.26   PAMB HG = [illegible]   RELHUM = 40.3 PCT
WIND DIR = DEG   WIND VEL = MPH   EXT DIST = 2400.0 FT   EXT CONFIG = SL   MIKE HT = [illegible]   NBFR =

FNIN1 = LBS   XNL = RPM   XNH = RPM   V8 = 1335.1 FPS   AE8 = 4.6 SQ IN
FNRAMB = LBS   XNLR = RPM   XNHR = RPM   V18 = 2340.7 FPS   AE18 = 23.4 SQ IN

RUNPT - 83F-ZER-1019 TAPE = X10191 TEST PT NO - 10[illegible] ... AEC[illegible] ... CORR [illegible] SPEED [illegible] RPM

DATPROC - FLTRAN   05/09/83   11.345   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   *83F-ZER-1021*   *X1021C*
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.6	86.2	84.7	82.5	82.1	87.4	86.3	90.7	90.2	88.7	97.6	97.6	87.2	132.5
63	90.5	90.8	92.0	87.9	90.2	95.1	92.7	95.4	95.1	93.9	101.3	100.5	93.6	137.1
80	90.3	96.1	91.3	91.1	92.0	95.8	95.0	94.9	95.6	95.2	99.3	99.7	85.9	137.2
100	89.7	97.7	93.3	92.8	93.9	97.0	96.9	98.3	96.8	99.3	101.0	104.9	88.6	139.8
125	86.6	90.7	93.9	93.2	95.3	97.7	96.6	97.0	97.2	100.5	106.9	109.6	93.2	142.5
160	85.9	87.5	90.2	88.3	90.1	93.5	100.6	96.3	97.0	102.6	107.7	110.6	99.0	143.3
200	88.8	88.3	91.3	89.4	92.5	95.8	98.0	98.9	101.6	102.9	109.0	114.5	102.6	145.9
250	87.5	92.3	93.3	92.4	93.5	95.8	97.7	100.9	102.3	108.7	114.5	117.2	105.6	149.4
315	88.3	91.6	92.1	90.9	94.3	97.9	99.5	100.9	103.6	110.7	116.6	118.3	108.9	151.0
400	90.8	93.3	93.9	91.9	94.0	96.9	105.8	101.7	105.4	113.4	118.6	119.8	110.2	152.9
500	91.6	94.4	94.6	93.2	95.5	98.6	99.3	102.9	105.9	114.5	120.6	120.8	112.2	154.2
630	92.0	95.1	95.3	94.4	96.7	99.8	100.5	103.9	107.3	115.2	121.3	122.0	114.1	155.2
800	95.8	96.1	96.9	95.4	97.3	101.1	101.5	105.2	108.6	115.5	121.3	122.0	116.2	155.5
1000	99.5	102.5	101.3	98.9	99.4	102.3	102.7	106.6	109.8	114.6	121.0	122.2	116.6	155.5
1250	98.9	104.7	104.0	103.1	103.4	105.0	104.4	107.3	110.2	114.8	120.9	122.9	117.0	155.9
1600	99.6	103.0	102.4	100.5	102.3	104.6	105.2	107.5	111.2	114.0	120.9	122.3	115.7	155.5
2000	101.5	104.3	103.3	99.9	101.0	103.6	104.8	108.1	111.0	114.5	120.3	120.4	114.1	154.7
2500	102.4	105.5	105.3	102.6	102.9	104.3	104.0	108.4	110.7	115.3	119.8	117.6	113.6	154.0
3150	99.8	102.9	103.9	103.0	103.8	105.9	105.0	107.7	111.5	114.1	118.9	116.3	111.4	153.2
4000	98.1	101.7	103.1	100.7	103.4	106.8	105.5	108.3	110.7	112.7	117.1	115.2	109.5	152.2
5000	96.9	101.9	103.0	100.9	102.4	105.6	105.8	107.8	110.4	113.0	116.0	113.3	108.0	151.6
6300	95.9	100.8	102.3	100.9	103.2	105.7	106.0	108.9	109.9	111.4	114.6	112.6	106.8	151.0
8000	94.6	99.2	101.0	100.0	102.1	105.1	105.3	107.5	108.0	109.4	113.0	110.7	106.0	149.9
10000	94.1	98.7	100.2	100.5	102.1	105.1	105.1	107.1	108.3	108.6	111.1	110.2	105.5	149.8
12500	92.7	96.7	99.3	98.9	100.7	104.4	104.2	105.4	106.6	107.0	109.7	107.7	103.4	149.1
16000	90.9	95.9	97.6	98.3	99.8	103.0	103.1	104.8	105.5	104.2	106.2	105.6	101.8	148.9
20000	88.9	93.0	95.3	95.5	97.0	101.0	101.1	101.5	102.5	102.0	105.1	103.2	98.4	148.0
25000	86.2	89.9	92.7	93.3	94.1	99.2	98.6	97.7	99.9	97.9	99.7	98.9	93.8	147.0
31500	82.8	86.3	88.3	90.8	90.8	96.0	94.4	94.5	96.1	94.8	96.8	95.1	89.8	146.7
40000	78.9	83.3	85.3	86.7	87.1	91.7	91.0	90.5	92.1	92.0	95.2	92.1	85.9	147.4
50000	73.3	76.6	79.5	81.0	81.9	86.5	85.1	85.4	87.4	87.5	90.4	87.0	80.1	146.7
63000	68.4	71.3	73.8	75.1	76.2	81.8	79.3	80.6	83.3	81.3	85.9	82.1	74.9	147.0
80000	62.1	64.6	67.4	68.0	70.0	76.1	73.0	74.4	77.3	76.9	79.5	76.7	68.8	147.9
OASPL	110.3	114.0	114.2	112.7	114.1	117.0	117.3	119.5	122.0	126.0	131.4	131.9	125.3	166.5
PNL	123.7	127.1	127.3	125.7	127.0	129.9	129.7	132.2	134.9	138.3	143.2	142.6	136.6	
PNLT	123.7	127.8	127.3	126.9	127.6	129.9	130.7	132.2	134.9	138.3	143.2	142.6	136.6	
DBA	110.5	114.0	114.2	112.3	113.6	116.2	116.2	119.0	121.7	125.5	131.0	131.2	125.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH133	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX[illegible]	PLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.49	PAMB HG = [illegible]	RELHUM = 40.8 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT = [illegible]	NBFR =
FNINI = LBS	XNL = RPM	XNH = RPM	V8 = 1503.1 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2305.6 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-ZER-1021	TAPE = X1021C	TEST PT NO = 1021	NC = AE090	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 - 83F-ZER-1021 X1021F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.6	86.2	84.7	82.5	82.1	87.4	86.3	90.7	90.2	88.7	97.6	97.6	87.2	132.5
63	90.5	90.8	92.3	87.9	90.2	95.1	92.7	95.4	95.1	93.9	101.3	100.5	93.6	137.1
80	90.3	90.1	91.9	91.1	92.0	95.8	95.0	94.9	95.6	95.2	99.3	99.7	85.9	137.2
100	89.7	97.7	93.9	92.8	93.9	97.0	96.9	98.3	96.8	99.3	101.0	104.9	88.6	139.8
125	86.6	90.7	93.9	93.2	95.3	97.7	96.6	97.0	97.2	100.5	106.9	109.6	93.2	142.5
160	85.9	87.5	90.2	88.3	90.1	93.5	100.6	96.3	97.0	102.6	107.7	110.6	99.0	143.3
200	88.8	88.3	91.3	89.4	92.5	95.8	98.0	98.9	101.6	102.9	109.0	114.5	102.6	145.9
250	87.5	92.3	93.3	92.4	93.5	95.8	97.7	100.9	102.3	108.7	114.5	117.2	105.6	149.4
315	88.3	91.6	92.1	90.9	94.3	97.9	99.5	100.9	103.6	110.7	116.6	118.3	108.9	151.0
400	90.8	93.3	93.9	91.9	94.0	96.9	105.8	101.7	105.4	113.4	118.6	119.8	110.2	152.9
500	91.6	94.4	94.6	93.2	95.5	98.6	99.3	102.9	105.9	114.5	120.6	120.8	112.2	154.2
630	92.0	95.1	95.3	94.4	96.7	99.8	100.5	103.9	107.3	115.2	121.3	122.0	114.1	155.2
800	95.8	96.1	96.9	95.4	97.3	101.1	101.5	105.2	108.6	115.5	121.3	122.0	116.2	155.5
1000	99.5	102.5	101.3	98.9	99.4	102.3	102.7	106.6	109.8	114.6	121.0	122.2	116.6	155.5
1250	98.9	104.7	104.0	103.1	103.4	105.0	104.4	107.3	110.2	114.8	120.9	122.9	117.0	155.9
1600	99.6	103.0	102.4	100.5	102.3	104.6	105.2	107.5	111.2	114.0	120.9	122.3	115.7	155.5
2000	101.5	104.3	103.3	99.9	101.0	103.6	104.8	108.1	111.0	114.5	120.3	120.4	114.1	154.7
2500	102.4	105.5	105.3	102.6	102.9	104.3	104.0	108.4	110.7	115.3	119.8	117.6	113.6	154.0
3150	99.8	102.9	103.9	103.0	103.8	105.9	105.0	107.7	111.5	114.1	118.9	116.3	111.4	153.2
4000	98.1	101.7	103.1	100.7	103.4	106.8	105.5	108.3	110.7	112.7	117.1	115.2	109.5	152.2
5000	96.9	101.9	103.0	100.9	102.4	105.6	105.8	107.8	110.4	113.0	116.0	113.3	108.0	151.6
6300	95.9	100.8	102.3	100.9	103.2	105.7	106.0	108.9	109.9	111.4	114.6	112.6	106.8	151.0
8000	94.6	99.2	101.0	100.0	102.1	105.1	105.3	107.5	108.0	109.4	113.0	110.7	106.0	149.9
10000	94.1	98.7	100.2	100.5	102.1	105.1	105.1	107.1	108.3	108.6	111.1	110.2	105.5	149.8
12500	92.7	96.7	99.3	98.9	100.7	104.4	104.2	105.4	106.6	107.0	109.7	107.7	103.4	149.1
16000	90.9	95.9	97.6	98.3	99.8	103.0	103.1	104.8	105.5	104.2	108.2	105.6	101.8	148.9
20000	88.9	93.0	95.3	95.5	97.0	101.0	101.1	101.5	102.5	102.0	105.1	103.2	98.4	148.0
25000	86.2	89.9	92.7	93.3	94.1	99.2	98.6	97.7	99.9	97.9	99.7	98.9	93.8	147.0
31500	82.8	86.3	88.3	90.8	90.8	96.0	94.4	94.5	96.1	94.8	96.8	95.1	89.8	146.7
40000	78.9	83.3	85.3	86.7	87.1	91.7	91.0	90.5	92.1	92.0	95.2	92.1	85.9	147.4
50000	73.3	76.6	79.5	81.0	81.9	86.5	85.1	85.4	87.4	87.5	90.4	87.0	80.1	146.7
63000	68.4	71.3	73.8	75.1	76.2	81.8	79.3	80.6	83.3	81.3	85.9	82.1	74.9	147.0
80000	62.1	64.6	67.4	68.0	70.0	76.1	73.0	74.4	77.3	76.9	79.5	76.7	68.8	147.9
OASPL	110.9	114.0	114.2	112.7	114.1	117.0	117.3	119.5	122.0	126.0	131.4	131.9	125.3	166.5
PNL	123.7	127.1	127.3	125.7	127.0	129.9	129.7	132.2	134.9	138.3	143.2	142.6	136.6	
PNLT	123.7	127.8	127.3	126.9	127.6	129.9	130.7	132.2	134.9	138.3	143.2	142.6	136.6	
DBA	184.2	187.0	189.6	190.6	192.1	197.9	195.2	196.4	199.2	198.5	201.5	198.5	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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH133 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AN FLTVEL = 0. FPS
IAPLHA = 9859 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.49 PAMB HG = 29.24 RELHUM = 40.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1503.1 FPS AE8 = 4.8 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2305.6 FPS AE18 = 23.4 SQ IN

NPT 83F-ZER-1021 TAPE = X1021F TEST PT 10 AEC RR SPE 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 - 83F-ZER-1021 X10211

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.9	70.7	72.9	71.8	75.5	79.3	80.8	81.8	83.8	89.8	94.1	93.6	80.9	168.0
63	68.3	72.4	74.0	72.7	75.2	78.2	87.0	82.5	85.5	92.5	96.1	95.0	82.1	169.9
80	69.0	73.4	74.7	74.0	76.7	80.0	80.5	83.7	86.0	93.5	98.1	96.0	84.0	171.2
100	69.4	74.0	75.4	75.1	77.9	81.1	81.6	84.6	87.4	94.1	98.7	97.1	85.8	172.2
125	73.1	75.0	76.8	76.1	78.4	82.4	82.6	85.9	88.6	94.3	98.6	97.0	87.6	172.4
160	76.6	81.2	81.1	79.4	80.4	83.4	83.7	87.1	89.6	93.3	98.1	96.9	87.7	172.5
200	75.7	83.2	83.6	83.5	84.2	85.9	85.2	87.6	89.8	93.3	97.7	97.2	87.6	172.9
250	76.1	81.2	81.8	80.7	82.9	85.4	85.8	87.7	90.5	92.2	97.3	96.2	85.6	172.5
315	77.6	82.2	82.3	79.8	81.3	84.1	85.2	88.0	90.1	92.4	96.4	93.8	83.3	171.7
400	78.0	82.9	84.0	82.1	82.9	84.5	84.0	87.9	89.4	92.7	95.3	90.3	81.7	171.0
500	74.8	79.9	82.3	82.1	83.5	85.7	84.7	86.9	89.9	91.1	93.9	88.3	78.5	170.2
630	72.5	78.2	81.0	79.6	82.7	86.4	84.8	87.2	88.6	89.2	91.6	86.5	75.5	169.2
800	70.8	78.0	80.5	79.4	81.4	84.8	84.8	86.3	87.9	89.1	89.9	83.8	72.8	168.5
1000	69.2	76.4	79.5	79.1	81.9	84.6	84.7	87.1	87.1	87.0	87.9	82.3	70.3	168.0
1250	67.2	74.3	77.8	77.8	80.5	83.8	83.8	85.3	84.8	84.5	85.7	79.4	67.9	166.9
1600	65.6	72.9	76.3	77.7	80.0	83.2	83.0	84.3	84.4	82.8	82.6	77.3	64.7	166.7
2000	62.6	69.8	74.4	75.4	77.8	81.8	81.4	81.9	81.8	80.1	79.7	72.6	59.1	166.0
2500	58.7	67.4	71.4	73.7	76.0	79.5	79.3	80.2	79.3	75.7	76.0	67.3	52.1	165.9
3150	52.7	61.4	66.7	68.8	71.3	75.6	75.4	74.8	73.9	70.4	68.9	59.3	39.8	165.0
4000	43.0	52.9	59.5	62.4	64.6	70.1	69.1	66.8	66.7	60.9	56.5	45.3	19.9	164.0
5000	29.0	40.8	48.0	53.7	55.5	61.2	59.1	57.4	55.8	49.3	43.0	26.9	-	163.7
6300	6.9	23.3	32.6	38.4	41.2	46.7	45.2	42.3	39.4	31.9	23.2			164.4
8000			4.4	12.5	17.0	22.7	20.2	16.9	12.3	1.6				163.6
10000														164.0
12500														164.9
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.7	91.1	92.4	91.5	93.4	96.2	96.5	98.5	100.3	103.8	107.7	105.9	95.5	183.3
PNL	91.0	96.8	98.8	98.6	100.8	104.3	104.2	105.5	106.4	108.1	110.8	108.0	97.3	
PNLT	91.0	96.8	99.5	99.2	101.4	104.8	104.8	106.1	107.0	108.9	110.8	108.0	97.3	
DBA	80.2	86.1	88.4	88.0	90.3	93.3	93.0	94.9	95.8	96.7	99.2	95.5	85.3	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH133 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = [illegible] FLTVEL = 0. FPS
IAPLHA = 8859 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 53.49 PAMB HG = [illegible] RELHUM = 40.8 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 = 1503.1 FPS AE8 = 4.8 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2305.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1021 TAPE = X10211 TEST PT NO = 1021 NC = AE090 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 83F-400-1022 X1022C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.4	89.4	85.7	83:2	83.1	84.7	85.6	88.2	89.4	89.7	94.1	95.3	90.2	131.2
63	92.3	91.6	94.0	89.9	89.7	92.1	92.9	93.6	94.3	93.1	96.0	97.5	92.4	135.4
80	90.8	96.3	91.3	91.1	92.5	95.6	94.7	94.4	95.1	94.9	98.0	98.2	87.6	136.7
100	89.5	96.0	91.0	90.8	92.9	95.8	95.9	97.3	95.3	96.1	98.5	103.1	89.6	138.1
125	87.6	90.4	92.4	92.0	94.1	96.2	95.8	95.5	94.7	97.3	104.9	108.3	93.5	140.9
160	84.7	84.2	88.5	86.5	88.6	90.7	97.9	92.8	94.2	98.8	104.9	107.9	97.0	140.5
200	85.8	86.3	88.1	85.4	89.2	91.8	94.2	95.9	98.6	99.1	105.3	111.5	100.1	142.7
250	83.0	88.1	87.8	87.6	89.7	93.1	93.7	96.6	98.6	104.4	110.8	114.5	102.6	146.1
315	84.8	87.6	88.1	87.7	90.3	93.1	95.3	97.2	100.1	106.7	112.3	114.8	104.4	147.1
400	86.6	88.6	89.4	87.2	90.3	93.1	99.0	97.4	102.9	109.7	114.8	116.3	104.7	149.1
500	86.8	89.4	90.4	88.9	91.5	94.6	95.8	98.4	102.6	111.2	116.1	116.0	103.2	149.8
630	87.0	90.3	90.6	89.4	92.7	96.1	97.0	100.1	103.6	112.2	117.3	115.7	101.1	150.5
800	89.6	89.9	91.4	89.9	93.0	96.1	97.8	100.7	105.6	112.2	116.3	114.0	99.9	149.7
1000	92.0	93.8	93.6	92.1	94.7	97.6	98.7	102.6	106.8	111.9	115.8	111.4	98.3	149.1
1250	92.2	96.2	95.2	93.4	96.1	99.0	99.3	103.3	107.5	111.5	113.4	109.1	97.8	147.9
1600	98.6	98.2	96.4	94.8	96.5	99.4	101.2	103.8	108.4	111.5	113.3	107.0	97.2	148.0
2000	100.5	101.6	100.0	96.4	96.9	99.1	101.0	105.1	108.2	112.0	113.0	106.1	97.9	148.2
2500	98.4	100.9	101.8	100.0	100.4	100.7	101.2	105.0	107.7	112.4	113.0	106.3	98.8	148.4
3150	98.0	99.1	99.8	98.9	100.9	103.0	102.4	105.1	109.7	112.0	112.3	105.9	98.6	148.6
4000	98.2	99.8	100.6	98.0	100.0	103.2	103.3	105.6	108.0	111.0	111.5	105.3	98.1	148.0
5000	97.7	99.6	100.0	97.9	99.9	102.1	103.3	105.6	107.6	111.7	110.8	104.3	97.8	148.0
6300	96.8	99.4	99.9	99.0	100.9	102.6	103.1	106.3	108.3	110.2	110.0	103.5	96.7	147.8
8000	96.4	97.9	98.7	98.7	100.1	101.9	102.9	105.0	106.9	108.8	108.0	101.7	96.1	146.9
10000	96.3	98.3	99.0	98.1	100.0	102.5	103.0	104.7	106.9	107.8	106.4	101.6	95.9	147.0
12500	94.8	96.5	98.0	97.7	99.3	101.7	102.3	103.5	105.1	106.1	104.5	101.0	95.3	146.5
16000	93.3	96.5	96.9	97.7	98.0	100.4	101.5	102.9	104.3	103.2	103.0	99.5	93.2	146.6
20000	91.3	92.9	94.5	95.0	96.0	98.7	100.1	99.5	101.9	101.1	100.0	97.4	91.4	146.0
25000	87.4	89.7	91.2	92.5	93.8	97.4	97.8	96.1	98.7	97.2	96.9	94.9	88.7	145.5
31500	84.0	86.4	87.7	90.1	90.3	93.7	93.7	93.8	95.4	94.0	93.1	91.0	84.4	145.3
40000	80.2	82.7	83.7	85.6	86.4	90.5	90.1	89.5	91.7	90.1	89.7	87.1	80.7	145.5
50000	74.3	76.6	78.4	79.9	81.3	85.3	84.5	84.1	87.1	85.3	84.3	80.5	73.8	144.7
63000	69.0	70.8	72.8	73.6	75.5	80.0	78.4	78.9	81.5	80.6	79.8	75.1	67.7	144.6
80000	63.2	64.8	66.0	66.6	68.4	73.4	71.9	72.7	76.0	74.6	72.7	67.8	59.9	145.1
OASPL	108.9	110.7	110.9	109.6	111.2	113.6	114.4	116.6	119.6	123.4	126.0	124.6	113.3	161.9
PNL	121.5	123.3	123.7	122.1	123.9	126.2	126.9	129.3	132.7	136.0	137.4	133.3	124.3	
PNLT	121.5	123.3	123.7	122.6	124.5	126.2	127.5	129.3	132.7	136.0	137.9	133.3	124.3	
DBA	108.6	110.2	110.3	108.6	110.2	112.4	113.1	116.0	119.2	123.1	125.0	121.7	110.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH147 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.28 PAMB HG = [illegible] RELHUM = 74.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = [illegible] NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1484.1 FPS AE8 = [illegible] SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2348.1 FPS AE18 = 29.4 SQ IN

RUNPT = 83F-400-1022 TAPE = X1022C TEST PT NO = 1022 NC = AE090 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 - 83F-400-1022 X1022F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.9	94.5	92.8	90.9	91.3	93.1	92.2	93.6	97.9	103.9	109.4	112.6	104.3	144.8
315	90.9	94.5	92.8	90.9	92.1	93.3	94.3	95.2	100.6	107.0	112.1	114.7	105.9	147.1
400	92.5	94.0	93.1	91.1	92.0	93.4	98.0	95.3	100.5	108.6	113.6	115.1	106.0	148.0
500	93.7	94.7	94.1	90.5	93.4	95.0	94.8	96.3	101.6	109.8	115.2	115.8	106.0	149.1
630	94.5	95.8	95.4	92.4	94.7	96.5	96.0	97.9	104.1	110.4	115.1	115.6	107.7	149.3
800	94.7	96.7	95.6	92.9	95.1	96.7	96.9	98.6	105.7	110.6	115.1	114.3	108.7	149.1
1000	97.3	96.3	96.5	93.5	96.7	98.2	97.9	100.6	106.5	110.4	112.9	112.1	108.3	147.9
1250	98.7	99.6	98.2	95.5	98.3	99.8	98.8	101.4	107.5	110.3	112.8	109.9	107.6	147.8
1600	99.0	102.2	100.0	96.9	98.4	100.4	100.8	102.1	107.6	111.2	112.8	109.4	108.7	148.2
2000	104.7	103.3	100.3	97.6	99.1	100.3	100.9	103.7	107.5	112.1	113.3	109.1	110.2	149.0
2500	107.3	107.2	104.4	99.5	102.9	102.4	101.4	104.0	110.1	112.2	113.2	110.4	110.7	150.1
3150	103.6	105.7	105.9	103.3	104.2	105.0	103.1	104.6	109.1	111.8	112.9	110.2	110.5	150.0
4000	105.6	105.7	105.4	103.2	103.7	105.8	104.6	105.7	108.6	112.5	112.1	109.1	110.0	150.0
5000	105.7	106.5	106.4	102.7	104.0	105.1	104.8	105.8	109.4	111.0	111.3	108.2	108.9	149.8
6300	105.2	106.3	105.8	102.7	104.9	105.6	104.6	106.4	108.5	110.1	109.9	107.1	108.9	149.6
8000	104.1	105.9	105.6	103.7	104.2	104.9	104.7	105.5	109.2	109.9	109.2	107.8	109.5	149.8
10000	103.5	104.3	104.3	103.2	104.0	105.5	105.2	105.7	108.3	109.1	108.1	107.9	109.4	149.9
12500	103.1	104.4	104.3	102.4	103.3	104.7	104.6	104.9	108.1	106.9	107.4	107.1	108.1	149.9
16000	101.1	102.0	102.7	101.4	102.0	103.4	103.9	104.4	106.4	105.5	105.0	105.5	106.5	149.8
20000	99.2	101.7	101.2	101.0	100.0	101.7	102.5	101.2	104.1	102.2	102.2	102.9	103.6	149.5
25000	96.7	97.4	98.2	97.7	98.4	100.4	100.3	98.0	101.5	99.9	99.5	100.5	101.0	149.3
31500	94.7	95.7	95.8	95.6	94.9	96.7	96.1	95.6	98.7	96.9	97.0	97.5	98.0	149.5
40000	90.5	91.6	91.5	92.3	91.0	93.5	92.6	91.3	94.0	92.1	91.8	91.5	92.2	149.3
50000	86.3	87.5	87.1	87.4	85.9	88.3	86.9	85.7	88.9	87.8	87.6	86.4	86.7	148.7
63000	79.4	80.5	80.9	80.8	80.1	83.0	80.7	80.1	84.2	82.5	81.1	79.5	79.4	148.2
80000	72.7	73.2	73.8	73.0	73.0	76.4	73.9	73.5	74.4	72.7	71.3	69.7	69.6	147.1
OASPL	115.4	116.2	115.6	113.3	114.4	115.6	115.2	116.2	120.2	123.0	125.2	124.6	121.5	163.2
PNL	127.7	128.3	127.6	124.9	126.1	127.4	126.7	128.1	132.0	135.4	136.7	134.7	133.6	
PNLT	129.5	128.3	127.6	124.9	126.1	127.4	127.3	128.1	132.0	135.4	136.7	134.7	133.6	
DBA	195.2	196.0	196.4	196.0	195.5	198.7	196.4	195.8	198.2	196.5	195.3	193.9	194.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH147	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 50.28	PAMB HG = 28.97	RELHUM = 74.2 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1484.1 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2348.1 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-400-1022	TAPE = X1022F	TEST PT NO = 1022	NC = AE090	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 - 83F-400-1022 X10221

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.5	73.6	72.9	71.8	73.3	74.7	75.6	76.1	80.8	86.0	89.6	90.0	77.9	164.1
63	70.0	73.1	73.2	71.9	73.3	74.8	79.3	76.2	80.6	87.6	91.1	90.4	77.9	165.0
80	71.2	73.7	74.2	71.3	74.6	76.3	76.0	77.1	81.7	88.8	92.6	91.0	77.8	166.1
100	71.9	74.7	75.4	73.1	75.9	77.8	77.2	78.7	84.2	89.4	92.5	90.7	79.4	166.3
125	72.0	75.8	75.6	73.6	76.2	77.9	78.0	79.3	85.6	89.4	92.4	89.3	80.1	166.1
160	74.3	75.0	76.3	74.0	77.7	79.3	78.9	81.2	86.3	89.0	90.0	86.8	79.3	164.9
200	75.5	78.1	77.8	75.8	79.1	80.7	79.6	81.8	87.1	88.8	89.6	84.3	78.2	164.8
250	75.5	80.4	79.4	77.0	79.0	81.1	81.4	82.2	87.0	89.4	89.3	83.3	78.7	165.2
315	80.8	81.1	79.4	77.5	79.4	80.8	81.2	83.6	86.6	89.9	89.4	82.5	79.4	165.9
400	82.8	84.6	83.1	79.1	82.9	82.5	81.4	83.6	88.7	89.6	88.7	83.1	78.8	167.0
500	78.6	82.7	84.2	82.5	83.9	84.9	82.7	83.8	87.4	88.8	88.0	82.2	77.6	166.9
630	80.0	82.2	83.3	82.1	83.0	85.3	84.0	84.6	86.6	89.0	86.6	80.4	76.0	167.0
800	79.6	82.5	83.9	81.2	83.0	84.3	83.8	84.3	86.9	87.0	85.2	78.7	73.7	166.8
1000	78.5	82.0	83.0	80.9	83.6	84.5	83.3	84.6	85.7	85.7	83.3	76.8	72.4	166.6
1250	76.8	81.1	82.4	81.6	82.6	83.5	83.2	83.3	86.0	85.0	81.8	76.5	71.3	166.8
1600	75.0	78.6	80.3	80.5	81.9	83.6	83.1	82.9	84.4	83.4	79.6	75.0	68.6	166.9
2000	73.1	77.5	79.4	78.8	80.5	82.1	81.8	81.4	83.3	80.0	77.3	72.1	63.7	166.9
2500	68.9	73.5	76.6	76.8	78.2	79.9	80.1	79.8	80.3	77.0	72.8	67.2	56.9	166.8
3150	63.0	70.1	72.6	74.2	74.3	76.3	76.7	74.4	75.5	70.7	66.0	59.0	44.9	166.5
4000	53.5	60.4	65.0	66.9	68.9	71.3	70.8	67.2	68.3	62.9	56.3	47.0	27.0	166.3
5000	40.9	50.3	55.5	58.5	59.5	61.9	60.7	58.5	58.4	51.5	43.2	29.4	1.4	166.5
6300	18.5	31.5	38.7	44.0	45.2	48.5	46.7	43.0	41.3	32.1	19.8			166.2
8000		1.7	12.0	19.0	21.0	24.5	22.0	17.2	13.9	1.9				165.7
10000														165.1
12500														164.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	89.8	92.4	93.0	91.3	93.2	94.5	93.9	94.7	98.2	100.4	101.4	98.6	89.7	180.1
PNL	96.4	99.7	101.1	100.2	102.0	103.6	103.3	103.3	105.8	105.8	104.9	100.2	93.3	
PNLT	97.5	100.3	101.7	100.8	102.5	104.2	103.9	103.9	106.3	106.4	106.1	100.2	93.3	
DBA	86.8	90.0	91.2	89.9	91.6	92.9	92.3	92.6	94.9	95.2	93.5	87.8	82.7	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH147 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AN FLTVEL = 400. FPS
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 50.28 PAMB HG = 28.87 RELHUM = 74.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1484.1 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2348.1 FPS AE18 = 23.4 SQ IN

NPT 83F-4 022 PE = 21 T PT 10 C AEC RR SPE RPM

DATPROC - FLTRAN

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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 83F-ZER-1023 X1023C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.4	86.4	85.2	83.0	82.6	87.7	86.6	88.7	89.7	88.7	97.1	97.3	86.7	132.1
63	90.8	90.5	92.8	89.1	89.7	94.3	93.2	93.9	94.6	91.4	101.3	100.0	91.6	136.6
80	90.5	95.8	91.3	91.4	92.5	96.1	95.2	94.9	95.8	96.2	99.5	100.0	84.9	137.4
100	90.5	98.0	93.9	92.8	94.1	97.3	97.1	98.8	96.8	100.3	101.5	105.1	88.6	140.2
125	86.9	91.4	93.9	93.5	95.6	97.4	97.1	97.2	96.7	100.5	106.6	109.6	93.7	142.5
160	86.2	87.2	89.7	89.0	90.1	93.5	100.1	96.3	96.0	102.1	107.7	110.4	98.8	143.1
200	88.8	88.3	91.3	89.6	93.0	95.6	97.7	98.1	101.6	103.1	108.5	114.2	102.6	145.6
250	87.0	92.8	93.3	92.1	93.5	95.6	97.5	100.4	102.1	108.4	114.0	117.5	105.4	149.3
315	88.6	91.9	92.1	91.7	94.5	97.9	99.5	101.4	103.6	110.2	116.3	118.3	108.9	150.8
400	90.3	93.1	93.9	91.9	94.5	97.1	105.8	101.4	105.9	113.2	118.1	120.3	110.4	152.9
500	91.8	94.4	94.6	92.9	95.8	98.4	99.8	102.7	106.6	114.7	119.6	120.5	111.9	153.8
630	92.3	95.6	95.6	94.6	96.7	100.1	101.5	103.6	107.6	115.7	120.5	121.0	113.9	154.6
800	95.8	96.4	97.1	95.2	97.8	100.9	101.5	105.2	109.1	115.7	120.6	121.8	115.9	155.1
1000	100.3	104.0	101.8	98.9	100.2	102.6	103.2	106.9	110.6	115.1	121.0	121.4	116.1	155.3
1250	99.4	104.2	104.0	102.4	102.9	105.0	104.1	107.3	111.0	114.6	120.7	122.1	115.8	155.4
1600	98.3	101.0	101.9	100.8	102.3	105.1	105.2	108.0	112.2	114.5	121.4	121.3	114.7	155.4
2000	99.8	102.3	102.5	99.4	100.7	103.6	105.1	108.6	111.8	115.0	120.8	119.1	113.1	154.6
2500	98.9	102.3	103.1	100.3	101.9	104.6	104.7	108.6	111.2	115.5	119.5	116.6	112.8	153.7
3150	98.1	101.4	102.2	100.2	101.5	104.6	105.5	108.2	112.3	115.9	118.6	116.0	110.7	153.4
4000	96.3	99.9	101.3	99.7	102.1	104.8	104.7	108.6	111.2	113.9	116.6	113.7	109.0	151.9
5000	95.2	100.1	101.5	99.6	101.9	104.4	105.3	108.1	110.4	114.0	115.5	112.5	107.5	151.4
6300	94.2	99.3	100.8	99.9	102.4	104.9	104.7	108.1	110.4	112.1	114.6	111.8	106.3	150.8
8000	93.3	98.2	100.0	99.5	101.1	104.4	104.8	106.5	108.2	110.7	113.0	109.7	105.3	149.7
10000	93.8	98.7	100.5	99.5	101.6	104.3	104.8	106.3	108.8	109.6	111.1	109.2	104.2	149.6
12500	92.4	96.5	99.3	99.2	101.2	103.9	103.5	105.2	106.6	108.0	109.5	108.2	102.9	149.1
16000	91.4	96.6	98.3	99.1	99.8	102.8	102.6	104.3	105.0	105.0	107.9	105.8	99.5	148.8
20000	89.2	94.0	95.6	96.3	97.3	101.1	100.9	101.3	102.5	103.0	105.2	102.5	96.4	148.1
25000	86.2	91.0	93.3	93.8	95.4	99.7	98.9	97.7	99.8	97.8	99.5	98.5	93.3	147.2
31500	82.7	87.4	89.4	91.4	91.9	95.8	95.3	95.1	96.1	95.4	96.9	94.6	89.1	147.0
40000	79.3	83.4	86.2	86.8	87.9	92.3	91.1	90.6	92.2	91.9	94.3	91.4	85.5	147.4
50000	73.1	77.8	80.3	81.8	82.5	87.6	85.7	85.3	87.7	87.1	89.7	86.1	79.0	146.8
63000	67.7	71.7	75.2	75.8	77.1	82.1	79.9	80.3	83.4	82.0	85.0	80.7	73.8	147.0
80000	61.9	65.5	67.8	68.9	70.7	76.2	73.7	74.0	77.5	77.3	79.4	75.1	67.2	148.0
OASPL	109.9	113.0	113.5	112.0	113.7	116.5	117.2	119.5	122.5	126.5	131.1	131.3	124.7	166.3
PNL	121.8	125.3	126.0	124.2	126.1	128.8	129.6	132.3	135.5	139.2	143.0	141.8	135.9	
PNLT	121.8	126.6	126.0	124.2	126.7	128.8	130.7	132.3	135.5	139.2	143.0	141.8	135.9	
DBA	109.1	112.7	113.1	111.2	112.9	115.6	116.1	119.1	122.3	126.1	130.8	130.5	124.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH134 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.93 PAMB HG = 29.17 RELHUM = 40.5 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 = 1608.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2315.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1023 TAPE = X1023C TEST PT NO = 1023 NC = AE090 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 - 83F-ZER-1023 X1023F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.4	86.4	85.2	83.0	82.6	87.7	86.6	88.7	89.7	88.7	97.1	97.3	86.7	132.1
63	90.8	90.5	92.8	89.1	89.7	94.3	93.2	93.9	94.6	91.4	101.3	100.0	91.6	136.6
80	90.5	95.8	91.3	91.4	92.5	96.1	95.2	94.9	95.8	96.2	99.5	100.0	84.9	137.4
100	90.5	98.0	93.3	92.8	94.1	97.3	97.1	98.8	96.8	100.3	101.5	105.1	88.6	140.2
125	86.9	91.4	93.9	93.5	95.6	97.4	97.1	97.2	96.7	100.5	106.6	109.6	93.7	142.5
160	86.2	87.2	89.7	89.0	90.1	93.5	100.1	96.3	96.0	102.1	107.7	110.4	98.8	143.1
200	88.8	88.3	91.3	89.6	93.0	95.6	97.7	98.1	101.6	103.1	108 5	114.2	102.6	145.6
250	87.0	92.8	93.3	92.1	93.5	95.6	97.5	100 4	102.1	108.4	114.0	117.5	105.4	149.3
315	88.6	91.9	92.1	91.7	94.5	97.9	99.5	101.4	103.6	110.2	116.3	118.3	108.9	150.8
400	90.3	93.1	93.9	91.9	94.5	97.1	105.8	101.4	105.9	113.2	118.1	120.3	110.4	152.9
500	91.8	94.4	94.8	92.9	95.8	98.4	99.8	102.7	106.6	114.7	119.6	120.5	111.9	153.8
630	92.3	95.6	95.6	94.6	96.7	100.1	101.5	103.6	107.6	115.7	120.5	121.0	113.9	154.6
800	95.8	96.4	97.1	95.2	97.8	100.9	101.5	105.2	109.1	115.7	120.6	121.8	115.9	155.1
1000	100.3	104.0	101.6	98.9	100.2	102.6	103.2	106 9	110.6	115.1	121.0	121.4	116.1	155.3
1250	99.4	104.2	104.0	102.4	102.9	105.0	104.1	107.3	111.0	114.6	120.7	122.1	115.8	155.4
1600	98.3	101.0	101.9	100.8	102.3	105.1	105.2	108.0	112.2	114.5	121.4	121.3	114.7	155.4
2000	99.8	102.3	102.5	99.4	100.7	103.6	105.1	108.6	111.8	115.0	120.8	119.1	113.1	154.6
2500	98.9	102.3	103.1	100.3	101.9	104.6	104.7	108.6	111.2	115.5	119.5	116.6	112.8	153.7
3150	98.1	101.4	102.2	100.2	101.5	104.6	105.5	108.2	112.3	115.9	118.6	116.0	110.7	153.4
4000	96.3	99.9	101.3	99.7	102.1	104.8	104.7	108.6	111.2	113.9	116.6	113.7	109.0	151.9
5000	95.2	100.1	101.5	99.6	101.9	104.4	105.3	108.1	110.4	114.0	115.5	112.5	107.5	151.4
6300	94.2	99.3	100.8	99.9	102.4	104.9	104.7	108.1	110.4	112.1	114.6	111.8	106.3	150.8
8000	93.3	98.2	100.0	99.5	101.1	104.4	104.8	106.5	108.2	110.7	113.0	109.7	105.3	149.7
10000	93.8	98.7	100.5	99.5	101.6	104.3	104.8	106.3	108.8	109.6	111.1	109.2	104.2	149.6
12500	92.4	96.5	99.3	99.2	101.2	103.9	103.5	105.2	106.6	108.0	109.5	108.2	102.9	149.1
16000	91.4	96.6	98.3	99.1	99.8	102.8	102.6	104.3	105.0	105.0	107.9	105.8	99.5	148.8
20000	89.2	94.0	95.6	96.3	97.3	101.1	100.9	101.3	102.5	103.0	105.2	102.5	96.4	148.1
25000	86.2	91.0	93.3	93.8	95.4	99.7	98.9	97.7	99.8	97.8	99.5	98.5	93.3	147.2
31500	82.7	87.4	89.4	91.4	91.9	95.8	95.3	95.1	96.1	95.4	96.9	94.6	89.1	147.0
40000	79.3	83.4	86.2	86.8	87.9	92.3	91.1	90.6	92.2	91.9	94.3	91.4	85.5	147.4
50000	73.1	77.8	80.3	81.8	82.5	87.6	85.7	85.3	87.7	87.1	89.7	86.1	79.0	146.8
63000	67.7	71.7	75.2	75.8	77.1	82.1	79.9	80.3	83.4	82.0	85.0	80.7	73.8	147.0
80000	61.9	65.5	67.8	68.9	70.7	76.2	73.7	74.0	77.5	77.3	79.4	75.1	67.2	148.0
OASPL	109.3	113.0	113.5	112.0	113.7	116.5	117.2	119.5	122.5	126.5	131.1	131.3	124.7	166.3
PNL	121.8	125.3	126.0	124.2	126.1	128.8	129.6	132.3	135.5	139.2	143.0	141.8	135.9	
PNLT	121.8	126.6	126.0	124.2	126.7	128.8	130.7	132.3	135.5	139.2	143.0	141.8	135.9	
DBA	183.9	187.7	190.4	191.4	192.9	198.2	195.9	196.1	199.4	198.9	201.2	197.0	189.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH134 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.93 PAMB HG = 28.71 RELHUM = 40.5 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 = 1608.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2315.8 FPS AE18 = 23.4 SQ IN

NPT F-Z 023 PE = 3F T PT 10 C AEC IRR SPE 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 - 83F-ZER-1023 X10231

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.1	70.9	72.3	72.5	75.8	79.3	80.8	82.3	83.8	89.3	93.9	93.6	80.9	167.8
63	67.8	72.1	74.0	72.7	75.7	78.5	87.0	82.2	86.0	92.2	95.6	95.5	82.4	169.9
80	69.3	73.4	74.7	73.7	77.0	79.7	81.0	83.5	86.7	93.7	97.1	95.8	83.8	170.8
100	69.7	74.5	75.6	75.4	77.9	81.4	82.6	84.4	87.6	94.6	97.9	96.1	85.6	171.6
125	73.1	75.2	77.1	75.9	78.9	82.1	82.6	85.9	89.1	94.6	97.9	96.7	87.4	172.1
160	77.3	82.7	81.4	79.4	81.2	83.7	84.2	87.4	90.4	93.8	98.1	96.2	87.2	172.3
200	76.2	82.7	83.6	82.7	83.7	85.9	84.9	87.6	90.6	93.0	97.5	96.5	86.4	172.4
250	74.8	79.2	81.3	80.9	82.9	85.9	85.8	88.2	91.5	92.7	97.8	95.2	84.6	172.4
315	75.8	80.2	81.6	79.3	81.1	84.1	85.4	88.5	90.8	92.9	96.9	92.5	82.3	171.6
400	74.5	79.7	81.8	79.8	81.9	84.7	84.7	88.1	89.9	92.9	95.1	89.3	81.0	170.7
500	73.1	78.4	80.5	79.4	81.2	84.4	85.2	87.4	90.6	92.9	93.6	88.1	77.8	170.4
630	70.8	76.5	79.2	78.6	81.5	84.4	84.1	87.4	89.1	90.5	91.1	85.0	75.0	168.9
800	69.1	76.2	79.0	78.1	80.9	83.6	84.3	86.6	87.9	90.1	89.4	83.1	72.3	168.4
1000	67.5	74.9	78.0	78.1	81.2	83.8	83.4	86.3	87.6	87.8	87.9	81.5	69.7	167.8
1250	66.0	73.3	76.8	77.3	79.5	83.0	83.3	84.3	85.0	85.8	85.7	78.4	67.1	166.7
1600	65.3	72.9	76.5	76.7	79.5	82.4	82.7	83.6	84.9	83.8	82.6	76.3	63.4	166.6
2000	62.4	69.6	74.5	75.6	78.4	81.3	80.7	81.7	81.8	81.1	79.5	73.1	58.6	166.1
2500	59.2	68.1	72.2	74.4	76.1	79.3	78.9	79.7	78.9	76.5	75.7	67.6	49.9	165.8
3150	53.0	62.4	67.0	69.5	71.5	75.6	75.1	74.5	73.9	71.5	69.0	58.6	37.8	165.1
4000	43.0	53.9	60.0	63.0	65.9	70.6	69.4	66.9	66.5	60.7	56.3	44.9	19.4	164.2
5000	28.9	41.9	49.1	54.3	56.6	61.0	59.9	58.0	55.9	49.9	43.0	26.5		164.0
6300	7.3	23.4	33.4	38.5	42.1	47.2	45.3	42.4	39.5	31.8	22.3			164.3
8000			5.3	13.3	17.6	23.8	20.8	16.8	12.7	1.3				163.8
10000														164.0
12500														165.0
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	84.7	90.0	91.6	90.7	92.9	95.8	96.5	98.5	100.9	104.2	107.4	105.4	94.9	183.1
PNL	89.2	95.2	97.9	98.5	100.7	103.9	103.9	105.3	106.8	108.7	110.8	107.3	96.4	
PNLT	89.2	95.9	98.6	99.0	101.3	104.4	104.5	105.8	107.4	109.4	110.8	107.3	96.4	
DBA	78.5	84.6	87.4	87.1	89.6	92.6	92.6	94.7	96.3	97.6	99.1	94.6	84.5	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH134 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AK FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.93 PAMB HG = 29.11 RELHUM = 40.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1608.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2315.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1023 TAPE = X10231 TEST PT NO = 1023 NC = AE090 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 83F-ZER-1025 X1025C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	86.7	85.9	83.2	83.3	88.7	87.1	91.5	90.4	89.7	98.1	97.8	87.7	133.1
63	91.5	90.9	92.6	88.6	90.5	95.1	92.7	94.6	94.8	93.6	101.3	101.5	93.4	137.2
80	91.0	96.3	91.6	91.4	92.2	96.3	95.0	94.6	95.8	96.2	100.0	100.2	84.6	137.6
100	90.5	98.0	93.5	93.0	94.6	97.5	97.1	99.0	97.3	99.6	101.5	104.9	88.6	140.2
125	87.4	91.9	94.2	93.5	95.8	98.2	97.3	97.5	97.7	100.8	107.1	109.8	93.7	142.9
160	86.2	87.7	91.0	89.3	90.6	94.5	100.4	96.8	96.5	102.8	107.9	110.9	99.3	143.5
200	88.8	89.1	92.3	90.4	93.0	96.3	98.0	98.9	102.1	104.1	109.3	114.7	102.6	146.2
250	87.8	93.3	93.6	92.6	93.7	95.8	98.2	100.9	102.6	109.2	114.5	117.5	106.1	149.6
315	88.8	91.6	92.4	91.4	95.0	97.9	99.5	101.2	103.9	111.7	116.6	118.5	108.9	151.2
400	90.6	93.8	94.4	92.4	94.5	97.4	106.5	102.2	106.1	114.4	118.6	120.3	110.7	153.3
500	91.3	94.1	95.1	93.7	95.5	99.1	99.8	103.2	106.9	115.7	120.3	120.5	112.2	154.3
630	91.8	95.6	95.8	94.4	96.7	100.1	101.5	104.1	107.6	117.2	122.0	121.7	113.6	155.7
800	96.1	96.4	97.6	95.4	97.3	100.9	101.8	104.9	109.1	116.7	122.3	122.0	115.9	156.0
1000	100.3	104.3	101.8	98.9	100.4	102.8	103.2	106.6	110.1	115.9	122.5	121.4	115.9	156.0
1250	99.4	105.0	105.0	103.4	103.9	104.5	104.1	107.3	110.7	115.3	122.4	121.9	115.8	156.1
1600	99.6	103.0	102.4	100.8	102.8	105.1	105.2	108.3	111.7	115.2	123.6	121.5	114.2	156.6
2000	101.3	103.3	102.8	100.6	101.0	103.6	104.8	108.1	111.5	115.8	123.3	118.9	112.9	155.9
2500	100.7	103.5	104.3	101.6	102.9	105.1	104.5	108.4	111.5	115.8	122.0	116.8	112.8	155.0
3150	99.1	102.2	102.9	101.2	102.5	105.6	105.7	108.2	112.3	115.1	120.4	115.5	110.4	153.9
4000	96.6	100.4	101.8	100.2	102.6	105.1	105.5	108.3	110.7	113.4	118.9	114.2	109.0	152.7
5000	94.7	100.1	101.5	99.6	101.9	104.4	105.3	108.1	110.3	113.5	117.3	112.5	107.5	151.9
6300	94.4	99.5	101.1	99.6	102.2	104.9	104.9	107.9	109.4	111.6	116.3	112.1	106.3	151.2
8000	93.6	98.5	100.3	99.0	101.1	104.1	105.1	106.7	108.2	109.9	114.5	109.4	104.8	150.1
10000	92.8	98.4	100.7	99.7	101.1	103.8	104.6	106.3	107.8	108.8	113.3	109.4	104.7	149.9
12500	92.7	97.7	100.0	99.1	101.2	103.9	103.5	104.9	106.1	107.5	111.7	107.4	103.2	149.4
16000	90.9	97.4	99.1	99.0	100.3	103.0	102.6	103.8	105.0	104.7	109.7	105.6	100.3	149.2
20000	89.1	94.0	96.6	97.1	98.3	101.3	100.4	101.3	102.3	102.5	106.6	103.0	97.2	148.4
25000	85.7	90.9	93.2	94.3	95.6	100.0	98.9	97.9	99.5	97.7	100.7	98.4	93.6	147.4
31500	82.4	87.3	89.4	91.3	91.9	96.0	95.2	94.8	95.6	94.8	97.6	94.9	89.6	147.0
40000	78.7	83.9	85.6	87.0	88.1	92.3	91.1	90.9	92.2	92.1	95.3	91.9	85.3	147.6
50000	73.4	78.0	80.3	81.5	82.7	87.6	85.7	85.2	87.2	87.1	90.5	85.8	80.0	146.8
63000	67.7	72.2	74.9	75.7	76.8	82.3	79.6	80.2	82.6	81.7	85.5	80.9	74.7	146.9
80000	61.9	65.2	68.2	68.9	70.6	76.4	73.4	74.5	76.9	77.3	80.1	75.6	68.4	148.1
OASPL	109.8	113.6	114.0	112.4	114.0	116.6	117.3	119.5	122.2	127.0	132.9	131.5	124.6	167.0
PNL	122.7	126.1	126.7	124.8	126.5	129.2	129.8	132.2	135.4	139.2	144.9	142.0	135.9	
PNLT	122.7	127.3	126.7	126.0	127.0	129.2	131.0	132.2	135.4	139.2	144.9	142.0	135.9	
DBA	109.9	113.4	113.7	111.8	113.3	115.7	116.2	119.0	122.1	126.5	132.7	130.5	124.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH135	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.44	PAMB HG = 29.18	RELHUM = 41.3 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 = 1681.0 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2316.0 FPS	AE18 = 23.4 SQ IN	

RUNPT = 83F-ZER-1025 TAPE = X1025C TEST PT NO = 1025 NC = AE090 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 - 83F-ZER-1025 X1025F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	86.7	85.9	83.2	83.3	88.7	87.1	91.5	90.4	89.7	98.1	97.8	87 7	133.1
63	91.5	90.3	92.8	88.6	90.5	95.1	92.7	94.6	94.8	93.6	101.3	101.5	93.4	137.2
80	91.0	96.3	91.8	91.4	92.2	96.3	95.0	94.6	95.8	96.2	100.0	100.2	84.6	137.6
100	90.5	98.0	93.5	93.0	94.6	97.5	97.1	99.0	97.3	99.6	101.5	104.9	88.6	140.2
125	87.4	91.9	94.2	93.5	95.8	98.2	97.3	97.5	97.7	100.8	107.1	109.8	93.7	142.9
160	86.2	87.7	91.0	89.3	90.6	94.5	100.4	96.8	96.5	102.8	107.9	110.9	99.3	143.5
200	88.8	89.1	92.3	90.4	93.0	96.3	98.0	98.9	102.1	104.1	109.3	114.7	102.6	146.2
250	87.8	93.3	93.6	92.6	93.7	95.8	98.2	100.9	102.6	109.2	114.5	117.5	106.1	149.6
315	88.8	91.6	92.4	91.4	95.0	97.9	99.5	101.2	103.9	111.7	116.6	118.5	108.9	151.2
400	90.6	93.8	94.4	92.4	94.5	97.4	106.5	102.2	106.1	114.4	118.6	120.3	110.7	153.3
500	91.3	94.1	95.1	93.7	95.5	99.1	99.8	103.2	106.9	115.7	120.3	120.5	112.2	154.3
630	91.8	95.6	95.8	94.4	96.7	100.1	101.5	104.1	107.6	117.2	122.0	121.7	113.6	155.7
800	96.1	96.4	97.6	95.4	97.3	100.9	101.8	104.9	109.1	116.7	122.3	122.0	115.9	156.0
1000	100.3	104.3	101.8	98.9	100.4	102.8	103.2	106.6	110.1	115.9	122.5	121.4	115.9	156.0
1250	99.4	105.0	105.0	103.4	103.9	104.5	104.1	107.3	110.7	115.3	122.4	121.9	115 8	156.1
1600	99.6	103.0	102.4	100.8	102.8	105.1	105.2	108.3	111.7	115.2	123.6	121.5	114.2	156.6
2000	101.3	103.3	102.8	100.6	101.0	103.6	104.8	108.1	111.5	115.8	123.3	118.9	112.9	155.9
2500	100.7	103.5	104.3	101.6	102.9	105.1	104.5	108.4	111.5	115.8	122.0	116.8	112.8	155.0
3150	99.1	102.2	102.9	101.2	102.5	105.6	105.7	108.2	112.3	115.1	120.4	115.5	110.4	153.9
4000	96.6	100.4	101.8	100.2	102.6	105.1	105.5	108.3	110.7	113.4	118.9	114.2	109.0	152.7
5000	94.7	100.1	101.5	99.6	101.9	104.4	105.3	108.1	110.3	113.5	117.3	112.5	107.5	151.9
6300	94.4	99.5	101.1	99.6	102.2	104.9	104.9	107.9	109.4	111.6	116.3	112.1	106.3	151.2
8000	93.6	98.5	100.3	99.0	101.1	104.1	105.1	106.7	108.2	109.9	114.5	109.4	104.8	150.1
10000	92.8	98.4	100.7	99.7	101.1	103.8	104.6	106.3	107.8	108.8	113.3	109.4	104.7	149.9
12500	92.7	97.7	100.0	99.1	101.2	103.9	103.5	104.9	106.1	107.5	111.7	107.4	103.2	149.4
16000	90.9	97.4	99.1	99.0	100.3	103.0	102.6	103.8	105.0	104.7	109.7	105.6	100.3	149.2
20000	89.1	94.0	96.6	97.1	98.3	101.3	100.4	101.3	102.3	102.5	106.6	103.0	97.2	148.4
25000	85.7	90.9	93.2	94.3	95.6	100.0	98.9	97.9	99.5	97.7	100.7	98.4	93.6	147.4
31500	82.4	87.3	89.4	91.3	91.9	96.0	95.2	94.8	95.6	94.8	97.6	94.9	89.6	147.0
40000	78.7	83.9	85.6	87.0	88.1	92.3	91.1	90.9	92.2	92.1	95.3	91.9	85.3	147.6
50000	73.4	78.0	80.3	81.5	82.7	87.6	85.7	85.2	87.2	87.1	90.5	85.8	80.0	146.8
63000	67.7	72.2	74.9	75.7	76.8	82.3	79.6	80.2	82.6	81.7	85.5	80.9	74.7	146.9
80000	61.9	65.2	68.2	68.9	70.6	76.4	73.4	74.5	76.9	77.3	80.1	75.6	68.4	148.1
OASPL	109.8	113.6	114.0	112.4	114.0	116.6	117.3	119.5	122.2	127.0	132.9	131.5	124.6	167.0
PNL	122.7	126.1	126.7	124.8	126.5	129.2	129.8	132.2	135.4	139.2	144.9	142.0	135.9	
PNLT	122.7	127.3	126.7	126.0	127.0	129.2	131.0	132.2	135.4	139.2	144.9	142.0	135.9	
DBA	183.9	187.7	190.5	191.3	192.8	198.4	195.6	196.4	198.8	198.8	201.8	197.4	190.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH135 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AH FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.44 PAMB HG = 29.18 RELHUM = 41.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1681.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2316.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1025 TAPE = X1025F TEST PT NO = 1025 NC = AE090 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 - 83F-ZER-1025 X10251

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.4	70.7	72.5	72.3	76.3	79.3	80.8	82.0	84.0	90.8	94.1	93.9	80.9	168.2
63	68.1	72.9	74.5	73.2	75.7	78.7	87.7	83.0	86.2	93.5	96.1	95.5	82.6	170.3
80	68.8	73.1	75.2	74.5	76.7	80.5	81.0	84.0	87.0	94.7	97.8	95.8	84.0	171.2
100	69.2	74.5	75.9	75.1	77.9	81.4	82.6	84.9	87.6	96.1	99.4	96.9	85.3	172.7
125	73.3	75.2	77.6	76.1	78.4	82.1	82.9	85.6	89.1	95.6	99.6	97.0	87.4	173.0
160	77.3	83.0	81.6	79.4	81.4	83.9	84.2	87.1	89.9	94.6	99.6	96.2	86.9	173.0
200	76.2	83.4	84.6	83.7	84.7	85.4	84.9	87.6	90.3	93.8	99.2	96.2	86.4	173.1
250	76.1	81.2	81.8	80.9	83.4	85.9	85.8	88.4	91.0	93.4	100.1	95.5	84.1	173.6
315	77.3	81.2	81.8	80.5	81.3	84.1	85.2	88.0	90.6	93.6	99.4	92.3	82.0	172.9
400	76.2	80.9	83.0	81.1	82.9	85.2	84.5	87.9	90.2	93.2	97.5	89.6	80.9	172.0
500	74.1	79.1	81.2	80.4	82.2	85.4	85.4	87.4	90.6	92.1	95.4	87.6	77.5	170.9
630	71.0	77.0	79.7	79.1	82.0	84.6	84.8	87.2	88.6	90.0	93.4	85.5	75.0	169.7
800	68.6	76.2	79.0	78.1	80.9	83.6	84.3	86.6	87.9	89.6	91.2	83.0	72.3	168.8
1000	67.7	75.1	78.3	77.8	80.9	83.8	83.7	86.1	86.6	87.3	89.6	81.8	69.7	168.2
1250	66.2	73.6	77.0	76.8	79.5	82.7	83.5	84.5	85.0	85.0	87.2	78.2	66.6	167.0
1600	64.3	72.7	76.8	77.0	79.0	81.9	82.5	83.6	83.9	83.1	84.8	76.5	63.9	166.9
2000	62.6	70.8	75.2	75.6	78.3	81.3	80.6	81.4	81.3	80.6	81.7	72.3	58.8	166.4
2500	58.7	68.9	72.9	74.4	76.5	79.5	78.8	79.2	78.8	76.2	77.5	67.3	50.6	166.2
3150	53.0	62.4	68.0	70.3	72.5	75.9	74.6	74.5	73.6	71.0	70.5	59.1	38.5	165.4
4000	42.5	53.9	60.0	63.5	66.1	70.9	69.4	67.1	66.3	60.7	57.5	44.9	19.6	164.4
5000	28.6	41.9	49.1	54.2	56.5	61.2	59.9	57.7	55.3	49.4	43.8	26.7		164.0
6300	6.7	23.8	32.9	38.7	42.3	47.2	45.2	42.6	39.4	32.0	23.3			164.6
8000			5.3	13.1	17.6	23.6	20.8	16.8	12.2	1.2				163.8
10000														163.9
12500														165.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.3	90.7	92.2	91.2	93.3	95.9	96.6	98.5	100.7	104.9	109.1	105.5	94.8	183.8
PNL	90.0	96.0	98.5	98.7	101.0	104.0	103.9	105.2	106.6	108.9	112.8	107.3	96.4	
PNLT	90.0	96.6	99.1	99.3	101.6	104.5	104.5	105.8	107.2	109.6	112.8	107.3	96.4	
DBA	79.2	85.2	87.8	87.4	89.8	92.6	92.7	94.6	95.9	97.4	101.1	94.6	84.3	

MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH135 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 10 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.44 PAMB HG = 29.18 RELHUM = 41.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1681.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2316.0 FPS AE18 = 23.4 SQ IN

JNPT 83F- 102 APE = 251 PT = 1 NC AE ORR SP RF

DATPROC - FLTRAN   05/09/83   11.345   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   83F-ZER-1027   X1027C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.9	87.2	84.9	84.0	82.8	87.7	87.8	90.0	89.9	89.0	97.4	97.8	87.5	132.6
63	91.3	91.0	93.1	89.4	90.5	94.3	93.5	95.6	94.6	91.4	101.5	100.0	93.1	137.0
80	91.3	96.3	91.6	91.4	92.5	96.6	95.0	94.9	96.3	96.2	100.0	100.0	84.4	137.7
100	91.0	98.0	93.5	92.8	94.1	97.0	97.1	99.3	97.5	99.8	101.5	105.1	88.6	140.3
125	86.9	91.7	94.4	94.0	95.8	98.2	97.6	97.5	97.4	100.5	107.6	110.1	93.7	143.1
160	86.9	87.7	90.5	89.0	90.6	94.2	100.4	96.5	96.7	103.1	108.7	111.4	99.3	144.0
200	88.5	89.3	91.8	89.9	93.2	96.6	97.7	98.9	101.8	103.1	109.3	114.5	102.9	146.0
250	87.3	93.3	93.8	92.4	93.7	96.1	98.0	100.6	102.6	109.2	114.8	117.7	105.6	149.8
315	89.3	92.1	91.6	91.7	94.5	98.4	99.8	100.9	103.4	110.7	116.6	118.5	109.2	151.1
400	91.3	93.6	94.4	92.2	94.3	97.1	105.8	102.2	105.6	113.9	119.1	120.0	109.9	153.2
500	91.3	94.6	95.1	93.4	95.8	98.9	99.8	102.9	105.9	115.0	120.6	120.5	111.7	154.2
630	92.5	95.8	96.1	94.6	97.0	100.3	101.2	104.4	107.8	116.4	122.3	121.2	113.4	155.6
800	96.1	96.6	97.4	95.7	97.5	101.1	102.0	105.2	108.9	116.5	122.3	122.0	115.2	156.0
1000	100.3	104.3	102.1	99.4	100.4	102.8	102.9	106.6	109.8	115.4	123.0	121.9	114.9	156.2
1250	100.7	105.5	105.2	103.6	103.9	105.2	104.1	107.3	110.7	114.8	122.4	122.1	114.8	156.1
1600	103.6	106.2	104.9	102.3	102.8	105.9	105.2	107.8	111.7	114.5	123.1	121.0	113.2	156.2
2000	106.0	106.6	106.3	103.6	103.0	104.6	105.1	108.9	111.3	115.0	122.3	118.6	112.1	155.4
2500	104.4	106.3	106.6	105.1	106.4	106.6	105.2	108.6	111.0	115.5	120.8	116.1	111.6	154.4
3150	100.8	103.7	104.9	103.2	105.0	108.1	107.0	108.7	111.8	114.6	119.1	115.3	109.4	153.5
4000	97.6	101.9	103.6	101.7	104.1	107.1	107.2	109.1	111.0	112.7	117.6	113.9	107.8	152.3
5000	96.4	101.9	103.0	100.9	102.7	105.9	106.3	108.8	110.1	113.3	116.8	112.0	106.0	151.8
6300	95.4	101.0	101.8	100.6	103.2	105.9	105.9	109.1	109.9	111.4	115.3	111.1	104.8	151.1
8000	94.3	99.2	101.0	100.5	101.8	105.6	105.6	107.7	108.5	109.6	113.3	110.0	103.0	150.0
10000	94.1	99.4	102.0	100.7	102.3	105.1	105.1	107.3	108.8	109.1	112.1	109.7	102.2	150.1
12500	93.2	98.2	100.5	100.4	101.9	104.9	104.2	105.2	106.4	107.2	110.0	108.2	100.4	149.3
16000	91.1	97.2	99.1	99.8	100.8	103.8	102.9	104.6	105.2	104.5	108.5	105.8	98.5	149.2
20000	89.2	94.0	96.4	97.1	98.6	102.1	101.4	101.3	102.5	101.8	105.2	102.5	95.7	148.3
25000	86.2	91.3	93.3	94.6	95.7	100.3	99.4	98.0	99.8	97.3	100.0	98.7	92.1	147.5
31500	82.7	87.7	89.4	91.7	92.0	96.6	95.6	95.1	96.4	94.7	97.4	94.4	87.4	147.2
40000	79.3	84.0	86.2	87.6	88.2	92.9	91.7	91.2	92.5	91.7	94.8	91.2	83.6	147.7
50000	73.4	78.1	80.2	82.1	83.1	87.7	86.0	85.3	87.3	86.7	89.8	85.9	77.8	146.8
63000	67.8	72.3	75.3	75.8	77.6	82.4	80.0	80.8	83.2	81.8	85.3	80.0	72.1	147.1
80000	62.0	66.3	68.9	68.7	71.0	77.0	74.2	74.6	77.6	76.2	78.9	74.4	65.0	148.0
OASPL	112.2	115.1	115.4	113.8	115.1	117.7	117.8	119.9	122.2	126.5	132.5	131.4	123.7	166.9
PNL	125.2	128.0	128.3	126.7	128.2	130.8	130.7	132.8	135.2	138.7	144.1	141.7	134.8	
PNLT	125.2	129.0	128.3	127.2	128.7	130.8	131.7	133.3	135.2	138.7	144.1	141.7	134.8	
DBA	112.7	115.3	115.4	113.5	114.7	117.1	116.9	119.5	122.0	126.0	132.3	130.4	123.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH136	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL [illegible]	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.20	PAMB [illegible]	RELHUM = 40.4 PCT.
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE [illegible]	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1720.4 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2313.0 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-ZER-1027	TAPE = X1027C	TEST PT NO = 1027	NC = AE090	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 - 83F-ZER-1027 X1027F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.9	87.2	84.9	84.0	82.8	87.7	87.8	90.0	89.9	89.0	97.4	97.8	87.5	132.6
63	91.3	91.0	93.1	89.4	90.5	94.3	93.5	95.6	94.6	91.4	101.5	100.0	93.1	137.0
80	91.3	96.3	91.6	91.4	92.5	96.6	95.0	94.9	96.3	96.2	100.0	100.0	84.4	137.7
100	91.0	96.0	93.5	92.8	94.1	97.0	97.1	99.3	97.5	99.8	101.5	105.1	88.6	140.3
125	86.9	91.7	94.4	94.0	95.8	98.2	97.6	97.5	97.4	100.5	107.6	110.1	93.7	143.1
160	86.9	87.7	90.5	89.0	90.6	94.2	100.4	96.5	96.7	103.1	108.7	111.4	99.3	144.0
200	88.5	89.3	91.8	89.9	93.2	96.6	97.7	98.9	101.8	103.1	109.3	114.5	102.9	146.0
250	87.3	93.3	93.8	92.4	93.7	96.1	98.0	100.6	102.6	109.2	114.8	117.7	105.6	149.8
315	89.3	92.1	91.6	91.7	94.5	98.4	99.8	100.9	103.4	110.7	116.6	118.5	109.2	151.1
400	91.3	93.6	94.4	92.2	94.3	97.1	105.8	102.2	105.6	113.9	119.1	120.0	109.9	153.2
500	91.3	94.6	95.1	93.4	95.8	98.9	99.8	102.9	105.9	118.0	120.6	120.5	111.7	154.2
630	92.5	95.8	96.1	94.6	97.0	100.3	101.2	104.4	107.8	116.4	122.3	121.2	113.4	155.6
800	96.1	96.6	97.4	95.7	97.5	101.1	102.0	105.2	108.9	116.5	122.3	122.0	115.2	156.0
1000	100.3	104.3	102.1	99.4	100.4	102.8	102.9	106.6	109.8	115.4	123.0	121.9	114.9	156.2
1250	100.7	105.5	105.2	103.6	103.9	105.2	104.1	107.3	110.7	114.8	122.4	122.1	114.8	156.1
1600	103.6	106.2	104.9	102.3	102.8	105.9	105.2	107.8	111.7	114.5	123.1	121.0	113.2	156.2
2000	106.0	106.6	106.3	103.6	103.0	104.6	105.1	108.9	111.3	115.0	122.3	118.6	112.1	155.4
2500	104.4	106.3	106.6	105.1	106.4	106.6	105.2	108.6	111.0	115.5	120.8	116.1	111.6	154.4
3150	100.8	103.7	104.9	103.2	105.0	108.1	107.0	108.7	111.8	114.6	119.1	115.3	109.4	153.5
4000	97.6	101.9	103.6	101.7	104.1	107.1	107.2	109.1	111.0	112.7	117.6	113.9	107.8	152.3
5000	96.4	101.9	103.0	100.9	102.7	105.9	106.3	108.8	110.1	113.3	116.8	112.0	106.0	151.8
6300	95.4	101.0	101.8	100.6	103.2	105.9	105.9	109.1	109.9	111.4	115.3	111.1	104.8	151.1
8000	94.3	99.2	101.0	100.5	101.8	105.6	105.6	107.7	108.5	109.6	113.3	110.0	103.0	150.0
10000	94.1	99.4	102.0	100.7	102.3	105.1	105.1	107.3	108.8	109.1	112.1	109.7	102.2	150.1
12500	93.2	98.2	100.5	100.4	101.9	104.9	104.2	105.2	106.4	107.2	110.0	108.2	100.4	149.3
16000	91.1	97.2	99.1	99.8	100.8	103.8	102.9	104.6	105.2	104.5	108.5	105.8	98.5	149.2
20000	89.2	94.0	96.4	97.1	98.6	102.1	101.4	101.3	102.5	101.8	105.2	102.5	95.7	148.3
25000	86.2	91.3	93.3	94.6	95.7	100.3	99.4	98.0	99.8	97.3	100.0	98.7	92.1	147.5
31500	82.7	87.7	89.4	91.7	92.0	96.6	95.6	95.1	96.4	94.7	97.4	94.4	87.4	147.2
40000	79.3	84.0	86.2	87.6	88.2	92.9	91.7	91.2	92.5	91.7	94.8	91.2	83.6	147.7
50000	73.4	78.1	80.2	82.1	83.1	87.7	86.0	85.3	87.3	86.7	89.8	85.9	77.8	146.8
63000	67.8	72.3	75.3	75.8	77.6	82.4	80.0	80.8	83.2	81.8	85.3	80.0	72.1	147.1
80000	62.0	66.3	68.9	68.7	71.0	77.0	74.2	74.6	77.6	76.2	78.9	74.4	65.0	148.0
OASPL	112.2	115.1	115.4	113.8	115.1	117.7	117.8	119.9	122.2	126.5	132.5	131.4	123.7	166.9
PNL	125.2	128.0	128.3	126.7	128.2	130.8	130.7	132.8	135.2	138.7	144.1	141.7	134.8	
PNLT	125.2	129.0	128.3	127.2	128.7	130.8	131.7	133.3	135.2	138.7	144.1	141.7	134.8	
DBA	184.0	188.4	191.0	191.4	193.3	198.8	196.3	196.6	199.3	198.0	201.0	196.4	187.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH136	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = [illegible]	FLTVEL = 0. FPS
IAPLHA = SB58	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.20	PAMB HG = [illegible]	RELHUM = 40.4 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT = [illegible]	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1720.4 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2313.0 FPS	AE18 = 23.4 SQ IN	

NPT IF-Z .027 PE = F T PT 10 AEO RR SPE 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 - 83F-ZER-1027 X10271

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.9	71.2	71.8	72.5	75.8	79.8	81.0	81.8	83.5	89.8	94.1	93.9	81.2	168.1
63	68.8	72.6	74.5	73.0	75.5	78.5	87.0	83.0	85.7	93.0	96.6	95.3	81.9	170.2
80	68.8	73.6	75.2	74.2	77.0	80.2	81.0	83.7	86.0	94.0	98.1	95.8	83.5	171.2
100	69.9	74.8	76.1	75.4	78.1	81.6	82.4	85.1	87.9	95.4	99.7	96.4	85.1	172.5
125	73.3	75.5	77.3	76.4	78.6	82.4	83.1	85.9	88.8	95.3	99.6	97.0	86.6	172.9
160	77.3	83.0	81.9	79.9	81.4	83.9	83.9	87.1	89.6	94.1	100.1	96.7	85.9	173.2
200	77.5	83.9	84.8	84.0	84.7	86.2	84.9	87.6	90.3	93.3	99.2	96.5	85.4	173.1
250	80.1	84.4	84.3	82.4	83.4	86.6	85.8	87.9	91.0	92.7	99.6	95.0	83.1	173.2
315	82.1	84.4	85.3	83.5	83.3	85.1	85.4	88.8	90.3	92.9	98.4	92.0	81.3	172.3
400	80.0	83.7	85.3	84.6	86.4	86.7	85.2	88.1	89.7	92.9	96.3	88.8	79.7	171.4
500	75.8	80.6	83.3	82.4	84.7	87.9	86.7	87.9	90.1	91.6	94.1	87.3	76.5	170.5
630	72.0	78.5	81.5	80.6	83.5	86.6	86.6	87.9	88.9	89.2	92.1	85.2	73.7	169.3
800	70.3	77.9	80.5	79.4	81.7	85.1	85.3	87.3	87.6	89.3	90.7	82.5	70.8	168.7
1000	68.7	76.6	79.0	78.8	81.9	84.8	84.7	87.3	87.1	87.0	88.6	80.8	68.2	168.0
1250	67.0	74.3	77.8	78.3	80.3	84.3	84.0	85.5	85.3	84.8	85.9	78.7	64.3	167.0
1600	65.6	73.7	78.0	78.0	80.2	83.2	83.0	84.6	84.9	83.3	83.6	76.8	61.4	167.1
2000	63.1	71.3	75.7	76.9	79.1	82.3	81.4	81.7	81.6	80.4	80.0	73.1	56.1	166.3
2500	58.9	68.7	73.0	75.2	77.1	80.3	79.1	79.9	79.1	76.0	76.2	67.6	48.9	166.2
3150	53.0	62.5	67.8	70.3	72.8	76.6	75.7	74.6	73.9	70.3	69.0	58.6	37.1	165.2
4000	43.0	54.2	60.1	63.8	66.2	71.2	69.9	67.2	66.6	60.2	56.8	45.2	18.2	164.5
5000	28.9	42.2	49.2	54.6	56.6	61.8	60.2	58.0	56.2	49.2	43.6	26.3		164.2
6300	7.3	23.9	33.5	39.3	42.4	47.8	45.8	42.9	39.8	31.6	22.8			164.7
8000			5.1	13.7	18.2	23.9	21.1	16.9	12.3	0.8				163.7
10000														164.1
12500														165.0
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	87.8	92.4	93.6	92.7	94.4	97.0	97.0	98.8	100.6	104.3	108.9	105.4	94.1	183.7
PNL	92.7	97.7	100.0	99.8	101.8	105.0	104.5	105.8	106.6	108.5	112.1	107.2	95.3	
PNLT	92.7	98.3	100.7	100.4	102.4	105.5	105.1	106.4	107.3	109.2	112.1	107.2	95.3	
DBA	81.8	87.0	89.3	88.9	91.1	94.0	93.6	95.3	96.0	97.0	100.3	94.4	83.3	

ORIGINAL PAGE IS OF POOR QUALITY

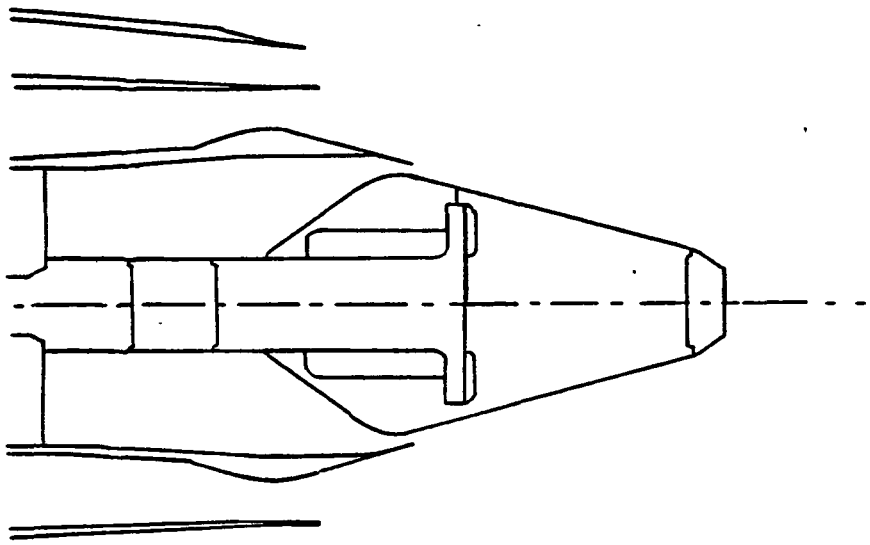
MODEL AREA = 180.9 SQ CM (28.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.066 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-10/NAS3-22137

VEHICL = ADH108	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 10	MODEL = [illegible]	PLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.20	PAMB HG = [illegible]	RELHUM = 40.4 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT = [illegible]	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1720.4 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2313.0 FPS	AE18 = 23.4 SQ IN	

RUNPT = 83F-ZER-1027 TAPE = X10271 TEST PT NO = 1027 NC = AE090 CORR FAN SPEED = RPM

4.2.2 Acoustic Data of Unsuppressed Coannular Plug Nozzle with 180° Thermal Acoustic Shield (TAS-11 and TAS-12).



TAS-11 (Shield to Outer Stream Velocity Ratio at Takeoff is 0.64).

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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 83F-ZER-1103 X1103C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120	130.	140.	150.	160.	PWL
50	84.6	84.9	84.7	81.7	81.6	84 4	84.6	88 7	85.4	84.2	89.9	92.3	86.5	128.3
63	91.5	90.3	94.3	89.4	88.0	91.3	92.2	96.6	91.6	89.1	92.5	97.5	96.6	135.0
80	86.5	93.6	89.8	88.1	88.5	92.3	91.7	91.6	92.6	92.9	97.3	96.0	80.1	134.3
100	85.2	92.5	88.8	88.8	90.1	94.0	92 6	94.5	94.0	97.3	98.0	101.1	83.6	136.4
125	83.6	87.7	90.9	89.7	91.3	94.2	92.8	92.7	93.2	96.8	103.1	105.6	89.2	138.7
160	82.4	83.2	88.5	84.8	86.9	90 7	97.4	91.5	93.2	97.6	102.9	105.9	94.0	138.8
200	84.8	85.6	88.1	85 9	88.7	92.1	94.5	94.6	99.3	99.4	105.0	109.7	97.6	141.6
250	83 8	88.8	89.1	86 9	89.5	92.6	94.2	95.6	100.3	104.1	109 3	111.7	100.6	144.3
315	84.6	88.4	87.9	87.7	90.5	93.9	96.5	95.7	100.9	105.0	109.8	112.5	103.7	145.1
400	85.6	88.8	89.9	87.7	90.7	94.1	105.7	97.2	101.9	107.9	111.6	113.0	105.2	146.9
500	85.8	89.6	90.1	88.7	91 3	94.6	95.0	97.4	101.4	109.0	111 3	112.8	105.7	146.5
630	86.0	89.8	90.6	89.6	91.7	95.6	96.7	98.6	102.3	108.9	112.0	111.7	106.1	146.5
800	88.3	89.9	91.4	89.9	92.3	95 9	96.3	99.7	103.4	109.2	110.3	110.5	107.2	145.9
1000	92.8	95.5	93.8	91.6	93.7	96.8	96.7	100.6	104 1	108.4	109 3	108.9	106.4	145.3
1250	89.2	93.5	93 0	92.6	94.4	98 0	97 4	100.0	104.2	107 6	108.4	108.6	105.8	144.8
1600	90.6	92.0	92.9	91.8	94.6	98.2	98.3	100.6	104.9	107.5	108.4	107.8	106.5	144.8
2000	91.3	94.1	93.6	91.4	94.0	96.9	97.9	101.2	104.6	107.6	107.8	106.9	105.4	144.5
2500	89.2	92.3	92.4	91.6	94.2	97.6	97.5	100.9	103.8	106.8	106.1	103.9	102.9	143.3
3150	89.2	91.5	91.8	90.5	93.1	96.9	97.6	100 0	104.1	105.5	104.2	100.9	98.0	142.2
4000	87.4	90.3	90.9	89.6	93.2	96.2	96.6	99.9	103.1	103.0	102.0	97.3	94.9	140.7
5000	86 5	89.7	90.1	88.5	92.3	96.0	96.1	98.9	101.7	102.6	99.4	93.4	92.4	139.7
6300	84.7	89.1	89.4	88.2	92.0	95.5	95.8	99.0	100.2	100.0	96.7	91.1	90.4	138.5
8000	83.5	87.4	89 0	87.6	90.3	94.1	95.0	96.6	98.9	97.6	94.0	89.1	89.0	137.2
10000	82.8	87.6	88.9	88.4	90.5	93.8	94.5	95.5	97.5	96.4	92.3	89.4	89.0	136.9
12500	82.3	86.7	88.0	87.7	89.8	93.0	92.8	93.8	95.4	93.4	90.3	88.0	88.0	136.0
16000	80.0	85.8	86.5	87.5	87.9	91.1	91.2	92.5	93.4	90.2	89.1	86.7	85.9	135.6
20000	78.0	82 8	84.4	84.5	85.6	88.6	88 9	89.0	89.8	87.5	86.2	85.3	84.1	134.5
25000	74.8	80.4	81.4	81.9	82.9	87.0	86.6	85.6	86.2	83.3	82.8	83.3	82.2	134.1
31500	71.5	76.0	77.3	79.2	79.4	83.6	82.0	82.2	82.5	80.1	79.8	78.7	77.5	133.6
40000	67.8	72.1	73.3	74.7	75.5	79.5	78.0	78.1	78.1	76.3	76.1	75.1	73.3	133.5
50000	61.4	65.8	67.7	68.7	69.3	74.0	71.8	71.7	72.3	70.2	70.2	69.0	67.0	131.9
63000	55.5	59.8	61.8	62.4	63.2	68.8	65.3	66.2	66.2	63.3	64.7	62.6	60.3	131.3
80000	49.0	52.9	54.6	55.1	56.5	62.7	59.0	59.4	59.8	56.6	57.6	55.1	50.8	131.6
OASPL	101.6	104.8	105.0	103.5	105.8	109.2	111.1	112.0	115 3	118 9	120.8	121.7	116.1	157.0
PNL	113.7	116.6	116.9	115.6	118.2	121 7	122.7	124.7	128.1	130.4	130.7	130.1	126.4	
PNLT	115.0	117.9	116.9	115.6	118.2	121.7	124.3	124.7	128 1	130.4	130.7	130.1	126 4	
DBA	100.6	103 5	103.5	102.2	104.8	108.2	109.2	111.4	114.9	118.1	119.0	118.9	115.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH149 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 28.63 PAMB HG = 29.13 RELHUM = 65.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1091.1 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1802.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1103 TAPE = X1103C TEST PT NO = 1103 NC = AE091 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 - 83F-2ER-1103 X1103F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.6	84.9	84.7	81.7	81.6	84.4	84.6	88.7	85.4	84.2	89.9	92.3	86.5	128.3
63	91.5	90.3	94.3	89.4	88.0	91.3	92.2	96.6	91.6	89.1	92.5	97.5	96.6	135.0
80	86.5	93.6	89.8	88.1	88.5	92.3	91.7	91.6	92.6	92.9	97.3	96.0	80.1	134.3
100	85.2	92.5	88.8	88.8	90.1	94.0	92.6	94.5	94.0	97.3	98.0	101.1	83.6	136.4
125	83.6	87.7	90.9	89.7	91.3	94.2	92 8	92.7	93.2	96.8	103.1	105.6	89.2	138.7
160	82.4	83.2	88.5	84.8	86.9	90.7	97.4	91.5	93.2	97.6	102.9	105.9	94.0	138.8
200	84.8	85.6	88.1	85.9	88.7	92.1	94.5	94.6	99.3	99.4	105.0	109.7	97.6	141.6
250	83.8	88.8	89.1	86.9	89.5	92.6	94.2	95.6	100.3	104.1	109.3	111.7	100.6	144.3
315	84.6	88.4	87.9	87.7	90.5	93.9	96.5	95.7	100.9	105.0	109.8	112.5	103.7	145.1
400	85.6	88.8	89.9	87.7	90.7	94.1	105.7	97.2	101.9	107.9	111.6	113.0	105.2	146.9
500	85.8	89.6	90.1	88.7	91.3	94.6	95.0	97.4	101.4	109.0	111.3	112.8	105.7	146.5
630	86.0	89.8	90.6	89.6	91.7	95.6	96.7	98.6	102.3	108.9	112.0	111.7	106.1	146.5
800	88.3	89.9	91.4	89.9	92.3	95.9	96.3	99.7	103.4	109.2	110.3	110.5	107.2	145.9
1000	92.8	95.5	93.8	91.6	93.7	96.8	96.7	100.6	104.1	108.4	109.3	108.9	106.4	145.3
1250	89.2	93.5	93.0	92.6	94.4	98.0	97.4	100.0	104.2	107.6	108.4	108.6	105.8	144.8
1600	90.6	92.0	92.9	91.8	94.6	98.2	98.3	100.6	104.9	107.5	108.4	107.8	106.5	144.8
2000	91.3	94.1	93.6	91.4	94.0	96.9	97.9	101.2	104.6	107.6	107.8	106.9	105.4	144.5
2500	89.2	92.3	92.4	91.6	94.2	97.6	97.5	100.9	103.8	106.8	106.1	103.9	102.9	143.3
3150	89.2	91.5	91.8	90.5	93.1	96.9	97.6	100.0	104.1	105.5	104.2	100.9	98.0	142.2
4000	87.4	90.3	90.9	89.6	93.2	96.2	96.6	99.9	103.1	103 0	102.0	97.3	94.9	140.7
5000	86.5	89.7	90.1	88.5	92.3	96.0	96.1	98.9	101.7	102.6	99.4	93.4	92.4	139.7
6300	84.7	89.1	89.4	88.2	92.0	95.5	95.8	99.0	100.2	100.0	96.7	91.1	90.4	138.5
8000	83.5	87.4	89.0	87.6	90.3	94.1	95.0	96.6	98.9	97.6	94.0	89.1	89.0	137.2
10000	82.8	87.6	88.9	88.4	90.5	93.8	94.5	95.5	97.5	96.4	92.3	89.4	89.0	136.9
12500	82.3	86.7	88.0	87.7	89.8	93.0	92.8	93.8	95.4	93.4	90 3	88.0	88.0	136.0
16000	80.0	85.8	86.5	87.5	87.9	91.1	91.2	92.5	93.4	90.2	89.1	86.7	85.9	135.6
20000	78.0	82.8	84.4	84.5	85.6	88.6	88.9	89.0	89.8	87.5	86.2	85.3	84.1	134.5
25000	74.8	80.4	81.4	81.9	82.9	87.0	86.6	85.6	86.2	83.3	82.8	83.3	82.2	134.1
31500	71.5	76.0	77.3	79.2	79.4	83.6	82.0	82.2	82.5	80.1	79.8	78.7	77.5	133.6
40000	67.8	72.1	73.3	74.7	75.5	79.5	78.0	78.1	78.1	76.3	76.1	75.1	73.3	133.5
50000	61.4	65.8	67.7	68.7	69.3	74.0	71.8	71.7	72.3	70.2	70.2	69.0	67.0	131.9
63000	55.5	59.8	61.8	62.4	63.2	68.8	65.3	66.2	66.2	63.3	64.7	62.6	60.3	131.3
80000	49.0	52.9	54.6	55.1	56.5	62.7	59.0	59.4	59.8	56.6	57.6	55.1	50.8	131.6
OASPL	101.6	104.8	105.0	103.5	105.8	109.2	111.1	112.0	115.3	118.9	120.8	121.7	116.1	157.0
PNL	113.7	116.6	116.9	115.6	118.2	121.7	122.7	124.7	128.1	130.4	130.7	130.1	126.4	
PNLT	115.0	117.9	116.9	115.6	118.2	121.7	124.3	124.7	128.1	130.4	130.7	130.1	126.4	
DBA	171.3	175.4	177.2	177.9	179.0	184.7	181.4	181.8	182.1	179.2	180.1	178.0	174.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH149	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 11	MODEL = SL	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 28.63	PAMB HG = 29.13	RELHUM = 65.8 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1091.1 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1802.1 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-2ER-1103	TAPE = X1103F	TEST PT NO = 1103	NC = AE091	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 - 83F-ZER-1103 X11031

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	59.2	65.8	67.1	65.6	68.6	71.9	73.4	74.4	78.4	81.1	84.7	85.0	70.5	159.2
63	60.0	65.3	65.9	66.4	69.7	73.2	75.7	74.4	78.9	81.9	85.3	85.7	73.5	160.0
80	60.9	65.8	67.9	66.4	69.9	73.4	84.9	75.9	79.9	84.8	86.9	86.1	74.9	161.8
100	61.1	66.5	68.1	67.3	70.4	73.9	74.1	76.1	79.3	85.8	86.6	85.8	75.3	161.4
125	61.2	66.6	68.4	68.2	70.7	74 7	75.7	77.2	80.2	85.7	87.2	84.6	75.5	161.4
160	63.3	66.5	69.1	68.4	71.2	74.9	75.2	78.1	81.1	85.8	85.3	83.2	76.2	160.8
200	67.5	71.9	71.3	69.9	72.4	75.7	75.4	78.9	81.6	84.8	84.0	81.2	74.9	160.2
250	63.6	69.6	70.3	70.7	72.9	76.6	75.9	78.1	81.5	83.7	82.8	80.5	73.6	159.7
315	64.6	67.7	69.9	69.6	72.8	76.5	76.5	78.3	81.9	83.2	82.3	79.1	73.5	159.7
400	64.7	69.4	70.1	68.8	71.9	74.9	75.7	78.6	81.1	82.9	81.3	77.5	71.4	159.4
500	62.1	67.2	68.6	68.6	71.8	75.3	75.1	77.9	80.0	81.7	78.9	73.8	67.8	158.2
630	61.4	65.9	67.5	67.2	70.3	74.3	74.7	76.7	79.9	79.8	76.5	70.0	61.8	157.1
800	59.1	64.1	66.2	65.8	70.0	73.2	73.4	76.2	78.4	76.9	73.6	65.5	57.4	155.6
1000	57.5	63.0	65.0	64.3	68.7	72.6	72.5	74.8	76.6	75.9	70.4	60.8	53.5	154.6
1250	54.9	61.7	63.7	63.6	68.0	71.6	71 7	74.3	74.6	72.6	66.8	57.4	49.7	153.5
1600	52.4	59.0	62.4	62.2	65.5	69.5	70.3	71.2	72.3	69.2	62.8	53.6	45.5	152.1
2000	49.9	57.8	61.1	62.0	64.8	68.3	68.8	69.1	69.7	66.6	59.3	51.4	41 7	151.8
2500	46.6	54.8	58.5	59.7	62.5	66.0	65.6	65.7	65.8	61.4	54.6	46.3	35.0	150.9
3150	40.0	50.4	54.0	56.9	58.3	61.8	61.6	61.9	60.9	54.8	49.1	39.0	23.4	150.5
4000	30.4	41.3	46.7	49 2	51.6	55.0	54.9	53.7	52.1	46.0	38.6	27.3	5.7	149.4
5000	15.8	29.7	35.9	39.6	42.3	47.0	46.0	43.3	40.7	32.6	23.7	9.9		149.0
6300		9.9	18.5	24.9	27.5	32.4	30.1	27.8	23.7	13.9	1.8			148.5
8000					4.1	9.2	6.6	3.2						148.4
10000														146.8
12500														146.2
16000														146.5
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	74.2	79.1	80.3	79.8	82.8	86 4	88.8	88.9	91.8	94.8	95.3	93.8	84.4	171.5
PNL	78.3	83.9	85.6	85.6	88.7	92.4	93.0	94.4	96.7	97.9	96.2	92 9	84.7	
PNLT	79.0	84.6	85.6	85.6	88 7	92.4	93.0	94.9	96.7	97.9	96.2	92.9	84 7	
DBA	67.9	73.1	74.8	74.6	78 0	81.6	81.9	84.0	86.1	86.6	84.4	80.5	73.7	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH149 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
TAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 28.63 PAMB HG = 29.13 RELHUM = 65.8 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 = 1091.1 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1802.1 FPS AE18 = 23.4 SQ IN

RUNDI = 83F-ZER-1103 TAPE = X11031 TEST PT NO = 1103 NC = AE091 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 83F-400-1104 X1104C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160	PWL
50	84.7	85.0	83.3	80.1	78.7	83.1	83.1	88.2	84.7	83.3	89.3	93.7		127.9
63		88.7	92.5	86.4		89.6	92.5	96.6	89.3	88.3	90.8	99.4	96.3	134.3
80	85.8	92.7	88.0	87.6	88.5	91.7	91.1	90.8	91.7	90.8	94.7	94.8		133.1
100	83.7	90.7	87 6	86.2	87.9	91.7	90.7	92.5	91.2	92.9	95.4	99.6		134.0
125	83.0	86.1	88.4	87.3	89.8	91.4	90.7	90.4	90.1	93.4	99.9	103.1		135.9
160		80.3	85.9	81.9	83.7	86.6	92.5	87.9	90.7	93.5	99.4	102.4	90.8	135.2
200		80.8	84.3	80.2	83.3	87.1	89.8	91.0	95.6	94.3	100.5	105.7	95.2	137.4
250	77.9	83.1	83.9	82.1	84.8	87.5	88.4	90.3	96.8	98.9	104.0	107.7	95.4	139.7
315		81.9	83.0	81.4	84.2	88.3	91.0	92.0	95.4	99.7	105.1	107 5	97.3	140.1
400	80.5	83.7	84.0	81.9	85.1	88.3	101.8	91.6	96.4	102.2	106.1	107.2	95.7	141.4
500	80.7	83.8	85.3	83.0	85.7	88.8	89.1	92.4	95.6	102.4	106.3	105.8	92.4	140.3
630	80.4	83.8	84.3	83.7	87.4	90.0	90.4	92.6	96.3	103.4	106.3	103.7	89.4	140.1
800	82.0	83.1	85.3	84.1	86.4	90.9	90.7	93.4	97 1	103.2	104.8	100.0	88.0	139.1
1000	83.5	85 3	85.8	84.8	87.1	91.0	91.4	94.8	98.1	103.1	103.5	96.2	86.7	138.5
1250	81.4	86.4	85.7	84.8	87.6	91.2	91.6	94.5	98.2	102.6	101.7	94.6	86.2	137.8
1600	82.3	84.5	85.4	85.3	88.0	92.1	92.7	95.0	98.9	101.8	101 6	93.8	85.8	137.7
2000	82.0	84.4	85.0	84.6	87.5	90.8	92.1	95.4	98.3	101.8	100 6	92.4	85.9	137.3
2500	81.7	84.0	85.1	84.5	87.4	91.1	91.3	95.1	98.0	101.1	98.3	90.9	86.3	136.5
3150	81.4	83.5	84.2	83.9	87.0	91.4	92.3	94.5	98.1	99:2	96.4	90.3	84.9	135.6
4000	80 1	82.5	84.1	83.1	87.4	91.4	92.0	94.6	96 5	96.7	94.2	88.5	84.0	134.4
5000	80.7	83.2	83.6	82.9	86.6	90.9	91.3	93.6	96.2	96.3	92.9	86.8	82.4	133.9
6300	80.5	83.3	83.4	82.9	86.4	89.6	89.9	92.4	94.2	93.6	91.1	85.3	81.2	132.5
8000	81.5	83.1	83.5	82.5	85.2	88.5	89.5	90.8	93.2	91.7	89.2	84.6	80.5	131.6
10000	81.3	83.6	83.9	83.6	86.3	88.7	88.5	90.0	91.7	90.6	87.8	84.1	81.1	131.5
12500	81.3	83.5	83.8	83.4	85.7	88.8	87.8	88.5	89.9	88.6	85.8	83.5	80.3	131.3
16000	79.6	82.9	82.8	83.8	85.2	87.4	86.5	87.6	88 7	85.9	84.7	82.5	77.7	131.4
20000	77.4	79.9	80.8	80.8	83.1	85.2	85 0	84 1	85.4	83.3	81.6	79.4	74.8	130.6
25000	74.9	77.5	78.0	79.3	80.0	83.6	82.5	81.9	82.3	79.6	77.4	77.1	72.5	130.4
31500	71.7	74.2	74.9	76.9	76.8	80 2	78 9	78.6	78 7	76.4	75.0	73 3	68.4	130.2
40000	67.9	70.3	70.7	72.6	72.7	76.6	74.8	74.5	74.6	72.2	71.2	69.7	64.7	130.2
50000	62.0	64.2	64.5	67.1	67.2	72.4	69.9	68.8	69.0	66.2	65.1	63.6	58.6	129.4
63000	56.1	58.1		61.0	60.8	66.6	64.1	63.5	63.8	60.0	59.7	57.0	51 8	128.8
80000	47.2	50.2		52.0	52.5	60.8	55.9	57.2	57.0		51.4	49.8	43.0	128.4
OASPL	95.5	99.8	100.0	98.4	100.7	104.2	106.5	107.0	109.7	113.2	115.2	115.5	104.5	151.3
PNL	106.2	109.8	110.5	109.6	112.4	116.3	117.5	119.4	122.4	124.7	124.4	122.3	112.1	
PNLT	112.8	109.8	110.5	110.1	113.1	116.3	119.5	119.4	122.4	124.7	124.4	122.3	118.7	
DBA	93.1	95.8	96.4	95.7	98.7	102.5	104.0	105.7	108.9	112.4	112.9	110.1	99.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH158 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = ND PWL AREA = FULL SPHERE TAMB F = 29.55 PAMB HG = 29.21 RELHUM = 66.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1096.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1787.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1104 TAPE = X1104C TEST PT NO = 1104 NC = AE091 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 - 83F-400-1104 X1104F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	85.8	89.6	88.9	85.4	86.4	87.5	86.9	87.4	93.0	96.8	102.1	105.3	97.1	137.8
315	85.8	89.6	88.9	85 4	86.0	88.5	90.0	90.0	93.9	99.2	103 1	105 5	96.8	138.6
400	86.9	88.3	88.0	84.8	86.9	88.5	100.8	89.4	93.2	99.6	103.6	104.6	95.0	139.3
500	88.2	90.1	89.0	85 3	87.6	89.2	88.0	90.1	94.1	100.6	103.7	103.3	93.9	138.3
630	88.4	90.2	90.3	86.5	89.4	90.4	89.4	90.2	95.2	100.9	102.8	100.8	95.1	137.8
800	88.1	90.2	89.3	87.2	88.5	91.4	89.8	91.1	96.5	101.2	102.1	98.0	95.9	137.5
1000	89.7	89.5	90.4	87.7	89.3	91.7	90.5	92.6	96.8	100.8	100.4	96.6	95.6	137.0
1250	91.1	91.7	90.9	88.4	89.9	92.0	90.9	92.4	97.8	100.2	100.6	95.9	95.3	137.2
1600	89.0	92.9	90.9	88.6	91.0	93.2	92.3	93.2	97.5	100.6	99.8	94.9	95.7	137.2
2000	92.8	93.3	92.4	90.3	90.1	92.1	91.9	93.9	97.7	100.4	98 3	94.2	97.2	137.2
2500	89.7	90.9	90.4	88.6	90.9	92.7	91.4	94.0	98.5	99.4	97.2	94.6	96.8	136.7
3150	92.1	92.9	92.3	89.9	90.8	93.4	93.2	94.1	98.3	98.2	96 3	94.1	97.2	136.8
4000	91.7	92.4	91.5	89.4	91.6	94.0	93.9	95.4	97.9	97.6	94.8	92.2	95.6	136.7
5000	90.4	91.5	91.6	89.0	91.2	93.9	93.5	94.5	96.4	95.6	93.8	91.5	95.0	135.9
6300	91.0	92.2	91.1	88.9	91.0	92.6	92.2	93.6	96.0	94.3	92.6	91.4	94.7	135.4
8000	90.5	92.1	90.8	88.7	89.2	91.5	91.8	92.3	95.3	94.0	91.5	90.9	94.8	135.2
10000	88.7	89.5	89.0	87.1	90.3	91.7	91.0	91.9	92.3	90.6	88.0	88.6	92.2	134.1
12500	88.2	89.8	89.1	87.9	89.8	91.8	89.5	89.1	92.7	89.8	88 8	89.4	91.4	134.5
16000	87.7	89.1	88.5	87.1	89.2	90.4	88.6	89.1	89.0	86.6	85.1	85.8	88.1	134.3
20000	85.5	88.1	87.1	87.2	87.2	88.2	86.8	84.8	85.2	82.0	80.1	82.9	85.3	133.8
25000	82.7	84.5	84.5	83.5	84.6	86.6	83.9	81.9	82.4	79.6	78.5	79.9	81.9	133.5
31500	82.2	83.6	82.7	82.4	80.8	83.2	80.3	78.6	79.1	76.2	75.6	77.1	79.1	134.1
40000	75.4	77.1	77.0	78.0	77.3	79.6	76.3	74.5	74.0	70.7	69.9	71.4	73.4	133.3
50000	74.0	75.1	74.1	74.5	71.8	75.4	71.3	68.8	69.7	65.4	65.4	65.8	67.5	133.8
63000	67.1	68.1	67.0	68.0	65.4	69.6	65.5	63.5	64.4	60.0	58.6	60.0	60.2	132.8
80000	59.8	60.6	60.2	60.4	57.1	63.8	57.3	57.1	54.6	50.2	48.8	50.2	50.4	132.4
DASPL	102.7	104.1	103.3	101.1	102.7	104.7	105.6	105.2	108.8	111.4	112.5	112.2	108.2	150.4
PNL	115.0	116.1	115.4	113.0	114.7	116.9	117.0	117.9	121.3	122.5	121.7	119.8	120.4	
PNLT	116.1	116.1	115.4	113 0	114.7	116.9	118.9	117.9	121.3	122.5	121.7	119.8	120.4	
DBA	182.5	183.4	182.7	183.2	180.3	185.7	180.4	179.3	178.4	174.1	173.0	174.2	174.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH158 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 29.55 PAMB HG = 29.21 RELHUM = 66.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1096.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1787.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1104 TAPE = X1104F TEST PT NO = 1104 NC = AE091 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 - 83F-400-1104 X11041

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	61.3	66.6	66.9	64.2	65.6	66.8	66.1	66 1	71.1	73.8	77.5	78.5	67.0	152.7
63	61.3	66.5	66.9	64 1	65.1	67.8	69.2	68.7	72.0	76.2	78.5	78.7	66.7	153.5
80	62.3	65.2	66.0	63.5	66.1	67.8	79.9	68.1	71.2	76.5	78.9	77.8	64.8	154.2
100	63.5	67.0	66.9	64.0	66.7	68.4	67.1	68.7	72.0	77.5	79.0	76.3	63.5	153.2
125	63.6	67.0	68.2	65.1	68.4	69.6	68.4	68.8	73.1	77.6	78.0	73.6	64.4	152.7
160	63.0	66.8	67.0	65.7	67.4	70.4	68.6	69.5	74.2	77.8	77.0	70.6	64.9	152.4
200	64.4	65.9	67.9	65.9	68.0	70.5	69.3	70.9	74.4	77.2	75.1	68.9	64.1	151.9
250	65.5	67.8	68.2	66.5	68.4	70.6	69.4	70.5	75.1	76.3	74.9	67.8	63.1	152.1
315	63.0	68.7	67.8	66.3	69.2	71.5	70.5	71.0	74.4	76.3	73.8	66.2	62.7	152.2
400	66.2	68.6	68.9	67.7	68.0	70.2	69.8	71.3	74.2	75.7	71.7	64.8	63.2	152.1
500	62.5	65.8	66.5	65 7	68.4	70.4	69 0	71 0	74.7	74.2	70.1	64.5	61.8	151.6
630	64.4	67.3	68.0	66.5	68.0	70.7	70.4	70.8	74.1	72.6	68.6	63.2	60.9	151.7
800	63.4	66.2	66.8	65.7	68.4	70.9	70.7	71.7	73.2	71.5	66.4	60.5	58.2	151.6
1000	61.4	64.8	66.4	64.8	67.7	70.5	69.9	70.4	71.3	68.9	64.7	58.9	56.1	150.8
1250	61.1	64.8	65.4	64.2	66.9	68.8	68.2	69.0	70.3	67.0	62.7	57.7	54.1	150.3
1600	59.4	63.8	64.2	63.3	64.5	66.9	67.1	66.9	68.8	65.6	60.4	55.3	51.3	150.1
2000	55.7	59.8	61.2	60.6	64.6	66.3	65.2	65.4	64.6	60.8	55.0	50.6	44.9	149.0
2500	52.5	57.8	59.6	59.8	62.6	64.8	62.3	61.1	63.2	57.8	53.1	47.7	38.3	149.4
3150	47.6	53.7	56.1	56.5	59.6	61.1	59.0	58.5	56.5	51.2	45.1	38.1	25.6	149.2
4000	37.9	46.6	49.5	51.9	53.2	54.6	52.8	49.6	47.6	40.5	32.5	24.9	6.9	148.7
5000	23.6	33.8	39.0	41.2	44.0	46.6	43.3	39.6	36.9	29.0	19.5	6.6		148.4
6300	4.2	17.5	23.9	28.0	28.9	32.1	28.4	24.2	20.3	10.1				149.0
8000				3.0	5.9	9.4	4.9							148.2
10000														148.7
12500														147.7
16000														147.3
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	75.3	78.8	79.3	77.6	79.8	82.0	83.5	82.0	85.2	87.3	87.2	84.9	75.3	165.3
PNL	80.8	84.7	85.5	84.7	87.2	89.4	88.5	88.5	90.6	90.8	88.4	83.4	77.0	
PNLT	81.3	84 7	85.5	85.3	87.2	89.4	88 5	88.5	90.6	90 8	88.4	83.4	77.0	
DBA	70.8	74.2	75.0	73.8	76.2	78.5	77.9	78.5	80.6	79.7	76.4	70.6	66.9	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL	= ADH158		TEST DATE	= 03-17-83		LOCAT	= C41 ANECH CH		CONFIG	= 11		MODEL	= SL		FLTVEL	= 400. FPS
IAPLHA	= SB59		IEGA	= NO		PWL AREA	= FULL SPHERE		TAMB F	= 29.55		PAMB HG	= 29.21		RELHUM	= 66.3 PCT
WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	= 2400.0 FT		EXT CONFIG	= SL		MIKE HT	=		NBFR	=
FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	= 1096.2 FPS		AE8	= 4.6 SQ IN			
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	= 1787.8 FPS		AE18	= 23.4 SQ IN			
						TEST PT NO	= 1104		NC	= AE091		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 83F-ZER-1105 X1105C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.6	87.2	87.2	84.0	83.1	85.4	86.8	87.5	88.2	86.2	92.1	95.8	90.0	130.5
63	93.5	91.8	96.3	90.9	90.2	93.3	95.7	95.1	92.8	90.9	95.5	103.5	98.6	137.5
80	89.5	95.8	91.3	90.4	91.7	95.3	94.7	94.4	95.6	94.9	98.8	99.0	82.9	136.8
100	88.0	95.2	91.3	90.8	92.9	96.8	95.6	98.0	96.0	99.3	100.0	103.1	86.8	138.8
125	85.9	89.7	93.4	92.7	94.1	96.2	94.8	95.5	96.2	99.8	106.9	108.3	92.0	141.7
160	84.4	86.0	90.5	86.8	89.1	93.2	100.6	94.3	96.2	100.6	106.2	108.4	96.5	141.7
200	86.8	87.3	89.8	88.1	91.2	94.8	97.7	96.6	102.1	103.1	108.5	112.5	100.6	144.6
250	85.8	91.1	91.1	90.1	91.7	94.8	96.2	97.9	102.8	107.6	112.8	115.2	103.6	147.7
315	86.8	90.6	89.9	89.9	92.8	96.1	99.8	98.7	103.4	109.0	113.8	115.8	106.4	148.6
400	87.8	91.3	91.9	89.9	92.7	95.9	110.5	99.4	104.4	111.9	115.3	116.7	107.7	150.7
500	88.6	92.1	92.9	91.4	94.0	96.9	97.8	100.4	104.4	112.2	115.6	117.3	109.2	150.5
630	89.5	93.6	93.3	92.4	95.2	98.3	99.2	101.9	105.3	112.9	115.8	117.0	110.6	150.7
800	91.8	93.1	94.4	92.9	95.3	99.1	99.3	102.7	106.6	113.0	114.3	117.0	111.4	150.5
1000	97.5	100.6	98.1	94.9	96.2	100.1	100.2	103.6	107.6	111.9	114.0	115.7	111.4	150.0
1250	92.9	97.7	97.7	97.6	98.9	101.5	100.4	103.5	107.7	111.6	112.4	115.6	111.0	149.6
1600	93.6	95.8	96.4	95.3	97.3	101.2	101.8	103.8	107.9	111.3	113.6	114.8	110.5	149.5
2000	94.6	98.4	96.8	94.9	96.5	99.6	100.9	104.4	107.8	111.6	113.1	112.9	107.9	148.9
2500	92.3	96.1	96.2	94.4	97.3	100.1	100.6	104.4	107.6	111.1	111.6	109.4	104.9	147.6
3150	92.2	95.8	95.5	94.0	96.4	99.7	100.8	103.0	107.9	110.0	110.2	105.9	101.0	146.5
4000	89.9	94.3	94.9	93.3	96.0	99.5	99.6	103.4	106.8	107.6	107.0	103.0	98.1	144.8
5000	90.1	95.0	95.1	93.0	95.3	98.7	99.4	102.2	105.2	106.9	104.9	100.2	95.6	143.7
6300	89.7	95.4	95.9	94.2	95.8	98.5	99.3	102.2	104.3	104.0	102.2	97.4	94.9	142.7
8000	88.3	94.6	95.5	94.6	95.8	98.1	98.3	99.9	102.4	101.8	99.7	96.4	93.2	141.5
10000	87.5	93.1	94.6	94.9	97.0	98.5	97.8	99.5	101.2	100.2	97.3	95.4	92.2	141.3
12500	85.5	91.4	92.7	92.9	95.5	98.2	97.3	97.5	99.1	97.6	95.2	94.5	92.3	140.5
16000	83.9	90.4	91.4	92.5	93.3	96.0	95.9	96.0	96.8	94.1	94.0	93.3	90.3	140.0
20000	82.2	86.6	89.0	89.6	90.5	94.0	93.6	92.9	93.7	91.4	90.9	90.9	87.2	139.1
25000	78.7	84.0	85.0	87.1	87.8	92.4	91.3	90.5	90.8	87.4	87.4	89.1	83.8	138.9
31500	75.2	79.8	81.4	83.6	83.8	88.2	86.9	87.3	86.9	84.6	84.2	84.8	79.4	138.2
40000	70.6	76.2	77.4	78.8	80.1	84.1	82.6	82.4	82.2	80.4	80.7	80.4	75.4	137.9
50000	64.7	69.4	71.0	73.0	73.4	78.5	76.1	76.5	76.4	74.5	74.5	74.1	68.9	136.2
63000	59.1	63.3	65.6	66.5	67.7	73.1	70.1	70.7	71.3	68.3	69.0	67.2	63.1	135.8
80000	51.5	56.9	58.6	59.1	60.6	66.7	63.1	63.7	64.6	61.3	62.6	60.9	54.6	135.9
OASPL	104.9	108.7	108.6	107.3	109.2	112.3	114.8	115.1	118.6	122.7	125.1	126.5	120.0	161.1
PNL	116.9	120.7	120.7	119.3	121.4	124.6	125.9	127.8	131.6	134.4	135.6	135.5	129.8	
PNLT	118.6	122.4	120.7	119.9	121.9	124.6	128.1	128.4	131.6	134.4	136.3	135.5	129.8	
DBA	104.1	107.9	107.6	106.1	108.1	111.3	112.6	114.7	118.3	122.1	123.7	124.7	119.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH150 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 29.18 PAMB HG = 29.32 RELHUM = 61.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1212.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1993.1 FPS AE18 = 23.4 SQ IN

PWDT = 83F-ZER-1105 TAPE = X1105C TEST PT NO = 1105 NC = AE091 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 - 83F-ZER-1105 X1105F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130	140.	150.	160.	PWL
50	86 6	87.2	87.2	84.0	83.1	85.4	86.8	87.5	88.2	86.2	92.1	95.8	90.0	130.5
63	93.5	91.8	96.3	90.9	90.2	93.3	95 7	95.1	92.8	90.9	95.5	103.5	98.6	137.5
80	89.5	95.8	91.3	90 4	91.7	95.3	94 7	94 4	95.6	94.9	98.8	99.0	82.9	136.8
100	88.0	95.2	91.3	90.8	92.9	96.8	95.6	98.0	96.0	99.3	100.0	103.1	86.8	138.8
125	85.9	89.7	93.4	92.7	94.1	96.2	94.8	95.5	96.2	99 8	106.9	108.3	92.0	141.7
160	84 4	86.0	90.5	86 8	89 1	93.2	100.6	94.3	96.2	100.6	106.2	108.4	96.5	141.7
200	86.8	87.3	89.8	88.1	91.2	94.8	97 7	96.6	102.1	103.1	108.5	112.5	100 6	144.6
250	85.8	91.1	91.1	90.1	91.7	94.8	96.2	97.9	102.8	107.6	112.8	115 2	103.6	147.7
315	86.8	90.6	89.9	89.9	92.8	96.1	99.8	98.7	103.4	109.0	113.8	115.8	106.4	148.6
400	87.8	91.3	91.9	89.9	92.7	95.9	110.5	99.4	104.4	111.9	115.3	116.7	107.7	150.7
500	88.6	92.1	92.9	91.4	94.0	96.9	97.8	100.4	104.4	112 2	115.6	117.3	109.2	150.5
630	89.5	93.6	93.3	92.4	95.2	98.3	99.2	101.9	105.3	112.9	115.8	117.0	110.6	150.7
800	91.8	93.1	94.4	92.9	95.3	99.1	99.3	102.7	106.6	113.0	114.3	117.0	111.4	150.5
1000	97.5	100.6	98.1	94.9	96.2	100.1	100.2	103.6	107.6	111.9	114.0	115.7	111.4	150.0
1250	92.9	97.7	97.7	97.6	98.9	101.5	100.4	103.5	107.7	111.6	112.4	115.6	111.0	149 6
1600	93.6	95.8	96.4	95.3	97.3	101.2	101.8	103.8	107.9	111.3	113.6	114.8	110.5	149.5
2000	94.6	98.4	96.8	94.9	96.5	99.6	100.9	104.4	107.8	111.6	113.1	112.9	107.9	148.9
2500	92.3	96 1	96.2	94.4	97.3	100.1	100.6	104.4	107.6	111 1	111.6	109.4	104.9	147.6
3150	92.2	95.8	95.5	94.0	96.4	99.7	100.8	103.0	107.9	110.0	110.2	105.9	101.0	146.5
4000	89.9	94.3	94.9	93.3	96.0	99.5	99.6	103.4	106.8	107.6	107.0	103.0	98.1	144.8
5000	90.1	95.0	95.1	93.0	95.3	98.7	99.4	102.2	105.2	106.9	104.9	100.2	95.6	143.7
6300	89.7	95.4	95.9	94.2	95.8	98.5	99.3	102.2	104.3	104.0	102.2	97.4	94.9	142.7
8000	88.3	94.6	95.5	94.6	95.8	98.1	98.3	99.9	102.4	101 8	99.7	96.4	93.2	141.5
10000	87.5	93.1	94.6	94.9	97.0	98.5	97.8	99.5	101.2	100.2	97.3	95.4	92.2	141.3
12500	85.5	91.4	92.7	92.9	95.5	98.2	97.3	97.5	99.1	97.6	95.2	94.5	92.3	140.5
16000	83.9	90.4	91.4	92.5	93.3	96.0	95.9	96.0	96.8	94.1	94.0	93.3	90.3	140.0
20000	82.2	86.6	89.0	89 6	90.5	94.0	93.6	92.9	93.7	91.4	90.9	90.9	87.2	139.1
25000	78.7	84.0	85.0	87.1	87.8	92 4	91.3	90.5	90.8	87.4	87.4	89.1	83.8	138.9
31500	75.2	79.8	81.4	83.6	83.8	88.2	86.9	87.3	86.9	84 6	84.2	84.8	79.4	138.2
40000	70.6	76.2	77.4	78.8	80.1	84.1	82.6	82.4	82.2	80.4	80.7	80.4	75.4	137.9
50000	64.7	69.4	71 0	73.0	73.4	78.5	76.1	76.5	76.4	74.5	74.5	74.1	68.9	136.2
63000	59.1	63.3	65.6	66.5	67.7	73.1	70.1	70.7	71.3	68.3	69.0	67.2	63.1	135.8
80000	51.5	56.9	58.6	59.1	60.6	66 7	63.1	63.7	64.6	61.3	62.6	60.9	54.6	135.9
OASPL	104.9	108.7	108.6	107.3	109.2	112.3	114.8	115.1	118.6	122.7	125.1	126.5	120.0	161.1
PNL	116.9	120.7	120.7	119.3	121.4	124.6	125.9	127.8	131 6	134.4	135.6	135.5	129.8	
PNLT	118.6	122.4	120.7	119 9	121.9	124.6	128.1	128.4	131.6	134.4	136.3	135.5	129.8	
DBA	174.3	179.3	181.1	182 0	183.2	188.9	185.7	186.3	186.9	183.9	184.9	183.4	177.9	

ORIGINAL PAGE IS OF POOR QUALITY

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL	= ADH150	TEST DATE	= 03-17-83	LOCAT	= C41 ANECH CH	CONFIG	= 11	MODEL	= SL	FLTVEL =	0. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 29.18	PAMB HG	= 29.32	RELHUM =	61.1 PCT
WIND DIR =	DEG	WIND VEL	= MPH	EXT DIST =	40 0 FT	EXT CONFIG	= ARC	MIKE HT =		NBFR =	
FNIN1 =	LBS	XNL =	RPM	XNH =	RPM	V8	= 1212.0 FPS	AF8	= 4.6 SQ IN		
FNRAMB =	LBS	XNLR =	RPM	XNHR =	RPM	V18	= 1993.1 FPS	AE18	= 23.4 SQ IN		
				TEST PT NO	1105	NC	= AE091	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 - 83F-ZER-1105 X11051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	61.2	68.0	69.1	68.9	70.9	74.1	75.4	76.6	80.9	84.6	88.2	88.5	73.5	162.6
63	62.3	67.6	67.9	68.7	71.9	75.4	78.9	77.4	81.4	85.9	89.3	89.0	76.3	163.5
80	63.2	68.3	69.9	68 6	71.9	75.1	89.6	78.1	82.4	88.8	90.7	89.9	77.4	165.6
100	63.9	69.0	70.8	70.1	73.1	76.1	76.9	79.1	82.3	89.1	90.9	90.3	78.8	165.4
125	64.7	70.3	71.2	71 0	74.2	77.5	78.2	80.5	83.2	89.7	91.0	89 9	80.0	165.6
160	66.8	69.7	72.1	71.4	74.2	78.2	78.2	81.1	84.4	89.6	89.3	89.7	80.4	165.4
200	72.2	76.9	75.6	73.1	74.9	78.9	78.9	81.9	85.1	88.3	88.7	88.0	79.9	164.9
250	67.3	73.8	75.0	75.7	77.4	80.1	78.9	81.6	85.0	87.7	86.8	87.5	78.9	164.5
315	67.6	71.5	73.4	73.1	75.5	79.5	80.0	81.6	84.9	87.0	87.6	86.1	77.5	164.4
400	68.0	73.7	73.4	72.3	74.4	77.7	78.8	81.8	84.4	86.9	86.5	83.5	73.9	163.8
500	65.1	70.9	72.3	71.4	74.8	77.8	78.1	81.5	83.7	85.9	84 5	79.3	69.8	162.5
630	64.5	70.1	71.3	70.7	73.6	77.0	78.0	79.7	83.6	84.4	82.5	75.0	64.8	161.4
800	61.6	68.2	70.2	69.6	72.8	76.4	76.4	79.7	82.1	81.4	78.7	71.3	60.6	159.7
1000	61.0	68.3	70.0	68.9	71.7	75.3	75.8	78.1	80.1	80.2	75.9	67.5	56.8	158.6
1250	59.9	68.0	70.2	69.6	71.7	74.6	75.2	77.6	78.6	76 6	72.3	63.7	54.2	157.6
1600	57.1	66.3	68.9	69 2	71.0	73.5	73.5	74.5	75.9	73.4	68.6	60.9	49.8	156.4
2000	54.6	63.3	66.9	68 5	71.3	73.0	72.1	73.1	73.5	70.4	64.3	57.4	44.9	156.2
2500	49.8	59.5	63.2	64.9	68.2	71.2	70.0	69.4	69.5	65.6	59.6	52.7	39.2	155.4
3150	43 9	55.1	58.9	61.9	63.7	66 8	66.3	65.4	64.3	58.7	54.0	45.6	27.8	154.9
4000	34.5	45.1	51.4	54.4	56.5	60.4	59.6	57.6	56.0	49.9	43.2	32.9	8.8	154.0
5000	19.6	33.3	39.5	44.7	47.2	52.4	50.7	48.1	45.3	36.7	28.3	15.8		153.8
6300		13.7	22.5	29.2	31.9	37.0	35.0	32.9	28.0	18.5	6.1			153.1
8000				3.9	8.7	13.8	11.2	7 5	0.7					152.8
10000														151.1
12500														150.7
16000														150.8
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	77.8	83.2	84.1	83.5	86.0	89.4	92.6	92.0	95.0	98.6	99.5	98.7	88.3	175.7
PNL	82.3	88.5	90.1	90.7	93.4	96.3	96.8	97.8	100.1	101.9	101.2	99.0	88.9	
PNLT	83.1	89.4	90.1	91 3	93.4	96.3	96.8	98.4	100.7	101.9	101.2	99.0	88.9	
DBA	71.4	77.9	79.5	79.3	81.8	84.9	85.2	87.3	89.7	90.7	89.4	86.7	77.5	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH150 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 29.18 PAMB HG = 29.32 RELHUM = 61.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1212.0 FPS AE8 = 4.6 SQ IN
FNIAMB = LBS XNL0 = RPM XNHR = RPM V18 = 1993 J FPS AE18 = 23.4 SQ IN

RUNPT - 83F-ZER-1105 TAPE - X11051 TEST PT NO - 1105 NC - AE091 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 83F-400-1106 X1106C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.6	87.7	84.7	82.2	82.3	84.9	84.3	89.0	87.4	86.2	92.6	94.8	92.7	130.3
63	91.0	90.8	92.6	89.4	88.2	91 6	93.2	97.1	92.1	91.9	94.0	98.5	98.6	135.6
80	89.3	95.6	90.8	90.6	91.5	94.6	93.7	92.9	94.3	94.7	97.8	97.7	92.4	136.1
100	87.2	93.7	90.0	89.5	90.9	95.3	94.4	96.0	94.5	96.3	98.2	101.9	91.6	137.1
125	85.6	88.9	91.2	90.5	92.6	94.9	93.8	93.2	93.4	96.8	103.4	106.6	94.0	139.4
160	82.7	83.0	88.0	84.0	86.9	89.5	95.6	90.8	93.7	97.3	102.9	105.9	95.8	138.6
200	83.5	84.6	86.6	83.6	86.7	90.6	92.0	93.6	97.8	97.4	103.8	109.2	97.9	140.7
250	81.5	86.1	86.3	84.9	87.5	90.3	91.7	93.6	98.8	102.1	108.3	111.5	100.1	143.5
315	82.6	85.6	85.6	85.4	88.3	91.4	93.8	94.2	98.9	103.2	109.1	111.5	101 4	144.0
400	83.6	86.3	87.1	85.7	88.2	91.6	103.5	94.7	99.6	106.2	110.6	112.3	100.7	145.6
500	84.1	87.1	87.9	86.4	89.0	92.4	92.5	95.4	98.9	107.0	111.1	110.8	98.2	144.9
630	84.0	87.1	87.8	86.6	90.0	93.6	94.2	96.9	100.1	107.7	111.0	109.5	95.9	144.8
800	85.6	86.9	88.2	86.9	89.8	93.9	94.8	97.4	101.4	107.7	109.9	106.0	93.4	143.8
1000	87.0	88.8	89.3	88.4	90.5	94.6	95.5	98.9	102.3	107.9	108.8	102.0	93.6	143.3
1250	85.2	90.2	89.8	88.6	91.1	94.7	95.1	98.5	103.0	107.1	107.0	100.4	91.8	142.5
1600	85.9	88.5	89.5	88.8	91.3	95.9	96.8	99.3	103.5	106.5	107.2	98.3	90.7	142.5
2000	85.9	87.7	88.6	88.2	90.8	94.7	96.2	100.0	102.6	106.6	105.6	97.5	91.5	141.9
2500	85.3	88.1	89.5	88.2	91.0	95.2	96.1	99.5	102.1	106.2	104.4	95.4	91.2	141.3
3150	85.5	87.8	89.1	87.6	90.7	95.2	96.1	99.4	102.7	104.6	102.3	95.7	89.6	140.6
4000	85.8	87.6	88.8	87.4	90.8	94.8	95.7	98.8	101.4	102.2	101.1	94.1	89.4	139.3
5000	88.4	89.6	89.7	87.1	90.1	94.8	94.9	97.8	100.8	102.2	100.0	93.2	88.5	139.0
6300	89.5	91.4	91.2	88.5	90.6	93.8	94.3	97.3	99.1	99.3	97.7	92.2	87.7	137.8
8000	88.8	91.9	92.7	90.4	90.8	93.3	93.8	95.4	96.9	97.3	95.2	89.9	85.9	136.9
10000	88.4	91.0	93.0	91.6	92.2	94.2	93.7	94.7	96.1	95.3	93.4	89.6	85.9	137.0
12500	87.1	88.7	90.6	90.2	91.8	94.6	92.9	93.0	94.2	92.6	91.3	88.8	85.4	136.4
16000	84.9	88.7	89.4	89.2	89.8	92.8	92.1	92.5	92.8	90.3	89.5	86.9	83.1	136.5
20000	82.9	85.3	87.2	86.8	87.9	91.2	90.8	89.6	89.9	88.1	86.8	84.2	80.5	136.0
25000	79.4	82.1	83.4	84.2	85.4	89.1	88.9	87.4	87.2	84.8	82.8	82.8	78.3	135.9
31500	75.8	78.2	79.7	81.2	81.7	85.6	85.3	84.4	84.5	81.2	80.3	79.5	74.3	135.7
40000	71.5	74.5	75.7	77.2	77.5	81.9	80.4	80.3	79.5	76.9	76.2	75.3	70.3	135.4
50000	65.4	68.2	69.6	70.9	72.3	77.2	74.7	74.6	74.0	71.0	70.4	68.7	63.5	134.3
63000	59.7	62.4	64.1	64.3	65.8	71.2	68.2	68.8	69.1	64.8	65.1	62.8	57.5	133.7
80000	51.9	55.0	56.7	56.7	58.2	64.6	60.9	62.1	61.4	57.6	57.5	56.1	49.3	133.4
OASPL	100.9	103.8	103.9	102.6	104.5	108.0	109.7	110.8	113.7	117.8	120.0	119.8	109.3	155.7
PNL	112.5	114.8	115.1	113.6	116.2	120.1	121.2	123.6	126.6	129.6	129.7	127.1	117.9	
PNLT	112.5	114.8	115.1	114.2	116.8	120.1	123.0	123.6	126.6	129.6	129.7	127.1	117.9	
DBA	98.3	100.7	101.4	100.0	102.4	106.3	107.6	110.0	113.3	117.1	118.0	115.1	104.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH157 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.92 PAMB HG = 29.23 RELHUM = 48.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1221.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1981.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1106 TAPE = X1106C TEST PT NO = 1106 NC = AE091 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 - 83F-400-1106 X1106F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160	PWL
50														
63														
80														
100														
125														
160														
200														
250	89.4	92.5	91.3	88.2	89.1	90.3	90.2	90.6	96.6	100.4	106.1	109.3	101.3	141.7
315	89.4	92.5	91.3	88 2	90.1	91.6	92.8	92.2	97.3	103.4	107.8	110.6	101.9	143.2
400	90.3	92.0	90.6	88.8	90.1	91.9	102.5	92.6	96.6	104.2	108.5	109.8	100.9	143.6
500	91.2	92.7	92.1	89.1	90.9	92.7	91.5	93.2	98.0	105.2	108.8	109.4	100.4	143.3
630	91.8	93.5	92.9	89.9	91.9	94.0	93.2	94.6	99.6	105.6	108.1	107.1	100.8	142.8
800	91.7	93.5	92.9	90.1	91.8	94.4	93.8	95.2	101.0	106.3	107.8	104.4	103.6	142.7
1000	93.3	93.3	93.2	90.5	92.6	95.2	94.7	96.8	101.7	105.5	105.9	102.7	101.7	141.9
1250	94.7	95.3	94.4	92.0	93.4	95.6	94.5	96.5	102.3	105.0	106.1	100.5	100.2	141.8
1600	92.9	96.7	94.9	92.4	94.4	97.0	96.2	97.5	101.8	105.6	105.1	100.3	101.8	142.0
2000	96.3	97.4	96.4	93.8	93.5	96.0	96.0	98.5	101.8	105.5	104.3	98.8	102.1	141.9
2500	93.5	94.2	93.9	92.2	94.5	96.8	96.3	98.3	102.8	104.4	102.7	99 5	100.9	141.3
3150	95.7	97 0	96.6	93 5	94.5	97.3	96.7	98.7	102.7	103.1	102.6	99.1	101.9	141.4
4000	95.9	96.8	96.4	93.1	95.1	97.3	97.3	99.1	102.0	103.1	101.4	98.0	100.8	141.2
5000	96.1	96.6	96.2	93.2	94.1	97.8	96.8	98.2	101.2	101.1	100.3	98.1	101.0	140.6
6300	95.8	96.3	95.5	91.9	94.5	96.8	96.5	98.3	99 6	99.8	98.4	96.5	99.8	139.9
8000	96.3	97.6	96.7	93.1	94.7	96.3	96.1	96.8	99.7	98.7	97.2	96.3	99.5	140.1
10000	95 2	97.8	97.9	94.7	96.2	97.2	96.2	96.6	95.6	93.5	92.5	93.1	96.6	139.7
12500	95.3	97.1	98.3	95.8	95.9	97.6	94.3	93.0	94.7	91.8	91.3	91.7	94.8	139.9
16000	93.4	94.3	95.3	94.0	93.9	95.8	93.6	92.5	92.2	89.9	89.0	89.4	92.6	139.3
20000	90.9	93.9	93.7	92.6	92.0	94.2	92.2	89.6	90.1	87.2	85.5	88.6	91.0	139.4
25000	88.2	89.9	90.9	89.6	90.0	92.1	90.4	87.4	88.2	84.4	83.9	86.1	87.8	139.2
31500	86.7	88.2	88.0	87.3	86.3	88.6	86.7	84.4	84.1	81.0	80.6	82.7	84.7	139.4
40000	82.3	83.4	83.5	83.4	82.1	84.9	81 9	80.3	78.9	75.5	75.2	76.5	78.3	138.9
50000	77.6	79.4	79.1	79.0	76.9	80.2	76.2	74.6	75.0	70.2	70.8	71.6	73.2	138.6
63000	70.5	72.1	72.0	71.8	70.4	74.2	69.6	68.8	68.8	64.5	64.7	66.3	66.5	137.3
80000	63 4	64.8	65.1	63.7	62.8	67.6	62 4	62.1	59.0	54.7	54.9	56.5	56.7	136.7
OASPL	107.1	108.6	108.2	105.6	106.7	108.9	109.1	109.3	113.0	116.2	117.7	117.4	113.6	155.2
PNL	119.0	120.3	119.7	116.7	118.3	120.6	120.6	121.9	125.5	127.4	127.4	125.0	125.5	
PNLT	120.0	120.3	119.7	116.7	118.3	120.6	122.3	121.9	125.5	127.4	127.4	125.0	125.5	
DBA	186.1	187.7	187.7	187.0	185.7	189.9	185.1	184.5	183.0	178.6	178.9	180.3	180.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH157 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.92 PAMB HG = 29.23 RELHUM = 48.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1221.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1981.0 FPS AE18 = 23.4 SQ IN

TEST PT NO = 1106 NC = AE091 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 - 83F-400-1106 X11061

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.9	69.5	69.3	66 9	68.2	69 6	69.4	69.3	74.7	77.4	81.6	82.6	71.2	156.6
63	64.9	69.5	69.3	66.9	69.2	70.9	72.0	71.0	75.4	80.4	83.2	83.8	71.7	158.1
80	65.6	68.9	68.6	67.5	69.2	71.1	81 6	71.3	74.6	81.1	83.8	82.9	70.7	158.5
100	66.5	69.6	70.0	67.7	70.0	71.9	70.6	71.9	76.0	82.0	84.1	82.4	70.0	158.3
125	66.9	70.3	70.7	68.5	70.9	73.1	72.2	73.2	77.5	82.3	83.3	80.0	70.2	157.7
160	66.7	70.1	70.6	68.6	70.7	73.4	72.7	73.7	78.7	82.9	82.8	77.0	72.6	157.6
200	68.0	69.7	70.7	68.8	71.3	74.1	73.4	75.0	79.3	81.9	80.7	75.0	70.2	156.8
250	69.1	71.4	71.7	70 1	71.9	74.2	73.0	74.6	79.6	81.1	80.5	72.3	68.1	156.7
315	66.8	72.5	71.9	70.1	72.6	75.3	74.5	75.3	78.8	81.3	79.1	71.6	68.8	156.9
400	69.7	72.6	73.0	71.2	71.4	74.0	73.9	75.9	78.3	80.8	77 7	69.3	68.0	156.8
500	66.4	69.1	70.1	69 3	72.1	74.5	73.F	75.4	79 0	79.3	75.6	69.4	65.8	156.2
630	68.0	71.4	72.4	70.1	71.7	74.6	73.9	75.3	78.4	77.4	74.9	68.2	65.7	156.3
800	67.5	70.6	71.7	69.4	71.9	74.3	74.1	75.3	77.3	76 9	73.0	66.3	63.3	156.1
1000	67.1	69.9	71.1	69.1	70.5	74.4	73.2	74.0	76.0	74.4	71.2	65.5	62.2	155.5
1250	66.0	69.0	69.8	67.3	70.5	72.9	72.5	73.7	73.9	72.5	68.5	62.7	59.2	154.8
1600	65.2	69.2	70.1	67.7	70.0	71.8	71.4	71.4	73.1	70.3	66.0	60.7	56.0	155.0
2000	62.2	68.0	70.2	68.3	70.5	71.7	70.4	70.1	67.8	63.8	59.6	55.1	49.3	154.6
2500	59.7	65.2	68.7	67.8	68.6	70 6	67.1	65.0	65.1	59.8	55.7	49.9	41.8	154.8
3150	53.4	58.9	62.8	63.4	64.3	66.5	64.0	61.9	59.7	54.5	49.0	41.6	30.1	154.2
4000	43.2	52.4	56.0	57.3	58.0	60.7	58.2	54.3	52.4	45.7	37.9	30.6	12.7	154.3
5000	29.2	39.2	45.4	47.2	49.5	52.0	49.8	45.0	42.7	33.7	24.8	12.7		154.1
6300	8.6	22.1	29.2	32.9	34.4	37.5	34.8	30.1	25.3	14.8	2.6			154.3
8000			2.0	8.5	10.7	14.7	10.5	5.3						153.8
10000														153.5
12500														152.2
16000														151.6
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	79.2	82.7	83.3	81.4	83.4	85.8	86.6	86.1	89.4	92.1	92.4	90.2	80.9	170.1
PNL	85.5	89.9	91.8	90.5	92.0	94.3	93.1	92.9	94.8	95.8	93.9	89.6	82.5	
PNLT	86.1	89.9	92.4	91.0	92.0	94.3	93.6	93.4	94.8	95.8	95.0	89.6	82.5	
DBA	75.4	79.0	80.3	78.4	80.4	82.8	81.9	82.7	84.8	84.8	82.1	76.0	72.1	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH157 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.92 PAMB HG = 29.23 RELHUM = 48.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1221.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1981.0 FPS AE18 = 23.4 SQ IN

RUN01 B3F-100-1106 TAPE = X11061 TEST PT NO = 1106 NC = AE091 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 83F-ZER-1107 X1107C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120	130.	140.	150.	160.	PWL
50	87.4	88.7	86.2	84.2	85.3	87.4	86.3	88 7	90.2	87 0	95 4	98 1	88 7	132.1
63	92.0	92.8	92.1	92.6	92.2	95.3	93.7	94.9	94.8	90.4	101.8	104.0	98.6	138.4
80	91.0	97.6	92.8	92.4	93 7	97.8	96 7	95.4	97.6	96.9	101.3	101.0	85.1	138.8
100	89.5	97.7	92.8	93.0	95.4	99.3	98.1	99.8	98 3	100.8	101.7	105.4	89.3	140.9
125	87.1	91.4	94.7	93.7	95.3	97.9	96.6	96.2	97.4	100.8	107 4	109.6	94.0	142.7
160	85.2	88.0	91 7	88.5	90 6	94.7	103.4	96.0	97.7	102.3	107.7	110 4	98.8	143.6
200	88.0	88.6	91.1	89 6	93.2	96.3	99.5	98.1	103.8	104.4	110.3	114.7	102 6	146.5
250	87.8	91 8	92.6	91 4	93.5	96.8	97.7	100.1	104.6	109.6	114.8	117 2	105 6	149.7
315	88.8	91.6	91 4	91.4	94 5	97 6	102.3	99.9	105.6	110.2	116.1	117.8	108.4	150.6
400	90 3	93.3	93.6	91.9	94.7	97.9	113.5	101.2	107 1	113.7	117.6	119.2	109.7	153.1
500	90.8	94.4	94.9	92 9	96.0	99.1	99.5	102.2	106.9	114.7	118.6	119.3	111.7	152.9
630	91.5	95 3	95.1	93.9	97.0	100.1	101.0	103.6	107.8	115.2	119.5	120.0	113.1	153.8
800	94.6	95.6	96.4	94.7	97.3	100.9	101.3	104.2	109.1	115.5	118 8	119.5	114.7	153.6
1000	101.0	104.1	101.1	97.6	98.9	102.1	102.4	105.4	110.1	114 6	118.5	119.2	114.4	153.4
1250	96 2	101.5	101.5	100.4	101.6	103.7	103.1	105.8	110.7	113.3	117.2	119.1	113.8	152.9
1600	96.4	98.3	98.4	97.6	100.6	103.7	104.0	106.6	110.9	113.3	117.9	117.8	112.0	152.6
2000	96.8	100.4	98.6	96.9	99.0	102.6	103.9	107.4	110.8	114.1	116.9	115.2	108.7	151.7
2500	96.8	100.8	99.9	97.6	100.0	102.9	103.8	106.4	109.8	114.1	116.6	111.1	107.1	151.0
3150	97.7	101.5	101.0	98.0	99.1	102.7	104.1	106.3	110.1	112.5	114.0	109.4	103.5	149.6
4000	96.7	100.8	101.4	99.1	100.7	102.5	102.8	106.2	109.1	110.3	111.8	106.8	100.6	148.2
5000	94.3	99.3	100.6	98.8	101.3	103.0	102.9	105.5	108.2	110.6	109.2	103.9	98.6	147.5
6300	92.7	97.8	98.9	98.2	100.8	103.2	102 8	105.2	107 0	107.5	107.2	102.1	96.6	146.3
8000	91.3	96.4	97.7	96.9	99.8	102.6	102.5	103.1	105.4	105.6	104 5	99.9	94.7	145.0
10000	90.8	96.1	97.9	97.2	99.3	102.3	102.5	102.8	104.0	103.4	102.5	98.6	93.9	144.7
12500	90.0	94.4	96.2	95.7	99.0	102.0	101.5	101.5	102.3	101.1	100.0	97.5	92.8	144.2
16000	88.2	93.5	95.1	95.7	97.1	99.8	100.4	100.0	100.0	98.4	98.8	94.9	90.8	143.8
20000	86.2	91.2	92.3	92.4	95.0	97.8	97 8	96.9	96.7	95.7	95 4	92.2	87.7	142.8
25000	83.0	88.0	89.5	90.1	91.8	95.9	95.0	93.7	94.0	90.9	90.1	89.1	84.9	142.3
31500	78.7	84.3	85.1	87 4	87.5	91 9	91.1	90.8	90.4	86 7	85 7	84.6	80.2	141.6
40000	74.6	79.7	80 9	82.3	84.1	87.8	86.3	86.2	85.7	82.9	82.2	81.0	75.5	141.3
50000	68.5	73.2	74.8	77.1	77.7	82.3	80.1	80.3	80.2	77.2	76.1	74.6	69.9	139.8
63000	62.8	67.1	69.6	70.0	71.5	76.8	73.8	74.5	74.3	70 8	70.8	68.0	63.7	139.2
80000	56.8	60.4	62 4	62.6	64.6	70.5	66.8	67.5	67.3	64.1	63.4	60.9	55.6	139.2
OASPL	108.1	112.0	111.7	110.2	112.3	115.2	117.8	117.6	121.2	125.1	128 7	129.1	122 4	164.0
PNL	120.9	124.8	124.8	122.9	124.9	127.5	128.9	130.4	134.0	137 1	139 8	138.3	131.7	
PNLT	122.8	126.6	124.8	122 9	124.9	127.5	131.3	131.1	134.0	137.1	139 8	138.3	131.7	
DBA	107.8	111.6	111.2	109.4	111.5	114.2	115.6	117 2	121 0	124.6	127.7	127.5	121.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH151 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
JAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 28.67 PAMB HG = 29.33 RELHUM = 63.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1317.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2153.6 FPS AE18 = 23.4 SQ IN

DUMPT = 83F-ZER-1107 TAPE = X1107C TEST PT NO = 1107 NC = AE091 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 - 83F-ZER-1107 X1107F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.4	88.7	86.2	84.2	85.3	87.4	86.3	88.7	90.2	87.0	95.4	98.1	88.7	132.1
63	92.0	92.8	92.1	92.6	92.2	95.3	93.7	94.9	94.8	90.4	101.8	104.0	98.6	138.4
80	91.0	97.6	92.8	92.4	93.7	97.8	96.7	95.4	97.6	96.9	101.3	101.0	85.1	138.8
100	89.5	97.7	92.8	93.0	95.4	99.3	98.1	99.8	98.3	100.8	101.7	105.4	89.3	140.9
125	87.1	91.4	94.7	93 7	95.3	97.9	96.6	96.2	97.4	100.8	107.4	109.6	94.0	142.7
160	85.2	88.0	91.7	88.5	90.6	94.7	103.4	96.0	97.7	102.3	107.7	110.4	98.8	143.6
200	88.0	88.6	91.1	89.6	93.2	96.3	99.5	98.1	103.8	104.4	110.3	114.7	102.6	146.5
250	87.8	91.8	92.6	91.4	93.5	96.8	97.7	100.1	104.6	109.6	114.8	117.2	105.6	149.7
315	88.8	91.6	91.4	91.4	94.5	97.6	102.3	99.9	105.6	110.2	116.1	117.8	108.4	150.6
400	90.3	93.3	93.6	91.9	94.7	97.9	113.5	101.2	107.1	113.7	117.6	119.2	109.7	153.1
500	90.8	94.4	94.9	92.9	96.0	99.1	99 5	102.2	106.9	114.7	118.6	119.3	111.7	152.9
630	91.5	95.3	95.1	93.9	97.0	100.1	101.0	103.6	107.8	115.2	119.5	120.0	113.1	153.8
800	94.6	95.6	96.4	94.7	97.3	100.9	101.3	104.2	109.1	115.5	118.8	119.5	114.7	153.6
1000	101.0	104.1	101.1	97.6	98.9	102.1	102.4	105.4	110.1	114.6	118.5	119.2	114.4	153.4
1250	96.2	101.5	101.5	100.4	101.6	103.7	103.1	105.8	110 7	113.3	117.2	119.1	113.8	152.9
1600	96.4	98.3	98.4	97 6	100.6	103.7	104.0	106.6	110.9	113.3	117.9	117.8	112.0	152.6
2000	96.8	100.4	98.6	96.9	99.0	102.6	103.9	107.4	110.8	114.1	116.9	115.2	108.7	151.7
2500	96.8	100.8	99.9	97.6	100.0	102.9	103.8	106.4	109.8	114.1	116.6	111.1	107.1	151.0
3150	97.7	101.5	101.0	98.0	99.1	102.7	104.1	106.3	110.1	112.5	114.0	109.4	103.5	149.6
4000	96.7	100.8	101.4	99.1	100.7	102.5	102.8	106.2	109.1	110.3	111.8	106.8	100.6	148.2
5000	94.3	99.3	100.6	98.8	101.3	103.0	102.9	105.5	108.2	110.6	109.2	103.9	98.6	147.5
6300	92.7	97.8	98.9	98.2	100.8	103.2	102.8	105.2	107.0	107.5	107.2	102.1	96.6	146.3
8000	91.3	96.4	97.7	96.9	99.8	102.6	102.5	103.1	105.4	105.6	104.5	99.9	94.7	145.0
10000	90.8	96.1	97.9	97.2	99.3	102.3	102.5	102.8	104.0	103.4	102.5	98.6	93.9	144.7
12500	90.0	94.4	96.2	95.7	99.0	102.0	101.5	101 5	102.3	101.1	100.0	97.5	92.8	144.2
16000	88.2	93.5	95.1	95.7	97.1	99.8	100.4	100.0	100.0	98 4	98.8	94.9	90.8	143.8
20000	86.2	91.2	92.3	92.4	95.0	97.8	97.8	96.9	96.7	95.7	95.4	92.2	87.7	142.8
25000	83.0	88.0	89.5	90.1	91.8	95.9	95.0	93.7	94.0	90.9	90.1	89.1	84.9	142.3
31500	78.7	84.3	85.1	87.4	87.5	91.9	91.1	90.8	90.4	86.7	85.7	84.6	80.2	141.6
40000	74.6	79.7	80.9	82.3	84.1	87.8	86.3	86.2	85.7	82.9	82.2	81.0	75.5	141.3
50000	68.5	73 2	74.8	77.1	77.7	82 3	80.1	80.3	80.2	77.2	76.1	74.6	69.9	139.8
63000	62.8	67.1	69.6	70.0	71.5	76.8	73.8	74.5	74.3	70.8	70.8	68.0	63.7	139.2
80000	56 8	60.4	62.4	62 6	64.6	70.5	66.8	67.5	67.3	64.1	63.4	60.9	55.6	139.2
OASPL	108.1	112.0	111.7	110.2	112.3	115.2	117.8	117.6	121.2	125.1	128.7	129.1	122.4	164.0
PNL	120.9	124.8	124.8	122.9	124.9	127.5	128.9	130.4	134.0	137.1	139.8	138.3	131.7	
PNLT	122.8	126.6	124.8	122.9	124.9	127.5	131.3	131.1	134.0	137.1	139.8	138.3	131.7	
DBA	178.9	182.9	184.9	185.5	187.2	192.7	189.5	190.0	189.8	186.6	186.0	183.6	178.7	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH151	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 11	MODEL = SL	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 28.67	PAMB HG = 29.33	RELHUM = 63.1 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1317.2 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2153.6 FPS	AE18 = 23.4 SQ IN	
RUNDT - 83F-ZLR-1107	TAPE = X1107F	TEST PT NO = 1107	NC = AE091	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 - 83F-ZER-1107 X11071

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.2	68.8	70.6	70.1	72.6	76.1	76.9	78.9	82.6	86.6	90.2	90.5	75.5	164.6
63	64.3	68.6	69.4	70.2	73.7	76.9	81 4	78.7	83.7	87.2	91.5	91.0	78.3	165.5
80	65.7	70.3	71 6	70 6	73.9	77.1	92.6	79.9	85 1	90.6	92.9	92 4	79.4	168.0
100	66.1	71.2	72.8	71.6	75.1	78 4	78.6	80.8	84.8	91.6	93.9	92.3	81.3	167.8
125	66.7	72.1	72.9	72 5	76.0	79.2	80.0	82.2	85.7	91.9	94 7	92.9	82.5	168.7
160	69.6	72.2	74.1	73.1	76.2	79.9	80 2	82.6	86.9	92 1	93.8	92.2	83.7	168.5
200	75.7	80.4	78 6	75 9	77.7	80 9	81.2	83.6	87.6	91.0	93.2	91.5	82.9	168.3
250	70.6	77.6	78.8	78.4	80.1	82.4	81.6	83.8	88.0	89.4	91.6	91.0	81.6	167.8
315	70.3	74.0	75.4	75.3	78.8	82.0	82.2	84.3	87.9	89.0	91 8	89.1	79.0	167.5
400	70.2	75.7	75.1	74.3	76.9	80.7	81.7	84.8	87.4	89.4	90.3	85.8	74.7	166.6
500	69.6	75.7	76.1	74.7	77.5	80.6	81.3	83.5	86.0	88.9	89.5	81.0	72.1	165.9
630	70.0	75.9	76.8	74.7	76.3	80.0	81.2	83.0	85.9	86.9	86.3	78.5	67.3	164.5
800	68.3	74.6	76.7	75.3	77.5	79.4	79.6	82.4	84.4	84.2	83.4	75.1	63.1	163.1
1000	65.3	72.6	75.5	74.6	77.7	79.6	79.3	81.3	83.1	84.0	80.1	71.3	59.8	162.4
1250	62.9	70.5	73.2	73.6	76.7	79.4	78.7	80.6	81.3	80.1	77.3	68.4	56.0	161.2
1600	60.1	68.0	71.1	71.5	75.0	78.0	77.8	77.7	78.8	77.2	73.3	64.4	51.3	160.0
2000	57.8	66.3	70.1	70.7	73.6	76.8	76.8	76.3	76.2	73.6	69.6	60.7	46.7	159.6
2500	54.3	62.5	66.7	67.6	71.7	75.0	74.3	73.4	72 8	69.1	64 3	55.7	39.7	159.1
3150	48.2	58.1	62.7	65.1	67.5	70.5	70.8	69.4	67.6	63.0	58.8	47.1	28.3	158.7
4000	38.5	49.7	54.6	57.1	61.0	64.2	63.9	61.6	59.0	54.2	47.8	34.2	9.4	157.7
5000	23.9	37.3	44.0	47.7	51.2	55.9	54.4	51 4	48 5	40.3	31.1	15.8		157.2
6300	0.6	18.2	26.3	33.0	35.6	40.8	39.2	36.5	31.6	20 5	7.6			156.5
8000				7.4	12.8	17.6	15.0	11.3	4.2					156.2
10000														154.7
12500														154.1
16000														154.1
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	81.1	86.5	87.3	86.4	89.0	92.0	95 5	94.4	97.6	101.0	103.0	101.3	90.8	178.7
PNL	86.0	92.0	93.5	93.5	96 5	99.7	100.3	100.7	103.0	104.6	105.3	102.0	91.5	
PNLT	86.9	92.9	93.5	94.1	96.5	99.7	100.8	101.2	103.5	104.6	105.3	102.0	91.5	
DBA	75.5	81.8	83.5	82.9	85.7	88.5	88.6	90.2	92.3	93.4	93.8	89.6	79.8	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ.CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH151 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 28.67 PAMB HG = 29.33 RELHUM = 63.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1317.2 FPS AE8 = 4.6 SQ IN
FNAMB = LBS XNL = RPM XNH = RPM V18 = 2152.6 FPS AE18 = 23.4 SQ IN

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 83F-400-1108 X1108C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.9	90.2	87.7	85 0	84.3	86.4	86.8	89.2	90.7	89 0	94.4	96.1	91.7	131.9
63	92.5	93.5	94.1	91.1	90.0	93.6	95.2	96.4	95.6	94.9	96.8	98.0	96.9	136.7
80	90 3	97.3	92.1	91.9	93.0	96.3	95.5	94.1	95.8	95.4	99.3	99.0	89.1	137.4
100	88.2	95.5	91.3	90.8	92.6	97.0	96.1	97.0	95.8	97.6	99.5	104.1	90.3	138.7
125	87.6	90.2	93.2	92.2	94.8	96.7	95.3	95.0	95.2	98.3	105.6	108.6	94 5	141.3
160	84.2	84.0	90 0	85 8	88 6	91.5	96.4	92.3	95.0	99.6	105.4	108.4	98.0	140.9
200	85.0	86.1	87.8	85.9	88.7	92.3	94.0	94.9	99.6	99.4	106.0	111.7	100.1	143.0
250	82.8	87.8	88.1	87.4	90.0	93.1	94.0	96.1	100.8	105.1	111.0	114.0	102.4	146.1
315	84.1	87.1	87.6	87.4	90.0	93.4	95.8	96.2	100.9	106.5	112.3	114.3	104.2	146 9
400	84.6	88.1	89.1	87.4	90.5	93.1	104.2	96.2	101.4	108.9	114.1	115.2	103.2	148.4
500	85.8	88.6	90.1	88.2	91.3	94.4	95.0	97.4	101.4	110.2	115.1	114.8	101.2	148.7
630	85.8	89.1	90.1	89.1	92.2	95.1	95.7	98.6	102.6	110.7	115.0	113.0	98.9	148.3
800	87 1	88.4	90.9	89.4	92.3	96.1	96.5	99.2	103.1	110.7	113.1	109.5	97.4	146.8
1000	90 0	92.1	92.6	90.6	93.4	97.1	97.4	100.6	105.1	111.1	112.5	106.7	95 4	146.7
1250	88.2	93.0	91.7	91.6	93.9	97.0	96.9	100.0	105.2	109.6	109.9	103.9	94.5	145.0
1600	88.4	91.0	91.9	91.6	94.8	97.9	98.8	101.3	105.9	109.8	110.6	102.8	94.5	145.5
2000	89.8	91.1	91.6	90.7	93.8	97.1	98 6	101.7	105 6	110 1	109.9	101.7	94.9	145.3
2500	93.8	94.8	93 1	91.4	94.0	97.1	98.3	101.9	105.3	109.3	108.8	99.6	95.4	144.8
3150	94.4	96.5	96.5	93.8	94.4	97.7	98.8	101.8	105.9	108.5	107.2	100.1	94.0	144.4
4000	93.7	95.8	96.7	94.3	96.0	97.7	98.1	101.9	104.1	105.8	106.0	99.3	93.4	143.2
5000	92.8	95.5	96.4	93.5	95.8	98.5	97.6	100.7	103.5	106.2	104.7	97.4	92.6	142.8
6300	92.0	95.1	95.7	94.0	96.5	98.5	98 3	100.7	102.0	102.7	102.0	95.7	90.4	141.6
8000	92.3	94.4	95.0	93.4	95.8	98.6	97.6	98.9	100.5	100.4	99 0	93.4	89.2	140.5
10000	91.8	94.4	96.2	95.0	96.1	98.3	97.6	98.6	100.3	99.0	97.6	93.5	88.8	140.8
12500	90.6	92.8	94.6	94.0	96.1	98 8	97.6	97.6	98.4	97.2	95.3	92.6	88.3	140.7
16000	89.5	93.1	94.0	93 9	94.7	97.7	97 0	97.1	97.4	94.0	94.2	91.0	86.5	141.1
20000	86.6	90.3	91.2	91.3	92.1	95.9	95.0	94.6	94.6	92.4	91.3	89.1	84.6	140.5
25000	83.6	87.0	88.0	89.0	90.2	94.1	93 7	91.9	92.2	89·2	87.6	87.6	82 8	140.6
31500	79.9	83.1	84.3	86.1	86.5	90.6	89.6	89.0	88.8	85.7	84 4	83.5	78.6	140.3
40000	76.3	78.9	80.2	81.3	82.1	87 0	85.5	84.7	85.0	81.4	81.1	79.7	74.2	140.2
50000	69.4	72.7	74.0	75.8	76.4	81.5	79.6	79.0	78.9	75.5	75.3	73.5	67.8	138.8
63000	63.1	66.6	68.6	69.5	70.5	75.8	72.8	73 0	74.0	69.6	69.8	67.5	61.1	138.3
80000	56.6	59 5	60.7	61.4	63.1	69.2	66.1	66.0	66.6	61.9	62.7	60.4	53.9	138.0
OASPL	104.4	107.3	107.5	106.0	108.0	110.9	111.9	113.1	116.4	120.9	123.5	122.8	111.6	159.0
PNL	117.4	119.8	120.1	118.2	120.2	122 7	123.7	126.0	129 5	132.8	133.7	130.5	121.1	
PNLT	117.4	119.8	120.1	118.9	120.9	122.7	125.2	126.0	129.5	132.8	134.2	130.5	121.1	
DBA	103.2	105.4	105.8	104.0	106.2	109 1	109.9	112.4	116.0	120.4	121.8	118.7	107.9	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH156 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 31.42 PAMB HG = 29.20 RELHUM = 58 6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0-FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1300.3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM v18 = 2121.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1108 TAPE = X1108C TEST PT NO = 1108 NC = AE091 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 - 83F-400-1108 X1108F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.7	94.3	93.0	90 7	91.6	93.1	92.5	93.1	98.5	103.6	109.3	112.0	104.0	144.5
315	90.7	94.3	93.0	90.7	91.8	93.6	94.8	94.1	99.0	106.1	111.2	113.6	104.3	146.1
400	91.8	93.5	92.6	90.8	92.3	93.4	103.2	94.0	99.1	107.5	112.5	113.8	103.9	147.1
500	92.2	94.5	94.1	90.8	93.2	94.7	94.0	95.2	100.5	108.2	112.8	112.9	103.7	146.8
630	93.5	95.0	95.1	91.6	94.2	95.5	94.7	96.4	101.5	108.7	111.5	110.8	105.0	146.0
800	93.5	95.5	95.1	92.6	94.3	96.7	95.6	97.0	103.7	109.5	111.4	109.0	105.2	146.0
1000	94.8	94.8	96.0	93.0	95.6	97.7	96.6	98.5	104.0	108.1	109.1	106.4	104.6	144.6
1250	97.7	98.5	97.7	94.3	96.2	97.8	96.2	98.1	104.9	108.4	109.8	105.3	104.5	145.1
1600	95.8	99.5	96.9	95.4	97.3	98.9	98.3	99.5	104.8	109.1	109.4	104.6	105.4	145.3
2000	96.0	97.5	97.2	95.4	96.4	98.4	98.5	100.2	105.1	108.9	109.0	103.3	106.7	145.2
2500	97.5	97.7	96.9	94.7	96.6	98.7	98.5	100.9	106.1	108.5	107.9	104.2	105.7	145.1
3150	99.3	99.8	97.4	94.8	97.2	99 7	99.4	101.2	105.2	106.6	107.4	104.1	105.7	144.7
4000	99.7	101.4	100.8	97.4	99.6	100.3	99.3	102.0	104.5	106.9	105.9	102.1	104.8	144.8
5000	100.4	102.0	102.1	98.8	99.8	101.5	99.2	100.9	103.9	104.4	104.2	101.4	103.6	144.4
6300	100.2	102.2	102.2	98.4	100.6	101.5	100 5	101.7	103.3	103.1	102.4	100.2	103.3	144.4
8000	99.3	101.7	101.4	98.7	99.9	101.6	99.9	100.5	103.8	102.4	101.7	100.8	103.3	144.4
10000	99.4	100.8	100.5	98.0	100.1	101.3	100.0	100.4	101.3	99.8	98.2	98.3	100.9	143.8
12500	98.7	100.5	101.4	99.2	100.1	101.8	99.5	98.5	100.4	96.8	97.3	96.9	99.2	144.2
16000	96.9	98.4	99.3	97.7	98.7	100.7	98.7	97.7	96.9	94.2	93.5	94.3	96.7	143.8
20000	95.5	98.3	98.3	97.2	96.7	98.9	96.4	94.5	95.2	91.6	90.4	93.4	95.5	144.0
25000	94.7	97.2	96.6	95.2	94.8	97.1	95.1	91.9	92.6	88.9	88.0	90.1	92.1	144.5
31500	90.9	93.0	92.6	92.1	91.1	93.6	91.0	89.0	89.5	85.5	85.5	87.1	88.5	144.1
40000	86.3	88.3	88.1	88.3	86.7	90.0	87 0	84.6	83.9	80.0	80.1	81.4	82.6	143.7
50000	82.4	83.8	83.6	83.1	81.0	84.5	81.0	79.0	81.2	76.7	77.4	78.0	78.5	143.2
63000	74.6	76.6	76.5	76.7	75.1	78.8	74.6	73.7	74.4	69.3	70.5	71.2	71.5	142.0
80000	66.7	69.0	69.6	68.9	67.7	72.2	67.6	66.2	64.6	59.5	60.7	61.4	61.7	141.4
OASPL	110.4	112.1	111.8	109.3	110.7	112.3	111.7	112.1	116.0	119.5	121.6	121.0	117.0	158.9
PNL	122.3	123.9	123.4	120.4	122.2	123.6	122.9	124.5	128.3	131.1	131.8	129.4	129.1	
PNLT	122.3	123.9	123.4	120.4	122.2	123.6	124.4	124.5	128.3	131.1	131.8	129.4	129.1	
DBA	190.0	192.0	192.2	191.9	190.4	194.5	190.2	188.9	188.6	183.7	184.7	185.5	185.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH156 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 31.42 PAMB HG = 29.20 RELHUM = 58.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1300.3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2121.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1108 TAPE = X1108F TEST PT NO = 1108 NC = AE091 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 - 83F-400-1108 X11081

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100	110.	120.	130.	140.	150.	160.	PWL
50	66.1	71.2	71.1	69.4	70.7	72 4	71.7	71 9	76.6	80.6	84.8	85.3	73.9	159.4
63	66.1	71.2	71.0	69.4	71.0	72.9	73.9	72 9	77.1	83.1	86.6	86.8	74.2	161.0
80	67.1	70.4	70.6	69.5	71.5	72.6	82.4	72.7	77.1	84.4	87.8	86.9	73.7	162.0
100	67.5	71.3	72.0	69.5	72.3	73.9	73.1	73.9	78.4	85.0	88.1	85.9	73.2	161.7
125	68 7	71.8	73.0	70.2	73.2	74.6	73.7	75.0	79.3	85.5	86.7	83.7	74.4	160.9
160	68.4	72.1	72.8	71.1	73.2	75.7	74.5	75.5	81.4	86.0	86.4	81.6	74.2	160.9
200	69.5	71.2	73 5	71.3	74.3	76.6	75.3	76.7	81.6	84.4	83.8	78.7	73.1	159.6
250	72.1	74.6	75.0	72 3	74.6	76.4	74.7	76.1	82.2	84.5	84.2	77.2	72.4	160.0
315	69.8	75.2	73.9	73.1	75.5	77.3	76.5	77.3	81.8	84.8	83.3	75.9	72.4	160.2
400	69.4	72.8	73.7	72.8	74.3	76.5	76.3	77.6	81.6	84.2	82.4	73.9	72.6	160.1
500	70.3	72.5	73.1	71.7	74.1	76 4	76.0	77.9	82.3	83.3	80.7	74.1	70.7	160.0
630	71.5	74.2	73.2	71.5	74.4	77.0	76.6	77.8	80.9	81.0	79.7	73.3	69.5	159.6
800	71.4	75.2	76.1	73.6	76.4	77.2	76.1	78.3	79.8	80.7	77.6	70.4	67 1	159.7
1000	71.4	75.3	76.9	74.6	76.2	78.1	75.6	76.7	78.8	77.7	75.2	68.8	64.8	159.3
1250	70.4	74.9	76 5	73.7	76 5	77.6	76.4	77.0	77.6	75.8	72.6	66.5	62.7	159.3
1600	68.1	73.3	74.8	73 3	75.1	77.1	75.2	75.1	77.2	74.0	70.5	65.3	59.8	159.3
2000	66.5	71.1	72.8	71.5	74.4	75.8	74.3	73.9	73.6	70.0	65.3	60.3	53.6	158.7
2500	63.0	68.6	71.9	71.2	72.9	74 8	72.3	70.5	70.8	64.8	61.6	55.2	46.1	159.1
3150	56.9	63 0	66.9	67.1	69.1	71.4	69.1	67.1	64.5	58.8	53.5	46.6	34.3	158.7
4000	47.8	56.8	60.7	61.9	62.8	65.4	62.4	59.3	57 5	50.1	42.7	35.3	17.1	158.9
5000	35.6	46.5	51.1	52.8	54.2	57.0	54.5	49.6	47.1	38.2	28.9	16.7		159.4
6300	12.9	26.9	33.8	37.7	39.2	42.5	39.1	34.7	30.7	19.3	7.5			159.0
8000			6.6	13.4	15.3	19.8	15.6	9.7	2.4					158.6
10000														158.1
12500														156.9
16000														156.3
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	81.9	85.6	86.4	84.6	86.9	88.7	88.6	88.5	92.2	95.3	96.2	93.7	84.1	173.8
PNL	88.7	93.3	95.1	94.0	96 1	98.0	96.4	96.2	98.4	99 3	98.1	93.6	86.6	
PNLT	89.9	94.3	95.7	94.5	96.1	98.0	96.4	96.7	99.0	99.3	98.1	93.6	86.6	
DBA	78.9	83.0	84.3	82.5	84.8	86.5	85.0	85.7	88.0	88.3	86.5	80.2	75.9	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH156 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 31.42 PAMB HG = 29.20 RELHUM = 58.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1300.3 FPS AE8 = 4 6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2121.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F 400 1108 TAPE - X11081 TEST PT NO = 1108 NC = AE091 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 83F-ZER-1109 X1109C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.6	90.9	89.2	86 7	87.3	89.7	90.8	92.7	92.7	91.2	98.4	99.3	84.5	134.6
63	96.5	96.3	97.8	94.4	94.7	98.3	98.2	98.4	98 1	96.4	102.0	101.2	95.1	140.0
80	93.5	99.8	95.1	94.9	96.5	100.1	98.5	97.4	99.8	99.2	103.3	102.7	86.4	140.9
100	91.7	100.0	95.3	95.3	97.4	100.8	99.6	101.8	100.3	103.6	104.0	107.6	91.3	143.0
125	89.4	93.4	97.2	96.2	98.1	100.4	98.3	98.7	99.7	104.0	110.4	112.6	97.0	145.6
160	87.2	90.5	95.0	90.8	92.1	96.5	103.9	99.0	100.2	105.6	111.2	113.4	101.8	146.4
200	90.5	90.3	93.3	91.6	95.0	98.3	101.2	100.4	105.1	106.6	112.8	116.7	104.9	148.6
250	89.8	92.8	94.1	93.4	96.0	98.3	99.2	101.9	105.8	112.1	116.8	119.2	107.4	151.7
315	90.8	93.6	93.6	92.9	96.0	98.9	103.8	102.2	107.4	113.5	118.6	120.0	109.9	153.0
400	92.6	95.6	95.9	93.9	97.2	100.4	114.5	103.4	109.9	116.7	120.6	120.7	111.4	155.3
500	93.6	96.4	96.4	95.2	97.8	101.1	102.0	104.9	109.9	118.2	122.1	121.5	112.9	155.9
630	94.0	97.6	97.3	96.4	99.5	102.6	103.2	106.1	111.1	119.2	123.0	121.7	113.9	156.7
800	97.3	98.1	98.6	96.9	99.5	103.4	103.8	107.2	112.6	119.5	122.3	121.5	115.2	156.6
1000	101.8	104.8	102.3	99.9	101.4	104.8	105.4	109.1	113.8	118.9	122.8	120.7	114.1	156.6
1250	98.9	104.7	104.0	102.4	104.1	106.0	105.4	109.3	114.5	118.8	121.9	120.1	113.0	156.2
1600	100.4	102.8	102.4	101.1	103.3	106.7	107.0	109.6	115.2	118.8	122.1	118.0	111.0	156.0
2000	102.1	103.6	102.8	100.7	102.3	105.1	106.6	110.7	114.8	118.8	121.3	114.7	108.7	155.4
2500	102.0	105.5	104.1	100.8	103.7	106.1	106.5	110.6	114.0	119.1	118.6	111.9	107.4	154.3
3150	100.9	104.5	105.0	102.5	103.8	106.6	107.0	110.5	115.1	118.7	116.7	110.3	105.2	153.9
4000	97.9	102.3	103.4	102.3	105.7	106.7	107.3	110.6	114.0	115.8	114.7	107.5	102.8	152.4
5000	96.8	102.0	102.3	101.0	104.2	107.4	106.8	109.9	112.9	116.1	113.4	105.9	100.3	152.0
6300	95.9	101.1	101.6	101.2	103.7	106.9	106.7	109.7	111.5	113.4	111.6	103.9	98.8	150.7
8000	94.3	98.9	100.7	100.9	103.0	106.1	105.5	107.9	109.9	111.6	110.2	102.4	97.5	149.6
10000	93.6	98.9	100.2	100.2	102.6	105.8	105.6	107.3	109.3	110.5	108.3	101.4	96.7	149.3
12500	92.6	96.8	99.1	99.0	101.6	105 3	104.6	105.8	107.2	108.5	105.8	99.8	95.4	148.6
16000	90.6	95.9	97.3	98.2	100.0	103.2	103.1	104.2	105.2	105.6	103.8	97.5	91.8	147.9
20000	88.2	93.2	94.8	95.9	97.2	101.0	101.1	100.9	102.2	102.3	100.4	95.5	89.5	146.9
25000	85.5	90.6	91.6	93.1	94.8	98.9	98.6	97.8	99.4	97.8	94.5	91.4	86.9	146.2
31500	82.3	86 5	88.0	90.2	90.6	94.8	94.0	94 7	95.0	94.4	91.3	86.9	82.2	145.4
40000	77.5	82.6	84.1	85.7	86.3	90.7	89.7	89.6	90.4	91.1	87.6	83.1	78.1	145.2
50000	71.6	76.1	78.0	79.7	80.8	85.7	84.0	83.7	85.6	86.3	80.7	76.7	72.0	144.1
63000	65.7	70.3	72.3	73.4	74.9	80.2	77.2	78.4	80.7	80.3	76.2	71.4	65.0	143.9
80000	58.5	63.4	65.4	66.8	68.0	74.4	71.0	72.7	74.6	73.4	70.6	64.8	57.3	144.4
OASPL	111.1	114.7	114.5	113.1	115.4	118.3	120.0	121.3	125.2	129.7	132.2	130.8	122.8	167.3
PNL	124.0	127.7	127.9	126.0	128.7	130.8	131.8	134.3	138.3	142.2	143.1	139.3	132.1	
PNLT	125.3	128.8	127.9	126.5	129.2	130.8	134.0	134.9	138.3	142.2	143.1	139.3	132.1	
DBA	111.0	114.5	114.1	112.4	114.8	117.5	118.4	121.1	125.2	129.4	131.5	128.8	121.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH152 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
IAPLHA = S859 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 29.14 PAMB HG = 29.31 RELHUM = 69.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1512.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2337 6 FPS AE18 = 23.4 SQ IN

PUMPT = 83F-ZER-1109 FADE = X1109C TEST PT NO = 1109 NC = AE0?1 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 - 83F-ZER-1109 X1109F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150	160.	PWL
50	89.6	90.9	89.2	86.7	87.3	89.7	90 8	92.7	92.7	91 2	98 4	99.3	84.5	134.6
63	96.5	96.3	97.8	94.4	94.7	98.3	98.2	98.4	98.1	96.4	102.0	101.2	95.1	140.0
80	93.5	99.8	95.1	94.9	96.5	100.1	98.5	97.4	99.8	99.2	103.3	102.7	86.4	140.9
100	91.7	100.0	95.3	95.3	97.4	100 8	99.6	101.8	100.3	103.6	104.0	107.6	91.3	143.0
125	89.4	93.4	97.2	96.2	98.1	100.4	98.3	98.7	99.7	104.0	110.4	112.6	97.0	145.6
160	87.2	90.5	95.0	90 8	92.1	96.5	103.9	99 0	100.2	105.6	111.2	113.4	101.8	146.4
200	90 5	90.3	93 3	91 6	95.0	98.3	101.2	100.4	105.1	106.6	112.8	116.7	104.9	148.6
250	89.8	92.8	94.1	93.4	96 0	98.3	99.2	101.9	105.8	112.1	116 8	119.2	107.4	151.7
315	90.8	93.6	93.6	92.9	96.0	98.9	103.8	102.2	107.4	113.5	118.6	120.0	109.9	153.0
400	92.6	95.6	95.9	93.9	97.2	100.4	114.5	103.4	109.9	116.7	120.6	120.7	111 4	155.3
500	93.6	96.4	96.4	95 2	97.8	101.1	102.0	104.9	109.9	118.2	122 1	121.5	112.9	155.9
630	94.0	97.6	97.3	96.4	99.5	102.6	103.2	106.1	111.1	119.2	123.0	121.7	113.9	156.7
800	97.3	98.1	98.6	96.9	99.5	103.4	103.8	107.2	112.6	119.5	122.3	121.5	115.2	156.6
1000	101.8	104.8	102.3	99.9	101.4	104.8	105.4	109.1	113.8	118.9	122.8	120.7	114.1	156.6
1250	98.9	104.7	104.0	102.4	104.1	106.0	105.4	109.3	114.5	118.8	121.9	120.1	113.0	156.2
1600	100.4	102.8	102.4	101.1	103.3	106.7	107.0	109.6	115.2	118.8	122.1	118.0	111.0	156.0
2000	102.1	103.6	102.8	100 7	102.3	105.1	106.6	110.7	114.8	118.8	121.3	114.7	108.7	155.4
2500	102.0	105.5	104.1	100.8	103.7	106.1	106.5	110.6	114.0	119.1	118 6	111.9	107.4	154.3
3150	100.9	104.5	105.0	102.5	103.8	106.6	107.0	110.5	115.1	118.7	116.7	110.3	105.2	153.9
4000	97.9	102 3	103.4	102.3	105.7	106.7	107.3	110.6	114.0	115.8	114.7	107.5	102.8	152.4
5000	96.8	102.0	102.3	101.0	104.2	107.4	106.8	109.9	112.9	116.1	113.4	105.9	100.3	152.0
6300	95.9	101.1	101.6	101.2	103.7	106.9	106.7	109.7	111.5	113.4	111.6	103.9	98.8	150.7
8000	94.3	98.9	100.7	100.9	103.0	106.1	105.5	107.9	109.9	111.6	110.2	102.4	97.5	149.6
10000	93.6	98.9	100.2	100.2	102.6	105.8	105.6	107.3	109.3	110.5	108.3	101.4	96.7	149.3
12500	92.6	96.8	99.1	99 0	101.6	105.3	104.6	105.8	107.2	108.5	105.8	99.8	95.4	148.6
16000	90.6	95.9	97.3	98.2	100.0	103.2	103.1	104.2	105.2	105.6	103.8	97.5	91.8	147.9
20000	88.2	93.2	94.8	95.9	97.2	101.0	101.1	100.9	102.2	102.3	100.4	95.5	89 5	146.9
25000	85.5	90.6	91.6	93.1	94.8	98.9	98.6	97.8	99.4	97.8	94.5	91.4	86.9	146.2
31500	82.3	86.5	88.0	90.2	90.6	94.8	94.0	94.7	95.0	94 4	91.3	86.9	82.2	145.4
40000	77.5	82.6	84.1	85.7	86.3	90.7	89.7	89.6	90.4	91.1	87.6	83.1	78.1	145.2
50000	71.6	76.1	78.0	79.7	80.8	85.7	84.0	83.7	85.6	86.3	80.7	76.7	72.0	144.1
63000	65.7	70.3	72.3	73.4	74.9	80.2	77.2	78.4	80.7	80.3	76.2	71.4	65.0	143.9
80000	58.5	63.4	65.4	66.8	68.0	74.4	71 0	72.7	74.6	73.4	70.6	64.8	57.3	144 4
OASPL	111.1	114.7	114.5	113.1	115.4	118.3	120.0	121.3	125.2	129.7	132.2	130.8	122.8	167.3
PNL	124.0	127.7	127.9	126 0	128.7	130.8	131 8	134.3	138 3	142.2	143.1	139.3	132.1	
PNLT	125.3	128.8	127.9	126.5	129.2	130.8	134.0	134.9	138.3	142.2	143.1	139.3	132.1	
DBA	181.1	185.9	187.9	189 3	190.5	196.4	193.4	194.6	196.6	195.9	192.5	187.1	180.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH152 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 29.14 PAMB HG = 29.31 RELHUM = 69.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40 0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1512.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2337.6 FPS AE18 = 23 4 SQ IN

RUNPT = 83F-ZER-1109 TAPE = X1109F TEST PT NO = 1109 NC = AE091 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 - 83F-ZER-1109 X11091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120	130.	140.	150.	160.	PWL
50	65.2	69.8	72.1	72.1	75.1	77.6	78.4	80.6	83 9	89.1	92.2	92 5	77.3	166.6
63	66.3	70.6	71.7	71.7	75.2	78.2	82 9	80.9	85.4	90.4	94.0	93.2	79.8	167.9
80	67.9	72.5	73.9	72.6	76.4	79.6	93 6	82.1	87.9	93.6	95.9	93.9	81.2	170.2
100	68.9	73.2	74.3	73.8	76.9	80.4	81.1	83.6	87.8	95.1	97.4	94.6	82.5	170.8
125	69.2	74.3	75.2	75 0	78.5	81 7	82 2	84.7	88.9	95.9	98.2	94.6	83.3	171.6
160	72.3	74.7	76.4	75.4	78.4	82.4	82.6	85.6	90.4	96.1	97.3	94.2	84.2	171.5
200	76.5	81.2	79.8	78.1	80.2	83.7	84 2	87.4	91.3	95.3	97.5	93.0	82.6	171.5
250	73.3	80.8	81.3	80.4	82.6	84.6	83.9	87.3	91.8	94.9	96.3	92.0	80.9	171.1
315	74.3	78 5	79.4	78.8	81.5	85.0	85.2	87.3	92.1	94.5	96.1	89.3	78.0	170.9
400	75.5	78.9	79.4	78.1	80.1	83.1	84.5	88.1	91.4	94.1	94.7	85.2	74.6	170.3
500	74.8	80.4	80.3	77.9	81.3	83.8	84 1	87.7	90.2	93.9	91.4	81.8	72.3	169.2
630	73.2	78.8	80.7	79.2	81.0	84.0	84.2	87.2	90.8	93.1	89.0	79.5	69.0	168.8
800	69.5	76.1	78.7	78.5	82.5	83.6	84 1	86.9	89.3	89.6	86.4	75.8	65.3	167.3
1000	67.7	75.3	77.2	76.8	80.6	84.0	83 2	85.8	87.8	89.4	84.3	73.2	61.5	166.9
1250	66.1	73.7	75.9	76.5	79.7	83.1	82.7	85.0	85.8	86.1	81.8	70.1	58.2	165.6
1600	63.1	70 5	74.1	75.5	78.3	81.5	80.8	82.5	83.3	83.2	79.1	66.8	54.0	164.5
2000	60.6	69.1	72.4	73.8	76.9	80.3	79.9	80.9	81.5	80.7	75.4	63.5	49.5	164.3
2500	56.9	64.9	69.6	71.0	74.4	78.4	77.4	77.8	77.7	76 5	70 2	58.1	42.3	163.5
3150	50.6	60.5	64.9	67.6	70.4	74.0	73.5	73.6	72.8	70.2	63.7	49.8	29.3	162.8
4000	40.5	51.7	57.2	60.6	63.3	67.5	67.1	65.6	64.6	60.8	52.8	37.4	11.1	161.8
5000	26.4	39.9	46.1	50.8	54.2	58.9	58.0	55.5	53.9	47.1	35.4	18.1		161.1
6300	4.2	20.4	29.2	35.9	38.7	43.7	42.1	40.3	36.2	28.2	13.3			160.3
8000			2.6	10.8	14.9	20.5	18.3	14.7	8 9					160.1
10000														159.0
12500														158.8
16000														159.3
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	84.0	89 2	90.0	89.3	92.1	95.1	97.5	97.9	101.5	105.3	106.6	103.0	91 3	182.0
PNL	88.9	94.8	96.3	96.6	99.6	103.0	103.2	104.5	107.1	109.6	109.3	103.3	91.9	
PNLT	89.6	95.4	96.8	97.1	99.6	103.0	103 2	105.1	107.7	109.6	109.3	103.3	91.9	
DBA	78.8	84.7	86.4	86.1	89.2	92.1	92.0	94.4	96.8	98.8	97 5	90.5	79.8	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH152 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 29.14 PAMB HG = 29.31 RELHUM = 69.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1512.2 FPS AE8 = 4.6 SQ IN
FNPAMB = LBS XNLR = RPM XNHR = RPM V18 = 2337 6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F ZER 1109 TAPE = X11091 TEST PT NO = 1109 NC = AE091 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 83F-400-1110 X1110C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.6	91.7	88.7	85.7	86 3	88.7	89 1	93 0	91.9	90.7	97.4	98.1	88.5	134.0
63	94.8	95.8	96.1	91.6	93.2	96.6	99 0	98.6	98.1	94.1	103.0	101.2	95.9	139.7
80	92.3	99.6	94.3	94.6	96.0	98.8	98.0	96.6	98.1	97.7	101.8	101.2	91.1	139.9
100	91.0	98.0	93 8	93.0	95.1	99.0	98.4	99.5	97.8	99.8	101.5	105.6	93.3	140.8
125	89.6	92.2	94.7	94.5	96.8	98.7	97.3	97 2	97.4	100 5	106.9	110.6	96.5	143.2
160	87.4	86.2	92.0	88.0	91.1	94.0	98.6	95.5	97.2	102.6	108.2	111.1	100.3	143.6
200	87.5	88.6	89.8	87.6	91.2	94.3	95.7	97.4	102.3	102.1	108.5	114.2	103.1	145.5
250	85.8	90.1	90.6	89.6	92.5	94.8	96.0	98.1	102.3	107.6	113.5	117.0	104.9	148.8
315	87.3	90.4	90.1	89.4	92.3	95 4	98.3	98.4	103.4	109.5	115.3	117.3	106.9	149.8
400	88.1	91.1	92.1	89.9	93.2	95.6	107.5	99.2	104.9	112.9	117.8	119.0	106.7	152.2
500	88.6	91.6	93.1	91.4	94.0	96.4	97.0	100.2	104.6	114.2	119.3	118.3	105.2	152.6
630	89.0	91.8	92.8	91.9	95.2	97.6	98.5	101.6	105.8	114.9	119.8	117.0	103.1	152.7
800	91 1	92.4	93.6	92.2	95.0	98.6	99.0	102.4	107.1	114.7	119.8	115.5	101.7	152.5
1000	94.3	96.0	96.3	94.4	96.2	99.3	100.2	103.6	108.1	114.9	119.0	112.9	100.4	151.8
1250	92.7	97.2	96.5	95.6	97.9	100.7	100.6	103.8	109.0	114.3	117.4	111.1	99.5	150.8
1600	95.6	97.3	97.2	95 8	98.3	101.7	102.5	105 3	110.2	115.3	118 4	109.8	99.7	151.7
2000	96.6	98.4	97.8	95.9	97.3	100.9	101.6	105.2	109.5	115.3	116.6	107.9	100.2	150.8
2500	98.0	100.3	99.4	96.6	99.5	101.8	101.5	105.4	109.5	114.8	115.6	106.9	100.9	150.3
3150	97.7	100.0	100.5	98.5	99.6	102.7	102.6	104.8	110.1	114.2	114.2	105.8	99.2	149.8
4000	96.4	98.8	99.2	98.1	100.7	102.4	102.6	104.9	108.3	112.0	112.0	104.3	97.9	148.2
5000	97.3	99.5	99.1	97.0	99.0	103.5	102.4	104.4	107.7	111.6	109.9	102.1	96.4	147.6
6300	96.5	99.6	99.4	98.0	99.8	102.5	102.3	104 5	106.5	109.2	107.7	99.9	94.4	146.4
8000	95.0	97.2	98.5	97.4	99.0	101.3	101.3	102.9	104.9	106.8	104.7	97.7	92.5	145.0
10000	95.1	97.6	98.2	97.2	99.3	101.6	101.6	102.6	104.3	105.5	102.8	96.9	92.0	144.9
12500	94.3	96.3	97.3	96.0	98.3	101.8	101.1	100.8	102.4	103.0	100.8	96.1	90.8	144.4
16000	91.8	95.9	96.5	96.4	97.0	100.2	100.3	100 1	100.7	100.1	98.7	94.5	89.0	144.3
20000	90.1	92.9	94.5	93.6	95.2	98.2	97.8	97.1	97.9	97.4	96.1	92.1	86.6	143.6
25000	87.2	90.0	91.3	91.6	92.7	96.6	96.0	95.0	95.3	93.7	92.1	90.4	84.3	143.5
31500	83.9	86.6	87.2	88.6	89.0	92.9	91.9	92.1	91.9	90.2	88.7	86.6	80.4	143.1
40000	79.6	82.5	83.5	83.9	85.1	89.1	87.8	87.7	87.3	85.7	85.0	82.5	76.0	143.0
50000	73.0	76.0	77.1	78.1	79.0	83.8	81.9	81.8	81.7	79.9	78.6	76.1	70.2	141.5
63000	67.4	70.2	71.4	71.8	72.8	77.9	75.6	76.1	76.6	73.7	73.6	70.0	63.2	141.0
80000	60.1	62.8	64.8	64.0	65.6	71.5	68.1	68.6	69.0	66.5	65.7	63.5	55.2	140.7
OASPL	108.2	110.9	110.8	109.3	111.3	114 3	115.2	116.4	120.2	125.6	128.9	126.6	115.0	163.3
PNL	121.1	123.5	123.8	122.0	124.2	126.7	127.2	129.2	133.4	138.0	139.5	134.8	125.4	
PNLT	121.1	123.5	123.8	122.7	124.8	126.7	128.8	129.2	133.4	138.0	139.5	134.8	125.4	
DBA	107.3	109.7	109.7	108.0	110.1	113.0	113.4	115.8	120.0	125.3	128.0	123.3	112.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH155 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.19 PAMB HG = 29.21 RELHUM = 63.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1542.7 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2339.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1110 TAPE = X1110C TEST PT NO = 1110 NC = AE091 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 - 83F-400-1110 X1110F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	93.7	96.5	95.5	92.9	94.1	94.8	94.5	95.2	101.0	106.6	112 3	115.0	106.7	147.4
315	93.7	96.5	95.5	92.9	94.1	95.6	97.3	96.4	102.5	110.1	114.9	117.3	107.8	149.8
400	95.0	96.8	95.1	92.8	95.1	95.9	106.5	97.0	102.3	111.4	116 6	117.2	107.9	150.8
500	95.7	97.5	97.1	93.3	95.9	96 7	96.0	97.9	103.7	112.3	117 4	116.8	107.8	151.0
630	96.3	98.0	98.1	94.9	97.2	98.0	97.5	99.3	105.4	112.7	118.3	116.8	109.2	151.6
800	96.7	98.2	97.9	95.4	97.1	99.2	98.1	100.2	106.8	113.3	118.1	115.5	110.4	151.4
1000	98.8	98.8	98.7	95.8	98.1	100.0	99.4	101.5	107.8	112.9	116.6	113.8	109.7	150.5
1250	100.3	101.4	100.6	97.5	100.1	101.5	100.0	101 8	109.1	113.9	117.5	112.3	109.7	151.1
1600	100.3	103.7	101.7	99.4	100.7	102.7	102.1	103.5	108.8	114.3	116.2	110.9	110.7	150.8
2000	103.1	103.7	102.4	99.6	99.6	102.2	101.4	103.7	109.3	114 4	115 8	110.6	112.2	150.9
2500	102.3	103.5	102.2	99.3	102.1	103.5	101.7	104.4	110.3	114.2	114.8	109.9	110.9	150.6
3150	103.6	105.4	103.8	100.1	102.8	104.7	103.2	104.1	109.2	112.6	113.1	108.7	109.8	149.8
4000	104.5	106.2	105.8	102.7	104.4	105.0	103.8	104.9	108.6	112.1	110.8	106.3	107.9	149.4
5000	104.0	105.5	104.9	102.7	103.0	106.5	103.8	104.5	107.5	109.8	108.7	104.2	106.1	148.4
6300	104.7	106.2	104.9	101 8	103.8	105.5	103.9	104.6	106.5	108.1	106.5	102.8	105.3	147.9
8000	103.8	106.2	105.1	102 7	103.1	104.3	103.3	103.5	106.6	107.5	105.5	103.2	105.9	147.9
10000	102.2	103.6	104.0	101.9	103.4	104.6	103.8	103.6	105.8	106.2	104.8	103.5	105.6	147.9
12500	101.9	103.8	103 4	101 5	102.4	104.8	103 5	102.4	105.1	104 4	103.8	102.9	104.6	148.0
16000	100.7	101.9	102.1	99.7	101.0	103.2	102.7	102.0	102.8	102.3	101.7	100.9	102.5	147.8
20000	97.7	101.1	100.9	99.7	99.2	101.2	100.2	99.0	99.7	98.0	96.8	97.9	98.7	147.2
25000	95.4	97.5	98.2	96.3	97.3	99.6	97.9	95.9	97.7	96.0	95.0	95.8	96.5	147.2
31500	94.5	96.1	95.9	94.6	93.6	95 9	94.0	93.5	93.8	92.3	92.0	92.4	92 7	147.4
40000	90.4	91.9	90.9	90 8	89.7	92.1	89.9	89.0	88.2	86.3	85.5	85.9	86.8	146.9
50000	85.7	87.3	86.9	85.7	83.6	86.8	83 8	82.7	85.2	82.5	83.2	82.8	83 1	146.5
63000	78.1	79.9	79.5	79.0	77 4	80.9	78.1	78.0	78.7	76.5	76.5	77.4	76.1	145.4
80000	71.0	72.6	72.4	71.2	70.2	74.5	70.3	70.1	68.9	66.6	66.7	67.6	66.3	144.5
OASPL	114.4	116.1	115.3	112 8	114.1	115.9	115.2	115.4	119.9	124.4	127.4	125.7	121.4	163.3
PNL	126.7	128.3	127.6	124.7	126.4	127.8	126.7	127.6	132.2	136.3	137.7	134.2	133.2	
PNLT	126.7	128.3	127.6	124.7	126.4	127.8	128.3	127.6	132.2	136.3	137.7	134.2	133.2	
DBA	193.9	195.5	195.2	194.2	192.9	196.8	193.2	192.9	192.9	190.6	190 7	191.4	190.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH155 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.19 PAMB HG = 29.21 RELHUM = 63.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1542.7 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2339.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1110 TAPE = X1110F TEST PT NO = 1110 NC = AE091 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 - 83F-400-1110 X11101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.1	73.5	73.6	71.7	73.2	74.1	73.7	73.9	79.1	83.5	87 7	88.2	76.7	162.3
63	69.1	73.5	73.5	71.7	73.2	74.9	76.4	75.1	80.5	87 0	90 4	90.5	77.7	164.7
80	70.4	73.7	73.1	71 5	74.2	75.1	85.6	75.7	80.3	88.3	92.0	90.3	77.6	165.7
100	71.0	74.3	75.0	72.0	75.0	75.9	75.1	76.6	81.6	89.2	92.7	89.8	77.4	165.9
125	71.4	74.8	76.0	73.5	76.2	77.1	76.5	77.9	83.3	89 4	93.4	89.7	78.6	166.5
160	71.7	74.8	75.6	73.8	76.0	78 2	77.0	78.7	84.5	89.9	93.1	88.1	79.4	166.3
200	73.5	75.2	76.2	74.0	76.8	78.8	78.1	79.8	85.3	89.3	91.4	86.1	78.2	165.4
250	74.7	77.5	77.9	75.6	78.6	80.2	78.5	79.9	86.4	90.0	91.9	84.2	77.6	166.0
315	74.3	79.4	78.6	77.1	79.0	81.1	80.3	81.3	85.8	90.1	90.1	82.2	77.7	165.7
400	76.5	79.0	78.9	77.0	77.5	80.2	79.3	81.1	85.9	89.7	89.2	81.2	78.2	165.8
500	75.2	78.4	78.3	76.4	79.6	81.2	79.3	81.4	86.5	89.0	87.6	79.7	75.8	165.5
630	75.9	79.8	79.5	76.8	79.9	82.0	80.3	80.8	85.0	87.0	85.4	77.9	73.6	164.7
800	76.1	80.0	81.1	79.0	81.2	82.0	80.6	81.1	83.9	85.9	82.4	74.5	70.4	164.3
1000	74.9	78.8	79.8	78.6	79.5	83.1	80.2	80.3	82.4	83.1	79.7	71.6	67.3	163.3
1250	74.9	78.9	79.2	77 2	79.8	81.6	79.9	80.0	80.8	80.7	76.6	69.1	64.7	162.8
1600	72.6	77.8	78.5	77.2	78 3	79.8	78.5	78.1	80.1	79.2	74.4	67.6	62.4	162.8
2000	69.3	73.8	76.3	75.5	77.6	79.1	78.1	77.2	78.1	76.4	71.9	65.5	58.4	162.8
2500	66.3	71.8	73.9	73.4	75.1	77.8	76.3	74.3	75.5	72.5	68.2	61.2	51.5	162.9
3150	60.6	66.5	69.6	69.1	71.4	73.9	73.1	71.3	70.4	67.0	61.7	53.2	40.0	162.7
4000	50.1	59.6	63.2	64.4	65.2	67.6	66.3	63.7	62.1	56.5	49.1	39.9	20.3	162.1
5000	36.4	46.8	52.7	54.0	56.8	59.6	57.3	53.6	52.2	45.4	36.0	22.5		162.1
6300	16.4	30.0	37.1	40.3	41.7	44.8	42.1	39.1	35.0	26.1	13.9			162.3
8000			9.5	15.9	18.4	21.8	18.5	14.1	6.7					161.8
10000														161.4
12500														160.3
16000														159.4
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	86.0	89.7	90.2	88 4	90.5	92.4	92.0	91.7	96.0	100.0	101.9	98.2	88.5	178.2
PNL	92.8	97.4	98.4	97.1	99.2	101.3	100.1	99.6	102.3	104.7	104.6	98.7	91.5	
PNLT	92.8	97.4	99.1	97.7	99.2	101.3	100.1	100.2	102.9	104 7	104.6	98.7	91.5	
DBA	83.2	87.3	88 0	86.5	88.4	90.4	88.8	88.9	91.8	93.8	92.7	85.7	80.4	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH155	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 11	MODEL = SL	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 30.19	PAMB HG = 29.21	RELHUM = 63.5 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1542.7 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2339 6 FPS	AE18 = 23.4 SQ IN
RUNDT = 83F-400-1110	TAPE = X11101	TEST PT NO = 1110	NC = AE091	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 83F-ZER-1111 X1111C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.4	93.2	90.4	89.0	89.8	91.2	93 6	93.7	95.4	96.0	99.6	100.3	88.2	136.5
63	96.5	96.8	98.6	94.6	96.7	99.6	98.2	94.4	99.3	101.6	102.3	106.0	94.6	141.4
80	95.5	102.1	97.1	96.9	98.5	101.6	100.2	99.6	101.6	101.4	106.0	105.2	90.4	143.1
100	93.7	102.0	97.0	97 3	99.1	103.0	101.9	104.0	102.0	105.1	106.2	109.9	94.1	145.1
125	91.4	94.7	98.4	98.0	100.3	102.4	101.6	101.0	102.4	105 5	112.4	115.1	100.0	147 8
160	88.9	92.5	96 2	92.3	93.9	98.5	108.6	101.3	102.2	107.6	113.4	115.9	104.8	149.0
200	93.3	91.6	94.6	93.1	97 0	100.6	106.0	102.4	107.3	109.1	115.0	119.5	108.1	151.3
250	91.0	94.6	96.1	95 4	97.7	100.3	101.2	104.1	107.6	114.6	120.0	122.0	110 6	154.5
315	92.3	95.1	95.1	94.2	97.0	101.4	104.5	104 2	108.9	117.2	121.8	122.3	112.7	155.8
400	94.3	97.3	97 1	95 4	98.2	101.6	107.2	105.4	111.6	120.2	124.1	123.7	114.2	157.9
500	95.6	97.9	98.6	96.9	99.3	102.6	103 0	106.7	111.4	121.2	125.3	123.3	115.2	158.6
630	95.8	99.1	99.1	98.1	101.0	104.1	105.0	107 4	112.3	122.7	126.3	124.0	116 4	159.6
800	99.3	100.4	100.4	99.2	101.0	104.6	105.3	108.2	113 9	122.7	126.6	123.8	117.4	159.9
1000	104.5	107.8	105.3	102 6	103.7	105.8	106.4	110.1	115.1	122.6	126.8	122.7	116.6	159.9
1250	107.4	111.7	108.0	105.4	105.6	107.5	107.1	110.0	115.2	122.1	125.4	121.4	114.8	159.0
1600	110.1	110.8	110.4	108.6	107.6	108.7	108.3	111.3	116.4	121.8	125.4	119.8	113.0	158.9
2000	108.6	109.9	109.5	109.2	109.8	110.4	108.4	111.7	115.8	122.3	123.8	117.7	111.2	158.3
2500	105.2	108.8	109.4	107 8	110.7	113.3	110.3	112.1	115.8	121.8	121.8	114 4	109.9	157.5
3150	104.1	108.0	108.5	106.8	108.9	112.2	112.6	112.5	116.4	120.7	120.2	113.6	107.2	156.7
4000	101.9	106.8	107.9	106.3	108.7	111.2	111.3	113.1	115.6	118.5	118.7	111.5	105.9	155.5
5000	100.5	106.2	107.1	105.7	107.7	111.0	110.1	112.9	114.5	119.1	117.4	109.6	104.1	155.1
6300	99.5	105.1	105.9	106.0	*108.3*	111.0	*109.8*	*113.0*	*113.8*	*117.0*	*116.2*	*108.9*	*102.9*	*154.3*
8000	98.5	103.7	105.2	104 9	107.0	110.1	109.5	110.7	112.2	115.3	114.7	106.7	101.2	153.2
10000	97.8	103.4	104.7	104.7	106.8	109.6	109.1	109.8	111.8	114.2	113.1	105.7	100.2	152.9
12500	96.6	101.5	102.9	103.3	105.6	109.3	108.1	108.8	110.2	112.2	111.3	105.1	98.4	152.4
16000	94.6	100.1	101.8	102.9	104.2	107.2	107.3	107.1	108.5	109.3	108.7	101.8	95.5	151.8
20000	*92.4*	*97.4*	*99.3*	99.9	*101.4*	*105 2*	*104.8*	*104.4*	*105.7*	*106.2*	105.1	98 9	92.9	150.8
25000	89.4	94.3	95.8	97.3	98.8	102.6	101.8	101.2	102.1	101.0	98.4	95.6	89.8	149.6
31500	85.9	90.4	91.2	94.1	94 6	98.5	97 4	97.8	98.2	97.3	96.0	91.9	85.7	148.9
40000	81 4	86.3	87.8	89.6	90.9	94.9	93.6	93.5	94.3	94.5	92.0	88.2	81.0	149.1
50000	75.0	80.5	81.1	83.6	84.5	89.9	87 2	88.1	89.0	89.4	86.1	82.1	75.2	147.9
63000	69.1	74.5	76.2	77.8	78.6	84.7	81.7	82.8	84.2	83.5	81.9	76.8	69.0	147.9
80000	62.4	68.3	70.0	70.7	72.7	79.1	75.2	76.8	77.7	78.3	74.8	70.5	61.5	148.7
OASPL	116.2	119.3	119.0	117.8	119.5	122.1	121.9	123.3	126.7	132.9	135.7	133.0	125.3	170 3
PNL	128.4	131.5	131.8	130.4	132.6	135.2	135.2	136.4	139.7	144.9	146.2	141.7	134.7	
PNLT	128.9	131.5	131.8	130.9	133.2	135.2	136.0	137.1	139.7	144.9	146.2	141.7	134.7	
DBA	116.6	119.5	119.1	117.7	119.3	121.7	121.0	123.0	126.5	132.6	135.0	131.0	124.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH153 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL 1 FLTVEL = 0 FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.29 PAMB HG = 29.30 RELHUM = 64.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1524.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2466 2 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1111 TAPE = X1111C TEST PT NO = 1111 NC = AE091 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 - 83F-ZER-1111 X1111F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.4	93.2	90.4	89.0	89.8	91.2	93.6	93.7	95.4	96.0	99.6	100.3	88.2	136.5
63	96.5	96.8	98.6	94.6	96.7	99.6	98.2	94.4	99.3	101.6	102.3	106.0	94.6	141.4
80	95.5	102.1	97 1	96 9	98.5	101.6	100.2	99.6	101.6	101.4	106.0	105.2	90.4	143.1
100	93.7	102.0	97.0	97.3	99.1	103.0	101.9	104.0	102.0	105.1	106.2	109.9	94.1	145.1
125	91.4	94.7	98.4	98.0	100.3	102.4	101.6	101.0	102.4	105.5	112.4	115.1	100.0	147.8
160	88.9	92.5	96.2	92 3	93.9	98.5	108.6	101.3	102.2	107.6	113.4	115.9	104.8	149.0
200	93.3	91.6	94.6	93.1	97.0	100 6	106.0	102.4	107.3	109.1	115.0	119.5	108.1	151.3
250	91.0	94.6	96.1	95.4	97.7	100.3	101.2	104.1	107.6	114.6	120.0	122.0	110.6	154.5
315	92.3	95.1	95.1	94.2	97.0	101.4	104.5	104.2	108.9	117.2	121.8	122.3	112.7	155.8
400	94.3	97.3	97.1	95.4	98.2	101.6	107.2	105.4	111.6	120.2	124.1	123.7	114.2	157.9
500	95.6	97.9	98.6	96.9	99.3	102.6	103.0	106.7	111.4	121.2	125.3	123.3	115.2	158.6
630	95.8	99.1	99.1	98.1	101.0	104.1	105.0	107.4	112.3	122.7	126.3	124.0	116.4	159.6
800	99.3	100.4	100.4	99.2	101.0	104.6	105.3	108.2	113.9	122.7	126.6	123.8	117.4	159.9
1000	104.5	107.8	105.3	102.6	103.7	105.8	106.4	110.1	115.1	122.6	126.8	122.7	116.6	159.9
1250	107.4	111.7	108.0	105.4	105.6	107.5	107.1	110.0	115.2	122.1	125.4	121.4	114.8	159.0
1600	110.1	110.8	110.4	108.6	107.6	108.7	108.3	111.3	116.4	121.8	125.4	119.8	113.0	158.9
2000	108.6	109.9	109.5	109.2	109.8	110.4	108.4	111.7	115.8	122.3	123.8	117.7	111.2	158.3
2500	105.2	108.8	109.4	107.8	110.7	113.3	110.3	112.1	115.8	121.8	121.8	114.4	109.9	157.5
3150	104.1	108.0	108.5	106.8	108.9	112.2	112.6	112.5	116.4	120.7	120.2	113.6	107.2	156.7
4000	101.9	106.8	107.9	106.3	108.7	111.2	111.3	113.1	115.6	118.5	118.7	111.5	105.9	155.5
5000	100.5	106.2	107.1	105.7	107.7	111.0	110.1	112.9	114.5	119.1	117.4	109.6	104.1	155.1
6300	99.5	105.1	105.9	106 0	108.3	111.0	109.8	113.0	113.8	117.0	116.2	108.9	102.9	154.3
8000	98.5	103.7	105.2	104.9	107.0	110.1	109.5	110.7	112.2	115.3	114.7	106.7	101.2	153.2
10000	97.8	103.4	104.7	104.7	106.8	109.6	109.1	109.8	111.8	114.2	113.1	105.7	100.2	152.9
12500	96.6	101.5	102.9	103.3	105.6	109.3	108.1	108.8	110.2	112.2	111.3	105.1	98.4	152.4
16000	94 6	100.1	101.8	102.9	104.2	107.2	107.3	107.1	108.5	109.3	108.7	101.8	95.5	151.8
20000	92.4	97.4	99.3	99.9	101.4	105.2	104.8	104.4	105.7	106.2	105.1	98.9	92.9	150.8
25000	89.4	94.3	95.8	97.3	98.8	102.6	101.8	101.2	102.1	101.0	98.4	95.6	89.8	149.6
31500	85.9	90.4	91.2	94.1	94.6	98.5	97.4	97.8	98.2	97.3	96.0	91.9	85.7	148.9
40000	81.4	86.3	87.8	89.6	90 9	94.9	93.6	93.5	94.3	94.5	92.0	88.2	81.0	149.1
50000	75.0	80.5	81.1	83.6	84.5	89.9	87.2	88.1	89.0	89.4	86.1	82.1	75.2	147.9
63000	69.1	74 5	76.2	77.8	78.6	84.7	81.7	82.8	84.2	83.5	81.9	76.8	69.0	147.9
80000	62.4	68.3	70.0	70.7	72.7	79.1	75.2	76.8	77.7	78.3	74.8	70.5	61.5	148.7
OASPL	116.2	119.3	119.0	117.8	119.5	122.1	121.9	123.3	126.7	132.9	135.7	133.0	125.3	170.3
PNL	128.4	131.5	131.8	130.4	132.6	135.2	135.2	136.4	139.7	144.9	146.2	141.7	134.7	
PNLT	128.9	131.5	131.8	130.9	133.2	135.2	136.0	137.1	139.7	144.9	146.2	141.7	134.7	
DBA	184.9	190.5	192.1	193.3	194.8	200.9	197.5	198.9	199.9	200.1	197 1	192.7	184.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH153	TEST DATE = 03-17-83	LOCAT = C41 ANECH CH	CONFIG = 11	MODEL = SL	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 30.29	PAMB HG = 29.30	RELHUM = 64.1 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40:0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1524.4 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2466.2 FPS	AE18 = 23.4 SQ IN
	TEST PT NO = 1111	NC = AE091	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 - 83F-ZER-1111 X11111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.5	71.5	74.1	74.1	76.9	79 6	80.4	82 9	85.6	91.6	95.5	95.2	80.5	169.4
63	67.8	72.1	73.2	72.9	76.2	80.7	83.7	82 9	86.9	94 2	97 3	95.5	82.5	170.7
80	69.7	74.3	75.1	74.1	77.4	80.9	86.4	84 1	89.6	97.1	99.4	96.9	83.9	172.8
100	70.9	74.7	76.6	75.6	78.4	81.9	82.1	85.3	89.3	98.1	100.6	96.3	84.8	173.5
125	71.0	75.8	76.9	76.7	80.0	83.2	84.0	86.0	90.2	99.4	101.5	96.9	85.8	174.5
160	74.3	77.0	78.1	77.6	79.9	83.7	84.2	86.6	91.6	99.3	101.6	96.4	86.4	174.8
200	79.2	84.2	82.8	80 9	82.4	84.7	85.2	88 4	92.6	99.0	101.5	95.0	85.1	174.8
250	81.8	87.8	85.3	83.4	84.1	86.1	85.6	88.1	92.5	98.2	99.8	93.2	82.6	173.9
315	84.0	86.5	87.4	86.3	85.8	87.0	86.5	89.1	93.4	97.5	99.3	91.1	80.0	173.9
400	82.0	85.2	86.1	86.6	87.6	88.4	86.2	89.1	92.4	97.6	97.2	88.3	77.2	173 2
500	78.1	83.6	85.6	84.9	88.3	91.0	87.8	89.2	92.0	96.7	94.7	84.3	74.8	172.4
630	76.4	82.3	84.3	83.4	86.0	89.5	89.7	89.2	92.1	95.1	92.5	82.7	71.0	171.6
800	73.6	80.6	83.2	82.6	85.5	88.2	88.1	89.4	90.9	92.4	90 4	79.8	68.4	170.4
1000	71.5	79.5	82.0	81.6	84.2	87.5	86.5	88 8	89.3	92.4	88.4	77.0	65.2	170.0
1250	69.6	77.7	80.2	81.3	84.2	87.1	85.7	88.3	88.1	89.6	86.3	75.1	62.2	169.2
1600	67.4	75.3	78.7	79.5	82.3	85.5	84.8	85.2	85.6	87.0	83.6	71.1	57.8	168.1
2000	64 9	73.6	76 9	78.3	81.1	84.1	83.4	83.4	84.0	84.5	80.1	67.7	53.0	167.9
2500	60.9	69.6	73.3	75.2	78.4	82.4	80.9	80.8	80.7	80.3	75.7	63.4	45.3	167.3
3150	54.6	64.8	69.4	72.3	74.6	77.9	77.7	76.5	76.0	74.0	68.7	54.0	33.0	166.7
4000	44.7	55.9	61.6	64.6	67.5	71.7	70.8	69.1	68.0	64.7	57.5	40.9	14.6	165.7
5000	30.4	43.6	50.3	55.0	58.2	62.6	61.2	58.9	56.6	50.3	39.4	22.3		164.5
6300	7.9	24.3	32.4	39.8	42.7	47.3	45.5	43.5	39.4	31.1	17.9			163.8
8000			6.3	14.7	19.6	24.6	22.3	18.6	12.8	2.2				164.0
10000														162.8
12500														162.8
16000														163.6
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	89 5	94.1	94.7	94 2	96.2	98.8	98.3	99.8	102.9	108.6	110.1	105.2	93.7	185.1
PNL	94.6	99.6	101.0	101.3	103.7	106.7	106.1	106.8	108.7	112.9	112.9	105.7	94.5	
PNLT	94.6	99.6	101.0	101.8	103.7	106.7	106.1	107.3	109.2	113.5	112.9	105.7	94.5	
DBA	84.0	89 4	91.2	91 1	93.6	96.5	95.5	96.8	98.4	101.8	101.0	92.8	82 1	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH153 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.29 PAMB HG = 29.30 RELHUM = 64.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1524.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2466.2 FPS AE18 = 23.4 SQ IN

RUNPT - 83F-ZER-1111 TAPE = X11111 TEST PT NO - 1111 NC = AE091 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 83F-400-1112 X1112C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70	80	90.	100.	110.	120	130.	140	150	160.	PWL
50	93.1	93.4	89.7	87.7	88.8	90.2	91 3	93.7	93.7	92.7	98.9	100.3	91 0	135.7
63	95.5	96.0	96.8	93.6	94.2	98.1	99.2	98.6	97.1	95.1	102.3	102.0	95.6	139.9
80	95.0	101 3	95.8	96.6	97.2	100.8	99.7	98.6	99.8	99.4	103.8	103.2	89.9	141.7
100	94.2	100.2	95.3	95 3	97.6	102.0	101.4	102.5	100.8	102.1	104.0	108.9	94.3	143.6
125	92.1	94.4	97.4	96.7	99.3	101.4	99.8	100.0	100.2	102.8	109.6	113.6	99.5	146.0
160	89.7	88.5	94.2	89.5	92.4	96 5	100.6	97.8	99.5	104.3	110.4	113.9	103.0	146.0
200	89.5	91.1	92.1	90.4	93.2	96.6	98.0	99.9	104.6	104.4	110.8	117.0	106.1	148.1
250	87.3	92.1	92.1	91.9	94.0	97.1	98.0	100.6	105.1	109.9	115.8	119.2	107.9	151.1
315	88.8	91.4	91.9	91.4	94.3	97.1	100.3	100.9	105.6	112.5	118.1	120.5	110.2	152.8
400	89.8	92.1	94.1	92.2	95.0	97.9	109.0	101.2	107.4	114.9	120.1	121.5	110.2	154.5
500	90.8	93.6	94.6	92.4	95.8	98.6	99.5	102.9	106.9	117.0	121.6	121.3	108.7	155.2
630	91.5	94.3	94.8	93.9	96.7	100.1	101.0	104.1	108.3	117.9	123.0	120.5	107.6	155.9
800	94.8	96.1	96.6	94.7	97.0	100.9	101.8	105.2	109 6	118 5	123 1	119.3	106.9	155.9
1000	102.5	102.3	100.3	97.9	99.2	102.8	103.0	106.9	111.3	118.4	123.5	117.2	104.9	156.0
1250	104.7	108.5	105.3	101.9	101.9	104.2	103.1	106.8	112.0	117.6	121.7	116.1	104.3	154.9
1600	104.9	107.5	109.2	107.8	106.6	106.4	105.3	108.3	112.4	118.0	122.1	114.6	104.5	155.5
2000	103.1	105.4	106.3	106.5	109.3	109.9	106.4	108.5	112.8	118.9	120.1	112.4	104.4	154.9
2500	102.0	104.4	104.7	103.1	107.3	111.4	109.6	109.4	112.8	118.6	118.9	110.4	104.4	154.4
3150	102.4	104.0	104.1	103.1	105.2	108.7	110.9	110.1	113.4	117.5	116.5	109.9	102.3	153.5
4000	101.7	103.6	104.0	102.9	105.5	108 0	108.4	111.5	112.9	115.6	114.6	107.8	101.2	152.4
5000	101.6	104.6	104.4	102.5	104.6	107.8	107.2	110.5	112.3	115.5	112.9	105.7	99.9	151.8
6300	100.5	103.9	104.5	103.5	105.8	108.0	107.6	110.3	112.3	113.3	111.7	103.7	98.1	151.4
8000	99.5	101.9	103.0	102.9	104.5	107.6	106.8	107.9	110.4	111.6	109.7	101.9	96.7	150.2
10000	99.3	102.1	103.1	102.9	104.8	107.8	106.8	107.5	109.4	109.6	107.2	101.4	95.7	149.9
12500	97.7	99.4	100.9	101.1	103.7	106.9	105.7	105.7	107.3	107.8	104.9	99.7	94.7	149.1
16000	95.8	98.4	99.3	100.6	102.2	105.5	105.0	105.6	106.2	104.8	103.2	97.3	92.0	149.2
20000	93.1	95.8	96.7	97.3	99.4	103.4	102.7	102.3	103.1	101.8	99.5	95.1	88.9	148.1
25000	89.8	92.6	93.7	94.9	96.7	101.3	100.2	99.6	99.9	97.8	95.0	92.5	86.7	147.6
31500	86.8	88.9	89.7	91 7	92.7	97.6	95.8	96.7	96.0	93.7	91.0	88.2	82.5	147.0
40000	82.5	84.8	85.8	86.7	88.2	93.2	91.9	91.3	91.8	90.5	88.0	84.3	78.1	146.7
50000	76.1	78.8	79.6	81.4	82.0	87 9	85.2	85.6	86.2	84.8	81.9	78.4	72.3	145.3
63000	69.7	72.4	74.2	74.6	76.1	82.5	79.2	79.9	81.1	78.4	76.6	72.6	65.8	144.9
80000	62.7	64.8	66.8	67.2	69.4	75 8	72.2	73.3	74.2	72.4	69.7	66.0	57.8	145.0
OASPL	113.5	116.1	116.2	115.2	117.0	119.7	119.5	120.7	123.7	128.9	132.1	129.8	118.6	166.9
PNL	126.0	128.1	128.3	127.3	129.6	132.8	133.0	134.2	136.8	141.3	142.7	138.0	129.0	
PNLT	126.0	129.3	129.4	128 5	130.3	132.8	134.5	134 7	136.8	141.3	142.7	138.0	129 0	
DBA	113.5	116.0	116.1	114.9	116.8	119.2	118.7	120.4	123.5	128.8	131.5	127.0	116.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH154 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.42 PAMB HG = 29.25 RELHUM = 54.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1517.1 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2473.9 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1112 TAPE = X1112C TEST PT NO = 1112 NC = AE091 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 - 83F-400-1112 X1112F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	95.2	98.5	97.0	95.2	95.6	97.1	96.5	97.5	103.4	109.7	115.1	118.3	110.0	150.4
315	95.2	98.5	97.0	95.2	96.1	97.3	99.3	99.0	105.2	112.2	117.3	119.9	111.4	152.3
400	96.5	97.8	96.8	94.8	96.8	98.1	108.0	99.1	104.7	114.3	119.0	120.3	111.5	153.5
500	97.5	98.5	99.1	95.6	97.7	99.0	98.5	100.7	106.3	115.5	120.8	120.4	112.4	154.4
630	98.5	100.0	99.6	95.9	98.7	100.5	100.0	101.9	108.1	116.6	121.7	120.8	114.6	155.3
800	99.2	100.7	99.9	97.4	99.0	101.4	100.9	103.1	110.1	116.9	122.7	119.8	115.0	155.6
1000	101.8	102.1	101.4	98.1	100.8	103.5	102.2	104.8	111.0	116.4	121.2	119.1	114.7	154.8
1250	109.1	107.7	104.4	100.6	103.7	105.0	102.5	104.9	111.6	116.9	121.7	117.6	115.0	155.2
1600	111.6	114.2	109.6	104.8	108.5	107.5	104.9	106.7	112.2	118.0	119.9	115.7	115.3	155.4
2000	109.8	111.8	112.7	110.6	112.0	111.2	106.3	107.0	112.6	118.2	119.1	114.1	115.7	155.6
2500	110.7	112.0	111.7	110.5	110.8	113.0	109.8	108.4	113.6	117.5	117.1	114.0	114.0	155.2
3150	112.4	113.2	111.8	108.5	108.4	110.7	111.5	109.4	113.7	116.1	115.5	112.1	112.9	154.6
4000	110.0	110.7	109.6	107.5	109.2	110.6	109.6	111.4	113.1	115.8	113.7	109.6	111.2	153.7
5000	109.3	110.3	109.7	107.5	108.6	110.8	108.7	110.6	113.4	113.9	112.7	107.9	109.7	153.2
6300	109.0	111.3	110.3	107.4	109.8	111.0	109.4	110.6	112.1	112.8	111.5	107.0	109.6	153.2
8000	107.8	110.4	110.1	108.2	108.6	110.6	108.9	108.6	112.0	111.9	110.2	107.9	110.0	153.0
10000	106.7	108.3	108.5	107.4	108.8	110.8	109.1	108.7	110.6	111.0	108.8	107.1	109.7	152.8
12500	106.1	108.2	108.3	107.2	108.3	109.9	108.1	107.2	110.1	108.6	107.9	105.6	108.0	152.8
16000	106.8	107.2	107.4	106.0	106.8	108.5	107.4	107.2	107.7	106.5	105.1	104.3	105.6	152.8
20000	104.6	105.8	105.3	105.1	104.0	106.4	105.1	104.0	104.9	102.9	100.9	101.6	102.7	152.2
25000	101.2	102.7	102.1	101.1	101.3	104.3	102.2	100.9	101.8	99.8	97.9	98.3	99.7	151.5
31500	97.2	98.7	98.3	98.0	97.2	100.6	97.8	98.0	99.2	98.1	96.6	96.4	97.5	151.4
40000	93.3	94.2	93.5	93.9	92.8	96.2	94.4	93.3	94.0	92.8	90.8	90.9	92.0	150.8
50000	88.6	89.6	89.2	88.5	86.6	90.9	87.7	87.5	89.4	86.8	86.0	85.6	86.2	149.9
63000	81.2	82.7	82.1	82.3	80.7	85.5	81.5	81.5	83.4	81.5	79.6	79.6	79.0	149.0
80000	73.4	74.8	75.1	74.0	74.0	78.8	74.3	74.7	73.6	71.7	69.8	69.7	69.2	148.1
OASPL	120.7	122.1	121.2	119.0	120.2	121.6	120.1	120.2	123.9	128.0	131.0	129.5	125.5	167.5
PNL	133.4	134.6	133.4	131.0	131.9	133.7	132.7	132.9	136.3	139.8	140.8	138.1	136.8	
PNLT	133.4	136.0	133.4	131.0	131.9	133.7	134.2	132.9	136.3	139.8	140.8	138.1	136.8	
DBA	196.5	197.9	197.8	197.2	196.5	201.1	197.1	197.2	197.5	195.6	193.9	193.8	193.6	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH154 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.42 PAMB HG = 29.25 RELHUM = 54.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1517.1 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2473.9 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1112 TAPE = X1112F TEST PT NO = 1112 NC = AE091 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 - 83F-400-1112 X11121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.6	75.5	75.1	73.9	74.7	76.4	75 6	76.3	81.4	86.7	90.6	91.6	79.9	165.3
63	70.6	75.5	75.0	73.9	75.2	76 6	78.5	77.7	83.2	89.2	92 8	93.1	81.2	167.2
80	71.9	74.7	74.8	73.5	76.0	77.4	87.2	77.8	82.7	91.2	94.4	93.5	81.2	168.4
100	72.8	75.3	77.0	74.2	76.8	78.2	77.6	79.4	84.2	92.3	96.1	93.5	82.0	169.3
125	73.7	76.8	77.5	74.5	77.7	79.6	79.0	80.5	85.9	93.4	96.9	93.6	84.0	170.2
160	74.2	77.3	77.6	75.8	77.9	80.4	79 8	81.5	87.8	93.5	97.7	92.4	84 0	170.5
200	76.5	78.5	78.9	76.4	79.6	82.3	80.9	83.1	88.5	92.7	95.9	91.4	83.3	169.7
250	83.5	83 8	81.7	78.7	82.2	83.7	81.0	83.0	88.8	93.0	96.1	89.4	82.9	170.1
315	85.5	89.9	86.5	82.6	86.7	85.8	83.1	84.4	89.2	93.7	93.9	87.0	82.3	170.3
400	83.2	87 1	89.3	88.0	89.8	89.2	84.1	84.4	89.2	93.5	92.5	84.7	81.7	170.5
500	83.6	86.8	87.8	87.5	88.3	90.7	87.3	85.4	89.8	92.3	90.0	83.8	78.9	170.2
630	84.7	87.6	87.6	85.1	85.6	88.1	88.6	86.1	89.5	90.5	87.8	81.2	76.7	169.5
800	81.7	84.5	84.9	83.7	86.0	87.5	86.4	87.7	88.4	89.7	85.4	77.9	73.7	168.6
1000	80.2	83.6	84.6	83.4	85.0	87.4	85.1	86.4	88.3	87.2	83.7	75.2	70.8	168.1
1250	79.2	83.9	84.6	82.7	85.8	87.2	85.3	85.9	86.4	85.5	81.6	73.3	68.9	168.1
1600	76.7	82.1	83.6	82.8	83.8	86.0	84.1	83.2	85.4	83.5	79.0	72.4	66.6	167.9
2000	73.8	78.5	80.7	81.0	83.1	85.3	83.3	82.3	82.9	81.2	75.9	69.2	62.5	167.7
2500	70.5	76.3	78.8	79.1	81.1	83.0	80.9	79.1	80.6	76.7	72.2	63.9	54.9	167.7
3150	66.8	71.9	74.9	75.4	77.2	79.2	77.8	76.6	75.3	71.1	65.1	56.6	43.1	167.7
4000	56.9	64.3	67.7	69.8	70.0	72.9	71.1	68.7	67.2	61.4	53.2	43.6	24.4	167.1
5000	42.1	52.0	56.6	58.8	60.7	64.2	61.6	58.5	56.3	49.1	38.9	25.0		166.4
6300	19.1	32.6	39.5	43.7	45.3	49.4	45.9	43.6	40.4	32.0	18.5			166.3
8000		1.9	12.0	19.0	21.5	25.9	23.0	18.3	12.5	0.5				165.7
10000														164.8
12500														163.9
16000														163.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	92.8	96.2	96.3	94.9	96.7	98.1	96 6	96.2	99.7	103.5	105.5	101.9	92.8	182.4
PNL	98.8	102.9	103.7	102.8	104.8	106.7	105.0	104.3	106.6	108.5	108.4	102.9	95.5	
PNLT	98.8	103.6	104.3	103.4	104.8	106.7	105.0	104.9	107.2	109 3	108.4	102.9	95.5	
DBA	89.6	93.3	94.0	92.9	94.7	96.4	94.5	94.3	96.4	97.5	96.2	89.9	84.3	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH154 TEST DATE = 03-17-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 30.42 PAMB HG = 29.25 RELHUM = 54.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1517.1 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2473.9 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1112 TAPE = X11121 TEST PT NO = 1112. NC = AE091 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 83F-ZER-1133 X1133C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.6	85.2	85.4	82.2	81.3	83.4	84.8	87.7	84.7	82.0	90.6	91.3	92.0	128.4
63	87.5	92.8	95.6	90.6	87.2	89.8	92.7	94.6	90.8	89.6	92.0	98.2	104.4	136.3
80	87.8	92.6	88.6	87 4	88.2	92.8	91.0	91 4	90 6	91.9	95.0	94.7	94.4	133.6
100	86.5	92.0	88.5	88.3	89.9	93.3	91.4	94.3	91.8	95.6	95.7	99.1	102.6	136.2
125	83.6	87.4	89.7	89.2	91.1	93.2	91.3	91.5	91.9	95.3	101.4	103.6	105.8	138.5
160	82.2	82.7	86.7	83 8	86.6	89.7	93.4	91.3	93.2	96.3	100.9	104.1	107 3	138.9
200	84.0	86.3	87.8	85.9	88.0	91.6	92.0	93.9	97.6	98.6	104.3	107.7	111.1	142.3
250	84.8	89.3	88.6	86.9	89.0	92.6	93.7	95.6	97.3	102.9	107.8	110.5	113.1	144.8
315	86.1	88.6	88.1	87.7	89.8	93.9	97.3	96.7	99.6	103.5	108 3	111.5	114.7	146.0
400	86.8	88.3	88.6	87.7	90.0	92.9	105.2	97.7	100.1	105.9	110.1	112.5	114.9	147.3
500	87.3	89.9	90.1	88 7	90.8	95.6	95.3	98.4	101.4	106.7	110.3	112.5	114.7	147.1
630	88.0	89.3	90.6	89 4	92.0	95.1	96.0	99.1	101.3	107.9	109.5	111.5	113.4	146.5
800	88.8	90.1	91.1	89.4	92.8	96.1	96.8	100.2	103.1	107.5	109.6	110.3	111.0	145.8
1000	92.7	93.3	92.8	91.1	93.4	97.1	97.4	100.8	103.3	106.9	107.8	109.7	111.6	145.4
1250	91.2	93.4	93.2	91.1	93.6	97.0	97.1	100.5	103.5	106.0	106.9	107.6	108.3	144.1
1600	91.3	91.5	92.4	91.0	93.3	97 1	98.0	101.3	103.6	104.5	106.1	106.8	107.4	143.5
2000	92.0	92.3	92.7	91.1	93.2	97.1	97.3	101.1	103.5	105.0	104.8	104.6	104.4	142.7
2500	90.2	91.7	91.8	90.3	92.7	96.3	96.5	99.8	101.7	103.7	102.2	101.8	101.4	141.0
3150	89.8	91.6	91.4	89.4	92.0	96.3	96.4	99.4	101.5	101.8	99.3	97.5	95.6	139.6
4000	88.0	89.6	90.5	88.9	92.0	95.5	95.6	99.0	100.4	99.1	96.5	92.6	88.6	138.1
5000	87.2	89.2	90.1	88.5	91.0	94.5	94.9	97.9	98.2	97.3	94.1	89.7	85.2	136.8
6300	85.6	89.0	88.9	87.2	90.5	93.5	94.3	97.2	97.2	94.6	90.4	87.4	84.4	135.8
8000	83.8	87.4	87.7	86.7	89.3	92.6	92.6	95.2	95.4	91.5	88.2	84.7	81.1	134.4
10000	83.2	86.8	87.5	86 9	88.7	92.2	92.0	94.5	93.6	89.8	86.9	83.1	79.2	134.1
12500	80.9	84.9	85.8	85.2	87.5	91.2	90.3	90.8	90.9	87.7	83.3	81.4	79.6	132.7
16000	79.4	84.5	84.9	84.7	86.0	88.5	88.6	89.5	89.1	84.5	81.8	79.0	76.3	132.3
20000	76.4	82.0	82.4	82.7	83.7	85.9	85.5	85.2	85.3	81.2	78.5	76.6	74.8	131.0
25000	73.3	78.5	79.0	80.1	80.8	84.6	83.3	81.8	82.0	77.2	74.5	73.3	72.1	130.7
31500	70.0	74.6	76.1	76.7	77.2	80.4	78.8	78.4	77.6	73.0	70.1	69.0	67.9	129.9
40000	65.1	70.7	71.7	72.8	72.5	77.2	74.2	74.9	74.2	69.5	66.6	64.0	61.5	130.0
50000	59.4	64.5	65.6	66.6	67.1	72.2	69.1	69.1	67.7	63.5	61.0	59.2	57.3	128.8
63000	53.8	58.4	60.4	61.1	61.9	66.9	63.2	63.6	63.1	58.1	55.0	52.3	49.6	128.8
80000	49.5	52.2	53.4	53.1	54.4	61.0	57.2	56.2	55.6	50.1	47.6	45.4	43.3	128.9
OASPL	102.0	104.3	104.6	102.8	104.9	108.5	110.4	111.7	113.7	116.8	119.0	120.9	123.1	156.6
PNL	114.3	116.3	116.5	114.8	117.2	121.0	121.7	124.2	125.9	127.5	127.8	128.4	129.8	
PNLT	114.3	116.3	116.5	115.3	117.2	121.0	123.2	124.2	125.9	127.5	128.4	128.4	129.8	
DBA	101.3	102.7	103.0	101.4	103.9	107.5	108.6	111.2	113 3	115.7	117.0	118.2	119.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH160 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.48 PAMB HG = 29.15 RELHUM = 84.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1098.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1777.8 FPS AE18 = 23.4 SQ IN

MDT = 83F-ZER-1133 TAPE = X1133C TEST PT NO = 1-22 = AEOPS 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 - 83F-2ER-1133 X1133F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.6	85.2	85.4	82.2	81.3	83.4	84.8	87.7	84.7	82.0	90.6	91.3	92.0	128.4
63	87.5	92.8	95.6	90.6	87.2	89.8	92 7	94.6	90.8	89.6	92.0	98.2	104.4	136.3
80	87.8	92.6	88.6	87.4	88.2	92.8	91.0	91.4	90.6	91.9	95.0	94.7	94.4	133.6
100	86.5	92.0	88.5	88.3	89.9	93.3	91.4	94.3	91.8	95.6	95.7	99.1	102.6	136.2
125	83.6	87.4	89.7	89.2	91.1	93.2	91.3	91.5	91.9	95.3	101.4	103.6	105.8	138.5
160	82.2	82.7	86.7	83 8	86.6	89.7	93.4	91.3	93.2	96.3	100.9	104.1	107.3	138.9
200	84.0	86.3	87.8	85 9	88.0	91.6	92.0	93.9	97.6	98.6	104.3	107.7	111.1	142.3
250	84.8	89.3	88.6	86.9	89.0	92.6	93.7	95.6	97.3	102.9	107.8	110.5	113.1	144.8
315	86.1	88.6	88.1	87.7	89.8	93.9	97 3	96.7	99.6	103.5	108.3	111.5	114.7	146.0
400	86.8	88.3	88.6	87.7	90.0	92.9	105.2	97.7	100.1	105.9	110.1	112.5	114.9	147.3
500	87.3	89 9	90.1	88.7	90.8	95.6	95.3	98.4	101.4	106.7	110.3	112.5	114.7	147.1
630	88.0	89.3	90.6	89.4	92.0	95.1	96.0	99.1	101.3	107.9	109.5	111.5	113.4	146.5
800	88.8	90.1	91.1	89.4	92.8	96.1	96.8	100.2	103.1	107.5	109 6	110.3	111.0	145.8
1000	92.7	93.3	92.8	91.1	93.4	97.1	97.4	100.8	103.3	106.9	107.8	109.7	111.6	145.4
1250	91.2	93 4	93.2	91.1	93.6	97.0	97.1	100.5	103.5	106.0	106.9	107.6	108.3	144.1
1600	91.3	91.5	92.4	91.0	93.3	97.1	98.0	101.3	103.6	104.5	106.1	106.8	107.4	143.5
2000	92.0	92.3	92.7	91.1	93.2	97.1	97.3	101.1	103.5	105.0	104.8	104.6	104.4	142.7
2500	90.2	91.7	91.8	90.3	92.7	96.3	96.5	99.8	101.7	103.7	102.2	101.8	101.4	141.0
3150	89.8	91.6	91.4	89.4	92.0	96.3	96.4	99.4	101.5	101.8	99.3	97.5	95.6	139.6
4000	88.0	89.6	90.5	88.9	92.0	95.5	95.6	99.0	100.4	99.1	96.5	92.6	88.6	138.1
5000	87.2	89.2	90.1	88.5	91.0	94.5	94.9	97.9	98.2	97.3	94.1	89.7	85.2	136.8
6300	85.6	89.0	88.9	87.2	90.5	93.5	94.3	97.2	97.2	94.6	90.4	87.4	84.4	135.8
8000	83.8	87.4	87 7	86.7	89.3	92.6	92.6	95.2	95.4	91.5	88.2	84.7	81.1	134.4
10000	83.2	86.8	87.5	86.9	88.7	92.2	92.0	94.5	93.6	89.8	86.9	83.1	79.2	134.1
12500	80.9	84.9	85.8	85.2	87.5	91.2	90.3	90.8	90.9	87.7	83.3	81.4	79.6	132.7
16000	79.4	84.5	84.9	84.7	86.0	88.5	88.6	89.5	89.1	84.5	81.8	79.0	76.3	132.3
20000	76.4	82.0	82.4	82.7	83.7	85.9	85.5	85.2	85.3	81.2	78.5	76.6	74.8	131.0
25000	73.3	78.5	79.0	80.1	80.8	84.6	83.3	81.8	82.0	77.2	74.5	73.3	72.1	130.7
31500	70.0	74.6	76.1	76.7	77.2	80.4	78.8	78.4	77.6	73.0	70.1	69.0	67.9	129.9
40000	65.1	70 7	71.7	72.8	72.5	77.2	74.2	74.9	74.2	69.5	66.6	64.0	61.5	130.0
50000	59.4	64.5	65.6	66.6	67.1	72.2	69.1	69.1	67.7	63.5	61.0	59.2	57.3	128.8
63000	53.8	58.4	60.4	61 1	61.9	66.9	63.2	63.6	63.1	58.1	55.0	52.3	49.6	128.8
80000	49.5	52.2	53.4	53 1	54.4	61.0	57.2	56.2	55.6	50.1	47.6	45.4	43.3	128.9
OASPL	102.0	104.3	104.6	102.8	104.9	108.5	110.4	111 7	113.7	116.8	119.0	120.9	123.1	156.6
PNL	114.3	116.3	116.5	114.8	117.2	121.0	121.7	124.2	125.9	127.5	127.8	128.4	129.8	
PNLT	114.3	116.3	116.5	115 3	117.2	121.0	123 2	124.2	125 9	127.5	128.4	128.4	129.8	
DBA	171.0	174.5	175.9	176 1	177.0	183.0	179.3	178.9	178.2	173.1	170.3	168.0	165.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH160 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.48 PAMB HG = 29.15 RELHUM = 84 8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1098.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1777 8 FPS AE18 = 23.4 SQ IN

TEST PT NO = 1123 NC = AE085 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 - 83F-ZER-1133 X11331

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90	100.	110.	120.	130.	140.	150.	160.	PWL
50	60.2	66.3	66.6	65.6	68.1	71.9	72.9	74.4	75.4	79.9	83.2	83.7	83.1	159.7
63	61.5	65.6	66.2	66.4	68.9	73.2	76.4	75.4	77.7	80.4	83.8	84.7	84.6	160.9
80	62.2	65.3	66.6	66.4	69.1	72.1	84.4	76.4	78.1	82.8	85.4	85.6	84.7	162.2
100	62.6	66.7	68.1	67.3	69.9	74.9	74.4	77.1	79.3	83.6	85.6	85.6	84.3	162.0
125	63.2	66.1	68.4	68.0	71.0	74.2	75.0	77.7	79.2	84.7	84.7	84.4	82.8	161.4
160	63.8	66.7	68.8	67.9	71.6	75.1	75.6	78.6	80.8	84.0	84.6	82.9	79.9	160.7
200	67.5	69.7	70.3	69.4	72.1	75.9	76.1	79.1	80.8	83.3	82.5	82.0	80.1	160.3
250	65.5	69.5	70.5	69.2	72.1	75.6	75.6	78.6	80.7	82.1	81.3	79.5	76.1	159.0
315	65.3	67.2	69.3	68.8	71.5	75.5	76.2	79.0	80.6	80.2	80.0	78.1	74.5	158.4
400	65.4	67.6	69.3	68.5	71.1	75.1	75.2	78.5	80.0	80.3	78.2	75.2	70.4	157.6
500	63.0	66.6	68.0	67.3	70.2	74.0	74.0	76.9	77.9	78.6	75.1	71.7	66.3	155.9
630	62.1	66.0	67.1	66.1	69.2	73.6	73.6	76.1	77.2	76.2	71.6	66.6	59.4	154.5
800	59.6	63.4	65.8	65.1	68.8	72.5	72.4	75.2	75.7	72.9	68.2	60.9	51.1	153.0
1000	58.2	62.5	65.0	64.4	67.4	71.1	71.3	73.8	73.1	70.6	65.1	57.0	46.3	151.7
1250	55.8	61.7	63.2	62.6	66.5	69.6	70.2	72.6	71.5	67.3	60.5	53.6	43.8	150.7
1600	52.6	59.0	61.2	61.3	64.5	68.1	67.8	69.8	68.9	63.2	57.1	49.1	37.7	149.3
2000	50.2	57.0	59.8	60.4	63.0	66.7	66.3	68.0	65.9	60.1	54.0	45.1	32.0	149.0
2500	45.3	53.0	56.2	57.1	60.2	64.3	63.0	62.7	61.3	55.7	47.6	39.7	26.5	147.6
3150	39.4	49.1	52.5	54.1	56.4	59.2	59.0	58.9	56.6	49.1	41.8	31.3	13.8	147.2
4000	28.7	40.5	44.8	47.4	49.7	52.4	51.6	49.9	47.7	39.7	30.8	18.6		145.9
5000	14.3	27.8	33.5	37.8	40.2	44.6	42.7	39.5	36.5	26.5	15.5			145.6
6300		8.5	17.3	22.3	25.3	29.2	26.9	24.0	18.8	6.9				144.8
8000					1.1	6.9	2.8	0.0						144.9
10000														143.7
12500														143.7
16000														143.8
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	75.1	78.4	79.9	79.1	82.1	85.9	88.4	88.9	90.4	92.8	93.6	93.2	91.8	171.0
PNL	79.0	82.9	84.9	84.5	87.4	91.3	91.8	93.9	94.8	94.9	93.7	91.9	89.1	
PNLT	79.0	82.9	84.9	84.5	87.9	91.3	91.8	93.9	94.8	94.9	93.7	91.9	89.1	
DBA	68.7	72.4	74.2	73.7	76.8	80.6	80.7	83.2	83.8	83.5	81.5	79.3	76.2	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH160 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.48 PAMB HG = 29.15 RELHUM = 84.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1098.6 FPS AE8 = 4.6 SQ IN
FNAMB = LBS XNL2 = RPM XNH2 = RPM V18 = 1777.8 FPS AE18 = 23.4 SQ IN

RUN01 B2F-ZER-1133 TAPE X11331 TEST PT NO - 1133 NC = AE085 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 83F-400-1134 X1134C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	87.2	87.4	83 7	80.8	82.2	84.6	86.7	84.9	85.7	89 4	92.6	87.7	128.6
63	88.3	93.0	97.1	92.6	87.2	89.1	93.7	94.4	89.8	88.9	90.3	98.7	96.4	135.3
80	88.0	92.1	88.3	87 9	88.2	92.3	91.5	91.1	91.1	91.4	94.3	94.7	86.4	133.2
100	85.5	91.0	88.0	86.5	88.1	92.0	90.1	93.0	90.0	92.8	94.2	98.9	87.1	133.8
125	84.1	86.2	88.2	88.0	90.1	91.9	90.3	90.2	89.7	92.8	98.9	102.3	89.5	135.4
160	80.4	80.5	85.5	82.3	83.6	86.7	92.1	87.5	89.7	92.8	98.9	101.6	92.3	134.6
200	81.8	82.6	85.6	81.9	83.2	86.8	88.7	89.9	94.3	93.6	99.8	104.7	93.6	136.5
250	81.3	83.1	84.3	82.6	84.5	87.6	88.2	90.1	94.1	98.4	103 3	106.7	95.9	138.9
315	81.1	84.1	85.4	83.4	84.5	88.4	92.5	91.4	94.4	99.5	103.8	106.8	96.4	139.3
400	81.3	83.1	84.6	82.9	85.0	88.1	99.2	91.4	94.1	100.9	105.6	106.7	95.2	140.5
500	82.1	83.6	85.6	83.4	85.8	89.4	89.3	92.7	94.6	102.2	106.3	105.8	92.2	140.2
630	82.0	83.1	85.1	83.4	86.7	89.6	90.2	92.9	95.3	102.9	105.5	102.7	90.6	139.4
800	82.8	83.6	84.9	84.2	87.3	89.9	90.5	94.2	97.1	103.2	105.6	99.8	88.7	139.4
1000	84.7	85.0	86.3	84.8	87.4	91.3	91.2	94.6	97.3	102.9	103.8	97.7	88.1	138.5
1250	83.4	86.7	86.5	84.9	86.8	90.7	90.8	94.3	98.0	102.0	102.9	94.6	86.5	137.8
1600	83.6	84.5	86.4	85.3	88.0	91.6	92.0	95.8	97.9	100.7	102.8	94.0	86.7	137.6
2000	84.0	84.3	85.7	84.4	87.2	91 1	91.8	95.6	98.0	101.5	101.5	92.1	86.6	137.4
2500	83.2	84.2	84.8	84.5	86.9	90.3	91.2	94.8	96.9	100.2	99.2	91.6	86.1	136.1
3150	82.8	84.1	85.1	83.9	86.7	90.5	90.7	94.1	96.2	98.8	96.6	89.7	84.4	134.9
4000	81.5	83.3	85.0	83.4	87.0	90.8	90.9	93.7	95.6	96.1	95.0	87.3	83.7	133.9
5000	81.5	82.2	83.9	82.8	86.3	90.2	90.6	93.7	94.0	94.8	92.6	86.4	81.9	132.9
6300	80.9	83.3	83.4	81.9	85.3	89.0	88.5	91.9	92.2	92.4	89.1	83.9	80.4	131.3
8000	81.3	83.2	83.0	81.9	85.1	87.6	87.6	89.9	90.2	89.3	87.2	81.7	79.3	130.0
10000	81.7	83.0	83.3	82.4	85.0	88.0	86.7	89.2	88.9	87.1	84.7	80.3	77.9	129.7
12500	80.9	81.9	82.5	82.4	85.5	87.8	85.8	86.8	86.6	85.0	82.0	79.7	76.5	129.3
16000	79.7	81.8	82.2	82.5	84.8	86.0	84.3	85.2	85.4	82.6	79.8	77.6	73.5	129.4
20000	77.6	79.6	79.2	80.4	82.0	83.2	82.6	82.7	81.3	79.0	76.7	74.9	71.4	128.4
25000	74.1	76.7	76.5	77.6	78.8	81.6	80.0	79.0	78.8	75.2	73.5	73.1	67.7	128.0
31500	70.3	73.1	73.9	75.2	75.3	78.4	76.1	76.4	74.7	71.0	70.4	69.3	63.5	127.9
40000	65.8	69.2	69.9	70.8	70.8	75.4	72.7	72.2	71.7	68.0	66.8	65.3	59.7	128.2
50000	60 9	63.5	63.8	65.4	65.9	71.0	67.6	67.3	66.0	62.3	61.8	59.9	54.4	127.5
63000	54.6	57.4	58.9	60.1	60.9	66.0	62.0	62.1	61.1	56.6	55.5	53.8	47.6	127.6
80000	47.3	51.0	52.2	51.9	53.2	60.3	54.7	55.5	53.9	49.4	49.3	47.2	40.0	127.8
OASPL	97.7	100.3	101.5	99.3	100.7	103.9	105.5	106.7	108.5	112.7	115.1	114.9	104.7	150.8
PNL	108 6	110.1	111.2	109.8	112.4	115.9	116.6	119.1	120.9	124.0	124.6	121.8	112.7	
PNLT	108.6	110.1	111.2	110.4	113.1	115.9	118.0	119.1	120.9	124.0	124.6	121.8	112.7	
DBA	94.5	95.9	96.9	95.6	98.4	102.0	103.0	105.7	107.9	111.8	113.2	109.7	99.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH161 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.89 PAMB HG = 29.06 RELHUM = 83.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1102.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1782.7 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1134 TAPE = X1134C TEST PT NO = 1134 NC = AE085 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 - 83F-400-1134 X1134F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	88.1	88.8	88.8	85.6	85.9	87.6	86.7	86.9	92.1	96.6	100.8	104.5	96.3	137.0
315	88.1	88.7	88.8	85.6	86.2	88.6	91.6	89.4	91.8	98.1	102.7	105.0	96.3	138.1
400	88.1	90.1	90.1	86.7	86.8	88.4	98.2	89.2	92.3	99.4	103.6	104.6	94.8	138.9
500	88.8	89.4	89.5	86.3	87.7	89.7	88.2	90.4	93.1	100.2	103.0	102.4	95.2	137.8
630	89.8	90.0	90.6	86.9	88.7	90.0	89.2	90.5	95.2	100.8	103.6	100.5	95.7	138.0
800	89.7	89.5	90.1	86 9	89.3	90.4	89.5	91.8	96.0	101.2	102.7	100.1	98.1	138.0
1000	90.5	90.1	89.9	87.7	89.6	91.9	90.4	92.5	96.6	100.3	101.7	96.7	96.1	137.2
1250	92.4	91.5	91.4	88.5	89.1	91.5	90.2	92.2	96.9	99.4	102.1	96.6	96.8	137.3
1600	91.0	93.1	91.6	88.6	90.5	92.7	91.5	94.0	97.2	100.4	101.0	94.9	96.9	137.5
2000	91.2	91.0	91.6	89.1	89.9	92.4	91.6	94.1	96.7	99.7	99.4	95.2	97.3	136.9
2500	91.7	90.9	91.1	88.4	89.8	91.9	91.4	93.7	96.5	98.8	97.2	93.8	96.1	136.1
3150	90.8	90.8	90.2	88.7	90.0	92.6	91.4	93.5	97.2	97.3	96.9	92.7	96.6	135.9
4000	90.4	90.8	90.7	88.3	91.3	93.3	92.7	94.4	95.9	96.5	95.0	92.3	95.4	135.7
5000	91.8	92.3	92.4	89.2	90.9	93.2	92.9	94.8	94.8	94.8	92.3	90.5	94.4	135.4
6300	91.7	91 2	91.4	88.7	89.9	92.0	90.9	93.4	93.6	92.7	91.3	88.9	93.6	134.4
8000	91.0	92.1	90.8	87.8	89.1	90.6	90.0	91.8	92.3	90.4	88.4	87.0	91.3	133.6
10000	88.4	89.6	88.5	86.4	89.0	91.0	88.9	90.8	88.0	85.9	83.3	84.0	87.7	132.3
12500	88.5	89.2	88.6	86 6	89.5	90.8	87.2	86.8	88.4	85.5	83.2	83.9	86.6	132.5
16000	87.3	87.5	87.2	86.1	88.8	89.0	86.1	85.9	83.7	80.8	78.9	80.1	83.5	132.2
20000	85.6	87.0	86.5	85.8	86.0	86.2	84.0	82.7	81.7	77.6	76.3	78.9	80.5	132.1
25000	83.0	84.1	82.9	83.2	82.8	84.6	81.4	79.0	78.4	74.2	73.9	75.8	77.0	131.7
31500	78.6	80.5	79.4	79.6	79.3	81 4	77.5	76.4	76.3	72 1	71.2	72.7	74.0	131.4
40000	74.0	76.1	76.0	76.3	75.4	78.4	74.1	72.2	70.9	66.7	66.6	67.7	69.1	131.6
50000	71.9	74.0	73.3	72.7	70.5	74.0	69.0	67.3	67.0	62.0	61.3	62.6	63.3	132.2
63000	66.1	67.4	66.3	66.3	65.5	69.0	63.4	62.1	61.3	56.3	56.6	57.4	57.2	131.7
80000	58.2	59.9	59.9	59.5	57.8	63.3	56.1	55.5	51.5	46.5	46.8	47.6	47.4	131.7
OASPL	103.1	103.5	103.3	100.7	102.2	104.2	104.3	104.9	107.5	110.8	112.7	111.8	108 1	149.8
PNL	114.8	115.2	115.1	112.4	114.3	116 4	116.0	117.4	119.9	121.7	121.9	119.4	120.0	
PNLT	114.8	115.2	115.1	112.4	114.3	116.4	117.4	117.4	119.9	121.7	121.9	119.4	120.0	
DBA	181.0	182.6	182.2	181.9	180.5	185.1	178.7	177.7	175.4	170.4	170.5	171.4	171.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH161	TEST DATE = 03-28-83	LOCAT = C41 ANECH CH	CONFIG = 11	MODEL = CO	FLTVEL = 400. FPS				
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 36.89	PAMB HG = 29.06	RELHUM = 83.0 PCT				
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =				
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1102.6 FPS	AE8 = 4.6 SQ IN					
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1782.7 FPS	AE18 = 23.4 SQ IN					
RUNID = 83F-400-1134	TAPE = X1134F	TEST PT NO = 1134	NC = AE085	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 - 83F-400-1134 X11341

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.5	65.7	66.8	64.4	65.1	66.9	65.9	65.7	70.1	73.6	76.3	77.8	66.2	151.9
63	63.5	65.7	66.8	64 3	65.4	67.9	70.7	68.2	69.8	75.0	78.1	78.3	66.2	153.0
80	63.5	67.0	68.0	65.4	65.9	67.6	77 3	68.0	70.3	76.3	78.9	77.8	64.6	153.8
100	64.1	66.2	67.4	64.9	66.7	68.9	67.3	69.1	71.1	77.1	78.3	75.4	64.8	152.7
125	64.9	66.8	68.5	65 5	67.7	69.1	68.2	69.1	73.1	77.6	78.7	73.4	65.0	152.9
160	64.7	66.1	67.8	65.3	68.2	69.4	68.4	70.3	73.7	77.8	77.7	72.7	67.1	152.9
200	65.2	66.4	67.5	66.0	68.3	70.8	69.1	70.8	74.1	76.7	76.4	69.0	64 6	152.2
250	66.8	67.6	68.7	66.5	67.6	70.2	68 6	70.3	74.1	75:5	76.5	68.5	64.7	152.2
315	64.9	68.8	68.5	66.3	68.7	71.0	69.7	71.8	74.2	76 1	74.9	66.2	63.9	152.4
400	64.6	66.3	68.2	66.5	67.8	70.4	69.5	71.5	73.2	75.0	72.8	65.7	63.2	151.8
500	64.5	65.7	67.2	65.4	67.4	69.6	68.9	70.8	72.6	73.7	70.1	63.7	61.1	151.0
630	63.1	65.2	66 0	65.4	67.2	69.9	68.5	70.2	72.9	71.7	69.2	61.8	60.4	150.8
800	62.0	64.6	66.0	64.5	68.1	70.3	69.5	70.6	71.2	70 4	66.7	60.6	57.9	150.6
1000	62.8	65.6	67.3	65.0	67.3	69.8	69.3	70.6	69.7	68.1	63.3	57.9	55.5	150.3
1250	61.9	63.9	65.7	64.1	65.8	68.1	66.8	68.8	67.9	65.3	61.4	55.2	52.9	149.3
1600	59.8	63.8	64.2	62.4	64.3	66.1	65.3	66.4	65.7	62.0	57.3	51.4	47.9	148.5
2000	55.5	59.8	60.7	60.0	63.3	65.5	63.2	64.3	60.3	56.1	50.4	46.0	40.4	147.2
2500	52.9	57.2	59.0	58.6	62.3	63.8	60.0	58.7	58.9	53.6	47 6	42.1	33.5	147.4
3150	47.2	52.2	54.8	55.5	59.2	59.7	56.5	55.3	51.2	45.5	38.9	32.4	21.0	147.1
4000	38.0	45.5	48.9	50.5	52.0	52.7	50.0	47.4	44.1	36.1	28.7	20.9	2.1	147.0
5000	23.9	33.5	37.4	40.8	42.2	44.6	40.9	36.7	32.9	23.6	14.9	2.5		146.6
6300	0.5	14.4	20.6	25.2	27.4	30.3	25.6	22.0	17.5	6.0				146.3
8000				1.3	4.0	8.2	2.8							146.5
10000														147.1
12500														146.6
16000														146.6
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	76.1	78.3	79.5	77.5	79.4	81.6	82.2	81 9	84.1	86.8	87.4	84.6	75.6	164.7
PNL	81.0	84.3	85.4	84.0	86.7	88 6	87.1	87.8	88.8	89.7	88.6	82.5	76.9	
PNLT	82.0	84.3	85.4	84.0	86.7	88.6	87.1	87.8	88.8	89.7	88.6	82.5	76.9	
DBA	71.0	73 5	74.8	73 3	75.6	77.8	76.7	78.1	78.8	78.8	76.8	70.2	66.8	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH161 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.89 PAMB HG = 29.06 RELHUM = 83 0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1102.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1782.7 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1134 TAPE = X11341 TEST PT NO = 1134 NC = AE085 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 83F-ZER-1135 X1135C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130	140.	150.	160.	PWL
50	86.4	88.7	85.4	82.2	83.6	85.2	85.1	86.5	86.9	91.0	92.6	94.6	87.5	130.2
63	89.8	92.0	93.6	91.1	90.5	92.3	92.7	92.9	92.3	96.1	94 3	98.7	94 9	135.5
80	90.0	94.8	90.8	90.4	91.0	95.6	93.7	94 4	94.1	94.7	97.8	97 7	83.4	136.1
100	89.2	95.2	92.0	91.8	92.9	96.8	94 9	98.0	95.3	98.8	98.7	103.1	86.3	138.5
125	86.6	90.2	92.9	92 7	94.6	96.7	94 8	95.7	95.4	98.5	105.4	107.3	91.7	140.8
160	85.2	86.0	89.5	87.0	88.9	92.2	96.6	94.3	96.2	99.8	104 9	107.9	96.5	140.7
200	87.3	87.8	89.3	88.4	90.7	94.8	95.5	96.1	100.1	102.4	107.8	111.0	100.4	143.4
250	87.5	90.6	91.3	89.9	92.0	94.8	96.2	98.1	100.8	106.9	111.5	114.2	103.9	146.7
315	88.8	89.9	89.4	89 4	92.0	96.6	99.3	99.2	102.1	108.0	112 6	114.8	106.2	147.6
400	89.6	91.1	91.1	89.7	93.0	96.1	106.7	99.7	102.6	110.2	114.3	116.0	107.9	149.4
500	90.1	92.1	92.6	91.2	93.8	97.9	98 5	100.9	104.1	111.2	115.6	116.3	108.7	149.9
630	90.5	92.6	93.1	91.4	94.5	97.6	99.0	101.6	104.3	112.2	115.3	115.5	110.6	149.9
800	92.6	92.9	93.6	91.9	95.3	98.4	99.3	102.4	105.9	111.7	114.8	115.0	111.4	149.7
1000	95.5	96.5	96.1	94.6	96.4	100.1	99.7	103.3	106.1	111.6	113.5	114.4	111.8	149.3
1250	94.4	97.2	96.2	94.6	97.1	99.7	99.8	103.5	107.0	110.8	113.2	113.3	110.8	148.8
1600	94.1	95.0	96.1	94.0	97.0	100.1	100.7	104.0	106.6	109.5	112.3	111.8	108.9	147.8
2000	95.5	95.6	95.7	94.1	96.7	99.6	100 1	104.1	106.2	109.8	111.3	108.6	105.9	146.9
2500	92.7	94.7	94.8	93.8	96.2	99.3	99.7	103.1	105.4	109.0	109.0	105.3	102.1	145.4
3150	92.3	94.6	94 9	92.9	95.5	99.3	99.9	102.9	104.7	107 3	106.6	101.2	97 6	144.0
4000	90.5	92.8	94.0	92.1	95.3	98.5	98.9	102.5	103.9	104.3	103 8	96.8	93.9	142.3
5000	90.2	92.7	93.6	92.3	94.5	97.7	98.1	101.5	101.5	102.6	100.9	94.7	90.4	140.8
6300	90.4	94.3	94.4	92.0	94.3	97.5	97.5	100.5	100.5	100.4	98.2	91.6	88.9	140.0
8000	88.8	94.2	95.0	92.7	94.6	96.6	96.3	98.2	98.7	97.1	95.0	89.2	86.8	138.8
10000	88.2	92.0	93.8	93.1	95.0	97.2	96.0	98.0	96.9	94.9	93.5	87.4	85.4	138.7
12500	86.7	89.5	91.3	91.4	94.0	96.8	95.3	94.8	94.9	92.5	89.6	86.0	83.0	137.7
16000	84.7	89.5	90.0	90.0	92.0	94.5	93.6	93.0	92.9	89.8	87.6	83.8	80.0	137.2
20000	81.9	86.8	87.4	87.9	89.9	91.5	91.3	90.2	89.3	86.5	84.0	80.6	77.9	136.3
25000	78.5	83.2	83.7	85.1	86.7	89.8	89.0	86.8	86.5	83.4	80.8	78.1	73.5	135.9
31500	75.3	79.6	80.6	81.6	82.5	85.6	84.6	83.6	82.4	79.2	77.1	74.0	69.7	135.1
40000	69.8	74.6	76.1	77.3	77.5	82.1	79.9	79.4	79.2	75.2	73.8	70.0	65.6	135.0
50000	63.8	68.2	70.0	71.0	71.5	77.9	74.0	73.2	72.7	68.7	67.7	64.4	59.1	133.8
63000	57.2	62.1	64.6	65.2	66.1	72.9	67 7	67.7	67.3	63.0	61.7	58.5	52.3	133 6
80000	50.2	54.1	57.3	56.8	58.3	68.7	60.6	60.1	59.0	54.8	54.5	51.1	43.7	134.5
OASPL	105.1	107.4	107.6	106.2	108.5	111.6	113.0	114.6	116.8	121.3	124.2	124.9	119.5	159.8
PNL	117.3	119.6	119.9	118.2	120.6	124.0	124.8	127.3	129.1	132.4	133.8	132.7	128.2	
PNLT	117.3	119.6	119.9	118.7	121.3	124.0	126.1	127.3	129.1	132.4	134.4	132.7	128 2	
DBA	104.4	106 2	106.5	104.8	107.4	110.5	111.4	114.2	116.4	120.5	122.7	122.6	118.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH171 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CD FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.89 PAMB HG = 29.21 RELHUM = 82.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1208 3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2000.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1135 TAPE = X1135C TEST PT NO = 1135 NC = AE085 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 - 83F-ZER-1135 X1135F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	88.7	85.4	82.2	83.6	85.2	85.1	86.5	86.9	91.0	92.6	94.6	87.5	130.2
63	89.8	92.0	93.6	91.1	90.5	92.3	92.7	92.9	92.3	96.1	94.3	98.7	94.9	135.5
80	90.0	94.8	90.8	90.4	91.0	95.6	93.7	94.4	94.1	94.7	97.8	97.7	83.4	136.1
100	89.2	95.2	92.0	91.8	92.9	96.8	94.9	98.0	95.3	98.8	98.7	103.1	86.3	138.5
125	86.6	90.2	92.9	92.7	94.6	96.7	94.8	95.7	95.4	98.5	105.4	107.3	91.7	140.8
160	85.2	86.0	89.5	87.0	88 9	92.2	96.6	94.3	96.2	99.8	104.9	107.9	96.5	140.7
200	87.3	87.8	89.3	88.4	90.7	94.8	95.5	96.1	100.1	102.4	107.8	111.0	100.4	143.4
250	87.5	90.6	91.3	89.9	92.0	94.8	96.2	98.1	100.8	106.9	111.5	114 2	103.9	146.7
315	88.8	89.9	89.4	89.4	92.0	96.6	99.3	99.2	102.1	108.0	112.6	114.8	106.2	147.6
400	89.6	91.1	91.1	89.7	93.0	96.1	106.7	99.7	102.6	110.2	114.3	116.0	107.9	149.4
500	90.1	92.1	92.6	91.2	93.8	97.9	98.5	100.9	104.1	111.2	115.6	116.3	108.7	149.9
630	90.5	92.6	93.1	91.4	94.5	97.6	99.0	101.6	104.3	112.2	115.3	115.5	110.6	149.9
800	92.6	92.9	93.6	91.9	95.3	98.4	99.3	102.4	105.9	111.7	114.8	115.0	111.4	149.7
1000	95.5	96.5	96.1	94.6	96.4	100.1	99.7	103.3	106.1	111.6	113.5	114.4	111.8	149.3
1250	94.4	97.2	96.2	94.6	97.1	99.7	99.8	103.5	107.0	110.8	113.2	113.3	110.8	148.8
1600	94.1	95.0	96.1	94.0	97.0	100.1	100.7	104.0	106.6	109.5	112.3	111.8	108.9	147.8
2000	95.5	95.6	95.7	94.1	96.7	99.6	100.1	104.1	106.2	109.8	111.3	108.6	105.9	146.9
2500	92.7	94.7	94.8	93.8	96.2	99.3	99.7	103.1	105.4	109.0	109.0	105.3	102.1	145.4
3150	92.3	94.6	94.9	92.9	95.5	99.3	99.9	102.9	104.7	107.3	106.6	101.2	97.6	144.0
4000	90.5	92.8	94.0	92.1	95.3	98.5	98.9	102.5	103.9	104.3	103.8	96.8	93.9	142.3
5000	90.2	92.7	93.6	92.3	94.5	97.7	98.1	101.5	101.5	102.6	100.9	94.7	90.4	140.8
6300	90.4	94.3	94.4	92.0	94.3	97.5	97.5	100.5	100.5	100.4	98.2	91.6	88.9	140.0
8000	88.8	94.2	95.0	92.7	94.6	96.6	96.3	98.2	98.7	97.1	95.0	89.2	86.8	138.8
10000	88.2	92.0	93.8	93.1	95.0	97.2	96 0	98.0	96.9	94.9	93.5	87.4	85.4	138.7
12500	86.7	89.5	91.3	91.4	94.0	96.8	95.3	94.8	94.9	92.5	89.6	86.0	83.0	137.7
16000	84.7	89.5	90.0	90.0	92.0	94.5	93.6	93.0	92.9	89.8	87.6	83.8	80.0	137.2
20000	81.9	86.8	87.4	87.9	89.9	91.5	91.3	90.2	89.3	86.5	84.0	80.6	77.9	136.3
25000	78.5	83.2	83.7	85.1	86.7	89.8	89.0	86.8	86.5	83.4	80.8	78.1	73.5	135.9
31500	75.3	79.6	80.6	81.6	82.5	85.6	84.6	83.6	82.4	79.2	77.1	74.0	69.7	135.1
40000	69.8	74.6	76.1	77.3	77.5	82.1	79.9	79.4	79.2	75.2	73.8	70.0	65.6	135.0
50000	63.8	68.2	70.0	71.0	71.5	77.9	74.0	73.2	72.7	68.7	67.7	64.4	59.1	133.8
63000	57.2	62.1	64.6	65.2	66.1	72.9	67.7	67.7	67.3	63.0	61.7	58.5	52.3	133.6
80000	50.2	54.1	57.3	56.8	58.3	68.7	60.6	60.1	59.0	54.8	54.5	51.1	43.7	134.5
OASPL	105.1	107.4	107.6	106.2	108.5	111.6	113.0	114.6	116.8	121.3	124.2	124.9	119.5	159.8
PNL	117.3	119.6	119.9	118.2	120.6	124.0	124.8	127.3	129.1	132.4	133.8	132.7	128.2	
PNLT	117.3	119.6	119.9	118.7	121.3	124.0	126.1	127.3	129.1	132.4	134.4	132.7	128.2	
DBA	172.9	177.2	179.9	180.0	181.2	190.1	183.2	182.9	182.1	177.9	177.1	173.8	167.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH171 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.89 PAMB HG = 29.21 RELHUM = 82.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1208.3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2000.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1135 TAPE = X1135F TEST PT NO = 1135 NC = AE085 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 - 83F-ZER-1135 X11351

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.0	67.5	69.4	68.6	71.1	74.1	75 4	76.9	78 9	83.9	87.0	87.5	73.8	161.6
63	64.3	66.8	67.4	68.2	71.2	75.9	78.4	77.9	80.2	84.9	88.0	88.0	76.0	162.5
80	64.9	68.0	69.1	68.4	72.1	75.4	85.9	78.4	80.6	87.1	89.7	89.1	77.7	164.3
100	65.4	69.0	70.6	69.8	72.9	77.1	77.6	79.6	82.1	88.1	90.9	89.3	78.3	164.8
125	65.7	69.3	70.9	70.0	73.5	76.7	78 0	80.2	82.2	88.9	90.5	88.4	80.0	164.8
160	67.6	69.5	71.3	70.4	74.1	77.4	78 1	80.9	83.6	88.3	89 8	87.6	80.4	164.6
200	70.2	72.9	73.6	72.9	75.1	78.9	78.4	81.6	83 6	88.0	88.2	86.7	80.4	164.2
250	68.8	73.3	73.5	72.7	75.6	78.4	78.3	81.6	84.2	86.9	87.5	85.2	78.6	163.7
315	68.0	70.7	73.1	71.8	75.2	78.5	78.9	81.8	83.6	85.2	86.3	83.1	75.9	162.7
400	68.9	70.9	72.3	71.5	74.6	77.6	77.9	81.5	82.8	85.0	84.7	79 2	71.9	161.8
500	65.5	69.6	71.0	70.8	73.7	77.0	77.2	80.1	81.6	83.8	81.9	75.2	67.0	160.3
630	64.6	69.0	70.6	69.6	72.7	76.6	77.1	79.6	80.5	81.7	78.9	70.4	61.4	158.9
800	62.2	66.7	69.3	68.4	72.1	75.5	75.7	78.7	79.2	78.2	75.5	65.1	56.5	157.2
1000	61.2	66.0	68.5	68.1	70.9	74.3	74.5	77.3	76.3	75.9	71.9	62.1	51.5	155.7
1250	60.6	67.0	68.7	67.3	70.2	73.6	73.5	75.8	74.8	73.1	68.3	57.9	48.3	154.9
1600	57.6	65.8	68.4	67.3	69.8	72.1	71.6	72.8	72.1	68.7	63.9	53.7	43.3	153.7
2000	55.3	62.3	66.1	66.7	69.3	71.7	70 3	71.5	69.2	65.1	60.5	49.4	38.2	153.6
2500	51.0	57.5	61.7	63.4	66.8	69.8	68.1	66.7	65.3	60.5	53.9	44.3	29.9	152.6
3150	44.7	54.1	57.5	59.4	62.4	65.2	64.0	62.4	60.4	54.4	47.6	36.1	17.5	152.1
4000	34.2	45.3	49.8	52.7	56.0	57.9	57.3	54.9	51.7	45.0	36.3	22.6		151.2
5000	19.5	32.5	38.2	42.8	46.2	49.8	48.4	44.4	41.0	32.7	21.7	4.7		150.8
6300		13.4	21.8	27.3	30.6	34.5	32.7	29.3	23.6	13 1				150.0
8000				2.4	6.1	11.9	8.5	4.5						149.9
10000														148.7
12500														148.5
16000														149.4
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	78.1	81.6	83.1	82.3	85.4	88 8	90.7	91.7	93.4	97.4	98.8	97.2	88.1	174.4
PNL	82.6	86.9	89.2	89.2	92.2	95.2	95.1	97.1	98.0	99.8	99.7	96.5	88.2	
PNLT	82.6	86.9	89.2	89.7	92.2	95.2	95.1	97.6	98.0	99.8	99.7	96.5	88.2	
DBA	71.8	76.3	78.4	77.8	80.8	84.0	84.0	86.4	87.1	88.5	87.8	83.9	76.6	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH171 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.89 PAMB HG = 29.21 RELHUM = 82 2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1208.3 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2000.1 FPS AE18 = 23.4 SQ IN

RUN/F - 83F-ZER-1135 TAPE - X11351 TEST PT NO = 1135 NC = AE085 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 83F-400-1136 X1136C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.6	88.9	87.7	85.5	82.1	84.2	85.8	86.5	86.7	87.5	93.1	94.3	89.5	130.3
63	90.5	94.5	97.3	93.9	89.5	91.1	93.5	94.6	92.3	92.9	93.8	95.7	97.6	136.0
80	90.0	95.1	90.6	90.1	90.5	95.1	93.0	93.4	93.3	93.2	96.5	97.0	86.6	135.4
100	88.2	93.2	90.3	89.0	90.6	94.5	92.6	95.8	93.0	95.8	96.5	101.4	88.6	136.4
125	86.6	88.9	90.7	90.5	92.6	94.4	93.3	93.0	92.4	96.0	102.6	106.1	92.0	138.8
160	84.2	82.2	87.7	84.5	86.1	89.0	93.9	90.3	93.2	96.6	101.7	105.1	95.5	137.7
200	84.3	84.6	86.6	84.1	85.7	89.3	91.0	92.1	97.1	96.6	102.8	108.2	97.6	139.7
250	83.5	86.1	86.3	85.1	87.5	90.6	92.0	93.6	97.6	101.6	107.5	111.0	100.1	142.9
315	84.3	86.1	86.4	85.4	86.8	90.9	95.0	94.2	97.6	103.2	108.6	111.5	100.9	143.7
400	84.8	85.6	86.9	84.9	87.7	90.9	102.2	94.4	97.4	105.2	110.3	111.7	100.2	145.0
500	85.3	86.4	87.9	86.2	88.3	92.4	92.3	95.4	98.1	106.2	111.1	111.0	97.2	144.8
630	85.8	86.6	88.3	85.9	89.2	92.6	93.5	96.4	98.3	107.2	110.3	108.7	95.1	144.1
800	86.3	86.6	87.9	86.7	89.8	93.1	94.5	97.7	100.6	107.2	110.1	106.3	93.9	143.8
1000	88.2	88.5	89.6	87.8	90.4	94.3	94.4	98.1	101.1	107.6	108.5	103.7	92.3	143.1
1250	87.4	89.9	90.0	88.6	90.3	93.7	94.8	98.5	102.2	106.5	107.9	100.3	91.8	142.4
1600	87.6	88.0	89.4	88.8	91.3	94.9	96.0	99.3	102.6	105.5	107.3	99.3	91.2	142.1
2000	89.0	88.1	89.0	87.9	90.5	94.8	95.6	99.9	102.5	105.8	106.5	97.9	91.1	141.9
2500	87.2	88.2	88.5	87.8	90.4	94.5	95.5	99.1	101.2	105.5	104.7	97.3	91.8	141.0
3150	87.3	88.1	89.1	87.4	90.5	94.8	94.9	98.4	100.7	103.6	102.8	96.0	90.1	139.8
4000	87.3	87.8	88.7	86.6	90.6	94.5	94.4	98.5	100.1	101.6	101.3	94.1	89.7	138.8
5000	88.5	88.7	89.6	87.3	89.8	93.5	93.9	97.7	98.7	100.3	98.9	93.4	87.9	137.8
6300	90.9	91.8	90.9	87.7	90.0	93.0	93.0	96.2	98.0	97.9	95.4	90.1	86.1	136.7
8000	90.0	92.4	93.2	90.4	90.1	92.6	91.8	94.4	95.7	94.6	92.5	87.5	84.8	135.7
10000	89.7	90.5	92.1	91.4	92.0	93.2	92.0	94.2	93.7	92.9	90.5	85.6	83.2	135.7
12500	87.7	89.0	90.8	89.4	91.5	93.8	91.5	91.8	91.4	89.5	86.8	84.5	81.5	135.1
16000	86.5	88.8	89.5	88.7	90.3	91.5	90.3	90.0	90.4	87.1	85.6	82.8	79.0	135.0
20000	82.9	86.1	86.4	86.7	88.2	89.2	88.8	87.2	86.6	83.8	82.7	80.4	76.9	134.3
25000	79.8	82.7	83.8	84.1	85.0	88.4	87.3	85.5	84.3	80.7	79.5	79.1	73.2	134.5
31500	76.0	78.6	80.4	80.9	80.7	84.6	82.8	82.4	80.6	77.0	76.6	75.0	70.0	133.9
40000	71.3	75.2	76.2	76.3	76.7	80.9	78.9	78.7	78.0	74.0	73.5	71.2	65.4	134.2
50000	65.6	68.0	70.1	70.8	71.3	75.7	73.0	72.8	71.2	68.0	67.7	66.2	59.1	132.8
63000	59.0	61.9	64.1	64.5	66.4	70.9	66.7	67.8	66.3	62.3	61.2	59.3	52.6	132.7
80000	51.7	53.9	56.7	55.9	57.7	64.0	59.9	60.7	58.6	54.6	54.8	52.2	44.8	132.2
OASPL	102.0	104.0	104.5	102.8	104.2	107.4	108.7	110.3	112.6	117.1	119.8	119.5	108.7	155.2
PNL	113.8	114.9	115.2	113.4	115.8	119.5	120.3	123.0	125.2	128.8	129.6	126.9	117.6	
PNLT	113.8	114.9	115.2	114.1	116.5	119.5	121.7	123.0	125.2	128.8	130.2	126.9	117.6	
DBA	99.8	100.6	101.4	99.7	102.0	105.6	106.7	109.7	112.2	116.4	118.1	115.1	104.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH162 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 37.02 PAMB HG = 29.02 RELHUM = 81.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1209.7 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1989.3 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1136 TAPE = X1136C TEST PT NO = 1136 NC = AE085 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 - 83F-400-1136 X1136F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.8	92.1	91.0	88.3	89.0	90.6	90.4	90.3	95.4	100.5	105.7	109.3	100.8	141.5
315	90.8	92.1	91.0	88.3	88.5	91.1	94.1	92.2	95.1	102.5	107.6	110.1	101.4	142.7
400	91.3	92.1	91.0	88.6	89.5	91.1	101.3	92.3	95.9	103.5	108.5	110.0	99.9	143.4
500	92.0	91.7	91.6	88 2	90 2	92.7	91.3	93.2	96.3	104.7	108.0	108.6	99 9	142.7
630	93.0	92.8	92.9	89.6	91.2	93.0	92 5	94.1	98.9	105.2	108.5	107.5	101.5	142.9
800	93.5	93.0	93.4	89.4	91.8	93.6	93.6	95.5	99.8	106.1	107.6	106.2	102.4	142.7
1000	94.0	93.1	92.9	90.2	92.6	94.9	93.6	96.0	101.0	105.0	106.9	102.8	101.7	141.9
1250	95.8	94.9	94.6	91.5	92.6	94.5	94.2	96.5	101.6	104.2	106.6	101.9	101.4	141.8
1600	94.5	96.0	94.9	92.2	93.7	95.9	95 5	97.5	101.8	104.7	106.1	100.8	101.5	141.9
2000	95.2	94.5	94.6	92.6	93.1	96.1	95.4	98.4	101.1	105.1	105.1	101.2	103 3	141.8
2500	96.7	94.6	94.3	91.9	93.3	96.1	95 7	98.1	101.1	103.8	103.8	100.5	102.2	141.2
3150	94.8	94.8	94.0	91.9	93.7	96.8	95.6	97.9	101.4	102.7	103.0	99.3	102.3	140.8
4000	94.9	94.8	94.7	91.8	94.8	97.1	96.0	98.8	100.3	101.7	100.9	98.9	100.8	140.3
5000	97.6	96.8	96.2	92.4	93.8	96.5	95.9	98 4	100.2	99.9	98.1	96.3	99.7	139.9
6300	95.9	95.5	95.4	92.1	93.7	96.0	95.3	97.4	99.0	97.8	96.3	94.5	98.9	139.0
8000	96.0	96.7	95.4	91.6	93.8	95.6	94 3	96.2	97.3	96.4	94.4	92.5	96.9	138.5
10000	95.1	97.3	97.7	94.3	96.0	96.2	94.3	96.0	92.8	90.4	88.0	88.7	92.7	138.6
12500	96.5	96.7	97.3	95 6	95.5	96.8	93.0	91.8	92.3	88.5	87.4	87.6	90.7	139.0
16000	94.0	94.6	95.5	93.2	94.3	94.5	91.8	90.0	88.9	85.6	84.9	85.6	89.0	138.4
20000	92.4	94.0	93 8	92.1	92.2	92.2	90.2	87.2	87.2	83.1	82.3	84.9	86.0	138.5
25000	88.2	90.6	90.1	89.4	89.1	91.4	88.7	85.5	84.4	80.2	80.2	81.6	83.5	138.2
31500	84.3	86.5	86.7	86.1	84.8	87.6	84.3	82.4	82.5	78.1	77.9	78.7	79.8	137.7
40000	79.7	81.6	82.5	82.0	81.3	83.9	80.4	78.7	76.2	72.4	72.5	74.0	73.9	137.4
50000	77.4	80.0	79.5	78.2	75.9	78.7	74.5	72.8	72.2	67.7	67.0	68.0	68.3	137.8
63000	70.8	71.9	72.5	71.7	71.0	73.9	68.2	67.8	66.0	61.5	62.0	62.4	61.9	136.9
80000	62.7	64.3	65.1	63.9	62.3	67.0	61.3	60.7	56.2	51.7	52.2	52.6	52.1	136.1
OASPL	107.7	107.9	107.7	105.0	106.3	108.2	108.1	108.9	111.9	115.5	117.8	117.5	113.3	154.7
PNL	119.6	119.3	118 8	115.8	117.8	120.1	119.6	121.6	124.3	126.6	127.4	125.1	125.4	
PNLT	119.6	119.3	118.8	115 8	117.8	120.1	121.0	121.6	124.3	126.6	127.4	125.1	125.4	
DBA	185.7	187.4	187.9	186.8	185.4	189.3	183 9	183.1	180.2	175.7	176.0	176.6	176.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH162 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 37.02 PAMB HG = 29.02 RELHUM = 81.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40 0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1209.7 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1989.3 FPS AE18 = 23.4 SQ IN

RUNPT - 83F-400-1136 TAPE = X1136F TEST PT NO = 1136 NC = AE085 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 - 83F-400-1136 X11361

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130	140.	150.	160.	PWL
50	66.3	69.1	69.1	67 0	68.2	69.9	69.6	69 1	73.5	77.4	81.1	82.6	70.7	156.4
63	66.2	69.1	69.0	67.0	67.6	70.4	73 3	71.0	73.2	79.4	83.0	83.3	71.2	157.6
80	66.7	69.0	69.0	67.4	68.7	70.4	80.4	71.0	73.9	80.4	83.9	83.2	69.7	158.3
100	67.2	68.5	69.5	66.9	69.2	71.9	70.3	71 9	74.2	81.5	83.3	81.7	69.5	157.6
125	68.2	69.5	70.7	68 2	70.2	72.1	71.5	72.7	76.8	81.9	83.7	80.4	70.8	157.8
160	68.4	69.6	71.1	67.8	70.7	72.7	72.5	73.9	77.5	82.7	82.6	78.9	71.4	157.6
200	68.7	69.4	70.5	68.5	71.3	73.8	72.4	74 3	78.5	81.4	81.6	75.0	70.2	156.8
250	70.2	71 0	71.9	69.5	71.1	73.2	72.7	74.6	78.9	80.3	81.0	73.8	69.2	156.7
315	68.4	71.8	71.8	69 9	71.9	74.3	73.8	75.3	78.7	80.5	80.0	72.0	68.6	156.8
400	68.6	69.8	71.2	70.0	71.0	74.1	73.3	75.8	77.6	80.4	78.5	71.8	69.3	156.7
500	69.5	69.5	70.5	68.9	70.9	73.8	73 2	75.1	77.3	78.6	76.6	70.3	67.1	156.1
630	67.1	69.2	69.7	68.6	70.9	74.2	72.8	74.5	77.2	77.0	75.3	68.4	66.1	155.7
800	66.5	68.6	70.0	68.0	71.6	74.1	72.8	75.1	75.6	75.5	72.5	67.1	63.3	155.2
1000	68.6	70.1	71.0	68.3	70.2	73.1	72.3	74.3	75.1	73.2	69.1	63.7	60.8	154.8
1250	66.1	68.1	69.7	67.5	69.7	72.1	71.3	72.8	73.3	70.5	66.5	60.7	58.2	153.9
1600	64.9	68.4	68.8	66.2	69.0	71.1	69.5	70.8	70.7	68.0	63.2	56.9	53.4	153.4
2000	62.2	67.5	69.9	67.8	70.3	70.7	68.6	69.5	65.0	60.6	55.1	50.7	45.5	153.5
2500	60.9	64.7	67.8	67 6	68.3	69.8	65.7	63.7	62.7	56.6	51.7	45.9	37.7	153.9
3150	54.0	59.2	63 0	62.5	64.7	65.2	62.2	59.4	56.5	50.2	44.9	37.9	26.5	153.3
4000	44.8	52.5	56.1	56.8	58.3	58.7	56.3	51.9	49.5	41.6	34.7	26.8	7.6	153.4
5000	29.2	40.0	44.6	47.1	48.5	51.3	48 1	43.2	38.9	29.5	21.1	8.2		153.1
6300	6.3	20.4	27.9	31.7	32.9	36.5	32.4	28.0	23.7	11.9				152.6
8000			1.0	7.1	10.0	13.7	9.0	3.7						152.3
10000														152.7
12500														151.8
16000														151.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	80.0	81.8	82.8	80.8	82.9	85 2	85.7	85.8	88.4	91.5	92.4	90.2	80.7	169.6
PNL	85.9	89.3	91.2	90.0	91.6	93.5	91.8	92.3	93.3	94.8	93.8	89.2	82.6	
PNLT	85.9	89.3	91 7	90.5	91.6	93 5	91.8	92.8	93.3	94.8	93.8	89.2	82.6	
DBA	75.8	78.1	79.5	77.7	79.9	82.0	80 7	82.3	83.5	83.9	82.3	76.3	72.2	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH162 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 37.02 PAMB HG = 29.02 RELHUM = 81.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1209.7 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1989.3 FPS AE18 = 23 4 SQ IN

RUNDT = 83F 400 1136 IADF = X11361 TEST PT NO = 1136 NC = AE085 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 83F-ZER-1137 X1137C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120	130.	140.	150.	160.	PWL
50	88.1	88.9	86.2	84.7	85.1	86.7	90.8	91.5	91.4	90.7	93.6	99.6	89.5	133.2
63	91.0	93.8	94.8	92.1	91.7	94.3	95.7	96.4	96.6	96.4	95.5	98.2	93.9	137.0
80	91.8	96.8	92.3	91.4	92.7	97.3	95.2	95.6	95.6	96.2	99.3	99.7	85.4	137.7
100	90.5	98.0	93.3	93.0	94.6	98.5	96.1	99.0	96.8	100.3	101.0	104.9	89.3	140.2
125	88.1	91.4	94.7	94.0	96.6	98.9	96.6	97.0	96.9	100.8	107.6	109.3	94.0	142.8
160	86.2	87.7	91.0	88 3	90.1	94.0	99.1	96.3	97.7	101.8	106.9	109.9	98.8	142 7
200	89.0	89.3	90.8	89.6	92.0	96.3	97.5	98.4	101.6	103.6	109.3	113.5	102.4	145.4
250	89.5	91.8	92.6	91.6	94.0	96.8	97.5	99.9	103.1	108.6	113.8	116.5	105.6	148.8
315	90.6	92.1	91.1	91.2	94.3	98.4	101.3	100 9	104.6	110.5	114.6	117.5	108.4	150.0
400	91.6	93.3	93.4	92.7	94.7	98.4	109.7	101.4	105.4	112.7	116.8	118.2	109.9	151.8
500	92.6	94.4	94.6	93.4	96.0	100.1	100.3	103 2	106.9	114.0	118.1	119.5	111.2	152 7
630	93.3	95.1	95 3	94 4	97.0	99.8	101.0	103.9	107.1	114.2	117.5	118.5	112.6	152.3
800	96.1	95.9	96.4	94.4	98.0	100.6	101.8	105.4	109.4	113.7	117.6	118.8	113.4	152.6
1000	99.2	101.5	99.6	97.6	99.2	102.1	102.7	106.3	109.6	114.1	116.8	118.7	113.3	152.5
1250	98.2	101.2	100.7	98.9	100.3	102.7	102.8	106.3	110.0	113.3	116.9	116.8	112.0	151.9
1600	98.1	98.0	98.9	97.3	100.0	103.1	103.5	107.5	110.6	112.2	116.3	115.0	109.2	151.1
2000	98.3	99.6	99.0	96.6	99.0	102.8	103.3	107.4	110.0	112.8	114.8	111.9	106.1	150.1
2500	96.7	100.2	99.0	97.0	98.9	102.3	103.0	106.6	108.7	112.2	112.5	108.6	102.8	148.7
3150	97.8	101.1	100.4	97.4	98.5	102.0	102.4	106.1	108.7	110.3	109.6	105.0	99.4	147.3
4000	96.3	99.8	101.5	98.6	100.3	102.0	101.7	105.7	107.4	107.6	107.1	101.3	96.7	146.0
5000	94.2	98.0	99.9	98.3	100.3	102.0	101.9	104.5	105.5	106.6	104.4	99.2	94.2	144.9
6300	93.1	97.8	98.1	97.5	100.3	102.5	101.5	103.7	104.7	103.9	101.2	97.2	91.9	144 0
8000	91.8	95.9	97.2	96.2	98.8	101.4	100.6	102.4	102.4	100.6	98.3	95.0	89.5	142.6
10000	91.4	95.8	97.3	96.1	98.5	101.0	100.0	101.7	101.2	98.6	96.5	92.1	88.7	142.4
12500	89.7	93.0	95.3	95.2	98.2	100.8	99.3	99.5	98.9	96.5	93.1	90.7	86.0	141.8
16000	88.7	93.0	94.2	94.5	96.5	99.5	98.6	98.0	97.4	94.1	91.1	88.3	83.0	141.9
20000	86.6	90.0	91.4	92.4	94.7	96.7	95.8	94.9	94.3	91.2	87.2	85.1	80.6	140.9
25000	82.8	87.0	88.5	89.4	90.7	94.8	93.0	91.5	91.2	85.9	83.3	82.1	75.9	140.3
31500	79.2	82.8	85.1	86.1	87.5	90.6	89.1	88.6	87.1	82.7	80.3	77.9	71.7	139.7
40000	74.0	78.3	80.3	82.0	82.2	87.3	84.4	84.1	84.1	79.4	77.0	74.2	67.3	139.7
50000	68.1	71.6	73.2	75.8	76.3	81.8	78.7	78.0	77.9	73.4	71.1	68.1	62.0	138.2
63000	62.9	65.5	67.8	69.4	70.8	76.6	71.6	72.9	72.7	67.0	65.1	61.4	54.8	137.8
80000	58.9	58.8	61.0	61.2	62.5	70.1	65.8	65.6	65.0	59.7	57.7	55.0	46.6	137.8
OASPL	108.5	111.3	111.3	109.7	111.8	114.7	115.9	117.6	120.1	123.9	127.1	128.0	121.2	162.7
PNL	121.4	124.3	124.6	122.5	124.4	127.0	127.6	130.4	132.7	135.4	136.9	135.9	129.4	
PNLT	121.4	125.3	124.6	123.0	125.1	127.0	129.1	130.4	132.7	135.4	137.5	135.9	129.4	
DBA	108.2	110.8	110.8	108.8	110.9	113.7	114.4	117.3	120.0	123.2	125.9	126.0	120.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH170 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.93 PAMB HG = 29.22 RELHUM = 81.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1303.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2143.1 FPS AE18 = 23.4 SQ IN

DUMPT = 83F-ZER-1137 TAPE = X1137C TEST PT NO = 1137 NC = AE085 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 - 83F-ZER-1137 X1137F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.1	88.9	86.2	84.7	85.1	86.7	90.8	91.5	91.4	90.7	93.6	99.6	89.5	133.2
63	91.0	93.8	94.8	92.1	91.7	94.3	95.7	96.4	96.6	96.4	95.5	98.2	93.9	137.0
80	91.8	96.8	92.3	91 4	92.7	97.3	95.2	95.6	95.6	96.2	99.3	99.7	85.4	137.7
100	90.5	98.0	93.3	93.0	94.6	98.5	96.1	99.0	96.8	100.3	101.0	104.9	89.3	140.2
125	88.1	91.4	94.7	94.0	96.6	98.9	96.6	97.0	96.9	100.8	107.6	109.3	94.0	142.8
160	86.2	87.7	91.0	88.3	90.1	94.0	99.1	96.3	97.7	101.8	106.9	109.9	98.8	142.7
200	89.0	89.3	90.8	89.6	92.0	96.3	97.5	98.4	101.6	103.6	109.3	113.5	102.4	145.4
250	89.5	91.8	92.6	91.6	94.0	96.8	97.5	99.9	103.1	108.6	113.8	116.5	105.6	148.8
315	90.6	92.1	91.1	91.2	94.3	98.4	101.3	100.9	104.6	110.5	114 6	117.5	108.4	150.0
400	91.6	93.3	93.4	92.7	94.7	98.4	109.7	101.4	105.4	112.7	116.8	118.2	109.9	151.8
500	92.6	94.4	94.6	93.4	96.0	100.1	100.3	103.2	106.9	114.0	118.1	119.5	111.2	152.7
630	93.3	95.1	95.3	94.4	97.0	99.8	101.0	103.9	107.1	114.2	117.5	118.5	112.6	152.3
800	96.1	95.9	96.4	94.4	98.0	100.6	101.8	105.4	109.4	113.7	117.6	118.8	113.4	152 6
1000	99.2	101.5	99.6	97.6	99.2	102.1	102.7	106.3	109.6	114.1	116.8	118.7	113.0	152.5
1250	98.2	101.2	100.7	98.9	100.3	102.7	102.8	106.3	110.0	113.3	116.9	116.8	112.0	151.9
1600	98.1	98.0	98.9	97.3	100.0	103.1	103.5	107.5	110.6	112.2	116.3	115.0	109.2	151.1
2000	98.3	99.6	99.0	96.6	99.0	102.8	103 3	107.4	110.0	112.8	114.8	111.9	106.1	150.1
2500	96.7	100.2	99.0	97.0	98.9	102.3	103.0	106.6	108.5	112.2	112.5	108.6	102.8	148.7
3150	97.8	101.1	100.4	97.4	98.5	102.0	102.4	106.1	108.7	110.3	109.6	105.0	99.4	147.3
4000	96.3	99.8	101.5	98.6	100.3	102.0	101.7	105.7	107.4	107.6	107.1	101.3	96.7	146.0
5000	94.2	98.0	99.9	98.3	100.3	102.0	101.9	104.5	105.5	106.6	104.4	99.2	94.2	144.9
6300	93.1	97.8	98.1	97.5	100.3	102.5	101.5	103.7	104.7	103.9	101.2	97.2	91.9	144.0
8000	91.8	95.9	97.2	96.2	98.8	101.4	100.6	102.4	102.4	100.6	98.3	95.0	89.5	142.6
10000	91.4	95.8	97.3	96.1	98.5	101.0	100.0	101.7	101.2	98.6	96.5	92.1	88.7	142.4
12500	89.7	93.0	95.3	95.2	98.2	100.8	99.3	99.5	98.9	96.5	93.1	90.7	86.0	141.8
16000	88.7	93.0	94.2	94.5	96.5	99.5	98.6	98.0	97.4	94.1	91.1	88.3	83.0	141.9
20000	86.6	90 0	91.4	92.4	94.7	96.7	95.8	94.9	94.3	91.2	87 2	85.1	80 6	140.9
25000	82.8	87.0	88.5	89.4	90.7	94.8	93.0	91.5	91.2	85.9	83.3	82.1	75.9	140.3
31500	79 2	82.8	85.1	86.1	87.5	90.6	89.1	88.6	87.1	82.7	80 3	77.9	71.7	139.7
40000	74.0	78.3	80.3	82.0	82.2	87.3	84.4	84.1	84.1	79.4	77.0	74.2	67.3	139.7
50000	68.1	71.6	73.2	75 8	76 3	81.8	78.7	78.0	77.9	73.4	71.1	68.1	62.0	138.2
63000	62.9	65.5	67.8	69.4	70.8	76.6	71.6	72.9	72.7	67.0	65.1	61.4	54.8	137.8
80000	58.9	58.8	61.0	61.2	62.5	70.1	65.8	65.6	65.0	59.7	57.7	55.0	46.6	137.8
OASPL	108.5	111.3	111.3	109.7	111.8	114.7	115.9	117.6	120.1	123.9	127.1	128.0	121.2	162.7
PNL	121.4	124.3	124.6	122.5	124.4	127.0	127.6	130.4	132.7	135.4	136.9	135.9	129.4	
PNLT	121.4	125.3	124.6	123.0	125.1	127.0	129.1	130.4	132.7	135.4	137.5	135.9	129.4	
DBA	180.3	181.3	183.5	184.5	185.6	192.3	188.0	188.2	187.8	182.5	180.4	177.5	170.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH170 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.93 PAMB HG = 29.22 RELHUM = 81.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1303.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2143.1 FPS AE18 = 23.4 SQ IN

PUNPT - 83F-ZER-1137 TAPE = X1137F TEST PT NO = 1137 NC = AE085 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 - 83F-ZER-1137 X11371

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.0	68.8	70.6	70.4	73.1	76.1	76.6	78.6	81.1	85.6	89.2	89.7	75.5	163.7
63	66.0	69.1	69.2	69 9	73.4	77.7	80.4	79.7	82.7	87.4	90.0	90.7	78.3	164.9
80	66.9	70.3	71.4	71 4	73.9	77.6	88 9	80.1	83.4	89.6	92.2	91.4	79.7	166.7
100	67.9	71.2	72.6	72.1	75.1	79.4	79.4	81.8	84.8	90.8	93.4	92.6	80.8	167.6
125	68.5	71.8	73.2	73 0	76 0	79.0	80.0	82.5	84.9	90 9	92.7	91.4	82.0	167.2
160	71.1	72.5	74.1	72.9	76.9	79.6	80.6	83.9	87.1	90.3	92.6	91.4	82.4	167.5
200	74.0	77.9	77.1	75.9	77.9	80.9	81.4	84.6	87.1	90.5	91.5	91.0	81.9	167.4
250	72.5	77.3	78.0	76.9	78.8	81.4	81.3	84.3	87.2	89.4	91.3	88.7	79.9	166.8
315	72.0	73 7	75.8	75.0	78.2	81.5	81.7	85.3	87.6	87.9	90.3	86.3	76.2	166.0
400	71.7	74.9	75.6	74.0	76.8	80.9	81.2	84.8	86.6	88.1	88.2	82.5	72.1	165.0
500	69.5	75.1	75.2	74.1	76.4	80.0	80.5	83.6	84.9	87.1	85.4	78.4	67.7	163.6
630	70.1	75.5	76.1	74.1	75.7	79.4	79.6	82.8	84.5	84.7	81.9	74.1	63.2	162.2
800	67.9	73.7	76.8	74.9	77.1	79.0	78.5	82.0	82.7	81.4	78.7	69.6	59.2	160.9
1000	65.2	71.3	74.7	74.1	76.7	78.6	78 3	80.3	80.3	79.9	75.4	66.6	55.3	159.8
1250	63.3	70.5	72.4	72.8	76.2	78.6	77.5	79.1	79.0	76.6	71.3	63.4	51.3	158.9
1600	60.6	67.5	70.7	70.8	74.1	76.8	75.8	77.0	75.9	72.2	67.1	59.4	46.1	157.5
2000	58.5	66.0	69.6	69.7	72.8	75.5	74.3	75.3	73.4	68.8	63.6	54.1	41.4	157.3
2500	54.0	61.0	65.7	67.1	71.0	73.8	72.1	71.5	69.3	64.5	57.4	49.0	32.9	156.7
3150	48.7	57.6	61.8	63.9	66.9	70.2	69.0	67.4	64 9	58.7	51.1	40.6	20.5	156.8
4000	39.0	48.5	53.8	57.2	60.7	63.2	61.8	59.7	56.7	49.7	39.6	27.1	2.2	155.8
5000	23.7	36.3	43.0	47.0	50.2	54.8	52.4	49.2	45.7	35.2	24.2	8.7		155.2
6300	1.2	16.7	26.3	31.8	35.5	39.4	37.1	34.2	28.3	16.6	2.3			154.6
8000				7.1	10.8	17.1	13.0	9.2	2.6					154.6
10000														153.1
12500														152.7
16000														152.7
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	81.6	85.7	86.8	85.9	88.6	91.7	93.6	94 6	96.8	99.9	101.6	100.3	89.8	177.4
PNL	86.1	90.9	93.0	92.8	95.9	98.9	98.6	100.4	101.7	102.8	103.0	100.3	89.9	
PNLT	86.1	91.4	93.0	93.4	96.5	98.9	98 6	101.0	101.7	102.8	103.0	100.3	89.9	
DBA	75.8	81.1	83.0	82 2	85.0	87.7	87.3	89.8	90.8	91.5	91.2	87.5	77.8	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH170 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.93 PAMB HG = 29.22 RELHUM = 81.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1303.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2143.1 FPS AE18 = 23.4 SQ IN

RUNDT = 83F ZER 1137 TAPE = X11371 TEST PT NO = 1137 NC = AE085 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 83F-400-1138 X1138C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.1	90.7	87.2	85.0	85.6	86.7	85.3	89.5	88.2	92.2	94.4	95.8	91.5	132.1
63	92.3	94.5	96.1	93.1	91.5	92.8	94.7	95.9	93.1	96.9	96.0	98.2	97.4	136.9
80	93.0	97.6	93.1	93.4	93.7	97.8	96.0	96.4	96.1	95.4	98.8	99.0	91.9	138.1
100	90.7	96.2	92.8	91.8	93.4	97.8	95.9	99.3	95.8	98.1	98.5	104.4	92.6	139.3
125	88.9	90.4	92.7	92.2	94.6	96.9	95.1	95.2	94.7	97.5	104.6	107.8	95.0	140.7
160	86.2	84.2	89.5	86.8	88.6	92.0	96.1	93.0	95.0	98.6	105.4	108.6	98.0	140.9
200	86.5	87.1	87.8	86.1	88.5	91.8	93.7	95.1	99.6	99.4	106.0	110.7	99.9	142.4
250	85.3	87.8	88.6	87.6	89.7	93.3	94.5	96.4	100.3	105.1	111.0	114.0	103.1	146.1
315	86.6	88.1	87.6	87.2	90.3	93.9	97.5	96.9	100.9	106.7	112.3	115.0	104.2	147.3
400	87.3	88.1	89.4	87.7	90.7	93.4	104.5	97.2	101.1	108.4	113.8	115.5	103.4	148.4
500	88.1	89.4	90.6	88.9	91.0	94.9	95.3	98.2	101.6	110.5	115.1	114.8	101.4	148.7
630	88.3	89.1	90.6	89.4	92.5	95.3	96.0	99.4	102.1	111.2	114.8	113.0	99.1	148.3
800	89.3	89.6	90.6	89.9	93.3	95.9	97.0	100.4	104.4	111.2	114.3	111.0	97.7	147.9
1000	91.5	92.0	93.1	91.3	93.7	97.3	97.2	101.6	104.6	111.6	113.5	108.4	96.3	147.4
1250	90.4	92.9	93.2	91.1	93.8	97.0	97.3	101.8	105.7	111.3	111.9	104.8	95.5	146.5
1600	90.8	91.0	92.4	91.3	94.5	98.1	98.5	102.5	106.4	110.0	112.1	103.8	94.9	146.3
2000	92.0	91.3	92.5	90.9	94.2	97.8	98.6	103.1	106.5	110.8	111.5	102.6	95.6	146.4
2500	93.9	94.2	93.0	91.0	93.9	97.8	98.5	102.6	105.4	111.0	110.7	103.1	95.8	146.1
3150	95.8	96.1	95.4	92.4	94.2	98.0	97.9	102.2	105.7	109.6	108.3	102.0	95.1	145.0
4000	94.8	95.3	96.2	93.9	95.6	97.8	97.4	101.7	104.6	107.1	107.1	99.6	94.5	143.8
5000	94.0	94.5	95.9	94.3	95.8	98.0	97.4	100.7	103.0	106.6	104.9	97.7	92.2	142.9
6300	92.7	94.8	95.4	94.2	96.0	98.7	97.5	100.2	101.7	102.9	101.2	94.7	90.1	141 3
8000	92.3	94.2	94.0	93.5	95.3	98.1	96.1	98.7	100.2	100.1	97.8	91.7	87.8	140.0
10000	92.7	94.1	95.1	93.1	95.3	98.3	96.5	98.2	98.7	97.4	95.2	89.4	85.9	139.8
12500	91.0	92.5	93.5	92.9	94.5	97.8	96.0	96.3	96.1	95.0	91.3	88.2	84.5	139.2
16000	89.5	92.5	93.2	92.5	94.3	96.8	95.3	95.2	95.4	91.8	89.1	86.3	82.0	139.6
20000	86.6	89.8	89.9	90.4	92.7	94.4	94.0	92.7	91.8	89.0	87.0	84.6	79.9	139.0
25000	83.5	86.9	86.7	88.1	89.2	93.3	91.7	89.5	89.0	84.6	83.0	82.5	76.9	138.9
31500	79.7	82.5	83.6	84.8	86.2	89.6	87.5	86.5	85.6	80.9	80.0	78.4	72.9	138.4
40000	74.7	77.8	79.3	80.2	80.9	85.5	83.1	82.6	82.6	77.6	76.9	74.6	68.8	138.3
50000	68.5	71.6	72.7	74.2	75.0	81.1	77.4	76.4	76.3	71.8	71.4	68.8	62.7	137.1
63000	62.1	65.5	67.2	68.1	69.7	75.0	70.8	71.4	71.2	66.1	65.3	62.4	56.5	136.6
80000	54.3	57.2	59.5	59.7	61.2	68.1	64.0	63.8	63.2	58.9	57.9	55.5	48.6	136.0
OASPL	105.7	107.2	107.3	105.9	107.9	111.0	111.6	113.6	116.4	121.5	124.0	123.1	111.9	159.2
PNL	118.8	119.6	119.9	118.0	120.1	123.0	123.3	126.4	129.4	133.7	134.6	130.9	121.5	
PNLT	118.8	119.6	119.9	118.0	120.7	123.0	124.6	127.0	129.4	133.7	134.6	130.9	121.5	
DBA	104.4	105.1	105.6	103.8	106.1	109.2	109.6	113.0	116.2	121.2	122.7	119.3	108.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH163 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.89 PAMB HG = 29.11 RELHUM = 80.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1324.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2171.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1138 TAPE = X1138C TEST PT NO = 1138 NC = AE085 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 - 83F-400-1138 X1138F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	93.2	94.3	93.5	90 9	91.3	93.3	92.9	93.2	98.6	103.9	109.4	112.8	104.0	144.9
315	93.2	94.3	93.5	90.9	92.1	94.1	96.6	94.9	98.9	105.7	111.1	113.9	104.6	146.3
400	94.3	94.5	92.6	90.6	92.6	93.6	103.5	95.1	99.4	107.7	112.5	113.8	104.2	147.1
500	94.7	94.3	94.2	91.0	92.9	95.2	94.2	96.0	100.0	108.7	112.5	112.9	103.9	146.8
630	95.7	95.7	95.6	92.4	94.4	95.7	95.0	97.1	102.7	109.2	112.8	112.3	105.3	147.1
800	96.0	95.5	95.6	92.9	95.3	96.4	96.1	98.3	103.3	110.1	112.6	111.0	106.4	147.0
1000	97.0	96.1	95.7	93.5	95.8	97.9	96.4	99 5	104.4	109.7	110.9	107.1	105.3	145.9
1250	98.7	98.2	98.0	94.9	96.1	97.8	96.7	99.7	105.3	108.6	111.3	106.3	105.0	145.9
1600	97.7	99.2	98.3	94.8	97.0	99.2	98.0	100.8	105.7	109.7	111.0	105.4	106.0	146.3
2000	98.5	97.5	97.6	95.1	96.9	99.1	98.4	101.6	105.1	110.4	110.8	106.6	106.9	146.5
2500	99.7	97.9	97.8	94.9	96.6	99.4	98.6	101.5	106.0	109.7	109.1	106.3	107.1	146.1
3150	99.9	99.7	97.7	94.7	97.0	100.1	98.6	101.6	105.7	107.9	108.5	104.5	106.8	145.4
4000	100.7	100 6	99.3	95.7	99.1	100.3	98.7	101.8	103.9	107.2	106.0	102.1	104.1	144.6
5000	101.1	101.2	101.4	98.2	99.8	101.0	98.9	100.8	103.7	104.5	103.4	100.4	103.4	144.1
6300	101.4	101.2	101.7	99.1	100.1	101.7	99.7	101.2	102.8	102.5	100.9	98.3	101.9	143.9
8000	100.0	101.4	101.1	98.9	99.4	101.1	98.4	100.1	102.3	101.0	99.7	97.3	101.2	143.5
10000	99.4	100.6	99.5	98.0	99.3	101.3	99.0	100.1	99.1	97.9	94.8	94.7	97.8	142.8
12500	99.6	100.2	100.3	97.4	98.5	100.8	97.9	97.2	98.2	94.7	92.6	92.8	95.4	142.8
16000	97.3	98.1	98.3	96.7	98.3	99.8	97.0	95.8	94.1	90.8	89.1	89.8	92.0	142.5
20000	95.4	97.7	97.5	95.8	96.7	97.4	95.5	92.7	91.9	87.1	85.8	88.3	89.7	142.7
25000	91.9	94.4	93.6	93.1	93.8	96.3	93.1	89.5	89.3	84.1	83.6	85.0	86.4	142.4
31500	90.8	93.0	91.3	91.2	90.8	92.6	88.9	86.5	87.1	81.7	81.3	82.1	83.2	142.9
40000	86.2	87.8	87.3	87.1	85.5	88.5	84.5	82.6	81.3	76.3	76.1	76.6	77.5	142.3
50000	80.8	82.6	82.7	82.0	79.6	84.1	78 8	76.4	77 1	71.6	71.1	71.1	72.2	141.6
63000	73.7	75.5	75.1	75.1	74.3	78.0	72.3	71.4	70.6	65.8	65.1	65.7	65.8	140.5
80000	65.8	67.9	68.2	67.5	65.8	71.1	65.4	63.8	60.8	56.0	55.3	55.9	56.0	139.8
OASPL	111.5	111.8	111.4	108.8	110.3	112.2	111.2	112.3	115.9	120.1	122.3	121.6	117.2	158.9
PNL	123.5	123.5	123.1	120.1	121.9	123.6	122.5	124.7	128.4	131.8	132.5	130.0	129.5	
PNLT	123.5	123.5	123 1	120.1	121.9	123.6	123.8	124.7	128.4	131.8	132.5	130.0	129.5	
DBA	189.0	190.9	190.9	190.5	189.0	193.6	188.0	186.5	184.8	179.9	179.3	179.8	180.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH163 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.89 PAMB HG = 29.11 RELHUM = 80.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1324.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2171.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F 400-1138 TAPE = X1138F TEST PT NO = 1138 NC = AE085 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 - 83F-400-1138 X11381

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100	110.	120.	130.	140.	150.	160	PWL
50	68.6	71.2	71.6	69.7	70.5	72.6	72.1	72.0	76.7	80.9	84.8	86.1	73.9	159.8
63	68.6	71.2	71.5	69.7	71.2	73.4	75.7	73.7	76.9	82.7	86.5	87.1	74.5	161.2
80	69.6	71.4	70.6	69.3	71.7	72.9	82.7	73.8	77.4	84.6	87.8	86.9	73.9	162.0
100	70.0	71.1	72.1	69 7	72.0	74.4	73.3	74.6	77.9	85.5	87.8	85.9	73.5	161.7
125	70.8	72.5	73.4	71.0	73 4	74.9	74.0	75.7	80.6	86.0	88.0	85.2	74.6	162.0
160	70.9	72.1	73.3	71.3	74 2	75.4	75.0	76.7	81.0	86.7	87.6	83.6	75.4	161.9
200	71.7	72.4	73.2	71.8	74.5	76.8	75.1	77.8	82.0	86.1	85.6	79.4	73.8	160.8
250	73.1	74.3	75.3	72.9	74.6	76.4	75.2	77.8	82.6	84.7	85 6	78.1	72.8	160.8
315	71.7	75.0	75.2	72.5	75.2	77.5	76.2	78.5	82.7	85.4	85.0	76.7	73.0	161.2
400	71.9	72.8	74.2	72.5	74.8	77.1	76.3	79.0	81.7	85.7	84.2	77.1	72.9	161.4
500	72.5	72.7	74.0	71.9	74.1	77.1	76.2	78.5	82.2	84.5	82.0	76.2	72.0	161.0
630	72.2	74.1	73.5	71.4	74.1	77.4	75.8	78.2	81.4	82.2	80.8	73.6	70.6	160.3
800	72.3	74.4	74.6	72.0	75.9	77.3	75.5	78.1	79.2	81.0	77.7	70.4	66.2	159.5
1000	72.0	74.5	76.2	74.0	76.2	77.6	75.3	76.7	78.5	77.9	74.4	67.8	64.6	159.0
1250	71.6	73.9	76.0	74.5	76.0	77.9	75.7	76.5	77.1	75.2	71.0	64.6	61.3	158.8
1600	68.8	73.0	74.5	73.5	74.6	76.6	73.7	74.7	75.7	72.6	68.5	61.7	57.8	158.4
2000	66.5	70.8	71.8	71.5	73.6	75.8	73.2	73.6	71.3	68.1	61.8	56.7	50.5	157.7
2500	63.9	68.3	70.8	69.3	71.3	73.8	70.7	69.2	68.3	62.7	56.9	51.1	42.3	157.7
3150	57.3	62.7	65.8	66.1	68.7	70.5	67.4	65.1	61.7	55.4	49.1	42.1	29.5	157.4
4000	47.8	56.2	59.9	60.5	62.8	63.9	61.5	57.4	54.2	45.6	38.1	30.3	11.3	157.6
5000	32.9	43.7	48.1	50.8	53.2	56.3	52.6	47.2	43.8	33.5	24.6	11.6		157.3
6300	12.8	26.9	32.5	36.8	38.9	41.4	37.0	32.2	28.3	15.5	3.3			157.8
8000			5.9	12 1	14.1	18.3	13.1	7.6						157.2
10000														156.5
12500														155.4
16000														154.7
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	83.4	85.4	86.4	84.5	86.7	88.8	88.5	89.1	92.3	95.9	96.9	94.3	84.5	173.8
PNL	89.7	93.0	94.6	93.2	95.4	97.6	95.7	96.2	97.8	99.9	98.8	93.9	86.7	
PNLT	89.7	93.0	95.2	93 8	96.0	97.6	95.7	96.7	97.8	99.9	98.8	93.9	86 7	
DBA	80.0	82.5	83.8	82.2	84.4	86.4	84.2	85.7	87.7	89.0	87.4	81 1	76.3	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH163 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.89 PAMB HG = 29.11 RELHUM = 80.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1324.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2171.8 FPS AE18 = 23.4 SQ IN

IDLE X11381 TEST PT NO = 1138 NC = AE085 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 83F-ZER-1139 X1139C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.9	90.9	89.7	85.7	86.6	89.9	92.3	92.7	93.2	91.7	99.4	100 1	89.2	135.3
63	93.5	94.8	97.1	93.6	94.0	96.6	96 5	97.1	98.1	96.4	101.8	103 7	94.1	139.5
80	94 5	98.6	94.3	93.9	95.5	99.3	97.5	97.1	97 8	97.9	102 0	102.0	86.9	139.9
100	92.2	99.7	95.5	95.5	97.1	100.0	98.4	101.5	98.5	102.8	103.0	106.9	91.1	142.3
125	89.6	92.7	96.4	96 0	98.3	99.9	98.3	99 0	99.2	102.3	108.6	111.6	96.2	144.5
160	87.7	89.5	93.5	90 5	91.6	96.0	103 1	98.5	100.2	103.8	108.9	111.9	101.3	144.9
200	91.0	91.1	92.8	92.1	94.7	98.1	101.2	100.1	104.3	106.4	111.8	115.7	104.1	147.8
250	91.3	94.3	94.8	93.9	96.2	98.6	99.7	102.1	105.6	111.6	116.0	118.7	108.1	151.2
315	92.3	94.1	93.9	92.7	96.0	100.4	103.5	103.7	107.6	113.0	117.3	119.8	110.4	152.5
400	94.1	95.3	95.4	93 9	96.5	99.9	111.2	104.7	108.4	115.7	119.8	120.5	111.7	154.4
500	95.1	96.4	97 1	95.7	98.0	101.6	102.0	105.9	109.6	117.5	121.1	121.5	112.9	155.4
630	95.8	96.8	97.6	96.1	98.7	101.8	103.0	106.4	110.1	118.2	121.8	121.2	114.4	155.8
800	98.8	97.9	98.6	96.9	100.3	103.1	104.0	107.4	112.1	117 7	122.3	121.3	114.9	156.1
1000	101.5	103 8	102.1	100.3	101.4	104.8	104.7	108.3	112.1	117 9	122.0	120.2	113.8	155.8
1250	100.7	104.2	103 5	101.9	103.8	106.0	105.6	108.8	113.5	118.0	121.9	117 8	112.3	155.6
1600	101.3	101.7	101.9	99.8	102.8	105.9	106.7	110.0	113.6	117.5	121.1	115.8	109.4	154.8
2000	102.3	103.1	102.0	99.9	101.7	105.1	106.1	109.9	113.2	117.8	119.3	111.6	107.4	153.8
2500	102.4	104.5	103.0	101.3	102.4	105.3	105.5	109.1	112.4	117.7	116.2	109.6	105.6	152.7
3150	101.3	103.9	105.1	102.1	102.7	105.3	105.4	108.9	112.0	116.1	114.1	106.7	101.9	151.5
4000	98.8	101.1	103.0	101.4	104.1	106.0	105.2	108.7	111.1	113.6	112.1	104.8	99.7	150.2
5000	97.5	100.5	101.9	100.5	103.3	106.0	104.9	107.7	109.5	112.3	109.6	102.4	97.7	149.0
6300	96.4	100.1	101.4	99.7	102.5	105.5	105.3	107.2	108.7	109.9	106.9	100.4	96.4	148.0
8000	94.3	98.7	100 0	99.7	101.8	104.1	103.6	105.4	106.7	107.6	104.3	98.5	95 5	146.6
10000	94.7	97.3	99.8	98.9	101.5	104.5	104.0	105.2	105.4	105.9	104.5	97.4	94.7	146.6
12500	92.2	95.7	98.0	98.2	100.7	103.8	103.0	102.5	103.1	104 2	101.1	95.0	91.3	145.7
16000	91.2	95.3	96.7	97.0	99.5	102.0	100.6	101.5	101.6	100.8	97.8	92.3	87.8	145.2
20000	88.4	92.5	93.9	94.7	96.9	98.9	99.0	97.9	98.1	98.0	94.7	89.4	84.9	144.1
25000	85.3	89.7	90.7	91.6	93.2	97.3	96.7	94.5	94.7	92.4	89.3	86.3	79.7	143.4
31500	81.2	85.6	87.3	88.9	89.7	93.6	92.1	91.6	91.1	89.2	85.6	82.0	75.5	142.9
40000	76 0	80 4	82 8	84.0	84.9	89.3	87.1	86.9	87 9	85.2	81.7	77.2	70.8	142.5
50000	69 8	73 9	76.5	78.3	79.0	84.9	81.5	81.2	80.9	79.1	76.4	71.3	64.5	141.3
63000	64.2	68.3	70.8	72.2	74.0	79.3	75.4	75.7	76.5	72.7	70.9	65.5	58.0	141.1
80000	57.4	61.3	64.1	64.0	65.8	73.4	69.1	68.9	69.3	67.3	62.9	57.8	49.9	141.3
OASPL	111.6	113.9	114.1	112.5	114.6	117.5	118.5	120 2	123.4	128.2	131.2	130.0	122.5	166.1
PNL	124.6	126.9	127.7	125.5	127.6	130.1	130.4	133.0	135.9	140.3	141.2	137.6	130.9	
PNLT	124.6	127.6	127.7	125.5	128.2	130.1	132.1	133 6	135.9	140.3	141.2	137.6	130.9	
DBA	111.6	113 6	113.7	111.9	113.9	116.7	117.1	120.0	123.2	127.9	130.4	127.8	121.2	

ORIGINAL PAGE IS OF POOR QUALITY

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH169	TEST DATE = 03-28-83	LOCAT = C41 ANECH CH	CONFIG = 11	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 36.75	PAMB HG = 29.18	RELHUM = 82.4 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1511.5 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2314.4 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-ZER-1139	TAPE = X1139C	TEST PT NO = 1139	NC = AE085	CORR FAN SPEED = RPM	

C-3

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

IDENTIFICATION - 83F-ZER-1139 X1139F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.9	90.9	89.7	85.7	86.6	89.9	92.3	92.7	93.2	91.7	99.4	100.1	89.2	135.3
63	93.5	94.8	97.1	93.6	94.0	96.6	96.5	97.1	98.1	96.4	101.8	103.7	94.1	139.5
80	94.5	98.6	94.3	93.9	95.5	99.3	97.5	97.1	97.8	97.9	102.0	102.0	86.9	139.9
100	92.2	99.7	95.5	95.5	97.1	100.0	98.4	101.5	98.5	102.8	103.0	106.9	91.1	142.3
125	89.6	92.7	96.4	96.0	98.3	99.9	98 3	99.0	99.2	102.3	108.6	111.6	96.2	144.5
160	87.7	89.5	93.5	90.5	91.6	96.0	103.1	98.5	100.2	103.8	108.9	111.9	101.3	144.9
200	91.0	91.1	92.8	92.1	94.7	98.1	101.2	100.1	104.3	106.4	111.8	115.7	104.1	147.8
250	91.3	94.3	94.8	93.9	96.2	98.6	99.7	102.1	105.6	111.6	116.0	118.7	108.1	151.2
315	92.3	94.1	93.9	92.7	96.0	100.4	103.5	103.7	107.6	113.0	117.3	119.8	110.4	152.5
400	94.1	95.3	95.4	93.9	96.5	99.9	111.2	104.7	108.4	115.7	119.8	120.5	111.7	154.4
500	95.1	96.4	97.1	95.7	98.0	101.6	102.0	105.9	109.6	117.5	121.1	121.5	112.9	155.4
630	95.8	96.8	97.6	96.1	98.7	101.8	103.0	106.4	110.1	118.2	121.8	121.2	114.4	155.8
800	98.8	97.9	98.6	96.9	100.3	103.1	104.0	107.4	112.1	117.7	122.3	121.3	114.9	156.1
1000	101.5	103.8	102.1	100.3	101.4	104.8	104.7	108.3	112.1	117.9	122.0	120.2	113.8	155.8
1250	100.7	104.2	103.5	101.9	103.8	106.0	105.6	108.8	113.5	118.0	121.9	117.8	112.3	155.6
1600	101.3	101.7	101.9	99.8	102.8	105.9	106.7	110.0	113.6	117.5	121.1	115.8	109.4	154.8
2000	102.3	103.1	102.0	99.9	101.7	105.1	106.1	109.9	113.?	117.8	119.3	111.6	107.4	153.8
2500	102.4	104.5	103.0	101.3	102.4	105.3	105.5	109.1	112.4	117.7	116.2	109.6	105.6	152.7
3150	101.3	103.9	105.1	102.1	102.7	105.3	105.4	108.9	112.0	116.1	114 1	106.7	101.9	151.5
4000	98.8	101.1	103.0	101.4	104.1	106.0	105.2	108.7	111.1	113.6	112.1	104.8	99.7	150.2
5000	97.5	100.5	101.9	100.5	103.3	106.0	104.9	107.7	109.5	112.3	109.6	102.4	97.7	149.0
6300	96.4	100.1	101.4	99.7	102.5	105.5	105.3	107.2	108.7	109.9	106.9	100.4	96.4	148.0
8000	94.3	98.7	100.0	99.7	101.8	104.1	103.6	105.4	106.7	107.6	104.3	98.5	95.5	146.6
10000	94.7	97.3	99.8	98.9	101.5	104.5	104.0	105.2	105.4	105.9	104.5	97.4	94.7	146.6
12500	92.2	95.7	98.0	98 2	100.7	103.8	103.0	102.5	103.1	104.2	101.1	95.0	91.3	145.7
16000	91.2	95.3	96.7	97.0	99.5	102.0	100.6	101.5	101.6	100.8	97.8	92.3	87.8	145.2
20000	88 4	92.5	93.9	94.7	96.9	98.9	99.0	97.9	98.1	98.0	94 7	89.4	84.9	144.1
25000	85.3	89.7	90.7	91.6	93.2	97.3	96.7	94.5	94.7	92.4	89.3	86.3	79.7	143.4
31500	81.2	85.6	87.3	88.9	89.7	93.6	92.1	91.6	91.1	89.2	85.6	82.0	75.5	142.9
40000	76.0	80.4	82.8	84.0	84.9	89.3	87.1	86.9	87.9	85.2	81.7	77.2	70.8	142.5
50000	69.8	73.9	76.5	78.3	79.0	84.9	81.5	81.2	80.9	79.1	76.4	71.3	64.5	141.3
63000	64.2	68.3	70.8	72.2	74.0	79.3	75.4	75.7	76.5	72.7	70.9	65.5	58.0	141.1
80000	57.4	61.3	64.1	64.0	65.8	73.4	69.1	68.9	69.3	67.3	62.9	57.8	49.9	141.3
OASPL	111.6	113.9	114.1	112.5	114.6	117.5	118.5	120.2	123.4	128.2	131.2	130.0	122.5	166.1
PNL	124.6	126.9	127.7	125.5	127.6	130.1	130.4	133.0	135.9	140.3	141.2	137.6	130.9	
PNLT	124.6	127.6	127.7	125 5	128.2	130.1	132.1	133.6	135.9	140.3	141.2	137.6	130.9	
DBA	179.8	183.9	186.5	187.2	188.8	195.4	191.3	191.3	191.7	189.3	185.8	180.7	173.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH169	TEST DATE = 03-28-83	LOCAT = C41 ANECH CH	CONFIG = 11	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 36.75	PAMB HG = 29.18	RELHUM = 82.4 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1511.5 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2314.4 FPS	AE18 = 23.4 SQ IN	
RUNDT - 83F-ZER-1139	TAPE - X1139F	TEST PT NO = 1139	NC = AE085	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 - 83F-ZER-1139 X11391

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.7	71.3	72.9	72.6	75.4	77.9	78.9	80.9	83.6	88.6	91.5	92.0	78.0	166.1
63	67.8	71.1	71.9	71.4	75.2	79.7	82.7	82.4	85.7	89 9	92.8	93.0	80.3	167.4
80	69.4	72.3	73.4	72.6	75.6	79.1	90.4	83.4	86.4	92.6	95 2	93.6	81.4	169.3
100	70.4	73.2	75.1	74.3	77.1	80.9	81.1	84.6	87.6	94.3	96.4	94.6	82.5	170.3
125	71.0	73.6	75.4	74.7	77.7	81.0	82.0	85.0	87.9	94.9	97.0	94.1	83.7	170.7
160	73.8	74.5	76.3	75.4	79.1	82.1	82.9	85.9	89.8	94.3	97.3	93.9	83.9	171.0
200	76.2	80.2	79.6	78.6	80.1	83.7	83.4	86.6	89.6	94.3	96.7	92.5	82.4	170.7
250	75.0	80.3	80 7	79.9	82.3	84.6	84.1	86.8	90.7	94.1	96.3	89.7	80.1	170.5
315	75.3	77.4	78.8	77.5	81.0	84.2	84.9	87.8	90.6	93.2	95.0	87.1	76.4	169.7
400	75.7	78.4	78.5	77 3	79.6	83 1	83.9	87.3	89.8	93.0	92.7	82.2	73 4	168.7
500	75.3	79.3	79.2	78.3	79.9	83 0	83.0	86.1	88.6	92.6	89.1	79.4	70.5	167.6
630	73.6	78.2	80.9	78.8	79.9	82.6	82.6	85.6	87.7	90.4	86.4	75.9	65.7	166.4
800	70.4	74.9	78.3	77 6	80.9	83.0	82.0	85.0	86.4	87.4	83.7	73.1	62.2	165.1
1000	68.5	73.8	76.7	76.4	79.7	82.6	81.3	83.6	84.3	85.7	80.6	69.8	58.8	163.9
1250	66.6	72.7	75.7	75.1	78.5	81.6	81.2	82.6	83.0	82.6	77.1	66.7	55.8	162.9
1600	63.1	70.3	73.4	74.3	77.1	79.6	78.8	80.0	80.1	79.2	73.1	62.9	52.1	161.5
2000	61.8	67.5	72.1	72.4	75.8	79.0	78.3	78.8	77.7	76.1	71.5	59.4	47.4	161.5
2500	56.5	63.8	68.5	70.1	73.5	76.8	75.8	74.5	73.6	72.3	65.4	53.3	38.2	160.6
3150	51.2	59.9	64.3	66.4	69.9	72.7	71.0	70.9	69.2	65.4	57.8	44.6	25.3	160.1
4000	40.7	51.0	56.3	59.4	63.0	65.4	65.1	62.6	60.4	56.5	47.1	31.4	6.5	159.0
5000	26.2	39.0	45.2	49.3	52.7	57.3	56.2	52.2	49.2	41.7	30.2	13.0		158.3
6300	3.2	19.4	28.5	34.5	37.8	42.5	40.1	37.2	32.3	23.1	7.5			157.8
8000			1.4	9.1	13.6	19.1	15.8	11.9	6.4					157.4
10000														156.2
12500														156.0
16000														156.2
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	84.7	88.4	89.7	88.8	91.4	94.4	95.9	97.2	99.9	104.1	105.7	102.4	91.2	180.8
PNL	89.5	93.9	96.0	95.7	98.8	101.9	101.8	103.2	105.1	107.8	107.8	102.1	91.2	
PNLT	89.5	93.9	96.6	96.3	99.3	101.9	101.8	103.8	105.1	107.8	107.8	102.1	91.2	
DBA	79.4	83.8	86.0	85.3	88.1	90.9	90.5	92.7	94.4	96.8	95.8	88.9	78.8	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH169 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.75 PAMB HG = 29.18 RELHUM = 82.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400 0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1511.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2314 4 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1139 TAPE = X11391 TEST PT NO = 1139 NC = AE085 CORR FAN SPEED = RPM

DATPROC - FLTRAN 07/07/83 16.103 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 83F-400-1140 X1140C
BACKGROUND 82F-400 0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160	PWL
50	92.4	91.9	88.2	85.5	86.6	87.4	87.3	91.0	92.4	93.0	100.6	96.3	91.7	134.7
63	93.5	96.3	96.1	93 4	92.0	94.1	94.7	96.1	97.1	95.9	102.3	99.2	97.4	138.5
80	94.3	98.8	94.3	94.1	95.7	98.8	96.7	97.4	97.3	96.9	100.3	101.0	88.9	139.4
100	92.7	98.5	94.5	93.3	95.6	99.8	98.4	100.8	97.3	99.6	100.5	106.4	91.1	141.1
125	90.9	92.4	94 4	95.0	97.6	98.9	97.3	97.7	96.2	100 0	106.9	110.1	96.0	143.0
160	87.9	85.7	91.0	88.0	89.9	93.5	97.1	95.5	96.5	101.1	106.4	109.9	99.8	142.3
200	88.0	89.1	89.3	88.1	90.5	94.1	95.7	97.1	101.3	101.6	107.8	112.5	102.1	144.2
250	86.8	89.6	90.6	89.6	92.0	95.1	96.2	98.4	101.8	107.6	113.5	116.5	105.4	148.5
315	88.3	90.1	89.9	88.9	91.8	95.6	99.3	98.7	103.4	109.5	114.8	117.0	106.4	149.5
400	89.3	90.6	91.4	89.7	92.7	95.4	107.0	99.7	103.1	111.9	116.8	118.0	106.2	151.2
500	89.8	91.6	92.9	90.9	93.8	97.1	97.5	100.7	104.6	113.7	118.6	118.3	104.4	152.2
630	91.0	91.8	93.3	91.6	94.7	97.3	98.5	101.9	104.6	114.7	119.3	116.2	102.9	152.2
800	92.3	92.1	93.1	92.7	95.5	98.4	99.3	103.2	106.9	114.0	119.3	114.8	101.4	151.9
1000	95.0	95.8	96.1	94.1	96.2	100.1	99.9	103.6	107.6	114.1	117.8	112.7	100.3	150.9
1250	94.4	97.9	96.5	95.1	97.6	100.2	100.1	104.5	109.0	113.8	117.9	109.3	99.5	150.8
1600	95.8	96.2	96.9	95.0	97.5	101.1	101.7	106.0	109.6	114.2	118.1	109.3	99.7	151.2
2000	97.8	96.8	96.2	95.1	97.0	100.8	101.6	106.1	110.0	115.0	117 0	107.1	100.1	150.9
2500	99.7	100.2	98.8	96.0	98.2	101.0	101.7	105.6	109.2	116.2	116 5	107.8	101.1	151.1
3150	98.5	100.1	101.9	99.1	98.2	101.5	101.9	104.9	109.0	114.8	114.6	106.2	99.6	150.0
4000	97.8	98.6	99.7	98 4	100.1	101.8	101.2	104.7	107.9	111.8	112.1	103.6	98.2	148.0
5000	97.2	97.7	99.1	97.0	99.0	101.5	100.9	104.0	106.2	110.4	109.4	101.4	95.2	146.5
6300	97.1	98.8	99.1	96.7	98.5	101.5	101.3	103.7	105.5	107.9	106.4	97.7	93.4	145.3
8000	95.0	96.9	98.7	97.7	98.6	100.1	99.6	101.4	102.9	104.8	103.5	95.5	91.5	143.6
10000	95.9	96.8	97.6	97.4	99.0	100.7	99.5	101.2	101.9	102.1	100.7	93.4	89.9	143.2
12500	94.2	95.2	97.0	96.4	97.7	100.8	99.0	98.8	99.6	100.5	97.3	92.2	88.3	142.6
16000	92.5	95.0	95.7	96.5	97.3	99.5	98.1	98.2	98.4	97.3	94.6	89.8	85.3	142.8
20000	90.1	92.0	92.9	93.7	95.4	97.0	96.3	95.2	94.3	93.5	91.7	87.1	83.1	141.8
25000	86 8	89.0	90.0	91 4	92.5	95.8	94.2	92.0	91.5	89.6	88.0	85 1	79.5	141.7
31500	83.0	85.1	87.4	88.1	88.7	91.8	90.8	89 6	87.9	85 0	83.6	81.2	75.2	141.3
40000	77.5	81.1	82.1	84 3	83.7	88.8	86.6	85.4	84.9	82.2	80.5	77.4	71.1	141.5
50000	71.6	73.9	76.2	77.5	78.0	83.6	80.2	79.7	78.6	75.9	74.4	71.8	65.5	140.0
63000	64.7	68.1	70.3	71.7	72.5	77.9	73.9	74.2	73.8	69.2	68.7	65.7	58.5	139.5
80000	58.1	60.8	63.1	65.8	64.3	71.9	67.1	67.4	65.8	63.3	62.0	59.3	50.7	139.7
OASPL	109.0	110.4	110.7	109.3	110.9	113.6	114.4	116.4	119.5	125.2	128.5	126.0	114.7	162.8
PNL	122.0	123.3	124.2	122.1	123.6	126.0	126.5	129.2	132.5	138.0	139.6	134.1	125.3	
PNLT	122.0	123.3	124.2	122.9	124.4	126.0	127.9	129.7	132.5	138.0	140.2	134.1	125.3	
DBA	108.3	109.3	109.8	107.9	109.5	112.3	112.8	116.0	119.5	125.1	127.8	122.8	112.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH165 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 37.02 PAMB HG = 29.12 RELHUM = 81.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1540.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2325.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1140 TAPE = X1140C TEST PT NO = 1140 NC = AE085 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 - 83F-400-1140 X1140F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	94.7	96.0	95.5	92.9	93.6	95.1	94.7	95.3	101.0	106.6	111.8	114.7	106.2	147.1
315	94.7	96.0	95.5	92.9	93.6	95.8	98.3	96.6	100.8	109.1	114.0	116.3	107.3	148.9
400	96.0	96.5	94.8	92.3	94.5	95.6	106.0	97.5	102.4	111.0	116.0	117.3	107.2	150.5
500	96.4	96.6	96.1	92.9	95.7	97.5	96.5	98.5	102.4	112.0	116.9	116.0	107.5	150.4
630	97.5	98.0	97.9	94.4	96.7	97.7	97.4	99.6	105.2	111.9	117.8	116.0	109.0	151.0
800	98.7	98.2	98.4	95.1	97.6	98.9	98.4	101.0	106.4	112.7	117.0	115.4	110.6	150.9
1000	100.0	98.6	98.2	96.2	98.1	100.7	99.2	101.6	107.7	112.2	116.9	111.7	109.4	150.2
1250	101.2	101.3	100.5	97.3	99.7	101.0	99.4	102.5	108.6	112.9	117.3	111.9	109.8	150.8
1600	100.7	103.5	101.0	98.4	99.9	102.2	101.3	104.3	109.2	114.0	116.5	110.0	110.5	150.7
2000	102.9	102.4	101.9	98.8	99.3	102.1	101.4	104.6	108.9	115.7	116.5	111.3	112.1	151.5
2500	103.3	101.7	100.4	98.4	100.5	102.6	101.9	104.5	109.2	114.8	115.2	110.3	111.3	150.7
3150	105.3	105.1	102.8	99.1	101.1	103.6	102.6	104.3	108.8	112.5	113.3	108.2	110.3	149.6
4000	103.9	105.1	106.2	102.7	103.7	104.3	102.4	104.7	107.1	110.8	110.3	105.6	106.8	148.6
5000	105.3	105.3	105.4	103.0	103.1	104.5	102.3	104.0	106.6	108.6	107.6	102.2	105.4	147.7
6300	104.7	104.5	104.9	101.9	102.5	104.5	103.1	104.0	104.8	106.3	105.6	101.0	104.7	146.9
8000	104.2	105.2	104.7	101.3	102.6	103.1	101.7	102.2	104.8	104.8	104.1	100.3	104.4	146.6
10000	102.2	103.3	104.3	102.2	103.0	103.7	101.9	102.7	103.5	104.4	102.0	100.3	103.6	146.7
12500	102.8	102.9	102.8	101.6	101.8	103.8	101.5	100.6	103.1	102.3	100.5	99.2	101.9	146.7
16000	100.5	100.8	101.7	100.2	101.3	102.5	100.6	100.2	97.8	96.9	95.7	94.1	96.9	146.0
20000	98.4	100.2	100.0	99.8	99.5	100.0	98.0	95.8	94.4	92.1	90.8	90.9	92.2	145.6
25000	95.4	96.6	96.6	96.4	97.1	98.8	95.7	92.0	91.6	88.2	87.1	87.8	88.7	145.2
31500	94.1	95.0	94.6	94.4	93.3	94.8	92.2	89.6	89.5	86.3	84.9	84.9	85.5	145.7
40000	89.5	90.3	91.1	90.4	88.3	91.8	88.1	85.4	83.6	80.4	79.2	79.6	80.3	145.5
50000	83.6	86.0	85.5	86.1	82.6	86.6	81.7	79.7	79.7	74.6	74.4	74.5	74.2	144.7
63000	76.7	77.8	78.7	78.4	77.1	80.9	75.3	74.2	73.2	70.2	69.2	69.6	68.1	143.5
80000	68.4	70.5	71.3	71.1	68.9	74.9	68.5	67.4	63.4	60.4	59.4	59.7	58.3	143.1
OASPL	114.9	115.3	115.1	112.6	113.5	115.1	114.3	115.2	119.0	124.0	127.1	125.1	121.1	162.7
PNL	127.4	127.4	127.6	124.5	125.7	126.9	125.8	127.5	131.5	136.2	137.6	133.8	133.1	
PNLT	127.4	127.4	127.6	124.5	125.7	126.9	127.3	127.5	131.5	136.2	137.6	133.8	133.1	
DBA	191.8	193.5	194.2	194.0	192.0	197.0	191.1	189.8	187.4	184.1	183.2	183.5	182.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH165 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = S859 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 37.02 PAMB HG = 29.12 RELHUM = 81.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1540.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2325.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1140 TAPE = X1140F TEST PT NO = 1140 NC = AE085 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 - 83F-400-1140 X11401

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.1	73.0	73.6	71.7	72.7	74.4	73.9	74.0	79.1	83.5	87.2	88.0	76.2	162.0
63	70.1	73.0	73.5	71.7	72.7	75.1	77 4	75.4	78.8	86.1	89.4	89.5	77.2	163.8
80	71.4	73.4	72.8	71.0	73.7	74.9	85.1	76.2	80.4	87.9	91.3	90.4	76.9	165.4
100	71.7	73.5	74.0	71.6	74.7	76.7	75.6	77.1	80.4	88.9	92.2	89.0	77.1	165.3
125	72.7	74.8	75.7	73.0	75.7	76.9	76.4	78.2	83.0	88.7	92.9	88.9	78.3	165.9
160	73.7	74.8	76.1	73.6	76.4	77.9	77.2	79.4	84.1	89.3	92.0	88.1	79.6	165.8
200	74.7	74.9	75.7	74.5	76.9	79.5	77.9	79.9	85.2	88.6	91.6	84.0	77.9	165.1
250	75.6	77.3	77.8	75 4	78.2	79.7	77.9	80.6	85.9	89.0	91.7	83.7	77.7	165.7
315	74.6	79.2	77.9	76 2	78.1	80.5	79.5	82.0	86 2	89.7	90.5	81.2	77.5	165.6
400	76.3	77.7	78.5	76.2	77.1	80.1	79.3	82.0	85.5	90.9	90.0	81.9	78.1	166.4
500	76.1	76.6	76.6	75.4	78.1	80.3	79.4	81.5	85.4	89.6	88.0	80.2	76.2	165.6
630	77.6	79.4	78.5	75.8	78.3	80.9	79.7	80.9	84.6	86.8	85.6	77.3	74.1	164.5
800	75.5	78.9	81.5	79.0	80.5	81.3	79.2	81.0	82 4	84.6	82.0	73.9	69.3	163.5
1000	76.2	78.6	80.3	78.9	79.5	81.1	78.8	79.9	81.5	81.9	78.6	69.5	66.6	162.6
1250	74.8	77.1	79.2	77.2	78.5	80.6	79.0	79.4	79.1	79.0	75.8	67.3	64.1	161.8
1600	73.1	76.9	78.2	75 9	77.9	78.6	76.9	76.8	78.2	76.4	73.0	64.8	60.9	161.5
2000	69.3	73.5	76.5	75.8	77.3	78.3	76.1	76.2	75.8	74.6	69.1	62.3	56.3	161.6
2500	67.2	71.0	73.3	73.6	74.6	76.8	74.3	72.6	73.0	70.4	64.9	57.5	48.8	161.6
3150	60.5	65.4	69.3	69.6	71.7	73.2	71.0	69.6	65.4	61.6	55.7	46.4	34.4	160.9
4000	50.8	58.7	62.4	64.5	65.5	66.4	64.0	60.6	56.8	50.6	43.2	32.8	13.8	160.5
5000	36.4	46.0	51.1	54.1	56.5	58.8	55.1	49.7	46.1	37.5	28.1	14.4		160.1
6300	16.0	28.9	35.8	40.1	41.4	43.7	40.3	35.2	30.6	20.1	6.8			160.6
8000			9.7	15.4	16.9	21.6	16.7	10.4	2.1					160.4
10000														159.6
12500														158.4
16000														158.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	86.7	89.0	90.0	88.1	89.9	91.7	91.4	91.8	95.4	99.7	101.6	97.7	88.3	177.6
PNL	93.4	96.6	98.2	97.0	98.8	100.5	98.8	99.0	101.0	104.5	104.1	97.8	91.2	
PNLT	93.4	96.6	98.8	97.6	99.3	100.5	98.8	99.6	101.8	104.5	104.1	97 8	91.2	
DBA	83.8	86.4	88.0	86.3	87.8	89.4	87.6	88.6	90.8	93.4	92.7	85.2	80.3	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH165 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 37.02 PAMB HG = 29.12 RELHUM = 81.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1540.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2325.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1140 TAPE = X11401 TEST PT NO = 1140 NC = AE085 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 83F-ZER-1141 X1141C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	93.1	93.7	91.7	89.5	89.8	90.9	94.6	93.7	94.2	99.2	100.6	101.1	90.7	137.4
63	96.3	98.3	97.3	97.4	96.5	98.6	98.7	96.4	98.8	102.6	102.5	102 2	96.9	141.1
80	96.5	100.6	96.3	96.6	97.5	101.8	99.7	99.4	100.1	100.9	104.3	104.0	89.6	142.2
100	95.0	102.0	97.8	97.3	99.1	102.8	101.1	104.5	101.0	105.1	105.5	109.6	93.8	144.9
125	92.1	94.7	97.7	97.5	100.1	102.4	101.6	101.2	101.2	104.8	111.4	113.8	99.0	146.9
160	89.7	91.5	94.7	92.0	93.6	97.2	106.6	101.0	102.7	106.1	111.9	114.9	104.3	147.8
200	93.3	92.8	94.1	93.1	96.2	100.1	103.7	102.1	106.6	107.9	113.8	118.0	107.4	149.9
250	93.3	95.1	95.8	95.1	97.5	100.6	101.5	104.4	107.3	113.9	118.5	121.0	110.4	153.5
315	94.6	95.4	94.9	94.9	97.5	101.6	105.8	105.2	108 4	115.5	119.8	121.8	112.7	154.7
400	96.1	96.8	97.6	95.7	98.7	101.9	112.0	106.4	109.9	118.2	122.3	123.2	113.9	156.8
500	97.3	98.4	98.6	97.4	99.8	103.9	104.8	107.7	111.4	120.0	123.8	123.8	114.9	157.8
630	98.3	99.3	99.8	98.4	101.0	104.3	105.2	108.6	111.6	121.2	124.8	123.2	115.9	158.4
800	101.3	100.6	100.9	99.4	102.5	105.1	106.0	110.2	114.4	121.0	125.3	122.0	115.7	158.5
1000	105.5	106.3	105.3	103.1	103.9	107.1	106.9	110.6	114.8	121.1	124.5	120.9	114.3	158.1
1250	108.9	109.4	107.0	104.4	105.6	107.7	107.3	111.0	115.2	120.3	123.4	117.6	112.3	157.2
1600	111.1	109.7	109.4	106.3	106.0	108.6	109.0	112.3	115.4	119.7	122.3	116.3	110.9	156.8
2000	110.8	110.1	110.0	107.9	108.2	109.1	108.6	112.1	115.0	120.0	120.5	113.1	108.9	156.1
2500	107.2	108.7	108.8	107.5	108.9	110.8	109.0	111.8	114.2	119.7	117.5	111.8	108.1	155.2
3150	106.5	107.9	107.9	106.4	108.0	111.5	110.2	112.1	114.0	117.3	116.1	109.7	105.4	154.1
4000	104.7	106.1	107.5	105.4	107.5	110.3	109.6	112.0	113.1	115.8	114.3	107.1	104.2	153.1
5000	103.2	105.5	107.4	105.5	107.5	109.0	109.6	112.0	111.7	114.8	112.6	105.9	103.4	152.4
6300	102.4	105.5	106.4	105.2	107.3	110.2	109.5	111.4	111.2	112.6	110.6	105.1	102.4	151.8
8000	100.0	103.7	105.2	104.9	106.8	109.4	108.1	110.2	109.9	110.3	108.7	104.2	101.5	150.9
10000	99.7	103.0	104.3	103.9	106.7	109.7	108.2	109.7	108.7	109.4	108.0	102.6	100.9	150.9
12500	97.7	100.7	102.8	102.9	105.2	108.7	107.5	106.8	106.4	107.4	104.3	100.7	98.7	150.0
16000	96.2	99.3	101.2	101.7	104.3	106.5	105.6	105.7	105.6	105.0	102.3	98.5	94.5	149.7
20000	93.4	97.5	97.9	99.4	101.4	103.7	103.5	102.7	102.6	102.0	99.5	94.9	90.9	148.7
25000	89.5	94.2	95.2	96.6	98.0	101.8	101.0	99.5	99.5	95.6	94.3	91.8	85.9	148.0
31500	85.8	89.8	91.6	93.4	94.0	98.1	96.3	95.8	95.4	92.5	90.3	87.0	80.5	147.2
40000	80.0	85.6	86.9	88.3	89.2	94.1	92.2	91.9	91.9	88.0	86.8	82.7	75.6	147.0
50000	74.3	79.4	80.5	82.6	83.5	89.4	86.2	85.5	85.4	82.2	80.7	76.9	70.1	145.7
63000	68.2	73.6	76.1	77.0	78.6	84.6	80.2	80.7	81.0	77.5	74.4	70.2	62.3	146.0
80000	64.2	67.3	69.9	69.5	71.1	78.4	73.6	74.6	74.1	70.8	67.7	62.8	54.4	146.3
OASPL	117.9	118.6	118.7	117.1	118.7	121.4	121 5	123.2	125.4	130.8	133.5	131.8	124.1	168.6
PNL	130.4	131.2	131.4	129.9	131.5	134.5	134.1	136.1	138.0	142.6	143.2	139.7	133.4	
PNLT	130.4	131.9	131.4	129.9	132.1	134.5	135.5	136.8	138.0	142.6	143.2	139.7	133.4	
DBA	118.4	118.8	118.8	116.9	118.3	120.7	120.3	122.9	125.2	130.3	132.5	129.2	122.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH168 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO ' FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.48 PAMB HG = 29.20 RELHUM = 84.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1508.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2455.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1141 TAPE = X1141C TEST PT NO = 1141 NC = AE085 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 - 83F-ZER-1141 X1141F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160	PWL
50	93.1	93.7	91.7	89.5	89.8	90.9	94.6	93.7	94.2	99.2	100.6	101.1	90 7	137.4
63	96.3	98.3	97.3	97.4	96.5	98.6	98.7	96.4	98.8	102.6	102.5	102.2	96 9	141.1
80	96.5	100.6	96.3	96.6	97.5	101.8	99.7	99.4	100.1	100.9	104.3	104.0	89.6	142.2
100	95.0	102.0	97.8	97.3	99.1	102.8	101.1	104.5	101.0	105.1	105.5	109.6	93.8	144.9
125	92.1	94.7	97.7	97.5	100.1	102.4	101.6	101.2	101.2	104.8	111.4	113.8	99.0	146.9
160	89.7	91.5	94.7	92 0	93.6	97.2	106.6	101.0	102.7	106.1	111.9	114.9	104.3	147.8
200	93.3	92.8	94.1	93.1	96.2	100 1	103.7	102.1	106.6	107.9	113.8	118.0	107.4	149.9
250	93.3	95.1	95.8	95.1	97.5	100.6	101.5	104.4	107.3	113.9	118.5	121.0	110.4	153.5
315	94.6	95.4	94.9	94.9	97.5	101.6	105.8	105.2	108.4	115.5	119.8	121.8	112.7	154.7
400	96.1	96.8	97.6	95.7	98.7	101.9	112.0	106.4	109.9	118.2	122.3	123.2	113.9	156.8
500	97.3	98.4	98.6	97.4	99.8	103.9	104.8	107.7	111.4	120.0	123.8	123.8	114.9	157.8
630	98.3	99.3	99.8	98.4	101.0	104.3	105.2	108.6	111.6	121.2	124.8	123.2	115.9	158.4
800	101.3	100.6	100.9	99.4	102.5	105.1	106.0	110.2	114.4	121.0	125.3	122.0	115.	158.5
1000	105.5	106.3	105.3	103.1	103.9	107.1	106.9	110.6	114.8	121.1	124.5	120.9	114.3	158.1
1250	108 9	109.4	107.0	104.4	105.6	107.7	107.3	111.0	115.2	120.3	123.4	117.6	112.3	157.2
1600	111.1	109.7	109.4	106.3	106.0	108.6	109.0	112.3	115.4	119.7	122.3	116.3	110.9	156.8
2000	110.8	110.1	110.0	107.9	108.2	109.1	108.6	112.1	115.0	120.0	120.5	113.1	108.9	156.1
2500	107.2	108.7	108.8	107 5	108.9	110.8	109.0	111.8	114.2	119.7	117.5	111.8	108.1	155.2
3150	106.5	107.9	107.9	106.4	108.0	111.5	110.2	112.1	114.0	117.3	116.1	109.7	105.4	154.1
4000	104.7	106.1	107.5	105.4	107.5	110.3	109.6	112.0	113.1	115.8	114.3	107.1	104.2	153.1
5000	103.2	105.5	107.4	105.5	107.5	109.0	109.6	112.0	111.7	114.8	112.6	105.9	103.4	152.4
6300	102.4	105.5	106.4	105 2	107.3	110.2	109.5	111.4	111.2	112.6	110.6	105.1	102.4	151.8
8000	100.0	103.7	105.2	104.9	106.8	109.4	108.1	110.2	109.9	110.3	108.7	104.2	101.5	150.9
10000	99.7	103.0	104.3	103.9	106.7	109.7	108.2	109.7	108.7	109.4	108.0	102.6	100.9	150.9
12500	97.7	100.7	102.8	102.9	105.2	108.7	107.5	106.8	106.4	107.4	104.3	100.7	98.7	150.0
16000	96.2	99.3	101.2	101.7	104.3	106.5	105.6	105.7	105.6	105.0	102.3	98.5	94.5	149.7
20000	93.4	97.5	97.9	99.4	101.4	103.7	103.5	102.7	102.6	102.0	99.5	94.9	90.9	148.7
25000	89.5	94.2	95.2	96.6	98.0	101.8	101.0	99.5	99.5	95.6	94.3	91.8	85.9	148.0
31500	85.8	89.8	91.6	93.4	94.0	98.1	96.3	95.8	95.4	92.5	90.3	87.0	80.5	147.2
40000	80.0	85.6	86.9	88.3	89.2	94.1	92.2	91.9	91.9	88.0	86.8	82.7	75.6	147.0
50000	74.3	79.4	80.5	82.6	83.5	89.4	86.2	85.5	85.4	82 2	80.7	76.9	70.1	145.7
63000	68.2	73.6	76.1	77.0	78.6	84.6	80.2	80.7	81.0	77.5	74.4	70.2	62.3	146.0
80000	64.2	67.3	69.9	69.5	71.1	78.4	73.6	74.6	74.1	70.8	67.7	62.8	54.4	146.3
OASPL	117.9	118.6	118.7	117.1	118.7	121.4	121.5	123.2	125.4	130.8	133.5	131.8	124.1	168.6
PNL	130.4	131.2	131.4	129.9	131.5	134.5	134.1	136.1	138.0	142.6	143.2	139.7	133.4	
PNLT	130.4	131.9	131.4	129.9	132.1	134.5	135.5	136.8	138.0	142.6	143.2	139.7	133.4	
DBA	185.7	189.6	191.9	192 2	193.7	200.4	196.0	196.7	196.4	193 0	190.2	185.7	177.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH168 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.48 PAMB HG = 29.20 RELHUM = 84.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNI1 = RPM V8 = 1508.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2455.6 FPS AE18 = 23.4 SQ IN

RUNPT - 83F-ZER-1141 TAPE - X1141F TEST PT NO - 1141 NC = AE085 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 - 83F-ZER-1141 X11411

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.7	72.0	73.9	73 9	76.6	79.9	80.6	83.1	85.4	90.9	94.0	94.2	80.3	168.4
63	70.0	72.3	72.9	73.7	76.7	80.9	84.9	83.9	86.4	92.4	95.3	95.0	82.5	169.6
80	71.4	73.8	75.6	74.4	77 9	81 1	91.1	85 1	87.9	95.1	97.7	96.4	83.7	171.7
100	72.6	75.2	76.6	76.1	78.9	83.1	83.9	86.3	89.3	96.8	99.1	96.8	84.5	172.7
125	73.5	76.1	77.7	77.0	80.0	83.5	84.2	87.2	89.4	97.9	100.0	96.1	85.2	173.3
160	76.3	77.2	78.6	77.9	81.4	84.1	84.9	88.6	92.1	97.5	100 3	94.6	84.7	173.4
200	80.2	82.7	82 8	81.4	82.6	85.9	85.6	88.9	92.3	97.5	99 2	93.2	82.9	173.0
250	83.3	85.5	84.2	82.4	84.1	86.4	85.8	89.1	92.5	96.4	97.8	89.5	80.1	172.1
315	85.0	85.4	86.3	84.0	84.2	87.0	87.2	90.0	92.3	95.4	96.3	87.6	77.9	171.7
400	84.2	85.4	86.5	85.3	86.1	87.1	86.4	89.5	91.5	95.3	93.9	83.7	74.9	171.0
500	80.0	83.6	85.0	84.6	86.4	88.5	86.5	88.9	90.4	94.6	90.3	81.7	73.0	170.1
630	78.8	82.2	83.6	83.1	85.2	88.9	87.4	88.8	89.7	91.7	88.3	78.8	69.2	169.0
800	76.4	79.9	82.8	81.6	84.3	87.2	86.4	88.2	88.4	89.7	85.9	75.4	66.7	168.0
1000	74.2	78.8	82.2	81.4	83.9	85.6	86.0	87.8	86.6	88.1	83.6	73.3	64.5	167.3
1250	72.5	78.2	80 7	80.6	83.2	86.4	85.5	86.8	85.5	85 3	80.8	71.4	61.7	166.8
1600	68.9	75.3	78.7	79.5	82.1	84.8	83.3	84.8	83.4	81 9	77.6	68.7	58.1	165.8
2000	66.8	73.3	76.6	77.4	81.0	84.2	82.5	83.3	80.9	79.6	75.0	64.6	53.7	165.8
2500	62.0	68.8	73.2	74.9	78.0	81.8	80.3	78.7	76.8	75.5	68.6	59.0	45.6	164.9
3150	56.2	63.9	68.7	71.1	74.7	77.2	76.0	75.1	73.1	69.7	62.3	50.8	32.0	164.6
4000	45.7	56.0	60.3	64.1	67.5	70.1	69.6	67.4	64.9	60.5	51.8	36.9	12.5	163.6
5000	30.5	43.5	49.7	54.3	57.4	61.8	60.4	57.2	54.0	45.0	35.2	18.5		162.9
6300	7.7	23.7	32.8	39 0	42.1	47.0	44.4	41.5	36.5	26.3	12.3			162.1
8000			5.4	13.4	17.8	23.9	20.8	17.0	10.4					161.9
10000														160.6
12500														160.9
16000														161.2
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	91.1	93.3	94.4	93.4	95.4	98.1	98.4	99.9	101.9	106.7	108.1	104.2	92.7	183.3
PNL	96.2	99.1	101.0	100.5	103.3	106.3	105.5	106.6	107.3	110.3	110.0	103.7	92.9	
PNLT	96.2	99.1	101.5	101.1	103.3	106.3	105.5	106.6	107.3	110.3	110.0	103.7	92.9	
DBA	86.0	89.0	91.0	90.5	92.8	95.5	94.5	96.1	96.5	99.0	97.7	90.1	80.2	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH168 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.48 PAMB HG = 29.20 RELHUM = 84.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1508.4 FPS AE8 = 4.6 SQ IN
FNIDAMB = LBS XNLD = RPM XNHR = RPM V18 = 2455 6 FPS AE18 = 23.4 SQ IN

PUNDT - 83F-ZER-1141 TAPE = X11411 TEST PT NO = 1141 NC = AE085 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 83F-400-1142 X1142C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	94.6	94.2	89.4	88.5	87.8	91.2	92.3	94.0	94.2	94.2	101.1	101.6	89.7	136.9
63	96.8	97.5	98.6	95.1	94.5	97 1	99.0	98.4	97.6	98.1	102.8	101.7	98.1	140.4
80	96.8	101.1	96.8	97.4	98.5	101.6	98.7	99.1	99.1	98.4	103.0	103.0	90.6	141.7
100	95.7	101.0	96.3	95.8	98.1	101.5	100.4	103.0	99.8	102.1	103.0	108.4	93.3	143.3
125	92.9	94.2	96.7	96.5	99.3	100.9	99.6	99.2	98.7	101.8	108.6	112.8	98.2	145.2
160	90.7	87.5	93.0	90.0	92.4	96.2	101.6	97.3	99.5	104.1	108.9	112.9	102.8	145.2
200	91.3	92.3	91.3	89.9	93.2	96.3	98.7	99.4	103.6	103.9	110.3	116.0	105.6	147.3
250	89.8	92.1	92.6	91.6	93.7	97.1	98.0	100.9	104.1	109.9	115.3	119.0	108.4	150.8
315	90.8	92.1	91.1	91.4	94.0	97.6	101.0	100.7	105.6	112.0	117.1	119.8	109.7	152.1
400	92.1	92.6	93.9	91.7	95.5	97.4	109.0	101.4	106.1	113.9	119.8	121.2	110.2	154.1
500	92.3	93.9	94.9	93.2	96.0	99.6	100.0	103.4	107.1	116.7	121.6	121.3	108.9	155.1
630	93.5	94.3	96.1	93.6	96.2	99.8	100.2	104.4	108.3	118.2	123.0	120.0	107.6	155.8
800	96.8	96.9	96.9	95.4	97.8	100.9	102.3	105.7	110.4	118.0	123.8	119.0	106.4	156.2
1000	104.2	102.5	101.8	98.8	99.7	102.6	102.4	106.8	111.1	118.1	123.5	117.4	105.6	155.9
1250	106.2	107.4	105.5	101.9	102.1	104.0	103.6	107.5	112.2	118.0	122.9	114.8	105.3	155.6
1600	107.1	106.2	107.9	105.5	105.0	105.6	104.7	108.3	112.4	117.0	122.1	113.5	104.4	155.0
2000	106.0	106.1	106.7	105.6	107.2	107.8	105.3	108.9	112.7	118.3	120.8	110.4	103.9	154.7
2500	103 4	104.5	104.8	104.3	105.7	109.3	107.0	108.3	112.2	118.2	117.7	109.3	104.1	153.6
3150	104.3	104.9	104.1	102.6	104.7	107.8	107.7	109.4	112.7	117.1	115.8	107.2	102.1	152.7
4000	103.5	104.1	104.7	102.6	104.3	107.0	106.4	110.0	111.9	114.6	114.3	104.8	100.4	151.5
5000	103.2	104.2	105.1	102.8	104.3	106.0	106.4	109.2	110.5	113.8	112.1	102.9	98.7	150.6
6300	102.4	104.3	104.9	103.7	105.5	106.7	106.0	109.0	110.2	111.7	109.4	101.1	97.9	150.0
8000	101.0	102.7	104.2	102.9	105.3	106.9	105.1	107.2	108.7	109.6	107.3	100.0	96.0	149.0
10000	100.7	102.6	103.3	102.9	104.7	107.2	106.0	106.7	107.9	108.6	105.2	98.4	94.9	149.1
12500	99.2	99.7	101.8	101.4	104.2	106.8	105.5	104.8	105.4	106.0	102.6	97.0	93.2	148.4
16000	97.5	99.5	100.2	100.2	102.3	105.3	103.3	104.2	104.1	103.0	100.3	94.6	89.8	148.1
20000	94.4	97.3	97.4	97.9	100.2	102.2	101.8	100.9	100.8	99.7	97.2	91.9	86.6	147.1
25000	91.8	93.2	94.2	95.1	96.7	101.1	99.5	98.2	97.7	94.6	92.5	89.3	82.9	146.8
31500	88.0	89.5	90.8	92.1	93.2	96.6	95.3	94.3	94.1	90.4	88.8	85.4	78.2	146.0
40000	82.2	85.1	86.3	87.2	87.9	92.8	90.6	90.3	90.6	87.1	85.2	81.2	74.3	145.8
50000	76.3	78.4	80.4	81.7	82.5	88.1	85.2	84.7	84.3	81.1	78.9	76.1	68.0	144.7
63000	69.4	73.0	76.3	75.9	77.5	82.6	78.9	79.4	79.2	76.9	73.1	69.2	62.0	144.6
80000	61.9	65.3	69.0	68.0	70.0	77.1	71.8	72.6	71.5	69.7	66.2	62.8	54.1	144.7
OASPL	115.4	116.1	116.4	114.9	116.5	118.7	118.4	120.1	123.0	128.4	132.2	129.3	118.6	166.6
PNL	127.8	128 5	128.7	127.1	128.7	131.4	131.2	133.3	136.1	140.7	142.5	137.1	128.8	
PNLT	127.8	129.5	128.7	127.7	129.4	131.4	132.6	133.9	136.1	140.7	142.5	137.1	128.8	
DBA	115.4	115.9	116.2	114.5	115.8	117.9	117.2	119.7	122.9	128.2	131.6	126.4	116.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH166 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.48 PAMB HG = 29.09 RELHUM = 82.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1512.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2459.2 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1142 TAPE = X1142C TEST PT NO = 1142 NC = AE085 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

DATPROC - FLTRAN 07/07/83 16.103 PAGE 3

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

IDENTIFICATION - 83F-400-1142 X1142F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	97.4	98.3	97.4	94.8	95.3	97.1	96.2	97.3	103.4	109.2	114.2	117.6	109.5	149.7
315	97.4	98 3	97.4	94.8	95.8	97.8	100.1	98.7	104.0	111.3	117.2	119.7	111.4	152.0
400	98.5	98.5	96.1	94.8	97.2	97.6	108.1	99.4	105.0	114.1	119 1	120.4	111.7	153.5
500	99.0	98.5	98.5	94.9	97.9	100.0	99.0	101.3	106.2	115.6	120.7	119.8	112.4	154.2
630	100.0	100.3	99.9	96.6	98.1	100.2	99.2	102.1	108.7	116.0	122.3	120.3	114.0	155.3
800	100.9	100.5	101.0	97.1	99.5	101.4	101.4	103.5	109.9	116.7	122.8	120.2	115.9	155.8
1000	102.5	101.9	100.9	98.3	101.3	103.2	101.7	104.8	111.1	116.7	122.2	117.6	115.5	155.1
1250	111.2	108.3	106.1	101.7	103.9	104.8	103.0	105.6	111.5	115.8	121.6	116.5	115.0	155.0
1600	113.2	113.2	109.9	104.9	106.9	106.7	104.3	106.6	112.0	117.3	120.3	113.3	114.4	155.1
2000	113.4	111.4	111.9	108.4	109.5	109.1	105.1	107.4	112.0	117.8	118.0	113.1	115.4	154.9
2500	111.3	110.8	110.7	108.8	108.6	110.9	107.2	107.3	112.9	117.0	116 4	111.2	113 7	154.2
3150	111.0	111.1	110.2	108.4	107.8	109.8	108.3	108.7	112.7	115.0	115.2	109.0	112.1	153.4
4000	110.5	110.5	109.0	106.6	107.9	109.6	107.6	109.9	111.3	114.2	112.9	106.8	109.8	152.5
5000	110.2	110.2	110.1	107.1	108.2	109.0	107.9	109.2	111.9	113.0	111.3	106.5	111.0	152.4
6300	109.5	110.2	110.4	107.3	109.6	109.7	108.2	109.8	110.9	111.5	109.8	106.1	109.9	152.4
8000	109.7	110.9	110.6	108 4	109.4	109.9	107.3	108.3	110.8	111.3	108.7	105.4	109.8	152.7
10000	108.2	109.1	109.8	107.5	108.8	110.2	108 4	108.2	109.4	110.1	107.5	105.4	109.0	152.5
12500	107.5	108.7	108.6	107.1	108.8	109.8	108.0	106.7	108.2	107.1	105 3	103.2	106.0	152.3
16000	108.3	107.6	108.2	106.3	108.3	108.3	105.6	105.8	105.5	104.6	103.1	101.3	103.5	152.2
20000	103.4	104.7	104.5	103.5	104.2	105.2	104.1	102.6	101.0	97.7	96.2	96.1	96.6	150.6
25000	99.7	101.9	101.1	100.6	101.3	104.1	101.0	98.4	99.2	95.8	95.3	95.4	95.2	150.4
31500	99.1	99.3	98.8	98.2	97.8	99.6	97.0	95 1	97.2	94.1	93.3	93.1	93.7	150.6
40000	94.5	94.8	94.6	94.3	92.5	95.8	92.6	91.5	90.1	87.0	85.7	86.2	85.2	149.9
50000	88.3	89.9	89.7	89.1	87.1	91.1	86.8	85.1	86.8	84:8	82.2	82.1	82.5	149.3
63000	81.4	82.3	82.9	82.6	82.1	85.6	80.8	80 4	78.9	76.7	73.6	73.3	71.6	148.3
80000	73.1	75.4	77.2	75.3	74.6	80 1	73.2	72.6	69.1	66.9	63.8	63.4	61.7	148.3
OASPL	121.8	121.6	121.0	118.5	119.5	120.6	118.9	119.5	123.0	127.4	131.0	128.8	125.4	167.1
PNL	133.5	133.4	132.7	130.3	130.8	132.2	130.7	132.0	135.4	139.2	140.3	136.4	136.7	
PNLT	134.6	135.1	132.7	130.3	130.8	132.2	132.1	132.0	135.4	139.2	140.3	136.4	136 7	
DBA	196.5	198.2	199.3	198.1	197.2	202.0	196.0	195 4	193.5	191.3	188.4	188.2	187.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH166 TEST DATE = 03-28-83 LOCAT = C41 ANECH CH CONFIG = 11 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.48 PAMB HG = 29.09 RELHUM = 82.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1512.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2459.2 FPS AE18 = 23.4 SQ IN

RUNDT - 83F-400-1142 TAPE - X1142F TEST PT NO = 1142 NC = AE085 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 - 83F-400-1142 X11421

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	72.8	75.3	75.5	73.6	74.5	76.4	75.4	76.1	81.5	86 2	89.6	90.8	79.5	164.6
63	72.8	75.3	75.4	73.6	75.0	77.1	79.3	77.5	82.0	88.3	92.6	92.9	81.3	166.9
80	73.9	75.4	74.1	73.5	76.4	76.9	87.2	78.1	82.9	91.0	94.4	93.5	81.5	168.4
100	74.2	75.3	76.4	73.5	77.0	79.2	78.1	79.9	84.2	92.5	96.0	92.9	82.0	169.1
125	75.2	77.0	77.7	75 2	77.1	79.4	78.2	80.7	86.6	92.7	97.5	93.2	83.4	170.2
160	75.8	77.1	78.7	75 5	78.4	80.4	80.2	82 0	87.6	93.3	97.8	92.8	84.8	170.7
200	77.3	78.2	78.4	76.6	80.1	82.0	80.4	83.1	88.6	93.0	96.9	89.9	84.0	170.0
250	85.6	84.3	83.4	79.8	82.4	83.4	81.5	83.6	88.8	91.9	96.0	88.4	82.8	169.9
315	87.1	89.0	86 8	82.6	85.2	85.0	82.5	84.4	89.0	93.0	94.3	84 6	81.4	170.0
400	86.8	86.7	88.5	85.8	87.3	87.1	83.0	84.8	88.6	93.1	91.4	83.7	81.4	169.8
500	84.2	85.6	86.9	85.8	86.1	88.6	84.7	84.3	89.1	91.8	89.2	81.1	78 7	169.1
630	83 3	85.4	86.0	85.1	85.0	87.2	85.5	85.4	88.4	89.4	87.5	78.2	75 9	168.3
800	82.1	84.4	84.4	82.9	84 7	86.6	84.4	86.2	86.6	88.0	84.5	75.1	72.3	167.4
1000	81.1	83.5	84.9	82.9	84.6	85.6	84.3	85.1	86.8	86.3	82.3	73.9	72.1	167.3
1250	79.7	82.8	84.7	82.6	85.5	85.9	84.1	85.1	85.2	84.2	80.0	72.3	69.2	167.3
1600	78.5	82.5	84.0	83.0	84.6	85.3	82.6	82.9	84.2	82.9	77.5	69.9	66.3	167.6
2000	75.3	79.3	82.0	81.0	83.1	84.7	82.6	81.7	81.6	80.3	74.6	67.4	61.8	167.4
2500	71 9	76.7	79.0	79.1	81.6	82.8	80.8	78.6	78.6	75.2	69.7	61.4	52.9	167.2
3150	68.3	72.2	75.8	75.7	76.7	79.0	76.0	75.1	73.1	69.2	63.1	53.6	41.0	167.1
4000	55.7	63.2	66.8	68.3	70.3	71.6	70.1	67.3	63.4	56.2	48.5	38.1	18.3	165.5
5000	40.6	51.2	55.6	58.3	60 7	64.0	60.4	56.1	53.7	45.4	36.2	22.0		165.3
6300	21.0	33.1	40.0	43.8	45.9	48.4	45.1	40.7	38.3	27.9	15.3			165.5
8000		2.5	13.1	19.4	21.1	25.6	21.2	16.6	8.6					164.8
10000														164.2
12500														163.2
16000														163.2
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	94.1	95.5	96.1	94.1	95 8	97.0	95.4	95.7	99.1	103.0	105.6	101.4	92.8	182.0
PNL	100.3	102.5	103.9	102.6	104.7	106.0	104.1	103.8	105.5	107.8	108.0	101.8	95.3	
PNLT	100.9	103.2	104.5	103.1	105.2	106.0	104 1	103.8	106.3	107.8	108.0	101.8	96.5	
DBA	90.5	92.7	93.9	92.4	94.0	95.3	93.0	93.4	95.2	96 7	95.9	88.4	84.1	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-11/NAS3-22137

VEHICL = ADH166	TEST DATE = 03-28-83	LOCAT = C41 ANECH CH	CONFIG = 11	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 36.48	PAMB HG = 29.09	RELHUM = 82.8 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1512.8 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2459.2 FPS	AE18 = 23.4 SQ IN	

TAS-12 (Shield to Outer Stream Velocity Ratio at Takeoff is 0.83).

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 83F-ZER-1203 X1203C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100	110.	120.	130.	140.	150.	160.	PWL
50	84.1	87.4	87.4	80.7	81 3	84.2	85.3	88.7	86.2	89.7	92.4	94.6	92.0	130.2
63	87.8	93.8	97.6	90.6	88 5	90.6	95.5	95.6	90.6	94.1	93 8	98.5	98.4	136.3
80	88.5	93.3	90.6	87.6	89.0	93.3	91.7	92.1	92.6	92.9	95.8	96.0	82.6	134.3
100	88.7	94.5	90.5	88.5	91.1	94.8	93.1	95.8	93.8	97.6	98.5	101.6	85.3	137.1
125	84.9	89.2	91.4	89.7	93.1	95.9	93.3	94.5	93.7	97.3	104.1	105.8	89.7	139.4
160	83.9	85.0	88.5	84.5	87.6	91.2	93.4	92.0	93.5	98.1	103.4	106.1	95.0	138.9
200	85.8	86.1	88.8	84.6	88.2	92.6	93.0	94.4	97.3	100.1	106.0	109.5	98.4	141.6
250	85.5	88.8	89.6	86.9	90.2	93.6	94.2	96.4	98.6	105.1	110.3	112.5	101.6	145.1
315	86.6	88.9	89.1	86.7	90.5	95.1	96.0	96.9	99.9	106.0	110.8	113.0	104.7	145.8
400	87.8	89.6	90.4	86.9	91.2	94.1	98.5	97.7	100.1	107.9	111.8	113.8	105.7	146.8
500	87.6	90.1	91.6	87.9	92.0	95.9	95.8	98.9	101.6	109.2	113.1	114.3	106.9	147.7
630	88.5	90.6	91.6	88.4	93.2	95.8	96.5	99.4	101.8	109.7	112.8	113.5	107.6	147.5
800	90.3	91.1	91.9	88.9	94.3	96.6	97.3	100.7	103.4	109.7	112.6	112.3	108.4	147.3
1000	93.0	93.5	93.6	90.6	94.9	97.8	97.4	101.1	103.6	109.4	111.3	111.2	108.1	146.7
1250	91.2	94.5	94.0	90.9	94.6	97.2	97.4	101.0	104.7	109.1	109.7	109.1	106.8	145.7
1600	91 6	92.8	93.9	90.8	95.3	98.7	98.2	102.1	104.9	106.8	109.6	108.8	105.5	145.2
2000	91.6	93.1	94 0	90.7	94.8	97.9	98.1	101.9	104.5	107.1	108.3	106.4	103.4	144.4
2500	90.2	92.5	92.6	90.3	94.2	97.3	97.8	101.4	103.5	106.8	107.1	104.1	100.1	143.4
3150	89.1	92.0	92.7	89.5	93.6	97.4	97.5	101.0	103.1	105.0	104.7	100.3	96.5	142.0
4000	87.4	91.0	92.1	89.0	93.5	97.2	97.6	100.4	102.3	102.8	102.0	97.2	93.8	140.7
5000	86.4	89.5	91.4	88.7	92.7	96.2	96.6	99.7	100.7	101.4	100.1	95.6	91.4	139.5
6300	85.2	89.6	90.2	87.5	91.8	96.0	96.0	99.2	100.0	99.8	97.7	93.2	90.1	138.7
8000	83.6	87.8	89.1	86.5	91.4	94.5	94.7	97.0	97.8	96.7	95.9	91.8	88.6	137.1
10000	83 3	86.4	88.2	86.2	90.1	94.6	93.8	96.3	97.1	95.1	94.8	91.2	87.5	136.9
12500	80.9	84.8	86.6	84.7	88.7	93.3	92.5	93.8	94.9	93.3	91.8	89.5	86.0	135.8
16000	79.0	84.4	85.3	83.8	87.6	90.8	90.9	92.1	92.9	90.6	89.2	86.9	83.1	135.1
20000	76.2	81.8	82.9	81.0	85.2	87.5	88.3	89.0	88.8	87.5	86.8	85.0	80.7	133.9
25000	73.3	78.4	79.2	78.6	81.2	86.3	85.5	85.0	86.4	83.8	83.5	81.6	77.2	133.3
31500	69.2	73.9	75.9	75.3	77.7	81.8	81.3	81.5	81.9	80.2	79.7	76.9	73.5	132.4
40000	63.8	69.7	71.6	70.7	72.4	78.3	76.3	76.5	78.7	76.3	76.1	72.4	68.1	132.2
50000	57.9	63 2	65.3	64.5	66.3	72.6	70.0	70.9	72.0	69.3	69.5	66.6	62.4	130.4
63000	51.6	57.2	60.2	58.5	61.9	67.2	63.2	65.2	66.6	62.7	63.4	59.3	54.2	130.0
80000	46.2	50.1	52.3	49.7	54 0	60.4	56.5	57.0	57.5	55.3	55.5	51.3	45.5	129.1
OASPL	102.3	105.1	105.9	102.6	106.4	109.7	110.0	112.7	114.9	119.2	122.0	122.7	116.7	157.6
PNL	114.3	117.0	117.8	114.7	118.7	122.2	122.5	125.5	127.4	130.5	131.7	130.6	125.8	
PNLT	114.3	117.5	117.8	115.2	119 3	122.2	122.5	125.5	127.4	130.5	132.3	130.6	125.8	
DBA	101.3	103.5	104.1	101.2	105.4	108.7	108.9	112.2	114.6	118.3	120.3	120.1	115.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH186	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 43.81	PAMB HG = 29.57	RELHUM = 45.7 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 = 1104.8 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1792.9 FPS	AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1203 TAPE = X1203C TEST PT NO = 1203 NC = AE086 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 - 83F-ZER-1203 X1203F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.1	87.4	87.4	80.7	81.3	84.2	85.3	88.7	86.2	89.7	92.4	94.6	92.0	130.2
63	87.8	93.8	97.6	90.6	88.5	90.6	95.5	95.6	90.6	94.1	93.8	98.5	98.4	136.3
80	88.5	93.3	90.6	87.6	89.0	93.3	91.7	92.1	92.6	92.9	95.8	96.0	82.6	134.3
100	80.7	94.5	90.5	88.5	91.1	94.8	93.1	95.8	93.8	97.6	98.5	101.6	85.3	137.1
125	84.9	89.2	91.4	89.7	93.1	95.9	93.3	94.5	93.7	97.3	104.1	105.8	89.7	139.4
160	83.9	85.0	88.5	84.5	87.6	91.2	93.4	92.0	93.5	98.1	103.4	106.1	95.0	138.9
200	85.8	86.1	88.8	84.6	88.2	92.6	93.0	94.4	97.3	100.1	106.0	109.5	98.4	141.6
250	85.5	88.8	89.6	86.9	90.2	93.6	94.2	96.4	98.6	105.1	110.3	112.5	101.6	145.1
315	86.6	88.9	89.1	86.7	90.5	95.1	96.0	96.9	99.9	106.0	110.8	113.0	104.7	145.8
400	87.8	89.6	90.4	86.9	91.2	94.1	98.5	97.7	100.1	107.9	111.8	113.8	105.7	146.8
500	87.6	90.1	91.6	87.9	92.0	95.9	95.8	98.9	101.6	109.2	113.1	114.3	106.9	147.7
630	88.5	90.6	91.6	88.4	93.2	95.8	96.5	99.4	101.8	109.7	112.8	113.5	107.6	147.5
800	90.3	91.1	91.9	88.9	94.3	96.6	97.3	100.7	103.4	109.7	112.6	112.3	108.4	147.3
1000	93.0	93.5	93.6	90.6	94.9	97.8	97.4	101.1	103.6	109.4	111.3	111.2	108.1	146.7
1250	91.2	94.5	94.0	90.9	94.6	97.2	97.4	101.0	104.7	109.1	109.7	109.1	106.8	145.7
1600	91.6	92.8	93.9	90.8	95.3	98.7	98.2	102.1	104.9	106.8	109.6	108.8	105.5	145.2
2000	91.6	93.1	94.0	90.7	94.8	97.9	98.1	101.9	104.5	107.1	108.3	106.4	103.4	144.4
2500	90.2	92.5	92.6	90.3	94.2	97.3	97.8	101.4	103.5	106.8	107.1	104.1	100.1	143.4
3150	89.1	92.0	92.7	89.5	93.6	97.4	97.5	101.0	103.1	105.0	104.7	100.3	96.5	142.0
4000	87.4	91.0	92.1	89.0	93.5	97.2	97.6	100.4	102.3	102.8	102.0	97.2	93.8	140.7
5000	86.4	89.5	91.4	88.7	92.7	96.2	96.6	99.7	100.7	101.4	100.1	95.6	91.4	139.5
6300	85.2	89.6	90.2	87.5	91.8	96.0	96.0	99.2	100.0	99.8	97.7	93.2	90.1	138.7
8000	83.6	87.8	89.1	86.5	91.4	94.5	94.7	97.0	97.8	96.7	95.9	91.8	88.6	137.1
10000	83.3	86.4	88.2	86.2	90.1	94.6	93.8	96.3	97.1	95.1	94.8	91.2	87.5	136.9
12500	80.9	84.8	86.6	84.7	88.7	93.3	92.5	93.8	94.9	93.3	91.8	89.5	86.0	135.8
16000	79.0	84.4	85.3	83.8	87.6	90.8	90.9	92.1	92.9	90.6	89.2	86.9	83.1	135.1
20000	76.2	81.8	82.9	81.0	85.2	87.5	88.3	89.0	88.8	87.5	86.8	85.0	80.7	133.9
25000	73.3	78.4	79.2	78.6	81.2	86.3	85.5	85.0	86.4	83.8	83.5	81.6	77.2	133.3
31500	69.2	73.9	75.9	75.3	77.7	81.8	81.3	81.5	81.9	80.2	79.7	76.9	73.5	132.4
40000	63.8	69.7	71.6	70.7	72.4	78.3	76.3	76.5	78.7	76.3	76.1	72.4	68.1	132.2
50000	57.9	63.2	65.3	64.5	66.3	72.6	70.0	70.9	72.0	69.3	69.5	66.6	62.4	130.4
63000	51.6	57.2	60.2	58.5	61.9	67.2	63.2	65.2	66.6	62.7	63.4	59.3	54.2	130.0
80000	46.2	50.1	52.3	49.7	54.0	60.4	56.5	57.0	57.5	55.3	55.5	51.3	45.5	129.1
OASPL	102.3	105.1	105.9	102.6	106.4	109.7	110.0	112.7	114.9	119.2	122.0	122.7	116.7	157.6
PNL	114.3	117.0	117.6	114.7	118.7	122.2	122.5	125.5	127.4	130.5	131.7	130.6	125.8	
PNLT	114.3	117.5	117.8	115.2	119.3	122.2	122.5	125.5	127.4	130.5	132.3	130.6	125.8	
DBA	168.2	172.7	175.2	173.2	176.8	182.8	179.1	180.1	181.1	178.2	178.5	174.6	169.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS 12/NAS3-22137

VEHICL = ADH186 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA - FULL SPHERE TAMB F = 43.81 PAMB HG = 29.57 RELHUM = 45.7 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 = 1104.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1792.9 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1203 TAPE = X1203F TEST PT NO = 1203 NC = AE086 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1203 X12031

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	61.0	65.8	67.6	65.6	69.4	72.9	73.4	75.1	76.6	82.1	85.7	85.7	71.5	160.0
63	62.0	65.8	67.2	65.4	69.7	74 4	75.2	75.7	77.9	82.9	86 3	86.2	74.5	160.7
80	63.2	66.5	68.4	65.6	70.4	73.4	77.6	76.4	78.1	84.8	87.2	86.9	75.4	161.7
100	62.9	67.0	69.6	66 6	71.1	75.1	74.9	77.6	79.6	86.1	88.4	87.3	76.5	162.6
125	63.7	67.3	69.4	67.0	72.2	75.0	75.5	78.0	79.7	86.4	88.0	86.4	77.0	162.4
160	65.3	67.7	69.6	67.4	73.2	75.7	76.2	79.1	81.1	86.3	87.6	84.9	77.4	162.2
200	67.7	69.9	71.1	68.9	73.7	76.7	76.2	79.4	81.1	85.8	86.0	83.5	76.6	161.6
250	65.6	70.6	71.3	68.9	73.1	75.9	75.9	79.1	82.0	85.2	84.1	81.0	74.6	160.6
315	65.5	68.5	70.9	68.6	73 5	77.0	76.5	79.8	81.9	82.5	83.6	80.1	72.5	160.1
400	65.0	68.4	70.6	68.1	72 6	75.9	76.0	79.3	81.1	82.4	81.7	77.0	69.4	159.3
500	63.1	67.4	68.8	67.4	71.8	75.0	75.3	78.4	79.7	81.6	79.9	74.0	65.1	158.3
630	61.4	66.3	68.5	66.2	70 8	74.7	74.7	77.7	78.8	79.3	77.0	69.5	60.3	156.9
800	59.0	64.9	67.4	65.3	70.3	74.1	74.4	76.6	77.6	76.6	73.6	65.5	56.3	155.6
1000	57.4	62.8	66.2	64.6	69.2	72.8	73.0	75.5	75.6	74.7	71.1	63.0	52.5	154.4
1250	55.3	62.3	64.5	62.9	67.8	72.1	72.0	74.6	74.3	72.4	67.9	59.4	49.5	153.6
1600	52.5	59.4	62.6	61.1	66.7	69.9	69.9	71.6	71.3	68.4	64.7	56.2	45.2	152.0
2000	50.3	56.7	60.5	59.8	64.4	69.1	68.1	69.9	69.3	65.3	61.9	53.2	40.2	151.8
2500	45.3	52.8	57.0	56.7	61.5	66.3	65.3	65.8	65.4	61.4	56.2	47.8	32.9	150.7
3150	39.0	49.0	52.8	53.2	58.0	61.6	61.3	61.4	60.5	55.3	49.2	39.2	20.6	150.0
4000	28.5	40.3	45.3	45.7	51.3	54.0	54.4	53.7	51.2	46.0	39.1	26.9	2.3	148.8
5000	14.3	27.7	33.7	36.3	40.7	46.3	44.9	42.7	40.9	33.1	24.4	8.2		148.2
6300		7.8	17.1	21.0	25.8	30.7	29.4	27.2	23.1	14.0	1.6			147.3
8000					1.0	8.1	5.0	1.6						147.1
10000														145.3
12500														144.9
16000														144.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	75.4	79.1	81.0	78.8	83.5	86.9	87.3	89.7	91.4	95.2	96.5	94.9	85.2	172.1
PNL	78.9	83.5	86.0	84.1	88.9	92.9	92.6	95.1	96.3	98.0	97.6	94.2	85.3	
PNLT	78.9	83.5	86.0	84.1	89.5	92.9	92.6	95.7	96.3	98.0	97.6	94.2	85.3	
DBA	68.4	73.1	75.5	73.6	78.4	82.1	82.0	84.6	85.6	86.4	85.4	81.3	73.5	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH186	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 43.81	PAMB HG = 29.57	RELHUM = 45.7 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1104.8 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1792.9 FPS	AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1203 TAPE = X12031 TEST PT NO = 1203 NC = AE086 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 83F-400-1204 X1204C
BACKGROUND 83F-400-1100 X11000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.2				79.8	81.5			85.1	83.8	90.0	91.8		125.7
63	87.6				86.1	88.2			87.3		89.9			125.9
80	88.5	92.6	88.8	88.6	88.4	93.0	90.7	90.7	90.8	91.1	94.6	95.5		133.3
100	86.8	92.1	88.8	87.3	88.4	92.1	90.4	93.4	91.0	94.7	95.6	100.6		134.8
125	85.0	87.4	89.6	89.1	90.7	93.1	90.7	91.8	90.5	94.1	100.9	103.8	88.2	136.8
160	82.0	81.1	84.7	82.5	84.4	87.5	88.8	87.4	90.3	94.0	100.4	103.6	91.6	135.9
200	82.0	82.9	83.8	81.0	83.5	87.9	88.1	90.7	95.2	95.6	101.8	106.2	94.2	138.0
250	81.3	84.1	84.5	83.8	86.0	88.9	89.7	90.9	95.1	99.6	105.3	108.5	96.3	140.5
315	81.7	84.1		83.2	85.5	89.5	89.8	92.3	96.0	100.7	106.1	108.8	97.5	141.1
400	82.7	84.2	84.8	83.4	85.3	89.2	95.1	92.0	95.3	102.4	107.3	108.5	96.1	141.7
500	82.7	85.0	86.4	84.5	86.3	90.5	90.8	93.6	96.3	104.0	108.1	107.5	92.9	141.9
630	83.7	85.0	86.2	84.5	86.8	90.5	90.8	94.3	96.1	105.4	107.3	104.7	90.2	141.3
800	84.8	85.8	86.3	85.1	88.2	91.0	92.2	95.9	98.1	104.2	106.6	102.5	88.4	140.6
1000	86.0	86.7	87.7	86.3	88.3	92.0	92.1	96.1	99.1	105.1	106.0	99.4	88.6	140.5
1250	84.6	88.2	87.2	86.1	88.5	92.4	92.3	96.2	99.7	104.1	105.2	96.1	87.2	139.8
1600	85.1	86.2	87.4	87.0	89.0	93.1	93.2	97.0	99.7	102.7	104.1	95.0	86.3	139.2
2000	85.5	85.6	87.0	86.1	88.7	92.5	93.1	97.6	99.5	103.1	102.8	93.4	86.9	138.9
2500	84.7	85.5	86.3	85.5	88.1	92.5	92.7	96.9	98.8	102.3	101.1	93.3	86.3	138.0
3150	84.3	85.7	86.2	85.2	87.9	92.8	92.2	96.2	98.6	100.4	98.2	90.3	84.5	136.7
4000	83.6	85.2	86.1	84.9	88.0	92.3	92.4	96.3	97.7	98.7	96.4	88.4	83.0	135.9
5000	83.4	84.2	85.3	84.6	87.5	90.9	91.6	95.8	96.1	98.0	94.8	88.0	82.3	135.0
6300	82.9	84.8	84.9	83.4	86.8	90.5	91.1	94.6	95.5	95.7	92.6	86.8	81.5	134.0
8000	82.3	84.5	85.1	83.6	85.9	89.8	89.9	92.9	93.9	93.4	90.8	85.1	81.2	132.9
10000	83.2	84.9	84.8	83.6	84.6	88.9	89.3	92.4	93.2	91.7	89.4	84.7	80.2	132.6
12500	82.1	84.2	84.9	83.2	84.1	88.4	88.4	89.6	91.0	90.1	87.9	84.7	79.2	131.9
16000	80.5	83.0	83.6	82.7	83.0	86.6	86.3	88.3	90.2	87.4	85.9	82.6	77.6	131.8
20000	77.6	79.7	81.0	80.0	82.1	83.6	84.5	84.9	86.1	84.2	83.3	80.2	75.2	130.6
25000	74.7	77.6	78.1	78.1	79.2	83.3	82.2	81.8	83.2	80.6	79.5	77.7	72.3	130.4
31500	70.9	73.3	74.8	75.3	75.3	79.1	78.7	78.5	79.5	77.2	76.0	73.8	68.0	130.0
40000	65.7	68.8	70.0	70.4	70.4	75.7	74.3	74.6	76.3	73.1	72.9	69.8	63.9	130.0
50000	59.8	63.1	64.2	64.5	64.9	71.3	68.7	68.7	69.8	67.4	67.4	65.0	58.5	128.8
63000	53.5	57.3	59.1	58.8	59.8	66.0	62.3	63.0	64.0	61.9	61.0	58.7	51.8	128.4
80000	47.8	50.2	52.1	50.2	52.0	58.9	56.4	56.4	56.6	53.9	54.4	51.5	43.8	128.2
OASPL	98.6	100.4	100.1	99.2	101.3	105.0	105.2	108.1	110.2	114.6	116.9	116.5	104.2	152.3
PNL	110.0	111.1	111.3	110.5	113.3	117.4	117.3	120.7	122.9	126.0	126.4	123.3	112.3	
PNLT	110.0	111.1	118.0	111.2	114.0	118.0	118.1	120.7	122.9	126.0	126.4	123.3	112.3	
DBA	96.0	97.4	98.0	97.0	99.5	103.5	103.8	107.6	109.7	113.8	114.9	111.6	100.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH174	TEST DATE = 03-30-83	LOCAT = C41 ANLCH CH	CONFIG = 12	MODEL = CO	FLTVEL = 400. FPS
TAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 42.40	PAMB HG = 29.46	RELHUM = 47.9 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1108.8 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1799.2 FPS	AE18 = 23.4 SQ IN

RUNPT = 83F-400-1204 TAPE = X1204C TEST PT NO = 1204 NC = AE086 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 - 83F-400-1204 X1204F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	89.1	90.5	89.4	87.1	87.6	88.9	88.2	88.0	93.7	97.8	103.0	106.5	97.3	138.8
315	89.1	90.5	89.4	87.1	87.3	89.7	88.9	90.3	93.0	99.6	104.4	106.8	97.3	139.6
400	89.3	90.5	89.6	86.6	87.1	89.5	94.0	89.8	93.9	101.1	105.3	106.3	95.5	140.0
500	89.9	90.3	89.5	86.7	88.2	90.8	89.7	91.3	93.7	102.6	104.6	104.1	94.6	139.4
630	90.4	91.4	91.4	88.0	88.8	90.9	89.8	91.9	96.2	101.9	104.7	103.4	95.6	139.3
800	91.4	91.4	91.2	88.0	90.2	91.5	91.2	93.6	97.6	103.3	104.7	101.4	98.1	139.7
1000	92.4	92.2	91.3	88.6	90.5	92.6	91.3	93.9	98.3	102.2	103.7	97.7	96.0	138.9
1250	93.3	93.0	92.7	89.8	90.8	93.2	91.6	94.1	98.5	101.2	102.9	97.0	95.5	138.5
1600	92.3	94.7	92.3	89.8	91.4	94.1	92.7	95.2	98.6	101.8	102.0	95.7	96.4	138.6
2000	92.7	92.7	92.6	90.9	91.4	93.8	92.8	96.1	98.3	101.5	100.8	96.3	96.7	138.4
2500	93.2	92.1	92.3	90.1	91.1	94.1	92.9	95.7	98.6	100.1	98.3	93.6	95.0	137.5
3150	92.3	92.1	91.8	89.7	91.7	94.8	92.8	95.5	98.6	99.1	97.1	92.1	93.5	137.1
4000	94.7	94.6	93.5	90.7	92.2	94.8	93.8	96.4	97.0	98.5	95.6	91.8	93.2	137.3
5000	93.9	94.2	93.5	90.7	92.1	93.9	93.3	96.0	97.3	97.2	94.7	92.4	95.0	137.0
6300	93.6	93.2	92.8	90.6	91.3	93.5	93.3	95.6	96.5	95.7	93.8	91.6	95.3	136.6
8000	93.0	93.7	92.3	89.2	90.0	92.8	92.3	94.2	96.1	94.4	92.9	91.7	94.7	136.2
10000	89.4	90.9	90.6	88.1	88.7	91.9	91.6	93.9	94.6	93.6	92.0	92.2	93.9	135.6
12500	90.0	91.0	90.1	87.8	88.1	91.4	90.8	91.3	94.4	91.5	90.7	90.7	92.9	135.5
16000	88.5	89.8	88.7	86.9	87.1	89.6	88.7	90.0	90.9	88.9	88.4	88.3	90.2	134.9
20000	86.4	88.2	87.9	86.0	86.1	86.6	86.9	86.8	87.7	84.8	84.0	85.0	86.4	134.2
25000	82.9	84.3	84.7	82.7	83.8	86.3	84.0	82.7	85.6	83.3	82.5	83.1	84.2	134.1
31500	82.1	83.6	82.7	81.1	79.3	82.1	81.0	80.2	83.5	80.3	80.7	80.6	81.7	134.7
40000	74.6	76.3	76.9	76.4	75.0	78.7	76.8	76.5	76.7	74.2	74.6	75.1	75.4	133.4
50000	71.8	73.6	73.4	72.3	69.5	74.3	70.8	70.1	71.8	68.8	69.2	69.9	69.8	133.2
63000	64.9	67.0	66.6	65.4	64.4	69.0	64.3	64.3	66.3	63.6	64.8	65.0	64.2	132.6
80000	57.2	59.8	60.0	58.2	56.6	61.9	58.5	57.9	56.5	53.8	55.0	55.2	54.4	131.9
OASPL	104.8	105.3	104.5	102.0	103.1	105.5	104.8	106.8	109.5	112.6	114.3	113.6	108.3	151.4
PNL	117.4	117.5	116.7	114.0	115.3	117.8	117.0	119.3	121.7	123.5	123.3	121.0	119.1	
PNLT	117.4	117.5	116.7	114.0	115.3	117.8	117.8	119.3	121.7	123.5	123.3	121.0	119.1	
DBA	180.1	182.4	182.4	180.9	179.4	184.3	180.7	180.2	180.4	177.7	178.7	179.0	178.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH174 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 42.40 PAMB HG = 29.46 RELHUM = 47.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1108.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNIR = RPM V18 = 1799.2 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1204 TAPE = X1204F TEST PT NO = 1204 NC = AE086 CORR FAN SPEED = RPM

P1168-03

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

IDENTIFICATION - 83F-400 1204 X12041

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.6	67.5	67.4	65.9	66.8	68.2	67.4	66.7	71.7	74.8	78.5	79.7	67.3	153.7
63	64.6	67.5	67.4	65.8	66.4	68.9	68.0	69.0	71.0	76.5	79.8	80.0	67.1	154.5
80	64.7	67.4	67.6	65.3	66.2	68.7	73.2	68.5	71.9	78.0	80.6	79.5	65.3	154.9
100	65.2	67.1	67.5	65.4	67.3	70.0	68.8	70.0	71.7	79.4	79.9	77.2	64.2	154.3
125	65.6	68.2	69.3	66.6	67.8	70.0	68.8	70.5	74.1	78.7	79.9	76.3	64.9	154.2
160	66.4	68.0	68.9	66.4	69.1	70.6	70.1	72.1	75.3	79.9	79.7	74.1	67.1	154.6
200	67.2	68.6	68.9	66.9	69.2	71.5	70.0	72.1	75.8	78.6	78.4	70.0	64.5	153.8
250	67.7	69.1	70.0	67.9	69.3	71.8	70.1	72.2	75.8	77.2	77.3	68.8	63.3	153.4
315	66.2	70.4	69.3	67.6	69.7	72.5	70.9	72.9	75.6	77.5	75.9	67.0	63.4	153.5
400	66.1	68.0	69.2	68.3	69.2	71.9	70.7	73.5	74.9	76.8	74.2	66.9	62.7	153.3
500	66.0	67.0	68.5	67.2	68.6	71.8	70.4	72.7	74.8	74.9	71.2	63.4	59.9	152.4
630	64.6	66.5	67.5	66.4	68.9	72.2	70.0	72.2	74.3	73.4	69.3	61.2	57.3	152.0
800	66.4	68.5	68.8	67.0	69.0	71.8	70.6	72.6	72.4	72.3	67.2	60.1	55.7	152.2
1000	64.9	67.5	68.4	66.6	68.5	70.5	69.8	71.9	72.2	70.5	65.7	59.8	56.1	151.9
1250	63.8	65.8	67.1	66.0	67.3	69.6	69.3	71.0	70.8	68.3	63.9	57.9	54.7	151.5
1600	61.8	65.3	65.7	63.8	65.2	68.3	67.5	68.8	69.6	66.1	61.8	56.2	51.3	151.1
2000	56.5	61.1	62.8	61.7	63.0	66.4	65.9	67.4	66.8	63.8	59.1	54.2	46.6	150.5
2500	54.4	59.1	60.5	59.7	60.9	64.4	63.6	63.2	64.9	59.6	55.1	49.0	39.8	150.4
3150	48.5	54.4	56.2	56.3	57.5	60.3	59.1	59.4	58.5	53.5	48.4	40.6	27.7	149.8
4000	38.7	46.7	50.3	50.7	52.2	53.0	53.0	51.5	50.0	43.3	36.4	27.0	8.0	149.1
5000	23.9	33.6	39.2	40.4	43.3	46.3	43.4	40.4	40.1	32.6	23.4	9.8		149.0
6300	4.0	17.5	23.9	26.8	27.4	31.0	29.1	25.9	24.7	14.2	2.6			149.7
8000				1.5	3.6	8.4	5.4	1.6						148.3
10000														148.1
12500														147.5
16000														146.8
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	77.7	80.0	80.5	78.8	80.4	83.0	82.2	83.6	85.8	88.6	89.0	86.4	75.6	166.3
PNL	82.8	86.0	86.8	85.3	86.8	89.8	88.9	90.3	91.4	92.2	90.5	84.8	76.9	
PNLT	82.8	86.0	86.8	85.9	86.8	89.8	89.4	90.8	91.4	92.2	90.5	84.8	76.9	
DBA	73.0	75.5	76.3	74.9	76.5	79.3	78.3	80.1	81.1	80.8	78.2	71.4	66.2	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH174	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 400. FPS
IAPLNA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 42.40	PAMB HG = 29.46	RELHUM = 47.9 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 = 1108.8 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1799.2 FPS	AE18 = 23.4 SQ IN

RUNBT = 83F-400-1204 TAPE = X12041 TEST PT NO = 1204 AE08 = R FLIGHT SPEED = RPM

P1185-03

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 83F-ZER-1205 X1205C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.9	89.4	87.9	83.2	85.1	85.9	87.6	90.2	91.4	90.0	93.9	92.8	92.2	131.5
63	90.5	95.8	96.8	92.4	91.2	93.6	96.5	95.6	94.1	91.1	95.3	97.5	96.9	136.8
80	91.5	95.8	92.3	90.1	92.2	97.1	94.7	94.6	95.1	95.7	99.0	99.2	84.1	137.2
100	90.7	97.5	93.0	91.0	94.4	97.5	95.6	99.0	96.0	100.3	101.2	104.9	89.1	140.0
125	87.6	91.2	94.2	92.2	95.8	98.4	95.8	97.0	96.2	100.5	107.1	109.1	93.7	142.4
160	86.9	87.2	91.2	86.8	90.1	94.0	96.4	96.0	96.5	102.1	107.7	109.6	98.3	142.6
200	88.8	87.3	90.6	86.9	91.0	95.3	96.0	97.1	99.8	102.6	109.5	112.7	101.6	144.8
250	88.3	90.6	91.8	89.9	93.2	95.8	97.0	99.1	101.3	108.9	114.0	116.2	105.4	148.7
315	88.8	91.1	91.4	89.2	93.0	97.1	98.8	99.7	102.6	109.5	115.1	116.8	107.4	149.5
400	90.3	92.1	93.9	89.2	93.5	96.4	103.2	100.2	102.9	111.9	117.1	118.0	109.2	151.2
500	90.6	93.1	93.9	90.7	94.3	97.6	98.0	100.9	104.1	113.0	117.8	118.5	110.4	151.9
630	91.0	93.6	94.3	91.4	95.0	98.1	98.7	101.6	104.6	113.4	117.0	118.0	111.9	151.6
800	93.6	94.6	95.6	93.2	96.5	99.6	99.3	102.7	106.4	113.7	116.6	117.3	112.9	151.5
1000	96.3	98.8	98.6	94.6	97.7	100.3	100.4	102.9	106.8	113.4	115.3	117.2	112.6	151.1
1250	94.7	98.2	98.2	95.6	98.4	100.7	100.4	103.8	107.2	112.6	114.9	114.9	111.8	150.2
1600	94.9	96.0	97.7	94.1	97.8	101.2	101.0	104.8	107.4	111.0	114.9	114.0	110.2	149.6
2000	94.8	97.1	97.5	94.2	97.3	100.9	101.1	104.7	107.5	111.6	113.6	111.4	107.2	148.7
2500	92.7	96.3	96.9	93.6	97.5	100.3	100.8	103.4	106.5	111.6	112.3	109.4	105.1	147.8
3150	92.1	95.5	96.0	93.0	96.3	100.6	100.5	103.8	106.8	110.4	110.2	107.1	101.5	146.6
4000	90.9	94.5	95.6	92.5	96.7	99.7	99.8	103.4	106.0	108.0	108.5	103.2	99.1	145.1
5000	90.2	94.2	95.3	92.5	96.0	99.2	99.8	102.7	104.4	107.4	106.6	102.1	96.1	144.2
6300	89.7	94.6	95.4	91.7	96.0	99.0	99.3	102.2	103.8	105.0	103.5	99.9	95.6	143.0
8000	87.9	93.8	95.1	91.8	95.2	98.7	97.7	100.3	101.6	102.5	101.6	98.3	93.6	141.6
10000	87.5	91.9	94.0	91.5	95.3	98.3	97.6	99.8	101.1	100.8	100.6	97.7	94.2	141.4
12500	85.7	89.5	91.4	90.2	94.0	97.5	96.3	97.3	98.0	98.8	97.6	96.2	91.8	140.2
16000	83.8	88.6	90.1	89.1	92.6	95.4	94.9	95.8	96.7	95.7	95.2	93.9	88.9	139.7
20000	80.7	85.9	87.8	86.3	90.1	92.3	92.9	92.5	92.9	92.8	92.3	91.5	86.2	138.5
25000	77.6	82.2	84.5	83.4	86.1	90.7	90.3	88.6	90.5	89.1	88.8	87.9	82.6	137.9
31500	73.6	78.5	81.1	80.1	82.3	86.4	85.9	85.3	86.3	85.6	85.3	83.8	78.0	137.1
40000	68.6	73.3	75.8	75.5	76.7	82.7	80.9	80.9	82.8	81.5	81.7	79.5	74.0	136.9
50000	62.3	67.1	69.2	69.3	71.4	77.0	75.1	75.0	76.1	75.2	75.9	73.2	67.2	135.2
63000	56.2	61.6	64.1	63.4	65.8	71.4	68.1	69.4	70.8	69.4	70.0	66.2	60.3	134.7
80000	49.6	55.8	57.3	55.1	57.7	64.3	61.2	61.7	62.7	61.3	63.9	59.7	52.1	134.2
OASPL	105.5	108.7	109.1	106.1	109.5	112.6	113.0	115.3	117.9	123.3	126.6	127.2	120.9	161.7
PNL	117.4	120.6	121.3	118.2	121.7	125.2	125.4	128.1	130.8	135.0	136.7	135.6	130.2	
PNLT	117.4	121.3	121.3	118.7	122.3	125.2	126.2	128.7	130.8	135.0	136.7	135.6	130.2	
DBA	104.6	107.5	108.1	104.9	108.4	111.6	111.8	114.8	117.7	122.6	125.1	125.1	120.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH185 TEST DATE = 05-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 0. FPS
IAPLHA = S859 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.40 PAMB HG = 29.40 RELHUM = 45.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1213.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1998.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1205 TAPE = X1205C TEST PT NO = 1205 NC = AE086 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 - 83F-2ER-1205 X1205F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.9	89.4	87.9	83.2	85.1	85.9	87.6	90.2	91.4	90.0	93.9	92.8	92.2	131.5
63	90.5	95.8	96.8	92.4	91.2	93.6	96.5	95.6	94.1	91.1	95.3	97.5	96.9	136.8
80	91.5	95.8	92.3	90.1	92.2	97.1	94.7	94.6	95.1	95.7	99.0	99.2	84.1	137.2
100	90.7	97.5	93.0	91.0	94.4	97.5	95.6	99.0	96.0	100.3	101.2	104.9	89.1	140.0
125	87.6	91.2	94.2	92.2	95.8	98.4	95.8	97.0	96.2	100.5	107.1	109.1	93.7	142.4
160	86.9	87.2	91.2	86.8	90.1	94.0	96.4	96.0	96.5	102.1	107.7	109.6	98.3	142.6
200	88.8	87.3	90.6	86.9	91.0	95.3	96.0	97.1	99.8	102.6	109.5	112.7	101.6	144.8
250	88.3	90.6	91.8	89.9	93.2	95.8	97.0	99.1	101.3	108.9	114.0	116.2	105.4	146.7
315	88.8	91.1	91.4	89.2	93.0	97.1	98.8	99.7	102.6	109.5	115.1	116.8	107.4	149.5
400	90.3	92.1	92.9	89.2	93.5	96.4	103.2	100.2	102.9	111.9	117.1	118.0	109.2	151.2
500	90.6	93.1	93.9	90.7	94.3	97.6	98.0	100.9	104.1	113.0	117.8	118.5	110.4	151.9
630	91.0	93.6	94.3	91.4	95.0	98.1	98.7	101.6	104.6	113.4	117.0	118.0	111.9	151.6
800	93.6	94.6	95.6	93.2	96.5	99.6	99.3	102.7	106.4	113.7	116.6	117.3	112.9	151.5
1000	96.3	98.8	98.6	94.6	97.7	100.3	100.4	102.9	106.8	113.4	115.3	117.2	112.6	151.1
1250	94.7	98.2	98.2	95.6	98.4	100.7	100.4	103.8	107.2	112.6	114.9	114.9	111.8	150.2
1600	94.9	96.0	97.7	94.1	97.8	101.2	101.0	104.8	107.4	111.0	114.9	114.0	110.2	149.6
2000	94.8	97.1	97.5	94.2	97.3	100.9	101.1	104.7	107.5	111.6	113.6	111.4	107.2	148.7
2500	92.7	96.3	96.9	93.6	97.5	100.3	100.8	103.4	106.5	111.6	112.3	109.4	105.1	147.8
3150	92.1	95.5	96.0	93.0	96.3	100.6	100.5	103.8	106.8	110.4	110.2	107.1	101.5	146.6
4000	90.9	94.5	95.6	92.5	96.7	99.7	99.8	103.4	106.0	108.0	108.5	103.2	99.1	145.1
5000	90.2	94.2	95.3	92.5	96.0	99.2	99.8	102.7	104.4	107.4	106.6	102.1	96.1	144.2
6300	89.7	94.6	95.4	91.7	96.0	99.0	99.3	102.2	103.8	105.0	103.5	99.9	95.6	143.0
8000	87.9	93.8	95.1	91.8	95.2	98.7	97.7	100.3	101.6	102.5	101.6	98.3	93.6	141.6
10000	87.5	91.9	94.0	91.5	95.3	98.3	97.6	99.8	101.1	100.8	100.6	97.7	94.2	141.4
12500	85.7	89.5	91.4	90.2	94.0	97.5	96.3	97.3	98.0	98.8	97.6	96.2	91.8	140.2
16000	83.3	88.6	90.1	89.1	92.6	95.4	94.9	95.8	96.7	95.7	95.2	93.9	88.9	139.7
20000	80.7	85.9	87.8	86.3	90.1	92.3	92.9	92.5	92.9	92.8	92.3	91.5	86.2	138.5
25000	77.6	82.2	84.5	83.4	86.1	90.7	90.3	88.6	90.5	89.1	88.8	87.9	82.6	137.9
31500	73.6	78.5	81.1	80.1	82.3	86.4	85.9	85.3	86.3	85.6	85.3	83.8	78.0	137.1
40000	68.6	73.3	75.8	75.5	76.7	82.7	80.9	80.9	82.8	81.5	81.7	79.5	74.0	136.9
50000	62.3	67.1	69.2	69.3	71.4	77.0	75.1	75.0	76.1	75.2	75.9	73.2	67.2	135.2
63000	56.2	61.6	64.1	63.4	65.8	71.4	68.1	69.4	70.8	69.4	70.0	66.2	60.3	134.7
80000	49.6	55.8	57.3	55.1	57.7	64.3	61.2	61.7	62.7	61.3	63.9	59.7	52.1	134.2
OASPL	105.5	108.7	109.1	106.1	109.5	112.6	113.0	115.3	117.9	123.3	126.6	127.2	120.9	161.7
PNL	117.4	120.6	121.3	118.2	121.7	125.2	125.4	128.1	130.8	135.0	136.7	135.6	130.2	
PNLT	117.4	121.3	121.3	118.7	122.3	125.2	126.2	128.7	130.8	135.0	136.7	135.6	130.2	
DBA	172.0	177.3	179.7	178.3	180.7	186.8	183.9	184.5	185.7	184.3	186.1	182.3	175.5	

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 DUAL FLOW THERMAL SHIELD/DFTAG-12/NAS3-22137

VEHICL = ADH185 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 0. FPS
TAPLHA = SB59 TEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.40 PAMB HG = 29.40 RELHUM = 45.4 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 = 1213.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1998.8 FPS AE18 = 23.4 SQ IN

RUNPT - 83F-2ER-1205 TAPE = X1205F PT = 12 IC AE RR SPE RPI

P1135-03

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

IDENTIFICATION - 83F-ZER-1205 X12051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.7	67.5	69.9	68.6	72.4	75.1	76.1	77.9	79.4	85.9	89.5	89.5	75.3	163.6
63	64.3	68.1	69.4	67.9	72.2	76.4	77.9	78.4	80.7	86.4	90.5	90.0	77.3	164.4
80	65.7	69.0	70.9	67.9	72.6	75.6	82.4	78.9	80.9	88.8	92.4	91.1	78.9	166.1
100	65.9	70.0	71.8	69.3	73.4	76.9	77.1	79.6	82.1	89.8	93.1	91.6	80.0	166.8
125	66.2	70.3	72.2	70.0	74.0	77.2	77.7	80.2	82.4	90.2	92.2	90.9	81.3	166.5
160	66.6	71.2	73.4	71.6	75.4	78.7	78.2	81.1	84.1	90.3	91.6	89.9	81.9	166.4
200	71.0	75.2	76.1	72.9	76.4	79.2	79.2	81.1	84.3	89.8	90.0	89.5	81.1	166.0
250	69.1	74.3	75.5	73.7	76.9	79.4	78.9	81.8	84.5	88.7	89.3	86.7	79.6	165.1
315	69.8	71.7	74.6	71.8	76.0	79.5	79.2	82.6	84.4	86.7	88.8	85.3	77.2	164.5
400	68.2	72.4	74.1	71.6	75.1	78.9	79.0	82.1	84.1	86.9	87.0	82.0	73.1	163.6
500	65.6	71.1	73.0	70.6	75.0	78.0	78.3	80.4	82.7	86.4	85.2	79.3	70.1	162.7
630	64.4	69.8	71.7	69.7	73.5	78.0	77.7	80.4	82.6	84.8	82.5	76.2	65.3	161.6
800	62.5	68.4	70.9	68.8	73.5	76.6	76.6	79.6	81.3	81.9	80.1	71.5	61.6	160.0
1000	61.2	67.5	70.2	68.3	72.4	75.8	76.3	78.5	79.3	80.7	77.6	69.5	57.2	159.1
1250	59.8	67.3	69.7	67.1	72.0	75.1	75.2	77.6	78.1	77.7	73.6	66.2	55.0	157.9
1600	56.7	65.4	68.5	66.4	70.4	74.2	72.9	74.9	75.0	74.1	70.5	62.7	50.2	156.5
2000	54.6	62.2	66.2	65.0	69.6	72.8	71.9	73.4	73.3	71.0	67.7	59.7	47.0	156.4
2500	50.1	57.6	61.8	62.2	66.8	70.6	69.1	69.3	68.4	66.9	62.0	54.5	38.7	155.1
3150	43.8	53.3	57.6	58.5	63.0	66.1	65.3	65.2	64.3	60.3	55.2	46.2	26.4	154.6
4000	33.1	44.4	50.1	51.0	56.1	58.8	58.9	57.3	55.3	51.3	44.7	33.5	7.9	153.4
5000	18.6	31.6	39.0	41.1	45.5	50.6	49.7	46.3	45.0	38.4	29.8	14.6		152.8
6300		12.4	22.2	25.8	30.4	35.3	34.0	31.0	27.5	19.4	7.3			152.0
8000				0.6	5.4	12.4	9.6	5.9	1.3					151.8
10000														150.1
12500														149.6
16000														149.1
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	78.5	82.8	84.7	82.4	86.4	89.7	90.3	92.2	94.3	99.2	101.1	99.5	89.4	176.4
PNI	82.4	87.7	90.2	88.5	92.9	96.3	96.0	98.0	99.6	102.4	102.6	99.7	89.9	
PNLT	82.4	87.7	90.2	89.0	93.4	96.3	96.0	98.5	99.6	102.4	102.6	99.7	89.9	
DBA	71.8	77.3	79.7	77.6	81.8	85.2	85.0	87.5	89.0	91.2	90.6	86.7	78.0	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS 12/NAS3-22137

VEHICL = ADH185 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = C0 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.40 PAMB HG = 29.40 RELHUM = 45.4 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 = 1213.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1998.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER 1205 TAPE = X12051 TEST PT NO = 1205 NC = AE086 CORR FAN SPEED = RPM

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P1185-08

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 83F-400-1206 X1206C
BACKGROUND 83F-400-1100 X11000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100	110	120.	130.	140.	150.	160.	PWL
50	89.4	90.2	88.4	83.2	81.8	85.9	86.3	91.0	87.7	88.5	94.4	95.1	88.5	131.4
63	91.0	94.3	97.8	92.6	89.5	92.6	96.0	98.1	93.1	92.4	94.5	100.2	95.6	137.2
80	91.0	95.3	91.6	91.4	91.2	95.6	93.7	93.6	94.3	93.9	97.3	98.2	89.6	136.2
100	90.0	95.0	91.3	90 0	91.4	95.3	94.1	96.8	94.5	97.6	98.5	103.1	90.6	137.8
125	86.4	90.2	92.4	92.0	93.6	96.4	94.6	94.7	93.9	97.5	103.9	107.1	93.0	140.1
160	85.2	84.0	88.5	86.0	87.6	91.0	94.9	91.8	94.2	98.1	103.9	107.1	96.5	139.6
200	85.5	86.1	87.6	84 9	86.2	90.8	92.0	93.9	96.8	97.9	104.5	109.2	98.1	140.9
250	84.0	87.3	87.3	86.1	88.0	92.3	92.7	94.9	97.1	103.1	108.8	111.5	100.4	143.7
315	84.6	87.4	87.9	86.7	88.5	92.9	94.8	95.9	99.1	104.0	110.1	112.3	101.9	144.8
400	85.6	87.1	88.4	86.9	88.5	92.9	98.2	95.7	98.6	106.4	112.1	112.8	100.4	146.0
500	85.8	87.4	89.4	87.7	89 5	93.9	93.8	96.4	99.6	107.7	112.1	112.0	98.2	146.0
630	86.5	88.1	89.6	88.1	90.2	93.8	94.2	97.4	99.6	108.9	111.8	109.7	96.6	145.5
800	87.3	88.1	89.4	88.4	90.8	94.6	95.0	98.7	102.1	108.7	111.6	107.0	94.2	145.1
1000	89.3	90.1	91.1	89.6	91.2	95.6	95.7	99.4	102.6	108.9	110.0	104.2	92.9	144.4
1250	87.9	91.0	91.5	89 9	91.4	96.0	95.6	99.5	103.2	108.3	109.2	100.1	92.3	143.8
1600	88.9	89.3	90 9	90.1	92.6	96.2	97.0	100.8	103.7	107.3	108.6	99.1	91.7	143.4
2000	88.8	88.9	90.3	89.4	91.8	96.6	96.9	100.4	103.6	107.6	107.9	97.7	91.7	143.2
2500	88.0	89.8	89.9	89.9	92.0	96.4	96.5	99.9	103.0	106.8	106.1	97.4	91.6	142.3
3150	87.9	89.3	90.3	89.5	91.9	96.4	96.3	100.0	102.4	105.5	104.0	95.4	89.3	141.3
4000	88.4	89.1	90.9	88.0	91.8	95.7	96.4	99.9	101.8	103.1	101.5	94.0	88.9	140.1
5000	89.5	89.3	90.7	89.0	91.1	95.0	95.9	99.0	100.8	102.4	100.2	92.4	87.4	139.4
6300	90.5	91.7	91.8	89.3	90.6	95.1	95.4	98.8	100.1	100.8	98.5	91.2	86.5	138.9
8000	89.4	91.1	92.7	90.1	90.5	94.3	94.0	96 8	98.4	98.3	96.7	90.1	85.6	137.7
10000	89.0	90.4	92.2	91.0	91.6	94.3	93.8	96 8	97.8	97.1	96.1	90.2	86.0	137.9
12500	87.4	88.2	90.5	89.9	91.2	94.5	93.0	94.2	95.4	95.0	93.0	89.4	85.2	137.1
16000	85.6	87.7	89.1	88.6	89.4	92.7	91.5	92.9	94.2	91.9	91.5	87.2	82.9	136.8
20000	82.4	84.8	86.4	86.2	87.2	90.2	90.1	90.2	90.5	88.9	88.7	84.9	80.4	135.9
25000	78.7	81.5	83.0	83.7	84.1	89.0	87.6	87.1	88.3	85.1	84.8	82.5	77.4	135.7
31500	75.1	77.4	79.2	80.4	80.2	84.9	83.3	83.3	83.7	81.4	81.5	78.5	73.3	134.8
40000	70.1	72.6	75.1	75.9	75.4	81.1	78.9	79.8	80.9	77.2	77.8	74.5	69.4	134.9
50000	63.4	66.4	68.0	69.4	69.5	75.9	73.0	73.6	74.4	71.1	72.0	68.9	63.6	133.3
63000	57.4	60.6	63.1	63.9	64.9	70.2	66.2	68.2	69.3	65.0	65.5	62.1	56.7	132.9
80000	49.9	53.2	55.7	55.4	56.2	63.6	59.7	60.7	61.4	57.1	58.2	54.8	49.0	132.4
OASPL	102.5	104.5	105.3	103.6	104.9	108.9	109.3	111.8	114.1	118.7	121.2	120.4	109.2	156.5
PNL	114.1	115.5	116.5	115.0	116.9	121.1	121.5	124.5	126.8	130.4	131.1	127.7	117.9	
PNLT	114.1	115 5	116 5	115.7	117.6	121.7	122.1	124 5	126.8	130.4	131.1	127.7	117.9	
DBA	100.2	101.4	102.5	101.1	103.1	107.2	107.6	111 0	113.7	118.1	119.5	115.8	104.9	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH175 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 43.13 PAMB HG = 29.42 RELHUM = 42.0 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 = 1211.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1995.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F 400-1206 TAPE = X1206C TEST PT NO = 1206 NC = AE086 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 - 83F-400-1206 X1206F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.9	93.7	92.2	89.4	89.6	92.3	91.2	91.8	96.8	101.1	107.1	110.0	101.8	142.5
315	91.9	93.7	92.2	89.4	90.3	93.1	93.8	93.9	96.2	103.5	109.1	111.0	101.5	143.8
400	92.3	93.8	92.8	90.1	90.3	93.1	97.2	93.5	97.4	105.0	109.5	111.0	100.9	144.2
500	93.2	93.5	93.3	90.3	91.4	94.2	92.7	94.2	97.5	106.3	109.5	109.5	101.3	144.0
630	93.5	93.8	94.4	91.1	92.2	94.2	93.2	95.1	100.3	106.5	109.8	108.0	101.5	143.9
800	94.2	94.5	94.6	91.6	92.8	95.2	94.1	96.4	101.2	107.2	108.9	106.5	102.7	143.7
1000	95.0	94.6	94.5	92.0	93.3	96.2	94.9	97.2	101.9	106.5	107.9	102.1	101.6	142.9
1250	96.7	96.4	96.1	93.2	93.7	96.8	94.9	97.5	102.6	105.8	107.6	101.3	101.3	142.8
1600	95.6	97.5	96.7	93.6	95.0	97.2	96.5	99.0	102.7	106.4	107.1	100.1	101.4	143.0
2000	96.5	95.8	96.2	93.9	94.4	97.0	96.7	98.9	102.7	106.2	106.0	100.6	102.4	142.7
2500	96.5	95.5	95.6	93.4	94.9	98.0	96.7	98.0	102.4	105.2	104.1	98.7	99.8	141.9
3150	95.6	96.4	95.3	94.0	95.7	98.5	96.9	99.3	102.9	103.7	102.6	98.4	100.8	141.6
4000	98.3	98.2	97.6	95.1	95.5	98.3	97.9	100.1	101.8	103.1	101.2	96.7	99.2	141.6
5000	96.0	95.8	96.7	93.5	95.1	98.0	97.8	99.3	101.7	102.0	100.2	96.3	99.3	140.9
6300	96.9	96.0	96.5	93.9	94.6	98.1	97.4	99.5	100.5	100 2	99.2	96.1	99.3	140.6
8000	97.7	98.2	97.4	94.0	94.5	97.3	96.2	97.9	100.6	99.7	99.4	96.9	100.1	141.0
10000	96.5	97.5	98.2	94.6	95.6	97.3	96.2	98.2	99.2	98.6	97.1	96.5	99.2	141.0
12500	95.9	96.6	97.4	95.2	95.2	97.5	95.4	96.1	98.7	96.3	96.3	95.1	97.8	141.0
16000	93.7	93.8	95.2	93.6	93.5	95.7	93.9	94.8	95.0	93.1	93.3	92.3	94.6	140.1
20000	91.5	92.9	93.4	91.9	91.3	93.2	92.3	91.7	91.9	88.4	88.4	89.0	90.8	139.4
25000	87.8	89.4	90.1	88.9	88.7	92.0	89.2	87.5	88.7	86.1	86.5	86.4	88.0	138.9
31500	86.1	87.6	87.7	86.8	84.8	87.9	85.1	84.1	87.4	83.6	84.5	84.0	85.8	139.3
40000	81.6	82.7	83.0	82.6	80.0	84.1	80.9	81.1	80.4	76.8	78.0	77.7	79.3	138.5
50000	76.1	77.5	78.5	77.7	74.1	78.9	74.7	74.2	77.3	73.0	74.0	73.5	75.0	137.8
63000	68.6	70.3	70.4	70.3	69.5	73.2	68.3	69.5	70.0	65.6	67.2	66.7	67.7	136.5
80000	61.0	63.0	64.1	63.3	60.8	66.6	61.5	61.4	60.2	55.8	57.4	56.9	57.9	135.8
OASPL	108.5	108.8	108.8	106.2	106.9	109.6	108.8	110 4	113.5	117.0	119.0	118.1	113.5	155.8
PNL	120.8	120.9	120.6	118.0	118.8	121.6	120.9	122.8	125.8	128.2	128.4	125.6	124.9	
PNLT	120.8	120.9	120.6	118.0	118.8	121.6	121.6	122.8	125.8	128.2	128.4	125.6	124.9	
DBA	184.1	185.9	186.7	186.1	184.0	188.9	184.1	184.3	184.4	180.1	181.5	181.1	182.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH175 TEST DATE = 03-30 83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 43.13 PAMB HG = 29.42 RELHUM = 42.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1211.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1995.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1206 TAPE = X1206F TEST PT NO = 1206 NC = AE086 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 - 83F-400-1206 X12061

ANGLES MEASURED FROM INLET, DEGREES

FRFQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.3	70.7	70.3	68.2	68.7	71.6	70.4	70.6	74.9	78.1	82.5	83.3	71.7	157.4
63	67.3	70.7	70.3	68.2	69.5	72.4	73.0	72.7	74.3	80.5	84.6	84.2	71.4	158.7
80	67.6	70.7	70.8	68.8	69.5	72.4	76.3	72.2	75.4	81.9	84.8	84.2	70.7	159.1
100	68.5	70.3	71.3	69.0	70.5	73.4	71.8	72.9	75.4	83.2	84.7	82.6	70.9	158.9
125	68.7	70.5	72.2	69.7	71.2	73.4	72.2	73.7	78.2	83.2	84.9	80.9	70.8	158.8
160	69.2	71.1	72.3	70.1	71.7	74.2	73.0	74.9	78.9	83.8	83.9	79.1	71.7	158.6
200	69.7	70.9	72.0	70.3	72.0	75.1	73.6	75.5	79.4	82.9	82.6	74.4	70.1	157.8
250	71.1	72.5	73.4	71.3	72.1	75.4	73.4	75.5	79.8	81.9	82.0	73.1	69.1	157.7
315	69.5	73.2	73.6	71.4	73.2	75.6	74.8	76.7	79.7	82.1	81.0	71.4	68.4	157.9
400	69.9	71.1	72.7	71.3	72.3	75.9	74.5	76.3	79.2	81.4	79.4	71.2	68.4	157.6
500	69.3	70.3	71.8	70.5	72.5	75.7	74.2	75.8	78.6	80.0	77.0	68.6	64.7	156.8
630	67.9	70.8	71.1	70.7	72.9	75.8	74.1	76.0	78.6	78.0	74.9	67.6	64.6	156.5
800	69.9	72.0	72.9	71.3	72.3	75.3	74.7	76.4	77.1	76.9	72.9	65.0	61.7	156.5
1000	67.0	69.1	71.5	69.4	71.5	74.6	74.2	75.2	76.5	75.3	71.2	63.7	60.4	155.8
1250	67.1	68.7	70.8	69.2	70.6	74.2	73.4	74.9	74.8	72.8	69.3	62.3	58.6	155.5
1600	66.5	69.8	70.8	68.6	69.7	72.7	71.4	72.5	74.1	71.3	68.3	61.4	56.7	155.9
2000	63.6	67.7	70.4	68.1	69.9	71.8	70.5	71.8	71.5	68.9	64.2	58.5	51.9	155.9
2500	60.2	64.6	67.9	67.2	68.0	70.5	68.2	68.1	69.1	64.3	60.7	53.4	44.7	155.9
3150	53.7	58.4	62.8	63.0	63.9	66.4	64.4	64.2	62.6	57.8	53.2	44.6	32.1	155.0
4000	43.9	51.4	55.7	56.7	57.3	59.7	58.3	56.4	54.3	46.9	40.8	31.0	12.4	154.3
5000	28.7	38.7	44.6	46.6	48.2	52.0	48.7	45.2	43.2	35.4	27.5	13.0		153.8
6300	8.0	21.4	29.9	32.5	32.9	36.8	33.2	29.7	28.6	17.4	6.4			154.2
8000			1.5	7.7	8.6	13.8	9.5	6.1						153.4
10000														152.7
12500														151.4
16000														150.7
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	80.9	83.2	84.2	82.4	83.9	86.8	85.9	87.1	89.8	92.9	93.6	90.9	80.8	170.7
PNL	87.0	90.0	92.1	90.7	91.9	94.7	93.2	94.3	95.7	96.8	95.5	90.1	82.6	
PNLT	87.0	90.0	92.8	91.3	92.4	94.7	93.2	94.3	95.7	96.8	95.5	90.1	82.6	
DBA	76.6	79.1	80.7	79.1	80.6	83.5	82.4	83.6	85.3	85.5	83.3	76.1	71.6	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH175 TEST DATE = 03-30 83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 43.13 PAMB HG = 29.42 RELHUM = 42.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1211.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1995.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1206 TAPE = X12061 TEST PT NO = 1200 AE08 = FR FREE RPM

P1185-08

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 83F-ZER-1207 X1207C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.9	89.2	88.9	86.0	86.6	87.9	91.6	93.7	92.2	91.7	100.9	99.3	89.2	135.3
63	93.8	94.3	99.1	93.9	93.2	96.3	99.2	99.9	96.3	97.1	102.3	102.7	93.1	140.1
80	93.5	97.8	93.8	92.1	94.5	99.1	96.7	97.1	96.8	97.4	101.5	101.5	87.1	139.3
100	92.5	100.0	95.3	93.3	96.6	99.8	98.1	100.8	97.8	102.8	102.5	106.6	90.8	141.9
125	89.6	92.9	95.7	93.7	97.8	100.2	97.3	98.5	98.4	102.8	108.6	111.1	95.7	144.2
160	87.9	89.2	93.0	89.3	92.1	95.7	98.6	97.5	99.0	103.8	109.2	111.9	101.0	144.5
200	90.5	89.3	92.1	88.9	93.0	97.6	98.2	98.4	102.8	105.6	111.3	115.2	104.1	147.1
250	90.3	92.3	94.1	91.4	95.0	97.8	99.0	101.1	104.3	110.9	115.8	118.2	107.4	150.7
315	91.3	93.1	93.1	90.9	95.0	99.4	101.0	101.7	105.6	112.7	117.1	118.8	109.7	151.8
400	92.8	94.1	94.9	91.4	95.5	98.9	107.2	102.7	106.9	115.4	119.6	120.3	110.7	153.9
500	93.3	95.1	96.4	93.2	96.8	100.6	100.5	103.9	108.1	116.7	120.8	121.0	112.4	154.9
630	94.3	96.3	97.1	93.9	98.0	100.3	101.5	104.9	108.8	117.4	121.0	121.0	114.1	155.2
800	97.1	97.1	97.4	94.7	98.8	101.1	102.8	105.7	110.6	117.2	121.1	121.0	115.2	155.3
1000	100.3	102.5	101.1	97.4	99.9	103.3	103.2	106.4	111.1	117.4	120.8	120.9	115.6	155.4
1250	98.2	102.5	102.2	98.9	101.9	104.0	103.6	107.0	111.7	116.3	120.2	118.9	114.8	154.5
1600	98.6	99.5	100.4	97.1	100.8	104.4	104.5	107.8	111.7	115.5	119.6	117.8	112.5	153.8
2000	98.8	100.9	100.5	97.2	100.5	103.9	104.4	107.9	111.8	116.1	118.6	115.1	110.4	153.0
2500	98.2	101.5	100.9	97.8	100.5	104.1	104.3	107.1	110.8	116.1	116.6	112.6	108.9	151.9
3150	97.9	101.7	102.0	97.7	100.3	103.9	104.0	107.2	110.8	114.2	114.7	110.3	106.0	150.6
4000	96.9	100.5	101.9	97.8	101.2	103.9	103.8	107.6	110.3	112.0	113.5	107.7	104.3	149.6
5000	94.9	99.0	101.1	98.0	101.0	103.7	103.6	106.4	108.7	111.9	110.9	105.6	102.1	148.5
6300	93.6	97.9	99.2	96.5	100.5	104.0	103.3	106.5	108.5	109.7	108.9	104.2	101.1	147.7
8000	92.1	96.5	97.6	95.0	99.4	102.7	101.9	104.5	106.3	107.0	107.1	102.8	99.3	146.1
10000	91.5	95.2	97.0	95.2	98.6	102.6	101.8	104.6	105.6	105.5	105.6	101.4	98.7	145.8
12500	89.4	92.8	95.1	93.7	97.5	101.5	100.5	101.3	103.2	103.8	103.1	100.5	97.0	144.7
16000	87.5	92.4	94.3	92.8	96.1	99.1	99.2	99.3	102.0	101.2	101.2	97.9	94.1	144.2
20000	85.0	89.9	91.3	90.0	94.0	96.3	97.1	96.8	98.7	98.3	98.6	95.2	91.5	143.3
25000	81.9	86.7	88.0	87.9	90.6	94.7	93.6	92.8	96.0	94.3	93.8	91.1	87.3	142.3
31500	77.8	82.8	84.5	84.4	86.7	90.4	88.8	89.8	91.3	90.8	89.8	86.5	82.3	141.4
40000	73.1	78.3	80.5	80.0	81.7	86.6	84.7	85.1	87.3	86.7	85.9	81.8	77.9	141.2
50000	67.0	71.6	73.9	73.6	75.9	81.5	78.6	79.0	80.8	80.2	79.4	76.5	71.5	139.5
63000	61.0	65.6	68.8	67.8	70.7	76.1	72.1	73.8	75.8	74.3	73.2	69.7	64.1	139.2
80000	55.0	59.5	61.2	59.8	62.1	69.5	65.6	66.4	67.7	68.7	66.9	62.4	55.6	139.1
OASPL	109.3	112.2	112.6	109.4	112.7	115.9	116.4	118.7	122.1	127.2	130.5	130.2	123.5	165.3
PNL	121.9	125.1	125.6	122.1	125.4	128.5	128.8	131.7	134.8	139.1	140.9	139.0	133.2	
PNLT	121.9	125.9	125.6	122.1	126.0	128.5	129.9	131.7	134.8	139.1	140.9	139.0	133.2	
DBA	108.8	111.7	112.0	108.6	111.9	115.1	115.3	118.3	121.9	126.7	129.5	128.4	122.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH184	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 43.85	PAMB HG = 29.56	RELHUM = 46.7 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1326.0 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2162.6 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-ZER-1207	TAPE = X1207C	TEST PT NO = 1207	NC = AE086	CORR FAN SPEED = RPM	

P185-03

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

IDENTIFICATION - 83F-ZER-1207 X1207F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.9	89.2	88.9	86.0	86.6	87.9	91.6	93.7	92.2	91.7	100.9	99.3	89.2	135.3
63	93.8	94.3	99.1	93.9	93.2	96.3	99.2	99.9	96.3	97.1	102.3	102.7	93.1	140.1
80	93.5	97.8	93.8	92.1	94.5	99.1	96.7	97.1	96.8	97.4	101.5	101.5	87.1	139.3
100	92.5	100.0	95.3	93.3	96.6	99.8	98.1	100.8	97.8	102.8	102.5	106.6	90.8	141.9
125	89.6	92.9	95.7	93.7	97.8	100.2	97.3	98.5	98.4	102.8	108.6	111.1	95.7	144.2
160	87.9	89.2	93.0	89.3	92.1	95.7	98.6	97.5	99.0	103.8	109.2	111.9	101.0	144.5
200	90.5	89.3	92.1	88.9	95.0	97.6	98.2	98.4	102.8	105.6	111.3	115.2	104.1	147.1
250	90.3	92.3	94.1	91.4	95.0	97.8	99.0	101.1	104.3	110.9	115.8	118.2	107.4	150.7
315	91.3	93.1	93.1	90.9	95.0	99.4	101.0	101.7	105.6	112.7	117.1	118.8	109.7	151.8
400	92.8	94.1	94.9	91.4	95.5	98.9	107.2	102.7	106.9	115.4	119.6	120.3	110.7	153.9
500	93.3	95.1	96.4	93.2	96.8	100.6	100.5	103.9	108.1	116.7	120.8	121.0	112.4	154.9
630	94.3	96.3	97.1	93.9	98.0	100.3	101.5	104.9	108.8	117.4	121.0	121.0	114.1	155.2
800	97.1	97.1	97.4	94.7	98.8	101.1	102.8	105.7	110.6	117.2	121.1	121.0	115.2	155.3
1000	100.3	102.5	101.1	97.4	99.9	103.3	103.2	106.4	111.1	117.4	120.8	120.9	115.6	155.4
1250	98.2	102.5	102.2	98.9	101.9	104.0	103.6	107.0	111.7	116.3	120.2	118.9	114.8	154.5
1600	98.6	99.5	100.4	97.1	100.8	104.4	104.5	107.8	111.7	115.5	119.6	117.8	112.5	153.8
2000	98.8	100.9	100.5	97.2	100.5	103.9	104.4	107.9	111.8	116.1	118.6	115.1	110.4	153.0
2500	93.2	101.5	100.9	97.8	100.5	104.1	104.3	107.1	110.8	116.1	116.6	112.6	108.9	151.9
3150	97.9	101.7	102.0	97.7	100.3	103.9	104.0	107.2	110.8	114.2	114.7	110.3	106.0	150.6
4000	96.9	100.5	101.9	97.8	101.2	103.9	103.8	107.6	110.3	112.0	113.5	107.7	104.3	149.6
5000	94.9	99.0	101.1	98.0	101.0	103.7	103.6	106.4	108.7	111.9	110.9	105.6	102.1	148.5
6300	93.6	97.9	99.2	96.5	100.5	104.0	103.3	106.5	108.5	109.7	108.9	104.2	101.1	147.7
8000	92.1	96.5	97.6	95.0	99.4	102.7	101.9	104.5	106.3	107.0	107.1	102.8	99.3	146.1
10000	91.5	95.2	97.0	95.2	98.6	102.6	101.8	104.6	105.6	105.5	105.6	101.4	98.7	145.8
12500	89.4	92.8	95.1	93.7	97.5	101.5	100.5	101.3	103.2	103.8	103.1	100.5	97.0	144.7
16000	87.5	92.4	94.3	92.8	96.1	99.1	99.2	99.3	102.0	101.2	101.2	97.9	94.1	144.2
20000	85.0	89.9	91.3	90.0	94.0	96.3	97.1	96.8	98.7	98.3	98.6	95.2	91.5	143.3
25000	81.9	86.7	88.0	87.9	90.6	94.7	93.6	92.8	96.0	94.3	93.8	91.1	87.3	142.3
31500	77.8	82.8	84.5	84.4	86.7	90.4	88.8	89.8	91.3	90.8	89.8	86.5	82.3	141.4
40000	73.1	78.3	80.5	80.0	81.7	86.6	84.7	85.1	87.3	86.7	85.9	81.8	77.9	141.2
50000	67.0	71.6	73.9	73.6	75.9	81.5	78.6	79.0	80.8	80.2	79.4	76.5	71.5	139.5
63000	61.0	65.6	68.8	67.8	70.7	76.1	72.1	73.8	75.8	74.3	73.2	69.7	64.1	139.2
80000	55.0	59.5	61.2	59.8	62.1	69.5	65.6	66.4	67.7	68.7	66.9	62.4	55.6	139.1
OASPL	109.3	112.2	112.6	109.4	112.7	115.9	116.4	118.7	122.1	127.2	130.5	130.2	123.5	165.3
PNL	121.9	125.1	125.6	122.1	125.4	128.5	128.8	131.7	134.8	139.1	140.9	139.0	133.2	
PNLT	121.9	125.9	125.6	122.1	126.0	128.5	129.9	131.7	134.8	139.1	140.9	139.0	133.2	
DBA	177.2	181.7	184.0	182.8	185.3	191.8	188.1	189.0	190.6	190.7	189.2	185.2	179.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH184 . TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NG PWL AREA = FULL SPHERE TAMB F = 43.85 PAMB HG = 29.55 RELHUM = 46.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1326.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2162.6 FPS AE18 = 23.4 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 - 83F-ZER-1207 X12071

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.7	69.3	72.1	70.1	74.1	77.1	78.1	79.9	82.4	87.9	91.2	91.5	77 3	165.6
63	66.8	70.1	71.2	69.7	74.2	78.7	80.2	80.4	83.7	89.7	92.5	92.0	79.5	166.7
80	68.2	71.0	72.9	70.1	74.6	78.1	86.4	81.4	84.9	92.3	94.9	93.4	80.4	168.8
100	68.6	72.0	74.3	71.8	75.9	79.9	79.6	82.6	86.1	93.6	96.1	94.1	82.0	169.8
125	69.5	73.1	74.9	72.5	77.0	79.5	80.5	83.5	86.7	94.2	96.2	93.9	83.5	170.1
160	72.1	73.7	75.1	73.1	77.7	80.2	81.7	84.1	88.4	93.8	96.1	93.7	84.2	170.2
200	75.0	78.9	78.6	75.6	78.7	82.2	81.9	84.6	88.6	93.8	95.5	93.2	84.1	170.3
250	72.6	78.6	79.5	76.9	80.4	82.6	82.1	85.1	89.0	92.4	94.6	90.7	82.6	169.4
315	72.5	75.2	77.4	74.8	79.0	82.8	82.7	85.6	88.6	91.2	93.6	89.1	79.5	168.7
400	72.2	76.1	77.1	74.6	78.4	81.9	82.2	85.3	88.3	91.4	92.0	85.7	76.4	167.9
500	71.1	76.4	77.0	74.9	78.0	81.8	81.8	84.2	86.9	90.9	89.4	82.5	73.8	166.8
630	70.2	76.1	77.7	74.4	77.5	81 2	81.2	83.9	86.6	88.6	87.0	79.4	69.8	165.5
800	68 5	74 3	77.2	74.0	78.0	80.9	80.6	83.9	85.6	85.8	85.1	76.0	66.8	164.5
1000	65.9	72.3	75.9	73.8	77.4	80.3	80.0	82.3	83.5	85.2	81.8	73.0	63.2	163.4
1250	63.8	70.5	73.5	71.8	76.5	80.1	79.2	81.8	82.8	82.4	79.1	70.4	60 5	162.6
1600	60.9	68.1	71.0	69.6	74.6	78.1	77.1	79.1	79.7	78.6	76.0	67.2	55.9	161.0
2000	53.6	65.4	69.2	68.8	72.9	77.1	76.1	78.1	77.8	75.8	72.7	63.5	51.5	160.8
2500	53.8	60.8	65.5	65.7	70.3	74.6	73.3	73.3	73.6	71.9	67.5	58.8	43.9	159.6
3150	47.5	57.0	61.9	62.2	66.5	69.8	69.6	68.7	69.5	65.8	61.2	50.2	31.6	159.1
4000	37.3	48.4	53.6	54.7	60.1	62.8	63.2	61.5	61.0	56.8	50.9	37.2	13.1	158.2
5000	22.8	36.0	42.5	45.6	50.0	54.6	53.0	50.5	50.5	43.7	34.8	17.8		157.2
6300		16.6	25.7	30.0	34.8	39.3	36.9	35.5	32.5	24.6	11.7			156.3
8000				5.1	10.3	16.4	13.3	10.2	5.8					156.1
10000														154.4
12500														154.1
16000														154.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	82.3	86.7	88.2	85.7	89.6	92.9	93.7	95.5	98.5	103.1	104.9	102.4	91.8	180.0
PNL	86.6	91.7	93.8	92.2	96.3	100.1	99.9	101.7	104.0	106.6	107.1	103.2	93.0	
PNLT	86.6	91.7	93.8	92.7	96.8	100.1	99.9	102.2	104.0	106.6	107.1	103.2	93.0	
DBA	76.4	81.9	84.1	81.8	85.7	89.2	88.8	91.3	93.3	95.4	95.3	90.3	81.0	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH184 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = C0 FLTVEL = 0. FPS
IAPLHA = 5B59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 43.85 PAMB HG = 29.55 RELHUM = 46.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1326.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2162.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F ZER-1207 TAPE = X12071 TEST PT NO = 1207 NC = AE086 CORR FAN SPEED = RPM

P1185-03

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 83F-400-1208 X1208C
BACKGROUND 83F-400-1100 X11000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	92.1	91.7	90.2	86.0	85.6	87.2	89.1	91.5	89.9	93.7	95.9	97.3	88.2	133.5
63	92.8	94.8	98.6	93.6	92.2	93.1	96.0	97.4	94.6	97.1	96.0	100.0	95.9	137.9
80	92.8	97.1	93.6	93.1	93.5	98.1	96.0	95.9	96.3	96.4	99.8	100.0	88.9	138.3
100	92.0	97.2	93.3	92.0	93.6	96.0	96.6	99.5	96.3	99.1	100.2	105.1	91.6	140.0
125	90.4	92.2	94.4	94.5	96.8	99.2	96.8	97.2	96.2	99.3	106.6	109.8	95.2	142.7
160	88.2	86.0	90.5	87.5	89.6	93.2	96.1	93.8	95.2	99.8	106.4	109.4	98.5	141.8
200	87.5	87.8	89.1	86.9	89.2	93.1	94.2	95.9	98.6	100.4	107.3	112.0	100.9	143.5
250	86.0	88.6	89.6	88.9	91.0	94.3	94.7	96.6	99.3	105.9	112.0	114.7	103.4	146.8
315	86.8	88.9	88.9	88.7	90.5	95.1	96.3	97.4	100.9	107.7	113.1	115.5	104.7	147.9
400	87.3	88.8	90.1	88.7	91.7	94.6	100.7	97.4	100.9	109.7	114.8	116.5	104.2	149.2
500	88.1	89.9	91.4	89.4	92.3	96.1	96.0	98.4	102.1	111.7	116.1	115.8	102.2	149.8
630	88.8	90.1	91.3	89.9	93.0	96.3	96.5	99.4	102.1	112.2	116.0	114.5	100.1	149.5
800	90.1	90.6	92.6	91.7	94.0	96.9	97.5	100.7	104.4	112.0	115.1	112.0	98.2	148.6
1000	91.8	92.3	93.6	92.1	94.2	98.1	98.4	102.1	105.1	112.6	114.0	109.9	96.9	148.2
1250	90.9	94.0	94.5	92.9	94.6	98.5	98.6	102.3	106.0	111.8	113.2	105.9	95.8	147.4
1600	92.4	92.0	93.9	93.3	95.8	99.2	99.7	103.3	105.9	110.8	112.4	105.0	96.0	146.8
2000	93.3	93.4	94.0	92.9	95.3	99.4	99.6	103.7	106.8	111.1	111.8	102.7	95.9	146.8
2500	94.0	94.8	94.6	93.8	95.2	99.1	99.3	102.6	106.0	111.1	110.1	102.4	95.9	146.1
3150	95.9	96.2	95.5	93.8	95.6	99.6	99.3	103.3	105.8	109.5	108.2	100.8	94.2	145.2
4000	94.9	95.8	96.9	94.5	96.5	99.9	99.6	103.4	105.0	107.8	106.7	98.5	93.3	144.4
5000	92.9	94.5	96.1	94.7	96.5	99.7	99.6	102.2	103.7	107.4	105.1	97.9	92.1	143.7
6300	92.4	94.4	94.7	93.5	96.3	99.7	99.0	102.0	104.0	105.5	103.2	96.2	90.9	143.0
8000	92.4	93.8	94.4	92.8	94.9	99.0	98.2	100.5	102.1	103.0	101.1	94.5	90.1	141.7
10000	91.7	93.2	94.7	94.0	94.3	98.8	97.8	100.8	101.5	102.3	100.8	94.4	90.0	142.0
12500	90.2	91.5	93.3	92.7	94.5	98.0	97.3	98.5	99.7	100.0	97.8	94.2	89.0	141.2
16000	88.7	91.6	92.0	91.5	93.3	96.8	95.9	97.0	98.1	97.3	96.1	93.3	87.0	141.0
20000	85.9	88.5	89.9	89.9	91.2	94.2	94.8	94.4	94.8	94.2	92.7	90.4	85.6	140.2
25000	82.8	85.1	86.6	87.8	87.9	93.0	92.2	90.9	92.4	90.9	89.9	87.5	82.2	139.9
31500	78.9	81.1	82.6	84.0	84.4	88.7	87.7	87.4	88.1	86.6	86.4	83.9	77.9	139.0
40000	73.7	77.1	78.1	79.3	79.3	85.2	83.0	83.7	85.1	82.7	82.7	79.6	74.0	139.1
50000	67.8	71.1	72.0	73.1	73.5	80.1	77.4	77.8	78.4	76.9	76.7	74.1	68.1	137.6
63000	61.3	65.1	66.6	67.7	68.1	74.7	70.7	72.7	73.1	71.1	70.3	67.5	60.6	137.3
80000	53.4	56.8	59.5	59.1	60.2	68.1	64.2	65.0	65.5	63.2	63.2	59.8	53.2	136.9
OASPL	105.9	107.5	108.1	106.6	108.4	112.0	112.1	114.6	116.9	122.3	124.9	124.1	112.4	160.0
PNL	119.0	120.0	120.6	118.9	120.8	124.4	124.4	127.5	129.8	134.3	135.0	131.7	121.7	
PNLT	119.0	120.0	120.6	119.7	121.7	125.0	125.2	127.5	129.8	134.3	135.5	131.7	121.7	
DBA	104.6	105.5	106.2	104.9	106.9	110.6	110.6	113.9	116.6	121.8	123.4	120.2	108.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH176 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO, FLTVEL = 400. FPS
ALPHA = SB59 TEGA = NO PWL AREA = FULL SPHERE TAMB F = 43.04 PAMB HG = 29.45 RELHUM = 46.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1321.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2157.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1208 TAPE = X1208C TEST PT NO = 1208 NC = AE086 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 - 83F-400-1208 X1208F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	93.9	95.0	94.5	92.2	92.6	94.3	93.3	93.6	98.6	104.8	110.1	113.3	104.5	145.5
315	93 9	95.0	94.5	92.2	92.3	95 3	95 3	95.4	98.6	107.0	112.1	114.9	105.4	147.2
400	94.5	95.3	93.8	92.1	93.6	94.9	99 8	95.3	99.9	109.0	113.4	114.7	104.9	147.9
500	95.0	95.2	95.1	92.1	94.2	96.5	95.0	96.2	100.1	109.7	113.9	114.4	105.0	148.1
630	95.5	96.3	96.4	92 9	94.9	96.7	95.5	97.2	102.7	110.0	113.6	113.4	105.8	147.9
800	96.5	96.5	96.4	93.4	96.1	97.4	96.6	98.5	103.8	111.1	113.2	112.6	107.0	147.9
1000	97.8	97.1	97.7	95 3	96.4	98.7	97.7	100.1	104.7	110.2	112.1	108.1	105.5	146.7
1250	99.4	98.8	98.7	95.8	96.9	99.3	97.9	100.3	105.0	109.5	111.7	107.8	106.3	146.6
1600	98.6	100.5	99.7	96.6	98.3	100.2	99.3	101.6	106.0	110.0	111.3	105.4	106.2	146.7
2000	100.0	98.5	99.2	97.2	97 9	100.7	99.4	102.2	105.7	110.5	110.1	105.8	106.9	146.6
2500	101.0	99.9	99.4	96.9	98.1	100.7	99.5	101.5	106.0	109.4	108.7	104.8	105.7	145.9
3150	101.2	101.2	99.9	97.9	98.7	101.7	99.9	102.6	105.9	108.2	107.6	102.7	104.9	145.6
4000	102.1	101.9	100.4	97.8	100.2	102.5	100.7	103.3	104.5	107.8	106.0	102.0	103.6	145.4
5000	102.4	102.5	102.6	99.2	100.5	102.7	101.1	102.2	105.4	106.5	104.7	101.0	103.4	145.5
6300	100.4	101.2	101.9	99.6	100.3	102.7	101.0	102.5	104.2	104.8	103.6	100.5	103.6	145.0
8000	99.7	100.9	100.4	98.2	98.9	102.0	100.4	101.5	104.0	104.5	103.7	100.8	103.8	144.8
10000	99.5	100.2	99.9	97.3	98.4	101.8	100.1	102.0	103.2	103.4	101.9	101.6	103.5	144.8
12500	98.6	99.3	99.9	98.2	99.1	101.0	99.7	100.2	102.4	101.5	101.0	101.4	102.2	144.9
16000	90.3	99.4	99.7	97.5	97.4	99.8	98.3	98.8	98.7	97.7	96.5	97.0	99.0	144.4
20000	94.7	96.8	96.3	94.8	95.2	97.2	96.8	95.5	96.9	95.2	94.5	94.9	96.4	143.6
25000	91.2	93.1	93.6	92.6	92.5	96.0	94.1	92.0	94.0	92.2	92.3	92.6	93.4	143.3
31500	90.1	91.2	91.3	90.9	89.0	91.7	89.9	89 0	92.2	89.7	90.0	89.8	91.0	143.7
40000	85.4	86.3	86.4	86.2	83.9	88.2	85.4	85.6	85.3	83.7	83.8	83.9	84.7	142.8
50000	79.8	81.9	81.5	81.2	78.1	83.1	79.5	79.2	81.7	79.8	79.6	80.0	80.1	142.2
63000	73.0	75.0	74.4	74.0	72.7	77.7	73.1	74.6	75.0	72.8	73.4	73.0	73.3	141.2
80000	65.0	67.6	67.6	67.1	64.8	71.1	66.3	66.4	65.2	63.0	63.6	63.2	63.5	140.3
OASPL	112.1	112.3	112.1	109.7	110.7	113.2	112.0	113.4	116.7	121.0	123.0	122.6	117.8	159.8
PNL	124.5	124.5	124.2	121.3	122.8	125.2	123 8	125.8	128.9	132.3	132.7	130.2	129.1	
PNLT	124.5	124.5	124.2	121.3	122 8	125.2	124.6	125.8	128.9	132.3	132.7	130.2	129.1	
DBA	188.2	190.4	190.2	189.8	187.7	193.3	188.9	189.3	189.3	187.2	187.6	187.4	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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADII176 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 400. FPS
IAPLIA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 43.04 PAMB HG = 29.45 RELHUM = 46.6 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 = 1321.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2157.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1208 TAPE = X1208F TEST PT NO = 1208 NC = AE086 CORR FAN SPEED = RPM

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P5185-05

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

IDENTIFICATION - 83F-400-1208 X12081

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.4	72.0	72.6	70.9	71.8	73.6	72.4	72.4	76.6	81.8	85.5	86.5	74.4	160.4
63	69.4	72.0	72.5	70.9	71.5	74.6	74.3	74.2	76.7	83.9	87.5	88.1	75.2	162.1
80	69.9	72.2	71.8	70.6	72.7	74.1	78.9	74.1	77.9	85.9	88.8	87.9	74.7	162.8
100	70.3	72.1	73.0	70.7	73.3	75.7	74.1	74.9	78.0	86.6	89.1	87.5	74.5	163.0
125	70.9	73.0	74.2	71.5	73.9	75.9	74.5	75.7	80.6	86.7	88.8	86.3	75.2	162.8
160	71.4	73.1	74.1	71.8	75.0	76.4	75.5	77.0	81.5	87.7	88.2	85.2	76.0	162.8
200	72.5	73.4	73.2	73.5	75.1	77.6	76.4	78.3	82.2	86.5	86.8	80.4	74.0	161.6
250	73.8	74.9	76.0	73.8	75.4	77.9	76.4	78.3	82.2	85.6	86.1	79.7	74.1	161.5
315	72.5	76.2	76.6	74.4	76.5	78.6	77.5	79.3	83.0	85.7	85.2	76.7	73.2	161.6
400	73.4	73.8	75.7	74.6	75.8	78.7	77.3	79.6	82.3	85.8	83.5	76.4	72.9	161.5
500	73.8	74.8	75.5	74.0	75.6	78.4	77.0	78.6	82.2	84.2	81.6	74.6	70.7	160.9
630	73.5	75.5	75.7	74.6	75.8	79.0	77.1	79.3	81.6	82.5	79.9	71.8	68.7	160.5
800	73.8	75.8	75.7	74.0	77.0	79.5	77.5	79.6	79.9	81.6	77.6	70.2	66.1	160.4
1000	73.4	75.8	77.5	75.1	76.9	79.3	77.5	78.1	80.3	79.8	75.6	68.4	64.5	160.4
1250	70.5	73.8	76.2	74.9	76.3	78.9	77.0	77.9	78.5	77.5	73.7	66.7	63.0	159.9
1600	68.6	72.6	73.8	72.8	74.2	77.4	75.6	76.1	77.4	76.1	72.6	65.3	60.4	159.7
2000	66.6	70.4	72.1	70.9	72.6	76.3	74.4	75.5	75.4	73.7	69.0	63.6	56.3	159.7
2500	63.0	67.4	70.4	70.2	71.8	74.0	72.5	72.1	72.9	69.6	65.3	59.7	49.1	159.8
3150	59.3	64.0	67.3	66.9	67.8	70.5	68.7	68.2	66.3	62.4	56.4	49.2	36.5	159.3
4000	47.0	55.3	58.6	59.6	61.3	63.7	62.8	60.3	59.3	53.7	46.8	36.9	18.0	158.5
5000	32.2	42.4	48.1	50.3	52.0	56.0	53.5	49.7	48.5	41.6	33.3	19.3		158.2
6300	12.0	25.0	32.4	36.5	37.0	40.6	38.0	34.6	33.4	23.5	12.0			158.6
8000			4.9	11.3	12.5	18.0	14.1	10.6	3.8					157.7
10000														157.1
12500														156.1
16000														155.2
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	84.2	86.3	87.4	85.7	87.5	90.0	88.8	89.9	92.7	96.7	97.6	95.3	84.9	174.7
PNL	90.1	93.3	95.0	94.0	95.7	98.4	96.8	97.6	99.0	101.1	99.8	95.2	87.2	
PNLT	90.1	93.3	95.6	94.7	96.3	98.4	96.8	97.6	99.8	101.1	99.8	95.2	87.2	
DBA	80.7	83.2	84.5	83.1	84.8	87.5	85.8	87.0	88.7	89.8	87.7	81.4	76.1	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH176 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 43.04 PAMB HG = 29.45 RELHUM = 46.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1321.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2157.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1208 TARE = X12081 TEST PT NO. = 1208 AE0 = NR F SPEED RPM

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P1185-03

DATPROC - FLTRAN 05/13/83 14.128 PAGE 1

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

IDENTIFICATION - MODEL 83F-2ER-1209 X1209C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	90.4	91.4	90.7	86.5	90.6	91.2	93.8	91.2	94.2	101.2	101.4	101.3	89.5	137.8
63	95.0	97.3	98.8	93.6	96.5	98.1	97.5	99.1	98.8	103.4	102.8	104.0	95.6	141.4
80	95.5	100.1	96.1	95.6	96.0	100.8	98 5	98.6	99.1	99.7	103.3	104.0	88.6	141.4
100	95.0	102.0	98.3	97.0	97.9	102.0	100.1	103.5	100.8	104.8	104.7	109.1	93.3	144.3
125	91.9	94.9	97.9	97.2	100.1	102.7	100.6	101.0	101.2	104.3	111.6	113.8	98.2	146.9
160	69.7	91.0	95.0	92.3	92.9	97.0	105.1	99.5	100.7	105.3	111.2	114.1	103.5	146.9
200	93.3	91.3	94.1	92.4	95.2	99.6	103.7	100.1	104.8	107.1	113.8	117.7	106.6	149.6
250	92.8	94.1	95 3	94.6	96.5	99.6	100.5	102.9	106.1	113.4	118.3	120.5	109.6	153.0
315	93.3	94.9	94.9	94.4	96.8	101.1	104.3	103.4	107.9	115.5	120.1	121.5	111.9	154.5
400	95.1	95.8	97.1	95.2	96.7	100.6	111.5	104.4	108.1	117.9	121.8	122.0	113.2	156.1
500	95.1	97.4	98.4	96.4	98.5	102.6	102.5	105.4	110.4	119.7	123.6	123.0	114.2	157.4
630	96.5	97.6	98.6	96.6	99.2	102.6	103.5	106.4	110.1	120.9	124.3	123.0	116.1	158.0
800	99.3	98.6	99.6	97.9	101.5	104.1	104.8	107.9	112.1	120.5	124.8	122.5	116.9	158.2
1000	103.0	105.3	104.3	101.1	102.2	105.6	105.2	108.6	113.1	120.9	124.3	122.4	116 9	158.1
1250	103.7	107.2	105.7	103.6	104.6	106.5	105.9	109.5	113.7	120.1	123.7	120.6	115.5	157.4
1600	107.6	107.0	106.7	103.3	104.0	107 2	107.2	110.6	113.9	118.8	122.9	119.0	113.2	156.6
2000	108.3	107.6	107.8	105.4	105.3	107.1	106.6	110.9	114.3	119.8	121.6	116.7	111.9	156.2
2500	105.2	106.3	106.6	105.6	107.0	108.8	107.0	110.1	113.5	119.3	120.1	115.4	110.6	155.3
3150	102.9	105.5	106.0	103.8	106.1	110.4	108.5	110.5	113.6	118.2	118.2	113.1	108.5	154.4
4000	100.9	103.5	104.4	102.8	105.7	108.9	108.8	110.9	112.5	116.3	116.5	111.0	107.1	153.1
5000	99.4	102.5	104.1	102.5	104.5	107.5	107.6	110.4	111.5	115.4	115.1	110.4	106.1	152.2
6300	98.2	101.9	102.7	101.3	104.3	108.0	107.6	110.3	111.6	114.0	112.7	108.7	106.4	151.5
8000	96.1	99.8	101.6	100.5	103.4	106.2	106.2	108.5	109.6	111.5	111.6	107.3	104.8	150.2
10000	96.0	98.4	100.5	99.7	102.6	106.3	105.8	107.8	108.8	110.3	111.1	106.4	104.5	150.0
12500	93.2	96.3	98 6	98.2	101.0	105.0	104.5	105.3	106.9	108.8	108.1	105.0	101.7	148.9
16000	91.5	95.8	97.5	97.0	99.6	103.1	102.9	103.8	105.4	105.4	106.7	103.1	98.8	148.4
20000	88.4	92.8	94.9	95.0	96.5	100.2	100.3	100.7	101.8	102.7	103.0	100.4	95.9	147.2
25000	85.8	90.1	91.2	92.3	93.5	98.1	97.5	97.2	99.4	99.5	99.2	95.8	92.0	146.4
31500	81.5	85.9	87.9	88.8	89.6	94.3	92.7	93.2	95.2	95.9	95.7	91.7	86.7	145.6
40000	77.0	81.1	83 9	84.6	84.8	90.5	88.8	89.5	91.9	92.0	92.3	87.6	82.1	145.8
50000	70.9	75 2	77.5	78.4	78.2	85.3	82.7	83.4	85.7	86.7	86.5	82.3	76.1	144.4
63000	64.3	68.9	71.4	72.4	73.6	79.4	76.0	78.4	80.9	81.6	81.1	76.3	69.4	144.3
80000	57.9	62.0	64.0	64.1	66.5	73.1	74.5	71.5	74.0	75.2	74.7	69.0	62.9	145.1
OASPL	114.8	116.3	116.4	114.5	116.4	119.5	119.9	121.6	124.4	130.6	133.7	132.1	125.2	168.3
PNL	127.7	128.9	129.4	127.7	129.5	133.0	132.6	134.6	137.3	142.5	144.2	141.2	135.3	
PNLT	127.7	129.6	129 4	127.7	130.3	133.6	134.3	135.3	137.3	142.5	144.8	141.2	135.3	
DBA	115.2	116.3	116.4	114.4	116.1	119.0	118.7	121.3	124.3	130.2	132.9	130.3	124.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH182 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 43.99 PAMB HG = 29.54 RELHUM = 45.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1512.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2339.7 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1209 TAPE = X1209C TEST PT NO = 1209 NC = AE086 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 - 83F-ZER-1209 X1209F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	90.4	91.4	90.7	86.5	90.6	91.2	93.8	94.2	94.2	101.2	101.4	101.3	89.5	137.8
63	95.0	97.3	98.8	93.6	96.5	98.1	97.5	99.1	98.8	103.4	102.8	104.0	95.6	141.4
80	95.5	100.1	96.1	95.6	96.0	100.8	98.5	98.6	99.1	99.7	103.3	104.0	88.6	141.4
100	95.0	102.0	98.3	97.0	97.9	102.0	100.1	103.5	100.8	104.8	104.7	109.1	93.3	144.3
125	91.9	94.9	97.9	97.2	100.1	102.7	100.6	101.0	101.2	104.3	111.6	113.8	98.2	146.9
160	89.7	91.0	95.0	92.3	92.9	97.0	105.1	99.5	100.7	105.3	111.2	114.1	103.5	146.9
200	93.3	91.3	94.1	92.4	95.2	99.6	103.7	100.1	104.8	107.1	113.8	117.7	106.6	149.6
250	92.8	94.1	95.3	94.6	96.5	99.6	100.5	102.9	106.1	113.4	118.3	120.5	109.6	153.0
315	93.3	94.9	94.9	94.4	96.8	101.1	104.3	103.4	107.9	115.5	120.1	121.5	111.9	154.5
400	95.1	95.8	97.1	95.2	96.7	100.6	111.5	104.4	108.1	117.9	121.8	122.0	113.2	156.1
500	95.1	97.4	98.4	96.4	98.5	102.6	102.5	105.4	110.4	119.7	123.6	123.0	114.2	157.4
630	96.5	97.6	98.6	96.6	99.2	102.6	103.5	106.4	110.1	120.9	124.3	123.0	116.1	158.0
800	99.3	98.6	99.6	97.9	101.5	104.1	104.8	107.9	112.1	120.5	124.8	122.5	116.9	158.2
1000	103.0	105.3	104.3	101.1	102.2	105.6	105.2	108.6	113.1	120.9	124.3	122.4	116.9	158.1
1250	103.7	107.2	105.7	103.6	104.6	106.5	105.9	109.5	113.7	120.1	123.7	120.6	115.5	157.4
1600	107.6	107.0	106.7	103.3	104.0	107.2	107.2	110.6	113.9	118.8	122.9	119.0	113.2	156.6
2000	108.3	107.6	107.8	105.4	105.3	107.1	106.6	110.9	114.3	119.8	121.6	116.7	111.9	156.2
2500	105.2	106.3	106.6	105.6	107.0	106.8	107.0	110.1	113.5	119.3	120.1	115.4	110.6	155.3
3150	102.9	105.5	106.0	103.8	106.1	110.4	108.5	110.5	113.6	118.2	118.2	113.1	108.5	154.4
4000	100.9	103.5	104.4	102.8	105.7	108.9	108.8	110.9	112.5	116.3	116.5	111.0	107.1	153.1
5000	99.4	102.5	104.1	102.5	104.5	107.5	107.6	110.4	111.5	115.4	115.1	110.4	106.1	152.2
6300	98.2	101.9	102.7	101.3	104.3	108.0	107.6	110.3	111.6	114.0	112.7	108.7	106.4	151.5
8000	96.1	99.8	101.6	100.5	103.4	106.2	106.2	108.5	109.6	111.5	111.6	107.3	104.8	150.2
10000	96.0	98.4	100.5	99.7	102.6	106.3	105.8	107.8	108.8	110.3	111.1	106.4	104.5	150.0
12500	93.2	96.3	98.6	98.2	101.0	105.0	104.5	105.3	106.9	108.8	108.1	105.0	101.7	148.9
16000	91.5	95.8	97.5	97.0	99.6	103.1	102.9	103.8	105.4	105.4	106.7	103.1	98.8	148.4
20000	88.4	92.8	94.9	95.0	96.5	100.2	100.8	100.7	101.8	102.7	103.0	100.4	95.9	147.2
25000	85.8	90.1	91.2	92.3	93.5	98.1	97.5	97.2	99.4	99.5	99.2	95.8	92.0	146.4
31500	81.5	85.9	87.9	88.8	89.6	94.3	92.7	93.2	95.2	95.9	95.7	91.7	86.7	145.6
40000	77.0	81.1	83.9	84.6	84.8	90.5	88.8	89.5	91.9	92.0	92.3	87.6	82.1	145.8
50000	70.9	75.2	77.5	78.4	78.2	85.3	82.7	83.4	85.7	86.7	86.5	82.3	76.1	144.4
63000	64.3	68.9	71.4	72.4	73.6	79.4	76.0	78.4	80.9	81.6	81.1	76.3	69.4	144.3
80000	57.9	62.0	64.0	64.1	66.5	73.1	74.5	71.5	74.0	75.2	74.7	69.0	62.9	145.1
OASPL	114.8	116.3	116.4	114.5	116.4	119.5	119.9	121.6	124.4	130.6	133.7	132.1	125.2	168.3
PNL	127.7	128.9	129.4	127.7	129.5	133.0	132.6	134.6	137.3	142.5	144.2	141.2	135.3	
PNLT	127.7	129.6	129.4	127.7	130.3	133.6	134.3	135.3	137.3	142.5	144.8	141.2	135.3	
DBA	180.3	184.6	186.8	187.3	188.9	195.3	195.4	193.9	196.3	197.4	196.9	191.7	185.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH182	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 0. FPS		
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 43.99	PAMB HG = 29.54	RELHUM = 45.0 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 = 1512.6 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2339.7 FPS	AE18 = 23.4 SQ IN

[illegible] ZER-1209 [illegible] XT [illegible] TE [illegible] N [illegible] 120 [illegible] E08 [illegible] R F. SPEED [illegible] RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1209 X12091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.2	71.0	73.4	73.4	75.6	78.9	79.6	81.6	84.1	90.4	93.7	93.7	79.5	167.9
63	68.8	71.8	72.9	73.2	75.9	80.4	83.4	82.2	85.9	92.4	95.5	94.7	81.8	169.4
80	70.4	72.8	75.1	73.9	75.9	79.9	90.6	83.1	86.1	94.8	97.2	95.1	82.9	171.0
100	70.4	74.2	76.3	75.1	77.6	81.9	81.6	84.1	88.3	96.6	98.9	96.1	83.8	172.3
125	71.7	74.3	76.4	75.2	78.2	81.7	82.5	85.0	87.9	97.7	99.5	95.9	85.5	172.9
160	74.3	75.2	77.4	76.4	80.4	83.2	83.7	86.4	89.9	97.1	99.8	95.2	85.9	173.1
200	77.7	81.7	81.8	79.4	80.9	84.4	83.9	86.9	90.6	97.3	99.0	94.7	85.4	173.0
250	78.1	83.3	83.0	81.7	83.1	85.1	84.4	87.6	91.0	96.2	98.1	92.5	83.4	172.3
315	81.5	82.7	83.6	81.1	82.3	85.5	85.5	88.3	90.9	94.5	96.8	90.3	80.2	171.5
400	81.7	82.9	84.4	82.8	83.1	85.2	84.5	88.3	90.9	95.1	95.0	87.2	77.9	171.1
500	78.1	81.1	82.8	82.6	84.5	86.5	84.6	87.2	89.7	94.1	92.9	85.3	75.6	170.2
630	75.2	79.8	81.8	80.4	83.3	87.7	85.7	87.2	89.4	92.6	90.5	82.2	72.3	169.3
800	72.6	77.4	79.7	79.0	82.5	85.9	85.6	87.1	87.9	90.1	88.1	79.3	69.6	168.0
1000	70.4	75.8	79.0	78.3	80.9	84.1	84.0	86.3	86.3	88.7	86.1	77.8	67.2	167.1
1250	68.3	74.5	77.0	76.6	80.3	84.2	83.5	85.6	85.9	86.7	82.9	74.9	65.8	166.4
1600	65.0	71.4	75.1	75.1	78.7	81.7	81.4	83.1	83.0	83.1	80.5	71.7	61.4	165.1
2000	63.1	68.7	72.7	73.3	76.9	80.8	80.1	81.4	81.1	80.5	78.2	68.5	57.2	164.9
2500	57.5	64.3	69.0	70.2	73.8	78.1	77.3	77.3	77.4	76.9	72.4	63.3	48.7	163.8
3150	51.5	60.5	65.1	66.4	70.0	73.8	73.3	73.2	73.0	70.0	66.6	55.4	36.3	163.3
4000	40.8	51.3	57.3	59.7	62.5	66.7	66.9	65.4	64.2	61.2	55.4	42.4	17.5	162.1
5000	26.7	39.4	45.7	50.0	52.9	58.0	56.9	54.9	53.9	48.8	40.2	22.5		161.3
6300	3.4	19.7	29.1	34.4	37.7	43.1	40.8	38.9	36.4	29.8	17.6			160.5
8000			2.4	9.7	13.5	20.3	17.4	14.5	10.4					160.7
10000														159.3
12500														159.2
16000														160.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	88.0	91.0	92.3	91.1	93.2	96.4	97.0	98.3	100.7	106.4	108.1	104.3	93.5	183.1
PNL	93.2	96.4	98.5	97.7	100.1	103.7	103.5	104.8	106.5	110.4	110.7	105.3	94.9	
PNLT	94.3	96.4	99.1	98.2	100.6	103.7	103.5	104.8	106.5	110.4	110.7	105.3	94.9	
DBA	82.8	86.3	88.2	87.5	90.1	93.5	92.7	94.7	95.9	99.1	98.8	92.3	82.6	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH182	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 43.99	PAMB HG = 29.54	RELHUM = 45.0 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1512.6 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2339.7 FPS	AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1209 TAPE = X12091 TEST PT NO = 1209 NC = AE086 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 83F-400-1210 X1210C
BACKGROUND 83F-400-1100 X11000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	93.6	93.2	91.2	88.2	86.6	89.2	90.1	95.0	96.7	94.7	101.6	101.6	90.2	137.2
63	94.8	97.0	100.1	94.1	92.5	95.3	97.2	99.9	97.1	97.9	102.8	103.5	97.1	140.4
80	95.0	99.8	95.6	95.9	96.0	100.1	97.7	97.4	97.8	98.4	102.3	102.5	91.6	140.5
100	94.5	99.7	95.8	94.5	96.4	100.5	99.1	101.3	98.8	101.6	102.5	107.1	94.1	142.2
125	92.1	94.2	96.9	96.7	98.3	100.4	98.6	98.7	98.2	101.8	108.4	111.6	97.5	144.5
160	89.9	87.7	92.2	90.5	91.4	95.5	98.9	95.8	97.7	103.3	109.2	112.6	101.5	144.8
200	89.5	90.6	91.1	89.1	92.0	95.8	97.7	98.1	101.6	103.1	109.8	115.0	103.6	146.3
250	87.5	91.1	91.8	90.9	93.2	96.1	97.2	99.4	101.8	108.6	114.5	117.5	106.4	149.5
315	89.3	91.4	91.1	90.2	92.8	96.9	98.8	99.4	103.6	111.0	116.8	118.8	107.7	151.2
400	90.3	91.6	92.9	91.4	93.7	96.6	103.2	99.7	103.6	112.7	118.3	119.3	107.4	152.3
500	90.3	92.9	94.1	91.9	94.5	98.4	98.5	101.2	105.6	115.0	120.3	119.0	105.4	153.5
630	91.5	92.8	94.8	92.6	95.0	98.3	99.0	102.1	105.6	116.2	120.8	118.2	104.4	153.7
800	93.8	93.9	94.9	93.9	96.8	99.4	99.8	103.7	107.9	116.0	121.1	116.5	103.2	153.6
1000	97.0	97.0	97.1	95.4	97.2	100.6	100.7	104.4	108.3	116.4	120.0	115.2	101.9	153.0
1250	100.9	102.2	99.7	97.6	98.6	101.5	101.1	105.0	110.0	116.1	119.7	111.6	101.5	152.7
1600	103.9	104.5	104.7	100.6	99.8	102.2	103.0	106.3	109.9	115.5	118.9	110.5	100.7	152.3
2000	102.3	103.1	104.8	103.4	103.7	103.1	102.3	106.7	109.8	116.1	117.3	108.1	100.2	151.8
2500	99.5	101.5	101.9	101.3	104.2	106.6	103.5	106.6	109.8	115.6	115.1	107.6	100.6	151.0
3150	98.9	100.5	100.5	99.0	101.6	106.6	105.3	107.0	109.8	113.9	113.4	105.3	98.2	150.0
4000	98.4	99.2	100.9	98.5	100.4	103.9	104.8	107.6	109.8	112.2	112.0	102.5	97.3	149.0
5000	97.7	99.0	100.3	98.2	100.5	103.2	104.1	107.2	108.2	111.3	109.6	102.1	95.8	148.0
6300	96.9	99.1	99.7	97.7	100.0	102.5	103.5	106.7	108.5	110.0	107.9	100.4	94.4	147.4
8000	94.8	96.8	98.3	97.8	99.4	101.7	101.9	105.0	106.5	107.5	105.8	99.0	93.8	145.9
10000	95.2	96.7	97.9	97.2	98.8	102.5	102.1	105.1	106.0	106.3	104.8	98.9	94.0	146.1
12500	92.9	94.5	96.3	95.7	98.0	101.2	101.0	102.5	104.4	105.0	102.6	98.2	92.5	145.3
16000	91.5	94.3	95.3	95.3	96.3	99.8	99.9	101.0	102.7	102.1	100.9	97.1	90.8	145.0
20000	88.7	91.8	92.5	93.0	95.3	97.0	98.1	98.0	99.1	99.0	97.5	94.7	88.7	143.9
25000	85.8	88.4	89.2	90.4	91.8	95.9	95.5	94.8	97.0	95.5	94.7	91.4	85.3	143.7
31500	82.5	84.7	86.2	87.3	88.0	91.8	91.1	91.5	93.0	90.7	90.3	87.0	80.7	142.8
40000	76.8	80.5	82.2	83.2	82.7	87.9	86.6	86.8	89.5	87.4	86.6	82.0	76.4	142.7
50000	70.9	74.3	75.9	77.0	76.6	83.2	81.0	81.7	83.0	80.9	81.1	76.7	70.4	141.4
63000	64.7	68.0	70.3	71.0	71.7	77.5	74.1	76.0	77.5	75.5	74.7	70.1	63.3	140.9
80000	58.3	60.7	62.7	62.5	63.9	71.0	66.9	68.6	69.9	69.4	66.9	62.9	55.8	140.5
OASPL	111.0	112.5	112.9	111.2	112.8	115.6	115.6	118.0	120.7	126.4	129.8	127.5	115.8	164.2
PNL	123.3	124.7	125.5	123.9	126.0	129.1	128.7	131.2	133.7	138.5	139.9	135.3	125.7	
PNLT	123.3	124.7	125.5	124.6	126.6	129.1	129.5	131.7	133.7	138.5	139.9	135.3	125.7	
DBA	110.9	112.0	112.6	110.7	112.3	114.9	114.6	117.6	120.5	126.1	128.8	124.2	112.9	

NASA DUAL FLOW THERMAL SHIELD/DFIAS-12/NAS3-22137

VEHTCL = ADHT77	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = C0	FLTVEL = 400. FPS
IAPLHA = SB53	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 42.72	PAMB HG = 29.47	RELHUM = 48.7 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNTNT = LBS	XNL = RPM	XNH = RPM	V8 = 1533.8 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2334.3 FPS	AE18 = 23.4 SQ IN
RUNPT = 83F-400-1210	TAPE = X1210C	TEST PT NO = 1210	NC = AE086	CORR FAN SPEED = RPM

P1185-08

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

IDENTIFICATION - 83F-400-1210 X1210F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	95.4	97.5	96.8	94.2	94.9	96.1	95.7	96.3	101.2	108.0	113.7	116.5	107.5	148.8
315	95.4	97.5	96.8	94.2	94.6	97.1	97.8	97.3	101.3	109.9	115.5	117.6	108.6	150.1
400	97.0	97.8	96.1	93.6	95.6	96.9	102.2	97.5	103.3	112.1	117.6	117.9	108.1	151.4
500	97.6	97.8	97.7	94.7	96.4	98.7	97.5	98.9	103.5	113.6	118.5	118.1	109.1	152.1
630	98.0	99.3	99.1	95.4	96.9	98.7	98.0	99.9	106.2	113.9	119.5	117.8	110.7	152.7
800	99.2	99.2	99.9	96.1	98.8	99.9	98.9	101.5	107.1	115.0	119.3	117.9	112.1	153.0
1000	101.3	100.2	99.9	97.5	98.9	101.2	99.9	102.3	108.8	114.5	118.7	114.1	111.5	152.1
1250	102.3	101.7	100.8	98.1	100.4	102.3	100.5	103.0	108.9	114.2	118.2	113.2	110.9	151.7
1600	107.4	107.5	103.8	100.4	101.7	103.2	102.6	104.6	109.0	115.0	116.7	110.9	110.4	151.6
2000	110.6	110.1	109.0	103.6	105.9	104.4	102.2	105.1	109.5	115.1	115.2	111.2	111.8	152.1
2500	107.3	107.5	108.5	106.4	107.1	108.2	103.7	105.6	110.0	113.8	113.8	109.1	109.5	151.4
3150	107.1	108.1	107.3	105.5	105.4	108.7	105.9	106.3	110.5	112.5	112.6	106.3	108.4	150.9
4000	109.2	109.4	107.8	104.5	104.1	106.5	105.9	107.5	109.0	111.7	110.3	106.0	107.0	150.4
5000	105.9	106.0	106.6	103.2	101.5	106.2	105.5	107.2	109.4	110.4	108.6	104.1	105.0	149.4
6300	105.1	105.7	106.2	103.0	101.1	105.5	105.1	106.8	108.2	108.8	107.7	104.3	106.8	148.9
8000	104.2	105.7	105.3	102.4	103.4	104.7	103.9	105.7	108.5	108.4	107.7	105.2	107.8	148.9
10000	102.0	103.2	103.8	102.3	102.8	105.5	104.3	106.2	107.2	107.6	105.8	104.9	106.6	148.7
12500	102.1	102.8	103.2	101.5	102.6	104.2	103.3	103.7	106.4	105.6	105.1	104.7	105.7	148.5
16000	102.0	102.4	102.7	100.5	100.4	102.8	102.3	102.5	103.8	103.5	102.6	103.0	104.1	148.3
20000	97.4	99.5	99.6	98.6	99.3	100.0	100.5	99.7	102.3	100.9	100.7	100.6	101.6	147.8
25000	94.0	96.4	96.2	95.7	96.4	98.9	98.0	96.6	99.2	96.9	97.2	97.1	98.1	147.2
31500	93.2	94.5	93.8	93.4	92.5	94.8	93.5	93.4	96.2	93.9	93.9	92.7	94.5	147.1
40000	89.0	89.9	90.0	89.6	87.3	90.9	89.0	88.4	90.4	88.3	89.3	88.2	89.1	146.4
50000	82.9	85.3	85.6	85.0	81.2	86.2	83.5	83.5	85.5	83.5	83.4	82.4	83.1	145.8
63000	76.1	78.2	78.3	77.9	76.3	80.5	76.5	77.7	79.4	78.9	77.1	76.8	77.3	144.9
80000	68.3	70.5	71.2	70.5	68.5	74.0	69.3	70.3	69.6	69.0	67.3	67.0	67.5	143.8
OASPL	117.6	117.9	117.4	114.6	115.4	117.1	115.8	117.1	120.6	125.1	128.2	126.6	121.9	164.2
PNL	130.5	130.8	129.8	127.1	128.0	130.0	128.1	129.7	133.0	136.5	137.7	134.3	133.9	
PNLT	131.6	130.8	129.8	127.1	128.0	130.0	128.9	129.7	133.0	136.5	137.7	134.3	133.0	
DBA	191.4	193.5	191.0	193.4	191.3	196.2	192.1	193.0	193.6	192.8	191.4	190.9	191.6	

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 DUAL FLOW THERMAL SHIELD/DFTA5-12/NAS3-22137

VEHICL = ADH177 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = C0 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = N0 PWL AREA = FULL SPHERE TAMB F = 42.72 PAMB HG = 29.47 RELHUM = 48.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1533.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2334.3 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1210 TAPE = X1210F TEST PT NO = 1210 NC = AE086 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 - 83F-400-1210 X12101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.9	74.5	74.8	72.9	74.0	75.4	74.9	75.0	79.3	85.0	89.2	89.7	77.4	163.7
63	70.9	74.5	74.8	72.9	73.7	76.4	76.9	76.1	79.3	86.9	90.9	90.8	78.4	165.0
80	72.4	74.7	74.1	72.3	74.7	76.1	81.4	76.2	81.3	89.0	92.9	91.0	77.8	166.3
100	72.9	74.6	75.6	73.4	75.5	77.9	76.5	77.5	81.4	90.5	93.8	91.1	78.7	167.0
125	73.2	76.0	77.0	74.0	75.9	77.9	77.0	78.4	84.0	90.7	94.7	90.7	80.1	167.6
160	74.2	75.8	77.6	74.6	77.7	78.9	77.7	79.9	84.8	91.6	94.3	90.6	81.1	167.9
200	76.0	76.6	77.4	75.7	77.6	80.1	78.6	80.6	86.3	90.9	93.5	86.4	80.0	167.0
250	76.7	77.8	78.1	76.2	78.9	80.9	78.9	81.1	86.2	90.3	92.5	85.1	78.8	166.6
315	81.4	83.3	80.7	78.2	80.0	81.6	80.8	82.3	86.0	90.7	90.7	82.2	77.4	166.5
400	84.1	85.4	85.5	81.0	83.8	82.4	80.0	82.5	86.1	90.3	88.6	81.8	77.8	167.0
500	80.1	82.4	84.7	83.4	84.7	85.9	81.2	82.6	86.1	88.6	86.7	79.0	74.4	166.3
630	79.4	82.5	83.1	82.2	82.6	86.0	83.0	83.0	86.3	86.9	84.9	75.4	72.2	165.8
800	80.9	83.2	83.1	80.8	80.9	83.4	82.7	83.8	84.3	85.5	82.0	74.3	69.5	165.3
1000	76.9	79.3	81.5	79.0	80.9	82.8	81.9	83.0	84.3	83.7	79.6	71.5	66.2	164.3
1250	75.3	78.3	80.5	78.4	80.0	81.6	81.1	82.2	82.5	81.4	77.9	70.6	66.2	163.8
1600	73.0	77.3	78.8	77.0	78.7	80.1	79.2	80.3	81.9	80.1	76.5	69.7	64.4	163.8
2000	69.0	73.4	76.1	75.8	77.1	80.1	78.6	79.7	79.5	77.8	72.9	66.9	59.4	163.6
2500	66.4	70.8	73.6	73.4	75.3	77.3	76.1	75.7	76.8	73.7	69.5	63.0	52.7	163.4
3150	62.0	67.0	70.3	69.9	70.8	73.5	72.7	71.9	71.3	68.2	62.6	55.3	41.6	163.2
4000	49.8	58.0	61.9	63.3	65.3	66.5	66.6	64.5	64.7	59.4	53.1	42.6	23.3	162.7
5000	35.0	45.7	50.7	53.4	55.8	58.8	57.4	54.3	53.7	46.3	38.1	23.8		162.1
6300	15.1	28.4	35.0	39.1	40.6	43.7	41.6	39.1	37.3	27.8	15.9			162.0
8000			8.5	14.6	15.9	20.6	17.7	13.5	8.9					161.3
10000														160.7
12500														159.8
16000														158.7
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	90.1	92.2	92.9	90.7	92.3	94.0	92.5	93.4	96.5	100.8	102.8	99.2	89.3	179.1
PNL	96.6	99.0	100.0	98.3	99.9	102.0	100.7	101.5	103.2	105.5	105.3	99.8	91.7	
PNLT	97.1	99.0	100.6	98.8	100.4	102.0	100.7	102.0	103.9	105.5	105.3	99.8	91.7	
DBA	86.7	89.2	90.3	88.4	89.8	91.7	90.1	91.0	92.8	94.1	93.0	86.1	80.3	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH177 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 42.72 PAMB HG = 29.47 RELHUM = 48.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1533.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNIR = RPM V18 = 2334.3 FPS AE18 = 23.4 SQ IN

PUNPT 83F-400-1210 TAPE = X12101 TEST PT 12 NO AEC RR SPEED RPM

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DATPROC - FLTRAN 05/13/83 14.128 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 83F-ZER-1211 X1211C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	92.4	94.9	94.7	90.7	91.8	92.2	92.3	94.2	95.2	100.7	101.6	101.1	97.7	138.4
63	96.8	98.5	100.6	96.6	97.5	99.3	98.0	99.4	99.6	102.9	102.5	102.5	101.9	141.9
80	98.3	102.1	97.8	97.9	98.5	103.3	100.7	100.9	100.6	101.7	105.5	105.5	93.4	143.5
100	96.7	103.5	99.0	98.5	100.1	103.8	102.6	105.3	102.0	105.8	106.2	110.6	96.1	145.9
125	93.1	96.7	99.2	99.0	101.3	104.2	101.8	102.7	102.2	105.8	112.6	115.3	100.7	148.3
160	90.9	92.7	97.0	94.0	94.6	99.0	101.6	101.8	103.0	107.3	113.2	116.4	106.0	148.7
200	94.5	93.3	95.1	93.9	96.7	101.1	102.5	102.6	106.6	108.6	115.5	119.5	108.9	151.3
250	94.0	95.1	96.8	96.1	98.7	101.1	102.2	104.4	107.3	114.6	120.0	122.2	112.1	154.7
315	95.1	96.1	95.9	95.4	98.0	102.1	104.8	104.7	109.1	116.7	121.3	123.0	114.2	155.9
400	96.3	97.8	98.4	96.2	98.5	101.6	112.0	105.7	109.1	119.7	123.8	124.8	115.9	158.2
500	97.1	99.1	99.9	98.2	100.3	103.9	104.3	107.4	111.4	121.7	125.8	125.3	116.9	159.5
630	98.5	99.8	100.1	99.1	101.0	104.3	105.0	108.4	112.1	122.7	126.5	125.0	118.4	160.1
800	101.6	102.4	102.4	100.9	103.0	105.1	105.8	108.9	113.9	122.7	127.1	124.8	119.2	160.4
1000	106.5	108.0	105.8	103.1	103.7	107.1	106.7	110.4	114.3	122.9	127.0	124.9	118.4	160.5
1250	108.4	110.0	108.7	105.9	106.1	108.2	107.6	110.5	115.7	122.1	126.4	122.1	117.3	159.7
1600	109.9	108.8	108.9	107.1	107.8	108.9	108.5	112.3	115.4	121.5	125.6	120.8	115.7	159.1
2000	108.3	108.6	108.0	106.9	108.8	110.6	108.9	111.9	115.8	121.8	123.6	118.9	114.4	158.1
2500	106.0	108.0	107.6	106.6	107.7	110.6	109.5	111.9	115.3	121.3	122.6	118.1	113.1	157.5
3150	104.1	107.2	107.5	106.0	107.3	110.9	110.3	112.5	115.1	120.2	120.4	116.1	111.5	156.4
4000	102.4	105.5	106.9	105.5	107.5	110.7	109.6	112.9	114.8	118.3	120.0	114.3	109.8	155.5
5000	100.7	104.7	106.4	105.2	107.0	109.7	109.6	112.2	113.7	117.9	118.4	113.4	108.4	154.8
6300	100.2	104.4	105.7	104.5	106.8	109.8	109.3	111.5	113.1	116.5	116.5	111.9	107.9	153.9
8000	98.1	102.6	103.6	103.8	106.2	108.7	108.2	110.0	112.1	114.5	115.4	110.8	107.6	153.0
10000	97.8	101.7	103.2	103.5	105.6	108.8	108.1	110.1	111.1	112.8	114.1	109.4	106.2	152.6
12500	95.2	99.0	101.1	102.2	104.7	108.0	107.3	107.8	109.2	111.8	111.6	108.2	104.7	151.9
16000	94.0	98.1	99.5	100.5	102.8	106.0	105.4	106.3	108.1	108.9	110.4	106.3	101.5	151.4
20000	90.6	95.5	96.4	97.9	100.0	103.0	103.1	103.2	104.8	106.7	106.7	103.4	99.1	150.2
25000	88.0	92.6	93.6	95.3	96.9	101.5	100.4	99.9	102.1	101.9	100.9	99.5	93.7	149.2
31500	84.4	87.8	90.6	92.0	92.6	97.2	95.9	96.4	97.6	98.3	98.1	95.1	89.9	148.4
40000	79.4	84.1	85.5	88.1	87.5	93.2	91.5	91.7	95.1	95.2	94.7	90.6	85.5	148.6
50000	72.8	77.9	79.5	81.4	81.4	88.3	85.6	87.1	88.9	89.9	88.9	85.5	80.3	147.5
63000	66.8	72.4	74.6	75.6	77.1	83.1	79.7	81.9	84.8	85.3	84.8	79.5	73.1	148.0
80000	59.4	65.8	67.5	67.6	69.7	76.8	73.7	75.7	77.7	80.2	77.4	73.0	65.4	148.4
OASPL	116.7	118.3	118.3	117.0	118.6	121.4	121.3	123.3	126.2	132.7	136.1	134.3	127.5	170.5
PNL	128.8	130.8	131.1	129.7	131.3	134.4	134.1	136.4	138.9	144.5	146.7	143.6	137.8	
PNLT	128.8	131.5	131.1	129.7	132.0	134.4	135.3	137.0	138.9	144.5	146.7	143.6	137.8	
DBA	117.0	118.3	118.2	116.7	118.2	120.8	120.3	122.9	126.0	132.3	135.4	132.5	126.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH183	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO,	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 43.45	PAMB HG = 29.46	RELHUM = 45.6 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1522.8 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2394.9 FPS	AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1211 TAPE = X1211C TEST PT NO = 1211 NC = AE086 CORR FAN SPEED = RPM

P1168-33

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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 - 83F-ZER-1211 X1211F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90	100.	110.	120.	130.	140.	150.	160.	PWL
50	92.4	94.9	94.7	90.7	91.8	92.2	92.3	94.2	95.2	100.7	101.6	101.1	97.7	138.4
63	96.8	98.5	100.6	96.6	97.5	99.3	98.0	99.4	99.6	102.9	102.5	102.5	101.9	141.9
80	98.3	102.1	97.8	97.9	98.5	103.3	100.7	100.9	100.6	101.7	105.5	105.5	93.4	143.5
100	96.7	103.5	99.0	98.5	100.1	103.8	102.6	105.3	102.0	105.8	106.2	110.6	96.1	145.9
125	93.1	96.7	99.2	99.0	101.3	104.2	101.6	102.7	102.2	105.6	112.6	115.3	100.7	148.3
160	90.9	92.7	97.0	94.0	94.6	99.0	101.6	101.8	103.0	107.3	113.2	116.4	106.0	148.7
200	94.5	93.3	95.1	93.9	96.7	101.1	102.5	102.6	106.6	108.6	115.5	119.5	108.9	151.3
250	94.0	95.1	96.8	96.1	98.7	101.1	102.2	104.4	107.3	114.6	120.0	122.2	112.1	154.7
315	95.1	96.1	95.9	95.4	98.0	102.1	104.8	104.7	109.1	116.7	121.3	123.0	114.2	155.9
400	96.3	97.8	98.4	96.2	98.5	101.6	112.0	105.7	109.1	119.7	123.8	124.8	115.9	158.2
500	97.1	99.1	99.9	98.2	100.3	103.9	104.3	107.4	111.4	121.7	125.8	125.3	116.9	159.5
630	98.5	99.8	100.1	99.1	101.0	104.3	105.0	108.4	112.1	122.7	126.5	125.0	118.4	160.1
800	101.6	102.4	102.4	100.9	103.0	105.1	105.8	108.9	113.9	122.7	127.1	124.8	119.2	160.4
1000	106.5	108.0	105.8	103.1	103.7	107.1	106.7	110.4	114.3	122.9	127.0	124.9	118.4	160.5
1250	108.4	110.0	108.7	105.9	106.1	108.2	107.6	110.5	115.7	122.1	126.4	122.1	117.3	159.7
1600	109.9	108.8	108.9	107.1	107.8	106.9	108.5	112.3	115.4	121.5	125.6	120.8	115.7	159.1
2000	108.3	108.6	108.0	106.9	108.8	110.6	108.9	111.9	115.8	121.8	123.6	118.9	114.4	158.1
2500	106.0	108.0	107.6	106.6	107.7	110.6	109.5	111.9	115.3	121.3	122.6	118.1	113.1	157.5
3150	104.1	107.2	107.5	106.0	107.3	110.9	110.3	112.5	115.1	120.2	120.4	116.1	111.5	156.4
4000	102.4	105.5	106.9	105.5	107.5	110.7	109.6	112.9	114.8	118.3	120.0	114.3	109.8	155.5
5000	100.7	104.7	106.4	105.2	107.0	109.7	109.6	112.2	113.7	117.9	118.4	113.4	108.4	154.8
6300	100.2	101.4	105.7	104.5	106.8	109.8	109.3	111.5	113.1	116.5	116.5	111.9	107.9	153.9
8000	98.1	102.6	103.6	103.8	106.2	108.7	108.2	110.0	112.1	114.5	115.4	110.8	107.6	153.0
10000	97.8	101.7	103.2	103.5	105.6	108.8	108.1	110.1	111.1	112.8	114.1	109.4	106.2	152.6
12500	95.2	99.0	101.1	102.2	104.7	108.0	107.3	107.8	109.2	111.8	111.6	108.2	104.7	151.9
16000	94.0	98.1	99.5	100.5	102.8	106.0	105.4	106.3	108.1	108.9	110.4	106.3	101.5	151.4
20000	90.6	95.5	96.4	97.9	100.0	103.0	103.1	103.2	104.8	106.7	106.7	103.4	99.1	150.2
25000	88.0	92.6	93.6	95.3	96.9	101.5	100.4	99.9	102.1	101.9	100.9	99.5	93.7	149.2
31500	84.4	87.6	90.6	92.0	92.6	97.2	95.9	96.4	97.6	98.3	98.1	95.1	89.9	148.4
40000	79.4	84.1	85.5	88.1	87.5	93.2	91.5	91.7	95.1	95.2	94.7	90.6	85.5	148.6
50000	72.8	77.9	79.5	81.4	81.4	88.3	85.6	87.1	88.9	89.9	88.9	85.5	80.3	147.5
63000	66.8	72.4	74.6	75.6	77.1	83.1	79.7	81.9	84.8	85.3	84.8	79.5	73.1	148.0
80000	59.4	65.8	67.5	67.6	69.7	76.8	73.7	75.7	77.7	80.2	77.4	73.0	65.4	148.4
OASPL	116.7	118.3	118.3	117.0	118.6	121.4	121.3	123.3	126.2	132.7	136.1	134.3	127.5	170.5
PNL	128.8	130.8	131.1	129.7	131.3	134.4	134.1	136.4	138.9	144.5	146.7	143.6	137.8	
PNLT	128.8	131.5	131.1	129.7	132.0	134.4	135.2	137.0	138.9	144.5	146.7	143.6	137.8	
DBA	182.2	188.1	190.0	190.7	192.2	198.9	195.8	197.8	200.0	201.8	199.9	195.3	188.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL	= ADH183 .	TEST DATE	= 03-30-83	LOCAT	= C41 ANECH CH	CONFIG	= 12	MODEL	= CO	FLTVEL =	0. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 43.45	PAMB HG	= 29.46	RELHUM =	45.6 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	= 1522.8 FPS	AE8	= 4.6 SQ IN
FNRAMB	= LBS	XNLR	= RPM	XNHR	= RPM	V18	= 2394.9 FPS	AE18	= 23.4 SQ IN

RUNPT = 83F-ZER-1211 ... X1211F ... TE ... 1211 ... E08 ... R F. 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 - 83F-ZER-1211 X12111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.5	72.0	74.9	74.9	77.9	80.4	81.4	83.1	85.4	91.6	95.5	95.5	82.0	169.6
63	70.5	73.1	73.9	74.2	77.2	81.4	83.9	83.4	87.2	93.7	96.8	96.2	84.0	170.8
80	71.7	74.8	76.4	74.9	77.6	80.9	91.1	84.4	87.1	96.6	99.2	97.9	85.7	173.1
100	72.4	76.0	77.8	76.8	79.4	83.1	83.4	86.1	89.3	98.6	101.1	98.3	86.5	174.4
125	73.7	76.6	77.9	77.7	80.0	83.5	84.0	87.0	89.9	99.4	101.7	97.9	87.8	175.0
160	76.6	79.0	80.1	79.4	81.9	84.2	84.7	87.4	91.6	99.3	102.1	97.4	88.2	175.3
200	81.2	84.4	83.3	81.4	82.4	85.9	85.4	88.6	91.8	99.3	101.7	97.2	86.9	175.4
250	82.8	86.1	86.0	83.9	84.6	86.9	86.1	88.6	93.0	98.2	100.8	94.0	85.1	174.6
315	83.8	84.5	85.9	84.8	86.0	87.3	86.7	90.1	92.4	97.2	99.6	92.1	82.7	174.0
400	81.7	83.9	84.6	84.3	86.6	88.7	86.7	89.3	92.4	97.1	97.0	89.5	80.4	173.0
500	78.8	82.9	83.8	83.6	85.3	88.3	87.1	88.9	91.4	96.1	95.4	88.0	78.1	172.4
630	76.4	81.6	83.3	82.7	84.5	88.2	87.5	89.2	90.9	94.6	92.7	85.2	75.3	171.3
800	74.1	79.4	82.2	81.8	84.3	87.6	86.4	89.1	90.1	92.1	91.6	82.5	72.4	170.4
1000	71.7	78.0	81.2	81.1	83.4	86.3	86.0	88.0	88.6	91.2	89.4	80.8	69.5	169.7
1250	70.3	77.0	80.0	79.9	82.8	85.9	85.3	86.9	87.4	89.2	86.6	78.2	67.3	168.8
1600	67.0	74.2	77.1	78.4	81.4	84.2	83.4	84.6	85.5	86.1	84.2	75.2	64.2	167.9
2000	64.8	71.9	75.5	77.0	79.9	83.3	82.4	83.6	83.3	83.0	81.2	71.5	59.0	167.5
2500	59.5	67.1	71.5	74.1	77.5	81.1	80.1	79.7	79.6	79.8	75.9	66.5	51.6	166.8
3150	54.0	62.7	67.1	69.9	73.2	76.8	75.8	75.7	75.7	73.5	70.4	58.6	39.1	166.3
4000	43.0	54.0	58.7	62.7	66.0	69.4	69.1	67.9	67.1	65.2	59.1	45.4	20.8	165.1
5000	29.0	41.9	48.1	53.0	56.4	61.5	59.9	57.6	56.6	51.2	41.9	26.2		164.1
6300	6.4	21.7	31.8	37.6	40.7	46.1	44.0	42.1	38.8	32.2	20.1			163.3
8000			4.1	13.1	16.2	23.0	20.1	16.7	13.6	2.9				163.5
10000														162.4
12500														162.9
16000														163.3
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	90.1	93.1	94.1	93.4	95.4	98.2	98.4	99.9	102.4	108.4	110.4	106.4	95.7	185.3
PNL	94.8	98.4	100.0	100.2	102.7	105.9	105.4	106.8	108.3	112.5	113.3	107.7	97.0	
PNLT	94.8	98.4	100.6	100.7	102.7	105.9	105.4	107.3	108.3	113.1	113.3	107.7	97.0	
DBA	84.3	88.3	90.1	90.0	92.4	95.4	94.5	96.4	97.8	101.3	101.4	94.6	84.8	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFIAS-12/NAS3-22137

VEHICL = ADH183 TEST DATE = 08-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 0. FPS
TAPLHA = SB59 TEGA = NO PWL AREA = FULL SPHERE TAMB F = 43.45 PAMB HG = 29.46 RELHUM = 45.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1522.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2394.9 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1211 TAPE = X12111 TEST PT NO = 1211 NC = AE086 CORR FAN SPEED = RPM

P1185-03

DATPROC - FLTRAN

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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 83F-400-1212 X1212C
BACKGROUND 83F-400-1100 X11000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	95.9	95.4	92.9	88.2	88.3	92.4	92.1	96.0	94.4	94.0	102.4	101.6	91.7	137.8
63	97.3	97.5	100.6	94.1	95.0	97.6	97.0	97.1	98.1	96.9	102.5	100.5	94.1	140.1
80	97.5	101.8	97.8	97.9	98.5	101.8	99.7	99.1	99.6	99.4	103.8	103.2	89.6	142.2
100	97.0	101.5	96.8	96.3	98.4	102.3	100.4	103.0	100.5	102.6	103.7	109.1	93.3	143.9
125	94.4	95.2	97.9	98.2	99.8	101.9	100.6	100.5	99.7	102.8	110.1	113.8	99.0	146.3
160	92.4	89.0	94.0	91.8	93.6	97.5	103.1	98.3	99.5	105.1	110.7	114.4	103.5	146.6
200	92.3	92.6	92.3	91.4	94.0	97.6	99.7	99.6	103.3	104.6	111.8	116.7	106.4	148.2
250	90.0	93.1	93.3	92.4	94.5	97.6	99.5	101.1	103.8	110.4	116.5	120.0	108.6	151.7
315	91.6	92.9	92.6	91.9	94.3	98.4	100.3	100 9	104.9	112.7	118.3	120.8	110.4	153.0
400	92.3	93.6	94.6	92.4	95.2	98.1	105.7	101.7	105.4	114.7	120.3	121.5	109.9	154.4
500	92.8	94.4	95.6	94.2	96.0	99.4	99.8	103.2	106.9	117.5	122.6	121.5	109.4	155.8
630	94.5	95.6	96.3	94 6	96.5	100.1	100.7	104.4	106.8	118.4	123.5	120.5	107.9	156.2
800	97.3	96.9	97.6	95.7	97.8	101.1	102.0	105.2	109.6	118.0	124.6	119.0	106.9	156.6
1000	104.8	103.3	101.6	98.6	99.4	102.8	102.7	106.1	110.3	118.1	124.0	117.7	106.4	156.2
1250	104.4	107.2	106.0	102.6	102.1	103.2	103.1	106.5	111.2	117.3	123.4	114.9	104.8	155.7
1600	105.1	105.3	107.4	105.3	106.0	106.2	104.7	108.1	111.4	116.5	122.6	113.5	104.0	155.1
2000	103.8	103.1	104.5	103.4	106.0	108.4	105.4	108.4	112.0	117.1	120.8	110.9	103.4	154.2
2500	102.8	103.8	103.1	101.8	103.0	107.8	106.8	108.4	111.0	117.1	118.6	109.9	103.4	153.1
3150	102.4	103.0	103.7	101.5	102.6	106.6	106 5	109.8	111.3	116.0	116.7	107.8	100.7	152.2
4000	101.9	102.3	103.6	101.5	103.2	106.4	105.8	109.6	111.5	114.3	115.0	105.7	100.3	151.3
5000	101.9	102.2	104.4	102.0	103.2	105.7	105.6	109 2	110.7	114.1	113.9	104.6	98.9	150.9
6300	100.9	103.1	104.4	102.0	103.0	106.2	105.8	108 5	110.8	112.3	112.0	103.4	97.9	150.2
8000	99.9	101.8	103.1	102.0	103.2	105.7	104.4	107.5	109.3	110.2	110.6	102.0	96.8	149.3
10000	99.7	101.2	102.9	101.7	103.1	106.1	105.1	107.1	108.8	109.8	109.6	102.4	97.2	149.5
12500	97.6	99.0	101.3	100.7	102.7	106.2	104.2	105.0	107.1	108.2	107.0	101.7	96.0	149.0
16000	95.7	98.0	99.7	99.7	101.0	104.0	103.1	104.2	106.1	105.8	105.3	99.8	93.3	148.7
20000	92.9	95.5	97.1	96.9	99.2	101.7	101.8	100.9	103.2	102.4	102.4	97.4	91.1	147.8
25000	90.2	92.8	94.0	94.7	95.6	100.5	99.4	98.1	100.3	98.6	98.1	94.2	88.1	147.4
31500	86.6	88.8	91.0	91.7	91.8	96.2	94.4	94.6	96.0	95.0	94.6	90.0	83.1	146.6
40000	81.4	84.5	86.5	87.0	87.2	92.7	90.2	91.1	93.5	91.1	91.2	84.8	78.7	146.9
50000	75.0	78.5	80.4	81.3	81.4	87.5	84 3	84 8	87.0	85.6	85.9	79.7	73.2	145.4
63000	68.7	72.3	75.0	75.3	76.5	81.8	78.1	79.3	81.7	79.5	79.4	73.2	66.3	145.0
80000	61.5	64.9	68.7	67.5	68.1	75.7	71.9	72.6	74.6	73.3	72.6	66.9	58.3	145.2
OASPL	114.2	115.3	115.9	114.1	115.1	118.3	117.8	120.0	122.6	128.2	132.9	129.8	118.8	166.9
PNL	126.5	127.3	128.1	126.1	127.5	130.7	130.5	133.2	135.4	140.3	143.2	137.7	128.6	
PNLT	127.8	128.9	128.1	126.8	128.2	130.7	131.5	133.7	135.4	140.3	143.2	137.7	128.6	
DBA	114.0	114.8	115.5	113.4	114.7	117.4	116.6	119.5	122.3	127.8	132.3	126.7	116.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH178 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO, FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 42.31 PAMB HG = 29.46 RELHUM = 47.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1531.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2403.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1212 TAPE = X1212C TEST PT NO = 1212 NC = AE086 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1212 XT212F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	97.6	99.3	98.1	95.6	96.0	97.6	98.0	98.0	102.6	109.9	115 4	118.6	110.3	150.7
315	97.6	99.3	98.1	95 6	96.1	98.6	99.3	99.0	103.1	112.0	117.6	119.9	111.1	152.3
400	99.2	99.2	97 5	95 [illegible]	97 0	98.4	104.8	99.6	104.6	114.7	119.9	120.5	112.2	153.9
500	99.0	99.4	99.2	95.6	97.9	99.7	98.7	100.9	104.7	115.9	121.3	120.4	112.6	154.6
630	100.2	100.6	100.5	97.6	98.3	100.5	99.7	102.1	107.9	115.9	123.0	120.3	114.5	155.7
800	101.1	101.2	100.8	97.8	98.5	101.7	101.1	103.0	109.2	116.8	123.4	120.5	116.7	156.2
1000	102.9	101.7	101.6	98.5	101.1	103.5	102.0	104.1	110.1	115.9	122.6	117.5	115.0	155.2
1250	111.9	109.1	106.0	101 6	103.9	104.0	102 5	104.6	110.5	115.3	122.1	116.4	114.4	155.0
1600	111.2	112.8	110.2	105.5	108.0	107.2	104.3	106.4	111.4	116.1	120.5	114.0	114.1	154.8
2000	110.1	109.6	111.0	108.0	106.7	109.7	105.2	107.0	110.8	116.7	118.9	113.7	114.8	154.4
2500	111.2	109.6	109.8	107.4	105.8	109.4	107.0	107.4	111.5	115.8	117.2	111.7	112.2	153.5
3150	109.5	110.0	108.3	105.9	105.7	108.7	107.1	109.1	112.4	114.7	115.9	110.0	112.1	152.9
4000	109.0	109.0	108.9	105.6	106.9	109.0	107.0	109.6	111.5	114.5	114.6	108.5	110.1	152.5
5000	109.4	109.0	109.4	106.2	107.3	108.7	107.0	109.2	111.8	112.8	113.0	107.7	109.6	152.2
6300	109.3	108.9	110.1	106.8	107.1	109.2	107.4	108.7	110.7	111.3	112.2	106.9	109.3	152.0
8000	108.2	109.7	110.1	106.7	107.2	108.7	106.3	107.9	110.8	111.5	111.9	108.3	110.6	152.4
10000	107.0	108.2	108 6	106.5	107.1	109.1	107.2	107.9	110.0	110.3	110.4	108.4	110.1	152.3
12500	106.6	107.3	108.2	106.0	107 3	109.2	106.5	106.2	109.4	108.8	109.0	107.0	108.0	152.3
16000	106.8	106.8	107.7	105.5	105 1	107.0	105.4	105.4	107.4	106.4	107.1	105.5	106.6	152.2
20000	101.6	103.2	104.0	103.1	103.8	104.7	104.1	102.3	105.8	104.2	104.3	103.7	104.7	151.5
25000	101 0	102.3	102.5	100.7	100.2	103.5	101.8	100.0	101.8	100.7	101.0	100.0	100.4	151.4
31500	97.5	98 8	98.7	97.8	96.4	99.2	96.8	96.2	99.9	97.3	98.1	95.4	97.1	151.0
40000	93.1	94.0	94.8	93 9	91.8	95.7	92.5	92.6	93.9	92.3	93.3	90.8	91.9	150.6
50000	87.5	89.3	89.9	88.8	86.0	90.5	86 7	86 3	89.2	86.8	87.5	84.8	85.8	149.6
63000	80.1	82 4	82.8	82 2	81.1	84 8	80.3	80 6	83.3	81.8	81.6	79.5	78.7	148.8
80000	72.4	74.7	76.0	74.7	72.7	78.7	74.0	73.7	73.5	71.9	71.8	69.7	68.9	148.0
OASPL	120.7	120.7	120.5	117.6	118.2	120.0	118.1	119.2	122.7	127.1	131.7	129.2	125.4	167.2
PNL	132.6	132.5	131.9	129 0	129 7	131.6	129.9	131 7	135.0	138.6	141.2	137.0	136 3	
PNLT	134.2	134.4	131.9	129.0	129.7	131.6	130 8	131 7	135.0	138 6	141.2	137.0	136.3	
OBA	195.5	197.7	198.6	197 6	195.7	200.8	196.3	196.2	197.5	195.8	195.8	193.6	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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL	= ADH178	TEST DATE	= 03-30-83	LOCAT	= C41 ANECH CH	CONFIG	= 12	MODEL	= CO	FLTVEL	= 400. FPS	
TAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 42.31	PAMB HG	= 29.46	RELHUM	= 47.4 PCT	
WIND DIR	= DEG	WIND VEL	= MPH	EXT DIST	= 40.0 FT	EXT CONFIG	= ARC	MIKE HT	=	NBFR	=	
FNIN1	= LBS	XNL	= RPM	XNH	= RPM	V8	= 1531.9 FPS	AE8	= 4.6 SQ IN			
FNRAMB	= LBS	XNLR	= RPM	XNHR	= RPM	V18	= 2403.0 FPS	AE18	= 23.4 SQ IN			
RUNPT	= 83F-400-1212	TAPE	= XT212F	TEST PT NO	= 1212	NC	= AE086	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 83F 400-1212 X12121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	73.0	76.3	76.2	74.4	75.2	76.9	77.1	76.8	80.7	86.9	90.8	91.8	80.2	165.6
63	73.0	76.2	76.2	74.3	75.2	77.9	78.5	77.7	81.2	88.9	93.0	93.1	81.0	167.2
80	74.5	76.1	75.5	74.0	76.1	77.6	83.9	78.3	82.6	91.6	95.3	93.6	81.9	168.8
100	74.3	76.2	77.1	74.2	77.0	78.9	77.8	79.6	82.7	92.7	96.6	93.4	82.2	169.5
125	75.4	77.3	78.4	76.2	77.3	79.6	78.7	80.7	85.8	92.7	98.2	93.2	83.8	170.6
160	76.0	77.8	78.5	76.3	78.3	80.7	80.0	81.4	86.9	93.4	98.3	93.1	85.6	171.1
200	77.6	78.1	79.1	76.8	79.8	82.3	80.7	82.4	87.6	92.3	97.4	89.8	83.5	170.1
250	86.2	85.2	83.3	79.6	82.4	82.7	81.0	82.6	87.8	91.4	96.4	88.3	82.3	169.9
315	85.1	88.5	87.1	83.3	86.2	85.6	82.6	84.1	88.3	91.9	94.4	85.3	81.1	169.7
400	83.5	84.8	87.5	85.4	86.5	87.7	83.1	84.4	87.4	92.0	92.3	84.3	80.7	169.3
500	84.1	84.4	86.0	84.4	83.4	87.1	84.5	84.4	87.7	90.7	90.0	81.6	77.1	168.4
630	81.7	84.4	84.1	82.5	82.9	86.0	84.3	85.7	88.1	89.1	88.2	79.1	75.9	167.8
800	80.6	82.8	84.2	81.9	83.7	86.0	83.8	85.8	86.8	88.3	86.3	76.8	72.6	167.4
1000	80.4	82.3	84.2	82.1	83.7	85.3	83.5	85.1	86.7	86.2	84.0	75.1	70.7	167.1
1250	79.4	81.5	84.4	82.2	83.0	85.4	83.4	84.0	85.0	83.9	82.3	73.2	68.7	166.9
1600	77.1	81.3	83.6	81.3	82.4	84.1	81.5	82.5	84.3	83.1	80.8	72.7	67.2	167.3
2000	74.1	78.4	80.9	80.1	81.4	83.6	81.5	81.4	82.2	81.1	77.4	70.5	62.9	167.2
2500	70.9	75.3	78.6	77.9	80.1	82.3	79.3	78.2	79.8	76.9	73.4	65.3	54.9	167.2
3150	66.7	71.4	75.3	74.9	75.5	77.7	75.8	74.8	74.9	71.0	67.1	57.8	44.1	167.1
4000	54.0	61.7	66.4	67.8	69.8	71.1	70.2	67.1	68.2	62.7	56.7	45.7	26.4	166.4
5000	41.9	51.6	57.0	58.4	59.6	63.5	61.3	57.7	56.3	50.0	42.0	26.6		166.3
6300	19.5	32.7	39.9	43.5	44.5	48.0	44.9	41.9	41.1	31.2	20.1			165.9
8000		1.7	13.3	19.0	20.5	25.4	21.2	17.6	12.4					165.5
10000														164.5
12500														163.7
16000														162.9
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	93.0	94.8	95.6	93.3	94.7	96.5	94.6	95.4	98.4	102.7	106.2	101.7	92.9	182.1
PNL	98.9	101.7	103.4	101.8	103.4	105.5	103.3	103.5	105.5	107.5	109.0	102.5	95.1	
PNLT	100.0	102.7	104.0	102.3	103.4	105.5	103.3	103.5	106.2	107.5	109.0	102.5	95.1	
DBA	89.3	91.6	93.2	91.3	92.5	94.5	92.2	93.1	95.0	96.3	96.8	89.0	83.6	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH178 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 42.31 PAMB HG = 29.46 RELHUM = 47.4 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 = 1531.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2403.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1212 TAPE = X12121 TEST PT NO = 1212 NC = AE0AS SBRR 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 83F-400-1220 X1220C
BACKGROUND 83F-400-1100 X11000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	94.1	93.4	90.7	87.7	87.6	91.9	92.1	93.5	93.7	93.7	101.9	101.6	91.7	137.0
63	95.5	96.5	98.6	94.1	93.4	96.8	96.7	98.4	97.6	96.4	102.3	103.7	96.9	140.1
80	95.5	99.8	95.6	96.1	96.5	100.3	98.0	97.9	98.3	97.9	102.0	102.2	87.4	140.6
100	95.2	100.5	96.0	95.3	96.9	100.5	98.9	101.3	98.8	101.1	102.2	107.6	91.8	142.4
125	92.6	94.2	96.7	96.5	98.6	100.7	99.1	99.2	98.2	101.8	108.4	112.1	97.2	144.7
160	90.2	87.7	92.0	90.0	91.9	95.2	99.6	95.8	97.7	103.1	109.2	112.4	101.5	144.6
200	90.5	90.8	91.3	89.6	92.5	96.1	97.0	98.1	102.1	103.6	110.3	115.2	104.6	146.7
250	88.5	91.3	92.3	91.4	93.5	96.3	97.2	99.4	102.3	108.9	114.8	118.2	107.1	150.0
315	89.6	91.4	91.6	90.9	93.3	97.1	98.8	99.9	103.6	111.5	117.3	119.0	108.9	151.6
400	91.3	92.1	93.9	91.2	94.2	96.9	104.7	99.9	104.1	113.4	118.3	119.8	108.4	152.7
500	91.6	93.4	94.6	93.2	94.8	98.6	98.8	101.7	106.1	116.2	120.8	119.8	106.9	154.2
630	92.8	94.1	95.1	93.4	95.5	99.1	99.2	102.9	106.3	116.9	120.8	118.7	105.6	154.1
800	95.6	96.4	96.4	94.9	97.0	99.9	100.8	104.2	108.4	116.7	121.6	117.3	104.9	154.2
1000	103.2	101.8	100.3	97.8	98.2	101.8	101.4	105.3	109.1	117.1	121.5	115.9	102.6	154.3
1250	108.2	108.9	106.2	101.4	101.1	103.0	102.1	105.8	110.5	116.3	120.2	113.1	102.8	153.6
1600	108.6	109.0	110.9	107.8	105.5	104.6	104.2	107.0	110.6	115.2	119.6	111.5	101.9	153.5
2000	105.8	106.8	109.0	108.1	109.2	108.6	104.8	107.1	110.7	116.0	118.5	109.3	101.1	153.3
2500	103.6	104.4	104.8	104.0	107.1	111.2	108.4	107.8	109.9	115.9	115.5	108.0	101.0	152.3
3150	103.0	103.8	104.6	102.4	104.2	109.3	109.4	109.6	110.9	114.0	114.3	105.7	99.3	151.4
4000	101.4	102.0	103.4	102.3	104.0	106.5	107.3	110.4	110.5	112.5	111.7	103.0	97.9	150.2
5000	99.9	101.4	102.5	100.9	102.9	105.9	106.0	110.1	110.4	112.0	109.8	102.1	95.8	149.6
6300	99.0	100.9	101.0	99.8	101.6	105.1	105.6	109.3	110.6	110.7	107.5	100.5	94.8	149.0
8000	97.4	99.2	100.8	99.0	100.6	103.7	103.9	106.5	108.2	108.3	106.3	99.3	94.1	147.3
10000	97.5	98.3	99.3	99.2	100.3	103.8	103.5	106.3	106.9	107.1	105.2	98.4	93.7	147.1
12500	95.5	96.5	98.3	97.2	100.0	103.3	102.1	103.3	104.7	105.0	103.1	98.3	92.6	146.2
16000	94.1	96.0	97.4	96.7	98.7	101.7	100.8	102.4	103.8	103.0	101.3	97.2	90.7	146.2
20000	90.8	94.5	95.1	94.9	97.1	99.4	99.5	99.6	101.5	100.2	98.7	94.8	89.3	145.7
25000	88.8	91.9	92.4	93.0	94.1	97.9	97.6	97.6	99.2	96.9	95.7	92.6	86.2	145.8
31500	85.8	89.1	90.3	90.8	91.3	95.2	94.2	94.7	95.8	93.9	93.0	89.0	83.0	146.0
40000	81.6	85.5	86.7	87.5	87.3	92.5	90.8	91.1	93.3	91.3	90.1	85.3	79.4	146.9
50000	75.6	79.6	80.9	82.0	82.4	87.5	85.4	87.0	87.8	86.1	84.8	80.4	74.0	146.1
63000	70.1	73.9	76.2	76.6	77.3	82.3	79.7	81.6	83.1	80.7	78.9	73.9	67.9	146.2
80000	63.8	67.3	69.3	68.5	69.1	76.4	73.6	74.3	76.2	75.9	72.5	68.1	60.5	146.5
OASPL	115.0	115.9	116.5	114.6	115.6	118.2	117.6	119.6	121.6	126.9	130.3	128.1	116.9	165.3
PNL	126.9	127.7	128.8	127.4	128.7	131.9	131.5	133.1	134.6	138.9	140.6	135.9	126.4	
PNLT	126.9	128.2	129.9	128.0	129.4	131.9	132.5	133.1	134.6	138.9	140.6	135.9	126.4	
DBA	115.4	116.0	116.8	114.8	115.7	118.1	117.2	119.3	121.4	126.5	129.5	124.9	114.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3 22107

VEHICL = ADH179 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO, FLTVEL = 400. FPS
TAPLHA = SB59 ICGA = NO PWL AREA = FULL SPHERE TAMB F = 44.22 PAMB HG = 29.47 RELHUM = 83.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1642.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2352.5 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1220 TAPE = X1220C TEST PT NO = 1220 NC = AE086 CORR FAN SPEED = RPM

P1185-08

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

IDENTIFICATION - 83F-400-1220 X1220F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	96.4	97.8	97.3	94.7	95.1	96.3	95.7	96.2	101.3	108.6	114.3	116.7	108.7	149.2
315	96.4	97.8	97.3	94.7	95.1	97.3	97.8	97.9	101.9	110.7	115.6	118.2	109.6	150.6
400	97.3	97.8	96.6	94.3	96.0	97.1	103.8	97.8	103.8	113.4	118.1	118.7	109.6	152.2
500	98.0	97.8	98.4	94.3	96.7	99.0	97.7	99.4	104.3	114.4	118.6	118.7	110.4	152.6
630	99.2	99.8	99.6	96.6	97.4	99.5	98.2	100.6	106.8	114.8	120.1	118.7	112.6	153.5
800	100.0	100.2	99.9	96.8	98.8	100.4	99.9	102.0	107.9	115.7	120.8	118.7	113.8	154.1
1000	101.4	101.4	100.5	97.9	99.8	102.4	100.7	103.3	109.3	114.9	119.5	115.8	113.0	152.9
1250	110.3	107.5	104.6	100.8	103.0	103.8	101.5	103.8	109.7	114.1	119.1	114.4	112.4	152.9
1600	115.6	115.1	111.0	104.7	107.5	105.7	103.8	105.3	110.0	115.0	118.1	112.3	111.6	154.2
2000	115.2	114.4	115.1	110.8	111.7	109.8	104.6	105.6	109.7	115.4	115.6	111.6	112.2	154.7
2500	112.1	112.5	113.7	111.7	110.1	112.9	108.6	106.7	111.1	113.9	114.8	109.6	110.9	154.1
3150	111.3	111.1	110.2	108.2	107.5	111.3	110.1	109.0	111.6	113.1	112.8	107.4	109.8	152.8
4000	110.6	110.5	110.2	106.7	107.7	109.0	108.9	110.6	111.3	112.4	110.5	105.8	106.5	152.1
5000	109.0	108.7	109.1	107.0	107.0	108.9	107.7	110.3	111.7	111.3	108.4	104.4	105.6	151.5
6300	107.3	108.1	108.3	105.7	105.7	108.1	107.4	109.7	110.0	109.7	108.3	104.7	107.3	150.8
8000	106.3	107.5	106.7	104.5	104.7	106.7	106.0	107.3	109.3	109.2	108.0	104.7	107.8	150.1
10000	104.5	105.6	106.3	103.6	104.3	106.8	105.8	107.4	107.8	107.9	106.7	105.4	107.1	149.9
12500	104.3	104.4	104.6	103.4	104.6	106.3	104.4	104.7	107.4	106.4	105.5	104.9	105.9	149.8
16000	104.6	104.4	104.7	102.1	102.8	104.7	103.1	103.8	106.0	104.7	103.8	103.3	105.0	150.0
20000	100.1	101.1	101.7	100.0	101.2	102.4	101.9	101.3	104.6	102.3	101.8	102.2	103.0	149.5
25000	96.1	99.1	98.8	97.6	98.7	100.9	100.0	99.5	102.0	100.0	99.9	99.3	100.5	149.6
31500	96.2	98.0	97.0	96.0	95.9	98.2	96.6	96.5	100.0	98.0	97.5	96.3	97.9	150.5
40000	92.3	94.3	94.1	93.0	91.9	95.5	93.2	92.8	95.0	93.2	92.7	91.9	93.0	150.6
50000	87.7	90.3	90.1	89.3	87.0	90.5	87.8	88.6	90.8	88.3	87.2	85.8	87.6	150.4
63000	80.8	83.5	83.4	82.9	81.9	85.3	81.9	83.0	84.8	84.2	81.4	80.4	80.7	149.9
80000	73.8	76.3	77.1	76.0	73.7	79.4	75.7	75.3	75.0	74.3	71.6	70.6	70.9	149.3
OASPL	121.9	121.6	121.2	118.1	118.4	119.9	118.2	119.0	121.8	125.7	129.0	127.4	123.1	165.9
PNL	133.8	133.5	133.7	131.1	130.7	132.8	131.2	131.9	134.2	137.0	138.4	134.9	134.0	
PNLT	135.4	134.8	133.7	131.1	130.7	132.8	132.2	131.9	134.2	137.0	138.4	134.9	134.0	
DBA	196.4	199.0	199.4	198.5	196.6	201.4	197.9	198.1	198.9	198.0	195.6	194.5	195.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH179	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 400. FPS
TAPE HA = SB59	TEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 44.22	PAMB HG = 29.47	RELHUM = 83.9 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1642.4 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2352.5 FPS	AE18 = 23.4 SQ IN

INPT F-400-1220 TYPE = X F T PT 122 AE0 RR T 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 - 83F-400-1220 X12201

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.9	74.7	75.3	73.4	74.3	75.6	74.9	74.9	79.3	85.5	89.7	90.0	78.7	164.1
63	71.9	74.7	75.3	73.4	74.2	76.6	76.9	76.6	79.9	87.7	91.0	91.4	79.5	165.5
80	72.6	74.7	74.6	73.0	75.1	76.4	82.9	76.6	81.8	90.3	93.5	91.8	79.3	167.1
100	73.3	74.7	76.3	73.0	75.7	78.2	76.8	78.1	82.2	91.3	93.9	91.7	80.0	167.5
125	74.4	76.5	77.5	75.2	76.4	78.6	77.2	79.2	84.6	91.5	95.3	91.5	81.9	168.4
160	75.0	76.8	77.6	75.2	77.6	79.4	78.8	80.5	85.6	92.3	95.8	91.3	82.8	169.0
200	76.1	77.8	78.0	76.2	78.6	81.3	79.4	81.6	86.9	91.3	94.2	88.1	81.6	167.8
250	84.6	83 6	81.9	78.8	81.5	82.4	80.0	81.9	87.0	90.1	93.4	86.3	80.3	167.8
315	89.5	90.9	88.0	82.4	85.7	84.0	82.0	83.1	87.0	90.7	92.0	83.6	78.6	169.1
400	88.6	89.7	91.7	88.2	89.6	87.9	82.5	83 0	86.2	90.7	89.0	82.2	78.2	169.6
500	85.0	87.3	89.9	88.8	87.6	90.5	86.2	83.8	87.3	88.8	87.7	79.5	75.8	169.0
630	83.5	85.4	86.0	84.8	84.6	88.6	87.2	85.6	87.4	87.5	85.1	76.5	73.6	167.7
800	82.2	84.3	85.5	83.0	84.5	86.0	85.7	86.9	86.6	86.2	82.1	74.1	69.0	167.0
1000	80.0	82.0	84.0	82.8	83.4	85.5	84.2	86.2	86.6	84.6	79.4	71.8	66.7	166.4
1250	77.5	80.7	82.6	81.1	81.6	84.2	83.4	85.0	84.3	82.4	78.4	70.9	66.7	165.7
1600	75.2	79.1	80.1	79.1	79.9	82.1	81.3	81.9	82.7	80.8	76.8	69.1	64.3	165.0
2000	71.6	75.8	78.6	77.1	78.6	81.3	80.1	80.9	80.0	78.1	73.8	67.4	59.9	164.8
2500	68.7	72.5	75.0	75.4	77.4	79.4	77.2	76.7	77.9	74.5	69.8	63.2	52.8	164.7
3150	64.6	69.0	72.3	71.5	73.2	75.4	73.5	73.2	73.6	69.3	63.8	55.6	42.5	164.9
4000	52.4	59.6	64.0	64.7	67.2	68.8	67.9	66.0	66.9	60.8	54.2	44.1	24.6	164.4
5000	37.1	48.4	53.3	55.3	58.1	60.9	59.4	57.1	56.5	49.3	40.9	26.0		164.5
6300	18.1	31.8	38.2	41.7	44.0	47.0	44.7	42.2	41.2	31.8	19.4			165.4
8000		2.0	12.7	18.1	20.6	25.2	21.8	17.8	13.5	0.9				165.5
10000														165.3
12500														164.8
16000														164.2
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	94.8	96.3	96.9	94.6	95.4	96.8	94.9	95.1	97.6	101.3	103.5	99.9	90.7	180.9
PNL	100.4	102 4	104.0	101.8	102.9	104.5	102.5	102.9	104.3	106.0	106.0	100.5	92.7	
PNLT	101.3	103.2	104.5	102.3	103.5	104 5	102.5	103.4	105.0	106.8	106.0	100.5	92.7	
DBA	90.6	92.6	93.8	92.0	92 6	94.6	92.8	93.3	94.2	94.6	93.7	86.9	81.3	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH179 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO' FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.22 PAMB HG = 29.47 RELHUM = 83.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1642.4 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2352.5 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1220 TAPE = X12201 TEST PT NO = 1220 NC = AE086 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

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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 83F-ZER-1221 X1221C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	92.6	94.2	91.9	92.0	91.1	91.2	94.3	93.2	93.9	101.0	100.6	101.6	92.2	138.0
63	96.8	99.3	101.6	98.1	96.2	98.6	98.5	99.1	98.3	101.6	102.5	101.7	98.4	141.6
80	95.5	99.6	96.1	95.9	95.5	101.1	99.7	98.9	98.8	99.9	103.8	103.7	89.1	141.6
100	95.2	102.0	97.8	97.5	98.6	102.5	100.6	103.0	100.8	105.1	105.2	109.9	93.6	144.6
125	91.6	95.2	97.9	98.2	100.3	102.9	101.3	101.7	101.2	104.8	111.9	113.8	98.7	147.1
160	89.2	91.7	95.0	92.5	93.6	97.5	105.9	99.8	101.2	106.3	112.2	114.9	104.5	147.7
200	93.0	91.6	94.6	92.6	95.7	99.8	103.5	101.1	105.8	108.1	114.8	118.2	107.1	150.3
250	92.3	93.8	95.6	95.1	97.7	100.3	101.2	103.4	106.8	114.6	119.3	121.7	110.4	154.1
315	93.8	95.4	94.4	94.4	96.8	101.1	104.5	103.9	108.4	116.0	120.6	122.0	112.4	155.0
400	95.1	96.1	97.4	95.4	97.7	101.6	111.7	104.9	109.4	118.9	123.1	123.5	113.4	157.2
500	95.6	97.9	98.9	96.9	98.8	102.9	103.0	106.2	110.9	121.2	124.6	124.0	114.9	158.4
630	97.3	98.6	99.1	97.9	100.0	103.6	104.0	107.6	111.3	122.4	125.8	123.5	116.6	159.2
800	100.3	100.1	100.9	99.4	101.5	104.4	105.0	108.4	113.4	122.7	126.6	123.3	117.4	159.7
1000	105.8	107.3	105.8	103.4	102.9	105.8	105.9	109.4	113.8	122.9	125.8	122.7	117.1	159.4
1250	109.4	111.7	108.5	106.1	106.1	107.7	106.9	109.8	115.0	121.8	125.4	120.6	114.8	158.9
1600	113.6	111.5	111.4	107.8	106.8	108.4	107.5	110.8	114.9	120.5	124.4	119.0	113.0	158.1
2000	111.8	110.9	111.3	110.2	110.3	109.9	107.9	111.4	114.8	120.6	122.8	116.4	111.7	157.4
2500	108.0	108.8	109.6	108.3	110.7	113.3	109.5	110.9	114.3	120.3	121.1	115.6	110.9	156.7
3150	106.4	107.5	108.5	106.5	108.6	113.2	111.5	111.8	114.3	118.7	119.4	114.1	108.5	155.7
4000	104.2	106.0	106.9	105.5	107.2	110.9	110.3	112.9	113.8	117.5	118.0	111.8	107.1	154.6
5000	102.4	104.5	106.4	104.7	107.0	109.7	109.4	112.2	113.2	116.9	116.9	111.6	106.6	154.0
6300	100.7	104.1	104.5	103.5	105.8	109.5	109.1	111.8	112.6	115.3	115.2	109.9	106.1	153.1
8000	98.6	101.8	103.4	102.5	104.7	107.7	107.2	109.5	111.3	113.2	113.9	109.0	104.8	151.8
10000	98.0	100.9	102.4	102.5	104.1	107.6	106.8	109.3	110.3	112.3	113.3	107.4	104.5	151.7
12500	95.7	98.2	100.5	100.7	102.7	106.5	106.0	106.8	108.4	110.3	110.1	105.7	102.0	150.5
16000	94.0	97.5	99.2	99.5	101.3	104.5	103.8	104.7	106.6	108.1	108.4	103.6	98.5	149.9
20000	90.4	94.5	96.3	96.9	98.7	101.4	101.5	101.6	103.5	104.9	104.9	101.1	96.3	148.7
25000	87.2	91.0	92.3	93.7	94.9	99.7	98.6	98.1	101.0	101.1	100.3	96.7	91.9	147.8
31500	83.1	87.3	89.0	90.9	91.3	95.2	94.6	94.6	96.8	97.3	96.8	92.5	86.6	147.0
40000	77.6	82.5	84.5	85.5	86.2	91.4	89.7	90.6	93.5	93.4	92.7	87.5	82.5	146.8
50000	71.7	76.5	78.1	79.5	80.4	86.7	84.3	85.0	87.8	89.1	87.9	82.5	76.5	146.1
63000	66.4	71.0	73.0	74.3	75.2	80.5	77.6	79.8	82.2	84.5	82.4	76.4	69.5	145.9
80000	63.0	65.1	66.6	66.5	67.4	75.2	71.9	73.3	75.8	78.6	76.6	70.7	62.3	146.7
OASPL	118.7	119.1	119.1	117.4	118.6	121.4	121.1	122.6	125.5	132.1	135.1	132.8	125.4	169.6
PNL	130.8	131.2	131.7	130.3	132.1	135.2	134.4	136.0	138.2	143.7	145.5	141.7	135.5	
PNLT	130.8	132.0	131.7	130.8	132.8	135.2	136.0	136.0	138.2	143.7	146.0	141.7	135.5	
DBA	119.3	119.5	119.4	117.6	118.7	121.4	120.2	122.4	125.3	131.6	134.4	130.8	124.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH181	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 0. FPS
TAPLHA = SB59	TEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 42.76	PAMB HG = 29.52	RELHUM = 46.4 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1930.9 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2336.8 FPS	AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1221 TAPE = X1221C TEST PT NO = 1221 NC = AE086 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1221 X1221F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	92.6	94.2	91.9	92.0	91.1	91.2	94.3	93.2	93.9	101.0	100.6	101.6	92.2	138.0
63	96.8	99.3	101.6	98.1	96.2	98.6	98.5	99.1	98.3	101.6	102.5	101.7	98.4	141.6
80	95.5	99.6	96.1	95.9	96.5	101.1	99.7	98.9	98.8	99.9	103.8	103.7	89.1	141.6
100	95.2	102.0	97.8	97.5	98.6	102.5	100.6	103.0	100.8	105.1	105.2	109.9	93.6	144.6
125	91.6	95.2	97.9	98.2	100.3	102.9	101.3	101.7	101.2	104.8	111.9	113.8	98.7	147.1
160	89.2	91.7	95.0	92.5	93.6	97.5	105.9	99.8	101.2	106.3	112.2	114.9	104.5	147.7
200	93.0	91.6	94.6	92.6	95.7	99.8	103.5	101.1	105.8	108.1	114.8	118.2	107.1	150.3
250	92.3	93.8	95.6	95.1	97.7	100.3	101.2	103.4	106.8	114.6	119.3	121.7	110.4	154.1
315	93.8	95.4	94.4	94.4	96.8	101.1	104.5	103.9	108.4	116.0	120.6	122.0	112.4	155.0
400	95.1	96.1	97.4	95.4	97.7	101.6	111.7	104.9	109.4	118.9	123.1	123.5	113.4	157.2
500	95.6	97.9	98.9	96.9	98.8	102.9	103.0	106.2	110.9	121.2	124.6	124.0	114.9	158.4
630	97.3	98.6	99.1	97.9	100.0	103.6	104.0	107.6	111.3	122.4	125.8	123.5	116.6	159.2
800	100.3	100.1	100.9	99.4	101.5	104.4	105.0	108.4	113.4	122.7	126.6	123.3	117.4	159.7
1000	105.8	107.3	105.8	103.4	102.9	105.8	105.9	109.4	113.8	122.9	125.8	122.7	117.1	159.4
1250	109.4	111.7	108.5	106.1	106.1	107.7	106.9	109.8	115.0	121.8	125.4	120.6	114.8	158.9
1600	113.6	111.5	111.4	107.8	106.8	108.4	107.5	110.8	114.9	120.5	124.4	119.0	113.0	158.1
2000	111.8	110.9	111.3	110.2	110.3	109.9	107.9	111.4	114.8	120.6	122.8	116.4	111.7	157.4
2500	108.0	108.8	109.6	108.3	110.7	113.3	109.5	110.9	114.3	120.3	121.1	115.6	110.9	156.7
3150	106.4	107.5	108.5	106.5	108.6	113.2	111.5	111.8	114.3	118.7	119.4	114.1	108.5	155.7
4000	104.2	106.0	106.9	105.5	107.2	110.9	110.3	112.9	113.8	117.5	118.0	111.8	107.1	154.6
5000	102.4	104.5	106.4	104.7	107.0	109.7	109.4	112.2	113.2	116.9	116.9	111.6	106.6	154.0
6300	100.7	104.1	104.5	103.5	105.8	109.5	109.1	111.8	112.6	115.3	115.2	109.9	106.1	153.1
8000	98.6	101.8	103.4	102.5	104.7	107.7	107.2	109.5	111.3	113.2	113.9	109.0	104.8	151.8
10000	98.0	100.9	102.4	102.5	104.1	107.6	106.8	109.3	110.3	112.3	113.3	107.4	104.5	151.7
12500	95.7	98.2	100.5	100.7	102.7	106.5	106.0	106.8	108.4	110.3	110.1	105.7	102.0	150.5
16000	94.0	97.5	99.2	99.5	101.3	104.5	103.8	104.7	106.6	108.1	108.4	103.6	98.5	149.9
20000	90.4	94.5	96.3	96.9	98.7	101.4	101.5	101.6	103.5	104.9	104.9	101.1	96.3	148.7
25000	87.2	91.0	92.3	93.7	94.9	99.7	98.6	98.1	101.0	101.1	100.3	96.7	91.9	147.8
31500	83.1	87.3	89.0	90.9	91.3	95.2	94.6	94.6	96.8	97.3	96.8	92.5	86.6	147.0
40000	77.6	82.5	84.5	85.5	86.2	91.4	89.7	90.6	93.5	93.4	92.7	87.5	82.5	146.8
50000	71.7	76.5	78.1	79.5	80.4	86.7	84.3	85.0	87.8	89.1	87.9	82.5	76.5	146.1
63000	66.4	71.0	73.0	74.3	75.2	80.5	77.6	79.9	82.2	84.5	82.4	76.4	69.5	145.9
80000	63.0	65.1	66.6	66.5	67.4	75.2	71.9	73.3	75.8	78.6	76.6	70.7	62.3	146.7
OASPL	118.7	119.1	119.1	117.4	118.6	121.4	121.1	122.6	125.5	132.1	135.1	132.8	125.4	169.6
PNL	130.8	131.2	131.7	130.3	132.1	135.2	134.4	136.0	138.2	143.7	145.5	141.7	135.5	
PNLT	130.8	132.0	131.7	130.8	132.8	135.2	136.0	136.0	138.2	143.7	146.0	141.7	135.5	
DBA	184.3	187.2	188.8	189.3	190.2	197.1	194.0	195.5	198.1	200.4	198.5	192.7	185.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH181 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 0. FPS
TAPLHA = SB59 TEGA = NO PWL AREA = FULL SPHERE TAMB F = 42.76 PAMB HG = 29.52 RELHUM = 46.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1930.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2336.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1221 TAPE = X1221F TEST PT NO - 1221 NC = AE086 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 - 83F-ZER-1221 X12211

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.7	70.8	73.6	73.9	76.9	79.6	80.4	82.1	84.9	91.6	94.7	95.0	80.3	169.0
63	69.3	72.3	72.4	73.2	75.9	80.4	83.7	82.7	86.4	92.9	96.0	95.2	82.3	169.9
80	70.4	73.0	75.4	74.1	76.9	80.9	90.9	83.6	87.4	95.8	98.4	96.6	83.2	172.2
100	70.9	74.7	76.8	75.6	77.9	82.1	82.1	84.8	88.8	98.1	99.9	97.1	84.5	173.3
125	72.5	75.3	76.9	76.5	79.0	82.7	83.0	86.2	89.2	99.2	101.0	96.4	86.0	174.1
160	75.3	76.7	78.6	77.9	80.4	83.4	83.9	86.9	91.1	99.3	101.6	95.9	86.4	174.6
200	80.5	83.7	83.3	81.6	81.7	84.7	84.7	87.6	91.3	99.3	100.5	95.0	85.6	174.3
250	83.8	87.8	85.8	84.2	84.6	86.4	85.4	87.8	92.3	97.9	99.8	92.5	82.6	173.8
315	87.5	87.2	88.4	85.6	85.0	86.8	85.7	88.6	91.9	96.2	98.3	90.3	80.0	173.0
400	85.2	86.2	87.9	87.6	88.1	87.9	85.7	88.8	91.4	95.9	96.2	87.0	77.6	172.3
500	80.8	83.6	85.8	85.4	88.3	91.0	87.1	87.9	90.4	95.2	93.9	85.5	75.8	171.6
630	78.7	81.8	84.3	83.2	85.8	90.5	88.7	88.4	90.1	93.1	91.7	83.2	72.3	170.6
800	75.8	79.9	82.2	81.8	84.0	87.9	87.1	89.2	89.1	91.4	89.6	80.0	69.6	169.5
1000	73.4	77.8	81.2	80.6	83.4	86.3	85.3	88.0	88.1	90.2	87.9	79.0	67.7	168.9
1250	70.8	76.8	78.8	78.9	81.8	85.7	85.0	87.1	86.9	87.9	85.4	76.2	65.5	168.0
1600	67.5	73.4	76.8	77.1	79.9	83.2	82.4	84.1	84.8	84.9	82.7	73.5	61.4	166.7
2000	65.1	71.1	74.7	76.0	78.3	82.1	81.1	82.9	82.6	82.5	80.4	69.4	57.2	166.6
2500	60.0	66.3	71.0	72.6	75.5	79.5	78.8	78.7	78.8	78.3	74.4	64.0	48.9	165.4
3150	54.0	62.2	66.8	68.9	71.7	75.2	74.2	74.1	74.2	72.7	68.3	55.8	36.0	164.8
4000	42.7	53.0	58.7	61.6	64.7	67.9	67.5	66.4	65.8	63.4	57.3	43.1	18.0	163.6
5000	28.2	40.3	46.8	51.4	54.3	59.7	58.0	55.8	55.5	50.4	41.3	23.4		162.7
6300	5.1	21.1	30.2	36.6	39.4	44.0	42.7	40.3	38.0	31.1	18.8			161.9
8000			3.0	10.6	14.9	21.2	18.3	15.7	12.0	1.1				161.7
10000														161.0
12500														160.9
16000														161.6
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	92.1	94.1	95.1	94.1	95.7	98.5	98.1	99.2	101.7	107.9	109.5	105.0	93.8	184.4
PNL	97.0	99.2	101.2	100.9	102.6	105.7	104.6	106.0	107.5	111.8	112.2	105.8	95.1	
PNLT	97.5	99.2	101.8	101.6	103.1	105.7	105.1	106.5	107.5	112.3	112.2	105.8	95.1	
DBA	86.7	89.1	91.0	90.4	92.5	95.7	94.4	96.0	97.0	100.4	100.3	92.7	82.6	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NA53-22137

VEHICL = ADH181 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO FLTVEL = 0. FPS
IAPLIA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 42.76 PAMB HG = 29.52 RELHUM = 46.4 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 = 1930.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2336.8 FPS AE18 = 23.4 SQ IN

RUN PT 83F-ZER-1221 TAPE = X12211 PT 12 AE0 RR SPEED RPM

P1185-08

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 83F-400-1222 X1222C
BACKGROUND 83F-400-1100 X11000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	93.9	94.2	91.9	86.7	86.8	90.7	93.1	94.5	93.4	93.7	102.1	102.3	93.2	137.4
63	95.5	97.8	100.3	94.4	93.7	96.8	98.7	97.1	97.1	98.1	103.0	102.7	97.4	140.5
80	96.5	101.3	96.8	96.9	97.5	100.8	98.5	98 9	98.6	98.4	103.0	103.0	88.9	141.4
100	95.7	101.0	96.8	95.5	97.9	101.3	99.9	102.3	99.8	102.3	103.2	108.4	92.3	143.2
125	93.6	95.2	97.9	97.7	99.6	101.7	99 6	100.0	99.4	102.8	109.4	112.8	97.7	145.6
160	90.9	87.7	92.7	90.8	91.4	96.0	99.6	96.8	97.7	103.8	109.7	112.9	102.3	145.1
200	90.5	90.8	91.3	90.1	92.5	95.6	98.0	98.4	101.8	103.6	109.8	115.5	104.9	146.7
250	88.8	92.1	92.6	91.4	93.5	96 6	97.5	99.6	102.6	109.1	115.3	118.2	107.1	150.2
315	90.1	91.9	91.4	91.2	93.5	97 9	98.8	100 4	104.4	112.0	117.1	119.3	108.4	151.7
400	90.6	91.8	93.6	91.4	94.2	97.1	104.2	100.4	104.6	113.7	119.6	120.5	108.7	153.5
500	92.1	93.6	94.9	92.9	94.8	98.4	98.8	102.2	106.6	116.7	122.1	120.8	107.2	155.2
630	93.5	94.1	95.1	93.4	95.5	99.3	99.7	103 4	107.1	118.4	122.8	119.2	106.1	155.6
800	96.8	96.9	96.6	94.9	97.8	100.9	101.0	104.9	109.4	118.0	123.3	117.5	105.4	155.6
1000	103.8	101.5	100.3	98.4	99.2	101.8	101.4	105.6	109.8	118.1	123.8	116.2	104.4	155.9
1250	107.9	109.0	106.0	101.6	101 6	103.2	102.4	106.0	111.0	117.3	122.2	113.6	104.3	154.9
1600	108.6	108.8	110.2	107.3	105 5	105.2	104.0	107.1	110.9	116.3	121.9	112.3	103.5	154.8
2000	106.3	106.1	108.0	107.9	110.3	110.1	105.1	107.7	111.3	116.6	120.1	110.2	102.2	154.2
2500	103.7	103.8	104.1	104.3	108.0	111.8	108.3	107.9	110.5	116.3	118.1	109.1	101.9	153.2
3150	102.6	103 0	103.7	102.3	104.6	109.7	109.3	109.3	111.3	115.2	115.7	106.3	99.5	152.1
4000	101.2	101.5	103.1	101.3	104.2	106.9	107.1	110.6	111.5	113.0	113.7	104.3	98.1	150.9
5000	100.4	100.7	102.1	100.5	103.3	105.7	105.6	110.2	111.0	112.4	112.6	103.1	96.4	150.2
6300	98.9	100.6	101.2	99.0	102.3	106.0	105.6	109.0	110.8	111.0	109.7	101.4	95.9	149.3
8000	97.6	99.1	100.1	98.8	100.7	104.5	103.2	107.3	109.3	109.0	107.9	100.3	94.9	148.0
10000	98.3	98.5	99.5	99.5	100.1	103.8	102.9	106.1	108.3	107.8	107.1	99.2	94.2	147.7
12500	95.7	96.8	97.8	97.2	99.5	103.3	101.3	103.6	105.9	106.3	104.4	98.7	93.3	146.7
16000	94.0	95.9	97.0	96.3	98.1	101.6	99.7	101.6	104.7	103.1	102.7	97.4	90.8	146.3
20000	91.4	93.3	93.9	94.0	96.0	98.7	98.3	98.2	100.8	100.0	100.3	94.4	88.9	145.1
25000	88.5	90.1	90.9	91.1	92.7	97.3	95.7	95.5	97.4	95.7	95.4	91.6	85.7	144.4
31500	84.0	85.9	87.7	88.3	88.9	93.3	91.7	92.0	92.9	91.6	91.7	87.4	81.2	143.6
40000	79.5	82.4	83.1	83.9	83.6	89.3	86.8	88.0	89.9	87.8	88.3	83.1	77.1	143.6
50000	73.1	75.7	77.0	77.7	78.5	84.1	80.9	82.1	83.2	81.2	82.3	77.1	70.8	142.0
63000	66.3	69.4	71.7	71.2	72.4	78.4	74.2	76.7	77.9	76.1	76.3	70.1	64.2	141.6
80000	58.9	61.8	64.3	63.2	63.8	71.6	67.3	68.8	70.0	69.0	68.7	62.8	56.2	141.0
OASPL	115.1	115.7	116.0	114.4	116.1	118.7	117.5	119.7	122.2	127.7	132.1	128.6	117.2	166.0
PNL	127.0	127.4	128.3	127.2	129 3	132.5	131.4	133.3	135.2	139.5	142.2	136.6	127.1	
PNLT	127.0	128.7	129.4	128.0	130.5	133.0	132.3	133.3	135.2	139.5	142.2	136.6	127.1	
DBA	115.5	115.7	116.2	114.6	116.4	118.7	117.1	119.5	122.0	127.3	131.4	125.5	114.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHTCL = ADH180 TEST DATE = 03-30-83 LOCAT = C41 ANECH CH CONFIG = 12 MODEL = CO, FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 44.36 PAMB HG = 29.44 RELHUM = 44.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTN1 = LBS XNL = RPM XNH = RPM V8 = 1927.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2345.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1222 TAPE = X1222C TEST PT NO = 1222 NC = AE086 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 - 83F-400-1222 X1222F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	96.4	98.3	97.4	94.6	95.0	96.6	96.0	96.5	102.0	109.0	114.0	117.0	108.2	149.3
315	96.4	98.3	97.4	94.6	95.3	98.1	97.8	98.4	102.3	110.9	116.8	118.9	109.9	151.3
400	97.8	98.3	96.3	94.6	96.1	97.4	103.3	98.3	104.3	113.8	119.3	119.6	109.8	153.1
500	98.1	98.1	98.5	94.8	96.6	98.7	97.7	99.9	104.9	115.7	120.3	118.9	110.7	153.6
630	99.0	99.6	99.6	96.2	97.3	99.7	98.7	101.0	107.6	115.8	121.6	118.6	112.8	154.4
800	100.5	100.0	99.8	96.7	99.5	101.4	100.1	102.7	108.5	116.5	122.8	118.6	114.3	155.3
1000	102.5	101.8	100.7	97.8	100.9	102.5	100.6	103.5	109.8	115.9	121.4	116.3	114.5	154.2
1250	110.8	107.3	104.7	101.3	103.5	104.0	101.7	104.1	110.0	115.0	121.3	115.1	113.8	154.3
1600	115.3	115.1	110.7	104.9	107.5	106.2	103.6	105.3	110.6	115.6	119.6	113.1	112.6	154.8
2000	115.3	114.3	114.4	110.3	112.9	111.4	104.9	106.2	110.2	115.8	118.2	112.7	113.0	155.3
2500	113.9	112.7	113.4	111.9	111.5	113.4	108.5	106.8	111.4	115.0	116.0	109.9	110.5	154.7
3150	114.1	112.7	111.3	109.7	107.9	111.7	109.9	108.5	112.2	113.3	114.3	107.9	108.8	153.7
4000	110.2	109.6	109.3	106.7	107.9	109.5	108.2	110.5	111.7	112.6	113.2	106.7	106.9	152.3
5000	108.7	108.2	108.9	106.0	107.3	108.7	107.1	110.2	111.8	111.5	110.5	105.2	106.6	151.5
6300	107.9	107.5	107.9	105.3	106.4	109.0	107.3	109.2	110.9	110.2	109.5	105.3	107.5	151.1
8000	106.2	107.2	106.9	103.7	104.7	107.5	105.2	107.9	110.2	109.3	109.1	104.7	107.5	150.4
10000	104.8	105.5	105.7	103.3	104.1	106.8	105.0	106.8	108.5	108.6	107.3	105.2	107.3	149.9
12500	105.1	104.6	104.7	102.7	104.1	106.3	103.5	104.6	107.9	106.0	106.2	104.4	105.5	149.7
16000	104.8	104.6	104.3	102.1	102.1	104.6	101.9	102.6	104.8	103.8	104.7	102.3	104.2	149.5
20000	100.0	101.0	101.3	99.6	100.0	101.7	100.7	99.6	102.9	101.2	101.5	100.8	102.0	148.6
25000	96.7	97.9	97.6	96.7	97.3	100.3	98.2	97.4	99.1	97.8	98.6	97.6	98.5	148.1
31500	95.9	96.2	95.5	94.1	93.5	96.3	94.2	93.8	96.5	94.3	95.5	93.8	95.1	148.2
40000	90.4	91.1	91.5	90.5	88.4	92.3	89.2	89.6	90.5	88.6	90.3	88.5	89.5	147.4
50000	85.6	87.2	86.5	85.7	83.1	87.1	83.4	83.9	85.8	84.0	85.0	82.2	83.9	146.7
63000	78.3	79.6	79.5	78.6	77.0	81.4	76.6	78.3	79.5	78.5	79.0	76.7	77.7	145.6
80000	70.0	71.8	72.6	70.6	68.4	74.6	69.7	70.4	69.7	68.7	69.2	66.9	67.9	144.4
OASPL	122.4	121.6	120.9	118.1	119.0	120.4	117.8	118.9	122.2	126.3	130.6	127.7	123.6	166.2
PNL	134.9	133.9	133.4	131.2	131.6	133.3	130.9	131.9	134.7	137.7	140.0	135.6	134.3	
PNLT	134.9	135.4	133.4	131.2	132.7	133.3	131.9	131.9	134.7	137.7	140.0	135.6	134.3	
DBA	193.4	195.0	195.3	193.8	191.7	197.0	192.4	193.3	193.8	192.5	193.2	190.9	192.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH180.	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 44.36	PAMB HG = 29.44	RELHUM = 44.1 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 = 1927.2 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2345.1 FPS	AE18 = 23.4 SQ IN

RUNPT - 83F-400-1222 TAPE = X1222F PT = 1 NC = AE88 CORR FAN SPEED = RPM

P1185-08

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

IDENTIFICATION - 83F-400-1222 X12221

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.9	75.3	75.5	73.4	74.2	75.9	75.1	75.3	80.1	86.0	89.5	90.2	78.2	164.2
63	71.8	75.3	75.4	73.4	74.5	77.4	76.9	77.1	80.4	87.9	92.2	92.1	79.7	166.2
80	73.1	75.2	74.3	73.3	75.2	76.6	82.4	77.0	82.3	90.8	94.7	92.8	79.6	168.0
100	73.3	75.0	76.4	73.4	75.7	77.9	76.8	78.5	82.8	92.6	95.6	91.9	80.3	168.5
125	74.2	76.3	77.4	74.8	76.3	78.9	77.7	79.6	85.5	92.6	96.8	91.5	82.2	169.3
160	75.4	76.6	77.5	75.1	78.4	80.4	79.0	81.1	86.2	93.1	97.7	91.2	83.3	170.2
200	77.2	78.2	78.2	76.1	79.6	81.3	79.4	81.8	87.3	92.3	96.1	88.6	83.0	169.1
250	85.2	83.4	81.9	79.3	82.0	82.7	80.2	82.1	87.3	91.1	95.7	87.0	81.7	169.2
315	89.2	90.8	87.7	82.6	85.7	84.6	81.8	83.1	87.5	91.3	93.6	84.4	79.6	169.7
400	88.7	89.5	91.0	87.7	90.8	89.4	82.8	83.6	86.8	91.1	91.6	83.3	79.0	170.2
500	86.8	87.5	89.5	89.0	89.0	91.1	86.0	83.8	87.6	89.8	88.8	79.8	75.4	169.6
630	86.4	87.0	87.0	86.3	85.0	89.0	87.1	85.2	88.0	87.6	86.6	77.0	72.6	168.6
800	81.9	83.5	84.6	82.9	84.7	86.5	85.0	86.8	87.0	86.5	84.9	75.0	69.4	167.2
1000	79.7	81.5	83.7	81.8	83.7	85.3	83.5	86.1	86.7	84.8	81.5	72.6	67.8	166.5
1250	78.0	80.1	82.2	80.7	82.3	85.2	83.2	84.6	85.2	82.8	79.7	71.5	66.9	166.0
1600	75.1	78.8	80.3	78.5	80.0	82.9	80.4	82.5	83.6	80.9	78.0	69.1	64.0	165.3
2000	71.8	75.7	77.9	76.9	78.4	81.3	79.2	80.4	80.8	78.8	74.4	67.2	60.0	164.8
2500	69.5	72.6	75.2	74.7	76.9	79.3	76.3	76.5	78.3	74.1	70.6	62.7	52.4	164.6
3150	64.8	69.3	71.8	71.5	72.5	75.3	72.3	72.0	72.4	68.4	64.7	54.6	41.7	164.4
4000	52.3	59.5	63.7	64.3	66.1	68.2	66.7	64.3	65.2	59.7	53.9	42.8	23.7	163.5
5000	37.7	47.2	52.1	54.3	56.7	60.3	57.6	55.0	53.6	47.1	39.5	24.2		163.0
6300	17.8	30.1	36.7	39.8	41.6	45.1	42.3	39.5	37.7	28.2	17.5			163.1
8000			10.0	15.6	17.1	22.0	17.8	14.7	9.0					162.3
10000														161.6
12500														160.5
16000														159.3
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	95.3	96.3	96.7	94.6	96.1	97.4	94.6	95.1	98.1	102.1	105.2	100.3	91.2	181.1
PNL	100.8	102.4	103.6	101.8	103.5	104.9	101.9	102.7	104.8	106.5	107.8	100.8	93.5	
PNLT	100.8	103.2	104.2	102.3	104.1	104.9	102.5	103.2	105.5	106.5	107.8	100.8	93.5	
DBA	91.3	92.6	93.6	92.0	93.2	95.1	92.3	93.2	94.7	95.1	95.5	87.4	81.8	

MODEL AREA = 292.1 SQ CM (45.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.560 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-12/NAS3-22137

VEHICL = ADH180	TEST DATE = 03-30-83	LOCAT = C41 ANECH CH	CONFIG = 12	MODEL = CO	FLTVEL = 400. FPS
TAPLHA = SB59	TEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 44.36	PAMB HG = 29.44	RELHUM = 44.1 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 = 1927.2 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2345.1 FPS	AE18 = 23.4 SQ IN

RUNPT = 83F-400-1222 TAPE = X12221 TEST PT NO = 1222 NC = AE086 CORR FAN SPEED = RPM

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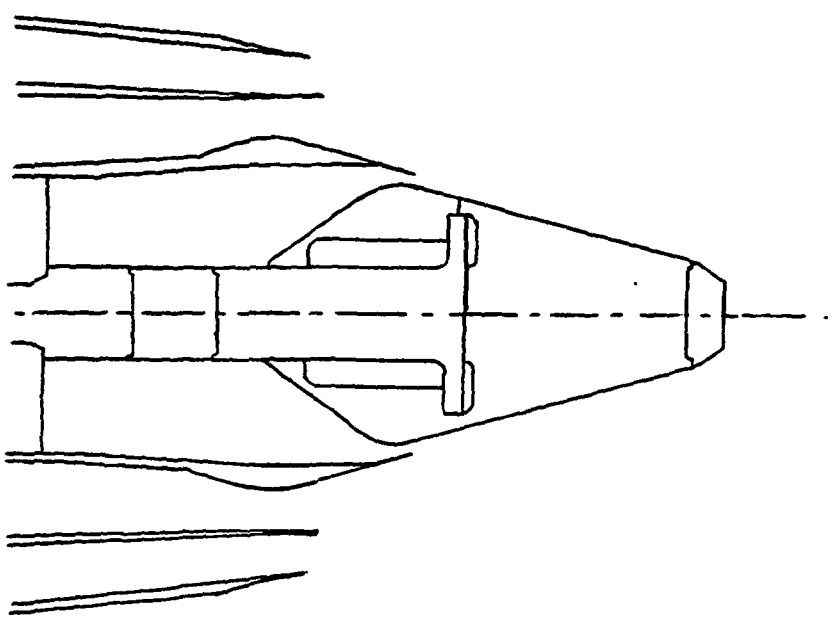
P1185-03

4.2.3 Acoustic Data of Unsuppressed Coannular Plug Nozzle with 360° Thermal Acoustic Shield (TAS-14).



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 83F-ZER-1403 X1403C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.6	85.9	84.9	81.2	80.8	83.2	81.6	89.2	86.4	92.0	90.6	92.8	92.2	129.7
63	88.3	91.5	94.3	88.6	89.2	91.6	90.2	95.4	92.3	93.4	91.0	96.5	97.9	134.8
80	89.3	93.6	89.8	88.9	89.5	94.6	92.7	93.1	93.6	93.7	96.5	97.2	82.6	135.1
100	89.0	94.7	90.8	90.3	91.6	95.3	93.6	96.5	95.0	97.6	98.2	101.6	86.1	137.4
125	85.1	88.9	90.7	90.5	92.8	95.7	93.6	95.0	94.7	98.0	104.1	106.3	90.7	139.7
160	84.2	84.7	87.0	85.3	87.6	91.0	92.9	93.0	95.0	99.1	104.2	106.6	96.3	139.5
200	86.3	86.3	88.8	86.6	89.2	93.6	94.0	95.4	98.8	100.4	105.8	109.5	99.6	141.8
250	85.5	90.1	90.3	88.9	90.2	93.6	94.7	97.4	99.3	105.7	110.3	112.5	102.9	145.2
315	86.8	89.6	89.1	87.9	90.5	95.6	96.3	97.9	100.6	107.0	111.3	113.5	105.4	146.4
400	88.3	89.9	90.6	88.7	91.0	94.6	97.0	98.2	100.9	108.9	113.3	114.8	107.2	147.9
500	88.3	90.6	91.4	89.7	91.5	95.6	96.3	98.9	102.1	109.7	113.8	114.8	108.2	148.3
630	88.8	90.8	91.6	89.6	92.5	96.3	96.7	99.6	102.1	109.9	112.5	113.2	108.4	147.5
800	91.1	91.1	91.9	90.7	93.5	96.4	97.3	101.2	103.9	109.5	112.1	112.5	109.4	147.3
1000	93.5	94.5	94.3	92.1	94.2	98.1	97.9	100.8	104.1	109.1	110.8	111.4	109.4	146.7
1250	91.9	95.4	95.0	93.1	94.6	98.0	97.6	101.0	104.2	108.0	109.9	109.8	109.0	145.9
1600	92.3	92.7	94.1	92.3	94.5	98.9	98.7	101.8	104.6	107.2	109.8	110.5	108.2	145.9
2000	92.5	93.8	94.2	91.9	93.9	97.8	98.0	101.9	104.2	107.0	108.3	108.3	107.1	144.9
2500	90.6	93.2	93.8	92.0	93.6	97.5	97.4	101.0	103.4	106.9	107.2	107.3	105.3	144.1
3150	90.2	92.3	92.6	90.6	93.2	97.2	97.1	100.8	103.2	105.0	105.3	103.9	100.6	142.5
4000	87.7	90.5	91.9	89.8	92.7	96.4	96.6	100.1	102.3	102.7	103.0	99.8	96.6	140.8
5000	86.3	88.8	90.7	88.6	91.6	95.4	96.2	99.1	100.6	102.2	100.2	96.3	92.8	139.5
6300	84.7	88.3	88.9	88.2	90.6	95.0	95.6	98.5	100.0	99.9	97.2	92.4	89.4	138.3
8000	82.8	86.1	87.7	86.6	89.5	93.8	93.8	96.1	97.6	96.9	95.2	91.2	88.5	136.6
10000	82.4	84.7	86.7	86.0	88.6	93.4	92.6	95.4	96.5	95.2	93.6	89.8	86.8	136.0
12500	79.8	82.6	84.4	84.1	86.9	92.2	91.7	92.9	94.0	92.0	90.2	87.6	84.9	134.6
16000	77.5	81.5	82.7	82.5	84.8	88.3	89.1	90.3	92.1	89.5	88.1	85.6	81.1	133.5
20000	74.0	78.2	79.6	80.1	82.6	85.6	86.2	87.1	88.2	86.2	84.1	82.0	78.0	132.0
25000	69.8	73.9	75.6	76.2	78.5	82.9	83.0	82.9	84.4	81.7	80.4	77.8	72.4	130.6
31500	65.9	69.6	72.6	73.0	74.5	78.6	78.3	79.4	79.8	77.5	76.3	72.9	67.3	129.6
40000	61.1	65.7	67.2	68.6	69.4	74.7	74.1	74.5	76.5	73.7	72.0	67.8	61.8	129.4
50000	55.5	59.8	61.4	62.3	63.1	69.9	68.0	68.7	69.3	67.4	66.1	62.0	54.3	127.8
63000	52.3	56.1	56.6	56.8	58.2	64.4	62.0	62.6	64.1	60.3	60.0	54.9	47.6	127.4
80000	50.9	53.7	51.9	49.6	51.1	58.8	57.3	55.2	56.1	53.2	52.8	47.4	40.8	128.1
OASPL	102.8	105.2	105.5	103.7	105.8	109.6	109.8	112.7	115.0	119.4	122.2	123.2	118.4	157.8
PNL	114.9	117.1	117.6	115.9	118.1	122.1	122.1	125.4	127.5	130.6	131.9	132.0	128.3	
PNLT	114.9	117.6	117.6	115.9	118.7	122.1	122.1	125.4	127.5	130.6	131.9	132.0	128.3	
DBA	101.9	103.8	104.3	102.5	104.7	108.6	108.7	112.0	114.5	118.3	120.4	120.9	117.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH201 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.40 PAMB HG = 29.37 RELHUM = 76.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1145.1 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1782.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1403 TAPE = X1403C TEST PT NO = 1403 NC = AE087 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 - 83F-ZER-1403 X1403F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.6	85.9	84.9	81.2	80.8	83.2	81.6	89.2	86.4	92.0	90.6	92.8	92.2	129.7
63	88.3	91.5	94.3	88.6	89.2	91.6	90.2	95.4	92.3	93.4	91.0	96.5	97.9	134.8
80	89.3	93.6	89.8	88.9	89.5	94.6	92.7	93.1	93.6	93.7	96.5	97.2	82.6	135.1
100	89.0	94.7	90.8	90.3	91.6	95.3	93.6	96.5	95.0	97.6	98.2	101.6	86.1	137.4
125	85.1	88.9	90.7	90.5	92.8	95.7	93.6	95.0	94.7	98.0	104.1	106.3	90 7	139.7
160	84.2	84.7	87.0	85.3	87.6	91.0	92.9	93.0	95.0	99.1	104.2	106.6	96.3	139.5
200	86.3	86.3	88.8	86.6	89.2	93.6	94.0	95.4	98.8	100.4	105.8	109.5	99.6	141.8
250	85.5	90.1	90.3	88.9	90.2	93.6	94.7	97.4	99.3	105.7	110.3	112.5	102.9	145.2
315	86.8	89.6	89.1	87.9	90.5	95.6	96.3	97.9	100.6	107.0	111.3	113.5	105.4	146.4
400	88.3	89.9	90.6	88.7	91.0	94.6	97.0	98.2	100.9	108.9	113.3	114.8	107.2	147.9
500	88.3	90.6	91.4	89.7	91.5	95.6	96.3	98.9	102.1	109.7	113.8	114.8	108.2	148.3
630	88.8	90.8	91.6	89.6	92.5	96.3	96.7	99.6	102.1	109.9	112.5	113.2	108.4	147.5
800	91.1	91.1	91.9	90.7	93.5	96.4	97.3	101.2	103.9	109.5	112.1	112.5	109.4	147.3
1000	93.5	94.5	94.3	92.1	94.2	98.1	97.9	100.8	104.1	109.1	110.8	111.4	109.4	146.7
1250	91.9	95.4	95.0	93.1	94.6	98.0	97.6	101.0	104.2	108.0	109.9	109.8	109.0	145.9
1600	92.3	92.7	94.1	92.3	94.5	98.9	98.7	101.8	104.6	107.2	109.8	110.5	108.2	145.9
2000	92.5	93.8	94.2	91.9	93.9	97.8	98.0	101.9	104.2	107.0	108.3	108.3	107.1	144.9
2500	90.6	93.2	93.8	92.0	93.6	97.5	97.4	101.0	103.4	106.9	107.2	107.3	105.3	144.1
3150	90.2	92.3	92.6	90.6	93.2	97.2	97.1	100.8	103.2	105.0	105.3	103.9	100.6	142.5
4000	87.7	90.5	91.9	89.8	92.7	96.4	96.6	100.1	102.3	102.7	103.0	99.8	96.6	140.8
5000	86.3	88.8	90.7	88.6	91.6	95.4	96.2	99.1	100.6	102.2	100.2	96.3	92 8	139.5
6300	84.7	88.3	88.9	88.2	90.6	95.0	95.6	98.5	100.0	99.9	97.2	92.4	89.4	138.3
8000	82.8	86.1	87.7	86.6	89.5	93.8	93.8	96.1	97.6	96.9	95.2	91.2	88.5	136.6
10000	82.4	84.7	86.7	86.0	88.6	93.4	92.6	95.4	96.5	95.2	93.6	89.8	86.8	136.0
12500	79.8	82.6	84.4	84.1	86.9	92.2	91.7	92.9	94.0	92.0	90.2	87.6	84 9	134.6
16000	77.5	81.5	82.7	82.5	84.8	88.3	89.1	90.3	92.1	89.5	88.1	85.6	81.1	133.5
20000	74.0	78.2	79.6	80.1	82.6	85.6	86.2	87.1	88.2	86.2	84.1	82.0	78.0	132.0
25000	69.8	73.9	75.6	76.2	78.5	82.9	83.0	82.9	84.4	81.7	80.4	77.8	72.4	130.6
31500	65.9	69.6	72.6	73.0	74.5	78.6	78.3	79.4	79.8	77.5	76.3	72.9	67.3	129.6
40000	61.1	65.7	67.2	68.6	69.4	74.7	74.1	74.5	76.5	73.7	72.0	67.8	61.8	129.4
50000	55.5	59.8	61.4	62.3	63.1	69.9	68.0	68.7	69.3	67.4	66.1	62.0	54.3	127.8
63000	52.3	56.1	56.6	56.8	58.2	64.4	62.0	62.6	64.1	60.3	60.0	54.9	47.6	127.4
80000	50.9	53.7	51.9	49.6	51.1	58.8	57.3	55.2	56.1	53.2	52.8	47.4	40.8	128.1
OASPL	102.8	105.2	105.5	103.7	105.8	109.6	109.8	112.7	115.0	119.4	122.2	123.2	118.4	157.8
PNL	114.9	117.1	117.6	115.9	118.1	122.1	122.1	125.4	127.5	130.6	131.9	132.0	128.3	
PNLT	114.9	117.6	117.6	115.9	118.7	122.1	122.1	125.4	127.5	130.6	131.9	132.0	128.3	
DBA	171.6	174.6	173.5	172.2	173.6	180.7	179.0	178.0	179.1	176.1	175.5	170.5	163.6	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH201	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.40	PAMB HG = 29.37	RELHUM = 75.4 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1145.1 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1782.8 FPS	AE18 = 23.4 SQ IN

P1185-03

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

IDENTIFICATION - 83F-2ER-1403 X14031

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	60.9	67.0	68.3	67.6	69.3	72.8	73.8	76.1	77.3	82.6	85.7	85.7	72.7	160.1
63	62.2	66.5	67.1	66.6	69.6	74.9	75.4	76.6	78.6	83.9	86.7	86.7	75.2	161.2
80	63.6	66.7	68.6	67.3	70.1	73.8	76.1	76.8	78.8	85.8	88.6	87.8	76.9	162.8
100	63.6	67.4	69.3	68.3	70.6	74.8	75.3	77.5	80.0	86.5	89.1	87.8	77.7	163.2
125	63.9	67.5	69.4	68.2	71.4	75.4	75.7	78.2	79.9	86.6	87.7	86.1	77.7	162.3
160	66.0	67.7	69.6	69.1	72.3	75.4	76.1	79.6	81.6	86.0	87.0	85.1	78.4	162.2
200	68.2	70.9	71.8	70.3	72.9	76.9	76.6	79.1	81.5	85.5	85.4	83.7	77.8	161.5
250	66.2	71.5	72.2	71.1	73.0	76.6	76.0	79.0	81.4	84.1	84.2	81.7	76.8	160.7
315	66.2	68.4	71.0	70.0	72.7	77.2	76.9	79.5	81.5	82.9	83.7	81.7	75.1	160.7
400	65.9	69.0	70.7	69.2	71.8	75.8	75.9	79.2	80.7	82.2	81.6	78.9	73.0	159.7
500	63.4	68.0	69.9	69.0	71.1	75.1	74.9	78.0	79.5	81.7	80.0	77.1	70.2	159.0
630	62.5	66.6	68.3	67.2	70.3	74.5	74.3	77.5	78.9	79.3	77.5	73.0	64.3	157.3
800	59.3	64.3	67.1	66.0	69.5	73.3	73.3	76.3	77.5	76.5	74.6	68.0	59.1	155.6
1000	57.3	62.1	65.5	64.4	68.0	71.9	72.6	74.9	75.4	75.4	71.2	63.6	53.9	154.3
1250	54.8	60.9	63.1	63.6	66.5	71.1	71.5	73.8	74.2	72.5	67.3	58.6	48.8	153.2
1600	51.6	57.7	61.0	61.2	64.7	69.2	69.0	70.7	71.0	68.5	64.0	55.6	45.0	151.4
2000	49.4	54.8	58.9	59.5	62.9	67.9	66.9	68.9	68.7	65.3	60.6	51.7	39.5	150.9
2500	44.1	50.6	54.8	56.0	59.6	65.2	64.4	64.8	64.4	60.0	54.5	45.9	31.8	149.5
3150	37.4	46.1	50.2	51.8	55.2	59.0	59.5	59.6	59.6	54.1	48.0	37.8	18.5	148.4
4000	26.3	36.7	41.9	44.8	48.6	52.0	52.2	51.8	50.5	44.6	36.5	24.0		146.9
5000	10.7	23.1	30.1	33.8	37.9	42.8	42.4	40.5	38.8	30.9	21.3	4.4		145.5
6300		3.4	13.7	18.6	22.5	27.4	26.4	25.0	21.0	11.3				144.5
8000						4.5	2.7							144.3
10000														142.6
12500														142.3
16000														143.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	75.9	79.5	81.2	80.2	82.9	86.9	87.1	89.6	91.4	95.3	96.7	95.4	86.7	172.4
PNL	79.3	83.6	85.7	84.9	87.9	92.2	92.2	94.8	96.1	97.8	97.4	94.8	87.0	
PNLT	79.3	83.6	85.7	84.9	87.9	92.2	92.2	94.8	96.1	97.8	97.4	94.8	87.0	
DBA	68.9	73.1	75.2	74.4	77.4	81.6	81.5	84.2	85.4	86.4	85.5	82.6	75.9	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH201 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.40 PAMB HG = 29.37 RELHUM = 75.4 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 = 1145.1 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1782.8 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-2ER-1403 TAPE = X1403T TEST PT NO = 1403 NC = AE087 CORR FAN SPEED = RPM

P1185-08

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 83F-400-1404 X1404C
BACKGROUND 83F-400-1400 X14000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.1				79.4	81.6		85.3	84.3	83.5	90.6	90.4		126.0
63	86.6				85.9	87.9			89.1		90.7			126.3
80	88.5	92.4	88.8	88.6	88.4	93.6	91.0	91.7	89.2	91.3	94.9	95.5		133.5
100	87.5	92.7	89.1	87.6	89.0	93.1	91.7	94.9	90.0	94.7	96.3	100.3		135.3
125	85.3	87.2	88.9	88.6	90.8	93.1	91.2	92.1	89.2	94.9	100.6	104.1		136.9
160	82.5	80.0	84.2	82.4	85.2	88.0	89.4	88.7	88.1	95.8	100.9	103.9	92.7	136.3
200	83.1	82.9		80.2	84.0	88.1	88.1	91.4	91.5	95.3	100.8	106.2	95.0	137.6
250	81.0	84.2	84.2	82.9	85.5	88.7	89.7	91.7	92.2	99.9	105.0	108.7	98.0	140.6
315	82.2	83.1		81.4	85.5	90.0	89.9	92.5	93.2	101.4	106.3	109.5	99.3	141.6
400	82.9	84.4	84.7	83.4	86.1	89.2	91.8	92.8	93.8	103.2	107.6	110.0	98.9	142.5
500	82.7	84.5	85.9	83.8	86.4	90.2	91.0	93.8	94.5	104.2	108.1	108.8	95.4	142.3
630	83.0	84.5	86.2	84.0	87.1	90.8	91.1	94.3	94.3	104.9	107.0	106.2	93.1	141.4
800	84.5	84.5	86.0	84.8	87.9	91.1	91.9	95.9	96.6	104.5	106.6	103.0	89.8	140.6
1000	86.0	85.7	87.5	85.8	87.8	92.2	92.4	96.1	96.8	104.4	105.5	100.2	87.9	139.9
1250	84.6	87.7	87.7	86.1	88.3	91.9	92.3	96.0	97.7	103.8	104.4	96.8	87.8	139.2
1600	85.0	85.7	87.6	86.0	88.5	92.8	93.7	97.3	97.9	102.2	103.6	96.5	86.9	138.7
2000	84.7	84.8	86.7	85.3	88.6	92.2	93.3	97.3	98.2	102.5	102.0	93.8	86.7	138.2
2500	83.9	85.7	85.7	85.4	89.2	92.9	92.9	96.5	96.7	102.9	100.7	93.5	87.3	137.9
3150	83.7	84.8	85.7	85.2	88.5	92.6	92.8	96.2	96.9	100.5	98.5	92.2	85.8	136.6
4000	82.7	83.5	84.8	84.2	87.8	92.1	93.0	96.6	96.0	99.0	97.2	90.3	85.4	135.8
5000	81.3	82.3	84.2	83.3	86.5	90.1	91.8	95.0	93.7	98.0	94.8	89.0	83.9	134.4
6300	80.5	82.4	83.5	82.0	85.2	89.3	90.5	93.5	93.0	96.2	92.5	87.5	82.9	133.2
8000	79.1	80.7	82.0	81.7	84.4	88.4	88.9	91.3	90.8	93.0	90.5	85.5	80.9	131.4
10000	78.8	79.8	81.4	80.8	83.3	87.2	87.9	90.9	89.6	91.6	89.5	84.6	80.5	131.0
12500	76.6	77.6	79.4	78.9	81.9	86.4	86.5	87.8	87.1	89.0	85.9	83.0	78.9	129.5
16000	75.9	77.7	78.2	78.1	79.8	84.3	84.2	85.4	85.3	85.6	83.9	81.1	75.6	128.6
20000	71.9	74.7	76.6	76.0	77.7	80.2	81.8	82.2	80.8	81.7	79.8	77.9	73.0	127.0
25000	69.3	71.6	72.9	73.4	74.6	79.6	79.4	78.7	77.2	76.6	75.8	74.0	68.0	126.4
31500	65.4	67.7	68.8	70.4	70.8	75.4	74.4	75.0	72.9	73.1	71.1	69.5	63.9	125.4
40000	60.6	64.4	65.2	65.5	66.3	72.2	70.5	71.4	69.0	68.8	67.9	65.5	59.0	125.6
50000	55.1	58.6	59.3	60.5	60.3	66.8	64.8	66.0	63.0	62.6	61.8	60.1	53.9	124.3
63000	50.2	55.1	55.5	55.2	55.9	61.9	58.8	60.0	57.8	56.9	56.2	53.2	47.6	124.4
80000	48.3	50.7	49.6	48.8	49.1	55.7	52.1	52.2	50.1	48.8	48.7	46.3	40.0	124.5
OASPL	98.2	99.6	99.4	98.4	101.1	104.9	105.0	108.1	108.2	114.5	116.7	117.3	105.8	152.2
PNL	109.2	110.1	110.4	110.1	113.3	117.2	117.5	120.8	121.0	126.2	126.2	124.3	113.6	
PNLT	109.2	110.1	117.1	110.7	113.9	117.2	117.5	121.3	121.0	126.2	126.2	124.3	113.6	
DBA	95.3	96.4	97.5	96.4	99.4	103.2	103.9	107.4	107.8	113.7	114.6	112.6	101.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH189 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = T4 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.71 PAMB HG = 29.38 RELHUM = 61.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1117.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1795.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1404 TAPE = X1404C TEST PT NO = 1404 NC = AE087 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1404 X1404F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	88.6	90.4	89.0	86.1	87.1	88.7	88.0	88.3	91.1	98.8	103.5	107.4	99.2	139.5
315	88.5	90.4	89.0	86.1	87.3	90.2	89.0	90.6	91.8	100.7	105.0	108.5	100 2	140.8
400	89.8	89.5	89.4	84.8	87.9	89.5	90.9	90.9	92.4	101.6	105.6	107.9	98.3	140.7
500	90.1	90.5	89.5	86.7	88.3	90.6	90.0	91.7	92.3	102.5	104.9	106.2	98.0	140.1
630	90.4	90.9	90.9	87.3	89.1	91.2	90.2	92.1	94.8	102.3	104.9	104.1	97.2	139.6
800	90.6	90.9	91.2	87.5	90.0	91.6	91.0	93.7	95.4	102.7	104.4	102.5	97.8	139.4
1000	92.2	91.0	91.1	88.4	90.0	92.9	91.6	93.9	96.4	102.1	103.3	99.0	97.5	138.6
1250	93.6	92.2	92.6	89.4	90.6	92.7	91.6	94.0	96.9	100.9	102.8	99.1	97.0	138.4
1600	92.3	94.2	92.8	89.8	90.9	93.9	93.2	95.5	97.4	101.3	101.4	96.5	96.8	138.3
2000	92.7	92.2	92.8	89.8	91.3	93.5	93.1	95.8	96.3	102.3	100.7	96.9	98.2	138.4
2500	92.4	91.3	92.0	89.3	92.7	94.5	93.0	95.4	97.1	100.5	99.2	96.3	97.5	137.7
3150	94.3	94.5	92.9	90.7	92.3	94.7	93.5	95.6	97.4	100.0	98.9	95.3	98.1	138.0
4000	94.1	93.7	93.0	90.7	92.1	94.6	94.7	97.1	95.2	99.1	96.5	94.2	96.6	137.5
5000	93.0	92.5	92.3	90.0	91.1	93.1	93.9	95.7	94.9	97.9	94.8	93.3	96.2	136.5
6300	91.6	91.3	91.7	89.3	89.8	92.3	92.7	94.4	93.4	95.4	93.6	91.9	94.7	135.4
8000	90.6	91.2	90.9	87.8	89.0	91.4	91.2	92.6	92.7	94.6	93.1	91.5	94.6	134.9
10000	89.1	89.4	89.3	87.4	87.9	90.2	90.3	92.5	90.9	92.5	89.6	89.7	92.4	133.9
12500	88.4	88.2	88.3	86.2	86.5	89.4	89.0	89.7	89.6	89.8	88.5	88.7	90.2	133.2
16000	85.7	85.5	85.8	83.8	84.4	87.3	86.7	87.3	84.5	85.0	83.3	84.2	86.1	131.5
20000	84.6	85.2	84.2	82.6	81.8	83.2	83.7	83.2	80.4	79.4	78.9	80.1	81.0	130.4
25000	77.2	79.3	80.3	78.7	79.2	82.6	80.9	78.9	77.2	77.1	75.4	76.8	78.0	129.3
31500	76.6	77.7	77.5	76.4	75.4	78.4	76.0	75.4	75.1	74.7	74.2	74.7	75.0	129.4
40000	71.9	73.0	72.6	72.6	70.9	75.2	72.4	72.3	68.0	67.0	66.6	67.9	68.6	128.9
50000	66.7	69.3	68.6	67.4	64.9	69.8	66.2	66.0	63.9	62.6	62.2	62.3	63.5	128.1
63000	60.2	62.5	61.7	61.4	60.5	64.9	60.2	60.1	57.5	55.7	55.9	56.6	57.2	127.6
80000	53.8	57.5	56.4	54.6	53.7	58.7	53.5	52.2	47.7	45.9	46.1	46.7	47.4	127.9
OASPL	104.3	104.4	104.0	101.3	102.7	105.0	104.6	106.5	107.4	112.8	114.4	115.0	109.8	151.1
PNL	117.0	117.1	116.3	113.7	115.3	117.6	117.3	119.4	120.0	124.0	123.8	122.4	121.6	
PNLT	117.0	117.1	116.3	113.7	115.3	117.6	117.3	119.4	120.0	124.0	123.8	122.4	121.6	
DBA	176.2	179.3	178.4	177.1	175.9	180.8	176.0	175.2	171.8	170.1	170.2	170.8	171.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH189 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.71 PAMB HG = 29.38 RELHUM = 61.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1117.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1795.6 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1404 TAPE = X1404F TEST PT NO = 1404 NC = AE087 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1404 X14041

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.0	67.4	67.0	64.8	66.2	67.9	67.1	67.0	69.1	75.7	78.9	80.6	69.1	154.3
63	63.9	67.3	67.0	64.8	66.4	69.4	68.1	69.3	69.8	77.6	80.4	81.7	70.0	155.6
80	65.2	66.3	67.3	63.5	67.0	68.7	70.0	69.6	70.3	78.5	80.9	81.0	68.0	155.6
100	65.4	67.3	67.3	65.3	67.3	69.7	69.0	70.3	70.2	79.3	80.1	79.2	67.5	155.0
125	65.5	67.6	68.7	65.8	68.1	70.3	69.1	70.7	72.6	79.0	80.0	77.0	66.5	154.5
160	65.6	67.4	68.9	65.9	68.8	70.5	69.8	72.1	73.0	79.2	79.3	75.1	66.7	154.2
200	66.9	67.3	68.5	66.6	68.6	71.7	70.2	72.2	73.9	78.4	77.9	71.3	66.0	153.5
250	68.0	68.2	69.8	67.4	69.0	71.3	70.1	72.0	74.1	76.9	77.1	70.9	64.8	153.2
315	66.2	69.8	69.7	67.5	69.1	72.2	71.4	73.2	74.3	77.0	75.3	67.7	63.7	153.2
400	66.0	67.4	69.3	67.2	69.1	71.5	70.9	73.2	72.8	77.6	74.0	67.4	64.1	153.2
500	65.2	66.1	68.1	66.3	70.2	72.1	70.5	72.4	73.2	75.3	72.0	66.1	62.4	152.6
630	66.5	68.8	68.6	67.3	69.4	72.0	70.6	72.2	73.1	74.3	71.1	64.4	61.8	152.8
800	65.7	67.5	68.3	66.9	68.8	71.6	71.5	73.3	70.5	72.9	68.1	62.5	59.1	152.3
1000	63.9	65.7	67.1	65.8	67.5	69.6	70.3	71.5	69.7	71.1	65.8	60.6	57.3	151.4
1250	61.7	63.9	66.0	64.6	65.7	68.5	68.6	69.7	67.6	68.0	63.7	58.1	54.0	150.2
1600	59.4	62.8	64.2	62.4	64.2	66.8	66.4	67.2	66.0	66.1	61.9	55.9	51.1	149.7
2000	56.1	59.6	61.5	60.9	62.1	64.7	64.5	66.0	63.1	62.7	56.7	51.6	45.1	148.8
2500	52.7	56.3	58.7	58.1	59.2	62.4	61.7	61.6	60.0	57.8	52.8	46.9	37.0	148.0
3150	45.6	50.0	53.3	53.1	54.7	58.0	57.0	56.6	52.0	49.6	43.2	36.5	23.5	146.3
4000	36.9	43.7	46.5	47.3	47.7	49.6	49.7	47.9	42.7	37.9	31.3	22.0	2.6	145.2
5000	18.1	28.6	34.7	36.3	38.6	42.6	40.2	36.5	31.7	26.3	16.4	3.4		144.1
6300		11.5	18.7	22.0	23.4	27.2	24.0	21.0	16.2	8.5				144.2
8000						4.9	0.9							143.7
10000														143.0
12500														142.5
16000														142.7
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	77.4	79.3	80.2	78.2	80.3	82.7	82.0	83.5	84.0	88.7	89.1	87.8	77.5	165.9
PNL	81.9	84.4	85.8	84.2	86.1	88.6	88.1	89.4	88.8	92.3	90.3	86.3	78.3	
PNLT	83.1	84.4	85.8	84.2	86.1	88.6	88.1	89.4	88.8	92.3	90.3	86.3	78.3	
DBA	72.4	74.5	75.7	74.2	76.1	78.6	78.2	79.6	78.9	81.1	78.3	72.7	67.9	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH189 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.71 PAMB HG = 29.38 RELHUM = 61.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1117.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1795.6 FPS AE18 = 23.4 SQ IN

NPT F-4 404 PE = X IT TL PT 14 AEO RR SPEED RPM

P1186-08

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 83F-ZER-1405 X1405C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.9	87.9	86.2	83.0	82.8	84.9	82.8	87.7	90.9	92.5	92.6	100.6	87 0	132.7
63	90.3	92.3	94.1	88.9	90.2	93.6	90.9	95.1	96.6	95.6	94.3	102.0	96.4	136.7
80	91.5	95.3	91.1	90.4	91.5	97.1	94.7	94.9	95.3	94.7	97.8	99.0	84.4	136.9
100	91.0	97.2	92.5	91.8	93.4	97.8	96.1	99.0	96.5	99.8	100.0	103.9	88.6	139.5
125	87.4	90.4	92.9	92.5	95.3	97.9	96.3	97.2	96.7	99.8	106.4	108.6	93.7	141.9
160	86.4	87.5	89.5	88.0	89.6	93.5	95.9	96.0	97.2	101.3	106.9	109.4	99.3	142.2
200	89.0	88.1	90.1	88.9	92.0	95.8	96.5	97.4	101.3	102.9	108.3	113.0	102 9	144.8
250	88.0	91.3	92.1	90.9	93.0	95.6	96.7	99.4	101.8	107.9	112.8	115.7	105.6	148.0
315	89.3	91.1	90.9	89.7	92.5	97.6	98.0	100.2	103.4	109.0	113.6	116.5	108.4	149.0
400	90.8	92.1	92.4	91.2	93.5	96.9	99.3	100.7	103.6	110.9	115.6	117.5	109.4	150.3
500	90.8	92.9	93.9	91.7	94.3	98.1	99.0	101.4	105.4	112.2	116.8	118.0	110.9	151.3
630	91.5	93.3	94.3	92.4	95.2	98.6	99.5	101.9	104.8	112.9	116.0	117.5	112.1	151.1
800	94.1	94.1	94.9	93.4	96.5	99.4	100.3	103.4	107.4	113.0	115.3	117.5	113.7	151.2
1000	97.0	99.3	97.6	95.3	97.4	100.6	100.2	103.8	107.1	112.4	114.0	116.7	113.6	150.5
1250	96.2	99.4	99.5	97.4	98.1	100.7	100.8	104.3	108.0	111.3	112.9	115.3	113.0	149.8
1600	95.8	96.2	97.4	96.0	98.0	101.4	101.5	105.5	108.1	110.0	113.6	115.3	111.4	149.6
2000	96.3	97.3	97.2	95.4	97.2	100.6	101.0	105.1	108.2	110.7	113.0	112.8	109.1	148.8
2500	93.6	96.2	97.0	94.7	96.6	100.0	100.4	104.3	107.4	110.4	111.7	110.3	106.5	147.6
3150	93.0	95.8	95.8	93.8	96.2	100.2	100.4	104.3	107.9	109.0	109.8	107.4	102.8	146.5
4000	91.4	94.5	95.9	93.5	95.7	99.7	99.8	103.9	106.3	107.0	108.0	103.5	99.6	144.9
5000	90.1	93.3	95.2	93.4	95.4	98.4	99.5	103.6	104.8	105.9	105.5	100.5	96.3	143.6
6300	88.2	91.3	92.9	92.0	94.8	98.5	98.8	102.5	104.7	103.9	101.9	97.2	93.7	142.5
8000	86.3	89.3	91.7	90.9	93.5	97.3	97.5	100.1	102.1	100.9	100.2	95.2	92.3	140.7
10000	85.4	88.2	90.4	89.8	92.1	96.9	97.1	99.9	101.0	99.4	98.6	94.5	91.8	140.3
12500	83.1	85.6	88.1	87.8	90.9	95.2	95.4	96.9	97.7	96.8	95.2	93.6	90.2	138.6
16000	81.5	84.8	87.0	86.5	88.8	92.8	93.1	95.0	96.4	94.3	92.6	91.1	86.8	137.9
20000	77.8	82.0	83.6	83.8	86.6	89.4	90.7	91.6	92.7	90.4	88.9	88.0	83.5	136.4
25000	74.8	78.6	80.2	80.7	82.5	87.6	87.5	87.4	88.9	86.7	84.9	83.6	78.7	135.3
31500	70.4	74.6	76.6	77.2	78.5	83.1	83.1	83.7	84.4	82.5	80.3	78.7	72.6	134.1
40000	65.1	70.5	72.2	73.1	73.1	79.0	78.3	79.2	81.0	78.5	76.7	73.6	67.1	133.9
50000	59.7	65.3	66.1	67.1	67.6	73.9	71.6	73.0	73.5	71.6	70.7	66.3	60.6	132.0
63000	54.3	62.6	62.4	62.3	63.2	67.7	65.3	66.6	68.3	65.3	63.6	59.2	52 6	131.6
80000	51.6	61.4	59.2	56.3	57.8	62.3	60.3	59.4	60.6	57.5	56.6	52.7	44 8	132.7
OASPL	106.0	108.3	108.5	106.7	108.8	112.4	112.6	115.8	118.6	122.4	125.4	127.1	121.7	161.2
PNL	117.9	120.3	120.8	119.0	121.2	124.9	125.2	128.6	131.6	133.9	135.8	135.9	131 0	
PNLT	117.9	121.0	120.8	119.0	121.8	124.9	125.2	128.6	131.6	133.9	135.8	135.9	131.0	
DBA	105.4	107.5	107.8	106.0	108.0	111.4	111.7	115.4	118.3	121.6	123.9	125.2	121.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH200	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.49	PAMB HG = 29.38	RELHUM = 75.2 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1224.8 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1969.9 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-ZER-1405	TAPE = X1405C	TEST PT NO = 1405	NC = AE087	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 - 83F-ZER-1405 X1405F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.9	87.9	86.2	83.0	82.8	84.9	82.8	87.7	90.9	92.5	92.6	100.6	87.0	132.7
63	90.3	92.3	94.1	88.9	90.2	93.6	90.9	95.1	96.6	95.6	94.3	102.0	96.4	136.7
80	91.5	95.3	91.1	90.4	91.5	97.1	94.7	94.9	95.3	94.7	97.8	99.0	84.4	136.9
100	91.0	97.2	92.5	91.8	93.4	97.8	96.1	99.0	96.5	99.8	100.0	103.9	88.6	139.5
125	87.4	90.4	92.9	92.5	95.3	97.9	96.3	97.2	96.7	99.8	106.4	108.6	93.7	141.9
160	86.4	87.5	89.5	88.0	89.6	93.5	95.9	96.0	97.2	101.3	106.9	109.4	99.3	142.2
200	89.0	88.1	90.1	88.9	92.0	95.8	96.5	97.4	101.3	102.9	108.3	113.0	102.9	144.8
250	88.0	91.3	92.1	90.9	93.0	95.6	96.7	99.4	101.8	107.9	112.8	115.7	105.6	148.0
315	89.3	91.1	90.9	89.7	92.5	97.6	98.0	100.2	103.4	109.0	113.6	116.5	108.4	149.0
400	90.8	92.1	92.4	91.2	93.5	96.9	99.3	100.7	103.6	110.9	115.6	117.5	109.4	150.3
500	90.8	92.9	93.9	91.7	94.3	98.1	99.0	101.4	105.4	112.2	116.8	118.0	110.9	151.3
630	91.5	93.3	94.3	92.4	95.2	98.6	99.5	101.9	104.8	112.9	116.0	117.5	112.1	151.1
800	94.1	94.1	94.9	93.4	96.5	99.4	100.3	103.4	107.4	113.0	115.3	117.5	113.7	151.2
1000	97.0	99.3	97.6	95.3	97.4	100.6	100.2	103.8	107.1	112.4	114.0	116.7	113.6	150.5
1250	96.2	99.4	99.5	97.4	98.1	100.7	100.8	104.3	108.0	111.3	112.9	115.3	113.0	149.8
1600	95.8	96.2	97.4	96.0	98.0	101.4	101.5	105.5	108.1	110.0	113.6	115.3	111.4	149.6
2000	96.3	97.3	97.2	95.4	97.2	100.6	101.0	105.1	108.2	110.7	113.0	112.8	109.1	148.8
2500	93.6	96.2	97.0	94.7	96.6	100.0	100.4	104.3	107.4	110.4	111.7	110.3	106.5	147.6
3150	93.0	95.8	95.8	93.8	96.2	100.2	100.4	104.3	107.9	109.0	109.8	107.4	102.8	146.5
4000	91.4	94.5	95.9	93.5	95.7	99.7	99.8	103.9	106.3	107.0	108.0	103.5	99.6	144.9
5000	90.1	93.3	95.2	93.4	95.4	98.4	99.5	103.6	104.8	105.9	105.5	100.5	96.3	143.6
6300	88.2	91.3	92.9	92.0	94.8	98.5	98.8	102.5	104.7	103.9	101.9	97.2	93.7	142.5
8000	86.3	89.3	91.7	90.9	93.5	97.3	97.5	100.1	102.1	100.9	100.2	95.2	92.3	140.7
10000	85.4	88.2	90.4	89.8	92.1	96.9	97.1	99.9	101.0	99.4	98.6	94.5	91.8	140.3
12500	83.1	85.6	88.1	87.8	90.9	95.2	95.4	96.9	97.7	96.8	95.2	93.6	90.2	138.6
16000	81.5	84.8	87.0	86.5	88.8	92.8	93.1	95.0	96.4	94.3	92.6	91.1	86.8	137.9
20000	77.8	82.0	83.6	83.8	86.6	89.4	90.7	91.6	92.7	90.4	88.9	88.0	83.5	136.4
25000	74.8	78.6	80.2	80.7	82.5	87.6	87.5	87.4	88.9	86.7	84.9	83.6	78.7	135.3
31500	70.4	74.6	76.6	77.2	78.5	83.1	83.1	83.7	84.4	82.5	80.3	78.7	72.6	134.1
40000	65.1	70.5	72.2	73.1	73.1	79.0	78.3	79.2	81.0	78.5	76.7	73.6	67.1	133.9
50000	59.7	65.3	66.1	67.1	67.6	73.9	71.6	73.0	73.5	71.6	70.7	66.3	60.6	132.0
63000	54.3	62.6	62.4	62.3	63.2	67.7	65.3	66.6	68.3	65.3	63.6	59.2	52.6	131.6
80000	51.6	61.4	59.2	56.3	57.8	62.3	60.3	59.4	60.6	57.5	56.6	52.7	44.8	132.7
OASPL	106.0	108.3	108.5	106.7	108.8	112.4	112.6	115.8	118.6	122.4	125.4	127.1	121.7	161.2
PNL	117.9	120.3	120.8	119.0	121.2	124.9	125.2	128.6	131.6	133.9	135.8	135.9	131.0	
PNLT	117.9	121.0	120.8	119.0	121.8	124.9	125.2	128.6	131.6	133.9	135.8	135.9	131.0	
DBA	172.7	182.1	180.3	178.3	179.6	184.2	182.2	182.2	183.5	180.6	179.3	175.4	168.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH200 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.49 PAMB HG = 29.38 RELHUM = 75.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1224.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1969.9 FPS AE18 = 23.4 SQ IN

PT = -ZE 105 E = X F TE T N 140 AE0 R F SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1405 X14051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.4	68.2	70.1	69.6	72.1	74.8	75.8	78.1	79.8	84.8	88.2	88.9	75.5	162.9
63	64.7	68.0	68.9	68.4	71.6	76.9	77.1	78.9	81.4	85.9	89.0	89.7	78.2	163.8
80	66.1	69.0	70.3	69.8	72.6	76.1	78.3	79.3	81.6	87.8	90.9	90.6	79.1	165.2
100	66.1	69.7	71.8	70.3	73.3	77.3	78.1	80.0	83.3	89.0	92.1	91.0	80.5	166.2
125	66.7	70.0	72.1	70.9	74.2	77.7	78.4	80.4	82.6	89.6	91.2	90.3	81.5	165.9
160	69.0	70.7	72.6	71.8	75.3	78.4	79.1	81.8	85.1	89.5	90.3	90.1	82.6	166.0
200	71.7	75.6	75.0	73.6	76.1	79.4	78.9	82.1	84.5	88.7	88.7	88.9	82.1	165.4
250	70.5	75.5	76.7	75.4	76.5	79.3	79.3	82.3	85.2	87.3	87.2	87.2	80.8	164.6
315	69.7	71.9	74.3	73.7	76.2	79.7	79.6	83.2	85.0	85.6	87.5	86.5	78.4	164.5
400	69.6	72.5	73.7	72.7	75.0	78.5	78.9	82.5	84.7	86.0	86.4	83.4	75.0	163.7
500	66.4	71.0	73.1	71.7	74.1	77.6	77.9	81.3	83.5	85.2	84.5	80.1	71.4	162.5
630	65.2	70.1	71.5	70.5	73.3	77.5	77.5	81.0	83.6	83.3	82.0	76.5	66.6	161.3
800	63.0	68.3	71.1	69.7	72.5	76.6	76.6	80.1	81.5	80.7	79.6	71.7	62.1	159.7
1000	61.0	66.6	70.0	69.2	71.8	74.9	75.9	79.4	79.6	79.2	76.4	67.9	57.4	158.5
1250	58.3	63.9	67.1	67.3	70.7	74.6	74.7	77.8	79.0	76.5	72.0	63.4	53.0	157.3
1600	55.1	60.9	65.0	65.4	68.7	72.7	72.7	74.7	75.5	72.5	69.0	59.6	48.8	155.6
2000	52.4	58.3	62.6	63.3	66.4	71.4	71.4	73.4	73.2	69.6	65.6	56.5	44.5	155.2
2500	47.4	53.6	58.5	59.7	63.6	68.2	68.2	68.8	68.1	64.8	59.5	51.9	37.0	153.5
3150	41.4	49.4	54.5	55.8	59.2	63.5	63.5	64.3	63.9	58.8	52.5	43.3	24.3	152.8
4000	30.1	40.4	45.9	48.5	52.6	55.8	56.7	56.3	55.0	48.9	41.2	30.0	5.1	151.3
5000	15.7	27.9	34.6	38.3	41.9	47.5	46.9	45.0	43.3	35.9	25.8	10.2		150.1
6300		8.4	17.7	22.8	26.5	31.9	31.1	29.3	25.5	16.3	2.2			149.0
8000					1.7	8.7	6.9	4.2						148.8
10000														146.8
12500														146.4
16000														147.6
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	79.2	82.9	84.4	83.4	86.0	89.5	89.9	92.7	95.0	98.3	99.8	99.2	90.1	175.8
PNL	82.9	87.3	89.5	88.7	91.3	95.3	95.5	98.3	100.1	101.3	101.3	99.3	90.7	
PNLT	82.9	87.3	89.5	88.7	91.9	95.3	95.5	98.8	100.1	101.3	101.3	99.3	90.7	
DBA	72.3	76.7	78.9	78.1	80.8	84.6	84.8	87.9	89.6	90.0	89.6	87.1	79.1	

ORIGINAL PAGE IS OF POOR QUALITY

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH200 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.49 PAMB HG = 29.38 RELHUM = 76.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1224.8 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1969.9 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1405 TAPE = X14051 TEST PT NO = 1405 NC = AE087 CORR FAN SPEED = RPM

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P1188-03

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 83F-400-1406 X1406C
BACKGROUND 83F-400-1400 X14000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.4	89.4	86.7	82.7	81.6	84.9	86.1	88.0	85.9	87.0	94.1	94.1	92.2	130.7
63	90.5	93.8	95.6	89.6	88.9	91.3	94.2	92.6	91.3	91.4	95.3	97.5	97.9	135.4
80	91.5	95.1	91.1	91.1	91.5	96.1	94.0	94.1	92.8	95.4	97.0	97.7	93.1	136.3
100	89.5	94.7	91.0	89.5	91.1	95.3	94.1	97.0	92.5	97.1	98.0	102.6	94.8	137.5
125	88.1	89.7	91.2	90.7	93.3	95.9	94.6	94.7	91.7	97.5	103.4	107.1	95.2	139.8
160	85.4	83.2	88.0	86.3	87.9	90.7	93.6	92.0	91.7	98.6	104.2	106.9	98.3	139.5
200	86.3	86.1	87.3	84.6	87.5	91.1	92.2	94.1	94.8	98.4	104.0	109.2	100.9	140.8
250	84.0	87.3	87.8	86.4	88.5	92.1	93.5	95.6	95.6	103.2	109.3	112.7	102.4	144.6
315	84.6	87.1	87.1	86.4	88.5	92.9	93.5	95.9	96.1	104.5	109.8	112.8	103.7	145.0
400	85.6	87.1	87.9	86.2	89.0	92.4	94.8	95.7	96.6	106.4	111.8	113.8	103.2	146.3
500	85.3	87.6	89.1	87.4	89.3	93.4	94.3	96.4	98.1	108.2	112.6	113.8	101.7	146.9
630	86.0	87.6	89.3	87.4	89.7	93.3	94.2	97.6	98.1	109.4	111.5	111.0	98.9	145.8
800	87.3	87.4	88.9	87.7	90.5	94.4	95.3	98.2	99.9	108.5	110.8	108.5	96.9	144.8
1000	89.0	89.3	90.8	88.6	91.4	95.6	95.7	99.1	100.3	108.6	109.8	105.7	95.4	144.2
1250	87.4	91.0	91.0	89.4	90.8	95.5	96.1	99.5	101.5	108.0	108.7	102.3	93.8	143.4
1600	88.1	89.0	90.6	89.3	92.0	95.6	97.5	100.5	101.4	106.2	108.1	101.3	93.2	142.7
2000	88.0	88.8	89.7	88.6	91.2	95.8	97.1	100.6	101.0	106.8	107.5	99.1	92.9	142.5
2500	87.9	89.5	89.8	89.0	92.4	95.8	96.4	100.0	100.2	106.5	105.7	99.3	93.3	141.8
3150	88.3	89.1	89.8	88.4	92.0	96.8	96.9	100.4	100.4	105.8	105.0	98.5	91.9	141.5
4000	87.2	89.0	89.9	88.1	90.5	95.2	95.9	99.7	99.8	103.5	103.7	97.0	91.4	140.2
5000	86.4	88.2	89.8	87.9	90.2	94.4	95.1	99.1	98.1	103.2	101.6	95.6	90.1	139.4
6300	85.0	87.7	88.3	87.1	89.7	93.9	94.4	98.3	98.1	100.8	99.0	93.3	88.5	138.1
8000	83.7	86.3	86.8	86.3	88.7	92.7	93.4	96.3	96.3	98.6	96.4	90.8	86.1	136.6
10000	83.8	85.6	86.7	86.2	87.9	92.4	92.9	96.1	95.3	97.2	95.3	90.2	85.5	136.4
12500	82.1	83.6	84.9	84.6	87.4	91.4	91.5	93.2	92.0	94.9	92.0	89.1	84.2	134.9
16000	81.1	84.2	84.4	83.9	85.9	89.1	89.0	91.1	90.0	91.2	89.5	86.7	81.4	134.0
20000	77.9	81.6	82.0	81.5	83.7	86.2	87.1	87.2	86.4	87.4	85.8	83.4	78.4	132.6
25000	74.8	78.0	79.0	79.5	81.1	85.4	84.3	83.7	83.2	82.6	81.5	79.6	74.0	132.0
31500	70.0	73.2	75.0	76.6	77.6	80.9	80.7	80.8	78.2	78.3	77.4	75.0	69.2	131.2
40000	65.6	69.2	70.6	71.8	72.1	77.2	75.8	76.7	75.4	74.9	73.2	70.8	64.6	131.1
50000	60.3	63.5	64.6	65.9	66.4	72.0	69.9	70.6	68.8	68.5	67.2	64.9	58.0	129.6
63000	54.5	58.6	59.9	60.7	61.8	67.3	63.7	64.9	63.6	62.2	60.8	58.1	51.3	129.5
80000	50.2	54.0	53.5	53.1	53.9	61.6	58.6	57.9	56.2	54.6	53.7	51.2	43.7	130.0
OASPL	101.5	103.6	103.8	102.1	104.3	108.2	108.8	111.6	111.8	118.6	121.1	121.4	111.5	156.3
PNL	113.1	114.6	115.3	113.8	116.6	120.9	121.4	124.5	124.7	130.4	131.2	128.9	120.0	
PNLT	113.1	114.6	115.3	113.8	117.2	120.9	121.4	124.5	124.7	130.4	131.2	128.9	120.0	
DBA	98.9	100.4	101.3	99.9	102.6	106.7	107.5	110.9	111.4	117.9	119.3	117.2	107.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADHT90 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.96 PAMB HG = 29.34 RELHUM = 59.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1224.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1978.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1406 TAPE = X1406C TEST PT NO = 1406 NC = AE087 CORR FAN SPEED = RPM

P1188-03

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

IDENTIFICATION - 83F-400-1406 X1406F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.8	93.7	92.7	89.6	90.1	92.1	91.6	92.0	94.1	101.9	107.0	110.6	103.5	142.8
315	91.8	93.7	92.7	89.6	90.3	93.1	92.7	94.1	94.6	104.0	109.3	112.3	104.5	144.6
400	92.3	93.5	92.1	89.8	90.8	92.6	93.9	93.8	96.2	105.9	110.4	113.1	104.6	145.5
500	93.2	93.4	92.8	89.6	91.2	93.7	93.4	94.5	96.2	107.2	109.6	111.2	103.8	144.7
630	93.0	94.0	94.1	90.9	91.7	93.7	93.3	95.5	98.5	106.8	109.7	110.2	104.8	144.5
800	93.7	94.0	94.4	90.9	92.6	94.9	94.5	96.2	99.3	107.5	109.3	108.7	105.8	144.4
1000	95.0	93.8	94.0	91.3	93.6	96.2	95.0	97.2	100.4	106.7	108.0	105.1	104.1	143.2
1250	96.7	95.8	95.9	92.2	93.1	96.3	95.5	97.6	100.6	105.2	107.8	104.5	103.9	142.9
1600	95.1	97.4	96.1	93.1	94.5	96.7	97.1	98.9	100.4	105.9	107.4	102.4	103.7	142.9
2000	95.7	95.5	95.9	93.1	93.9	97.1	96.9	99.2	100.2	106.4	106.4	103.5	105.0	142.9
2500	95.7	95.4	95.1	92.6	95.3	97.4	96.7	99.2	100.8	106.0	106.0	103.0	104.0	142.7
3150	95.5	96.1	95.2	93.2	95.8	98.8	97.6	99.8	101.0	104.5	105.4	102.2	103.9	142.5
4000	98.6	98.0	97.1	93.9	94.8	97.8	97.2	99.8	99.3	104.2	103.2	100.6	102.6	141.9
5000	97.5	98.0	97.4	93.9	94.8	97.4	96.6	99.4	100.0	102.4	101.3	99.0	101.7	141.2
6300	96.6	97.1	97.3	93.9	94.3	96.9	96.5	99.2	98.5	100.6	99.0	96.9	99.6	140.3
8000	95.1	96.5	95.6	92.9	93.3	95.7	95.7	97.3	98.0	99.7	98.5	96.8	99.4	139.8
10000	93.6	94.9	94.1	92.0	92.5	95.4	95.2	97.4	95.7	98.3	95.8	96.1	98.1	139.1
12500	93.5	94.0	93.6	91.6	92.0	94.4	93.9	95.0	94.3	95.2	93.9	94.1	95.7	138.4
16000	91.2	91.5	91.4	89.5	90.0	92.1	91.4	92.9	90.8	91.4	90.0	90.3	92.1	137.1
20000	87.0	89.4	88.7	87.2	87.8	89.2	89.3	88.8	86.6	85.5	84.7	85.8	87.0	135.5
25000	83.2	86.2	85.7	84.2	85.7	88.4	85.9	83.9	82.8	82.7	82.1	82.6	83.6	135.0
31500	82.2	84.0	83.6	82.6	82.2	83.9	82.3	81.3	82.2	81.6	80.4	81.0	81.6	135.6
40000	76.5	78.4	78.7	78.8	76.7	80.2	78.0	78.2	75.6	75.4	74.5	75.2	75.1	134.8
50000	71.7	74.0	74.0	73.7	71.0	75.0	71.9	71.8	70.9	69.6	68.9	69.2	69.2	133.8
63000	65.5	67.4	67.1	66.7	66.4	70.3	65.5	65.8	63.6	61.5	60.9	61.5	60.9	133.0
80000	58.2	61.1	60.9	60.1	58.5	64.6	60.0	57.9	53.8	51.7	51.1	51.7	51.0	133.1
OASPL	107.8	108.3	107.8	105.0	106.1	108.7	108.2	110.3	111.4	117.3	119.4	119.9	115 9	155.7
PNL	120.7	120.8	120.2	117.1	118.6	121.3	120.6	122.8	123.9	128.7	129.6	127.8	127 5	
PNLT	120.7	120.8	120.2	117.1	118.6	121.3	120.6	122.8	123.9	128.7	129.6	127.8	127.5	
DBA	180.9	183.4	183.2	182.6	181.3	186.5	182.1	180.9	178.1	176.4	175.7	176.2	175.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH190 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.96 PAMB HG = 29.34 RELHUM = 59.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1224.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1978.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1406 TAPE = X1406F TEST PT NO = 1406 NC = AE087 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 - 83F-400-1406 X14061

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.2	70.6	70.7	68.3	69.2	71.3	70.7	70.7	72.1	78.8	82.4	83.8	73.4	157.7
63	67.1	70.6	70.7	68.3	69.4	72.3	71.8	72.8	72.6	80.9	84.7	85.5	74.3	159.4
80	67.6	70.4	70.0	68.5	69.9	71.8	73.0	72.4	74.2	82.8	85.7	86.2	74.3	160.4
100	68.4	70.2	70.7	68.2	70.2	72.9	72.4	73.1	74.1	84.0	84.8	84.1	73.4	159.6
125	68.1	70.7	71.9	69.4	70.6	72.8	72.2	74.1	76.3	83.5	84.8	83.0	74.1	159.4
160	68.6	70.5	72.0	69.3	71.4	73.9	73.3	74.6	77.0	84.0	84.2	81.3	74.7	159.2
200	69.7	70.1	71.4	69.5	72.3	75.0	73.7	75.4	77.8	83.0	82.7	77.4	72.5	158.1
250	71.0	71.8	73.1	70.2	71.6	74.9	73.9	75.6	77.8	81.3	82.1	76.3	71.7	157.7
315	69.0	73.1	73.0	70.8	72.6	75.0	75.3	76.6	77.3	81.6	81.2	73.6	70.7	157.8
400	69.1	70.7	72.4	70.5	71.7	75.1	74.7	76.6	76.7	81.6	79.7	74.0	70.9	157.8
500	68.5	70.2	71.2	69.6	72.8	75.0	74.2	76.2	77.0	80.8	78.8	72.8	68.8	157.6
630	67.8	70.4	70.9	69.8	72.9	76.1	74.7	76.5	76.7	78.8	77.6	71.2	67.7	157.3
800	70.2	71.8	72.4	70.1	71.5	74.7	73.9	76.1	74.6	78.0	74.8	68.9	65.1	156.8
1000	68.5	71.3	72.2	69.7	71.2	74.0	73.0	75.2	74.8	75.6	72.3	66.4	62.7	156.1
1250	66.7	69.7	71.6	69.2	70.2	73.0	72.4	74.5	72.7	73.2	69.1	63.1	58.9	155.2
1600	63.9	68.1	69.0	67.5	68.5	71.1	70.8	71.9	71.4	71.3	67.3	61.2	56.0	154.7
2000	60.6	65.1	66.3	65.5	66.7	69.8	69.4	70.9	67.9	68.4	62.9	58.1	50.8	154.0
2500	57.8	62.1	64.0	63.5	64.7	67.4	66.6	66.9	64.7	63.2	58.2	52.3	42.5	153.3
3150	51.2	56.1	58.9	58.8	60.3	62.8	61.8	62.3	58.3	56.0	49.9	42.6	29.5	151.9
4000	39.3	47.8	51.0	51.9	53.7	55.6	55.3	53.5	48.9	43.9	37.0	27.7	8.6	150.4
5000	24.1	35.5	40.2	41.8	45.1	48.3	45.2	41.5	37.3	32.0	23.0	9.2		149.9
6300	4.0	17.8	24.8	28.2	30.2	32.7	30.4	26.9	23.4	15.5	2.3			150.4
8000				3.8	5.3	9.9	6.6	3.2						149.6
10000														148.7
12500														147.8
16000														148.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	80.6	82.9	83.8	81.6	83.4	86.1	85.5	87.1	87.8	93.2	93.9	92.5	83.6	170.6
PNL	85.7	89.0	90.1	88.5	90.1	93.0	92.4	93.7	93.1	96.9	95.7	91.9	85.1	
PNLT	85.7	89.0	90.1	89.1	90.7	93.0	92.4	94.2	93.1	96.9	95.7	91.9	85.1	
DBA	76.2	78.8	79.9	78.0	79.7	82.5	81.8	83.6	83.1	85.9	84.2	78.8	74.2	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH190	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.96	PAMB HG = 29.34	RELHUM = 59.9 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1224.2 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1978.1 FPS	AE18 = 23.4 SQ IN

T = -40 06 2 X1 TEST NO 1406 E08 CORR FAN SPEED RPM

P1185-03

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 83F-ZER-1407 X1407C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.4	89.7	88.9	86.0	84.1	87.4	88.3	93.5	91.9	92.0	99.9	99.3	89.5	134.8
63	93.3	96.0	97.8	94.1	92.4	95.6	95.7	98.9	97.6	97.1	101.0	99.2	92.9	138.9
80	93.8	97.3	93.1	92.9	94.2	99.3	96.7	96.4	97.6	97.4	101.0	101.0	86.6	139.2
100	92.2	99.5	95.3	94.5	95.9	100.0	98.6	101.3	98.8	102.1	102.2	106.4	90.8	141.9
125	89.1	91.9	94.7	94.7	97.1	99.7	98.1	98.5	98.7	102.5	109.1	110.8	96.7	144.2
160	87.7	89.5	91.7	90.0	90.9	95.5	97.9	98.3	100.0	104.3	108.9	112.4	102.0	144.8
200	91.8	89.3	92.6	90.6	94.0	98.1	99.0	99.1	103.6	105.1	110.3	114.7	105.1	146.7
250	90.5	93.1	94.3	93.4	95.7	97.8	98.7	101.4	105.1	110.7	115.8	118.5	108.4	150.8
315	91.1	93.1	93.4	91.9	94.8	99.4	100.3	101.4	106.1	112.2	116.3	118.8	110.4	151.5
400	93.1	93.9	94.4	93.2	95.5	98.6	101.8	102.7	106.6	114.4	118.8	120.0	111.9	153.2
500	93.6	95.9	95.6	94.7	96.5	100.1	100.8	103.9	107.9	116.0	119.6	120.8	113.2	154.2
630	94.5	95.8	96.8	94.6	97.0	100.3	101.5	104.6	108.3	116.7	120.0	120.2	114.6	154.4
800	96.8	96.6	97.4	95.4	98.3	101.4	102.0	105.9	110.1	115.7	120.1	120.8	116.2	154.7
1000	100.5	102.0	100.6	98.1	99.7	103.1	102.9	106.3	110.6	115.1	118.8	120.7	115.9	154.2
1250	99.4	103.4	103.2	100.6	101.1	103.5	103.1	106.8	111.5	114.8	118.2	118.6	114.8	153.4
1600	98.6	99.7	100.6	98.5	100.8	103.9	104.2	107.5	111.4	113.5	118.8	117.5	111.9	153.0
2000	98.8	100.6	100.2	98.1	99.7	103.1	104.0	107.9	111.2	114.5	118.3	114.6	109.4	152.4
2500	98.4	101.9	100.8	98.7	99.9	103.2	103.7	106.8	110.2	114.7	115.7	112.3	107.5	151.1
3150	97.2	101.3	101.8	99.6	100.4	103.7	103.4	107.3	110.2	113.5	114.0	109.9	104.8	150.1
4000	94.4	98.7	100.1	98.3	101.0	103.7	102.8	106.6	109.5	111.7	112.5	106.3	102.4	148.8
5000	93.1	97.3	98.2	97.1	99.1	102.9	103.0	106.3	108.1	110.9	109.7	104.8	99.3	147.6
6300	91.7	96.1	97.4	95.5	98.3	102.5	103.1	105.7	108.0	108.6	107.7	102.0	97.7	146.6
8000	89.8	93.9	95.9	95.4	97.6	101.4	100.8	103.9	106.1	106.2	105.5	100.2	96.5	145.1
10000	88.9	92.4	94.7	94.5	96.7	100.9	100.7	103.6	104.8	104.4	103.6	99.3	95.6	144.5
12500	86.4	89.6	92.4	92.3	95.6	99.4	98.9	100.7	102.8	102.3	101.4	98.4	95.2	143.3
16000	84.3	89.3	91.2	91.5	93.6	97.6	97.7	98.5	101.4	99.6	99.6	95.4	93.1	142.8
20000	81.1	86.8	88.6	89.4	91.4	94.6	95.7	95.4	97.3	96.7	96.2	92.6	89.3	141.5
25000	78.1	82.9	85.2	86.0	87.6	92.7	92.6	91.6	93.9	92.7	90.7	89.4	84.2	140.4
31500	74.2	78.8	81.6	83.0	83.7	87.8	87.8	87.7	89.6	88.5	87.3	84.9	78.1	139.3
40000	69.5	74.4	77.7	78.3	78.9	84.5	82.8	83.4	86.5	86.4	83.7	79.5	72.8	139.6
50000	64.9	68.7	71.0	72.2	73.3	78.8	77.0	77.7	79.4	80.8	78.8	73.5	65.5	138.0
63000	61.2	65.7	66.7	67.2	68.3	74.0	70.7	72.2	74.9	74.9	72.4	66.3	58.7	138.0
80000	60.0	63.0	62.0	59.7	60.9	67.4	64.4	64.8	67.4	67.5	66.6	59.0	50.9	138.2
OASPL	109.0	111.8	111.9	110.1	111.9	115.3	115.5	118.4	121.7	126.0	129.4	129.9	123.7	164.6
PNL	121.4	124.6	125.1	123.2	124.9	128.1	128.1	131.4	134.3	137.9	140.1	138.5	132 6	
PNLT	121.4	125.4	125.1	123.2	125.5	128.1	128.1	132.1	134.3	137.9	140.7	138.5	132.6	
DBA	108.6	111.4	111.5	109.5	111.2	114.5	114.6	118.0	121.4	125.3	128.4	128.1	122.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH199 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.40 PAMB HG = 29.38 RELHUM = 74.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1329.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2146.2 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1407 TAPE = X1407C TEST PT NO = 1407 NC = AE087 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 - 83F-ZER-1407 X1407F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.4	89.7	88.9	86.0	84.1	87.4	88.3	93.5	91.9	92.0	99.9	99.3	89.5	134.8
63	93.3	96.0	97.8	94.1	92.4	95.6	95.7	98.9	97.6	97.1	101.0	99.2	92.9	138.9
80	93.8	97.3	93.1	92.9	94.2	99.3	96.7	96.4	97.6	97.4	101.0	101.0	86.6	139.2
100	92.2	99.5	95.3	94.5	95.9	100.0	98.6	101.3	98.8	102.1	102.2	106.4	90.8	141.9
125	89.1	91.9	94.7	94.7	97.1	99.7	98.1	98.5	98.7	102.5	109.1	110.8	96.7	144.2
160	87.7	89.5	91.7	90.0	90.9	95.5	97.9	98.3	100.0	104.3	108.9	112.4	102.0	144.8
200	91.8	89.3	92.6	90.6	94.0	98.1	99.0	99.1	103.6	105.1	110.3	114.7	105.1	146.7
250	90.5	93.1	94.3	93.4	95.7	97.8	98.7	101.4	105.1	110.7	115.8	118.5	108.4	150.8
315	91.1	93.1	93.4	91.9	94.8	99.4	100.3	101.4	106.1	112.2	116.3	118.8	110.4	151.5
400	93.1	93.9	94.4	93.2	95.5	98.6	101.8	102.7	106.6	114.4	118.8	120.0	111.9	153.2
500	93.6	95.9	95.6	94.7	96.5	100.1	100.8	103.9	107.9	116.0	119.6	120.8	113.2	154.2
630	94.5	95.8	96.8	94.6	97.0	100.3	101.5	104.6	108.3	116.7	120.0	120.2	114.6	154.4
800	96.8	96.6	97.4	95.4	98.3	101.4	102.0	105.9	110.1	115.7	120.1	120.8	116.2	154.7
1000	100.5	102.0	100.6	98.1	99.7	103.1	102.9	106.3	110.6	115.1	118.8	120.7	115.9	154.2
1250	99.4	103.4	103.2	100.6	101.1	103.5	103.1	106.8	111.5	114.8	118.2	118.6	114.8	153.4
1600	98.6	99.7	100.6	98.5	100.8	103.9	104.2	107.5	111.4	113.5	118.8	117.5	111.9	153.0
2000	98.8	100.6	100.2	98.1	99.7	103.1	104.0	107.9	111.2	114.5	118.3	114.6	109.4	152.4
2500	98.4	101.9	100.8	98.7	99.9	103.2	103.7	106.8	110.2	114.7	115.7	112.3	107.5	151.1
3150	97.2	101.3	101.8	99.6	100.4	103.7	103.4	107.3	110.2	113.5	114.0	109.9	104.8	150.1
4000	94.4	98.7	100.1	98.3	101.0	103.7	102.8	106.6	109.5	111.7	112.5	106.3	102.4	148.8
5000	93.1	97.3	98.2	97.1	99.1	102.9	103.0	106.3	108.1	110.9	109.7	104.8	99.3	147.6
6300	91.7	96.1	97.4	95.5	98.3	102.5	103.1	105.7	108.0	108.6	107.7	102.0	97.7	146.6
8000	89.8	93.9	95.9	95.4	97.6	101.4	100.8	103.9	106.1	106.2	105.5	100.2	96.5	145.1
10000	88.9	92.4	94.7	94.5	96.7	100.9	100.7	103.6	104.8	104.4	103.6	99.3	95.6	144.5
12500	86.4	89.6	92.4	92.3	95.6	99.4	98.9	100.7	102.8	102.3	101.4	98.4	95.2	143.3
16000	84.3	89.3	91.2	91.5	93.6	97.6	97.7	98.5	101.4	99.6	99.6	95.4	93.1	142.8
20000	81.1	86.8	88.6	89.4	91.4	94.6	95.7	95.4	97.3	96.7	96.2	92.6	89.3	141.5
25000	78.1	82.9	85.2	86.0	87.6	92.7	92.6	91.6	93.9	92.7	90.7	89.4	84.2	140.4
31500	74.2	78.8	81.6	83.0	83.7	87.8	87.8	87.7	89.6	88.5	87.3	84.9	78.1	139.3
40000	69.5	74.4	77.7	78.3	78.9	84.5	82.8	83.4	86.5	86.4	83.7	79.5	72.8	139.6
50000	64.9	68.7	71.0	72.2	73.3	78.8	77.0	77.7	79.4	80.8	78.8	73.5	65.5	138.0
63000	61.2	65.7	66.7	67.2	68.3	74.0	70.7	72.2	74.9	74.9	72.4	66.3	58.7	138.0
80000	60.0	63.0	62.0	59.7	60.9	67.4	64.4	64.8	67.4	67.5	66.6	59.0	50.9	138.2
OASPL	109.0	111.8	111.9	110.1	111.9	115.3	115.5	118.4	121.7	126.0	129.4	129.9	123.7	164.6
PNL	121.4	124.6	125.1	123.2	124.9	128.1	128.1	131.4	134.3	137.9	140.1	138.5	132.6	
PNLT	121.4	125.4	125.1	123.2	125.5	128.1	128.1	132.1	134.3	137.9	140.7	138.5	132.6	
DBA	180.7	183.9	183.5	182.3	183.5	189.6	186.7	187.4	190.0	190.2	188.7	182.0	174.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH199 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = S859 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.40 PAMB HG = 29.38 RELHUM = 74.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1329.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2146.2 FPS AE18 = 23.4 SQ IN

IPT F-ZI 407 PE = X F TL PT 140 AE8 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1407 X14071

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.9	70.0	72.3	72.1	74.8	77.1	77.8	80.1	83.1	87.6	91.2	91.7	78.2	165.7
63	66.5	70.0	71.4	70.6	73.9	78.6	79.4	80.1	84.1	89.1	91.7	91.9	80.2	166.3
80	68.4	70.7	72.3	71.8	74.6	77.8	80.8	81.3	84.6	91.3	94.1	93.1	81.6	168.1
100	68.8	72.7	73.5	73.3	75.6	79.3	79.8	82.5	85.8	92.8	94.8	93.8	82.7	169.0
125	69.7	72.5	74.6	73.2	75.9	79.4	80.4	83.2	86.1	93.4	95.2	93.1	84.0	169.3
160	71.8	73.2	75.1	73.8	77.1	80.4	80.8	84.3	87.8	92.3	95.0	93.4	85.1	169.5
200	75.2	78.4	78.0	76.3	78.4	81.9	81.6	84.6	88.0	91.5	93.4	92.9	84.3	169.1
250	73.7	79.5	80.4	78.6	79.5	82.1	81.5	84.8	88.7	90.8	92.5	90.4	82.6	168.3
315	72.5	75.4	77.5	76.2	78.9	82.2	82.4	85.2	88.3	89.1	92.7	88.7	78.9	167.9
400	72.1	75.8	76.7	75.5	77.5	81.0	81.9	85.2	87.7	89.7	91.6	85.1	75.3	167.2
500	71.2	76.7	76.9	75.7	77.4	80.9	81.2	83.8	86.3	89.5	88.5	82.1	72.4	165.9
630	69.5	75.6	77.5	76.2	77.6	81.0	80.5	84.0	85.9	87.8	86.2	79.0	68.6	165.0
800	66.0	72.5	75.4	74.5	77.7	80.6	79.6	82.8	84.8	85.5	84.1	74.5	64.8	163.6
1000	64.0	70.6	73.0	72.9	75.5	79.4	79.4	82.1	82.9	84.2	80.7	72.1	60.4	162.5
1250	61.8	68.7	71.7	70.8	74.2	78.6	79.0	81.1	82.3	81.2	77.8	68.2	57.0	161.5
1600	58.6	65.4	69.3	69.9	72.7	76.8	76.0	78.4	79.5	77.8	74.3	64.6	53.0	159.9
2000	55.9	62.6	66.9	68.0	70.9	75.4	74.9	77.1	77.0	74.6	70.6	61.3	48.3	159.4
2500	50.7	57.6	62.8	64.2	68.4	72.4	71.7	72.6	73.2	70.3	65.7	56.6	42.0	158.2
3150	44.2	53.9	58.8	60.9	64.0	68.3	68.0	67.9	68.9	64.1	59.6	47.6	30.6	157.7
4000	33.4	45.2	50.9	54.0	57.4	61.0	61.7	60.0	59.6	55.2	48.5	34.5	10.9	156.4
5000	19.0	32.2	39.6	43.6	46.9	52.6	51.9	49.3	48.4	42.0	31.6	16.0		155.2
6300		12.6	22.7	28.6	31.8	36.6	35.9	33.3	30.7	22.3	9.2			154.1
8000				3.3	7.4	14.2	11.4	8.4	4.9					154.4
10000														152.9
12500														152.9
16000														153.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	82.3	86.5	87.8	86.6	88.9	92.3	92.6	95.3	98.1	101.8	103.8	102.1	92.2	179.2
PNL	86.0	91.3	93.2	92.4	94.9	98.9	98.8	101.2	103.4	105.3	106.1	102.7	92.9	
PNLT	86.0	91.3	93.2	93.0	95.4	98.9	98.8	101.2	103.4	105.3	106.1	102.7	92.9	
DBA	75.7	81.1	83.0	82.2	84.6	88.3	88.1	90.8	92.7	94.1	94.3	89.9	80.7	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH199 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.40 PAMB HG = 29.38 RELHUM = 74.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1329.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2146.2 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1407 TAPE = X14071 TEST PT NO = 1407 NC = AE087 CORR FAN SPEED = RPM

P1185-03

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 83F-400-1408 X1408C
BACKGROUND 83F-400-1400 X14000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.9	90.7	86.4	83.7	84.3	86.2	86.1	90.7	88.7	92.2	95.4	95.8	91 2	132.4
63	92.5	92.3	92.8	89.9	90.2	92.3	91.7	96.4	94.3	96.6	96.5	100.7	97.9	136.7
80	93.3	97.1	93.1	93.1	93.5	98.1	96.0	96.1	94.8	96.4	99.0	99.5	89.6	138.1
100	92.7	97.5	93.3	92.0	93.9	98.0	97.1	99.5	96.0	98.8	100.0	105.4	92.1	140.0
125	90.4	91.2	93.2	93.0	95.8	98.2	97.1	97.5	94.4	99.0	105.6	109.3	95.7	142.0
160	87.9	85.2	89.2	87.8	89.4	93.2	95.4	94.3	94.7	100.8	106.4	109.4	100.0	141.8
200	88.0	87.6	88.1	86.6	89.5	93.3	94.0	96.4	97.8	99.4	106.3	112.0	102.1	143.2
250	85.5	88.6	89.1	88.4	90.5	93.6	95.2	97.4	98.1	105.7	111.3	115.0	104.6	146.7
315	86.3	88.4	87.6	87.4	89.8	94.9	95.5	97.9	99.9	107.5	112.8	115.5	106.4	147.8
400	87.3	88.4	89.6	87.9	90.8	94.1	96.8	97.9	99.6	109.2	114.6	116.5	106.4	149.0
500	87.6	89.1	90.6	88.7	91.5	95.4	96.0	98.7	100.9	111.2	116.1	116.8	104.9	150.0
630	88.5	89.3	90.6	89.1	91.7	95.3	96.5	99.6	100.8	111.9	115.0	114.7	102.9	149.1
800	89.3	89.4	90.6	89.2	92.8	96.4	97.0	100.9	103.1	111.0	114.8	112.5	100.7	148.3
1000	91.5	91.5	92.8	91.1	93.2	97.6	97.7	101.1	103.6	111.6	113.3	110.7	99.1	147.5
1250	90.4	93.7	93.7	91.6	93.3	97.5	98.1	101.5	104.5	111.3	111.9	106.1	97.3	146.5
1600	90.8	91.2	92.6	91.5	94.3	98.4	99.7	103.0	104.9	109.7	112.1	104.8	96.2	146.2
2000	93.0	92.6	92.7	91.4	93.7	98.3	99.3	103.4	105.2	110.5	112.0	103.6	96.1	146.4
2500	93.1	94.4	94.5	92.5	94.1	98.3	98.7	102.5	104.4	110.4	110.7	103.3	96.5	145.8
3150	93.3	93.8	94.6	92.9	94.7	99.3	99.1	102.4	104.7	109.8	109.5	102.2	95.9	145.3
4000	92.2	92.3	93.6	91.6	94.5	98.5	99.1	102.4	103.8	108.0	108.7	101.0	94.9	144.4
5000	91.6	91.9	93.3	91.2	93.9	97.9	98.3	102.1	102.9	107.5	106.3	98.6	93.3	143.4
6300	90.3	91.9	93.0	91.3	93.4	97.6	98.1	101.1	102.3	105.2	103.5	96.8	91.5	142.1
8000	88.9	90.7	92.3	91.8	93.2	96.5	96.9	99.8	100.5	102.4	101.3	94.0	90.1	140.6
10000	89.5	90.4	91.4	90.9	93.1	96.8	96.1	99.5	100.0	100.9	99.8	93.2	89.0	140.4
12500	87.8	88.3	90.4	90.1	92.4	96.4	96.2	96.7	97.5	99.6	96.7	93.1	88.1	139.6
16000	86.8	88.4	90.0	89.3	90.6	94.3	94.9	95.3	95.9	95.6	94.2	90.4	85.6	139.0
20000	83.0	85.3	87.2	87.1	88.6	91.4	93.2	92.6	92.3	92.3	91.2	87.3	83.3	138.0
25000	80.5	82.1	83.6	84.7	85.2	89.8	90.0	88.6	89.1	87.7	86.9	84.5	78.4	137.1
31500	76.2	78.6	80.8	82.0	81.7	85.6	85.6	84.9	84.3	83.7	83.3	80.4	73.6	136.2
40000	71.7	74.6	76.5	77.7	77.0	82.4	80.7	81.1	80.8	79.8	78.8	75.0	69.3	136.2
50000	66.0	68.2	70.3	72.0	71.1	77.4	75.6	75.5	74.2	72.9	72.3	68.8	63 4	134.8
63000	59.7	63.1	65.3	66.1	67.0	72.8	69.4	69.6	69.3	66.1	66.0	61.8	56.2	134.8
80000	52.7	56.5	57.7	57.8	59.3	65.9	62.8	62.6	62.2	59.3	58.7	54.5	48.6	134.5
OASPL	104.8	106.2	106.2	104.9	107.0	110.9	111.3	114.1	115.5	121.8	124.6	124.4	114.1	159.6
PNL	117.3	118.1	118.8	117.2	119.3	123.5	123.8	126.9	128.6	134.0	135.2	132.1	122.9	
PNLT	117.3	118.7	118.8	117.8	120.0	123.5	123.8	126.9	128.6	134.0	135.2	132.1	122.9	
OBA	103.1	103.9	104.7	103.0	105.3	109.4	110.0	113.4	115.2	121.3	123.2	120.7	110.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH191 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.31 PAMB HG = 29.22 RELHUM = 64.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1332.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2136.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1408 TAPE = X1408C TEST PT NO = 1408 NC = AE087 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1408 X1408F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	93.4	95.0	94.0	91.7	92.1	93.6	93.3	93.8	97.8	104.9	110.0	113.4	106.3	145.6
315	93.4	95.0	94.0	91.7	91.6	95.1	94.7	96.1	97.7	106.8	112.1	115.1	107.7	147.4
400	94.0	94.8	92.6	90.8	92.6	94.4	95.9	96.1	98.9	108.8	113.8	116.1	107.9	148.6
500	95.0	94.7	94.6	91.3	93.4	95.7	95.1	96.7	99.1	109.9	113.3	115.1	108.0	148.2
630	95.3	95.5	95.6	92.1	93.7	95.7	95.6	97.6	101.8	109.4	113.8	114.3	108.6	148.2
800	96.2	95.7	95.6	92.6	94.8	96.9	96.2	99.0	102.8	110.7	113.1	113.9	109.7	148.2
1000	97.0	95.8	95.7	92.8	95.3	98.2	97.1	99.4	103.4	110.0	111.3	109.0	107 7	146.4
1250	99.0	97.9	97.9	94.7	95.6	98.3	97.5	99.6	104.0	108.6	111.7	107.8	106.3	146.2
1600	97.5	99.8	98.7	95.2	96.7	99.4	99.3	101.4	104.6	109.6	111.7	106.7	106.8	146.6
2000	98.5	97.7	97.9	95.4	96.4	99.6	99.2	101.9	104.3	110.1	111.1	107.2	108.0	146.6
2500	100.5	99.0	98.0	95.3	97.0	99.9	98.9	101.5	105.1	110.0	110.5	106.7	107.9	146.5
3150	100.0	100.5	99.6	96.5	98.0	101.3	99.8	101.8	104.8	108.8	110.1	105.8	107.2	146.2
4000	100.8	100.5	100.2	97.3	98.2	101.0	100.3	102.5	103.8	108.1	107.5	103.2	105.4	145.4
5000	99.7	99.0	99.4	96.2	98.0	100.9	99.8	102.3	103.6	106.2	105.0	101.7	104.0	144.3
6300	99.1	98.6	99.1	96.0	97.4	100.6	99.9	101.4	102.5	104.0	103.7	99.8	103.4	143.5
8000	97.6	98.5	98.7	96.0	97.2	99.5	99.0	100.6	102.4	103.1	102.7	99.5	102.8	143.2
10000	96.0	97.1	97.8	96.3	97.7	99.8	98.3	100.7	101.0	102.9	100.6	100.3	102.5	143.3
12500	99.2	98.8	98.3	96.3	97.0	99.4	98.6	98.3	100.3	99.9	99.0	98.3	100.5	143.3
16000	96.9	96.2	96.8	94.9	94.7	97.3	97.4	97.1	96.9	96.6	95.7	94.6	97 4	142.3
20000	92.7	93.6	94.3	92.6	92.7	94.4	95.5	94.3	94.1	92.5	92.1	92.6	93.3	141.3
25000	88.4	89.9	90.9	89.9	89.8	92.8	92.1	89.9	90.7	90.0	90.1	90.2	90.2	140.6
31500	87.8	88.2	88.3	87.7	86.3	88.6	88.0	86.9	88.0	87.0	86.7	85.9	87.1	140.7
40000	82.7	83.8	84.6	84.2	81.6	85.4	83.1	82.9	80.0	78.6	78.4	77.8	79.2	139.8
50000	77.8	79.4	79.9	79.6	75.7	80.4	77.2	76.0	75.9	72.6	73.1	71.9	73.1	139.1
63000	71.2	72.1	72.7	72.9	71.6	75.8	71.0	70.0	70.3	67.3	67.3	66.1	67 2	138.5
80000	63.4	65.5	66.3	65.5	63.9	68.9	64.4	63.0	60.4	57.5	57.5	56.3	57 4	138.0
OASPL	110.8	110.8	110.5	107.9	109.1	111.8	111.1	112.9	115.3	120.8	123.2	123.4	119.4	159.3
PNL	123.2	123.1	122.8	119.9	121.2	124.0	123.2	125.3	127.7	132.4	133.8	131.3	130.8	
PNLT	123.2	123.1	122.8	119.9	121.2	124.0	123.2	125.3	127.7	132.4	133.8	131.3	130.8	
DBA	186.4	188.0	188.8	188.3	186.5	191.1	186.8	185.6	184.4	181.5	181.5	180.4	181.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH191 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.31 PAMB HG = 29.22 RELHUM = 64.3 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 = 1332.5 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2136.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1408 TAPE = X1408F TEST PT NO = 1408 NC = AE087 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 - 83F-400-1408 X14081

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.8	72.0	72.0	70.4	71.2	72.8	72.4	72.5	75.8	81.8	85.4	86.6	76.2	160.5
63	68.8	71.9	72.0	70.4	70.7	74.3	73.8	74.8	75.7	83.7	87.5	88.3	77.5	162.2
80	69.3	71.6	70.5	69.5	71.7	73.6	75.0	74.7	76.9	85.7	89.1	89.2	77.6	163.5
100	70.2	71.5	72.5	69.9	72.5	74.9	74.1	75.3	77.0	86.7	88.5	88.1	77.5	163.1
125	70.4	72.2	73.4	70.7	72.6	74.8	74.6	76.2	79.6	86.1	88.9	87.1	77.9	163.0
160	71.1	72.3	73.3	71.0	73.7	75.9	75.1	77.4	80.4	87.3	88.0	86.5	78.6	163.1
200	71.7	72.1	73.2	71.0	74.0	77.0	75.7	77.6	80.9	86.4	86.0	81.2	76.1	161.3
250	73.3	73.9	75.1	72.7	74.0	76.9	75.9	77.6	81.3	84.7	86.0	79.6	74.6	161.0
315	71.4	75.5	75.6	72.9	74.9	77.7	77.5	79.1	81.5	85.3	85.6	78.0	73.8	161.4
400	71.8	73.0	74.4	72.7	74.2	77.6	77.0	79.3	80.8	85.4	84.5	77.7	73.9	161.5
500	73.3	73.8	74.1	72.3	74.4	77.5	76.4	78.5	81.2	84.8	83.3	76.5	72.8	161.4
630	72.2	74.8	75.3	73.1	75.1	78.6	76.9	78.4	80.5	83.1	82.3	74.9	70.9	161.1
800	72.4	74.3	75.4	73.5	74.9	78.0	77.1	78.7	79.1	81.9	79.1	71.4	67.9	160.2
1000	70.7	72.2	74.2	72.0	74.4	77.5	76.2	78.1	78.4	79.4	76.0	69.0	65.0	159.1
1250	69.2	71.2	73.3	71.3	73.3	76.7	75.8	76.7	76.7	76.6	73.8	66.0	62.7	158.4
1600	66.4	70.0	72.0	70.6	72.4	74.9	74.2	75.1	75.8	74.7	71.5	63.9	59.3	158.1
2000	63.0	67.3	70.0	69.8	71.9	74.3	72.6	74.2	73.2	73.1	67.7	62.3	55.2	158.1
2500	63.5	66.8	68.7	68.2	69.7	72.4	71.3	70.2	70.7	67.9	63.3	56.5	47.4	158.1
3150	56.9	60.8	64.3	64.3	65.0	68.0	67.7	66.5	64.4	61.1	55.6	46.9	34.8	157.2
4000	45.0	52.0	56.6	57.3	58.7	60.8	61.5	58.9	56.4	51.0	44.4	34.5	14.8	156.1
5000	29.3	39.1	45.3	47.5	49.2	52.7	51.5	47.6	45.2	39.3	31.0	16.8		155.5
6300	9.7	22.0	29.4	33.4	34.4	37.4	36.1	32.5	29.2	20.8	8.6			155.5
8000			3.1	9.2	10.2	15.1	11.7	8.0						154.7
10000														153.9
12500														153.3
16000														152.8
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	83.2	85.1	86.0	84.1	85.9	88.8	88.0	89.5	91.5	96.4	97.7	96.0	87.1	174.2
PNL	88.8	91.6	93.3	92.1	93.9	96.7	95.8	96.7	97.5	100.7	100.0	95.9	88.6	
PNLT	90.0	91.6	93.9	92.7	94.4	96.7	95.8	97.2	97.5	100.7	101.0	95.9	88.6	
DBA	79.1	81.3	82.7	81.0	82.9	85.9	84.9	86.2	87.2	89.7	88.4	82.5	77.5	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH191	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.31	PAMB HG = 29.22	RELHUM = 64.3 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 = 1332.5 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2136.1 FPS	AE18 = 23.4 SQ IN

PT F-40 108 E = XL T TE PT N 140 AEO R F SPEE 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 83F-ZER-1409 X1409C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	90.1	91.2	89.4	86.2	85.8	90.4	91.8	94.0	93.4	100.5	101.1	100.8	92.5	137.2
63	94.5	96.0	98.1	92.4	94.4	97.1	96.2	98.9	98.1	103.1	102.8	104.5	98 4	141.0
80	96.0	99.8	95.6	95.9	97.2	101.3	99.0	98.4	99.6	99.9	103.0	103.5	88.6	141.5
100	94.7	101.7	97.3	96.8	98.4	102.0	100.4	103.3	101.3	103.8	104.2	108.6	93.6	144.0
125	91.4	94.2	96.7	97.0	99.8	102.2	100.3	101.2	101.4	104.8	111.1	113.6	99.5	146.7
160	89.4	91.0	93.0	91.8	93.1	97.0	100.9	98.8	102.0	106.1	111.2	114.1	104.3	146.7
200	93.5	91.8	94.6	92.9	95.7	99.8	101.5	100.9	105.3	106.9	112.8	117.0	107.4	148.9
250	92.3	94.6	96.1	95.1	97.2	99.3	100.5	103.4	106.3	112.9	118.0	120.5	110.9	152.9
315	93.1	94.6	94.6	93.7	96.5	101.4	102.3	103.7	107.9	115.2	119.3	121.5	113.2	154.3
400	95.1	96.1	96.6	94.9	97.0	100.6	104.8	104.7	108.4	116.9	121.6	122.3	114.2	155.7
500	95.8	97.1	97.9	95.9	98.3	102.6	102.8	105.7	109.6	118.7	123.3	123.3	115.2	157.2
630	96.3	97.1	98.3	96.6	98.7	102.8	103.0	106.4	109.8	119.2	123.5	123.5	116.9	157.5
800	99.6	99.1	98.9	97.4	100.8	103.4	104.3	107.4	112.1	118.2	124.1	123.8	117.9	157.8
1000	102.5	105.0	103.1	100.8	102.2	105.1	105.2	108.1	112.6	118.1	123.5	123.4	117.4	157.5
1250	103.2	107.4	106.5	103.4	103.8	106.2	106.1	109.0	113.0	117.5	124.2	121.1	115.5	157.2
1600	108.1	107.5	106.6	102.5	103.5	106.6	106.5	109.3	113.6	116.7	123.1	119.0	112.4	156.3
2000	108.5	107.6	107.7	105.1	104.4	106.1	106.0	109.9	114.0	117.3	122.5	115.8	110 6	155.8
2500	103.9	105.7	106.3	105.2	106.9	108.2	106.2	109.0	113.2	117.7	120.7	114.8	109.3	154.9
3150	102.2	104.8	104.8	102.9	105.7	109.8	107.4	110.1	113.4	116.5	118.3	112.2	106.3	153.7
4000	100.7	103.3	104.4	102.0	104.0	107.9	107.8	109.9	112.5	115.0	117.0	109.8	105.4	152.6
5000	98.6	101.6	103.2	101.4	103.9	106.6	107.0	109.8	111.3	114.2	115.8	108.6	103.6	151.8
6300	98.0	101.4	102.2	100.8	102.9	106.6	106.6	109.5	111.0	111.7	113.7	107.2	103.5	150.7
8000	96.1	99.7	101.2	100.0	102.1	105.9	105.1	108.0	109.4	109.8	112.0	106.0	102.6	149.6
10000	95.2	98.5	100.0	99.6	102.0	105.2	104.7	107.2	108.9	108.8	110.7	104.9	102 2	149.3
12500	93.0	95.2	98.0	97.7	100.5	104.3	103.8	104.5	106.6	106.7	107.6	104.5	100.8	148.1
16000	90.9	95.2	96.7	96.4	98.7	101.5	101.3	102.9	105.6	104.0	106.0	102.5	97.2	147.5
20000	88.2	92.2	94.1	94.0	96.3	98.8	99.4	99.8	101.5	101.2	103.9	100.5	94.7	146.5
25000	85.0	89.1	90.3	91.4	93.2	97.3	96.5	96.0	99.1	97.1	99.3	94.8	90.1	145.5
31500	80.8	84.9	87.0	88.6	89.1	93.2	92.4	93.3	95.0	94.3	97.9	90.8	84.9	145.4
40000	75.5	80.1	82.9	84.1	84 6	90.2	88.0	89.7	92.7	91.7	94.7	36.5	81.3	146.1
50000	69.5	73.5	76.9	77.8	78.9	84.9	82.6	84.3	86.8	86.8	89.6	81.1	74.9	145.1
63000	64.7	69.1	71.2	72.1	73.5	79.7	76.6	79.6	81.6	83.8	85.1	75.3	67.4	145.8
80000	61.5	64.5	65.2	64.5	66.0	73.7	71.0	72.6	76.9	78.7	78.4	69.8	60.7	146.8
OASPL	114.6	116.1	116.1	114.1	115.8	118.8	118.5	121.0	124.2	128.9	133.5	132.4	125.5	167.9
PNL	127.6	128.5	128.9	127.3	129.0	132.4	131.6	134.0	137.1	140.9	144.5	140.9	134 6	
PNLT	127.6	129.3	128.9	127.3	129.7	132.4	131.6	134.6	137.1	140.9	145.1	140.9	134.6	
DBA	115.0	116.2	116.2	113.9	115.4	118.3	117.8	120.6	124.0	128.2	132.9	130.7	124.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH197 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.43 PAMB HG = 29.34 RELHUM = 67.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1492.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2311.7 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1409 TAPE = X1409C TEST PT NO = 1409 NC = AE087 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 - 83F-ZER-1409 X1409F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	90.1	91.2	89.4	86.2	85.8	90.4	91.8	94.0	93.4	100.5	101.1	100.8	92.5	137.2
63	94.5	96.0	98.1	92.4	94.4	97.1	96.2	98.9	98.1	103.1	102.8	104.5	98.4	141.0
80	96.0	99.8	95.6	95.9	97.2	101.3	99.0	98.4	99.6	99.9	103.0	103.5	88.6	141.5
100	94.7	101.7	97.3	96.8	98.4	102.0	100.4	103.3	101.3	103.8	104.2	108.6	93.6	144.0
125	91.4	94.2	96.7	97.0	99.8	102.2	100.3	101.2	101.4	104.8	111.1	113.6	99.5	146.7
160	89.4	91.0	93.0	91.8	93.1	97.0	100.9	98.8	102.0	106.1	111.2	114.1	104.3	146.7
200	93.5	91.8	94.6	92.9	95.7	99.8	101.5	100.9	105.3	106.9	112.8	117.0	107.4	148.9
250	92.3	94.6	96.1	95.1	97.2	99.3	100.5	103.4	106.3	112.9	118.0	120.5	110.9	152.9
315	93.1	94.6	94.6	93.7	96.5	101.4	102.3	103.7	107.9	115.2	119.3	121.5	113.2	154.3
400	95.1	96.1	96.6	94.9	97.0	100.6	104.8	104.7	108.4	116.9	121.6	122.3	114 2	155.7
500	95.8	97.1	97.9	95.9	98.3	102.6	102.8	105.7	109.6	118.7	123.3	123.3	115.2	157.2
630	96.3	97.1	98.3	96.6	98.7	102.8	103.0	106.4	109.8	119.2	123.5	123.5	116.9	157.5
800	99.6	99.1	98.9	97.4	100.8	103.4	104.3	107.4	112.1	118.2	124.1	123.8	117.9	157.8
1000	102.5	105.0	103.1	100.8	102.2	105.1	105.2	108.1	112.6	118.1	123.5	123.4	117.4	157.5
1250	103.2	107.4	106.5	103.4	103.8	106.2	106.1	109.0	113.0	117.5	124.2	121.1	115.5	157.2
1600	108.1	107.5	106.6	102.5	103.5	106.6	106.5	109.3	113.6	116.7	123.1	119.0	112.4	156.3
2000	108.5	107.6	107.7	105.1	104.4	106.1	106.0	109.9	114.0	117.3	122.5	115.8	110.6	155.8
2500	103.9	105.7	106.3	105.2	106.9	108.2	106.2	109.0	113.2	117.7	120.7	114.8	109.3	154.9
3150	102.2	104.8	104.8	102.9	105.7	109.8	107.4	110.1	113.4	116.5	118.3	112.2	106.3	153.7
4000	100.7	103.3	104.4	102.0	104.0	107.9	107.8	109.9	112.5	115.0	117.0	109.8	105.4	152.6
5000	98.6	101.6	103.2	101.4	103.9	106.6	107.0	109.8	111.3	114.2	115.8	108.6	103.6	151.8
6300	98.0	101.4	102.2	100.8	102.9	106.6	106.6	109.5	111.0	111.7	113.7	107.2	103.5	150.7
8000	96.1	99.7	101.2	100.0	102.1	105.9	105.1	108.0	109.4	109.8	112.0	106.0	102.6	149.6
10000	95.2	98.5	100.0	99.6	102.0	105.2	104.7	107.2	108.9	108.8	110.7	104.9	102.2	149.3
12500	93.0	95.2	98.0	97.7	100.5	104.3	103.8	104.5	106.6	106.7	107.6	104.5	100 8	148.1
16000	90.9	95.2	96.7	96.4	98.7	101.5	101.3	102.9	105.6	104.0	106.0	102.5	97.2	147.5
20000	88.2	92.2	94.1	94.0	96.3	98.8	99.4	99.8	101.5	101.2	103.9	100.5	94.7	146.5
25000	85.0	89.1	90.3	91.4	93.2	97.3	96.5	96.0	99.1	97.1	99.3	94.8	90.1	145.5
31500	80.8	84.9	87.0	88.6	89.1	93.2	92.4	93.3	95.0	94.3	97.9	90.8	84.9	145.4
40000	75.5	80.1	82.9	84.1	84.6	90.2	88.0	89.7	92.7	91.7	94.7	86.5	81.3	146.1
50000	69.5	73.5	76.9	77.8	78.9	84.9	82.6	84.3	86.8	86.8	89.6	81.1	74.9	145.1
63000	64.7	69.1	71.2	72.1	73.5	79.7	76.6	79.6	81.6	83.8	85.1	75.3	67.4	145.8
80000	61.5	64.5	65.2	64.5	66.0	73.7	71.0	72.6	76.9	78.7	78.4	69.8	60.7	146.8
OASPL	114.6	116.1	116.1	114.1	115.8	118.8	118.5	121.0	124.2	128.9	133.5	132.4	125.5	167.9
PNL	127.6	128.5	128.9	127.3	129.0	132.4	131.6	134.0	137.1	140.9	144.5	140.9	134.6	
PNLT	127.6	129.3	128.9	127.3	129.7	132.4	131.6	134.6	137.1	140.9	145.1	140.9	134.6	
DBA	182.7	186.0	187.3	187.3	188.7	195.7	193.0	194.9	198.5	200.2	200.6	191.7	183.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH197 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.43 PAMB HG = 29.34 RELHUM = 67.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1492.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2311.7 FPS AE18 = 23.4 SQ IN

PT = -ZE 09 E = X1 TE T N 140 E08 R F SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-14Q9 X14091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.7	71.5	74.1	73.8	76.3	78.6	79.6	82.1	84.3	89.8	93.4	93.7	80.7	167.8
63	68.5	71.5	72.6	72.4	75.6	80.6	81.4	82.4	85.9	92.1	94.7	94.7	83.0	169.1
80	70.4	73.0	74.6	73.6	76.1	79.8	83.8	83.3	86.3	93.8	96.9	95.3	83.9	170.6
100	71.1	73.9	75.8	74.5	77.3	81.8	81.8	84.3	87.5	95.5	98.6	96.3	84.7	172.0
125	71.4	73.8	76.1	75.2	77.7	81.9	81.9	84.9	87.6	95.9	98.7	96.3	86.2	172.3
160	74.5	75.7	76.6	75.8	79.6	82.4	83.1	85.8	89.8	94.8	99.0	96.4	86.9	172.7
200	77.2	81.4	80.5	79.1	80.9	83.9	83.9	86.3	90.0	94.5	98.2	95.7	85.8	172.4
250	77.5	83.5	83.7	81.4	82.3	84.8	84.5	87.0	90.2	93.6	98.5	92.9	83.3	172.1
315	82.0	83.1	83.5	80.2	81.7	84.9	84.6	87.0	90.5	92.4	97.0	90.3	79.4	171.1
400	81.9	82.8	84.2	82.5	82.3	84.0	83.9	87.2	90.5	92.5	95.9	86.4	76.5	170.6
500	76.7	80.5	82.4	82.2	84.4	85.9	83.7	86.0	89.3	92.5	93.5	84.6	74.2	169.7
630	74.5	79.1	80.5	79.5	82.8	87.0	84.5	86.7	89.1	90.8	90.5	81.3	70.1	168.5
800	72.3	77.0	79.6	78.3	80.7	84.9	84.6	86.1	87.8	88.8	88.6	78.0	67.8	167.4
1000	69.5	74.9	78.0	77.2	80.3	83.2	83.4	85.6	86.1	87.5	86.7	75.9	64.6	166.6
1250	68.1	74.0	76.4	76.1	78.8	82.7	82.5	84.8	85.3	84.3	83.8	73.4	62.8	165.6
1600	64.9	71.2	74.6	74.5	77.3	81.3	80.3	82.5	82.8	81.3	80.8	70.4	59.1	164.4
2000	62.2	68.7	72.2	73.1	76.2	79.7	79.0	80.7	81.1	79.0	77.7	66.8	54.9	164.1
2500	57.3	63.2	68.4	69.6	73.2	77.3	76.5	76.4	77.0	74.7	71.9	62.7	47.6	162.9
3150	50.9	59.8	64.2	65.8	69.1	72.1	71.6	72.3	73.1	68.6	66.0	54.7	34.7	162.4
4000	40.5	50.6	56.4	58.7	62.3	65.2	65.4	64.5	63.8	59.6	56.2	42.4	16.3	161.4
5000	25.9	38.3	44.8	49.0	52.6	57.2	55.8	53.7	53.5	46.4	40.2	21.4		160.4
6300	2.7	18.7	28.1	34.2	37.1	42.0	40.5	38.9	36.1	28.1	19.8			160.3
8000			1.3	9.1	13.2	19.9	16.6	14.7	11.1					161.0
10000														160.0
12500														160.7
16000														161.7
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	87.9	90.8	92.0	90.6	92.6	95.8	95.4	97.6	100.4	104.6	107.8	104.7	94.0	182.6
PNL	93.1	96.2	98.2	97.2	99.5	102.9	102.4	104.2	106.2	108.3	110.8	105.6	94.9	
PNLT	93.1	96.2	98.7	97.7	99.5	102.9	102.4	104.7	106.2	108.3	110.8	105.6	94.9	
DBA	82.5	85.9	87.8	86.8	89.2	92.6	91.8	93.9	95.6	97.2	99.0	92.3	82.2	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH197	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.43	PAMB HG = 29.34	RELHUM = 67.2 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 = 1492.9 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2311.7 FPS	AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1409 TAPE = X14091 TEST PT NO = 1409 NC = AE087 CORR FAN SPEED = RPM

P1185-03

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 83F-400-1410 X1410C
BACKGROUND 83F-400-1400 X14000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	94.1	93.9	90.9	87.7	85.8	88.9	87.8	91.7	93.2	93.5	100.9	101.6	88.5	136.3
63	95.3	97.3	99.1	93.9	92.9	95.3	96.4	96.1	97.6	93.9	102.5	104.7	93.6	139.9
80	95.8	99.8	95.3	95.9	96.7	100.8	98.5	98.1	98.3	98.2	102.8	102.0	89.1	140.8
100	94.7	100.0	95.0	94.3	96.6	100.3	99.4	101.3	99.5	100.8	102.2	107.1	92.6	142.2
125	91.6	93.4	95.4	95.5	98.1	100.7	99.1	99.5	98.7	101.8	108.1	112.1	97.5	144.6
160	90.4	87.2	91.5	90.0	91.4	95.5	97.6	96.3	98.2	102.8	108.7	111.9	102.3	144.2
200	90.0	90.3	90.6	89.1	92.2	96.3	96.7	98.1	102.3	102.9	109.5	115.2	105.6	146.5
250	87.8	91.1	91.8	91.4	93.2	96.3	97.7	99.9	103.1	108.4	115.3	118.5	108.1	150.3
315	88.8	90.9	91.4	89.4	92.8	97.1	98.5	99.9	103.6	111.0	116.3	119.0	109.9	151.3
400	90.3	91.1	92.9	90.2	93.5	96.4	98.8	100.2	103.9	112.4	118.6	120.0	110.2	152.7
500	90.1	91.4	93.9	91.9	94.0	98.1	98.5	101.2	105.6	115.5	120.1	120.5	109.2	154.0
630	91.3	92.3	94.1	91.6	94.5	98.1	99.5	102.1	105.8	115.7	120.0	119.2	107.4	153.6
800	93.3	93.4	94.4	93.2	95.8	98.9	99.5	103.9	108.1	115.2	120.1	118.0	106.2	153.3
1000	96.3	96.5	97.1	94.6	96.7	100.1	100.4	103.8	108.3	114.9	118.8	116.7	104.9	152.3
1250	101.2	102.2	100.5	97.6	98.3	101.2	101.3	104.5	109.7	114.5	118.9	113.3	103.5	152.1
1600	104.3	104.0	105.1	99.5	99.3	101.9	103.0	106.0	110.4	114.0	118.8	112.0	102.4	152.1
2000	102.0	102.6	104.5	103.1	102.9	102.8	102.5	106.4	110.0	115.0	117.0	110.1	102.1	151.5
2500	99.1	99.9	101.5	101.0	104.1	106.7	103.7	106.0	109.4	115.2	116.7	109.3	102.3	151.4
3150	99.0	99.8	100.6	97.9	100.4	106.3	105.6	106.9	109.7	114.5	114.5	107.9	100.1	150.4
4000	97.2	98.3	100.1	97.8	99.5	103.4	104.6	107.7	109.0	112.7	112.7	104.8	99.1	149.1
5000	96.9	97.1	99.0	96.7	99.2	102.6	103.0	106.9	108.4	112.0	110.8	103.6	97.1	148.2
6300	96.3	97.9	98.7	96.8	98.6	102.6	102.9	106.6	108.6	110.0	108.5	100.5	95.5	147.3
8000	95.4	97.2	98.5	97.0	97.9	101.2	101.4	105.2	107.2	107.6	106.0	98.5	93.8	146.0
10000	95.5	97.1	98.6	97.7	98.0	101.5	101.8	105.0	105.9	106.1	104.7	97.7	92.5	145.9
12500	93.5	94.0	95.8	96.0	97.3	100.6	100.1	101.9	103.9	104.5	102.1	97.3	91.6	144.7
16000	92.5	94.0	95.2	95.0	95.8	98.8	98.1	99.5	102.1	101.3	100.1	95.3	89.5	144.1
20000	89.0	91.5	92.8	93.3	93.6	96.1	96.4	96.8	98.5	97.5	96.6	93.5	87.7	142.9
25000	85.2	88.0	89.6	90.1	90.2	95.0	94.2	93.3	94.8	93.6	92.5	89.7	83.1	142.2
31500	81.4	84.3	86.3	87.7	87.9	91.0	90.5	89.9	90.8	89.6	89.0	85.4	78.5	141.8
40000	76.5	79.8	81.8	82.5	82.8	87.9	86.7	86.3	87.6	87.0	84.8	80.2	73.5	142.0
50000	70.3	73.2	75.3	76.0	76.9	82.7	80.8	80.5	80.7	80.9	79.1	74.1	67.2	140.5
63000	64.3	68.1	69.6	71.2	71.3	77.3	73.9	74.9	76.1	75.7	72.8	67.6	60.5	140.3
80000	60.2	63.0	63.3	63.1	63.6	70.9	67.4	67.9	68.5	71.1	65.2	59.5	52.7	140.5
OASPL	111.0	112.0	112.7	110.7	112.1	115.3	115.2	117.8	120.7	125.9	129.5	128.5	118.1	164.1
PNL	123.2	124.0	125.2	123.4	125.6	128.8	128.7	131.1	133.6	138.3	140.4	136.5	127.5	
PNLT	123.2	124.6	125.2	124.0	126.3	128.8	128.7	131.1	133.6	138.3	140.4	136.5	127.5	
DBA	110.8	111.4	112.4	110.1	111.6	114.7	114.4	117.4	120.5	125.5	128.5	125.5	115.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH192 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 52.37 PAMB HG = 29.35 RELHUM = 68.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1553.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2318.7 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1410 TAPE = X1410C TEST PT NO = 1410 NC AE08? CORR FAN SPEED RPM

P1185-08

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

IDENTIFICATION - 83F-400-1410 X1410F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	95.7	97.5	96.8	94.7	94.8	96.3	95.8	96.3	101.6	108.4	113.6	116.9	109.8	149.1
315	95.7	97.5	96.8	94.7	94.6	97.3	97.7	98.1	101.9	110.0	116.1	118.6	111.5	150.9
400	96.5	97.3	96.3	92.8	95.3	96.6	97.9	98.3	103.7	113.1	117.8	119.8	112.1	152.5
500	97.5	97.1	97.6	93.4	95.9	98.5	97.6	99.2	104.1	113.6	118.3	119.6	112.4	152.7
630	97.8	97.8	98.9	95.4	96.4	98.5	98.6	100.1	106.9	113.8	119.2	119.9	114.2	153.4
800	99.0	98.7	99.1	95.1	97.8	99.4	98.8	102.1	107.8	114.3	118.9	120.2	115.6	153.6
1000	100.6	99.5	99.3	96.7	98.4	100.7	100.0	102.4	108.9	113.6	118.7	116.6	114.2	152.5
1250	101.6	101.3	100.9	97.4	100.1	102.0	100.8	102.8	109.7	113.1	118.7	115.3	113.3	152.2
1600	107.8	107.6	104.6	100.5	101.2	102.9	102.6	104.5	109.5	114.4	117.1	113.7	113.3	152.0
2000	111.2	109.7	109.6	102.6	105.1	104.1	102.5	105.1	109.4	115.0	117.3	113.4	113.9	152.9
2500	106.9	106.9	108.1	106.0	107.1	108.4	103.9	105.1	110.0	114.7	115.4	112.3	112.1	152.1
3150	106.8	106.6	107.0	105.2	104.3	108.3	106.3	106.3	110.0	113.4	113.9	109.4	111.2	151.3
4000	109.4	108.7	107.9	103.4	103.2	106.0	105.8	107.7	109.2	112.5	111.8	107.8	108.8	150.7
5000	104.7	105.0	105.9	102.5	103.2	105.6	104.5	106.9	109.7	110.6	109.6	104.9	107 4	149.3
6300	104.3	103.8	104.8	101.5	102.7	105 6	104.6	106.8	108.8	108.7	107.7	103.6	106.6	148.6
8000	103.6	104.5	104.4	101.5	101.9	104.2	103.4	105.8	108.0	107.8	107.0	103.4	106.0	148.2
10000	102.5	103.6	104.0	101.5	102.1	104.5	104.0	105.9	106.6	106.9	105.1	103.8	105.6	148.2
12500	102.3	103.2	103.8	101.9	101.3	103.6	102.3	102.9	105.5	104.5	104.0	102.6	104.3	147.8
16000	99.9	99.6	100.5	99.7	99.8	101.8	100.4	100.7	103.1	102.0	101.7	101.8	103.1	147.0
20000	98.4	99.2	99.5	98.3	97.6	99.1	98.8	98.6	100.3	99.1	98.7	99.0	99.4	146.5
25000	94.3	96.0	96.5	96.0	94.8	98.0	96.6	95.2	97.0	95.9	95.9	95.7	96.1	146.1
31500	92.5	94.1	94.2	93.2	92.5	94.0	93.0	91.7	94.2	93.6	92.2	91.3	92.2	146.3
40000	87.9	89.5	90.1	89.9	87.4	90.9	89.1	87.9	87.9	88.2	87.2	85.8	86.5	145.9
50000	82.6	84.6	85.2	84.3	81.5	85.7	83.2	82.2	83.4	82.7	80.6	78.9	79.6	144.8
63000	75.4	77.1	77.7	76.9	75.9	80.3	76.0	76.0	76.6	78.7	73.1	70.4	70.5	143.7
80000	67.9	70.5	70.6	70.6	68.2	73.9	69.3	68.6	66.8	68.9	63.3	60.6	60.7	143.2
OASPL	117.6	117.2	117.2	114.0	114.6	116.7	115.4	117.0	120.7	125.0	128.5	128.3	124.4	164.4
PNL	130.4	130.1	129.7	126.6	127.5	129.6	128.1	129.7	133.0	136.9	138.6	136.4	135.2	
PNLT	132.5	130.1	130.8	126.6	127.5	129.6	128.1	129.7	133.0	136.9	138.6	136.4	135.2	
DBA	190.9	193.1	193.4	193.1	191.0	196.1	191.9	191.4	191.0	192.6	187.8	185.5	185.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH192	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 52.37	PAMB HG = 29.35	RELHUM = 68.1 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 = 1553.6 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2318.7 FPS	AE18 = 23.4 SQ IN	
RUNPT = 83F-400-1410	TAPE = X1410F	TEST PT NO = 1410	NC = AE087	CORR FAN SPEED = RPM	

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P1185-03

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

IDENTIFICATION - 83F-400-1410 X14101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.1	74.5	74.8	73.4	74.0	75.6	74.9	75.0	79.6	85.3	89.0	90.1	79.7	164.0
63	71.1	74.4	74.7	73.4	73.7	76.6	76.8	76.8	79.9	86.9	91.4	91.7	81.3	165.8
80	71.8	74.1	74.3	71.5	74.4	75.8	77.0	77.0	81.6	89.9	93.1	92.9	81.8	167.3
100	72.7	73.9	75.5	72.1	75.0	77.6	76.6	77.8	82.0	90.4	93.5	92.6	82.0	167.5
125	72.9	74.5	76.7	73.9	75.4	77.6	77.6	78.7	84.7	90.5	94.3	92.8	83.5	168.3
160	73.9	75.3	76.8	73.5	76.6	78.4	77.6	80.5	85.5	90.9	93.8	92.8	84.5	168.5
200	75.3	75.9	76.8	74.9	77.1	79.5	78.6	80.6	86.4	89.9	93.4	88.9	82.7	167.3
250	76.0	77.3	78.1	75.4	78.6	80.6	79.3	80.8	86.9	89.1	93.0	87.1	81.1	167.0
315	81.7	83.3	81.5	78.2	79.4	81.2	80.8	82.2	86.4	90.1	91.0	85.0	80.2	166.9
400	84.6	84.9	86.1	80.0	82.9	82.1	80.3	82.4	85.9	90.3	90.6	83.9	79.9	167.7
500	79.7	81.7	84.3	83.0	84.5	86.0	81.4	82.1	86.1	89.5	88.2	82.1	77.0	167.0
630	79.0	80.9	82.7	81.8	81.4	85.6	83.4	82.9	85.7	87.7	86.2	78.5	75.0	166.1
800	81.0	82.5	83.1	79.6	79.9	82.9	82.6	83.9	84.5	86.3	83.4	76.1	71.2	165.5
1000	75.7	78.2	80.7	78.3	79.6	82.2	80.9	82.7	84.5	83.9	80.6	72.2	68.5	164.1
1250	74.4	76.4	79.1	76.8	78.6	81.7	80.5	82.1	83.0	81.3	77.9	69.8	65.9	163.4
1600	72.4	76.0	77.8	76.0	77.1	79.6	78.6	80.4	81.4	79.4	75.8	67.8	62.5	163.0
2000	69.5	73.8	76.2	75.0	76.3	79.0	78.2	79.4	78.8	77.0	72.2	65.8	58.4	163.1
2500	66.6	71.2	74.2	73.8	74.1	76.6	75.1	74.8	75.9	72.5	68.3	60.9	51.2	162.7
3150	59.8	64.2	68.0	69.1	70.2	72.4	70.7	70.1	70.6	66.5	61.7	54.0	40.5	161.8
4000	50.7	57.7	61.8	63.0	63.6	65.5	64.8	63.3	62.6	57.5	51.0	40.9	21.0	161.4
5000	35.2	45.3	51.0	53.7	54.1	57.9	56.0	52.8	51.5	45.2	36.9	22.3		161.0
6300	14.4	27.9	35.3	38.8	40.6	42.8	41.0	37.3	35.4	27.4	14.1			161.1
8000			8.5	14.9	15.9	20.6	17.7	13.0	6.4					160.7
10000														159.7
12500														158.6
16000														158.0
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	90.0	91.5	92.7	90.1	91.5	93.6	92.1	93.3	96.7	100.6	103.0	100.9	92.2	179.3
PNL	96.6	98.3	99.9	97.8	99.0	101.4	100.2	101.2	103.0	105.3	105.6	101.5	93.9	
PNLT	97.8	98.3	100.5	97.8	99.7	101.4	100.2	101.2	103.7	105.3	105.6	101.5	93.9	
DBA	86.5	88.3	89.9	87.7	88.8	91.3	89.7	90.9	92.7	94.2	93.7	88.2	82.6	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH192 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 52.37 PAMB HG = 29.35 RELHUM = 68.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1553.6 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2318.7 FPS AE18 = 23.4 SQ IN

PT T-41 TTO E = X T TE T T T41 AEO R T SPEE T RPM

892.

P1185-08

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 83F-ZER-1411 X1411C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.1	91.4	91.4	86.5	87.1	88.7	93.6	93.7	94.9	96.2	100.9	101.6	91.5	136.8
63	96.5	97.8	100.1	94.4	96.2	97.6	99.7	96.1	99.6	97.4	103.3	103.7	93.9	141.0
80	97.5	100.8	97.1	97.1	98.5	102.3	100.2	99.1	101.1	100.9	104.5	104.7	90.1	142.7
100	96.7	103.5	98.8	98.3	99.6	103.5	102.9	104.8	102.8	105.6	105.7	110.4	95.8	145.7
125	93.4	94.9	98.4	98.5	101.1	102.9	102.8	102.2	101.9	105.5	112.1	115.3	101.2	148.0
160	91.7	92.7	94.5	93.3	94.6	98.7	106.6	101.5	103.2	107.6	112.7	115.9	106 5	148.6
200	94.3	94.6	95.6	94.9	97.7	101.6	104.2	102.9	107.1	108.4	114.3	119.0	109.4	150.8
250	94.0	96.8	97.1	96.6	98.5	100.6	102.5	105.6	108.6	113.7	119.5	122.5	112.9	154.6
315	95.6	96.4	95.6	95.2	97.8	101.9	104.5	105.9	110.1	116.5	121.3	123.5	115.4	156.2
400	96.6	97.6	97.9	95.9	98.8	101.6	106.0	106.2	110.4	118.2	122.8	124.5	116.2	157.4
500	97.3	98.4	99.4	97.2	99.5	103.1	104.5	107.2	111.9	120.2	124.3	125.3	116.9	158.7
630	98.3	98.8	99.3	97.9	100.5	103.1	104.5	107.9	111.8	121.2	125.3	125.0	118.6	159.2
800	102.1	100.6	100.6	99.4	101.8	103.6	105.3	108.9	113.9	120.7	126.3	124.8	118.7	159.6
1000	104.0	105.8	104.6	101.6	103.7	105.8	105.9	109.6	114.3	120.6	126.3	124.2	117.4	159.5
1250	103.9	107.7	107.2	104.6	105.1	107.0	107.1	110.3	115.5	120.0	126.2	121.3	115.5	158.9
1600	103.8	104.2	105.4	103.0	105.0	107.4	107.7	111.5	115.6	119.5	125.3	119.5	113.7	158.1
2000	103.8	104.8	105.2	102.6	104.2	107.1	107.8	111.4	115.7	120.0	123.3	117.1	111.6	157.0
2500	103.4	104.9	104.8	103.2	104.4	107.2	107.9	110.8	114.9	120.9	120.7	115.5	111.0	156.1
3150	103.5	104.8	105.8	102.9	104.2	107.3	107.9	111.6	115.2	118.8	119.5	113.9	108.8	155.0
4000	100.9	103.5	105.4	103.5	105.5	106.9	107.8	111.6	114.3	117.5	118.2	111.8	107.1	154.1
5000	99.1	101.9	104.0	102.1	105.2	107.4	107.5	110.8	113.1	116.7	116.5	111.1	105.8	153.2
6300	97.7	101.9	103.0	101.3	104.1	107.8	108.1	110.8	112.8	115.2	115.0	109.5	105.5	152.6
8000	96.3	100.2	101.5	100.7	103.1	105.9	106.9	109.0	111.2	113.3	113.5	108.7	105.6	151.4
10000	96.2	98.8	101.1	100.4	102.5	106.0	106.5	109.0	110.7	112.1	113.2	107.9	104.9	151.4
12500	94.2	96.7	99.3	99.2	101.8	105.3	105.6	106.8	109.1	110.4	110.3	106.8	103.6	150.5
16000	91.9	95.7	97.9	98.0	100.3	103.7	103.8	105.5	107.8	108.3	108.3	104.0	101.0	150.1
20000	89.0	92.9	94.8	95.5	97.8	100.5	101.9	102.3	104.7	106.2	105.4	101.5	98.4	149.1
25000	84.9	89.5	91.6	92.6	93.9	98.8	98.7	98.8	101.6	100.4	98.1	97.0	92.3	147.4
31500	81.2	85.1	87.9	89.5	90.5	94.6	95.1	95.7	98.1	97.0	94.8	92.9	88.1	147.0
40000	75.9	81.2	83.7	85.2	85.4	91.1	90.1	91.5	95.5	94.7	91.8	88.6	84.2	147.6
50000	70.0	74.8	77.6	79.1	79.9	86.4	85.4	86.8	90.0	89.8	87.2	83.6	77.9	146.9
63000	64.7	69.3	72.1	73.1	75.2	81.2	79.3	81.8	86.5	86.7	82.8	79.3	72.2	148.0
80000	60.7	64.1	65.6	65.6	67.6	74.9	73.1	75.2	81.0	82.3	77.0	73.5	66.1	149.3
OASPL	113.9	115.9	116.3	114.4	116.4	119.1	120.0	122.6	126.1	131.2	135.2	133.9	126.8	169.6
PNL	126.8	128.5	129.3	127.3	129.3	131.7	132.6	135.5	138.9	143.5	145.7	142.2	136.2	
PNLT	126.8	129.5	129.3	127.3	129.9	131.7	133.1	136.2	138.9	143.5	145.7	142.2	136.2	
DBA	113.7	115.5	116.0	113.9	115.7	118.2	118.9	122.1	125.9	130.8	134.6	131.8	125.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH195 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.44 PAMB HG = 29.33 RELHUM = 68.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1552.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2362.9 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1411 TAPE = X1411C TEST PT NO = 1411 NC = AE087 CORR FAN SPEED = RPM

P1188-03

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

IDENTIFICATION - 83F-ZER-1411 X1411F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.1	91.4	91.4	86.5	87.1	88.7	93.6	93.7	94.9	96.2	100.9	101.6	91.5	136.8
63	96.5	97.8	100.1	94.4	96.2	97.6	99.7	96.1	99.6	97.4	103.3	103.7	93.9	141.0
80	97.5	100.8	97.1	97.1	98.5	102.3	100.2	99.1	101.1	100.9	104.5	104.7	90.1	142.7
100	96.7	103.5	98.8	98.3	99.6	103.5	102.9	104.8	102.8	105.6	105.7	110.4	95.8	145.7
125	93.4	94.9	98.4	98.5	101.1	102.9	102.8	102.2	101.9	105.5	112.1	115.3	101.2	148.0
160	91.7	92.7	94.5	93.3	94.6	98.7	106.6	101.5	103.2	107.6	112.7	115.9	106.5	148.6
200	94.3	94.6	95.6	94.9	97.7	101.6	104.2	102.9	107.1	108.4	114.3	119.0	109.4	150.8
250	94.0	96.8	97.1	96.6	98.5	100.6	102.5	105.6	108.6	113.7	119.5	122.5	112.9	154.6
315	95.6	96.4	95.6	95.2	97.8	101.9	104.5	105.9	110.1	116.5	121.3	123.5	115.4	156.2
400	96.6	97.6	97.9	95.9	98.8	101.6	106.0	106.2	110.4	118.2	122.8	124.5	116.2	157.4
500	97.3	98.4	99.4	97.2	99.5	103.1	104.5	107.2	111.9	120.2	124.3	125.3	116.9	158.7
630	98.3	98.8	99.3	97.9	100.5	103.1	104.5	107.9	111.8	121.2	125.3	125.0	118.6	159.2
800	102.1	100.6	100.6	99.4	101.8	103.6	105.3	108.9	113.9	120.7	126.3	124.8	118.7	159.6
1000	104.0	105.8	104.6	101.6	103.7	105.8	105.9	109.6	114.3	120.6	126.3	124.2	117.4	159.5
1250	103.9	107.7	107.2	104.6	105.1	107.0	107.1	110.3	115.5	120.0	126.2	121.3	115.5	158.9
1600	103.8	104.2	105.4	103.0	105.0	107.4	107.7	111.5	115.6	119.5	125.3	119.5	113.7	158.1
2000	103.8	104.8	105.2	102.6	104.2	107.1	107.8	111.4	115.7	120.0	123.3	117.1	111.6	157.0
2500	103.4	104.9	104.8	103.2	104.4	107.2	107.9	110.8	114.9	120.9	120.7	115.5	111.0	156.1
3150	103.5	104.8	105.8	102.9	104.2	107.3	107.9	111.6	115.2	118.8	119.5	113.9	108.8	155.0
4000	100.9	103.5	105.4	103.5	105.5	106.9	107.8	111.6	114.3	117.5	118.2	111.8	107.1	154.1
5000	99.1	101.9	104.0	102.1	105.2	107.4	107.5	110.8	113.1	116.7	116.5	111.1	105.8	153.2
6300	97.7	101.9	103.0	101.3	104.1	107.8	108.1	110.8	112.8	115.2	115.0	109.5	105.5	152.6
8000	96.3	100.2	101.5	100.7	103.1	105.9	106.9	109.0	111.2	113.3	113.5	108.7	105.6	151.4
10000	96.2	98.8	101.1	100.4	102.5	106.0	106.5	109.0	110.7	112.1	113.2	107.9	104.9	151.4
12500	94.2	96.7	99.3	99.2	101.8	105.3	105.6	106.8	109.1	110.4	110.3	106.8	103 6	150.5
16000	91.9	95.7	97.9	98.0	100.3	103.7	103.8	105.5	107.8	108.3	108.3	104.0	101.0	150.1
20000	89.0	92.9	94.8	95.5	97.8	100.5	101.9	102.3	104.7	106.2	105.4	101.5	98.4	149.1
25000	84.9	89.5	91.6	92.6	93.9	98.8	98.7	98.8	101.6	100.4	98.1	97.0	92.3	147.4
31500	81.2	85.1	87.9	89.5	90.5	94.6	95.1	95.7	98.1	97.0	94.8	92.9	88.1	147.0
40000	75.9	81.2	83.7	85.2	85.4	91.1	90.1	91.5	95.5	94.7	91.8	88.6	84.2	147.6
50000	70.0	74.8	77.6	79.1	79.9	86.4	85.4	86.8	90.0	89.8	87.2	83.6	77.9	146.9
63000	64.7	69.3	72.1	73.1	75.2	81.2	79.3	81.8	86.5	86.7	82.8	79.3	72.2	148.0
80000	60.7	64.1	65.6	65.6	67.6	74.9	73.1	75.2	81.0	82.3	77.0	73.5	66.1	149.3
OASPL	113.9	115.9	116.3	114.4	116.4	119.1	120.0	122.6	126.1	131.2	135.2	133.9	126.8	169.6
PNL	126.8	128.5	129.3	127.3	129.3	131.7	132.6	135.5	138.9	143.5	145.7	142.2	136.2	
PNLT	126.8	129.5	129.3	127.3	129.9	131.7	133.1	136.2	138.9	143.5	145.7	142.2	136.2	
DBA	182.1	185.9	187.9	188.4	190.2	197.0	195.3	197.4	202.7	203.6	198.8	195.3	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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH195 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.44 PAMB HG = 29.33 RELHUM = 68.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1552.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2362.9 FPS AE18 = 23.4 SQ IN

IPT IF=2 411 VE = X F TL PT T4 AEO 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 - 83F-ZER-1411 X14111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.4	73.7	75.1	75.3	77.6	79.8	81.6	84.3	86.6	90.6	94.9	95.7	82.7	169.5
63	71.0	73.3	73.6	73.9	76.9	81.1	83.6	84.6	88.1	93.4	96.7	96.7	85.2	171.0
80	71.9	74.5	75.8	74.6	77.8	80.8	85.1	84.8	88.3	95.1	98.1	97.6	85.9	172.2
100	72.6	75.2	77.3	75.8	78.6	82.3	83.6	85.8	89.8	97.0	99.6	98.3	86.5	173.5
125	73.4	75.5	77.1	76.4	79.4	82.2	83.4	86.4	89.6	97.9	100.4	97.8	88.0	174.0
160	77.0	77.2	78.3	77.8	80.6	82.6	84.1	87.3	91.6	97.3	101.3	97.4	87.6	174.5
200	78.7	82.1	82.0	79.8	82.4	84.6	84.6	87.8	91.8	97.0	100.9	96.4	85.8	174.3
250	78.2	83.7	84.4	82.6	83.5	85.6	85.5	88.3	92.7	96.1	100.5	93.2	83.3	173.8
315	77.7	79.9	82.3	80.7	83.2	85.7	85.9	89.2	92.5	95.1	99.2	90.8	80.6	173.0
400	77.1	80.0	81.7	80.0	82.0	85.0	85.6	88.7	92.2	95.2	96.6	87.6	77.5	171.8
500	76.2	79.7	80.9	80.2	81.9	84.9	85.4	87.8	91.0	95.7	93.5	85.4	75.9	171.0
630	75.7	79.1	81.5	79.5	81.3	84.5	85.0	88.2	90.9	93.1	91.8	83.0	72.6	169.9
800	72.5	77.3	80.6	79.8	82.2	83.9	84.6	87.9	89.5	91.3	89.8	80.0	69.6	169.0
1000	70.1	75.1	78.8	77.9	81.5	83.9	83.9	86.6	87.9	90.0	87.5	78.4	66.9	168.1
1250	67.9	74.5	77.2	76.6	80.0	83.9	84.0	86.1	87.1	87.8	85.1	75.7	64.8	167.4
1600	65.1	71.7	74.9	75.3	78.3	81.3	82.1	83.5	84.6	84.9	82.3	73.2	62.1	166.2
2000	63.2	68.9	73.3	73.9	76.7	80.5	80.7	82.5	82.9	82.2	80.2	69.8	57.6	166.2
2500	58.5	64.7	69.7	71.1	74.5	78.3	78.3	78.7	79.5	78.5	74.6	65.0	50.4	165.3
3150	51.9	60.3	65.4	67.3	70.6	74.4	74.2	74.8	75.3	72.8	68.2	56.3	38.4	164.9
4000	41.3	51.4	57.1	60.2	63.8	66.9	67.9	67.0	67.0	64.6	57.7	43.4	20.0	164.0
5000	25.8	38.8	46.0	50.2	53.3	58.7	58.1	56.4	56.0	49.6	39.0	23.6		162.2
6300	3.1	18.9	29.0	35.1	38.5	43.4	43.1	41.3	39.3	30.8	16.7			161.8
8000			2.2	10.2	14.0	20.8	18.7	16.5	14.0	2.4				162.4
10000														161.7
12500														162.8
16000														164.2
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	87.0	90.4	92.0	90.8	93.1	95.9	96.7	99.2	102.3	106.8	109.6	106.2	95.3	184.3
PNL	91.4	95.9	97.9	97.3	100.1	103.4	103.9	105.9	108.1	111.1	112.5	106.8	95.9	
PNLT	91.4	95.9	98.4	97.9	100.7	103.4	104.4	106.4	108.1	111.7	112.5	106.8	95.9	
DBA	81.2	85.4	87.9	87.0	89.6	92.5	92.9	95.4	97.5	100.0	100.5	93.4	83.1	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH195	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.44	PAMB HG = 29.33	RELHUM = 68.0 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1552.2 FPS	AE8 = 4.6 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2362.9 FPS	AE18 = 23.4 SQ IN	

RUNPT = 83F-ZER-1411 TAPE = X14111 TEST PT NO = 1411 NC = AE087 CORR FAN SPEED = RPM

P1185-03

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 83F-400-1412 X1412C
BACKGROUND 83F-400-1400 X14000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	96.1	95.4	89.4	88.2	89.6	91.7	91.8	94.2	94.9	94.2	101.6	100.8	91.7	137.2
63	97.5	98.0	99.3	93.9	95.9	97.6	96.2	94.9	99.3	98.4	103.5	104.0	99.1	140.8
80	98.5	101.8	97.6	98.1	97.7	102.3	100.0	99.6	100.8	100.4	103.5	104.2	89.9	142.6
100	97.0	102.0	96.8	96.3	98.4	102.3	101.4	103.5	101.0	102.6	103.5	108.9	94.3	144.0
125	93.9	95.2	96.7	97.0	99.3	101.9	100.1	101.0	100.2	102.3	108.9	113.6	99.7	145.9
160	92.2	88.7	92.7	91.3	92.6	97.2	99.9	99.5	100.7	104.8	110.2	113.6	104.8	146.0
200	92.3	92.8	92.3	91.4	93.7	97.8	98.5	100.1	104.6	104.6	111.0	116.7	107.6	148.1
250	90.3	93.6	93.8	93.6	95.0	97.8	99.5	102.6	105.1	109.9	116.0	120.2	110.9	151.8
315	91.6	92.6	92.1	91.4	94.0	98.9	99.8	102.2	105.9	112.5	118.1	121.3	112.9	153.3
400	92.3	92.8	94.1	91.9	94.8	98.1	100.3	102.2	106.1	113.7	120.1	123.0	113.4	154.9
500	92.6	93.6	95.4	93.7	95.8	99.1	100.0	103.2	107.1	116.7	122.3	123.3	112.9	156.3
630	93.5	94.6	95.8	94.1	95.7	99.8	100.5	103.9	108.1	117.4	122.0	122.2	112.4	155.9
800	95.6	94.9	96.1	94.7	97.8	100.6	101.3	105.2	109.9	116.7	123.3	121.3	110.4	156.1
1000	98.5	100.0	99.3	97.1	98.2	102.1	101.9	106.1	110.1	116.9	122.3	119.9	109.4	155.3
1250	98.9	101.9	101.5	99.6	101.1	103.5	102.8	106.3	111.0	116.0	122.4	117.3	107.3	154.9
1600	99.6	99.5	100.6	99.3	101.0	104.6	104.5	107.3	111.6	116.0	121.6	115.8	105.9	154.3
2000	99.8	100.6	100.2	98.6	100.4	104.1	104.5	108.6	112.0	117.0	121.0	113.6	105.4	154.1
2500	101.4	101.7	101.0	99.2	100.6	104.0	104.4	107.5	111.4	118.2	119.5	112.3	105.8	153.7
3150	101.5	102.8	102.3	99.4	100.7	104.8	104.4	108.1	111.9	116.8	117.3	109.4	103.3	152.4
4000	98.4	100.3	101.9	100.1	102.2	104.4	104.1	108.2	111.3	115.5	115.5	107.0	101.6	151.3
5000	97.6	99.4	101.0	99.1	101.2	104.6	104.3	107.6	110.6	113.7	113.5	105.3	99.8	150.1
6300	97.5	99.4	100.2	97.8	100.9	104.8	105.1	108.0	110.1	112.2	111.5	103.2	98.0	149.4
8000	96.8	99.2	99.5	97.7	99.9	103.7	103.9	106.2	108.5	109.6	109.3	101.3	96.8	147.9
10000	97.0	98.5	100.1	98.4	100.3	103.8	103.5	107.0	108.4	108.3	107.5	100.4	96.9	148.1
12500	94.7	96.2	98.6	97.2	99.8	103.3	103.1	104.3	106.9	106.7	105.6	100.5	96.1	147.4
16000	93.2	96.0	97.2	96.5	97.5	102.0	101.8	103.2	105.8	104.8	104.3	99.0	94.0	147.4
20000	90.2	92.9	94.3	93.5	95.8	99.3	99.9	100.5	102.2	101.9	101.1	96.2	91.4	146.3
25000	86.4	89.3	90.6	90.9	92.2	97.0	97.2	96.5	98.3	97.1	96.1	93.2	86.6	145.0
31500	82.7	85.6	87.8	88.2	88.0	93.3	92.8	93.2	93.8	93.2	92.0	88.4	81.8	144.2
40000	77.1	81.2	83.2	83.3	83.6	90.0	87.8	88.9	90.7	90.6	88.9	84.1	76.6	144.5
50000	71.2	74.7	77.0	77.5	78.1	84.6	82.3	83.2	84.7	85.2	84.3	78.0	70.9	143.3
63000	65.3	69.7	71.7	71.5	73.8	79.1	75.4	77.7	80.4	81.0	78.1	71.1	64.0	143.4
80000	60.6	64.9	64.9	63.9	66.7	73.0	69.7	70.5	73.1	75.8	72.1	63.6	58.2	144.0
OASPL	111.3	112.9	112.9	111.2	113.1	116.6	116.5	119.4	122.7	127.8	132.2	131.2	121.6	166.5
PNL	124.5	125.8	125.9	123.9	125.9	129.0	129.0	132.3	135.6	140.5	143.1	139.2	130.8	
PNLT	124.5	126.4	125.9	124.4	126.5	129.0	129.0	132.8	135.6	140.5	143.1	139.2	130.8	
DBA	110.5	111.7	112.0	110.1	111.9	115.3	115.3	118.8	122.3	127.6	131.5	128.6	119.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH194 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 52.99 PAMB HG = 29.36 RELHUM = 68.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1556.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2303.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1412 TAPE = X1412C TEST PT NO = 1412 NC = AE087 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1412 X1412F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	97.9	99.8	98.6	96.8	96.5	97.8	97.6	99.0	103.8	109.7	115.0	118.8	112.4	150.9
315	97.9	99.8	98.6	96.8	95.8	99.1	98.9	100.4	104.2	111.2	117.4	121.3	114.3	153.1
400	99.3	99.0	97.1	94.8	96.5	98.4	99.5	100.4	105.5	114.6	120.3	122.8	116.0	155.1
500	99.2	98.7	98.7	95.1	97.7	99.5	99.2	101.4	106.9	115.9	120.8	122.9	117.6	155.7
630	100.1	100.0	100.3	97.1	97.6	100.2	99.8	102.3	109.0	115.6	122.7	123.4	118.5	156.7
800	100.7	100.7	100.6	97.5	99.7	101.2	100.7	103.5	109.8	116.5	122.5	123.4	119.9	156.9
1000	102.6	100.9	100.9	98.1	99.8	102.7	101.6	104.8	110.4	115.4	122.5	120.9	118 1	155.9
1250	103.6	104.3	102.7	99.6	103.0	104.3	102.4	104.7	111.2	115.4	121.7	119.4	117.0	155.2
1600	104.4	106.8	105.5	102.6	103.4	105.7	104.2	105.9	111.6	116.5	121.2	117.3	116.6	155.0
2000	106.6	105.6	105.6	103.0	102.9	105.3	104.5	107.3	111.5	118.2	120.2	116.6	117.6	155.0
2500	105.9	106.1	104.8	102.2	103.1	105.6	104.7	106.7	112.3	117.0	118.3	114.0	115.5	153.7
3150	106.5	106.3	105.0	102.5	103.6	106.8	105.1	107.6	112.2	116.1	116.7	111.6	113.7	152.8
4000	106.8	107.7	106.7	102.9	105.9	107.0	105.3	108.2	111.5	114.3	114.7	109.8	111.8	152.0
5000	106.0	107.0	107.6	104.7	105.2	107.6	105.8	107.7	111.0	112.8	112.5	107.6	109.8	151.2
6300	105.1	106.1	106.8	104.0	104.9	107.8	106.6	108.1	110.0	110.8	111.1	106.5	109.7	150.6
8000	104.8	105.9	105.9	102.5	103.9	106.7	105.8	106.7	110.9	110.5	110.3	106.7	110.7	150.6
10000	104.0	105.6	105.0	102.2	104.3	106.8	105.8	108.1	110.0	109.7	109.2	107.5	110.3	150.9
12500	103.8	104.7	105.3	102.6	104.4	106.3	105.4	105.7	109.4	108.1	108.3	106.4	108.8	150.8
16000	103.9	104.1	105.0	102.1	102.1	105.0	104.1	104.5	106.5	106.1	105.9	104.3	106.8	150.5
20000	101.9	103.5	103.2	100.9	100.4	102.3	102.3	102.1	103.6	102.4	102.0	102.4	102.9	149.9
25000	98.3	99.8	99.7	97.4	96.8	100.0	99.6	98.3	99.8	99.1	98.7	98.4	99.1	148.9
31500	93.8	95.4	95.2	93.9	92.6	96.3	95.2	94.9	96.7	96.4	95.4	94.1	94.5	148.3
40000	89.2	90.8	91.6	90.5	88.2	93.0	90.1	90.2	90.9	91.2	90.9	88.2	88.9	147.7
50000	83.2	86.0	86.6	85.2	82.7	87.6	84.5	84.3	86.7	86.7	84.2	80.2	80.0	146.8
63000	76.3	78.6	79.5	78.4	78.4	82.1	77.2	78.1	80.8	83.0	79.6	74.1	75.7	146.3
80000	68.9	72.1	72.7	70.9	71.3	76.0	71.5	70.9	71.0	73.2	69.8	64.2	65.8	145.5
OASPL	117.0	117.6	117.3	114.5	115.6	118.0	116.9	118.7	122.9	127.3	131.6	131.5	128.2	167.0
PNL	129.3	129.9	129.2	126.3	127.9	129.8	128.5	130.8	135.1	139.2	141.6	139.2	138.7	
PNLT	129.3	129.9	129.2	126.3	127.9	129.8	128.5	130.8	135.1	139.2	141.6	139.2	138.7	
DBA	191.9	194.6	195.3	193.8	193.7	198.1	193.8	193.6	194.9	196.8	193.6	188.6	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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH194 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 52.99 PAMB HG = 29.36 RELHUM = 68.4 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 = 1556.2 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2363.1 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1412 TAPE = X1412F TEST PT NO = 1412 NC = AE087 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1412 X14121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	73.3	76.7	76.6	75.6	75.7	77.1	76.7	77.7	81.8	86.6	90.4	92.0	82.2	165.7
63	73.2	76.7	76.6	75.5	74.9	78.3	78.0	79.1	82.2	88.1	92.8	94.4	84.1	167.9
80	74.6	75.9	75.0	73.5	75.6	77.6	78.5	79.1	83.4	91.5	95.7	95.8	85.7	170.0
100	74.4	75.5	76.6	73.7	76.7	78.6	78.3	80.0	84.8	92.7	96.0	95.9	87.2	170.5
125	75.3	76.7	78.1	75.7	76.6	79.3	78.8	80.8	86.8	92.3	97.8	96.2	87.8	171.5
160	75.6	77.2	78.3	75.9	78.6	80.1	79.5	81.9	87.4	93.0	97.4	96.0	88.9	171.7
200	77.3	77.2	78.4	76.3	78.5	81.5	80.2	83.0	87.9	91.7	97.2	93.1	86.5	170.7
250	77.9	80.4	80.0	77.6	81.5	82.9	80.9	82.7	88.4	91.4	96.1	91.2	84.8	170.1
315	78.3	82.5	82.4	80.3	81.6	84.0	82.4	83.6	88.5	92.2	95.1	88.6	83.5	169.8
400	80.0	80.8	82.1	80.3	80.7	83.3	82.3	84.7	88.0	93.4	93.6	87.1	83.5	169.8
500	78.7	80.8	81.0	79.2	80.6	83.2	82.2	83.7	88.5	91.8	91.1	83.8	80.4	168.5
630	78.7	80.6	80.7	79.1	80.7	84.1	82.2	84.2	87.9	90.4	88.9	80.7	77.4	167.7
800	78.4	81.5	81.9	79.2	82.7	83.9	82.0	84.4	86.8	88.1	86.3	78.0	74.3	166.8
1000	76.9	80.2	82.4	80.5	81.6	84.2	82.1	83.5	85.8	86.0	83.5	74.9	70.8	166.0
1250	75.2	78.7	81.1	79.3	80.8	83.9	82.5	83.4	84.3	83.4	81.2	72.7	69.0	165.5
1600	73.6	77.5	79.3	77.0	79.1	82.1	81.0	81.3	84.2	82.1	79.1	71.1	67 2	165.5
2000	71.0	75.8	77.2	75.7	78.5	81.2	80.0	81.6	82.3	79.8	76.2	69.5	63.0	165.7
2500	68.1	72.7	75.7	74.5	77.1	79.3	78.2	77.6	79.7	76.1	72.6	64.7	55.6	165.7
3150	63.8	68.7	72.5	71.4	72.5	75.7	74.5	73.9	74.0	70.6	65.8	56.6	44.2	165.4
4000	54.2	61.9	65.5	65.6	66.4	68.7	68.3	66.8	65.9	60.8	54.3	44.4	24.5	164.8
5000	39.2	49.1	54.2	55.0	56.1	59.9	59.0	55.9	54.3	48.4	39.6	25.0		163.8
6300	15.6	29.2	36.3	39.5	40.6	45.1	43.3	40.5	37.9	30.2	17.3			163.1
8000			10.1	15.5	16.8	22.7	18.7	15.2	9.4					162.6
10000														161.6
12500														161.1
16000														160.4
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	89.0	91.5	92.3	90.4	92.2	94.6	93.3	94.9	98.8	102.8	106.0	104.0	96.1	181.9
PNL	95.3	98.6	100.2	98.6	100.7	103.2	102.0	103.2	105.5	107.9	108.8	104.7	97.8	
PNLT	95.3	98.6	100.2	98.6	100.7	103.2	102.0	103.8	106.2	107.9	108.8	104.7	97.8	
DBA	85.4	88.5	89.8	87.9	89.8	92.4	90.9	92.2	94.9	96.6	97.0	91.4	86.1	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH194	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 52.99	PAMB HG = 29.36	RELHUM = 68.4 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1556.2 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2363.1 FPS	AE18 = 23.4 SQ IN

NPT 3F-2 4T2 SPE = 2T 1 PT 14 C AE2 JRR SPEED RPI

P1185-03

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 83F-ZER-1415 X1415C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.9	89.7	89.4	85.7	85.8	90.2	89.1	94.2	93.7	101.0	100.4	100.1	92.2	136.9
63	94.0	96.0	99.6	94.9	94.4	97.3	95.7	98.6	98.8	104.1	102.5	98.7	99.1	140.9
80	96.0	99.6	95.8	95.6	96.7	100.8	98.5	98.6	99.6	100.2	103.3	103.5	88.6	141.4
100	94.7	102.0	97.3	96.5	98.1	102.3	100.4	103.3	101.0	104.6	104.5	108.6	93.3	144.1
125	91.4	93.7	96.2	97.0	99.1	101.7	100.3	101.0	101.4	104.8	111.1	113.3	98.7	146.5
160	88.9	91.0	92.7	91.5	92.4	96.5	98.6	99.3	101.5	105.6	110.9	113.9	104.3	146.4
200	93.3	91.8	93.8	92.4	95.7	99.8	100.5	101.1	105.3	106.6	112.5	117.0	107.1	148.8
250	92.5	94.8	95.8	95.4	97.2	99.3	100.7	103.6	106.3	112.7	117.5	120.2	110.4	152.6
315	92.8	94.9	94.9	93.9	96.5	101.1	102.3	103.7	107.9	115.5	119.3	121.8	112.2	154.4
400	94.8	96.4	96.6	94.4	97.0	100.6	104.3	104.7	108.4	117.2	121.1	122.5	113.7	155.6
500	95.3	97.1	97.6	95.7	98.3	102.4	102.8	105.7	110.4	118.7	122.8	123.3	115.2	157.0
630	96.0	97.1	98.3	96.6	98.7	102.3	103.0	106.6	110.3	119.4	123.0	123.5	116.4	157.3
800	99.6	98.4	99.1	97.4	100.3	103.6	104.0	107.9	112.6	119.0	123.3	123.8	117.9	157.7
1000	102.5	104.0	102.6	100.3	101.9	104.8	105.2	108.3	112.8	118.9	123.3	124.2	117.1	157.8
1250	102.2	105.4	105.2	102.4	103.3	105.7	105.6	108.5	113.7	117.8	122.9	121.8	115.3	156.8
1600	100.6	101.7	102.6	100.8	103.0	105.9	105.7	110.0	113.9	117.0	123.1	119.8	112.4	156.3
2000	100.8	102.1	102.2	100.1	101.7	105.6	105.8	110.1	113.7	117.5	122.0	117.1	110.6	155.4
2500	98.4	101.4	101.8	100.0	101.6	105.2	105.9	109.5	112.9	117.7	119.7	115.5	109.0	154.2
3150	98.0	100.8	101.1	99.3	101.9	105.7	105.6	109.3	113.2	116.8	117.5	112.7	106.3	153.0
4000	95.9	99.0	100.4	99.0	101.7	105.2	105.3	109.1	111.8	115.0	116.2	109.8	104.9	151.7
5000	94.9	98.8	100.5	98.1	100.4	104.6	105.0	108.6	110.8	113.7	114.5	109.3	103.5	150.7
6300	94.0	98.8	99.4	98.3	100.8	104.3	104.8	108.0	110.8	111.9	112.7	107.5	101.7	149.8
8000	93.0	97.4	98.7	97.9	100.3	103.9	103.3	106.2	108.6	109.5	111.2	105.7	101.5	148.5
10000	92.6	96.2	98.2	97.5	99.7	103.9	103.2	105.9	107.8	108.0	109.4	105.3	101.6	148.1
12500	90.4	94.1	96.2	96.4	98.9	103.0	102.2	103.5	105.8	106.6	106.0	103.7	100.2	147.0
16000	89.1	93.9	95.0	95.6	97.1	100.9	99.7	101.1	104.7	104.4	104.9	101.7	96.9	146.6
20000	85.8	91.0	92.9	93.2	95.2	97.7	98.5	98.2	101.1	101.8	101.5	98.9	94.1	145.5
25000	83.1	87.7	89.5	90.5	91.6	96.5	95.9	94.7	97.0	96.5	98.0	94.9	89.0	144.4
31500	79.0	83.1	85.7	87.8	88.5	92.9	91.6	92.0	93.4	92.8	95.3	90.2	84.4	144.1
40000	73.9	79.0	81.2	82.6	83.9	89.0	86.9	88.2	90.5	90.8	93.5	86.6	79.1	144.8
50000	68.2	72.3	74.9	76.8	77.8	84.1	81.5	83.2	84.5	86.1	88.6	80.8	72.8	144.0
63000	63.3	68.1	70.1	71.3	72.9	78.6	75.7	77.5	80.5	82.3	83.5	73.9	65.8	144.4
80000	61.5	64.5	64.3	63.2	65.0	73.2	70.5	71.1	73.3	78.4	76.5	69.8	57.9	145.5
OASPL	111.0	113.4	113.6	111.9	113.9	117.4	117.5	120.6	124.1	129.1	133.0	132.7	125.3	167.6
PNL	122.8	125.4	125.8	124.2	126.4	130.1	130.2	133.5	136.9	141.0	143.8	141.3	134.3	
PNLT	122.8	126.3	125.8	124.2	127.1	130.1	130.2	134.1	136.9	141.0	144.4	141.3	134.3	
DBA	110.5	112.7	113.0	111.1	113.1	116.5	116.7	120.3	123.9	128.5	132.3	131.1	124.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH198 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.25 PAMB HG = 29.36 RELHUM = 71.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1232.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2303.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1415 TAPE = X1415C TEST PT NO = 1415 NC = AE087 CORR FAN SPEED = RPM

P1165-03

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

IDENTIFICATION - 83F-ZER-1415 X1415F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.9	89.7	89.4	85.7	85.8	90.2	89.1	94.2	93.7	101.0	100.4	100.1	92.2	136.9
63	94.0	96.0	99.6	94.9	94.4	97.3	95.7	98.6	98.8	104.1	102.5	98.7	99.1	140.9
80	96.0	99.6	95.8	95.6	96.7	100.8	98.5	98.6	99.6	100.2	103.3	103.5	88.6	141.4
100	94.7	102.0	97.3	96.5	98.1	102.3	100.4	103.3	101.0	104.6	104.5	108.6	93.3	144.1
125	91.4	93.7	96.2	97.0	99.1	101.7	100.3	101.0	101.4	104.8	111.1	113.3	98.7	146.5
160	88.9	91.0	92.7	91.5	92.4	96.5	98.6	99.3	101.5	105.6	110.9	113.9	104.3	146.4
200	93.3	91.8	93.8	92.4	95.7	99.8	100.5	101.1	105.3	106.6	112.5	117.0	107.1	148.8
250	92.5	94.8	95.8	95.4	97.2	99.3	100.7	103.6	106.3	112.7	117.5	120.2	110.4	152.6
315	92.8	94.9	94.9	93.9	96.5	101.1	102.3	103.7	107.9	115.5	119.3	121.8	112.2	154.4
400	94.8	96.4	96.6	94.4	97.0	100.6	104.3	104.7	108.4	117.2	121.1	122.5	113.7	155.6
500	95.3	97.1	97.6	95.7	98.3	102.4	102.8	105.7	110.4	118.7	122.8	123.3	115.2	157.0
630	96.0	97.1	98.3	96.6	98.7	102.3	103.0	106.6	110.3	119.4	123.0	123.5	116.4	157.3
800	99.6	98.4	99.1	97.4	100.3	103.6	104.0	107.9	112.6	119.0	123.3	123.8	117.9	157.7
1000	102.5	104.0	102.6	100.3	101.9	104.8	105.2	108.3	112.8	118.9	123.3	124.2	117.1	157.8
1250	102.2	105.4	105.2	102.4	103.3	105.7	105.6	108.5	113.7	117.8	122.9	121.8	115.3	156.8
1600	100.6	101.7	102.6	100.8	103.0	105.9	105.7	110.0	113.9	117.0	123.1	119.8	112.4	156.3
2000	100.8	102.1	102.2	100.1	101.7	105.6	105.8	110.1	113.7	117.5	122.0	117.1	110.6	155.4
2500	98.4	101.4	101.8	100.0	101.6	105.2	105.9	109.5	112.9	117.7	119.7	115.5	109.0	154.2
3150	98.0	100.8	101.1	99.3	101.9	105.7	105.6	109.3	113.2	116.8	117.5	112.7	106.3	153.0
4000	95.9	99.0	100.4	99.0	101.7	105.2	105.3	109.1	111.8	115.0	116.2	109.8	104.9	151.7
5000	94.9	98.8	100.5	98.1	100.4	104.6	105.0	108.6	110.8	113.7	114.5	109.3	103.5	150.7
6300	94.0	98.8	99.4	98.3	100.8	104.3	104.8	108.0	110.8	111.9	112.7	107.5	101.7	149.8
8000	93.0	97.4	98.7	97.9	100.3	103.9	103.3	106.2	108.6	109.5	111.2	105.7	101.5	148.5
10000	92.6	96.2	98.2	97.5	99.7	103.9	103.2	105.9	107.8	108.0	109.4	105.3	101.6	148.1
12500	90.4	94.1	96.2	96.4	98.9	103.0	102.2	103.5	105.8	106.6	106.0	103.7	100.2	147.0
16000	89.1	93.9	95.0	95.6	97.1	100.9	99.7	101.1	104.7	104.4	104.9	101.7	96.9	146.6
20000	85.8	91.0	92.9	93.2	95.2	97.7	98.5	98.2	101.1	101.8	101.5	98.9	94.1	145.5
25000	83.1	87.7	89.5	90.5	91.6	96.5	95.9	94.7	97.0	96.5	98.0	94.9	89.0	144.4
31500	79.0	83.1	85.7	87.8	88.5	92.9	91.6	92.0	93.4	92.8	95.3	90.2	84.4	144.1
40000	73.9	79.0	81.2	82.6	83.9	89.0	86.9	88.2	90.5	90.8	93.5	86.6	79.1	144.8
50000	68.2	72.3	74.9	76.8	77.8	84.1	81.5	83.2	84.5	86.1	88.6	80.8	72.8	144.0
63000	63.3	68.1	70.1	71.3	72.9	78.6	75.7	77.5	80.5	82.3	83.5	73.9	65.8	144.4
80000	61.5	64.5	64.3	63.2	65.0	73.2	70.5	71.1	73.3	78.4	76.5	69.8	57.9	145.5
OASPL	111.0	113.4	113.6	111.9	113.9	117.4	117.5	120.6	124.1	129.1	133.0	132.7	125.3	167.6
PNL	122.8	125.4	125.8	124.2	126.4	130.1	130.2	133.5	136.9	141.0	143.8	141.3	134.3	
PNLT	122.8	126.3	125.8	124.2	127.1	130.1	130.2	134.1	136.9	141.0	144.4	141.3	134.3	
DBA	182.4	185.8	186.2	186.2	187.8	195.0	192.3	193.3	195.7	199.6	198.8	191.4	181.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH198 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.25 PAMB HG = 29.36 RELHUM = 71.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1232.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2303.0 FPS AE18 = 23.4 SQ IN

PT F-ZI IT5 E = X F TE PT NO 141 AE0b7 CORR FAN SPEED = RPM

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P1165-03

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

IDENTIFICATION - 83F-ZER-1415 X14151

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.9	71.7	73.8	74.1	76.3	78.6	79.8	82.3	84.3	89.6	92.9	93.4	80.2	167.5
63	68.2	71.8	72.9	72.6	75.6	80.4	81.4	82.4	85.9	92.4	94.7	94.9	82.0	169.2
80	70.1	73.2	74.6	73.1	76.1	79.8	83.3	83.3	86.3	94.1	96.4	95.6	83.4	170.5
100	70.6	73.9	75.5	74.3	77.3	81.6	81.8	84.3	88.3	95.5	98.1	96.3	84.7	171.8
125	71.2	73.8	76.1	75.2	77.7	81.4	81.9	85.2	88.1	96.1	98.2	96.3	85.7	172.2
160	74.5	74.9	76.8	75.8	79.1	82.6	82.9	86.3	90.3	95.5	98.3	96.4	86.9	172.5
200	77.2	80.4	80.0	78.6	80.6	83.6	83.9	86.6	90.3	95.2	97.9	96.4	85.6	172.6
250	76.5	81.5	82.4	80.4	81.8	84.3	84.0	86.5	90.9	93.8	97.2	93.7	83.1	171.7
315	74.5	77.4	79.5	78.5	81.2	84.2	83.9	87.7	90.8	92.6	97.0	91.0	79.4	171.1
400	74.1	77.3	78.7	77.5	79.5	83.5	83.6	87.5	90.2	92.7	95.4	87.6	76.5	170.3
500	71.2	76.2	77.9	77.0	79.1	82.9	83.4	86.5	89.0	92.5	92.5	85.4	73.9	169.1
630	70.2	75.1	76.8	76.0	79.1	83.0	82.8	86.0	88.9	91.1	89.7	81.8	70.1	167.8
800	67.5	72.8	75.6	75.2	78.5	82.1	82.1	85.3	87.0	88.8	87.8	78.0	67.3	166.5
1000	65.8	72.1	75.3	73.9	76.8	81.2	81.4	84.4	85.6	86.9	85.4	76.6	64.6	165.5
1250	64.1	71.4	73.7	73.6	76.7	80.4	80.7	83.3	85.0	84.5	82.8	73.7	61.0	164.7
1600	61.8	68.9	72.1	72.4	75.5	79.3	78.5	80.7	82.0	81.0	80.0	70.1	58.0	163.3
2000	59.7	66.4	70.4	71.0	73.9	78.4	77.4	79.4	80.0	78.1	76.4	67.3	54.3	162.9
2500	54.7	62.1	66.6	68.3	71.6	76.0	74.9	75.4	76.2	74.6	70.3	61.9	47.1	161.9
3150	49.0	58.4	62.5	64.9	67.5	71.5	70.0	70.4	72.2	68.9	64.9	53.9	34.3	161.5
4000	38.1	49.5	55.2	57.8	61.2	64.1	64.5	62.8	63.4	60.2	53.8	40.8	15.7	160.4
5000	24.0	37.0	43.9	48.2	51.0	56.4	55.2	52.3	51.4	45.8	38.9	21.5		159.3
6300	0.9	16.9	26.8	33.4	36.6	41.7	39.7	37.6	34.6	26.6	17.2			158.9
8000				7.7	12.5	18.7	15.4	13.3	9.0					159.7
10000														158.9
12500														159.3
16000														160.4
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	84.2	88.0	89.4	88.3	90.8	94.4	94.6	97.5	100.5	104.9	107.2	104.9	93.8	182.3
PNL	88.3	93.3	95.3	94.6	97.4	101.5	101.2	103.5	106.0	108.5	110.1	106.0	94.5	
PNLT	89.3	93.3	95.3	95.2	98.0	101.5	101.2	104.0	106.0	108.5	110.1	106.0	94.5	
DBA	77.4	82.3	84.4	83.8	86.6	90.4	90.2	93.1	95.3	97.3	98.3	92.9	82.0	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH198 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.25 PAMB HG = 29.36 RELHUM = 71.5 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 = 1232.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2303.0 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1415 TAPE = X14151 TEST PT NO = 1415 NC = AE087 CORR FAN SPEED = RPM

P1185-03

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 83F-ZER-1421 X1421C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	92.4	94.7	90.7	89.5	88.8	90.4	91.8	93.0	94.9	93.7	100.1	101.1	90.0	136.4
63	96.3	98.0	99.1	96.1	95.7	97.6	97.4	97.1	99.8	94.1	102.3	100.2	92.6	140.1
80	97.0	101.1	97.1	97.1	97.2	101.6	99.5	99.6	100.8	100.7	104.3	104.5	89.6	142.4
100	95.0	102.2	97.3	96.8	98.1	102.8	101.4	103.8	102.0	104.8	104.7	108.9	93.8	144.5
125	91.9	94.2	96.2	97.2	99.3	102.4	101.6	101.5	101.7	105.3	111.9	114.6	100.0	147.4
160	89.9	92.2	93.7	92.5	92.6	98.0	105.1	100.8	102.5	107.6	112.4	115.6	105.5	148.2
200	93.5	92.8	94.3	93.4	95.7	100.8	103.0	101.6	105.8	107.9	113.8	118.2	107.9	150.0
250	92.8	95.1	95.6	95.4	97.2	99.8	101.0	104.4	107.6	113.4	119.0	121.5	111.1	153.8
315	93.6	95.1	94.1	94.4	96.3	101.9	103.8	104.4	108.9	115.7	120.3	122.8	113.4	155.3
400	95.1	96.4	96.6	95.2	97.8	101.4	106.8	105.2	109.1	117.7	122.8	123.8	114.7	156.9
500	96.1	97.4	98.1	96.4	98.5	102.9	103.8	106.4	110.9	120.0	124.6	124.5	115.7	158.4
630	96.8	97.6	98.6	97.1	99.5	103.3	104.0	107.9	111.6	121.2	125.5	124.2	116.6	159.0
800	100.8	100.6	99.9	98.9	101.0	104.4	104.5	108.7	113.6	120.7	126.1	124.0	117.4	159.3
1000	105.3	106.0	104.1	102.1	103.2	106.1	105.4	109.1	113.8	121.1	125.8	123.7	116.1	159.1
1250	111.4	112.7	109.2	105.1	104.8	107.0	106.6	109.8	115.2	119.8	126.2	120.8	113.8	158.9
1600	114.6	112.5	113.1	108.8	107.0	107.9	107.5	110.5	115.1	119.2	125.3	118.8	112.7	158.4
2000	111.8	110.6	112.0	110.9	111.2	110.1	107.8	111.1	115.2	119.8	123.0	116.8	110.9	157.4
2500	107.9	109.2	108.8	107.7	110.9	113.7	109.4	110.8	114.4	120.2	121.2	114.8	109.8	156.6
3150	107.0	108.6	108.8	106.3	107.7	112.8	112.1	111.6	114.7	118.8	120.0	112.9	107.8	155.8
4000	104.4	106.3	107.1	106.0	107.2	109.9	110.6	112.4	114.3	117.0	118.0	110.5	106.1	154.4
5000	102.6	105.4	106.5	104.6	106.7	109.9	109.3	112.6	113.6	116.4	116.8	109.6	104.8	153.8
6300	101.2	104.9	104.9	103.8	105.8	109.1	109.3	112.0	113.5	114.4	115.2	107.7	103.7	153.0
8000	98.8	102.7	103.7	102.9	104.6	108.2	107.4	109.7	111.7	112.5	113.0	107.0	103.6	151.6
10000	98.7	101.2	102.8	102.3	104.0	107.7	107.0	109.2	110.9	111.0	111.7	106.6	103.9	151.3
12500	96.5	98.4	100.5	100.7	103.0	106.3	105.5	106.3	108.9	109.2	109.0	105.0	102.3	150.1
16000	93.9	97.4	99.1	99.2	100.7	104.4	103.8	104.9	107.5	107.0	108.0	103.0	99.2	149.8
20000	90.7	94.6	96.3	96.5	98.2	101.0	101.8	101.7	104.2	104.6	105.1	100.2	95.9	148.7
25000	87.2	91.0	92.8	93.8	94.9	100.0	98.9	98.0	101.3	102.1	100.8	97.0	91.3	148.1
31500	82.9	87.1	88.9	90.2	91.0	95.3	94.6	95.2	97.6	99.2	97.5	92.9	86.4	147.6
40000	78.2	82.8	85.0	85.7	86.5	91.8	90.4	92.0	95.1	97.3	95.5	89.7	81.5	148.8
50000	72.6	77.4	78.7	80.2	80.5	87.3	84.9	86.6	90.1	93.4	90.8	85.0	75.3	148.5
63000	69.8	73.7	74.7	75.2	76.3	81.6	78.9	81.7	85.7	89.1	84.9	77.6	69.0	148.9
80000	69.9	72.0	69.8	69.0	69.8	76.3	73.5	75.9	78.2	85.3	80.5	72.7	61.8	150.8
OASPL	119.3	119.6	119.5	117.5	118.6	121.3	120.7	122.6	125.8	130.9	135.1	133.2	125.3	169.6
PNL	131.3	131.7	131.9	130.5	132.0	135.0	134.5	135.8	138.6	143.0	145.6	141.4	134.9	
PNLT	131.3	132.9	131.9	130.5	132.7	135.0	134.5	136.4	138.6	143.0	146.1	141.4	134.9	
DBA	120.0	120.0	119.9	117.7	118.8	121.2	120.2	122.3	125.6	130.5	134.6	131.1	124.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADHT96 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.22 PAMB HG = 29.33 RELHUM = 70.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1955.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2323.2 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1421 TAPE = X1421C TEST PT NO = 1421 NC = AE08[illegible] CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1421 X1421F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	92.4	94.7	90.7	89.5	88.8	90.4	91.8	93.0	94.9	93.7	100.1	101.1	90.0	136.4
63	96.3	98.0	99.1	96.1	95.7	97.6	97.4	97.1	99.8	94.1	102.3	100.2	92.6	140.1
80	97.0	101.1	97.1	97.1	97.2	101.6	99.5	99.6	100.8	100.7	104.3	104.5	89.6	142.4
100	95.0	102.2	97.3	96.8	98.1	102.8	101.4	103.8	102.0	104.8	104.7	108.9	93.8	144.5
125	91.9	94.2	96.2	97.2	99.3	102.4	101.6	101.5	101.7	105.3	111.9	114.6	100.0	147.4
160	89.9	92.2	93.7	92.5	92.6	98.0	105.1	100.8	102.5	107.6	112.4	115.6	105.5	148.2
200	93.5	92.8	94.3	93.4	95.7	100.8	103.0	101.6	105.8	107.9	113.8	118.2	107.9	150.0
250	92.8	95.1	95.6	95.4	97.2	99.8	101.0	104.4	107.6	113.4	119.0	121.5	111.1	153.8
315	93.6	95.1	94.1	94.4	96.3	101.9	103.8	104.4	108.9	115.7	120.3	122.8	113.4	155.3
400	95.1	96.4	96.6	95.2	97.8	101.4	106.8	105.2	109.1	117.7	122.8	123.8	114.7	156.9
500	96.1	97.4	98.1	96.4	98.5	102.9	103.8	106.4	110.9	120.0	124.6	124.5	115.7	158.4
630	96.8	97.6	98.6	97.1	99.5	103.3	104.0	107.9	111.6	121.2	125.5	124.2	116.6	159.0
800	100.8	100.6	99.9	98.9	101.0	104.4	104.5	108.7	113.6	120.7	126.1	124.0	117.4	159.3
1000	105.3	106.0	104.1	102.1	103.2	106.1	105.4	109.1	113.8	121.1	125.8	123.7	116.1	159.1
1250	111.4	112.7	109.2	105.1	104.8	107.0	106.6	109.8	115.2	119.8	126.2	120.8	113.8	158.9
1600	114.6	112.5	113.1	108.8	107.0	107.9	107.5	110.5	115.1	119.2	125.3	118.8	112.7	158.4
2000	111.8	110.6	112.0	110.9	111.2	110.1	107.8	111.1	115.2	119.8	123.0	116.8	110.9	157.4
2500	107.9	109.2	108.8	107.7	110.9	113.7	109.4	110.8	114.4	120.2	121.2	114.8	109.8	156.6
3150	107.0	108.6	108.8	106.3	107.7	112.8	112.1	111.6	114.7	118.8	120.0	112.9	107.8	155.8
4000	104.4	106.3	107.1	106.0	107.2	109.9	110.6	112.4	114.3	117.0	118.0	110.5	106.1	154.4
5000	102.6	105.4	106.5	104.6	106.7	109.9	109.3	112.6	113.6	116.4	116.8	109.6	104.8	153.8
6300	101.2	104.9	104.9	103.8	105.8	109.1	109.3	112.0	113.5	114.4	115.2	107.7	103.7	153.0
8000	98.8	102.7	103.7	102.9	104.6	108.2	107.4	109.7	111.7	112.5	113.0	107.0	103.6	151.6
10000	98.7	101.2	102.8	102.3	104.0	107.7	107.0	109.2	110.9	111.0	111.7	106.6	103.9	151.3
12500	96.5	98.4	100.5	100.7	103.0	106.3	105.5	106.3	108.9	109.2	109.0	105.0	102.3	150.1
16000	93.9	97.4	99.1	99.2	100.7	104.4	103.8	104.9	107.5	107.0	108.0	103.0	99.2	149.8
20000	90.7	94.6	96.3	96.5	98.2	101.0	101.8	101.7	104.2	104.6	105.1	100.2	95.9	148.7
25000	87.2	91.0	92.8	93.8	94.9	100.0	98.9	98.0	101.3	102.1	100.8	97.0	91.3	148.1
31500	82.9	87.1	88.9	90.2	91.0	95.3	94.6	95.2	97.6	99.2	97.5	92.9	86.4	147.6
40000	78.2	82.8	85.0	85.7	86.5	91.8	90.4	92.0	95.1	97.3	95.5	89.7	81.5	148.8
50000	72.6	77.4	78.7	80.2	80.5	87.3	84.9	86.6	90.1	93.4	90.8	85.0	75.3	148.5
63000	69.8	73.7	74.7	75.2	76.3	81.6	78.9	81.7	85.7	89.1	84.9	77.6	69.0	148.9
80000	69.9	72.0	69.8	69.0	69.8	76.3	73.5	75.9	78.2	85.3	80.5	72.7	61.8	150.8
OASPL	119.3	119.6	119.5	117.5	118.6	121.3	120.7	122.6	125.8	130.9	135.1	133.2	125.3	169.6
PNL	131.3	131.7	131.9	130.5	132.0	135.0	134.5	135.8	138.6	143.0	145.6	141.4	134.9	
PNLT	131.3	132.9	131.9	130.5	132.7	135.0	134.5	136.4	138.6	143.0	146.1	141.4	134.9	
DBA	190.4	192.8	191.4	191.1	191.9	198.1	195.5	197.8	200.7	206.5	202.0	194.6	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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH196 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.22 PAMB HG = 29.33 RELHUM = 70.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0-FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1955.0 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2323.2 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-ZER-1421 TAPE = X1421F TEST PT NO = 1421 NC = AE087 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 - 83F-ZER-1421 X14211

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.2	72.0	73.6	74.1	76.3	79.1	80.1	83.1	85.6	90.3	94.4	94.7	81.0	168.7
63	69.0	72.0	72.1	73.1	75.4	81.1	82.9	83.1	86.9	92.6	95.7	95.9	83.2	170.1
80	70.4	73.2	74.6	73.8	76.8	80.6	85.8	83.8	87.1	94.6	98.1	96.8	84.4	171.8
100	71.3	74.2	76.0	75.0	77.6	82.1	82.8	85.0	88.8	96.8	99.8	97.5	85.2	173.2
125	71.9	74.3	76.4	75.7	78.4	82.4	82.9	86.4	89.4	97.9	100.7	97.1	86.0	173.9
160	75.8	77.2	77.6	77.3	79.8	83.4	83.3	87.1	91.3	97.3	101.0	96.6	86.4	174.1
200	79.9	82.4	81.5	80.3	81.9	84.9	84.1	87.3	91.3	97.5	100.4	95.9	84.6	174.0
250	85.7	88.7	86.4	83.1	83.3	85.6	85.0	87.8	92.4	95.8	100.5	92.7	81.6	173.8
315	88.5	88.1	90.0	86.5	85.2	86.2	85.6	88.2	92.0	94.9	99.2	90.0	79.6	173.3
400	85.1	85.8	88.5	88.2	89.0	88.0	85.6	88.5	91.7	95.0	96.4	87.4	76.8	172.2
500	80.7	84.0	84.9	84.7	88.4	91.4	86.9	87.8	90.5	95.0	94.0	84.6	74.7	171.5
630	79.2	82.9	84.5	83.0	84.8	90.0	89.3	88.2	90.4	93.1	92.3	82.0	71.6	170.7
800	76.0	80.0	82.4	82.3	84.0	86.9	87.3	88.6	89.5	90.8	89.6	78.8	68.6	169.3
1000	73.5	78.6	81.3	80.4	83.0	86.4	85.6	88.4	88.4	89.7	87.7	76.9	65.9	168.7
1250	71.3	77.5	79.2	79.1	81.8	85.2	85.3	87.3	87.8	87.0	85.3	73.9	63.0	167.9
1600	67.6	74.2	77.1	77.5	79.8	83.6	82.5	84.2	85.1	84.1	81.8	71.4	60.1	166.4
2000	65.7	71.4	75.0	75.8	78.2	82.2	81.2	82.7	83.1	81.2	78.7	68.6	56.6	166.1
2500	60.8	66.4	70.9	72.6	75.7	79.3	78.3	78.2	79.3	77.2	73.3	63.2	49.1	164.9
3150	53.8	62.0	66.6	68.5	71.1	75.1	74.1	74.2	75.0	71.5	68.0	55.2	36.7	164.6
4000	43.0	53.1	58.6	61.2	64.2	67.4	67.8	66.4	66.5	63.1	57.4	42.1	17.5	163.5
5000	28.1	40.3	47.2	51.5	54.3	59.9	58.3	55.6	55.7	51.3	41.7	23.6		162.9
6300	4.8	20.9	30.0	35.9	39.0	44.2	42.6	40.8	38.8	33.0	19.4			162.5
8000			3.5	10.7	15.1	21.6	19.0	17.1	13.5	4.9				163.6
10000														163.3
12500														163.7
16000														165.7
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	92.7	94.5	95.5	94.1	95.6	98.3	97.5	99.1	101.9	106.6	109.5	105.4	93.8	184.3
PNL	97.6	99.7	101.6	101.1	102.7	105.7	104.6	105.9	107.8	110.6	112.4	106.0	94.5	
PNLT	98.1	100.3	102.1	101.6	102.7	105.7	104.6	105.9	107.8	111.2	112.4	106.0	94.5	
DBA	87.2	89.6	91.4	90.5	92.5	95.6	94.5	95.9	97.4	99.6	100.5	92.7	81.9	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH196	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.22	PAMB HG = 29.33	RELHUM = 70.0 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNINI = LBS	XNL = RPM	XNH = RPM	V8 = 1955.0 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2323.2 FPS	AE18 = 23.4 SQ IN

PT F-ZE 421 E = X T TE T T 142 AEO R F SPEED RPM

086

P1185-03

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 83F-400-1422 X1422C
BACKGROUND 83F-400-1400 X14000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	95.1	93.9	90.7	87.5	89.8	92.2	90.1	92.2	93.7	94.0	101.1	100.3	95.2	136.6
63	96.0	96.5	98.1	92.1	95.7	97.3	97.4	96.4	97.8	98.6	103.0	104.2	96.9	140.4
80	96.0	100.1	96.1	96.6	96.5	100.3	98.0	98.1	99.1	98.7	102.5	102.2	92.9	140.9
100	95.0	100.2	95.5	94.8	96.4	101.3	99.9	102.8	100.5	101.6	102.5	107.9	97.6	142.9
125	92.6	94.2	96.4	96.5	99.1	101.4	99.6	100.5	99.4	102.3	108.6	113.1	99.7	145.5
160	90.7	87.0	91.5	90.0	91.4	95.5	97.6	97.0	99.2	103.8	108.7	112.4	103.8	144.7
200	90.5	91.8	91.1	89.9	92.2	96.3	97.0	98.6	103.1	103.9	109.8	115.5	106.9	146.9
250	88.5	91.8	92.6	91.6	93.0	96.6	98.2	100.9	103.6	109.2	115.5	119.0	109.1	150.8
315	90.3	91.4	91.6	90.2	93.3	97.6	98.5	100.7	104.9	111.7	116.8	120.3	111.2	152.2
400	91.6	91.9	93.4	91.4	93.5	96.4	99.5	101.7	105.1	113.4	119.3	121.3	111.4	153.7
500	91.1	93.6	94.6	92.7	94.5	98.6	99.3	102.2	106.9	115.7	121.3	121.5	110.7	155.0
630	92.5	93.8	95.1	92.9	94.7	98.8	100.2	103.4	106.8	117.2	122.5	120.7	109.4	155.5
800	96.6	97.6	97.1	94.7	98.0	99.6	101.0	104.7	109.1	116.5	123.6	119.8	108.4	155.9
1000	105.5	104.0	103.1	98.8	99.2	101.8	101.9	105.6	109.6	116.9	123.0	118.9	107.9	155.6
1250	109.7	110.9	108.0	102.1	101.1	103.5	102.6	106.3	110.7	115.8	122.9	116.6	107.0	155.5
1600	109.3	111.2	111.9	108.0	106.0	105.4	104.5	107.3	111.4	115.5	122.3	115.3	105.9	155.4
2000	105.8	107.1	108.7	108.6	110.4	110.1	105.8	108.1	111.5	115.8	121.0	113.6	104.9	154.7
2500	104.9	105.4	104.8	104.0	107.6	112.0	109.7	108.0	111.2	116.4	118.0	111.0	104.3	153.5
3150	103.5	105.3	105.8	102.6	103.4	108.5	110.4	110.4	111.7	115.3	116.8	108.7	101.8	152.7
4000	101.4	103.0	103.9	102.3	104.5	106.9	107.3	110.7	111.5	113.2	114.7	106.0	100.1	151.3
5000	100.6	102.1	103.5	100.9	102.9	106.4	106.3	110.4	111.8	113.0	112.5	104.8	98.3	150.7
6300	100.0	101.6	102.2	99.8	101.9	105.8	106.9	110.1	112.3	111.5	110.2	102.3	96.2	150.2
8000	98.4	100.5	101.5	99.7	101.4	104.4	104.6	107.5	110.2	109.3	108.0	100.5	96.1	148.6
10000	98.2	99.3	100.8	99.4	100.5	103.8	104.0	106.8	108.9	107.6	106.7	99.2	94.5	148.1
12500	96.3	97.3	99.1	98.5	99.6	102.6	102.6	103.4	106.4	105.7	103.9	98.3	93.1	146.8
16000	94.5	97.0	98.0	97.2	98.1	100.8	100.4	102.0	105.1	102.8	102.6	96.3	90.5	146.4
20000	91.5	94.0	95.4	95.1	95.8	97.8	98.7	98.6	101.0	99.7	99.7	94.0	88.2	145.2
25000	87.7	90.6	91.9	92.4	92.5	96.6	95.7	95.3	97.4	95.2	93.6	91.0	84.1	144.1
31500	83.4	86.3	88.4	89.0	88.5	92.6	92.1	91.7	92.9	91.2	90.0	85.9	79.6	143.4
40000	78.6	81.7	83.9	84.9	84.1	89.0	87.6	88.0	90.0	88.2	86.2	81.8	75.1	143.6
50000	72.2	75.4	77.5	78.2	78.1	83.8	81.5	82.7	83.4	82.2	81.0	76.0	68.8	142.1
63000	66.0	70.1	72.2	72.7	73.6	78.3	75.4	77.2	78.9	78.5	75.8	69.1	62.3	142.3
80000	60.8	65.1	65.4	65.1	67.4	71.9	69.2	69.7	71.3	69.8	68.5	61.8	53.7	142.1
OASPL	115.9	117.3	117.2	114.9	116.1	118.6	118.1	120.0	122.7	127.0	132.1	129.9	119.9	166.3
PNL	127.6	129.1	129.5	127.7	129.3	132.5	132.1	133.5	135.6	139.3	142.6	137.9	129.5	
PNLT	127.6	129.6	130.7	128.4	130.5	133.0	132.1	134.1	135.6	139.3	143.2	137.9	129.5	
DBA	116.3	117.6	117.6	115.1	116.3	118.6	117.9	119.8	122.4	126.7	131.6	127.4	117.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL	= ADH193	TEST DATE	= 04-05-83	LOCAT	= C41 ANECH CH	CONFIG	= 14	MODEL	= AX	FLTVEL	= 400. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 53.44	PAMB HG	= 29.28	RELHUM	= 66.4 PCT
WIND DIR	= DEG	WIND VEL	= MPH	EXT DIST	= 40.0 FT	EXT CONFIG	= ARC	MIKE HT	=	NBFR	=
FNTNT	= LBS	XNL	= RPM	XNH	= RPM	V8	= 1964.9 FPS	AE8	= 4.6 SQ IN		
FNRAMB	= LBS	XNLR	= RPM	XNHR	= RPM	V18	= 2314.3 FPS	AE18	= 23.4 SQ IN		

RUNPT = 83F-400-1422 TAPE = X1422C TEST PT NO = 1422 NC = AE087 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 - 83F-400-1422 X1422F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	96.3	98.2	97.5	94.9	94.6	96.6	96.3	97.3	102.8	109.0	113.9	118.0	110.8	149.9
315	96.3	98.2	97.5	94.9	95.1	97.8	97.7	98.9	103.3	111.1	116.9	119.9	112.8	152.0
400	98.0	97.8	96.6	93.6	95.1	96.6	98.7	99.9	105.0	113.4	119.1	120.8	113.6	153.6
500	97.7	97.2	97.6	94.4	96.4	99.0	98.4	100.2	105.0	115.0	120.7	121.0	114.4	154.5
630	98.7	100.0	99.6	96.1	96.6	99.2	99.3	101.3	107.8	114.9	122.5	121.5	116.3	155.7
800	99.5	99.8	99.8	96.2	99.5	100.2	100.2	102.7	108.9	116.1	123.0	122.3	118.5	156.5
1000	101.6	101.9	100.6	97.2	100.9	102.4	101.4	104.0	110.0	115.0	122.8	120.0	117.8	155.7
1250	112.8	110.1	107.7	101.9	103.0	104.3	102.1	104.6	110.8	114.7	122.4	118.8	116.9	155.7
1600	117.1	117.2	112.9	105.5	108.0	106.4	104.2	105.8	111.1	115.2	121.3	117.3	116.1	156.4
2000	116.1	116.9	116.2	111.1	113.1	111.3	105.7	106.9	111.3	116.4	118.7	115.3	116.1	156.5
2500	113.4	113.6	114.1	112.6	111.1	113.6	110.0	107.2	112.0	115.4	117.6	113.0	113.8	155.4
3150	115.3	114.3	111.9	109.3	106.6	110.5	111.0	109.8	112.4	113.8	115.8	110.4	112.0	154.4
4000	110.0	111.2	110.9	106.7	108.2	109.5	108.5	110.6	112.8	113.5	113.5	109.0	109.9	153.0
5000	109.0	109.7	109.6	107.0	107.0	109.4	108.0	110.5	113.4	112.0	111.1	106.1	107.0	152.3
6300	108.1	108.8	109.3	105.7	105.9	108.8	108.6	110.3	112.0	110.7	110.0	106.0	109.3	151.9
8000	107.3	108.2	107.9	104.5	105.4	107.4	106.8	108.3	111.0	109.3	109.1	105.0	108.1	151.0
10000	105.5	106.9	107.0	104.3	104.6	106.8	106.2	107.7	109.1	108.2	107.0	104.9	107.3	150.5
12500	105.1	105.4	106.1	103.7	103.6	105.6	104.9	104.5	108.3	105.7	106.1	103.3	105.3	149.9
16000	102.6	102.9	103.8	102.2	102.1	103.8	102.6	103.1	104.9	103.4	104.0	101.9	103.6	149.1
20000	100.4	102.2	102.3	100.6	99.9	100.8	101.0	99.9	102.8	100.6	99.8	100.6	100.9	148.6
25000	96.8	98.6	99.1	97.8	97.1	99.6	98.2	97.1	99.0	97.4	97.0	96.4	97.4	148.0
31500	95.0	96.7	96.5	95.5	93.1	95.6	94.5	93.5	96.5	94.5	93.4	92.6	93.7	148.1
40000	89.9	91.6	92.2	91.2	88.7	92.0	90.0	89.5	90.3	89.0	88.6	87.2	87.8	147.4
50000	84.7	86.5	87.3	86.7	82.7	86.8	83.8	84.2	85.3	84.4	82.1	78.3	78.4	146.5
63000	77.3	79.3	80.0	79.1	78.2	81.3	77.3	77.7	79.5	77.4	76.5	72.8	71.7	145.3
80000	69.7	72.6	73.1	72.1	72.0	74.9	71.1	70.4	69.7	67.6	66.7	63.0	61.9	145.0
OASPL	123.3	123.4	122.2	118.6	118.9	120.2	118.6	119.5	122.9	126.2	131.4	130.2	126.7	167.1
PNL	135.7	135.4	134.5	131.7	131.3	133.3	131.9	132.3	135.4	137.9	140.9	138.0	137.1	
PNLT	137.8	137.2	134.5	131.7	132.5	133.3	131.9	132.3	135.4	137.9	140.9	138.0	137.1	
DBA	192.8	195.2	195.8	194.9	194.0	197.1	193.4	193.2	193.6	191.8	190.7	187.3	186.7	

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 DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH193	TEST DATE = 04-05-83	LOCAT = C41 ANECH CH	CONFIG = 14	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.44	PAMB HG = 29.28	RELHUM = 66.4 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1964.9 FPS	AE8 = 4.6 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2314.3 FPS	AE18 = 23.4 SQ IN

INPT 83F-400-1422 PE = X1422F T PT 14.7 AE0.0 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 - 83F-400-1422 X14221

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.7	75.1	75.5	73.6	73.7	75.8	75.4	76.0	80.8	86.0	89.3	91.2	80.7	164.7
63	71.7	75.1	75.4	73.6	74.2	77.1	76.8	77.6	81.2	88.0	92.3	93.1	82.6	166.9
80	73.3	74.6	74.5	72.2	74.2	75.8	77.8	78.5	82.9	90.2	94.4	93.9	83.3	168.4
100	73.0	74.0	75.5	73.0	75.5	78.1	77.4	78.8	82.9	91.8	95.9	94.0	83.9	169.3
125	73.9	76.7	77.4	74.7	75.6	78.3	78.3	79.9	85.6	91.6	97.6	94.4	85.6	170.5
160	74.4	76.3	77.5	74.6	78.4	79.1	79.1	81.1	86.5	92.7	97.9	94.9	87.4	171.3
200	76.2	78.2	78.0	75.4	79.6	81.3	80.0	82.2	87.5	91.3	97.5	92.2	86.2	170.6
250	87.1	86.1	84.9	79.9	81.5	82.9	80.5	82.6	88.0	90.8	96.7	90.6	84.7	170.5
315	91.0	92.9	89.8	83.2	86.1	84.7	82.3	83.5	88.0	90.9	95.1	88.6	83.1	171.2
400	89.5	92.1	92.7	88.4	90.9	89.3	83.6	84.2	87.8	91.7	92.1	85.9	82.0	171.3
500	86.2	88.4	90.2	89.6	88.6	91.3	87.5	84.2	88.1	90.2	90.4	82.9	78.7	170.3
630	87.5	88.6	87.6	85.9	83.7	87.8	88.2	86.4	88.1	88.1	88.0	79.5	75.8	169.3
800	81.6	85.0	86.2	82.9	84.9	86.4	85.3	86.8	88.0	87.2	85.1	77.2	72.3	167.9
1000	79.9	83.0	84.4	82.8	83.3	85.9	84.3	86.3	88.2	85.2	82.0	73.4	68.1	167.2
1250	78.2	81.4	83.6	81.1	81.8	84.9	84.5	85.6	86.3	83.3	80.1	72.2	68.6	166.7
1600	76.1	79.8	81.3	79.0	80.6	82.8	82.0	82.8	84.4	80.9	77.9	69.4	64.7	165.9
2000	72.5	77.0	79.2	77.8	78.8	81.2	80.5	81.2	81.4	78.4	74.0	66.9	60.0	165.3
2500	69.4	73.4	76.5	75.6	76.3	78.6	77.6	76.4	78.7	73.7	70.4	61.6	52.1	164.7
3150	62.5	67.4	71.3	71.6	72.4	74.4	73.0	72.4	72.4	68.0	64.0	54.1	41.0	163.9
4000	52.7	60.7	64.6	65.2	65.9	67.2	67.0	64.6	65.1	59.0	52.1	42.5	22.5	163.5
5000	37.7	47.8	53.5	55.4	56.4	59.5	57.5	54.8	53.5	46.7	37.9	23.0		162.8
6300	16.9	30.5	37.6	41.1	41.1	44.4	42.6	39.1	37.6	28.4	15.3			163.0
8000			10.6	16.3	17.3	21.7	18.5	14.5	8.8					162.3
10000														161.4
12500														160.2
16000														159.8
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	96.2	98.1	98.0	95.0	96.0	97.3	95.3	95.6	98.7	101.8	105.9	102.6	94.6	182.0
PNL	101.5	104.0	104.9	102.3	103.5	104.8	102.8	103.2	105.4	106.5	108.5	103.4	96.5	
PNLT	102.7	104.9	105.5	102.8	104.1	104.8	103.3	103.2	106.1	106.5	108.5	103.4	96.5	
DBA	92.0	94.3	94.8	92.4	93.0	94.9	93.4	93.7	95.5	95.3	96.5	90.4	84.9	

MODEL AREA = 295.5 SQ CM (45.8 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.528 FREQ SHIFT = -7

NASA DUAL FLOW THERMAL SHIELD/DFTAS-14/NAS3-22137

VEHICL = ADH193 TEST DATE = 04-05-83 LOCAT = C41 ANECH CH CONFIG = 14 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.44 PAMB HG = 29.28 RELHUM = 66.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1964.9 FPS AE8 = 4.6 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2314.3 FPS AE18 = 23.4 SQ IN

RUNPT = 83F-400-1422 TAPE = X14221 TEST PT NO = 1422 NC = AE087 CORR FAN SPEED = RPM

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4.3 Acoustic Data of Suppressed Coannular Plug Nozzles

For easy reference, the scope of acoustic tests with the suppressed coannular configurations summarized in Table 3-I is repeated in Table 4-V and the acoustic test points associated with each of the test configurations identified.

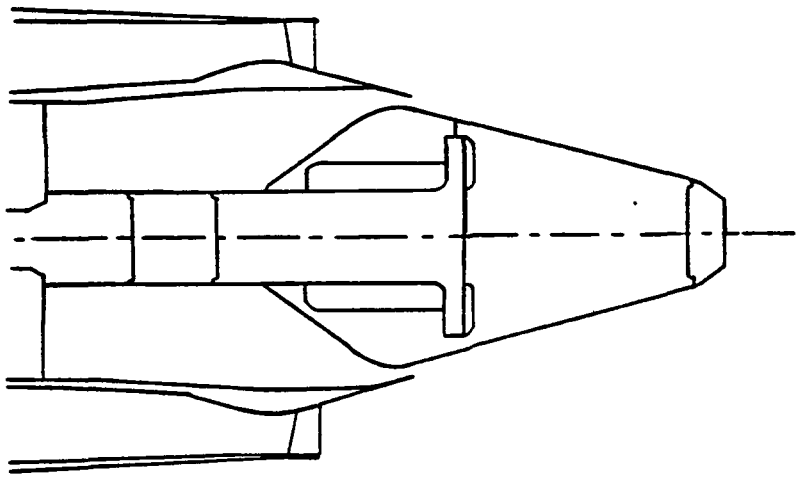
The acoustic data are presented in Subsections 4.3.1 through 4.3.3.

TABLE 4-V. IDENTIFICATION OF ACOUSTIC TEST POINTS OF SUPPRESSED COANNULAR PLUG NOZZLES.

BASELINE NOZZLE	SHIELD		TEST POINTS		V^s/V^o	CONFIG. NAME	ACOUSTIC TEST POINTS
	TYPE	ORIENT.	STATIC	FLIGHT			
Mechanically Suppressed Coannular Plug Nozzle with 20-Shallow-Chute Suppressor in Outer Stream	No Shield	-	6	6	0.0	TAS-15	1501 thru 1512
	180^o Partial Shield	Sideline	5	5	0.64	TAS-16	1603 thru 1612
		Community	7	5			1633 thru 1642 1645, 1651
		Community	7	6	0.83	TAS-17	1703 thru 1712 1765, 1721, 1722
		Community	5	5	0.48	TAS-18	1803 thru 1812
	360^o Full Shield	Axi-Symmetric	6	6	0.83	TAS-19	1903 thru 1912 1921, 1922

NOTE: The Shield to Outer Stream Velocity Ratios of This Table Correspond to a Typical Takeoff Condition of $P_r^o \sim 3.025$, $T_T^o \sim 1640^oR$, $P_r^i \sim 2.28$, $T_T^i \sim 880^oR$.

4.3.1 Acoustic Data of Suppressed Baseline Coannular Plug Nozzle (TAS-15).



DATPROC - FLTRAN

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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 83F-ZER-1501 X1501C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	76.1	82.7	83.2	76.2	73.6	76.7	79.3	81.0	76.7	83.2	81.4	88.6	84.5	123.4
63	81.5	90.8	94.1	84.6	82.0	83.1	89.2	91.9	85.8	89.6	85.5	95.7	95.1	132.1
80	80.3	83.6	81.6	80.6	79.5	84.1	83.5	83.9	83.3	84.7	86.8	87.7	75.6	125.6
100	78.0	83.2	80.0	80.0	81.4	84.0	82.1	85.3	83.3	87.8	88.5	91.6	75.8	126.8
125	76.9	79.9	81.7	81.2	83.1	85.2	83.6	84.0	83.7	87.3	92.4	95.6	79.5	128.9
160	75.4	75.7	81.0	77.8	78.9	82.2	85.4	83.3	83.7	86.3	91.7	95.4	84.8	128.3
200	76.0	78.8	82.6	78.6	80.0	83.6	85.0	86.1	86.8	88.9	93.8	98.0	87.6	130.5
250	75.8	80.1	80.6	78.4	81.0	84.6	85.2	86.9	88.3	92.9	96.8	100.0	89.9	132.7
315	77.1	80.4	81.1	80.2	82.5	85.9	86.5	88.4	89.4	92.7	96.3	99.8	92.2	132.8
400	77.1	80.1	81.4	79.9	82.5	85.4	90.2	88.4	89.1	94.7	96.8	99.5	91.2	133.3
500	77.6	81.1	82.9	80.9	83.0	86.9	87.5	89.2	90.6	94.7	97.1	98.3	89.9	133.0
630	78.0	81.1	83.1	81.6	84.0	86.6	86.7	89.4	90.1	95.7	96.3	96.0	89.4	132.4
800	79.3	83.4	84.1	83.4	85.5	87.9	87.8	92.9	95.9	96.2	96.3	95.3	90.4	133.9
1000	81.8	83.3	85.1	83.3	85.2	88.3	87.4	90.6	91.6	94.9	95.3	93.9	88.6	132.2
1250	80.4	85.7	85.5	83.9	85.3	88.7	87.8	91.0	92.5	94.5	94.4	92.4	88.5	132.1
1600	81.8	85.7	86.9	85.3	86.8	89.9	89.2	92.0	93.4	93.2	94.3	92.3	88.4	132.5
2000	82.5	86.3	86.5	85.9	87.5	90.6	90.1	92.6	94.2	95.3	94.5	92.4	89.9	133.4
2500	81.7	87.7	87.1	86.5	87.7	91.0	90.7	93.3	94.5	97.0	95.5	94.1	92.1	134.3
3150	83.3	88.9	88.6	86.9	88.7	92.1	92.2	94.7	96.5	98.3	97.1	95.5	93.6	135.9
4000	83.5	88.6	89.2	87.6	89.8	93.0	92.4	96.0	97.6	98.4	98.8	97.9	96.5	137.0
5000	84.8	89.0	90.2	88.8	90.8	93.8	93.9	97.5	97.8	100.1	100.9	99.7	98.4	138.6
6300	85.7	91.1	91.2	89.5	91.8	95.3	95.3	98.3	99.3	100.5	101.7	101.0	100.7	139.9
8000	84.1	89.5	90.8	89.5	91.7	95.5	94.4	96.8	98.0	99.2	100.8	100.8	100.9	139.5
10000	84.1	89.4	90.7	90.0	92.1	95.9	94.9	98.6	98.6	98.3	100.1	100.5	101.0	140.2
12500	82.6	86.9	88.7	89.1	91.2	94.9	94.5	96.5	96.8	97.4	97.5	99.9	99.7	139.6
16000	80.7	86.6	87.8	88.3	90.1	93.5	93.1	95.3	96.9	96.1	96.9	97.6	96.5	139.7
20000	78.5	83.9	85.1	86.3	88.0	91.3	92.4	93.0	94.2	94.2	94.1	94.7	93.9	139.2
25000	76.5	81.2	82.5	83.8	85.2	89.8	89.9	90.2	91.7	91.2	91.0	91.7	88.9	138.8
31500	72.8	76.9	79.5	80.9	81.5	85.9	85.6	86.9	88.0	87.9	88.2	87.2	85.0	138.3
40000	67.6	72.8	74.5	76.4	77.3	82.2	81.0	83.3	85.1	84.7	84.7	82.5	80.4	138.6
50000	61.5	66.2	68.3	70.5	70.9	77.3	75.4	77.2	78.7	79.0	78.7	77.5	74.4	137.2
63000	55.4	60.1	63.4	64.2	65.8	71.6	69.4	72.2	73.8	73.2	73.7	71.4	68.2	137.0
80000	47.4	53.4	55.4	56.1	57.8	64.9	63.1	65.7	66.6	66.7	66.8	65.0	61.1	137.1
OASPL	95.6	100.6	101.7	100.1	101.9	105.3	105.2	107.7	108.7	110.1	111.1	111.7	109.2	151.4
PNL	108.0	112.9	113.4	111.8	113.7	117.0	117.1	119.9	120.9	122.7	123.6	123.3	120.9	
PNLT	108.0	112.9	113.4	111.8	113.7	117.0	117.6	119.9	122.6	122.7	123.6	123.3	120.9	
DBA	94.3	99.1	99.7	98.4	100.3	103.6	103.3	106.3	107.5	109.0	109.6	109.0	107.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH202 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 45.95 PAMB HG = 29.45 RELHUM = 59.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1101.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1574.3 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1501 TAPE = X1501C TEST PT NO = 1501 NC = AE088 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

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P1185-03

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

IDENTIFICATION - 83F-ZER-1501 X1501F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	76.1	82.7	83.2	76.2	73.6	76.7	79.3	81.0	76.7	83.2	81.4	88.6	84.5	123.4
63	81.5	90.8	94.1	84.6	82.0	83.1	89.2	91.9	85.8	89.6	85.5	95.7	95.1	132.1
80	80.3	83.6	81.6	80.6	79.5	84.1	83.5	83.9	83.3	84.7	86.8	87.7	75.6	125.6
100	78.0	83.2	80.0	80.0	81.4	84.0	82.1	85.3	83.3	87.8	88.5	91.6	75.8	126.8
125	76.9	79.9	81.7	81.2	83.1	85.2	83.6	84.0	83.7	87.3	92.4	95.6	79.5	128.9
160	75.4	75.7	81.0	77.8	78.9	82.2	85.4	83.3	83.7	86.3	91.7	95.4	84.8	128.3
200	76.0	78.8	82.6	78.6	80.0	83.6	85.0	86.1	86.8	88.9	93.8	98.0	87.6	130.5
250	75.8	80.1	80.6	78.4	81.0	84.6	85.2	86.9	88.3	92.9	96.8	100.0	89.9	132.7
315	77.1	80.4	81.1	80.2	82.5	85.9	86.5	88.4	89.4	92.7	96.3	99.8	92.2	132.8
400	77.1	80.1	81.4	79.9	82.5	85.4	90.2	88.4	89.1	94.7	96.8	99.5	91.2	133.3
500	77.6	81.1	82.9	80.9	83.0	86.9	87.5	89.2	90.6	94.7	97.1	98.3	89.9	133.0
630	78.0	81.1	83.1	81.6	84.0	86.6	86.7	89.4	90.1	95.7	96.3	96.0	89.4	132.4
800	79.3	83.4	84.1	83.4	85.5	87.9	87.8	92.9	95.9	96.2	96.3	95.3	90.4	133.9
1000	81.8	83.3	85.1	83.3	85.2	88.3	87.4	90.6	91.6	94.9	95.3	93.9	88.6	132.2
1250	80.4	85.7	85.5	83.9	85.3	88.7	87.8	91.0	92.5	94.5	94.4	92.4	88.5	132.1
1600	81.8	85.7	86.9	85.3	86.8	89.9	89.2	92.0	93.4	93.2	94.3	92.3	88.4	132.5
2000	82.5	86.3	86.5	85.9	87.5	90.6	90.1	92.6	94.2	95.3	94.5	92.4	89.9	133.4
2500	81.7	87.7	87.1	86.5	87.7	91.0	90.7	93.3	94.5	97.0	95.5	94.1	92.1	134.3
3150	83.3	88.9	88.6	86.9	88.7	92.1	92.2	94.7	96.5	98.3	97.1	95.5	93.6	135.9
4000	83.5	88.6	89.2	87.6	89.8	93.0	92.4	96.0	97.6	98.4	98.8	97.9	96.5	137.0
5000	84.8	89.0	90.2	88.8	90.8	93.8	93.9	97.5	97.8	100.1	100.9	99.7	98.4	138.6
6300	85.7	91.1	91.2	89.5	91.8	95.3	95.3	98.3	99.3	100.5	101.7	101.0	100.7	139.9
8000	84.1	89.5	90.8	89.5	91.7	95.5	94.4	96.8	98.0	99.2	100.8	100.8	100.9	139.5
10000	84.1	89.4	90.7	90.0	92.1	95.9	94.9	98.6	98.6	98.3	100.1	100.5	101.0	140.2
12500	82.6	86.9	88.7	89.1	91.2	94.9	94.5	96.5	96.8	97.4	97.5	99.9	99.7	139.6
16000	80.7	86.6	87.8	88.3	90.1	93.5	93.1	95.3	96.9	96.1	96.9	97.6	96.5	139.7
20000	78.5	83.9	85.1	86.3	88.0	91.3	92.4	93.0	94.2	94.2	94.1	94.7	93.9	139.2
25000	76.5	81.2	82.5	83.8	85.2	89.8	89.9	90.2	91.7	91.2	91.0	91.7	88.9	138.8
31500	72.8	76.9	79.5	80.9	81.5	85.9	85.6	86.9	88.0	87.9	88.2	87.2	85.0	138.3
40000	67.6	72.8	74.5	76.4	77.3	82.2	81.0	83.3	85.1	84.7	84.7	82.5	80.4	138.6
50000	61.5	66.2	68.3	70.5	70.9	77.3	75.4	77.2	78.7	79.0	78.7	77.5	74.4	137.2
63000	55.4	60.1	63.4	64.2	65.8	71.6	69.4	72.2	73.8	73.2	73.7	71.4	68.2	137.0
80000	47.4	53.4	55.4	56.1	57.8	64.9	63.1	65.7	66.6	66.7	66.8	65.0	61.1	137.1
OASPL	95.6	100.6	101.7	100.1	101.9	105.3	105.2	107.7	108.7	110.1	111.1	111.7	109.2	151.4
PNL	108.0	112.9	113.4	111.8	113.7	117.0	117.1	119.9	120.9	122.7	123.6	123.3	120.9	
PNLT	108.0	112.9	113.4	111.8	113.7	117.0	117.6	119.9	122.6	122.7	123.6	123.3	120.9	
DBA	170.5	175.9	178.3	179.2	180.7	187.2	185.3	187.9	189.1	189.0	189.1	187.3	183 8	

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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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH202	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 45.95	PAMB HG = 29.45	RELHUM = 59.2 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1101.6 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1574.3 FPS	AE18 = 19.9 SQ IN

PT [illegible] 150 [illegible] AE06 [illegible] RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1501 X15011

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	55.3	59.9	62.2	61.5	64.5	67.5	72.2	70.0	70.0	74.5	75.1	75.5	63.9	150.9
63	55.8	60.9	63.7	62.5	65.0	69.0	69.5	70.7	71.5	74.5	75.3	74.3	62.6	150.7
80	56.2	60.8	63.9	63.1	65.9	68.6	68.6	70.9	70.9	75.4	74.5	71.9	61.9	150.1
100	57.4	63.0	64.9	64.9	67.4	69.9	69.6	74.4	76.6	75.9	74.4	71.1	62.8	151.6
125	59.7	62.8	65.7	64.7	67.0	70.2	69.2	72.0	72.2	74.4	73.2	69.6	60.8	149.9
160	58.2	65.1	66.0	65.1	67.0	70.5	69.5	72.3	73.0	73.9	72.2	67.8	60.3	149.8
200	59.4	64.9	67.2	66.4	68.3	71.6	70.7	73.1	73.7	72.4	71.9	67.4	59.7	150.2
250	59.7	65.2	66.6	66.8	68.8	72.0	71.4	73.5	74.3	74.2	71.8	67.1	60.6	151.0
315	58.5	66.3	66.8	67.1	68.7	72.2	71.8	73.9	74.2	75.6	72.3	68.2	61.9	152.0
400	59.6	67.0	68.1	67.2	69.5	73.0	73.0	74.9	75.9	76.5	73.4	69.0	62.5	153.5
500	59.3	66.4	68.4	67.6	70.3	73.7	72.9	76.0	76.8	76.1	74.6	70.7	64.4	154.7
630	60.1	66.4	68.9	68.5	71.0	74.2	74.1	77.2	76.5	77.5	76.2	71.9	65.3	156.3
800	60.5	68.1	69.7	68.9	71.8	75.4	75.3	77.7	77.8	77.5	76.5	72.4	66.4	157.6
1000	58.5	66.2	69.1	68.8	71.5	75.5	74.2	76.0	76.3	75.9	75.2	71.6	65.4	157.2
1250	57.9	65.8	68.7	69.1	71.8	75.7	74.6	77.7	76.6	74.7	74.0	70.5	64.1	157.9
1600	55.6	62.7	66.3	67.9	70.6	74.5	73.9	75.2	74.4	73.2	70.5	68.5	60.4	157.3
2000	52.8	61.8	65.0	66.8	69.3	73.0	72.3	73.8	74.1	71.3	68.9	64.6	54.2	157.4
2500	48.7	57.9	61.4	64.1	66.7	70.2	71.1	70.9	70.6	68.2	64.4	58.9	46.7	156.9
3150	43.3	52.7	57.0	60.1	62.5	67.4	67.2	66.5	66.2	62.7	57.9	50.9	33.3	156.5
4000	33.4	43.7	50.1	54.0	55.8	60.6	59.9	59.9	58.6	54.7	48.8	37.5	14.9	156.0
5000	18.5	32.0	39.0	44.0	46.6	52.1	50.3	50.9	49.5	44.0	35.5	19.1		156.3
6300		11.2	20.6	27.3	30.2	37.3	34.6	34.0	31.0	24.0	11.7			154.8
8000				1.8	6.9	13.8	10.5	9.8	4.8					154.7
10000														154.7
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	70.7	77.3	79.4	79.3	81.8	85.3	85.0	87.1	87.4	87.6	86.3	83.3	75.2	168.7
PNL	76.2	84.0	86.9	88.0	90.5	94.3	94.0	95.4	95.6	94.2	92.0	88.3	80 0	
PNLT	76.2	85.0	86.9	88.0	90.5	94.3	94.0	95.4	96.6	95.2	93.2	88.3	80.0	
DBA	67.0	74.5	77.0	77.3	79.9	83.7	83.1	85.2	85.0	84.2	82.7	78.9	72.2	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH202 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 45.95 PAMB HG = 29.45 RELHUM = 59.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1101.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1574.3 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1501 TAPE = X15011 TEST PT NO = 1501 NC = AE088 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 83F-400-1502 X1502C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50		83.5	84.9	77.5		77.8	82.6	86.0	77.5	79.2	82.2	88.6		124.2
63		91.4	96.4	88.9		83.6	92.8	94.2	86.7		82.6	95.8	93.3	133.2
80	79.5	82.6	79.6	78.4	77.0	83.5		83.4	86.2		83.9	86.3		123.8
100	76.6	80.2	78.5		77.6	81.8	79.6	82.8	82.2	82.9	85.4	89.1		123.9
125	74.3	77.4	79.9	76.4	78.1	80.5	81.5	81.1	81.4	83.1	88.0	91.1		124.8
160		75.5	82.2	73.8		76.2	86.0	80.6	84.8	82.0	87.4	90.9		125.2
200			83.8	73.9		77.0	83.0	83.7	84.0	82.3	87.6	92.1		125.4
250		73.3	77.4	73.1	74.4	77.4	77.9	80.6	83.3	86.2	90.2	92.4	86.9	126.0
315			84.2			78.3	84.2	85.6	87.8	86.0	89.5	91.9	88.0	127.1
400	70.9	73.5	76.0	73.7	74.4	77.8		81.3	83.7	87.0	90.0	89.7	86.0	125.2
500	72.7	74.7	78.1	74.4	77.1	80.2		82.2	85.0	88.5	90.0	87.4	86.3	125.6
630	72.2	75.2	78.0	73.9	77.6	79.3	79.3	83.1	83.9	88.4	89.2	84.8	83.8	125.1
800	77.9	78.5	80.2	78.9	79.4	81.9	82.2	84.2	86.3	89.1	88.5	84.9	83.9	126.1
1000	76.2	76.8	78.4	77.2	79.4	82.9	81.4	84.4	87.3	89.0	87.7	80.9	81.6	125.8
1250	76.2	79.6	78.8	77.6	79.9	83.0	82.6	85.9	88.2	89.4	87.3	78.5	81.1	126.4
1600	78.7	80.9	82.3	80.6	82.1	85.0	84.6	87.0	89.4	89.4	87.3	79.2	77.7	127.4
2000	81.5	81.3	82.9	81.0	83.4	86.3	85.7	88.6	90.5	91.0	87.0	78.8	78.8	128.5
2500	82.6	82.7	83.3	82.7	84.0	87.7	86.4	89.3	90.9	92.7	87.2	80.4	78.8	129.6
3150	83.5	83.6	85.1	83.8	85.9	89.0	88.6	90.9	93.0	93.0	88.5	81.1	78.4	131.0
4000	84.3	84.6	86.2	84.8	87.2	90.2	89.6	92.7	94.1	93.0	90.3	82.3	78.8	132.2
5000	85.2	85.5	87.1	85.7	88.0	92.0	92.4	94.0	95.0	95.3	91.7	85.9	80.7	133.9
6300	86.7	87.9	87.9	87.0	89.3	93.0	92.8	95.2	96.0	95.9	92.9	87.2	82.6	135.1
8000	86.4	87.3	88.6	87.7	89.6	92.9	92.1	94.5	95.3	94.3	92.8	87.5	83.0	134.9
10000	86.6	87.5	89.2	88.3	90.4	94.1	93.1	95.4	95.6	93.7	92.4	88.2	83.5	136.0
12500	84.9	86.0	88.1	87.7	90.0	93.8	92.8	94.8	94.9	93.0	90.3	87.7	82.4	136.1
16000	83.1	85.8	87.2	87.2	88.7	92.7	92.3	93.5	94.1	91.9	89.3	86.5	80.4	136.5
20000	80.5	83.3	85.0	85.4	86.9	90.4	91.0	91.4	92.4	89.9	87.2	84.3	79.0	136.4
25000	78.2	81.1	82.4	83.1	84.2	89.6	89.5	89.6	90.1	86.6	84.9	81.5	75.4	136.8
31500	74.2	77.3	79.8	80.5	81.0	85.6	85.1	86.0	86.8	83.4	82.0	78.2	71.9	136.3
40000	70.6	73.4	75.7	76.7	76.8	82.7	80.8	82.6	84.0	80.0	79.0	74.3	67.6	136.9
50000	64.6	67.0	69.0	70.5	70.6	77.4	75.3	76.9	77.5	74.0	73.2	69.6	62.5	135.5
63000	57.7	60.7	60.7	64.8	65.8	72.1	68.7	71.1	72.6	67.8	67.2	62.8	56.1	135.1
80000	50.0	52.9		56.0	56.1	64.8	61.4	63.5	63.8	59.5	59.9	56.2	47.6	133.9
OASPL	95.7	98.1	100.8	97.9	99.2	103.0	103.0	104.9	105.6	105.0	103.6	103.0	98.0	147.8
PNL	107.0	108.8	110.5	108.2	109.8	113.9	113.7	116.3	117.4	117.5	115.5	111.5	106.1	
PNLT	113.6	115.4	111.8	114.9	116.4	113.9	120.3	117.1	118.1	124.1	115.5	111.5	112.8	
DBA	94.4	95.1	96.4	95.1	97.2	100.6	100.2	102.6	103.9	104.0	101.5	96.6	93.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH214 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.02 PAMB HG = 28.99 RELHUM = 48.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1114.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1616.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1502 TAPE = X1502C TEST PT NO = 1502 NC = AE088. CORR FAN SPEED = RPM

P1185-08

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

IDENTIFICATION - 83F-400-1502 X1502F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	77.3	78.6	81.6	75.9	75.8	77.4	76.0	77.0	86.0	83.4	86.4	89.3	87.2	124.6
315	77.3	78.6	81.6	75.9	76.3	78.5	83.8	84.3	81.8	84.7	87.4	88.1	87.1	125.1
400	80.7	81.3	90.1	77.2	76.1	78.0	81.8	79.5	83.5	86.3	87.6	86.2	88.4	126.4
500	77.8	79.4	80.6	76.9	79.0	80.5	80.6	80.8	82.8	86.8	87.6	85.0	88.5	124.9
630	80.3	81.1	83.1	77.8	79.6	79.7	79.0	81.7	84.2	86.4	86.0	84.8	89.6	125.1
800	79.6	81.4	82.9	77.3	81.2	82.4	81.2	81.8	85.6	86.9	85.9	82.2	89.9	125.6
1000	83.7	83.5	84.3	81.8	81.5	83.5	80.5	82.1	88.1	88.7	86.7	80.7	90.2	127.0
1250	83.9	83.3	83.5	80.8	82.1	83.9	82.5	85.0	89.6	89.5	88.1	83.6	89.5	127.8
1600	83.5	85.8	83.8	81.2	84.6	86.1	84.9	86.3	91.2	91.6	88.3	83.7	91.2	129.3
2000	86.2	87.3	87.5	84.5	86.0	87.5	86.4	88.3	91.6	93.2	88.4	85.2	91.3	130.7
2500	88.7	87.6	88.1	84.9	87.0	89.3	87.3	89.1	93.8	93.6	89.7	85.8	90.9	131.8
3150	90.3	89.3	88.7	86.9	89.1	91.0	89.8	90.9	95.4	93.7	91.4	86.5	90.4	133.2
4000	91.1	90.2	90.7	88.2	90.9	92.8	91.2	93.1	96.7	96.7	93.6	91.3	93.9	135.3
5000	91.8	91.3	92.0	89.5	92.0	95.0	94.5	94.9	98.3	98.0	95.7	93.5	96.7	137.2
6300	92.7	92.2	93.0	90.6	93.3	96.0	95.1	96.5	98.2	97.1	96.3	94.4	97.3	138.0
8000	94.0	94.4	93.6	91.7	93.7	95.9	94.5	96.0	99.2	97.4	96.7	95.9	98.3	138.9
10000	93.5	93.7	94.1	92.3	95.0	97.1	95.6	97.2	99.0	97.1	95.2	95.8	97.7	139.7
12500	96.2	95.9	96.2	93.6	94.6	96.8	95.2	96.7	98.5	96.3	94.6	95.2	96.5	140.5
16000	94.1	93.9	94.5	92.5	93.3	95.7	94.7	95.3	97.3	94.9	93.1	93.5	95.5	140.5
20000	91.9	93.3	93.2	91.6	91.5	93.4	93.4	93.3	95.7	92.4	91.6	91.8	93.0	140.6
25000	88.7	90.2	90.4	89.2	88.8	92.6	91.9	91.4	92.9	89.5	89.1	88.9	90.1	140.7
31500	85.6	87.2	87.0	86.2	85.6	88.6	87.5	87.7	90.2	86.0	85.8	84.6	85.8	140.3
40000	80.7	82.5	83.6	82.7	81.4	85.7	82.9	83.8	84.9	81.6	81.7	81.7	82.0	140.3
50000	76.6	78.3	79.1	78.5	75.2	80.4	77.8	78.7	80.4	75.6	75.7	75.0	76.1	139.6
63000	69.7	70.9	71.5	71.4	70.4	75.1	70.9	72.5	73.4	69.2	70.6	70.4	69.4	138.6
80000	61.4	63.2	61.7	64.2	60.7	67.8	63.7	65.1	63.6	59.4	60.8	60.6	59.6	137.1
OASPL	103.5	103.6	104.0	101.7	103.2	105.6	104.5	105.5	108.2	106.9	105.3	104.3	106.8	151.1
PNL	113.2	112.9	113.6	110.8	113.1	115.4	114.6	115.8	119.0	118.7	116.7	114.5	118.0	
PNLT	113.7	112.9	115.1	110.8	113.1	115.4	115.5	116.8	119.0	118.7	116.7	114.5	118.0	
DBA	184.7	186.3	186.0	187.0	184.5	190.4	186.5	187.8	187.8	183.5	184.6	184.4	183.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH214	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.02	PAMB HG = 28.99	RELHUM = 48.1 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FJ	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNINI = LBS	XNL = RPM	XNH = RPM	V8 = 1114.5 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1616.7 FPS	AE18 = 19.9 SQ IN

RUNPT = 83F-400-1502 TAPE = X1502F TEST PT NO = 1502 NC = AE088 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 - 83F-400-1502 X15021

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	59.0	61.1	71.0	58.7	58.1	60.1	63.8	61.1	64.3	66.1	65.8	62.3	61.1	144.1
63	56.1	59.1	61.4	58.5	61.0	62.6	62.5	62.4	63.6	66.6	65.8	61.0	61.1	142.6
80	58.5	60.8	63.9	59.3	61.5	61.8	60.9	63.2	65.0	66.1	64.1	60.7	62.1	142.8
100	57.7	61.1	63.7	58.8	63.0	64.4	63.0	63.2	66.3	66.5	64.0	58.0	62.3	143.3
125	61.6	63.1	65.0	63.2	63.3	65.5	62.3	63.5	68.7	68.2	64.7	56.4	62.3	144.7
160	61.7	62.7	64.0	62.1	63.8	65.7	64.2	66.2	70.1	68.9	65.9	59.0	61 3	145.5
200	61.0	65.0	64.1	62.3	66.1	67.7	66.5	67.4	71.5	70.7	65.9	58.8	62.5	147.0
250	63.4	66.3	67.6	65.3	67.3	69.0	67.7	69.2	71.7	72.1	65.6	59.9	62.0	148.4
315	65.4	66.1	67.9	65.5	68.0	70.5	68.4	69.7	73.6	72.1	66.5	59.9	60.8	149.5
400	66.5	67.5	68.1	67.1	69.9	71.9	70.6	71.2	74.8	71.9	67.7	60.0	59.3	150.9
500	66.9	68.0	69.8	68.2	71.4	73.4	71.7	73.1	75.8	74.5	69.4	64.1	61.8	153.0
630	67.1	68.7	70.7	69.2	72.2	75.4	74.7	74.6	77.1	75.3	71.0	65.6	63.5	154.9
800	67.5	69.2	71.4	70.0	73.3	76.1	75.1	75.9	76.7	74.1	71.1	65.9	63.0	155.7
1000	68.4	71.1	71.9	70.9	73.5	75.9	74.3	75.3	77.5	74.1	71.1	66.7	62.9	156.6
1250	67.4	70.0	72.1	71.4	74.7	77.0	75.3	76.3	77.0	73.5	69.1	65.8	60.8	157.3
1600	69.2	71.6	73.8	72.4	74.0	76.4	74.6	75.5	76.1	72.1	67.6	63.8	57.2	158.2
2000	66.1	69.1	71.7	71.0	72.6	75.2	74.0	73.8	74.5	70.1	65.1	60.5	53.2	158.2
2500	62.1	67.2	69.6	69.5	70.2	72.3	72.1	71.1	72.1	66.4	61.8	56.0	45.8	158.3
3150	55.5	61.7	64.8	65.5	66.1	70.2	69.2	67.7	67.4	61.1	56.0	48.1	34.5	158.4
4000	46.2	54.0	57.6	59.2	59.9	63.4	61.8	60.7	60.8	52.8	46.4	34.9	15.7	158.0
5000	31.6	41.8	48.0	50.3	50.7	55.6	52.3	51.4	49.4	40.8	32.5	18.2		157.9
6300	9.7	23.3	31.4	35.4	34.5	40.5	37.0	35.5	32.8	20.6	8.8			157.3
8000			2.5	8.9	11.5	17.4	12.0	10.1	4.4					156.3
10000														154.8
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	77.7	80.0	82.1	80.6	82.9	85.4	84.1	84.7	86.5	84.1	80.2	75.1	73.8	168.8
PNL	86.6	89.5	91.7	90.9	92.6	95.2	94.0	94.0	95.3	91.7	87.2	82.1	78.0	
PNLT	86.6	89.5	92.4	91.6	92.6	95.2	94.5	94.6	96.0	91.7	88.3	82.1	78.0	
DBA	76.5	79.1	81.1	80.2	82.4	84.9	83.6	84.1	85.3	82.1	78.0	73.4	69.6	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH214	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.02	PAMB HG = 28.99	RELHUM = 48.1 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 = 1114.5 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1616.7 FPS	AE18 = 19.9 SQ IN

PT -40 02 E = X TE T N 150 E08 R F PEEL 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 83F-ZER-1503 X1503C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	78.4	79.9	79.2	77.0	75.1	80.2	82.3	85.5	80.2	79.2	83.1	87.8	85.7	123.9
63	81.0	88.0	89.8	85.9	81.7	86.8	90.7	92.6	89.1	88.4	85.3	96.0	95.6	131.9
80	82.3	85.6	83.1	82.1	80.5	85.8	85.0	85.9	85.6	86.4	88.5	89.5	76.9	127.3
100	81.0	85.7	81.8	82.0	83.6	86.3	84.6	87.8	86.0	90.3	91.2	94.6	77.8	129.5
125	78.6	81.4	84.2	83.7	84.8	86.9	85.3	86.5	85.9	89.8	95.1	97.8	82.2	131.2
160	77.9	77.2	83.5	79.0	81.4	84.5	89.4	86.8	88.0	91.3	95.7	98.4	87.8	131.8
200	77.8	79.6	82.3	79.9	81.7	85.1	85.7	88.1	89.3	91.9	96.8	100.5	89.9	133.0
250	78.3	83.1	82.6	80.9	82.7	86.1	87.0	88.9	91.3	95.9	99.8	103.0	93.1	135.6
315	78.8	82.1	82.1	81.7	84.0	87.9	88.5	90.4	92.1	96.2	99.6	102.5	94.7	135.7
400	79.3	82.8	83.4	82.4	84.2	87.4	93.0	90.9	91.9	97.7	100.3	102.0	94.7	136.1
500	80.6	83.1	84.6	82.7	84.5	88.9	89.5	91.4	93.1	98.2	100.1	101.0	93.7	135.9
630	80.3	83.6	84.8	83.6	85.7	88.6	89.5	92.1	93.1	98.4	99.3	98.5	91.9	135.2
800	82.6	84.9	84.9	84.4	86.3	90.4	91.3	93.9	95.4	98.2	100.3	96.8	91.9	135.8
1000	84.3	85.8	87.3	85.6	87.4	90.8	90.2	93.6	94.8	98.1	97.8	95.9	91.1	135.0
1250	82.9	88.2	87.5	85.9	87.4	91.2	91.1	93.8	95.5	97.5	97.2	94.6	91.0	134.9
1600	84.3	88.0	88.6	86.8	88.3	92.1	92.0	94.8	95.9	96.5	97.3	95.3	90.9	135.2
2000	84.8	88.1	88.5	87.9	88.7	92.1	92.1	95.6	96.7	97.8	96.8	94.9	92.4	135.7
2500	84.2	88.7	88.6	88.0	89.4	93.3	92.7	96.1	97.0	99.0	97.7	96.6	93.8	136.5
3150	84.8	89.9	89.9	88.7	90.2	94.3	94.2	97.4	99.0	99.8	98.6	97.7	95.1	137.8
4000	85.0	89.1	90.2	88.9	91.6	95.3	94.4	98.2	99.4	100.1	100.6	99.6	98.2	138.9
5000	86.0	90.0	91.7	89.8	92.3	95.5	95.9	99.5	99.5	102.1	102.7	103.0	100.7	140.6
6300	86.7	91.4	91.7	90.5	92.8	97.3	97.6	100.3	100.8	102.5	103.5	104.2	102.7	141.9
8000	85.9	90.8	91.6	90.8	93.2	96.7	96.7	99.8	99.5	100.9	103.4	104.5	103.4	141.9
10000	85.6	90.2	92.0	91.5	93.6	97.6	97.1	100.1	99.8	100.3	103.1	104.2	104.0	142.5
12500	84.6	88.9	90.8	90.9	92.9	97.2	97.0	98.7	99.1	99.2	101.3	103.9	102.7	142.4
16000	83.5	89.3	90.3	90.0	91.8	95.3	96.1	97.5	98.4	97.7	99.7	101.3	99.3	142.1
20000	82.5	87.5	89.1	89.1	90.8	93.3	94.4	95.1	95.8	95.5	96.6	98.5	97.2	141.5
25000	79.5	84.8	86.3	87.4	88.2	93.3	92.7	92.3	93.3	92.5	93.3	94.5	91.9	141.3
31500	75.5	80.2	83.3	84.5	85.0	89.2	88.9	89.4	89.3	89.2	90.0	90.3	88 2	140.8
40000	70.6	75.9	78.4	80.0	80.4	86.0	84.6	85.6	86.2	85.8	87.2	86.1	83.7	141.1
50000	64.5	69.2	72.1	73.8	74.5	81.1	79.0	80.5	80.7	80.8	81.2	81.1	77.5	140.1
63000	58.2	63.2	66.9	67.8	69.1	75.9	72.7	74.8	75.9	75.2	77.0	75.2	71.7	140.1
80000	51.7	55.7	59.0	59.6	61.1	69.2	66.4	68.2	69.2	68.8	70.6	68.9	64.7	140.2
OASPL	97.5	101.8	102.7	101.8	103.5	107.4	107.6	110.0	110.6	112.3	113.7	114.7	111.7	153.8
PNL	109.7	114.0	114.7	113.2	115.3	119.0	119.3	122.1	122.9	124.9	125.8	126.1	123.1	
PNLT	109.7	114.0	114.7	113.8	115.3	119.0	120.0	122.1	122.9	124.9	125.8	126.1	123.1	
DBA	96.2	100.3	101.0	99.8	101.8	105.6	105.5	108.7	109.4	111.2	111.9	111.9	109.6	

ORIGINAL PAGE IS
OF POOR QUALITY

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH203	TEST DATE = 04-12-83		LOCAT = C41 ANECH CH	CONFIG = 15		MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO		PWL AREA = FULL SPHERE	TAMB F = 46.54		PAMB HG = 29.45	RELHUM = 58.1 PCT
WIND DIR = DEG	WIND VEL = MPH		EXT DIST = 40.0 FT	EXT CONFIG = ARC		MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM		XNH = RPM	V8 = 1092.6 FPS		AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM		XNHR = RPM	V18 = 1746.7 FPS		AE18 = 19.9 SQ IN	
RUNPT = 83F-ZER-1503	TAPE = X1503C		TEST PT NO = 1503	NC = AE088		CORR FAN SPEED = RPM	

P1185-08

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

IDENTIFICATION - 83F-ZER-1503 X1503F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	78.4	79.9	79.2	77.0	75.1	80.2	82.3	85.5	80.2	79.2	83.1	87.8	85.7	123.9
63	81.0	88.0	89.8	85.9	81.7	86.8	90.7	92.6	89.1	88.4	85.3	96.0	95.6	131.9
80	82.3	85.6	83.1	82.1	80.5	85.8	85.0	85.9	85.6	86.4	88.5	89.5	76.9	127.3
100	81.0	85.7	81.8	82.0	83.6	86.3	84.6	87.8	86.0	90.3	91.2	94.6	77.8	129.5
125	78.6	81.4	84.2	83.7	84.8	86.9	85.3	86.5	85.9	89.8	95.1	97.8	82.2	131.2
160	77.9	77.2	83.5	79.0	81.4	84.5	89.4	86.8	88.0	91.3	95.7	98.4	87.8	131.8
200	77.8	79.6	82.3	79.9	81.7	85.1	85.7	88.1	89.3	91.9	96.8	100.5	89.9	133.0
250	78.3	83.1	82.6	80.9	82.7	86.1	87.0	88.9	91.3	95.9	99.8	103.0	93.1	135.6
315	78.8	82.1	82.1	81.7	84.0	87.9	88.5	90.4	92.1	96.2	99.6	102.5	94.7	135.7
400	79.3	82.8	83.4	82.4	84.2	87.4	93.0	90.9	91.9	97.7	100.3	102.0	94.7	136.1
500	80.5	83.1	84.6	82.7	84.5	88.9	89.5	91.4	93.1	98.2	100.1	101.0	93.7	135.9
630	80.3	83.6	84.8	83.6	85.7	88.6	89.5	92.1	93.1	98.4	99.3	98.5	91.9	135.2
800	82.6	84.9	84.9	84.4	86.3	90.4	91.3	93.9	95.4	98.2	100.3	96.8	91.9	135.8
1000	84.3	85.8	87.3	85.6	87.4	90.8	90.2	93.6	94.8	98.1	97.8	95.9	91.1	135.0
1250	82.9	88.2	87.5	85.9	87.4	91.2	91.1	93.8	95.5	97.5	97.2	94.6	91.0	134.9
1600	84.3	88.0	88.6	86.8	88.3	92.1	92.0	94.8	95.9	96.5	97.3	95.3	90.9	135.2
2000	84.8	88.1	88.5	87.9	88.7	92.1	92.1	95.6	96.7	97.8	96.8	94.9	92.4	135.7
2500	84.2	88.7	88.6	88.0	89.4	93.3	92.7	96.1	97.0	99.0	97.7	96.6	93.8	136.5
3150	84.8	89.9	89.9	88.7	90.2	94.3	94.2	97.4	99.0	99.8	98.6	97.7	95.1	137.8
4000	85.0	89.1	90.2	88.9	91.6	95.3	94.4	98.2	99.4	100.1	100.6	99.6	98.2	138.9
5000	86.0	90.0	91.7	89.8	92.3	95.5	95.9	99.5	99.5	102.1	102.7	103.0	100.7	140.6
6300	86.7	91.4	91.7	90.5	92.8	97.3	97.6	100.3	100.8	102.5	103.5	104.2	102.7	141.9
8000	85.9	90.8	91.6	90.8	93.2	96.7	96.7	99.8	99.5	100.9	103.4	104.5	103.4	141.9
10000	85.6	90.2	92.0	91.5	93.6	97.6	97.1	100.1	99.8	100.3	103.1	104.2	104.0	142.5
12500	84.6	88.9	90.8	90.9	92.9	97.2	97.0	98.7	99.1	99.2	101.3	103.9	102.7	142.4
16000	83.5	89.3	90.3	90.0	91.8	95.3	96.1	97.5	98.4	97.7	99.7	101.3	99.3	142.1
20000	82.5	87.5	89.1	89.1	90.8	93.3	94.4	95.1	95.8	95.5	96.6	98.5	97.2	141.5
25000	79.5	84.8	86.3	87.4	88.2	93.3	92.7	92.3	93.3	92.5	93.3	94.5	91.9	141.3
31500	75.5	80.2	83.3	84.5	85.0	89.2	88.9	89.4	89.3	89.2	90.0	90.3	88.2	140.8
40000	70.6	75.9	78.4	80.0	80.4	86.0	84.6	85.6	86.2	85.8	87.2	86.1	83.7	141.1
50000	64.5	69.2	72.1	73.8	74.5	81.1	79.0	80.5	80.7	80.8	81.2	81.1	77.5	140.1
63000	58.2	63.2	66.9	67.8	69.1	75.9	72.7	74.8	75.9	75.2	77.0	75.2	71.7	140.1
80000	51.7	55.7	59.0	59.6	61.1	69.2	66.4	68.2	69.2	68.8	70.6	68.9	64.7	140.2
OASPL	97.5	101.8	102.7	101.8	103.5	107.4	107.6	110.0	110.6	112.3	113.7	114.7	111.7	153.8
PNL	109.7	114.0	114.7	113.2	115.3	119.0	119.3	122.1	122.9	124.9	125.8	126.1	123.1	
PNLT	109.7	114.0	114.7	113.8	115.3	119.0	120.0	122.1	122.9	124.9	125.8	126.1	123.1	
DBA	174.1	178.6	181.9	182.8	184.0	191.5	188.7	190.5	191.4	191.0	192.7	191.1	187.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH203 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 46.54 PAMB HG = 29.45 RELHUM = 58.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1092.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1746.7 FPS AE18 = 19.9 SQ IN

IDENTIFICATION - 83F-ZER-1503 X1503F ANGLES MEASURED FROM INLET, DEGREES 150. AE8/AE18 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 - 83F-2ER-1503 X15031

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	57.6	62.6	64.2	64.0	66.2	69.5	75.0	72.5	72.7	77.5	78.6	78.0	67.4	153.8
63	58.8	62.9	65.5	64.2	66.5	71.0	71.5	73.0	74.0	78.0	78.3	77.0	66.3	153.5
80	58.4	63.3	65.6	65.1	67.6	70.6	71.4	73.6	73.9	78.1	77.5	74.4	64.4	152.8
100	60.7	64.5	65.6	65.9	68.1	72.4	73.1	75.4	76.1	77.9	78.4	72.6	64.3	153.5
125	62.2	65.3	68.0	67.0	69.2	72.7	72.0	75.0	75.5	77.7	75.7	71.6	63.3	152.7
160	60.7	67.6	68.0	67.1	69.0	73.0	72.8	75.0	76.0	76.9	74.9	70.0	62.8	152.6
200	61.9	67.2	69.0	67.9	69.8	73.8	73.5	75.9	76.2	75.7	74.9	70.4	62.2	152.9
250	62.0	67.0	68.6	68.8	70.0	73.5	73.4	76.5	76.8	76.7	74.0	69.6	63.1	153.4
315	61.0	67.3	68.3	68.6	70.5	74.5	73.8	76.7	76.7	77.6	74.5	70.7	63.7	154.2
400	61.1	68.0	69.3	68.9	71.0	75.2	75.0	77.7	78.4	78.0	74.9	71.2	64.0	155.5
500	60.8	66.9	69.4	68.9	72.1	75.9	74.9	78.2	78.5	77.9	76.4	72.5	66.1	156.5
630	61.3	67.4	70.4	69.5	72.5	75.9	76.1	79.2	78.3	79.5	78.0	75.1	67.5	158.3
800	61.5	68.4	70.2	69.9	72.8	77.4	77.5	79.7	79.3	79.5	78.3	75.7	68.4	159.6
1000	60.3	67.5	69.9	70.0	73.0	76.7	76.5	79.0	77.8	77.6	77.7	75.3	67.9	159.5
1250	59.4	66.6	70.0	70.6	73.3	77.5	76.8	79.2	77.8	76.7	77.0	74.2	67.1	160.2
1600	57.6	64.7	68.3	69.6	72.3	76.8	76.4	77.5	76.7	75.0	74.3	72.5	63.4	160.0
2000	55.5	64.5	67.5	68.5	71.1	74.8	75.4	76.0	75.6	72.8	71.7	68.3	57.0	159.8
2500	52.7	61.4	65.4	66.9	69.5	72.3	73.1	72.9	72.1	69.4	66.9	62.7	50.0	159.2
3150	46.4	56.3	60.7	63.7	65.5	70.9	70.0	68.6	67.7	64.0	60.2	53.7	36.3	159.0
4000	36.2	47.0	53.9	57.5	59.4	63.9	63.2	62.5	59.9	56.0	50.6	40.5	18.2	158.5
5000	21.5	35.1	42.8	47.6	49.7	55.9	53.9	53.2	50.6	45.0	38.1	22.7		158.8
6300		14.2	24.4	30.6	33.7	41.1	38.2	37.3	33.1	25.8	14.3			157.8
8000				5.3	10.2	18.1	13.8	12.3	6.9					157.8
10000														157.9
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	72.7	78.7	80.9	80.9	83.4	87.4	87.4	89.4	89.3	89.8	88.9	86.1	77.7	171.2
PNL	78.4	86.2	89.1	90.0	92.5	96.4	96.5	97.8	97.4	96.2	94.9	91.8	82.6	
PNLT	78.4	86.2	89.1	90.0	92.5	96.4	96.5	98.3	97.4	96.2	96.1	91.8	82.6	
DBA	68.7	75.7	78.5	79.0	81.6	85.7	85.5	87.3	86.7	86.0	85.1	82.3	74.6	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH203 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 46.54 PAMB HG = 29.45 RELHUM = 58.1 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 = 1092.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1746.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-2ER-1503 TAPE = X15031 TEST PT NO = 1503 NC = AE088 CORR FAN SPEED = RPM

P1165-03

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 83F-400-1504 X1504C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.9	84.9	86.2	81.7	76.6	80.4	84.3	87.7	83.2	81.0	85.4	89.6	90.0	126.8
63	83.8	92.8	97.3	90.6	85.0	88.6	91.5	94.9	89.6	87.4	87.5	95.7	95.9	134.3
80	81.8	84.8	83.3	81.9	81.0	85.6	84.7	85.9	87.3	87.2	86.8	89.2	86.6	127.4
100	79.5	83.7	80.8	79.8	81.4	84.5	82.6	85.3	84.3	86.8	88.0	92.1	87.3	127.2
125	77.4	78.9	82.2	80.5	81.8	83.7	84.6	83.5	84.2	86.3	90.6	94.3	88.2	128.1
160	74.9	77.7	85.7	78.0	79.4	81.2	94.9	84.5	93.5	89.1	92.7	95.1	89.3	131.8
200	75.3	79.1	84.1	77.6	77.0	80.3	85.0	84.6	86.6	86.6	91.3	95.7	89.4	128.8
250	74.8	76.6	79.1	76.4	78.2	80.3	81.7	83.4	85.6	89.4	93.5	96.0	89.4	129.3
315	75.6	80.9	84.6	79.7	78.5	82.4	86.5	87.2	92.1	89.5	93.1	95.8	90.2	130.6
400	74.3	76.8	78.1	76.7	78.0	81.1	85.5	84.2	87.4	91.2	94.1	93.8	88.2	129.3
500	75.1	76.9	80.4	76.9	79.3	82.9	84.0	84.9	87.9	92.2	93.8	91.5	86.7	129.2
630	75.5	77.3	80.1	77.4	80.2	82.3	82.7	85.1	87.1	92.9	93.3	88.5	86.9	128.8
800	79.1	79.9	80.6	79.9	81.8	86.1	87.5	89.2	91.1	93.2	93.3	86.3	84.9	130.2
1000	79.3	79.3	80.1	79.8	82.2	85.1	84.2	87.6	90.1	92.9	91.0	84.7	83.4	129.0
1250	78.4	81.7	81.0	80.4	82.1	85.2	85.1	88.5	91.5	93.0	90.4	82.1	84.3	129.4
1600	81.6	82.0	83.9	82.5	84.3	87.4	86.7	90.0	92.9	92.5	90.1	82.8	82.4	130.3
2000	84.0	82.8	84.2	83.1	85.5	88.6	87.8	91.4	93.5	93.5	90.3	82.1	80.4	131.2
2500	84.2	84.0	84.8	84.3	86.2	89.5	89.0	92.1	94.2	95.0	89.7	82.8	80.6	132.0
3150	85.1	85.4	86.6	85.4	87.5	91.3	90.4	94.2	95.7	96.1	90.8	83.7	79.6	133.6
4000	85.8	85.9	87.2	86.1	89.1	93.0	92.4	96.0	96.6	96.4	93.1	84.6	81.2	134.9
5000	87.5	86.8	88.7	87.8	90.1	93.8	93.7	96.5	98.0	98.4	94.9	87.5	82.2	136.4
6300	88.2	89.1	89.9	88.8	91.1	95.3	94.8	97.8	99.0	99.2	96.5	89.7	84.4	137.8
8000	87.9	89.0	90.4	89.3	91.7	95.2	94.2	97.5	98.8	98.7	97.1	91.3	86.1	138.0
10000	88.9	90.0	90.8	90.6	92.4	96.2	95.7	98.2	98.4	98.6	97.4	92.0	87.3	139.0
12500	88.2	88.0	89.9	90.2	92.3	95.8	95.3	96.8	98.0	97.1	95.4	92.2	86.8	139.0
16000	87.4	88.8	89.7	89.7	91.3	94.7	94.6	96.2	97.4	95.4	93.9	91.0	85.0	139.4
20000	86.0	88.3	88.5	88.4	90.1	92.4	93.2	94.4	95.4	92.6	91.3	88.6	83.3	139.3
25000	83.7	85.3	86.1	87.1	87.7	92.5	91.7	91.8	93.3	90.1	88.1	85.8	79.4	139.8
31500	78.9	81.5	83.0	84.7	84.7	89.1	88.3	88.4	89.5	86.3	85.7	81.9	75.9	139.5
40000	74.2	77.1	78.8	79.9	80.5	85.4	83.9	85.7	87.1	83.1	82.4	78.4	71.8	140.0
50000	68.0	70.6	72.5	73.9	74.3	80.6	78.5	80.1	80.6	77.6	77.3	73.3	66.4	138.8
63000	61.8	64.8	67.5	68.2	69.2	75.0	72.1	74.7	75.7	71.5	71.0	67.1	59.8	138.5
80000	53.9	57.2	59.3	59.3	60.7	67.8	64.9	67.1	68.0	64.0	64.0	60.1	52.4	137.8
OASPL	98.5	100.3	102.3	100.3	101.7	105.3	105.5	107.5	108.8	108.7	107.4	106.0	102.0	150.9
PNL	109.8	110.8	112.1	110.6	112.5	116.3	116.4	119.1	120.5	121.0	119.1	114.4	110.2	
PNLT	109.8	111.5	113.2	111.1	112.5	116.3	118.1	119.6	121.9	121.0	119.1	114.4	110.2	
DBA	96.3	96.8	98.0	97.0	99.2	102.9	102.5	105.5	107.0	107.4	105.0	99.8	95.9	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH213 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.89 PAMB HG = 28.96 RELHUM = 47.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1113.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1808.1 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1504 TAPE = X1504C TEST PT NO = 1504 NC = AE08A 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 - 83F-400-1504 X1504F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	81.1	81.9	83.2	79.2	79.6	80.3	79.8	79.8	90.1	86.9	90.3	93.7	90.1	128.3
315	81.1	81.9	83.2	79.2	80.4	82.6	85.8	85.5	85.2	88.5	91.4	92.2	89.4	128.3
400	85.2	88.6	90.4	83.4	79.8	81.4	84.5	82.1	85.7	89.6	91.3	90.6	89.5	129.3
500	81.4	82.9	82.8	79.9	81.2	83.2	83.0	82.8	85.7	91.2	91.9	89.1	92.1	128.5
630	82.8	83.3	85.4	80.4	82.2	82.7	82.0	83.4	90.4	92.3	92.9	88.5	93.2	129.7
800	83.2	83.7	85.1	80.9	83.8	86.7	87.3	87.9	90.1	92.6	91.1	87.9	93.5	130.2
1000	86.8	86.3	85.7	83.5	84.3	85.7	84.3	86.8	92.0	92.9	90.3	84.8	93.3	130.4
1250	86.9	85.8	85.2	83.5	84.3	86.0	85.4	88.2	93.8	93.3	91.6	87.5	94.4	131.3
1600	85.8	88.0	86.0	84.0	86.7	88.4	87.2	89.8	93.7	93.5	91.0	86.4	92.4	131.7
2000	89.2	88.5	89.1	86.4	88.1	89.9	88.4	90.8	94.7	95.2	90.7	87.3	93.0	133.0
2500	91.4	89.2	89.5	87.1	89.1	91.1	89.9	91.8	96.1	96.0	91.2	87.2	90.2	133.9
3150	91.8	90.6	90.2	88.5	90.8	93.3	91.4	93.8	97.8	96.9	94.0	88.5	92.0	135.5
4000	92.6	92.0	92.2	89.8	93.3	95.6	94.0	96.3	99.1	98.9	95.8	91.3	93.0	137.5
5000	96.1	94.9	94.7	92.0	94.1	96.8	95.5	96.9	100.5	100.2	97.9	94.4	96.7	139.3
6300	95.0	93.5	94.5	92.6	95.7	98.3	96.8	98.4	101.0	100.6	99.7	97.4	99.8	140.5
8000	98.3	98.0	97.3	94.6	95.7	98.2	96.4	98.6	101.3	101.4	100.9	98.9	101.5	141.9
10000	95.0	95.4	95.9	93.8	96.5	99.2	98.0	99.6	101.7	100.7	99.7	99.8	101.4	142.3
12500	95.7	96.1	96.0	94.8	96.9	98.8	97.7	98.6	101.6	99.5	98.7	99.2	100.3	142.8
16000	97.3	95.9	96.3	95.1	95.3	97.7	97.0	97.9	100.3	97.5	96.7	97.2	98.9	143.1
20000	93.3	94.0	94.0	93.0	94.2	95.4	95.7	96.3	99.0	96.0	94.7	95.8	96.6	143.1
25000	91.4	92.9	92.2	91.1	92.3	95.5	94.2	93.7	96.0	92.9	93.1	92.7	93.9	143.5
31500	91.0	91.4	90.7	90.2	89.3	92.1	90.8	90.3	93.8	89.8	89.9	89.5	90.5	144.1
40000	85.4	86.7	86.8	86.9	85.1	88.4	86.3	87.4	88.1	85.1	85.7	85.1	85.7	143.7
50000	80.3	81.9	82.2	81.7	78.9	83.6	80.9	81.9	83.7	79.4	79.8	79.5	79.9	143.0
63000	73.1	74.5	74.9	74.8	73.8	78.0	74.4	76.3	77.6	73.6	74.5	74.2	74.1	142.2
80000	65.5	67.2	68.5	67.6	65.3	70.8	67.3	68.8	67.8	63.8	64.7	64.4	64.3	141.0
OASPL	106.0	105.7	105.7	103.8	105.4	107.8	106.7	108.0	110.9	110.1	108.8	107.6	109.6	154.1
PNL	116.5	115.7	115.8	113.1	115.4	117.8	116.5	118.2	121.5	121.5	119.9	117.3	120.0	
PNLT	117.2	116.8	117.0	113.7	115.4	117.8	117.9	118.9	121.5	121.5	119.9	117.3	120.0	
DBA	188.5	190.1	191.0	190.4	188.4	193.3	190.0	191.5	191.7	187.8	188.6	188.3	188.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH213	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.89	PAMB HG = 28.96	RELHUM = 47.5 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 = 1113.6 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1808.1 FPS	AE18 = 19.9 SQ IN	
RUNPT = 83F-400-1504	TAPE = X1504F	TEST PT NO = 1504	NC = AE088	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 - 83F-400-1504 X15041

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.5	68.4	71.2	65.0	61.8	63.5	66.5	63.7	66.6	69.4	69.6	66.7	62.2	146.9
63	59.6	62.6	63.7	61.5	63.1	65.3	65.0	64.3	66.6	71.0	70.1	65.1	64.7	146.2
80	60.9	63.0	66.2	61.9	64.1	64.8	63.9	64.9	71.2	72.0	71.0	64.5	65.8	147.4
100	61.3	63.4	65.8	62.4	65.7	68.7	69.2	69.3	70.9	72.3	69.2	63.7	65.9	147.9
125	64.7	65.9	66.4	64.9	66.2	67.6	66.1	68.2	72.6	72.4	68.3	60.5	66.0	148.1
160	64.7	65.2	65.7	64.8	66.0	67.8	67.1	69.4	74.3	72.7	69.3	63.0	66.2	149.0
200	63.3	67.2	66.4	65.1	68.3	70.1	68.7	70.9	74.1	72.7	68.5	61.5	63.7	149.4
250	66.4	67.4	69.2	67.3	69.4	71.3	69.7	71.7	74.8	74.1	67.9	62.0	63.7	150.7
315	68.2	67.8	69.3	67.7	70.2	72.3	70.9	72.4	75.9	74.6	68.0	61.3	60.0	151.6
400	68.1	68.8	69.7	68.7	71.5	74.3	72.2	74.1	77.2	75.1	70.2	62.0	60.9	153.2
500	68.4	69.8	71.3	69.8	73.8	76.3	74.5	76.3	78.2	76.7	71.6	64.1	60.8	155.2
630	71.4	72.2	73.5	71.7	74.3	77.2	75.7	76.6	79.3	77.6	73.2	66.6	63.6	157.0
800	69.8	70.5	73.0	72.1	75.6	78.4	76.8	77.8	79.5	77.6	74.5	68.8	65.5	158.2
1000	72.7	74.7	75.6	73.9	75.5	78.2	76.3	77.9	79.6	78.1	75.3	69.7	66.0	159.6
1250	68.9	71.8	73.9	72.9	76.1	79.0	77.7	78.7	79.7	77.1	73.5	69.8	64.5	160.0
1600	68.7	71.9	73.6	73.6	76.3	78.4	77.1	77.3	79.2	75.3	71.7	67.8	61.1	160.4
2000	69.4	71.1	73.5	73.6	74.5	77.2	76.2	76.5	77.5	72.7	68.7	64.2	56.6	160.8
2500	63.6	68.0	70.4	70.9	72.9	74.3	74.4	74.1	75.4	69.9	65.0	60.0	49.5	160.8
3150	58.2	64.4	66.6	67.4	69.6	73.2	71.5	70.0	70.4	64.4	60.0	51.9	38.3	161.2
4000	51.7	58.2	61.4	63.2	63.6	66.8	65.1	63.4	64.5	56.6	50.5	39.8	20.5	161.8
5000	36.3	46.0	51.2	54.5	54.4	58.2	55.6	54.9	52.5	44.4	36.6	21.7		161.4
6300	13.4	26.9	34.6	38.5	38.1	43.6	40.2	38.7	36.0	24.4	12.9			160.7
8000			5.9	12.3	15.0	20.3	15.5	13.8	8.6					159.8
10000														158.7
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	80.3	82.2	83.8	82.7	85.1	87.6	86.3	87.2	89.2	87.3	83.7	78.2	76.3	171.7
PNL	89.0	91.4	93.5	93.2	95.0	97.5	96.3	96.7	98.3	95.0	91.0	85.6	80.9	
PNLT	90.1	92.5	94.1	93.7	95.0	97.5	97.0	96.7	98.9	95.0	92.0	85.6	80.9	
DBA	78.9	81.0	82.8	82.2	84.5	87.1	85.8	86.4	88.0	85.3	81.6	76.5	72.1	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH213	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 53.89	PAMB HG = 28.96	RELHUM = 47.5 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 = 1113.6 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1808.1 FPS	AE18 = 19.9 SQ IN

IDENT = -400 04 X1 TEST NO 1504 AE08 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 83F-ZER-1505 X1505C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.4	81.2	80.9	80.2	78.1	82.2	78.6	86.5	82.7	82.7	88.4	92.3	83.7	126.4
63	84.8	88.5	91.6	83.6	83.7	89.1	87.7	93.9	91.1	92.1	92.0	99.5	92.1	133.5
80	84.8	89.1	86.3	85.4	83.7	88.6	87.7	88.9	87.8	89.2	92.0	93.0	77.4	130.4
100	83.2	88.7	85.0	85.3	86.1	90.0	87.4	90.8	89.0	93.1	93.7	97.4	80.6	132.3
125	80.9	84.7	86.9	86.0	87.3	89.9	88.3	89.5	89.2	92.5	97.9	100.8	85.0	134.1
160	79.9	79.7	84.7	82.0	83.6	87.0	89.6	88.3	89.2	93.1	97.9	101.1	90.3	134.0
200	81.3	82.3	85.3	82.9	84.7	88.3	89.0	90.4	92.3	95.1	100.3	104.2	93.1	136.4
250	81.3	85.1	85.8	83.9	85.2	89.1	90.0	91.9	93.8	99.4	103.8	107.0	96.1	139.3
315	81.8	85.1	84.9	84.7	87.5	90.9	91.3	93.7	95.4	99.5	104.3	107.3	98.7	139.9
400	82.6	85.1	86.6	84.9	87.2	90.4	94.7	94.2	95.1	101.7	105.1	107.5	98.9	140.6
500	83.3	86.1	87.9	85.9	88.0	91.6	92.5	94.4	96.4	101.7	104.8	105.8	98.2	140.0
630	83.8	86.3	87.8	86.1	88.7	91.8	92.2	95.1	96.1	102.2	103.5	103.5	97 6	139.1
800	85.3	87.1	88.1	89.9	90.8	93.1	93.5	96.2	97.6	101.5	104.1	102.3	96 7	139.3
1000	87.5	89.3	90.1	88.3	91.2	93.8	93.4	96.6	98.1	101.1	102.0	100.2	95.6	138.5
1250	85.7	91.0	90.5	88.9	90.9	94.0	93.9	96.8	99.2	101.3	101.4	98.4	95.0	138.5
1600	87.3	90.7	91.4	90.3	91.5	95.4	95.2	97.8	99.9	100.0	101.6	98.0	94.7	138.7
2000	88.0	90.6	91.7	90.4	91.7	95.6	95.6	98.9	100.0	100.8	101.3	97.6	94.9	139.0
2500	86.7	91.5	91.3	91.3	92.2	95.8	96.0	99.1	100.0	102.0	101.3	99.1	96.3	139.5
3150	87.8	92.6	92.6	91.2	93.0	96.8	96.5	99.7	101.0	102.1	101.8	99.7	97.2	140.2
4000	88.0	92.1	93.0	92.4	94.1	97.5	97.2	101.3	102.1	102.1	103.3	101.4	99.7	141.4
5000	88.8	92.5	93.9	92.8	94.6	97.8	98.7	101.5	102.3	104.2	104.7	104.5	102.2	142.7
6300	89.7	93.4	94.0	93.3	95.3	99.3	99.8	103.0	103.6	105.0	106.0	106.0	104.0	144.2
8000	88.9	93.5	94.4	94.3	95.9	99.5	99.2	102.3	102.8	104.0	106.1	106.1	104.6	144.4
10000	89.3	94.5	95.5	95.0	96.7	99.9	99.9	103.1	102.6	103.1	106.4	105.8	105.3	145.1
12500	90.9	94.7	96.5	95.9	97.0	100.0	99.5	100.5	101.1	102.0	104.1	104.4	103.2	144.6
16000	90.8	96.1	97.1	97.3	97.6	99.6	98.7	99.8	100.7	100.0	102.5	102.6	99.8	145.1
20000	87.3	92.5	94.7	95.6	96.6	98.4	97.7	97.9	97.6	97.5	100.2	99.6	96.8	144.7
25000	83.8	88.6	90.8	92.7	93.8	97.6	96.3	95.1	95.1	94.6	96.9	96.8	93.2	144.6
31500	80.3	85.3	87.6	89.3	89.6	93.2	92.7	92.2	91 8	91.0	93.8	92.3	88 5	144.1
40000	75.7	80.9	83.2	85.3	84.9	89.8	88.1	88.4	89.2	88.1	90.8	88.1	84.0	144.4
50000	69.6	74.8	77.4	78.8	79.3	85.1	83.0	83.5	83.3	83.1	85.8	83.6	78.8	143.7
63000	63.2	68.7	72.0	73.3	74.9	80.4	76.7	78.3	78.9	78.0	80.6	78.0	72 8	143.8
80000	56.0	61.3	65.3	66.2	67.4	74.5	70.4	71.8	72.3	72.4	75.9	72.2	66 0	144.6
OASPL	101.2	105.3	106.3	105.8	107.1	110.3	110.2	112.6	113.4	115.1	117.1	117.6	113.4	156.9
PNL	112.7	116.7	117.3	116.4	118.1	121.6	121.8	124.8	125.8	127.5	128.9	128.7	125.0	
PNLT	112.7	116.7	117.3	116.4	118.1	121.6	121.8	124.8	125.8	127.5	128.9	128.7	125.0	
DBA	99.2	103.1	103.8	103.0	104.6	108.1	108.3	111.4	112.3	114.0	115.2	114.6	111.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH204 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 47.91 PAMB HG = 29.46 RELHUM = 54.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1277.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1953.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1505 TAPE = X1505C TEST PT NO = 1505 NC = AE088 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1505 X1505F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.4	81.2	80.9	80.2	78.1	82.2	78.6	86.5	82.7	82.7	88.4	92.3	83.7	126.4
63	84.8	88.5	91.6	83.6	83.7	89.1	87.7	93.9	91.1	92.1	92.0	99.5	92.1	133.5
80	84.8	89.1	86.3	85.4	83.7	88.6	87.7	88.9	87.8	89.2	92.0	93.0	77.4	130.4
100	83.2	88.7	85.0	85.3	86.1	90.0	87.4	90.8	89.0	93.1	93.7	97.4	80.6	132.3
125	80.9	84.7	86.9	86.0	87.3	89.9	88.3	89.5	89.2	92.5	97.9	100.8	85.0	134.1
160	79.9	79.7	84.7	82.0	83.6	87.0	89.6	88.3	89.2	93.1	97.9	101.1	90.3	134.0
200	81.3	82.3	85.3	82.9	84.7	88.3	89.0	90.4	92.3	95.1	100.3	104.2	93.1	136.4
250	81.3	85.1	85.8	83.9	85.2	89.1	90.0	91.9	93.8	99.4	103.8	107.0	96.1	139.3
315	81.8	85.1	84.9	84.7	87.5	90.9	91.3	93.7	95.4	99.5	104.3	107.3	98.7	139.9
400	82.6	85.1	86.6	84.9	87.2	90.4	94.7	94.2	95.1	101.7	105.1	107.5	98.9	140.6
500	83.3	86.1	87.9	85.9	88.0	91.6	92.5	94.4	96.4	101.7	104.8	105.8	98.2	140.0
630	83.8	86.3	87.8	86.1	88.7	91.8	92.2	95.1	96.1	102.2	103.5	103.5	97.6	139.1
800	85.3	87.1	88.1	89.9	90.8	93.1	93.5	96.2	97.6	101.5	104.1	102.3	96.7	139.3
1000	87.5	89.3	90.1	88.3	91.2	93.8	93.4	96.6	98.1	101.1	102.0	100.2	95.6	138.5
1250	85.7	91.0	90.5	88.9	90.9	94.0	93.9	96.8	99.2	101.3	101.4	98.4	95.0	138.5
1600	87.3	90.7	91.4	90.3	91.5	95.4	95.2	97.8	99.9	100.0	101.6	98.0	94.7	138.7
2000	88.0	90.6	91.7	90.4	91.7	95.6	95.6	98.9	100.0	100.8	101.3	97.6	94.9	139.0
2500	86.7	91.5	91.3	91.3	92.2	95.8	96.0	99.1	100.0	102.0	101.3	99.1	96.3	139.5
3150	87.8	92.6	92.6	91.2	93.0	96.8	96.5	99.7	101.0	102.1	101.8	99.7	97.2	140.2
4000	88.0	92.1	93.0	92.4	94.1	97.5	97.2	101.3	102.1	102.1	103.3	101.4	99.7	141.4
5000	88.8	92.5	93.9	92.8	94.6	97.8	98.7	101.5	102.3	104.2	104.7	104.5	102.2	142.7
6300	89.7	93.4	94.0	93.3	95.3	99.3	99.8	103.0	103.6	105.0	106.0	106.0	104.0	144.2
8000	88.9	93.5	94.4	94.3	95.9	99.5	99.2	102.3	102.8	104.0	106.1	106.1	104 6	144.4
10000	89.3	94.5	95.5	95.0	96.7	99.9	99.9	103.1	102.6	103.1	106.4	105.8	105.3	145.1
12500	90.9	94.7	96.5	95.9	97.0	100.0	99.5	100.5	101.1	102.0	104.1	104.4	103.2	144.6
16000	90.8	96.1	97.1	97.3	97.6	99.6	98.7	99.8	100.7	100.0	102.5	102.6	99 8	145.1
20000	87.3	92.5	94.7	95.6	96.6	98.4	97.7	97.9	97.6	97.5	100.2	99.6	96.8	144.7
25000	83.8	88.6	90.8	92.7	93.8	97.6	96.3	95.1	95.1	94.6	96.9	96.8	93.2	144.6
31500	80.3	85.3	87.6	89.3	89.6	93.2	92.7	92.2	91.8	91.0	93.8	92.3	88 5	144.1
40000	75.7	80.9	83.2	85.3	84.9	89.8	88.1	88.4	89.2	88.1	90.8	88.1	84.0	144.4
50000	69.6	74.8	77.4	78.8	79.3	85.1	83.0	83.5	83.3	83.1	85.8	83.6	78.8	143.7
63000	63.2	68.7	72.0	73.3	74.9	80.4	76.7	78.3	78.9	78.0	80.6	78.0	72.8	143.8
80000	56.0	61.3	65.3	66.2	67.4	74.5	70.4	71.8	72.3	72.4	75.9	72.2	66.0	144.6
OASPL	101.2	105.3	106.3	105.8	107.1	110.3	110.2	112.6	113.4	115.1	117.1	117.6	113 4	156.9
PNL	112.7	116.7	117.3	116.4	118.1	121.6	121.8	124.8	125.8	127.5	128.9	128.7	125.0	
PNLT	112.7	116.7	117.3	116.4	118.1	121.6	121.8	124.8	125.8	127.5	128.9	128.7	125.0	
DBA	178.7	184.1	187.6	188.8	189.9	196.4	192.7	194.0	194.4	194.2	197.4	194.1	188.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH204 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 47.91 PAMB HG = 29.46 RELHUM = 54.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1277.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1953.7 FPS AE18 = 19.9 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 - 83F-2ER-1505 X15051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	60.8	64.9	67.5	66.5	69.2	72.5	76.7	75.7	76.0	81.5	83.3	83.5	71.6	158.3
63	61.6	65.9	68.7	67.5	70.0	73.7	74.5	76.0	77.2	81.5	83.1	81.8	70.8	157.7
80	61.9	66.0	68.6	67.6	70.6	73.9	74.1	76.6	76.9	81.9	81.7	79.4	70.2	156.8
100	63.4	66.8	68.9	71.4	72.6	75.1	75.4	77.6	78.4	81.1	82.2	78.1	69.1	157.0
125	65.5	68.8	70.7	69.7	73.0	75.7	75.2	78.0	78.7	80.7	80.0	75.9	67.8	156.2
160	63.4	70.3	71.0	70.1	72.5	75.8	75.5	78.0	79.7	80.7	79.2	73.8	66.8	156.2
200	64.9	69.9	71.7	71.4	73.1	77.1	76.8	78.9	80.2	79.2	79.1	73.1	66.0	156.4
250	65.2	69.5	71.8	71.3	73.0	77.1	76.9	79.8	80.1	79.7	78.5	72.3	65.6	156.7
315	63.5	70.1	71.1	71.9	73.2	77.0	77.0	79.7	79.8	80.6	78.0	73.2	66.2	157.2
400	64.1	70.8	72.1	71.5	73.8	77.7	77.2	80.0	80.4	80.3	78.1	73.2	66.0	157.9
500	63.8	69.9	72.1	72.4	74.6	78.2	77.7	81.2	81.3	79.9	79.1	74.2	67.6	159.0
630	64.1	69.9	72.7	72.5	74.8	78.2	78.9	81.2	81.1	81.5	80.0	76.6	69.0	160.4
800	64.5	70.4	72.4	72.7	75.3	79.4	79.8	82.5	82.0	82.0	80.8	77.4	69.6	161.9
1000	63.3	70.3	72.6	73.6	75.8	79.5	79.0	81.6	81.1	80.7	80.5	76.8	69.2	162.0
1250	63.2	70.9	73.5	74.1	76.3	79.8	79.6	82.2	80.6	79.4	80.3	75.7	68.4	162.8
1600	63.9	70.5	74.1	74.7	76.4	79.6	78.9	79.3	78.7	77.8	77.1	73.1	63.9	162.3
2000	62.8	71.3	74.3	75.8	76.9	79.1	77.9	78.3	77.9	75.2	74.5	69.6	57.5	162.8
2500	57.5	66.5	71.0	73.5	75.3	77.3	76.4	75.7	73.9	71.5	70.4	63.7	49.6	162.4
3150	50.7	60.1	65.3	69.0	71.1	75.2	73.6	71.4	69.6	66.1	63.7	56.0	37.6	162.3
4000	41.0	52.1	58.2	62.3	63.9	68.0	67.0	65.3	62.5	57.8	54.4	42.6	18.5	161.8
5000	26.6	40.1	47.6	52.9	54.2	59.7	57.4	56.0	53.6	47.3	41.6	24.7		162.1
6300	2.7	19.8	29.7	35.7	38.5	45.1	42.2	40.4	35.6	28.2	18.9			161.3
8000			3.0	10.9	16.0	22.7	17.8	15.9	9.9					161.5
10000														162.3
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	76.1	82.0	84.4	84.9	86.9	90.2	90.1	92.1	92.1	92.8	92.6	89.6	80.5	174.3
PNL	83.5	91.1	94.1	95.4	97.1	100.1	99.5	100.4	100.0	99.0	98.2	93.7	84.5	
PNLT	84.6	91.1	94.1	95.4	97.1	100.1	100.0	100.4	101.0	99.0	99.3	93.7	84.5	
DBA	72.7	79.7	82.6	83.6	85.5	88.7	88.2	89.9	89.3	88.6	87.9	83.8	76.0	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH204 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 47.91 PAMB HG = 29.46 RELHUM = 54.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1277.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1953.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-2ER-1505 TAPE = X15051 TEST PT NO = 1505 NC = AE088 CORR FAN SPEED = RPM

P1185-08

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 83F-400-1506 X1506C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.6	88.2	84.4	84.5	79.6	82.9	82.6	86.5	84.2	85.5	86.6	90.3	91.5	127.9
63	88.5	95.0	96.1	90.9	88.0	89.3	93.0	92.1	91.1	89.6	87.0	97.0	96.1	134.6
80	84.0	87.6	85.3	84.1	83.2	88.1	87.0	88.1	88.8	88.2	89.0	91.2	88.6	129.5
100	82.5	87.0	83.5	82.8	84.1	86.8	85.4	88.5	87.5	89.6	91.2	95.4	89.1	130.2
125	79.6	82.2	84.4	83.0	84.3	86.9	86.8	86.5	86.7	89.3	94.4	98.1	90.2	131.3
160	78.2	79.2	84.0	79.5	81.4	83.7	92.9	86.8	90.5	91.6	95.9	98.6	91.3	132.7
200	78.0	80.6	84.3	79.6	79.5	83.1	86.5	86.6	90.1	89.6	94.5	99.5	93.6	132.0
250	76.5	79.1	81.1	79.1	80.7	83.6	84.5	86.1	89.8	93.2	98.0	101.0	94.4	133.7
315	78.1	82.4	84.6	81.7	81.3	84.6	87.5	88.7	91.4	94.2	98.1	100.5	94.2	134.0
400	77.8	79.6	80.9	79.4	81.0	83.9	87.5	87.4	90.1	95.9	98.8	99.3	91.2	133.8
500	78.3	80.6	82.1	79.7	81.8	85.4	85.5	88.2	91.4	96.5	98.3	97.0	88.4	133.3
630	78.3	80.8	82.1	80.1	82.7	85.3	86.0	89.1	91.1	97.2	97.5	94.5	88.1	132.9
800	86.3	87.6	86.1	84.9	87.5	88.9	87.8	91.2	93.1	97.2	96.8	91.8	88.4	133.6
1000	81.8	83.0	83.1	82.6	84.4	88.3	87.7	90.8	94.1	96.9	95.5	88.7	85.9	132.8
1250	81.2	85.7	83.7	82.9	85.1	88.2	88.4	91.5	95.5	97.0	94.4	85.9	88.0	133.1
1600	83.6	84.7	85.4	84.3	86.5	90.1	89.7	93.8	96.4	96.0	94.1	85.5	84.7	133.6
2000	85.5	85.1	86.2	85.6	87.5	91.6	91.3	95.1	97.2	97.5	93.8	85.4	86.4	134.7
2500	86.2	86.2	86.3	86.3	88.4	92.3	92.5	94.8	97.2	98.0	94.2	86.1	83.8	135.0
3150	86.5	87.1	87.9	87.2	89.5	94.1	93.7	96.4	98.7	98.8	93.8	86.2	83.4	136.2
4000	87.5	87.9	89.2	88.1	91.8	94.8	94.9	98.5	99.1	98.6	95.1	87.4	83.2	137.2
5000	88.7	88.8	89.9	89.8	91.8	95.8	95.9	99.0	100.0	100.9	96.9	89.7	84.7	138.5
6300	89.9	91.1	91.7	90.5	93.0	97.0	97.5	100.2	101.3	101.9	99.2	92.7	87.2	140.1
8000	90.6	92.0	92.1	91.7	93.4	96.9	97.9	100.2	101.3	101.9	100.3	94.5	88.8	140.8
10000	94.1	93.7	93.7	93.3	94.6	98.1	98.4	100.9	101.6	101.8	101.1	96.2	91.3	142.0
12500	95.9	95.5	95.0	94.2	94.5	98.7	98.5	99.3	100.9	101.3	99.3	96.9	92.0	142.5
16000	95.1	96.8	96.7	96.4	95.5	97.9	98.0	98.7	100.6	99.1	98.3	95.7	89.7	143.5
20000	91.0	93.8	94.5	95.4	95.7	96.9	97.5	96.9	98.1	96.9	96.0	93.3	88.0	143.6
25000	88.0	90.1	89.9	92.5	93.0	97.1	96.3	94.6	96.4	94.0	92.2	90.3	84.7	143.9
31500	84.6	86.9	88.0	89.4	89.9	93.7	93.2	92.8	92.7	90.8	89.9	86.8	80 5	144.0
40000	79.5	82.6	83.9	85.6	85.5	90.1	89.2	89.5	90.7	88.2	87.2	83.2	76.8	144.6
50000	73.6	76.3	77.6	79.5	79.6	85.7	84.1	84.4	85.3	82.3	81.2	77.9	71.5	143.7
63000	67.7	71.2	72.7	73.9	74.1	80.7	78.0	79.2	79.9	77.0	75.7	72.0	65.0	143.6
80000	62.1	64.5	65.5	66.0	66.4	74.0	71.4	72.1	73.0	69.8	69.3	65.3	57.6	143.5
OASPL	102.9	104.4	104.6	104.0	104.7	108.1	108.4	110.0	111.4	112.0	111.1	110.0	104.7	154.8
PNL	112.0	113.3	113.8	112.8	115.0	118.4	119.0	121.6	123.0	124.0	122.3	117.9	113.1	
PNLT	114.1	115.2	115.0	114.0	116.3	118.4	120.0	121.6	123.0	124.0	122.3	117.9	113.1	
DBA	98.8	99.5	99.9	99.2	101.4	105.1	105.3	108.2	109.7	110.5	108.4	104.0	99.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH212 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.25 PAMB HG = 28.92 RELHUM = 49.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNI = LBS XNL = RPM XNH = RPM V8 = 1225.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2011.6 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1506 TAPE = X1506C TEST PT NO = 1506 NO - AE08* CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1506 X1506F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	83.7	85.0	85.7	82.2	82.2	83.6	82.6	82.5	89.3	91.5	95.2	98.2	93.9	131.8
315	83.7	85.0	85.7	82.2	82.8	84.8	86.7	86.9	87.8	93.1	96.0	97.6	92.3	132.1
400	83.9	87.4	88.6	84.5	82.7	84.1	86.5	85.3	89.0	93.6	95.5	95.8	91.0	131.8
500	84.6	85.4	85.5	82.6	83.6	85.7	84.5	85.9	89.1	94.7	95.4	94.5	93.0	131.7
630	85.6	86.8	87.0	83.1	84.7	85.7	85.0	86.9	92.1	96.0	96.1	93.8	96.5	132.9
800	85.9	87.2	87.1	83.6	89.0	89.4	87.2	89.5	93.5	96.2	95.6	92.1	96.6	133.5
1000	91.5	92.0	89.6	87.4	86.6	88.9	87.4	89.4	95.9	96.9	94.5	88.8	97.8	134.4
1250	89.4	89.5	88.2	86.2	87.3	89.0	88.6	91.1	96.5	95.9	94.8	89.7	96.3	134.1
1600	88.0	91.6	88.5	86.4	89.0	91.2	90.1	93.0	98.2	98.3	95.3	90.3	98.7	135.8
2000	91.2	91.3	90.6	88.2	90.1	92.9	92.0	95.0	97.6	98.1	95.0	90.4	96.0	136.0
2500	93.2	91.6	91.6	89.6	91.3	93.9	93.3	94.4	99.1	98.8	94.2	89.7	93.9	136.7
3150	93.8	92.8	91.7	90.5	93.3	96.1	94.6	96.0	100.2	99.2	95.9	91.2	94.0	137.9
4000	96.9	96.0	95.2	92.7	96.1	97.3	96.5	98.8	101.0	101.4	97.7	93.5	95.4	140.0
5000	97.8	96.8	96.7	93.9	96.4	98.8	97.7	99.4	102.8	103.0	100.8	97.7	99.9	141.7
6300	99.0	97.7	97.4	95.8	97.6	100.0	99.6	100.9	103.3	103.6	102.7	100.3	102.3	143.2
8000	100.0	99.9	99.1	96.3	97.4	99.9	100.1	101.2	104.5	104.5	104.5	102.9	105.2	144.7
10000	97.7	98.4	97.6	96.3	98.7	101.1	100.7	102.3	104.5	104.5	102.8	103.4	105.3	145.2
12500	100.9	99.8	98.9	97.5	98.4	101.7	101.0	101.1	104.8	103.2	102.9	103.5	104.5	146.1
16000	101.1	100.3	99.3	97.6	99.3	100.9	100.5	100.5	103.0	101.5	100.8	101.0	102.5	146.5
20000	99.8	101.1	100.4	99.4	99.7	99.9	100.0	98.9	101.0	98.4	97.0	98.1	99.2	147.3
25000	96.4	98.4	98.2	98.1	97.6	100.1	98.2	95.6	98.8	97.0	96.7	96.7	97.3	147.9
31500	95.3	96.2	94.6	95.5	94.5	96.7	95.5	94.4	97.7	95.3	95.0	94.5	95.5	148.7
40000	91.1	92.2	91.8	91.6	90.1	93.1	91.6	91.3	93.0	90.3	90.0	90.0	90 8	148.6
50000	85.6	87.5	87.3	87.5	84.2	88.7	86.5	86.4	88.3	85.5	85.2	85.0	85.5	148.2
63000	78.7	80.2	80.1	80.4	78.7	83.7	80.4	80.9	82.7	79.7	80.1	79.7	79.5	147.6
80000	71.3	73.6	73.7	73.3	71.0	77.0	73.7	73.8	72.9	69.9	70.3	69.9	69 7	146.8
OASPL	109.5	109.5	108.8	107.3	108.5	110.6	109.9	110.6	113.7	113.4	112.3	111.5	113.1	158.2
PNL	118.8	118.4	117.8	115.7	117.8	119.8	119.3	120.8	124.1	124.6	123.0	120.6	122.8	
PNLT	120.0	119.6	118.3	115.7	118.9	119.8	119.3	120.8	124.1	124.6	123.0	120.6	122.8	
DBA	194.2	196.2	196.1	196.0	193.8	199.2	196.1	196.3	196.8	193.8	194.1	193.7	193.7	

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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH212 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.25 PAMB HG = 28.92 RELHUM = 49.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1225.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2011.6 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1506 TAPE = X1506F TEST PT NO = 1506 NC = AE088 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 - 83F-400-1506 X15061

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	62.1	67.2	69.5	66.0	64.7	66.2	68.5	66.8	69.8	73.3	73.8	71.9	63 8	149.5
63	62.8	65.2	66.3	64.1	65.6	67.8	66.4	67.4	69.9	74.5	73.6	70.5	65.6	149.4
80	63.8	66.5	67.8	64.6	66.6	67.8	66.9	68.4	72.9	75.7	74.3	69.7	69.0	150.6
100	64.0	66.9	67.8	65.1	70.9	71.4	69.0	70.9	74.2	75.9	73.6	68.0	69.0	151.2
125	69.5	71.5	70.2	68.8	68.4	70.9	69.2	70.8	76.5	76.4	72.4	64.5	70.0	152.1
160	67.2	68.9	68.7	67.5	69.0	70.8	70.3	72.3	77.0	75.3	72.6	65.1	68.1	151.8
200	65.5	70.8	68.9	67.5	70.5	72.8	71.6	74.1	78.5	77.5	72.9	65.4	70.0	153.4
250	68.4	70.2	70.7	69.0	71.5	74.3	73.4	75.9	77.7	77.0	72.2	65.1	66.7	153.7
315	70.0	70.2	71.4	70.2	72.4	75.1	74.4	75.0	78.9	77.3	70.9	63.8	63.7	154.4
400	70.1	71.0	71.2	70.7	74.1	77.0	75.4	76.3	79.7	77.3	72.2	64.7	62.9	155.6
500	72.7	73.8	74.3	72.7	76.5	78.0	76.9	78.8	80.2	79.2	73.6	66.3	63.3	157.7
630	73.1	74.2	75.5	73.6	76.6	79.1	77.9	79.1	81.6	80.4	76.1	69.8	66.7	159.4
800	73.8	74.8	75.9	75.2	77.6	80.1	79.6	80.4	81.8	80.6	77.5	71.8	68.0	160.9
1000	74.4	76.6	77.3	75.6	77.3	79.9	79.9	80.4	82.7	81.2	78.9	73.7	69.8	162.4
1250	71.6	74.8	75.6	75.4	78.3	81.0	80.4	81.4	82.6	80.9	76.7	73.3	68.3	162.9
1600	73.9	75.6	76.5	76.3	77.8	81.3	80.4	79.8	82.4	79.0	76.0	72.1	65.2	163.8
2000	73.2	75.5	76.5	76.1	78.6	80.4	79.7	79.0	80.2	76.7	72.9	68.0	60.2	164.2
2500	70.0	75.0	76.7	77.2	78.4	78.8	78.6	76.7	77.3	72.4	67.3	62.3	52.0	165.0
3150	63.3	70.0	72.6	74.4	74.9	77.7	75.5	71.9	73.3	68.5	63.6	55.9	41.7	165.6
4000	56.0	63.0	65.2	68.5	68.8	71.5	69.8	67.5	68.3	62.0	55.7	44.8	25.5	166.4
5000	42.0	51.4	56.2	59.2	59.4	63.0	60.9	58.9	57.4	49.5	40.9	26.6		166.3
6300	18.6	32.5	39.6	44.3	43.5	48.7	45.8	43.2	40.7	30.5	18.3			165.9
8000		0.4	11.1	17.9	19.9	25.9	21.5	18.5	13.7					165.3
10000														164.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	83.4	85.5	86.4	85.8	87.9	90.2	89.4	89.8	92.0	90.5	87.1	82.0	79.6	175.9
PNL	92.7	96.1	97.5	97.6	99.2	100.8	100.1	99.4	101.2	98.6	94.8	89.5	84.6	
PNLT	93.8	96.8	98.2	98.2	99.7	100.8	100.6	99.9	101.8	98.6	94.8	89.5	84.6	
DBA	82.3	84.7	85.8	85.6	87.5	89.8	89.0	89.0	90.8	88.6	85.0	80.1	75.5	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH212	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.25	PAMB HG = 28.92	RELHUM = 49.2 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1225.4 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2011.6 FPS	AE18 = 19.9 SQ IN

T = -40( )6 [ ] XT[ ] TES[ ] NC[ ]506 [ ] AE086 CORR FAN SPEED = RPM

P1185-03

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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 83F-ZER-1507 X1507C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	82.4	84.4	80.9	82.0	79.3	81.9	78.8	83.5	112.7	79.7	89.1	92.1	84.2	144.1
63	86.3	91.8	87.8	90.4	84.7	88.8	89.0	90.6	113.3	84.9	93.0	99.7	94.1	144.9
80	86.8	90.3	87.6	86.9	86.0	91.1	90.0	90.6	109.1	91.2	93.8	94.7	79.9	141.0
100	86.0	91.5	87.3	87.5	88.9	92.0	90.4	93.8	105.3	95.6	96.0	99.6	83.8	138.7
125	82.6	86.4	89.2	88.5	89.8	92.4	90.6	91.2	99.7	95.5	101.1	103.3	88.5	137.6
160	81.7	82.0	85.7	83.3	85.1	89.0	91.6	90.0	99.0	94.8	99.9	103.1	93.5	136.8
200	83.0	83.8	86.3	84.4	86.7	90.6	91.0	92.9	97.8	97.6	102.5	107.0	96.1	139.2
250	83.3	87.1	87.6	86.1	87.7	91.6	92.2	94.4	97.1	101.9	106.5	110.0	99.4	142.2
315	84.3	87.1	86.9	86.7	89.3	92.9	93.5	95.9	97.9	102.5	107.1	110.3	101.4	142.7
400	85.3	87.1	88.6	86.9	89.0	92.4	97.2	96.2	98.4	104.4	108.3	111.0	103.2	143.8
500	85.6	87.9	89.9	87.9	89.8	93.9	94.3	96.9	99.4	105.0	108.3	110.8	103.4	143.9
630	86.3	88.6	89.8	88.4	90.7	93.8	94.7	97.6	99.8	105.4	106.5	108.2	103.1	142.7
800	87.8	91.6	91.4	90.2	92.8	95.1	95.5	98.7	100.9	104.7	106.3	106.0	101.7	142.2
1000	90.8	91.8	93.1	90.6	92.7	96.1	95.7	98.8	101.3	104.4	105.3	105.2	101.1	141.8
1250	88.9	93.2	93.5	91.4	92.9	96.0	96.4	99.3	102.5	104.0	104.2	102.6	100.3	141.4
1600	89.6	92.2	93.6	92.0	94.3	97.1	97.5	100.5	102.6	102.5	104.6	102.8	99.4	141.5
2000	90.8	92.8	93.7	92.4	94.0	98.1	97.6	101.4	103.0	103.5	104.5	102.1	98.9	141.9
2500	89.4	93.7	94.1	92.8	93.9	97.8	98.0	101.1	103.0	104.5	104.0	102.3	100.3	142.1
3150	90.3	93.6	94.6	92.9	95.3	99.1	99.0	102.4	104.0	104.3	104.3	103.2	101.2	142.8
4000	91.0	94.4	95.2	93.7	95.8	99.5	99.4	103.3	104.4	104.6	105.3	104.1	103.0	143.6
5000	91.5	94.5	96.2	94.3	96.6	99.3	99.7	103.8	104.8	106.4	107.4	107.5	105.0	145.1
6300	92.7	96.6	97.0	95.3	97.3	101.0	101.1	104.5	106.1	106.7	108.2	108.7	106.2	146.3
8000	93.1	98.0	98.4	97.0	97.9	100.7	100.7	103.8	105.6	106.2	108.4	108.3	106.1	146.5
10000	96.3	100.7	101.5	100.0	99.7	102.1	101.2	104.4	106.1	105.3	107.9	107.5	105.8	147.4
12500	96.2	99.5	101.5	100.9	102.0	103.5	102.0	102.3	104.6	103.8	105.1	106.2	103.5	147.3
16000	93.8	97.9	100.8	100.8	101.9	103.3	101.7	102.1	104.5	101.5	103.7	104.1	100.6	147.8
20000	90.5	95.5	96.9	98.1	99.9	101.4	100.2	99.9	102.8	99.0	100.7	101.8	98.0	147.3
25000	87.8	92.6	94.1	95.2	95.8	99.9	98.3	97.3	98.1	95.8	97.6	97.8	93.7	146.7
31500	83.9	88.5	91.3	92.1	92.6	96.0	94.2	94.0	94.1	92.8	94.3	94.3	89.6	146.3
40000	79.2	84.7	87.4	88.0	87.9	92.6	90.4	90.9	91.5	89.6	91.8	90.4	85.0	146.8
50000	73.3	78.3	81.6	82.6	82.3	87.6	84.8	85.3	85.8	84.4	86.5	85.6	79.3	145.8
63000	67.0	72.5	76.3	77.3	77.6	82.2	79.2	80.3	81.5	79.6	81.1	79.3	73.8	145.9
80000	59.7	66.3	70.3	70.7	70.9	77.3	73.7	74.3	75.3	73.4	76.2	73.7	66.7	147.0
OASPL	104.7	108.5	109.7	108.9	110.0	112.7	112.2	114.6	119.8	117.6	119.6	120.7	115.9	159.7
PNL	115.7	119.1	119.8	118.3	120.0	123.5	123.6	126.9	129.5	129.8	131.4	131.8	128.0	
PNLT	115.7	119.6	119.8	118.8	120.0	123.5	124.1	126.9	129.5	129.8	131.9	131.8	128.0	
DBA	102.5	106.0	106.8	105.2	106.8	110.1	110.1	113.4	115.2	116.5	117.8	117.9	114.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH205 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 47.77 PAMB HG = 29.44 RELHUM = 55.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1242.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2158.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1507 TAPE = X1507C TEST PT NO = 1507 NC = AE088 CORR FAN SPEED = RPM

P1188-03

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

IDENTIFICATION - 83F-ZER-1507 X1507F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	82.4	84.4	80.9	82.0	79.3	81.9	78.8	83.5	112.7	79.7	89.1	92.1	84.2	144.1
63	86.3	91.8	87.8	90.4	84.7	88.8	89.0	90.6	113.3	84.9	93.0	99.7	94.1	144.9
80	86.8	90.3	87.6	86.9	86.0	91.1	90.0	90.6	109.1	91.2	93.8	94.7	79.9	141.0
100	86.0	91.5	87.3	87.5	88.9	92.0	90.4	93.8	105.3	95.6	96.0	99.6	83.8	138.7
125	82.6	86.4	89.2	88.5	89.8	92.4	90.6	91.2	99.7	95.5	101.1	103.3	88.5	137.6
160	81.7	82.0	85.7	83.3	85.1	89.0	91.6	90.0	99.0	94.8	99.9	103.1	93.5	136.8
200	83.0	83.8	86.3	84.4	86.7	90.6	91.0	92.9	97.8	97.6	102.5	107.0	96.1	139.2
250	83.3	87.1	87.6	86.1	87.7	91.6	92.2	94.4	97.1	101.9	106.5	110.0	99.4	142.2
315	84.3	87.1	86.9	86.7	89.3	92.9	93.5	95.9	97.9	102.5	107.1	110.3	101.4	142.7
400	85.3	87.1	88.6	86.9	89.0	92.4	97.2	96.2	98.4	104.4	108.3	111.0	103.2	143.8
500	85.6	87.9	89.9	87.9	89.8	93.9	94.3	96.9	99.4	105.0	108.3	110.8	103.4	143.9
630	86.3	88.6	89.8	88.4	90.7	93.8	94.7	97.6	99.8	105.4	106.5	108.2	103.1	142.7
800	87.8	91.6	91.4	90.2	92.8	95.1	95.5	98.7	100.9	104.7	106.3	106.0	101.7	142.2
1000	90.8	91.8	93.1	90.6	92.7	96.1	95.7	98.8	101.3	104.4	105.3	105.2	101.1	141.8
1250	88.9	93.2	93.5	91.4	92.9	96.0	96.4	99.3	102.5	104.0	104.2	102.6	100.3	141.4
1600	89.6	92.2	93.6	92.0	94.3	97.1	97.5	100.5	102.6	102.5	104.6	102.8	99.4	141.5
2000	90.8	92.8	93.7	92.4	94.0	98.1	97.6	101.4	103.0	103.5	104.5	102.1	98.9	141.9
2500	89.4	93.7	94.1	92.8	93.9	97.8	98.0	101.1	103.0	104.5	104.0	102.3	100.3	142.1
3150	90.3	93.6	94.6	92.9	95.3	99.1	99.0	102.4	104.0	104.3	104.3	103.2	101.2	142.8
4000	91.0	94.4	95.2	93.7	95.8	99.5	99.4	103.3	104.4	104.6	105.3	104.1	103.0	143.6
5000	91.5	94.5	96.2	94.3	96.6	99.3	99.7	103.8	104.8	106.4	107.4	107.5	105.0	145.1
6300	92.7	96.6	97.0	95.3	97.3	101.0	101.1	104.5	106.1	106.7	108.2	108.7	106.2	146.3
8000	93.1	98.0	98.4	97.0	97.9	100.7	100.7	103.8	105.6	106.2	108.4	108.3	106.1	146.5
10000	96.3	100.7	101.5	100.0	99.7	102.1	101.2	104.4	106.1	105.3	107.9	107.5	105.8	147.4
12500	96.2	99.5	101.5	100.9	102.0	103.5	102.0	102.3	104.6	103.8	105.1	106.2	103.5	147.3
16000	93.8	97.9	100.8	100.8	101.9	103.3	101.7	102.1	104.5	101.5	103.7	104.1	100.6	147.8
20000	90.5	95.5	96.9	98.1	99.9	101.4	100.2	99.9	102.8	99.0	100.7	101.8	98.0	147.3
25000	87.8	92.6	94.1	95.2	95.8	99.9	98.3	97.3	98.1	95.8	97.6	97.8	93.7	146.7
31500	83.9	88.5	91.3	92.1	92.6	96.0	94.2	94.0	94.1	92.8	94.3	94.3	89.6	146.3
40000	79.2	84.7	87.4	88.0	87.9	92.6	90.4	90.9	91.5	89.6	91.8	90.4	85.0	146.8
50000	73.3	78.3	81.6	82.6	82.3	87.6	84.8	85.3	85.8	84.4	86.5	85.6	79.3	145.8
63000	67.0	72.5	76.3	77.3	77.6	82.2	79.2	80.3	81.5	79.6	81.1	79.3	73.8	145.9
80000	59.7	66.3	70.3	70.7	70.9	77.3	73.7	74.3	75.3	73.4	76.2	73.7	66.7	147.0
OASPL	104.7	108.5	109.7	108.9	110.0	112.7	112.2	114.6	119.8	117.6	119.6	120.7	115.9	159.7
PNL	115.7	119.1	119.8	118.3	120.0	123.5	123.6	126.9	129.5	129.8	131.4	131.8	128.0	
PNLT	115.7	119.6	119.8	118.8	120.0	123.5	124.1	126.9	129.5	129.8	131.9	131.8	128.0	
DBA	182.5	188.5	192.4	193.0	193.2	198.9	195.6	196.3	197.3	195.4	197.8	195.7	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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH205 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 47.77 PAMB HG = 29.44 RELHUM = 55.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1242.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2158.7 FPS AE18 = 19.9 SQ IN

PT F-21 507 PE * = X F T(PT 150 AE0 RR F SPEE 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 - 83F-ZER-1507 X15071

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.6	66.9	69.5	68.5	71.0	74.5	79.2	77.7	79.2	84.2	86.6	87.0	75.9	161.5
63	63.8	67.6	70.7	69.5	71.7	76.0	76.2	78.5	80.2	84.7	86.6	86.8	76.1	161.6
80	64.4	68.3	70.6	69.9	72.6	75.9	76.6	79.1	80.6	85.1	84.7	84.2	75.7	160.4
100	65.9	71.3	72.1	71.6	74.6	77.1	77.4	80.1	81.6	84.4	84.4	81.9	74.1	159.9
125	68.7	71.3	73.7	72.0	74.5	78.0	77.5	80.2	82.0	83.9	83.2	80.9	73.3	159.5
160	66.7	72.6	74.0	72.6	74.5	77.8	78.0	80.5	83.0	83.4	82.0	78.0	72.1	159.1
200	67.1	71.4	74.0	73.1	75.8	78.8	79.0	81.6	83.0	81.7	82.1	77.9	70.7	159.2
250	68.0	71.7	73.8	73.3	75.3	79.6	78.9	82.3	83.1	82.4	81.8	76.8	69.6	159.6
315	66.2	72.3	73.9	73.4	75.0	79.0	79.0	81.7	82.8	83.1	80.8	76.5	70.2	159.8
400	66.6	71.8	74.1	73.2	76.0	80.0	79.7	82.7	83.4	82.5	80.6	76.7	70.0	160.5
500	66.8	72.2	74.4	73.6	76.3	80.2	79.9	83.2	83.5	82.4	81.1	77.0	70.9	161.3
630	66.8	71.9	74.9	74.0	76.8	79.7	79.9	83.5	83.5	83.8	82.8	79.6	71.8	162.8
800	67.5	73.6	75.4	74.7	77.3	81.2	81.1	84.0	84.5	83.7	83.0	80.2	71.9	164.0
1000	67.5	74.8	76.6	76.3	77.8	80.7	80.5	83.1	83.8	82.9	82.8	79.1	70.7	164.2
1250	70.2	77.1	79.5	79.1	79.3	82.0	80.8	83.5	84.1	81.7	81.8	77.5	68.9	165.0
1600	69.2	75.2	79.1	79.7	81.3	83.1	81.4	81.0	82.2	79.5	78.1	74.8	64.2	165.0
2000	65.8	73.1	78.0	79.3	81.1	82.8	80.9	80.6	81.7	76.6	75.7	71.1	58.3	165.5
2500	60.8	69.5	73.2	76.0	78.5	80.3	78.9	77.7	79.1	73.0	70.9	66.0	50.8	165.0
3150	54.7	64.1	68.6	71.5	73.1	77.5	75.6	73.6	72.6	67.3	64.5	57.0	38.1	164.4
4000	44.5	55.3	62.0	65.1	66.9	70.7	68.5	67.0	64.7	59.6	54.9	44.6	19.5	163.9
5000	30.1	43.9	51.8	55.6	57.2	62.4	59.7	58.5	55.9	48.9	42.7	27.0		164.5
6300	6.4	23.3	34.0	39.4	41.6	47.7	44.0	42.1	38.1	29.4	19.6			163.5
8000			7.3	14.9	18.8	24.4	20.4	17.9	12.5					163.6
10000														164.7
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	79.5	85.1	87.8	87.8	89.7	92.6	92.1	94.2	95.1	95.4	95.3	93.5	84.6	176.8
PNL	87.4	93.8	97.6	98.4	100.3	103.0	101.7	102.5	103.4	101.2	100.1	96.5	87.2	
PNLT	88.4	94.8	97.6	98.4	100.3	103.0	101.7	102.5	103.4	101.2	101.3	96.5	87.2	
DBA	76.9	83.5	86.6	87.1	88.8	91.3	90.2	91.7	92.4	90.7	89.9	86.3	78.0	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH205 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 47.77 PAMB HG = 29.44 RELHUM = 55.3 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 = 1242.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2158.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1507 TAPE = X15071 TEST PT NO = 1507 NC = AE088 CORR FAN SPEED = RPM

P1185-08

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 83F-400-1508 X1508C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.6	87.2	86.9	83.5	79.8	81.7	83.1	87.7	88.9	89.0	91.4	93.6	93.7	130.0
63	89.0	93.0	97.8	93.4	87.5	88.6	93.0	94.6	95.1	95.9	92.8	99.2	96.9	136.4
80	86.3	89.6	86.8	86.4	85.7	90.3	89.2	89.6	90.3	90.4	92.0	93.5	90.9	131.6
100	84.5	89.2	85.5	84.5	85.6	89.5	88.1	91.0	89.8	91.8	93.5	97.4	92.6	132.5
125	82.4	84.9	86.7	86.2	87.8	89.9	89.1	89.7	89.2	92.0	97.4	101.1	94.5	134.3
160	79.7	79.7	85.0	81.8	82.6	85.0	90.4	86.8	90.0	91.8	97.4	100.9	93.8	133.7
200	79.8	81.8	85.1	81.1	81.7	85.6	87.7	88.9	92.3	91.9	98.0	103.2	94.9	135.1
250	79.0	81.8	82.6	81.6	83.0	86.3	87.0	88.9	92.1	96.7	101.8	105.2	96.1	137.4
315	80.1	83.6	85.4	83.2	83.3	87.1	89.3	90.7	94.1	97.0	101.8	105.3	97.2	137.7
400	79.6	81.3	82.6	81.4	83.3	86.6	91.0	90.2	92.6	98.4	102.8	104.0	95.9	137.6
500	79.6	81.6	84.1	81.9	84.0	88.1	88.3	90.9	93.9	99.5	102.6	102.3	93.4	137.2
630	80.3	82.1	84.1	82.6	85.0	87.8	88.2	91.6	93.6	100.2	101.0	99.0	92.4	136.2
800	85.1	86.4	87.9	87.4	89.5	91.6	90.8	93.9	102.9	104.2	102.8	99.3	92.7	139.9
1000	83.5	83.5	85.6	84.8	87.2	90.6	90.4	93.8	96.8	99.9	99.3	92.7	88.1	135.8
1250	83.4	86.2	86.2	85.1	86.9	90.7	90.9	94.0	98.5	99.5	98.7	90.1	88.5	135.9
1600	85.6	85.7	87.9	86.8	88.5	92.4	92.5	96.0	99.1	99.2	98.3	89.3	86.7	136.5
2000	87.0	86.3	88.5	87.9	89.7	93.8	93.1	96.6	100.2	100.3	98.3	88.4	86.9	137.3
2500	87.7	88.0	89.1	88.5	90.4	93.8	94.0	97.3	99.7	101.2	97.5	88.8	86.6	137.6
3150	88.3	88.4	90.6	89.4	91.5	95.8	95.4	98.9	100.7	101.1	97.6	89.0	85.4	138.5
4000	89.0	88.9	91.2	90.1	93.3	96.5	96.7	99.7	100.9	100.9	98.3	89.4	85.7	139.1
5000	90.0	90.3	92.7	91.0	93.8	97.0	97.7	100.7	102.0	103.1	99.9	92.2	87.0	140.6
6300	92.7	93.1	93.9	92.3	94.6	98.8	99.1	101.5	103.8	104.2	102.0	94.7	89.4	142.2
8000	95.9	95.8	95.9	93.8	94.9	99.2	98.9	101.8	103.8	105.2	103.6	97.5	92.6	143.4
10000	100.8	100.7	100.3	98.0	97.2	100.2	99.7	103.1	105.4	105.1	104.9	99.3	95.1	145.5
12500	99.4	100.5	101.8	101.0	100.0	101.5	100.0	101.3	103.9	104.3	103.1	99.7	94.5	146.0
16000	96.4	99.3	100.9	101.2	100.7	102.2	100.5	100.9	103.3	102.3	102.1	99.0	92.9	146.9
20000	93.7	95.5	97.4	97.8	99.3	100.8	100.4	99.6	100.8	99.3	99.4	96.5	91.2	146.5
25000	90.8	92.9	94.7	95.2	95.3	99.9	98.8	97.9	98.9	96.7	96.2	93.6	87.5	146.7
31500	86.8	89.3	91.3	92.3	92.0	96.1	95.1	95.2	96.1	93.3	93.5	89.7	83.2	146.6
40000	81.5	85.1	87.3	88.6	87.7	92.6	90.7	92.0	93.1	90.6	89.9	86.2	79.3	147.0
50000	75.7	79.1	80.9	82.3	82.2	87.8	85.7	86.5	86.6	84.8	84.8	80.8	74.2	145.8
63000	69.5	72.9	75.9	77.2	77.9	83.2	79.0	80.9	82.4	80.1	78.9	74.5	67.5	146.0
80000	62.8	66.1	69.6	69.1	70.1	76.9	73.1	74.5	74.8	72.8	71.7	67.6	60.1	146.0
OASPL	106.3	107.4	108.6	107.7	107.9	110.7	110.2	112.1	114.4	115.1	114.8	113.8	107.4	157.6
PNL	115.3	115.7	116.5	114.8	116.8	120.3	120.6	123.4	125.7	126.7	125.6	121.2	115.7	
PNLT	116.4	116.9	117.5	116.0	118.0	120.3	120.6	123.4	128.2	128.1	125.6	122.4	115.7	
DBA	102.5	102.6	103.3	101.7	103.3	107.0	107.0	110.1	112.6	113.5	112.2	108.2	102.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH211 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 51.73 PAMB HG = 28.93 RELHUM = 50.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1337.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2179.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1508 TAPE = X1508C TEST PT NO = 1508 NO = AE0[illegible] RR [illegible] SPEED RPM

P1165-03

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

IDENTIFICATION - 83F-400-1508 X1508F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	86.4	87.9	87.3	84.8	84.5	86.3	85.1	85.3	92.0	94.3	98.8	102.9	96.7	135.5
315	86.4	87.9	87.3	84.8	84.9	87.3	88.4	88.9	90.6	96.0	100.3	102.6	97.2	136.0
400	86.6	89.2	89.8	86.2	85.1	86.9	90.1	88.3	91.8	97.0	100.2	101.5	96.3	135.9
500	87.2	87.7	87.6	84.8	85.9	88.5	87.3	88.8	91.9	98.1	99.3	99.3	97.4	135.3
630	87.3	88.0	89.1	85.4	86.9	88.2	87.3	89.6	101.1	102.1	101.2	100.4	100.1	138.6
800	88.0	88.5	89.1	86.1	91.6	92.2	89.8	91.7	95.8	98.8	98.9	95.7	98.6	136.1
1000	92.8	92.8	93.0	91.0	89.3	91.2	89.7	92.0	97.9	98.9	98.7	93.6	99.4	136.8
1250	91.2	90.0	90.7	88.5	89.1	91.5	90.7	92.6	98.6	98.4	98.2	92.6	97.6	136.3
1600	91.1	92.7	91.4	88.8	91.0	93.4	92.5	94.7	99.9	99.7	98.3	91.8	98.1	137.5
2000	93.2	92.3	93.1	90.7	92.4	95.1	93.4	95.6	99.7	100.9	97.8	92.5	98.0	138.1
2500	94.7	92.9	93.8	91.9	93.3	95.4	94.6	96.6	101.0	100.9	97.9	92.4	95.8	138.7
3150	95.3	94.6	94.5	92.7	94.8	97.8	96.3	98.5	101.9	101.3	99.1	93.1	96.4	139.9
4000	95.9	95.0	96.2	93.8	97.6	99.1	98.2	100.0	103.0	103.6	100.7	96.0	97.6	141.6
5000	99.3	97.9	98.7	96.0	97.9	100.0	99.4	101.0	105.1	105.1	103.3	99.3	101.6	143.6
6300	97.5	97.0	98.5	95.9	98.6	101.8	101.0	102.0	105.6	106.8	105.8	103.2	105.8	145.2
8000	100.0	99.7	99.6	97.0	98.9	102.2	101.0	102.5	108.0	107.6	108.0	105.8	108.8	147.2
10000	102.2	101.7	101.0	98.1	100.7	103.2	101.9	104.4	107.4	107.6	106.9	106.7	108.5	148.1
12500	105.9	105.2	104.1	101.3	103.8	104.5	102.4	102.9	107.5	106.4	106.6	106.6	107.6	149.5
16000	104.3	105.1	105.8	104.2	104.7	105.2	102.9	102.7	105.0	103.2	103.5	103.4	104.8	150.2
20000	102.3	104.4	105.2	104.5	103.3	103.8	102.5	100.9	103.9	101.6	101.5	101.9	102.5	150.9
25000	99.0	100.1	101.1	100.5	99.9	102.9	100.9	99.3	102.5	99.8	100.7	100.3	100.8	150.8
31500	98.1	99.0	99.3	98.3	96.6	99.1	97.6	97.1	100.0	97.5	97.6	97.3	97.8	151.4
40000	93.2	94.5	95.1	94.5	92.3	95.6	93.1	93.7	94.2	92.5	93.3	92.5	93.0	151.0
50000	87.6	89.9	90.7	90.5	86.8	90.8	88.2	88.5	90.5	88.3	88.0	87.2	87.8	150.7
63000	80.9	83.0	83.4	83.2	82.5	86.2	81.4	82.6	84.7	82.9	82.7	82.1	82.1	150.1
80000	73.2	75.3	76.9	76.6	74.7	79.9	75.5	76.3	74.9	73.1	72.8	72.3	72.3	149.5
OASPL	112.1	112.3	112.6	110.8	111.6	113.2	111.8	112.5	116.4	116.2	115.9	114.8	116.1	161.0
PNL	120.1	119.2	119.8	117.2	119.4	121.7	120.9	122.3	126.5	127.2	126.4	123.7	125.8	
PNLT	121.1	120.4	120.8	118.4	120.6	121.7	120.9	122.3	128.9	128.5	126.4	123.7	125.8	
DBA	196.2	198.3	199.4	199.1	197.4	201.9	197.7	198.5	198.8	196.9	196.7	196.1	196.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH211 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 51.73 PAMB HG = 28.93 RELHUM = 50.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1337.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2179.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1508 TAPE = X1508F TEST PT NO = 1508 NC = AE088 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 - 83F-400-1508 X15081

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.8	69.0	70.6	67.8	67.1	69.0	72.1	69.9	72.7	76.7	78.4	77.5	69.0	153.6
63	65.5	67.5	68.4	66.4	67.9	70.6	69.3	70.4	72.7	77.8	77.5	75.3	70.1	153.0
80	65.4	67.7	69.9	66.9	68.9	70.3	69.3	71.1	81.9	81.8	79.3	76.4	72.7	156.2
100	66.1	68.1	69.8	67.6	73.5	74.2	71.7	73.2	76.6	78.4	76.9	71.6	71.0	153.8
125	70.7	72.4	73.6	72.4	71.1	73.1	71.6	73.4	78.6	78.4	76.7	69.3	71.6	154.5
160	69.0	69.4	71.2	69.8	70.8	73.3	72.3	73.8	79.1	77.8	75.9	68.0	69.4	154.0
200	68.6	71.9	71.7	69.9	72.5	75.1	74.1	75.8	80.3	78.9	75.8	67.0	69.4	155.2
250	70.4	71.2	73.2	71.5	73.7	76.6	74.7	76.5	79.8	79.9	75.0	67.2	68.7	155.8
315	71.5	71.5	73.6	72.5	74.4	76.6	75.7	77.2	80.8	79.5	74.6	66.5	65.7	156.4
400	71.6	72.8	73.9	73.0	75.5	78.7	77.1	78.8	81.3	79.5	75.4	66.6	65.3	157.6
500	71.7	72.8	75.3	73.8	78.1	79.8	78.7	80.0	82.1	81.4	76.5	68.8	65.5	159.3
630	74.7	75.2	77.5	75.6	78.1	80.4	79.6	80.7	83.9	82.5	78.6	71.4	68.4	161.3
800	72.3	74.0	77.0	75.3	78.6	81.9	81.0	81.4	84.1	83.8	80.6	74.7	71.4	162.9
1000	74.4	76.4	77.9	76.2	78.7	82.2	80.8	81.8	86.3	84.3	82.4	76.5	73.3	164.9
1250	76.1	78.0	79.0	77.2	80.3	83.0	81.6	83.5	85.4	83.9	80.8	76.6	71.6	165.8
1600	78.9	81.0	81.7	80.0	83.2	84.1	81.8	81.7	85.1	82.1	79.6	75.2	68.3	167.2
2000	76.3	80.3	83.1	82.8	84.0	84.6	82.2	81.2	82.2	78.3	75.5	70.3	62.6	167.9
2500	72.5	78.4	81.6	82.3	82.0	82.7	81.2	78.8	80.3	75.6	71.8	66.0	55.3	168.6
3150	65.9	71.6	75.5	76.8	77.2	80.5	78.2	75.6	76.9	71.3	67.6	59.4	45.3	168.5
4000	58.8	65.8	70.0	71.3	70.9	73.9	71.9	70.2	70.6	64.3	58.2	47.6	27.8	169.1
5000	44.1	53.7	59.5	62.1	61.7	65.5	62.4	61.3	58.6	51.8	44.1	29.1	1.1	168.7
6300	20.7	34.9	43.0	47.3	46.1	50.8	47.4	45.3	42.9	33.3	21.1			168.4
8000		3.2	14.4	20.8	23.6	28.4	22.5	20.2	15.7	3.1				167.8
10000														167.2
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.5	87.9	89.9	89.1	90.9	92.8	91.2	91.6	94.7	93.4	90.6	85.7	82.2	178.7
PNL	95.6	98.8	101.5	101.6	102.4	104.0	102.3	101.5	103.9	101.5	98.4	92.7	87.4	
PNLT	96.1	99.5	102.2	102.2	102.9	104.0	102.8	102.0	104.5	102.1	98.4	92.7	88.4	
DBA	84.9	87.8	89.9	89.4	91.0	92.6	90.8	90.9	93.5	91.4	88.4	83.1	78.6	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH211	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 51.73	PAMB HG = 28.93	RELHUM = 50.3 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 = 1337.5 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2179.7 FPS	AE18 = 19.9 SQ IN

T = -40 08 E = XL TE T NL 150L AE08 CONR 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 83F-ZER-1509 X1509C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.9	85.4	85.9	83.2	81.8	83.2	80.8	88.2	89.4	88.7	91.4	92.1	89.2	129.3
63	87.0	92.0	92.6	88.1	87.0	90.6	89.2	95.1	96.3	96.1	94.8	92.5	98.4	135.2
80	88.8	93.3	89.8	89.4	88.5	93.6	92.2	93.1	93.1	93.9	96.3	97.2	82.6	134.8
100	88.0	94.0	90.0	89.8	91.1	94.5	92.9	95.8	94.5	97.1	98.0	102.1	85.8	137.0
125	84.1	88.7	90.9	90.2	91.8	94.7	92.8	94.0	93.4	97.0	102.9	105.8	90.0	138.9
160	83.4	84.0	87.7	85.3	86.6	90.7	93.4	92.3	93.7	97.6	103.2	106.1	95.5	138.8
200	85.8	85.6	87.8	86.1	88.7	93.1	93.2	94.9	97.6	99.9	105.8	110.0	99.1	141.9
250	85.8	88.8	90.1	88.4	90.5	93.3	94.7	96.9	99.1	105.2	110.0	113.0	102.6	145.3
315	86.1	88.6	88.6	88.4	91.0	95.6	95.8	97.9	100.4	105.7	110.3	113.3	104.7	145.8
400	87.3	89.6	90.6	88.7	91.0	94.4	100.0	98.4	100.9	107.9	112.3	113.8	105.9	147.0
500	87.8	90.6	91.9	90.4	92.8	96.4	96.3	99.2	102.4	108.2	112.1	114.3	107.2	147.3
630	89.0	90.3	92.1	91.1	93.2	96.1	96.7	99.9	102.3	108.9	110.8	113.2	108.1	146.8
800	92.6	93.9	94.6	93.7	95.3	97.9	97.3	101.2	105.1	108.5	110.3	111.3	108.2	146.4
1000	94.0	95.0	95.6	93.6	95.2	98.6	98.2	101.6	104.3	107.6	108.8	110.7	107.6	145.7
1250	92.2	96.2	96.2	94.6	96.4	99.0	99.1	101.8	105.5	107.0	108.2	109.1	107.5	145.3
1600	92.8	94.2	95.4	94.0	96.3	99.6	100.0	103.3	106.1	106.2	107.3	108.8	106 7	145.2
2000	94.0	95.3	95.7	94.6	96.5	100.1	100.1	104.1	106.5	107.0	107.0	107.9	104.9	145.3
2500	92.2	96.0	96.3	95.0	96.7	100.0	100.5	103.6	105.9	107.7	106.7	108.1	105.3	145.3
3150	92.8	96.1	96.9	95.2	97.0	100.8	101.2	104.4	107.0	107.6	106.8	107.0	104.1	145.6
4000	93.0	95.9	97.2	95.4	97.8	101.5	101.4	105.7	106.6	107.1	108.1	106.9	104.2	146.0
5000	92.8	96.8	98.4	96.8	98.1	101.3	101.7	105.7	106.7	108.6	109.7	108.7	104.7	147.0
6300	94.2	99.9	100.2	98.3	99.1	102.8	102.8	106.3	108.3	109.0	110.5	109.4	105.7	148.1
8000	96.4	101.8	102.6	100.5	101.2	103.0	102.4	105.8	107.5	107.9	109.8	108.8	105.6	148.3
10000	98.8	103.5	105.2	103.8	103.6	105.1	103.6	106.1	107.1	107.3	108.6	108.2	104 5	149.2
12500	96.9	100.2	103.5	104.2	104.9	107.0	104.0	104.3	105.4	105.5	106.0	107.2	102.7	149.2
16000	94.8	98.9	101.9	102.4	103.9	105.9	103.7	103.6	104.8	103.0	105.2	105.4	99.8	149.3
20000	92.4	97.4	99.0	99.7	101.2	103.0	102.3	101.5	101.7	101.2	102.1	102.9	96.9	148.6
25000	90.0	94.5	96.3	97.4	97.7	101.8	100.5	99.0	99.8	98.3	99.1	98.8	93 6	148.6
31500	85.9	90.4	93.7	94.6	94.1	97.5	96.2	96.1	96.7	95.4	96.1	94.9	89.3	148.2
40000	82.1	86.9	89.4	90.4	90.3	94.5	92.3	92.8	93.9	93.1	93.7	91.0	85 7	148.9
50000	75.8	81.3	83.9	84.9	85.5	89.9	86.7	87.6	88.6	88.0	88.6	86.6	80.3	148.2
63000	69.8	75.6	79.6	79.7	80.7	85.2	81.0	82.9	84.1	82.8	83.7	80.8	73 6	148.6
80000	63.5	69.2	74.0	73.6	73.8	79.6	76.3	76.9	78.5	77.7	79.1	74.5	68 0	149.8
OASPL	106.9	110.8	112.2	111.5	112.5	115.1	114.4	116.7	118.6	120.4	122.4	123.8	118.7	161.8
PNL	118.0	121.8	122.5	120.8	122.3	125.7	125.7	129.2	131.0	132.5	134.0	134.3	130.1	
PNLT	118.0	121.8	122.5	120.8	122.3	125.7	126.4	129.2	131.0	132.5	134.0	134.3	130.1	
DBA	105.1	108.7	109.7	108.1	109.3	112.3	112.3	115.7	117.8	119.4	120.7	121.5	117.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH206 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 49.96 PAMB HG = 29.44 RELHUM = 53.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1521.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2327.6 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1509 TAPE = X1509C TEST PT NO = 1509 NC = AE088 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1509 X1509F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.9	85.4	85.9	83.2	81.8	83.2	80.8	88.2	89.4	88.7	91.4	92.1	89.2	129.3
63	87.0	92.0	92.6	88.1	87.0	90.6	89.2	95.1	96.3	96.1	94.8	92.5	98.4	135.2
80	88.8	93.3	89.8	89.4	88.5	93.6	92.2	93.1	93.1	93.9	96.3	97.2	82.6	134.8
100	88.0	94.0	90.0	89.8	91.1	94.5	92.9	95.8	94.5	97.1	98.0	102.1	85.8	137.0
125	84.1	88.7	90.9	90.2	91.8	94.7	92.8	94.0	93.4	97.0	102.9	105.8	90.0	138.9
160	83.4	84.0	87.7	85.3	86.6	90.7	93.4	92.3	93.7	97.6	103.2	106.1	95.5	138.8
200	85.8	85.6	87.8	86.1	88.7	93.1	93.2	94.9	97.6	99.9	105.8	110.0	99.1	141.9
250	85.8	88.8	90.1	88.4	90.5	93.3	94.7	96.9	99.1	105.2	110.0	113.0	102.6	145.3
315	86.1	88.6	88.6	88.4	91.0	95.6	95.8	97.9	100.4	105.7	110.3	113.3	104.7	145.8
400	87.3	89.6	90.6	88.7	91.0	94.4	100.0	98.4	100.9	107.9	112.3	113.8	105.9	147.0
500	87.8	90.6	91.9	90.4	92.8	96.4	96.3	99.2	102.4	108.2	112.1	114.3	107.2	147.3
630	89.0	90.3	92.1	91.1	93.2	96.1	96.7	99.9	102.3	108.9	110.8	113.2	108.1	146.8
800	92.6	93.9	94.6	93.7	95.3	97.9	97.3	101.2	105.1	108.5	110.3	111.3	108.2	146.4
1000	94.0	95.0	95.6	93.6	95.2	98.6	98.2	101.6	104.3	107.6	108.8	110.7	107.6	145.7
1250	92.2	96.2	96.2	94.6	96.4	99.0	99.1	101.8	105.5	107.0	108.2	109.1	107.5	145.3
1600	92.8	94.2	95.4	94.0	96.3	99.6	100.0	103.3	106.1	106.2	107.3	108.8	106.7	145.2
2000	94.0	95.3	95.7	94.6	96.5	100.1	100.1	104.1	106.5	107.0	107.0	107.9	104.9	145.3
2500	92.2	96.0	96.3	95.0	96.7	100.0	100.5	103.6	105.9	107.7	106.7	108.1	105.3	145.3
3150	92.8	96.1	96.9	95.2	97.0	100.8	101.2	104.4	107.0	107.6	106.8	107.0	104.1	145.6
4000	93.0	95.9	97.2	95.4	97.8	101.5	101.4	105.7	106.6	107.1	108.1	106.9	104.2	146.0
5000	92.8	96.8	98.4	96.8	98.1	101.3	101.7	105.7	106.7	108.6	109.7	108.7	104.7	147.0
6300	94.2	99.9	100.2	98.3	99.1	102.8	102.8	106.3	108.3	109.0	110.5	109.4	105.7	148.1
8000	96.4	101.8	102.6	100.5	101.2	103.0	102.4	105.8	107.5	107.9	109.8	108.8	105.6	148.3
10000	98.8	103.5	105.2	103.8	103.6	105.1	103.6	106.1	107.1	107.3	108.6	108.2	104.5	149.2
12500	96.9	100.2	103.5	104.2	104.9	107.0	104.0	104.3	105.4	105.5	106.0	107.2	102 7	149.2
16000	94.8	98.9	101.9	102.4	103.9	105.9	103.7	103.6	104.8	103.0	105.2	105.4	99.8	149.3
20000	92.4	97.4	99.0	99.7	101.2	103.0	102.3	101.5	101.7	101.2	102.1	102.9	96.9	148.6
25000	90.0	94.5	96.3	97.4	97.7	101.8	100.5	99.0	99.8	98.3	99.1	98.8	93.6	148.6
31500	85.9	90.4	93.7	94.6	94.1	97.5	96.2	96.1	96.7	95.4	96.1	94.9	89.3	148.2
40000	82.1	86.9	89.4	90.4	90.3	94.5	92.3	92.8	93.9	93.1	93.7	91.0	85.7	148.9
50000	75.8	81.3	83.9	84.9	85.5	89.9	86.7	87.6	88.6	88.0	88.6	86.6	80.0	148.2
63000	69.8	75.6	79.6	79.7	80.7	85.2	81.0	82.9	84.1	82.8	83.7	80.8	73.6	148.6
80000	63.5	69.2	74.0	73.6	73.8	79.6	76.3	76.9	78.5	77.7	79.1	74.5	68.0	149.8
OASPL	106.9	110.8	112.2	111.5	112.5	115.1	114.4	116.7	118.6	120.4	122.4	123.8	118.7	161.8
PNL	118.0	121.8	122.5	120.8	122.3	125.7	125.7	129.2	131.0	132.5	134.0	134.3	130.1	
PNLT	118.0	121.8	122.5	120.8	122.3	125.7	126.4	129.2	131.0	132.5	134.0	134.3	130 1	
DBA	185.8	191.5	195.8	195.6	196.1	201.4	197.9	198.9	200.2	199.3	200.6	196.7	190.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH206 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 49.96 PAMB HG = 29.44 RELHUM = 53.8 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 = 1521.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2327.6 FPS AE18 = 19.9 SQ IN

NPT -2 509 E = 3F T PT 15 AE CORR FAN SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1509 X15091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.6	69.4	71.5	70.2	73.0	76.5	82.0	80.0	81.7	87.7	90.6	89.8	78.6	164.7
63	66.1	70.4	72.7	72.0	74.7	78.5	78.2	80.7	83.2	88.0	90.3	90.3	79.8	165.0
80	67.2	70.0	72.9	72.6	75.1	78.1	78.6	81.4	83.1	88.6	89.0	89.2	80.7	164.5
100	70.7	73.5	75.4	75.1	77.1	79.9	79.1	82.6	85.9	88.1	88.4	87.1	80.6	164.1
125	72.0	74.6	76.2	75.0	77.0	80.5	80.0	83.0	85.0	87.2	86.7	86.4	79.8	163.4
160	69.9	75.6	76.7	75.9	78.0	80.8	80.8	83.0	86.0	86.4	86.0	84.5	79.3	163.0
200	70.4	73.4	75.7	75.1	77.8	81.3	81.5	84.4	86.5	85.4	84.9	83.9	78.0	162.9
250	71.2	74.2	75.8	75.5	77.8	81.5	81.4	85.0	86.6	85.9	84.3	82.6	75.6	162.9
315	69.0	74.6	76.1	75.6	77.7	81.2	81.5	84.2	85.7	86.3	83.5	82.2	75.2	163.0
400	69.1	74.3	76.3	75.4	77.8	81.7	82.0	84.7	86.4	85.8	83.1	80.5	73.0	163.2
500	68.8	73.6	76.3	75.4	78.3	82.2	81.9	85.7	85.7	84.9	83.9	79.7	72.1	163.6
630	68.1	74.2	77.2	76.5	78.3	81.6	81.9	85.4	85.5	86.0	85.0	80.9	71.5	164.7
800	69.0	76.9	78.7	77.7	79.0	82.9	82.8	85.7	86.8	86.0	85.3	80.9	71.4	165.8
1000	70.8	78.5	80.8	79.8	81.0	83.0	82.2	85.0	85.8	84.6	84.2	79.6	70.1	165.9
1250	72.7	79.8	83.2	82.8	83.3	85.0	83.3	85.2	85.1	83.7	82.5	78.2	67.6	166.9
1600	69.9	76.0	81.1	82.9	84.3	86.6	83.4	83.0	83.0	81.3	79.1	75.8	63.4	166.9
2000	66.8	74.1	79.1	80.9	83.1	85.3	82.9	82.1	82.0	78.2	77.3	72.4	57.6	167.0
2500	62.6	71.4	75.4	77.6	79.9	81.9	81.0	79.3	78.0	75.1	72.3	67.1	49.7	166.3
3150	56.9	66.1	70.8	73.7	75.0	79.4	77.8	75.3	74.3	69.8	66.0	58.0	36.0	166.3
4000	46.5	57.2	64.3	67.6	68.5	72.2	70.6	69.1	67.3	62.2	56.8	45.1	19.2	165.9
5000	33.0	46.1	53.8	58.0	59.6	64.3	61.6	60.4	58.3	52.4	44.6	27.6		166.6
6300	8.9	26.3	36.3	41.7	44.8	49.9	46.0	44.4	40.9	33.0	21.7			165.9
8000			10.6	17.2	21.8	27.5	22.1	20.5	15.1	3.0				166.3
10000														167.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	82.0	87.6	90.4	90.5	92.2	95.0	94.3	96.4	97.6	98.4	98.5	97.3	89.0	179.1
PNL	89.2	95.6	99.5	100.6	102.6	105.4	103.9	104.4	104.8	103.6	102.3	99.1	90.4	
PNLT	90.4	95.6	99.5	100.6	102.6	105.4	103.9	104.4	104.8	104.7	103.5	99.1	90.4	
DBA	78.9	85.8	89.3	89.8	91.3	93.8	92.2	93.6	94.0	92.9	91.8	88.0	79.1	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH206 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 49.96 PAMB HG = 29.44 RELHUM = 53.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0-FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1521.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2327.6 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1509 TAPE = X15091 TEST PT NO = 1509 NC = AE088 CORR FAN SPEED = RPM

P1185-03

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 83F-400-1510 X1510C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.9	89.4	87.2	85.7	80.8	83.4	82.6	88.5	85.4	87.0	92.1	92.6	93.5	130.0
63	88.5	95.3	95.6	93.4	87.7	90.3	92.0	97.1	91.8	91.9	94.0	97.0	96.6	135.8
80	88.5	92.3	89.1	88.6	88.0	92.3	91.0	91.4	92.6	92.2	94.0	95.5	90.6	133.6
100	86.5	91.5	87.8	87.0	88.4	92.0	90.6	94.0	91.8	93.8	95.5	100.1	90.6	134.7
125	84.9	87.2	89.2	89.0	90.3	92.9	91.3	92.0	90.9	94.5	100.1	104.1	93.7	136.9
160	81.9	82.2	86.2	83.3	84.1	87.2	91.4	88.3	90.7	94.1	99.9	103.6	95.0	136.0
200	82.3	83.6	85.6	82.6	83.7	87.6	89.2	91.4	94.3	94.9	100.5	105.7	96.6	137.5
250	80.5	84.1	84.3	83.6	85.2	88.3	89.5	91.6	94.3	99.7	105.3	108.2	98.6	140.4
315	81.6	84.6	86.4	84.2	85.3	89.6	91.3	92.9	96.1	100.5	105.3	108.8	99.4	141.0
400	81.8	83.8	85.1	83.4	85.3	88.9	92.8	92.2	95.9	101.9	106.3	108.3	98.7	141.2
500	82.1	84.6	85.9	83.9	86.5	90.4	90.8	93.4	96 4	103.0	106.3	107.3	96.7	141.0
630	82.8	84.3	86.1	84.6	87.2	90.3	91.0	94.6	96.8	103.4	105.3	104.7	94.4	140.1
800	90.1	92.4	91.1	91.2	90.8	92.4	92.8	96.2	98.6	103.0	104.8	102.0	93.7	140.0
1000	86.3	87.3	88.1	86.8	89.2	93.1	92.4	96.3	99.8	102.9	102.8	97.4	90.4	138.9
1250	85.4	89.2	88.5	87.4	89.6	92.7	93.4	96.8	101.0	102.5	101.7	94.4	89.3	138.7
1600	87.3	87.7	89.9	88.3	90.3	94.1	94.7	98.8	101.9	102.2	101.6	92.8	89.2	139.2
2000	88.0	87.8	89.7	89.6	91.7	95.3	95.8	99.6	103.0	103.3	101.0	91.6	88.4	140.0
2500	88.2	89.0	90.3	90.0	92.2	95.8	96.0	100.1	102.7	104.7	100.5	92.3	88.6	140.5
3150	89.3	89.9	91.4	90.7	93.0	97.6	97.2	100.9	103.2	104.3	100.1	91.7	87.9	140.9
4000	90.8	91.1	92.5	91.9	94.3	97.8	97.9	102.7	103.6	103.8	100.3	92.1	88.0	141.5
5000	93.8	92.8	94.1	92.5	95.1	98.8	99.2	103.5	104.5	106.1	101.9	94.7	89.7	143.0
6300	97.2	97.1	96.7	94.8	96.3	100.3	100.6	104.5	106.3	107.2	104.0	96.9	92.2	144.7
8000	100.9	101.0	100.1	97.3	97.7	100.5	100.4	103.8	106.5	107.4	105.8	99.5	94.9	145.9
10000	103.3	104.0	105.2	101.8	100.9	102.4	101.4	104.6	107.1	107.8	106.6	101.7	96.3	148.0
12500	99.4	100.7	104.1	103.7	104.0	104.7	102.3	103.8	105.9	106.8	105.3	101.5	95.7	148.4
16000	97.6	99.2	100.9	101.4	103.5	105.2	103.0	103.4	105.1	104.6	104.0	100.5	93.1	148.8
20000	95.0	97.8	98.6	98.6	99.8	102.3	102.4	101.6	102.8	101.8	100.9	98.0	92.2	148.2
25000	92.4	94.7	96.0	96.5	96.9	101.2	100.1	99.4	101.2	99.5	98.2	95.2	88.5	148.4
31500	88.6	90.9	92.9	93.8	93.9	97.5	96.2	97.0	97.4	95.7	95.4	91.6	84.8	148.2
40000	84.4	87.2	89.2	90.3	89.4	94.5	92.8	93.6	95.0	92.5	92.3	87.6	80.9	148.9
50000	77.9	81.0	82.8	84.5	84.2	89.7	87.4	88.9	88.7	87.0	87.0	81.9	75.6	147.9
63000	71.4	75.6	78.1	79.1	79.4	84.6	81.5	83.6	84.6	82.3	81.2	76.2	69.2	148.1
80000	65.0	69.6	72.1	72.4	72.1	78.9	75.6	77.0	78.1	75.6	74.4	69.8	62.0	148.6
OASPL	108.5	109.7	110.8	109.6	110.3	112.8	112.0	114.4	116.4	117.7	117.5	117.0	108.8	159.7
PNL	118.1	118.7	119.6	117.4	118.4	122.0	122.3	126.0	128.0	129.5	128.1	124.6	117.7	
PNLT	119.9	120.9	121.0	119.2	119.1	122.6	122.3	126.0	128.0	129.5	128.1	124.6	117.7	
DBA	105.7	106.1	106.6	104.4	105.4	108.6	108.7	112.6	114.8	116.2	114.9	111.9	104.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH210 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NG PWL AREA = FULL SPHERE TAMB F = 52.05 PAMB HG = 28.91 RELHUM = 50.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1526.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2343.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1510 TAPE = X1510C TEST PT NO = 1510 NC AE0.3 CORR F SPEED RPM

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

IDENTIFICATION - 83F-400-1510 X1510F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	88.1	90.3	89.1	86.8	86.8	88.3	87.6	88.0	94.1	97.9	102.5	106.6	99.3	138.9
315	88.1	90.3	89.1	86.8	87.1	89.8	90.4	91.1	93.9	99.5	103.8	106.8	100.0	139.6
400	89.2	91.0	91.3	87.6	87.1	89.1	91.9	90.3	94.4	100.6	104.1	106.6	99.6	139.8
500	89.3	90.1	90.0	86.8	88.4	90.7	89.9	91.4	95.0	101.3	103.4	105.0	99.4	139.2
630	89.8	91.0	90.9	87.4	89.2	90.7	90.1	92.6	97.4	101.5	103.9	103.9	101.6	139.5
800	90.5	90.7	91.1	88.1	92.3	92.9	92.0	94.3	98.7	101.6	102.2	100.3	100.7	138.9
1000	95.5	96.9	94.6	93.7	91.3	93.7	91.7	94.4	99.8	101.1	100.8	97.0	99.4	139.0
1250	93.9	93.8	93.2	90.5	91.9	93.5	92.7	94.8	101.0	101.1	101.0	95.7	99.7	138.9
1600	93.0	95.6	93.6	91.1	92.7	95.2	94.5	97.2	102.2	102.0	100.2	93.8	97.6	139.5
2000	95.0	94.3	95.1	92.2	94.4	96.6	95.8	98.2	102.3	103.9	100.1	95.0	98.3	140.4
2500	95.7	94.4	95.1	93.6	95.1	97.4	96.2	98.9	103.4	104.1	100.3	95.1	98.3	141.1
3150	95.8	95.6	95.7	94.2	96.8	99.6	98.0	100.4	104.6	104.3	101.1	95.9	98.6	142.1
4000	99.7	98.8	98.7	96.2	98.0	100.4	99.4	102.9	105.4	106.6	102.7	98.4	100.4	144.0
5000	98.3	97.8	98.2	96.6	99.1	101.8	100.9	103.8	107.5	107.9	105.1	101.2	103.9	145.6
6300	101.2	99.5	100.0	97.4	100.2	103.3	102.4	104.9	108.2	108.8	107.9	105.0	107.8	147.4
8000	103.5	103.0	101.9	99.2	101.2	103.5	102.4	104.4	109.3	109.8	109.3	107.9	109.8	149.0
10000	106.2	105.7	104.2	100.8	104.4	105.4	103.5	105.6	109.1	109.9	109.0	108.5	110.0	150.3
12500	108.3	108.3	109.0	105.0	108.0	107.7	104.6	105.3	109.1	108.4	108.6	108.4	108.4	152.2
16000	105.7	106.3	108.8	107.4	107.5	108.2	105.4	105.0	107.7	106.5	106.0	106.1	107.2	152.8
20000	103.5	104.4	105.2	104.7	103.9	105.3	104.9	103.5	106.8	105.1	104.5	104.8	105.3	152.5
25000	100.3	102.3	102.3	101.3	101.5	104.2	102.6	101.3	103.6	101.9	102.3	101.9	102.3	152.3
31500	99.7	100.8	100.6	99.6	98.5	100.5	98.7	98.9	101.8	99.2	99.8	98.6	99.5	152.9
40000	95.1	96.1	96.7	96.1	94.0	97.5	95.2	95.3	96.2	94.5	95.3	93.7	94.7	152.8
50000	90.5	92.1	92.6	92.1	88.8	92.7	89.8	90.8	92.3	89.9	89.5	88.2	89.0	152.5
63000	83.0	84.9	85.3	85.4	84.0	87.6	83.7	85.0	87.3	84.7	84.3	83.3	83.3	152.0
80000	75.1	78.0	79.1	78.5	76.7	81.9	77.8	78.3	77.4	74.9	74.5	73.5	73.5	151.6
OASPL	114.3	114.5	115.0	112.9	114.0	115.3	113.6	114.7	118.4	118.7	118.1	117.6	117.7	163.0
PNL	121.9	121.5	121.3	118.8	120.8	123.4	122.5	124.9	128.7	129.7	128.6	126.2	127.6	
PNLT	123.0	123.0	121.3	120.3	120.8	123.4	122.5	124.9	128.7	129.7	128.6	126.2	127.6	
DBA	198.3	200.6	201.4	201.0	199.1	203.8	199.9	200.7	201.2	198.7	198.4	197.3	197.5	

315

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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH210 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 52.05 PAMB HG = 28.91 RELHUM = 50.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1526.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2343.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1510 TAPE = X1510F TEST PT NO = 1510 NC = AE088 CORR FAN SPEED = RPM

P1165-03

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

IDENTIFICATION - 83F-400-1510 X15101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.4	70.7	72.2	69.1	69.0	71.2	73.8	71.8	75.3	80.4	82.3	82.6	72.3	157.5
63	67.5	69.9	70.8	68.3	70.4	72.8	71.8	73.0	75.9	81.0	81.6	81.0	72.0	156.9
80	67.9	70.7	71.7	68.9	71.1	72.8	72.0	74.1	78.2	81.2	82.1	79.8	74.2	157.2
100	68.6	70.4	71.8	69.6	74.1	74.9	73.9	75.8	79.4	81.3	80.3	76.2	73.1	156.5
125	73.5	76.4	75.3	75.0	73.1	75.6	73.5	75.8	80.4	80.7	78.8	72.6	71.6	156.6
160	71.7	73.2	73.7	71.8	73.6	75.3	74.4	76.1	81.6	80.5	78.8	71.1	71.4	156.6
200	70.5	74.8	73.9	72.2	74.3	76.8	76.1	78.3	82.5	81.2	77.7	68.9	68.9	157.2
250	72.2	73.2	75.2	73.0	75.7	78.1	77.1	79.0	82.4	82.8	77.3	69.6	68.9	158.1
315	72.5	73.0	74.9	74.2	76.2	78.6	77.3	79.6	83.2	82.7	77.1	69.2	68.1	158.8
400	72.1	73.8	75.2	74.5	77.6	80.5	78.8	80.7	84.1	82.5	77.4	69.3	67.5	159.8
500	75.5	76.6	77.8	76.2	78.5	81.0	79.9	82.9	84.6	84.3	78.5	71.3	68.2	161.7
630	73.6	75.2	77.0	76.3	79.3	82.1	81.1	83.4	86.2	85.3	80.4	73.4	70.7	163.2
800	76.0	76.5	78.4	76.8	80.2	83.4	82.4	84.3	86.7	85.8	82.7	76.5	73.5	165.1
1000	77.9	79.7	80.2	78.4	81.0	83.5	82.2	83.6	87.6	86.6	83.7	78.7	74.3	166.7
1250	80.1	82.1	82.2	79.8	84.1	85.3	83.2	84.6	87.2	86.2	82.9	78.5	73.1	168.0
1600	81.3	84.1	86.6	83.7	87.4	87.4	84.0	84.0	86.6	84.2	81.6	77.0	69.1	169.9
2000	77.8	81.5	86.0	85.9	86.7	87.6	84.6	83.5	84.9	81.7	78.1	73.1	64.9	170.5
2500	73.8	78.4	81.6	82.6	82.5	84.3	83.6	81.3	83.1	79.0	74.8	69.0	58.1	170.1
3150	67.2	73.9	76.8	77.6	78.8	81.8	79.9	77.6	78.1	73.4	69.2	61.1	46.8	170.0
4000	60.3	67.6	71.3	72.6	72.8	75.2	73.0	71.9	72.4	66.0	60.5	48.9	29.4	170.6
5000	46.0	55.3	61.1	63.7	63.3	67.4	64.6	62.9	60.6	53.7	46.2	30.3	2.8	170.4
6300	23.5	37.1	44.9	48.9	48.0	52.7	49.0	47.6	44.6	34.9	22.6	0.7		170.2
8000		5.1	16.3	22.9	25.1	29.9	24.8	22.6	18.2	4.9				169.7
10000														169.2
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	87.8	90.3	92.4	91.3	93.4	94.9	93.0	93.9	96.7	95.8	93.0	89.1	83.7	180.6
PNL	97.8	100.8	103.7	103.3	104.7	106.3	104.4	103.8	105.9	103.9	100.7	95.1	88.8	
PNLT	98.3	101.6	104.4	104.0	104.7	106.3	104.4	104.4	106.5	104.5	101.7	96.4	89.9	
DBA	87.4	90.1	92.6	91.6	93.6	94.9	92.8	93.0	95.5	93.8	90.4	85.1	80.1	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH210	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 52.05	PAMB HG = 28.91	RELHUM = 50.8 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 = 1526.6 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2343.7 FPS	AE18 = 19.9 SQ IN

P1185-08

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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 83F-ZER-1511 X1511C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.9	86.7	84.4	82.5	82.6	88.2	87.8	88.0	91.9	90.5	92.9	98.6	89.7	132.1
63	91.0	92.8	93.6	88.1	90.2	96.8	96.7	92.1	96.6	96.9	94.8	103.7	92.1	137.8
80	91.5	95.6	91.6	91.4	92.0	96.3	94.5	94.9	95.8	95.9	98.5	99.7	84.1	137.2
100	91.0	96.5	92.3	92.0	93.4	96.8	95.4	98.3	96.5	100.1	100.0	104.6	89.1	139.5
125	87.1	90.7	93.2	92.5	95.1	97.2	95.1	96.0	96.9	99.8	106.4	108.8	94.2	141.9
160	86.7	86.5	90.0	88.5	89.4	93.0	95.4	94.5	96.5	101.3	106.7	109.4	99.3	142.0
200	88.5	87.8	90.3	88.9	91.7	95.1	95.0	96.9	100.8	102.9	108.8	113.2	102.4	144.9
250	88.3	91.1	92.3	91.1	92.5	95.1	96.2	98.9	101.6	107.4	112.8	116.0	105.9	148.1
315	88.8	90.9	90.4	90.2	93.0	96.9	98.0	99.4	103.4	109.0	113.8	117.0	108.2	149.2
400	90.8	92.1	92.9	91.4	93.0	96.1	102.3	100.2	103.6	110.9	115.8	117.8	109.7	150.6
500	90.6	93.1	93.9	92.2	94.3	98.1	98.3	101.4	105.1	112.0	116.1	118.5	111.2	151.2
630	92.5	93.3	94.6	92.9	95.5	98.6	98.7	102.1	104.8	112.4	115.8	118.2	113.1	151.3
800	94.8	95.6	95.1	95.4	96.8	101.1	101.3	103.9	107.4	111.2	114.6	118.3	113.7	151.1
1000	99.5	101.0	99.8	96.6	97.9	100.6	100.2	103.8	107.6	111.6	113.5	117.9	114.6	151.0
1250	96.2	99.7	100.7	99.4	99.9	102.7	101.9	104.3	108.2	111.0	112.4	116.1	114.3	150.2
1600	96.3	97.2	98.4	96.8	98.8	102.1	102.5	105.5	108.7	109.5	112.9	116.3	112.7	150.0
2000	98.0	98.8	98.8	97.4	98.5	102.1	102.3	106.4	109.0	110.8	112.5	114.9	110.9	149.6
2500	95.9	98.0	98.8	97.5	98.9	102.5	102.5	105.8	108.7	111.2	112.5	113.3	109.6	149.2
3150	96.1	98.9	98.9	97.2	99.3	103.3	103.5	106.4	109.3	110.6	111.6	111.3	107.7	148.7
4000	95.3	99.1	100.0	98.4	99.8	102.8	103.2	107.5	109.1	109.6	111.6	109.1	106.2	148.4
5000	96.5	101.5	103.2	100.1	100.6	103.5	103.7	107.5	109.0	110.9	112.0	110.5	106.2	149.3
6300	97.2	104.1	104.7	101.8	102.6	104.8	104.6	108.3	109.8	110.7	111.2	110.0	105.7	149.8
8000	97.4	104.6	105.9	104.6	105.0	106.7	104.5	106.6	108.8	109.5	110.4	108.8	106.4	149.9
10000	98.1	102.8	106.0	106.6	107.2	108.7	105.7	107.7	108.4	108.4	109.4	108.0	105.6	150.8
12500	96.7	100.5	103.3	104.2	106.7	109.3	106.8	106.3	106.7	106.8	107.1	106.7	103.8	150.6
16000	95.1	100.5	102.4	102.6	104.2	107.2	105.7	105.6	106.3	105.1	105.5	105.2	101.1	150.5
20000	92.9	97.9	99.8	100.5	102.0	104.2	104.1	102.7	103.4	102.2	103.3	102.7	98.9	149.7
25000	89.9	95.2	96.8	97.8	98.9	103.3	101.7	100.0	101.3	99.8	100.0	98.7	94.1	149.7
31500	86.6	91.5	94.3	95.3	95.3	99.2	97.9	97.2	97.3	96.8	97.3	95.0	90.0	149.4
40000	81.9	87.7	90.0	91.0	90.7	96.1	93.1	93.4	95.0	94.2	94.6	91.6	86.5	149.9
50000	76.4	81.9	84.5	85.7	85.9	91.4	88.6	88.1	89.4	89.0	89.4	87.4	80.6	149.2
63000	70.8	76.4	80.1	80.4	81.5	86.5	82.3	83.7	85.3	84.7	84.4	80.3	74.9	149.6
80000	64.3	70.0	74.2	73.8	74.5	81.6	77.0	78.2	79.4	79.1	79.8	75.0	68.3	151.0
OASPL	109.2	113.1	114.3	113.5	114.8	117.5	116.5	118.6	120.7	123.3	125.9	128.2	123.1	164.3
PNL	121.0	125.2	125.9	123.9	125.0	127.9	127.9	131.1	133.3	135.4	137.3	138.6	133.9	
PNLT	122.3	126.3	125.9	123.9	125.6	127.9	128.6	131.1	133.3	135.4	137.9	138.6	133.9	
DBA	108.2	111.8	112.7	111.2	112.2	114.9	114.4	117.6	120.1	122.4	124.6	126.7	122.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH208 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.41 PAMB HG = 29.42 RELHUM = 51.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTN1 = LBS XNL = RPM XNH = RPM V8 = 1520.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2496.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1511 TAPE = X1511C TEST PT NO = 1511 NC = AE088 CORR FAN SPEED = RPM

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P1185-03

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

IDENTIFICATION - 83F-ZER-1511 X1511F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.9	86.7	84.4	82.5	82.6	88.2	87.8	88.0	91.9	90.5	92.9	98.6	89.7	132.1
63	91.0	92.8	93.6	88.1	90.2	96.8	96.7	92.1	96.6	96.9	94.8	103.7	92.1	137.8
80	91.5	95.6	91.6	91.4	92.0	96.3	94.5	94.9	95.8	95.9	98.5	99.7	84.1	137.2
100	91.0	96.5	92.3	92.0	93.4	96.8	95.4	98.3	96.5	100.1	100.0	104.6	89.1	139.5
125	87.1	90.7	93.2	92.5	95.1	97.2	95.1	96.0	96.9	99.8	106.4	108.8	94.2	141.9
160	86.7	86.5	90.0	88.5	89.4	93.0	95.4	94.5	96.5	101.3	106.7	109.4	99.3	142.0
200	88.5	87.8	90.3	88.9	91.7	95.1	95.0	96.9	100.8	102.9	108.8	113.2	102.4	144.9
250	88.3	91.1	92.3	91.1	92.5	95.1	96.2	98.9	101.6	107.4	112.8	116.0	105.9	148.1
315	88.8	90.9	90.4	90.2	93.0	96.9	98.0	99.4	103.4	109.0	113.8	117.0	108.2	149.2
400	90.8	92.1	92.9	91.4	93.0	96.1	102.3	100.2	103.6	110.9	115.8	117.8	109.7	150.6
500	90.6	93.1	93.9	92.2	94.3	98.1	98.3	101.4	105.1	112.0	116.1	118.5	111.2	151.2
630	92.5	93.3	94.6	92.9	95.5	98.6	98.7	102.1	104.8	112.4	115.8	118.2	113.1	151.3
800	94.8	95.6	95.1	95.4	96.8	101.1	101.3	103.9	107.4	111.2	114.6	118.3	113.7	151.1
1000	99.5	101.0	99.8	96.6	97.9	100.6	100.2	103.8	107.6	111.6	113.5	117.9	114.6	151.0
1250	96.2	99.7	100.7	99.4	99.9	102.7	101.9	104.3	108.2	111.0	112.4	116.1	114.3	150.2
1600	96.3	97.2	98.4	96.8	98.8	102.1	102.5	105.5	108.7	109.5	112.9	116.3	112.7	150.0
2000	98.0	98.8	98.8	97.4	98.5	102.1	102.3	106.4	109.0	110.8	112.5	114.9	110.9	149.6
2500	95.9	98.0	98.8	97.5	98.9	102.5	102.5	105.8	108.7	111.2	112.5	113.3	109.6	149.2
3150	96.1	98.9	98.9	97.2	99.3	103.3	103.5	106.4	109.3	110.6	111.6	111.3	107.7	148.7
4000	95.3	99.1	100.0	98.4	99.8	102.8	103.2	107.5	109.1	109.6	111.6	109.1	106.2	148.4
5000	96.5	101.5	103.2	100.1	100.6	103.5	103.7	107.5	109.0	110.9	112.0	110.5	106.2	149.3
6300	97.2	104.1	104.7	101.8	102.6	104.8	104.6	108.3	109.8	110.7	111.2	110.0	105.7	149.8
8000	97.4	104.6	105.9	104.6	105.0	106.7	104.5	106.6	108.8	109.5	110.4	108.8	106.4	149.9
10000	98.1	102.8	106.0	106.6	107.2	108.7	105.7	107.7	108.4	108.4	109.4	108.0	105.6	150.8
12500	96.7	100.5	103.3	104.2	106.7	109.3	106.8	106.3	106.7	106.8	107.1	106.7	103.8	150.6
16000	95.1	100.5	102.4	102.6	104.2	107.2	105.7	105.6	106.3	105.1	105.5	105.2	101.1	150.5
20000	92.9	97.9	99.8	100.5	102.0	104.2	104.1	102.7	103.4	102.2	103.3	102.7	98.9	149.7
25000	89.9	95.2	96.8	97.8	98.9	103.3	101.7	100.0	101.3	99.8	100.0	98.7	94.1	149.7
31500	86.6	91.5	94.3	95.3	95.3	99.2	97.9	97.2	97.3	96.8	97.3	95.0	90.0	149.4
40000	81.9	87.7	90.0	91.0	90.7	96.1	93.1	93.4	95.0	94.2	94.6	91.6	86.5	149.9
50000	76.4	81.9	84.5	85.7	85.9	91.4	88.6	88.1	89.4	89.0	89.4	87.4	80.6	149.2
63000	70.8	76.4	80.1	80.4	81.5	86.5	82.3	83.7	85.3	84.7	84.4	80.3	74.9	149.6
80000	64.3	70.0	74.2	73.8	74.5	81.6	77.0	78.2	79.4	79.1	79.8	75.0	68.3	151.0
OASPL	109.2	113.1	114.3	113.5	114.8	117.5	116.5	118.6	120.7	123.3	125.9	128.2	123.1	164.3
PNL	121.0	125.2	125.9	123.9	125.0	127.9	127.9	131.1	133.3	135.4	137.3	138.6	133.9	
PNLT	122.3	126.3	125.9	123.9	125.6	127.9	128.6	131.1	133.3	135.4	137.9	138.6	133.9	
DBA	186.6	192.2	196.1	196.1	196.8	203.2	198.9	199.9	201.3	200.9	201.3	197.0	190.6	

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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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH208 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.41 PAMB HG = 29.42 RELHUM = 51.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1520.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2496.5 FPS AE18 = 19.9 SQ IN

PT ... AE... CORR FAN SPEED = ... RPM

P1185-08

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

IDENTIFICATION - 83F-ZER-1511 X15111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.1	71.9	73.7	73.0	75.0	78.2	84.2	81.7	84.5	90.7	94.1	93.8	82.4	168.3
63	68.8	72.9	74.7	73.7	76.2	80.2	80.2	83.0	86.0	91.7	94.3	94.5	83.8	168.9
80	70.7	73.0	75.4	74.4	77.4	80.6	80.6	83.6	85.6	92.1	94.0	94.2	85.7	168.9
100	72.9	75.3	75.9	76.9	78.6	83.1	83.1	85.4	88.1	90.9	92.7	94.1	86.1	168.8
125	77.5	80.6	80.5	78.0	79.7	82.5	82.0	85.2	88.2	91.2	91.5	93.6	86.8	168.7
160	73.9	79.1	81.2	80.6	81.5	84.5	83.5	85.5	88.7	90.4	90.2	91.5	86.1	167.9
200	73.9	76.4	78.7	77.9	80.3	83.8	84.0	86.6	89.0	88.7	90.4	91.4	84.0	167.6
250	75.2	77.8	78.9	78.3	79.8	83.6	83.6	87.3	89.1	89.7	89.8	89.6	81.6	167.3
315	72.7	76.6	78.6	78.1	80.0	83.7	83.5	86.4	88.5	89.8	89.3	87.5	79.4	166.9
400	72.3	77.0	78.3	77.5	80.0	84.2	84.2	86.7	88.7	88.8	87.9	84.7	76.5	166.4
500	71.1	76.9	79.1	78.4	80.3	83.4	83.7	87.5	88.3	87.4	87.4	82.0	74.1	166.1
630	71.8	78.9	82.0	79.8	80.8	83.9	83.9	87.2	87.8	88.3	87.3	82.6	73.0	166.9
800	72.0	81.2	83.2	81.2	82.6	84.9	84.6	87.7	88.3	87.8	86.1	81.4	71.4	167.5
1000	71.8	81.3	84.1	83.8	84.8	86.8	84.3	85.8	87.1	86.2	84.8	79.6	70.3	167.6
1250	72.0	79.1	84.1	85.7	86.9	88.5	85.4	86.8	86.4	84.7	83.3	78.0	68.7	168.4
1600	69.7	76.3	80.9	83.0	86.1	88.9	86.2	85.1	84.3	82.6	80.1	75.3	64.5	168.3
2000	67.1	75.7	79.6	81.2	83.4	86.6	85.0	84.2	83.5	80.2	77.6	72.2	58.9	168.2
2500	63.1	71.9	76.1	78.3	80.7	83.2	82.8	80.6	79.8	76.1	73.6	66.8	51.7	167.4
3150	56.8	66.8	71.2	74.1	76.2	80.9	79.0	76.3	75.7	71.3	66.9	57.9	38.5	167.4
4000	47.2	58.3	64.9	68.3	69.6	73.9	72.2	70.2	67.9	63.6	57.9	45.3	19.9	167.0
5000	32.8	46.9	54.4	58.6	60.0	65.9	62.4	61.0	59.4	53.4	45.4	28.2		167.5
6300	9.4	26.9	36.8	42.5	45.1	51.4	47.8	44.9	41.7	34.0	22.4			166.9
8000			11.1	18.0	22.6	28.7	23.4	21.2	16.3	4.9				167.3
10000														168.6
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.0	90.2	92.8	92.7	94.5	97.4	96.5	98.3	99.9	101.5	102.5	102.5	94.3	181.6
PNL	90.6	97.6	101.0	101.9	104.2	107.3	106.0	106.3	106.7	105.9	105.3	103.6	95.0	
PNLT	91.3	98.2	101.0	101.9	104.2	107.3	106.5	106.3	107.7	106.9	106.5	103.6	95.0	
DBA	80.2	87.7	91.1	91.7	93.5	96.1	94.3	95.3	95.7	95.0	93.9	90.7	82.4	

MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH208 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.41 PAMB HG = 29.42 RELHUM = 51.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1520.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2496.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1511 TAPE = X15111 TEST PT NO = 1511 NC = AE088 CORR FAN SPEED = RPM

P1185-09

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 83F-400-1512 X1512C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.9	88.9	83.9	85.2	83.1	84.9	83.6	92.2	91.4	90.7	93.9	95.8	91.7	132.0
63	90.8	92.8	92.8	90.9	87.7	91.8	91.7	96.6	96.6	97.1	95.5	98.5	96.4	136.4
80	90.8	95.1	91.3	91.4	92.0	95.3	93.7	93.9	94.6	94.4	97.0	97.7	90.6	136.2
100	89.5	94.7	90.8	89.8	91.4	94.8	93.9	95.8	94.3	96.1	97.5	102.4	91.6	137.2
125	87.4	88.9	91.4	91.2	93.1	95.4	93.6	93.5	93.7	96.3	102.6	106.3	94.2	139.2
160	84.2	82.5	87.2	84.8	85.9	90.0	93.4	91.0	92.7	96.8	102.9	106.6	97.5	138.8
200	85.3	84.3	85.8	83.9	86.5	90.1	91.5	92.6	96.1	97.4	103.5	109.0	100.1	140.4
250	83.3	85.8	86.1	85.9	87.7	90.8	91.7	94.4	96.8	102.7	108.0	112.0	102.1	143.7
315	83.8	85.4	84.9	85.2	87.5	91.9	93.0	94.7	98.1	103.7	108.6	112.5	103.7	144.4
400	84.6	85.8	86.6	85.7	88.0	91.1	95.5	94.9	98.1	105.4	110.8	113.0	102.7	145.5
500	85.1	86.4	87.9	86.7	89.0	92.6	93.0	95.4	99.6	106.5	110.8	112.3	100.9	145.4
630	85.5	87.1	88.3	86.6	89.7	93.1	93.7	96.6	99.6	107.4	109.0	110.0	98.6	144.2
800	91.1	93.1	92.4	88.4	90.8	93.4	94.5	99.4	103.4	107.5	108.6	107.5	96.7	143.9
1000	89.0	89.3	90.6	89.1	91.9	94.8	94.9	98.6	103.1	106.9	107.8	104.2	94.1	142.9
1250	88.4	91.2	91.0	89.6	92.1	95.5	96.1	99.8	103.5	105.8	105.7	100.1	92.5	142.0
1600	89.8	90.2	91.9	90.5	93.3	96.4	97.2	100.8	105.2	105.2	105.9	97.3	91.2	142.4
2000	90.8	90.1	92.0	90.9	93.5	97.3	97.8	101.9	105.3	106.3	104.8	96.4	90.6	142.7
2500	90.9	91.7	92.8	91.8	93.9	98.0	98.2	102.1	104.7	106.7	103.3	95.6	91.8	142.6
3150	93.3	93.1	94.2	92.4	95.0	99.3	99.2	103.7	105.8	106.1	102.8	95.3	90.2	143.2
4000	95.8	94.9	96.0	92.9	95.8	100.0	99.9	105.0	106.2	105.6	103.3	95.6	92.0	143.8
5000	99.3	98.6	98.7	95.3	96.8	100.0	100.9	105.5	106.5	107.9	104.7	97.5	93.0	145.2
6300	103.0	102.9	102.5	98.5	98.9	101.8	102.1	106.3	108.3	108.5	106.0	99.5	94.5	147.0
8000	102.2	104.3	105.4	102.3	102.0	103.0	102.0	106.1	108.3	108.5	106.4	100.6	95.4	148.0
10000	100.9	102.3	106.1	105.1	105.2	105.9	103.7	107.2	108.4	108.9	107.2	102.3	96 4	149.5
12500	100.7	100.8	102.4	102.7	105.8	107.8	105.1	105.8	107.5	107.8	105.4	102.0	96.0	149.7
16000	99.1	101.3	102.5	101.4	102.7	106.4	105.3	105.7	107.1	106.4	104.3	100.7	93.7	150.2
20000	96.4	98.5	99.9	99.8	101.3	103.5	104.1	103.8	104.8	103.8	101.6	98.7	91.9	149.7
25000	93.3	95.6	97.4	97.4	98.3	102.3	102.0	101.1	102.9	100.1	98.6	95.6	88.7	149.7
31500	89.9	92.1	94.4	94.9	95.2	98.5	98.0	98.3	99.2	97.2	95.6	92.1	85.1	149.5
40000	85.6	88.4	90.6	90.4	90.8	95.2	94.2	95.3	96.2	94.6	93.2	88.5	81.4	150.1
50000	79.3	82.6	84.7	85.1	85.5	90.3	88.2	90.0	90.6	88.7	87.3	83.1	76.0	149.0
63000	73.0	77.1	80.1	79.9	80.7	85.4	82.5	84.6	85.8	83.2	82.2	76.8	69.8	149.2
80000	65.8	70.8	74.0	73.1	73.6	80.1	77.3	78.4	79.5	77.7	75.6	70.8	62.1	150.0
OASPL	110.2	111.3	112.5	111.1	112.3	114.9	114.1	116.6	118.5	119.9	120.4	120.8	111.5	161.5
PNL	121.9	122.2	122.6	120.1	121.1	124.1	124.2	128.3	130.2	131.7	130.8	128.5	120.3	
PNLT	123.1	123.9	122.6	120.8	121.8	124.6	124.2	128.3	130.2	131.7	130.8	128.5	120.3	
DBA	108.1	108.7	109.8	107.5	108.3	110.9	110.7	114.8	117.1	118.6	118.1	116.3	107.2	

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NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH209	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 51.69	PAMB HG = 28.95	RELHUM = 48.6 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1539.7 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2509.4 FPS	AE18 = 19.9 SQ IN

RUNPT = 83F-400-1512 TAPE = X1512C TEST PT NO = 1512 NO = AEOPR CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1512 X1512F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.2	92.3	91.0	89.2	89.3	90.8	89.8	90.8	96.0	100.9	105.5	110.0	103.1	142.0
315	91.2	92.3	91.0	89.2	89.3	92.1	92.2	92.9	96.2	103.0	108.4	111.6	104.0	143.8
400	91.5	91.8	89.8	88.6	89.8	91.4	94.7	93.1	97.8	104.2	108.7	111.7	103.9	144.2
500	92.2	92.2	91.5	89.1	90.9	93.0	92.2	93.5	98.0	105.5	107.4	110.4	103.8	143.5
630	92.8	92.8	92.9	90.1	91.7	93.5	92.9	94.7	102.1	105.9	107.6	109.3	104 6	143.6
800	93.2	93.5	93.4	90.1	92.3	93.9	93.7	97.5	102.1	105.7	107.3	107.2	104.5	143.2
1000	97.1	98.0	96.1	91.0	94.1	95.4	94.2	96.7	102.4	104.5	105.0	102.9	102.9	142.0
1250	96.6	95.7	95.7	92.7	94.4	96.3	95.5	97.9	104.0	103.8	104.9	99.6	100.9	141.8
1600	96.1	97.7	96.1	93.4	95.7	97.4	96.8	99.0	104.3	105.0	103.9	98.5	99.8	142.2
2000	97.5	96.8	97.2	94.4	96.1	98.6	97.6	100.3	104.5	106.2	103.2	98.9	102.8	142.9
2500	98.4	96.7	97.3	94.9	96.8	99.6	98.7	101.1	105.9	105.9	103.0	98.6	100.5	143.3
3150	98.6	98.3	98.3	96.0	98.3	101.3	100.0	103.1	107.6	106.7	105.0	100.7	104.9	145.0
4000	100.9	99.8	99.7	96.8	99.5	102.6	101.8	105.6	107.7	108.6	105.9	101.9	104.9	146.3
5000	103.3	101.6	101.7	97.6	100.3	103.0	102.9	106.0	109.8	109.6	107.6	104.5	107.2	147.8
6300	103.9	103.0	102.8	99.0	102.4	104.8	104.2	106.9	110.2	110.0	108.5	106.1	108 6	149.0
8000	108.8	108.1	106.9	102.3	105.5	106.0	104.1	106.8	110.8	111.1	110.0	108.6	110.2	151.1
10000	106.6	108.5	109.2	105.7	109.2	108.9	106.0	108.3	111.1	111.4	109.6	109.6	110.8	152.7
12500	107.7	108.4	111.3	109.3	110.4	110.8	107.5	107.5	111.0	110.2	108.9	108.8	109.3	154.1
16000	109.8	108.7	108.8	107.6	106.8	109.4	107.7	107.3	109.4	108.4	107.0	107.5	108.0	154.1
20000	105.1	106.5	106.8	104.8	105.3	106.5	106.6	105.5	108.4	105.8	105.1	105.5	106.0	153.8
25000	101.8	103.1	103.6	102.5	102.9	105.3	104.5	103.0	105.2	103.3	102.5	102.6	103.0	153.5
31500	100.6	101.7	102.0	100.5	99.2	101.5	100.4	100.1	102.5	100.8	100.2	99.2	99.8	154.0
40000	93.6	95.1	96.5	96.0	95.4	98.2	96.6	96.7	97.6	95.7	95.1	94.5	95.1	153.3
50000	91.7	93.2	94.0	92.3	90.1	93.3	90.6	91.7	93.2	90.4	90.0	88.2	89.1	153.4
63000	84.4	86.5	87.1	86.0	85.3	88.4	84.7	85.8	88.0	85.8	84.3	82.8	81.7	152.9
80000	76.7	79.5	81.1	79.3	78.2	83.1	79.3	79.4	78.2	76.0	74.4	73.0	71.9	152.8
OASPL	116.5	116.5	117.1	114.8	116.1	117.4	115.8	117.0	120.4	120.6	120.2	120.6	119 3	164.5
PNL	125.3	124.8	124.1	120.6	123.4	125.3	124.4	127.4	131.1	131.8	130.7	128.9	129.7	
PNLT	125.9	125.9	124.1	120.6	123.4	125.3	124.4	127.4	131.1	131.8	130.7	128.9	129.7	
DBA	199.7	202.0	203.2	201.7	200.6	204.9	201.2	201.6	202.0	199.8	198.4	196.9	196.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH209 TEST DATE = 04-12-83 LOCAT = C41 ANECH CH CONFIG = 15 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NG PWL AREA = FULL SPHERE TAMB F = 51.69 PAMB HG = 28.95 RELHUM = 48.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1539.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2509.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1512 TAPE = X1512F TEST PT NO = 1512 NC = AE088 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1512 X15121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.8	71.5	70.7	70.1	71.8	73.5	76.6	74.6	78.7	84.0	87.0	87.7	76.6	161.8
63	70.4	72.0	72.4	70.6	72.9	75.1	74.1	75.1	78.8	85.3	85.6	86.4	76.4	161.2
80	70.9	72.5	73.7	71.7	73.6	75.6	74.8	76.2	82.9	85.6	85.7	85.3	77.1	161.3
100	71.3	73.1	74.1	71.6	74.2	75.9	75.6	79.0	82.8	85.4	85.4	83.1	76.9	160.8
125	75.0	77.5	76.7	72.4	75.9	77.4	76.0	78.1	83.1	84.1	83.0	78.6	75.0	159.6
160	74.4	75.1	76.2	74.0	76.1	78.1	77.2	79.1	84.6	83.1	82.7	75.0	72.7	159.5
200	73.6	76.9	76.5	74.4	77.3	79.1	78.3	80.1	84.7	84.2	81.4	73.6	71.1	159.9
250	74.7	75.7	77.3	75.3	77.5	80.1	78.9	81.2	84.6	85.1	80.5	73.6	73.4	160.6
315	75.2	75.2	77.1	75.5	77.9	80.9	79.7	81.7	85.7	84.5	79.8	72.7	70.4	161.0
400	74.8	76.5	77.7	76.2	79.0	82.3	80.8	83.4	87.1	84.9	81.3	74.2	73.7	162.7
500	76.7	77.6	78.8	76.8	80.0	83.3	82.3	85.6	86.8	86.4	81.7	74.7	72.8	164.0
630	78.6	79.0	80.5	77.3	80.5	83.4	83.1	85.7	88.6	87.0	82.9	76.6	74.0	165.5
800	78.8	80.0	81.3	78.5	82.3	84.9	84.1	86.4	88.6	87.0	83.3	77.6	74.3	166.7
1000	83.2	84.8	85.1	81.5	85.3	86.0	83.9	86.1	89.1	87.8	84.4	79.4	74.7	168.8
1250	80.4	84.9	87.3	84.8	88.9	88.8	85.6	87.4	89.1	87.8	83.5	79.6	73.9	170.4
1600	80.7	84.2	88.9	88.1	89.8	90.4	86.9	86.3	88.6	86.0	81.9	77.5	70.0	171.8
2000	81.9	83.8	86.0	86.1	86.0	88.9	86.9	85.8	86.6	83.5	79.0	74.5	65.7	171.8
2500	75.3	80.4	83.1	82.6	84.0	85.5	85.2	83.4	84.8	79.8	75.4	69.7	58.8	171.4
3150	68.7	74.6	78.0	78.8	80.2	83.0	81.8	79.3	79.7	74.8	69.4	61.8	47.4	171.2
4000	61.2	68.5	72.6	73.5	73.5	76.3	74.8	73.1	73.2	67.6	60.9	49.4	29.7	171.7
5000	44.5	54.3	60.9	63.6	64.7	68.1	65.9	64.3	62.0	55.0	46.0	31.1	3.1	171.0
6300	24.8	38.2	46.3	49.1	49.4	53.4	49.8	48.5	45.5	35.4	23.1	0.7		171.1
8000		6.7	18.1	23.5	26.4	30.7	25.8	23.4	19.0	6.0				170.6
10000														170.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	90.2	92.6	94.8	93.4	95.6	97.1	95.2	96.2	98.8	98.0	95.8	93.4	86.5	182.1
PNL	100.2	102.7	105.3	104.3	106.2	107.9	106.3	106.1	107.9	105.8	102.2	97.3	90.8	
PNLT	101.5	103.6	106.1	105.0	106.2	107.9	106.3	106.6	108.5	106.4	102.2	98.6	90.8	
DBA	89.6	92.3	94.9	93.7	95.8	97.1	95.0	95.3	97.4	95.4	91.4	86.4	81.5	

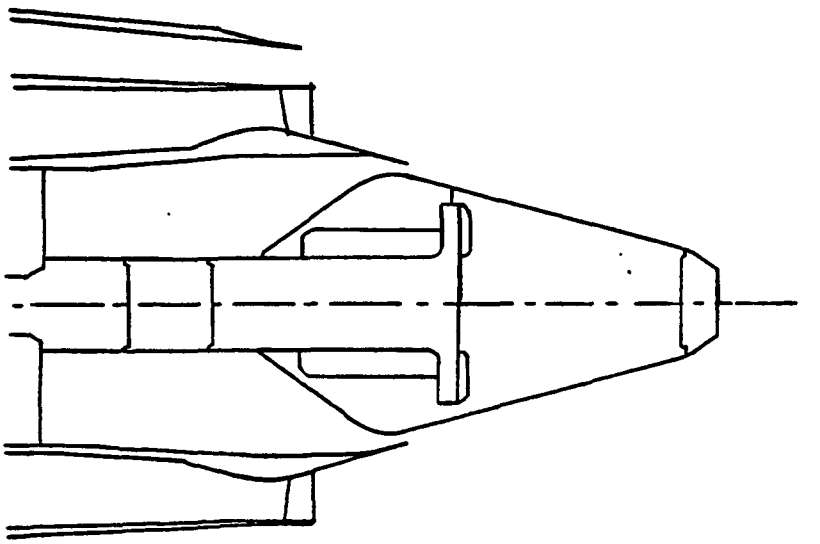
MODEL AREA = 153.9 SQ CM (23.9 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.661 FREQ SHIFT = -9

NASA DUAL FLOW THERMAL SHIELD/DFTAS-15/NAS3-22137

VEHICL = ADH209	TEST DATE = 04-12-83	LOCAT = C41 ANECH CH	CONFIG = 15	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 51.69	PAMB HG = 28.95	RELHUM = 48.6 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1539.7 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2509.4 FPS	AE18 = 19.9 SQ IN	

P1185-03

4.3.2 Acoustic Data of Suppressed Coannular Plug Nozzle with 180° Thermal Acoustic Shield (TAS-16, -17, and -18).



TAS-16 (Shield to Outer Stream Velocity Ratio at Takeoff is 0.64).

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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 83F-ZER-1603 X1603C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.4	80.9	80.1	79.2	76.3	81.2	81.7	82.2	82.7	78.5	84.1	86.8	84.5	123.8
63	83.8	89.3	88.7	88.1	84.0	87.3	87.8	88.3	88.8	85.4	86.5	87.2	92.1	129.8
80	84.8	89.6	86.5	83.4	84.2	88.3	88.2	88.0	87.8	89.2	90.8	92.7	78.6	130.1
100	84.2	89.0	86.8	84.5	87.4	89.8	89.6	89.4	89.3	92.8	94.0	97.1	82.3	132.4
125	81.6	84.4	85.0	85.5	88.1	90.4	90.1	89.8	89.4	93.8	98.6	100.8	87.0	134.5
160	80.9	81.0	81.3	81.5	84.6	86.7	87.3	87.9	88.5	94.1	98.4	101.6	92.0	134.3
200	81.5	82.1	82.1	82.1	86.0	88.3	89.9	91.5	93.1	95.1	100.0	104.2	95.1	136.6
250	81.5	84.6	84.0	83.4	86.0	88.8	90.6	92.3	94.1	99.9	104.0	107.2	98.1	139.7
315	81.8	84.6	84.3	83.9	87.3	90.6	92.0	93.3	94.6	100.0	104.3	107.0	100.7	139.9
400	82.6	84.6	84.3	83.9	87.3	90.1	92.1	94.1	96.1	101.7	105.3	107.8	101.4	140.9
500	83.6	85.9	85.2	84.4	87.8	91.1	93.0	94.8	96.6	101.7	104.4	106.8	100.7	140.3
630	83.3	86.6	85.9	85.1	89.2	92.1	93.7	95.3	96.8	102.4	104.3	104.5	98.9	139.8
800	85.3	85.9	85.5	85.2	91.0	92.6	94.4	96.1	97.9	102.2	103.3	102.5	98.4	139.3
1000	87.5	87.0	86.4	85.8	90.2	93.6	95.3	97.1	98.8	101.9	102.8	101.2	96.9	139.1
1250	86.2	88.5	87.5	86.6	89.9	93.2	95.1	96.9	98.7	101.3	100.9	100.1	96.0	138.4
1600	86.6	89.0	88.5	88.0	90.8	94.6	96.0	97.3	98.6	100.5	101.6	100.6	96.4	138.7
2000	87.5	88.8	88.3	87.9	90.5	93.8	95.5	97.3	99.0	100.8	100.5	100.0	96.6	138.5
2500	86.9	90.0	88.9	87.8	91.4	94.3	95.6	96.9	98.2	101.7	99.5	99.6	96.6	138.5
3150	88.0	89.6	88.9	88.1	91.0	94.8	96.4	98.1	99.7	100.8	98.8	98.6	95.4	138.6
4000	87.2	90.3	89.2	88.1	92.0	94.5	95.8	97.1	98.3	99.6	98.8	99.0	94.4	138.0
5000	87.0	89.7	89.1	88.5	91.8	95.5	96.4	97.3	98.2	100.3	98.9	98.2	94.9	138.4
6300	87.4	89.8	89.5	89.2	93.2	96.2	96.9	97.7	98.4	99.1	98.6	99.1	95.1	138.8
8000	86.0	89.4	89.3	89.2	92.6	95.9	96.3	96.7	97.2	98.3	97.2	97.4	94.5	138.3
10000	85.7	90.8	90.4	89.9	93.0	96.5	96.7	96.8	97.0	96.9	96.0	97.6	94.4	138.8
12500	86.1	89.9	89.6	89.3	92.9	95.8	95.8	95.8	95.8	94.8	93.9	95.6	92.4	138.4
16000	84.6	88.5	88.9	89.4	91.4	94.4	94.3	94.2	94.1	92.1	92.3	94.1	89.6	138.2
20000	84.1	87.2	87.3	87.5	89.5	93.0	92.8	92.6	92.5	90.5	89.8	90.6	85.6	138.2
25000	81.8	85.2	85.5	85.7	87.8	92.1	91.2	90.4	89.5	87.3	86.7	87.7	82.7	138.6
31500	78.4	80.5	82.0	83.4	84.9	88.8	88.0	87.3	86.6	84.0	84.0	84.0	78.5	138.5
40000	74.0	77.6	78.4	79.3	81.8	85.7	84.9	84.1	83.4	81.0	80.6	79.7	74.3	139.2
50000	67.8	71.2	72.8	74.3	75.9	81.2	80.2	79.2	78.2	76.5	75.4	75.2	68.2	138.7
63000	61.9	65.9	67.0	68.0	70.2	75.4	74.8	74.2	73.6	70.6	71.1	69.2	62.4	138.6
80000	55.2	58.8	59.8	60.7	63.3	69.3	68.6	68.0	67.3	64.1	64.6	62.9	54.6	139.1
OASPL	99.7	102.5	101.9	101.4	104.5	107.6	108.5	109.6	110.7	113.4	114.8	116.2	110.4	153.4
PNL	112.2	114.6	113.8	113.0	116.5	119.5	120.9	122.2	123.6	125.7	125.5	126.1	121.5	
PNLT	112.2	114.6	113.8	113.0	116.5	119.5	120.9	122.2	123.6	125.7	125.5	126.1	121.5	
DBA	98.3	100.7	100.0	99.4	102.9	106.1	107.3	108.6	110.0	112.5	112.8	113.1	108.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH269 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.55 PAMB HG = 29.57 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1088.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1785.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1603 TAPE = X1603C TEST PT NO = 1603 NC = AE100 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1603 X1603F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.4	80.9	80.1	79.2	76.3	81.2	81.7	82.2	82.7	78.5	84.1	86.8	84.5	123.8
63	83.8	89.3	88.7	88.1	84.0	87.3	87.8	88.3	88.8	85.4	86.5	87.2	92.1	129.8
80	84.8	89.6	86.5	83.4	84.2	88.3	88.2	88.0	87.8	89.2	90.8	92.7	78.6	130.1
100	84.2	89.0	86.8	84.5	87.4	89.8	89.6	89.4	89.3	92.8	94.0	97.1	82.3	132.4
125	81.6	84.4	85.0	85.5	88.1	90.4	90.1	89.8	89.4	93.8	98.6	100.8	87.0	134.5
160	80.9	81.0	81.3	81.5	84.6	86.7	87.3	87.9	88.5	94.1	98.4	101.6	92.0	134.3
200	81.5	82.1	82.1	82.1	86.0	88.3	89.9	91.5	93.1	95.1	100.0	104.2	95.1	136.6
250	81.5	84.6	84.0	83.4	86.0	88.8	90.6	92.3	94.1	99.9	104.0	107.2	98.1	139.7
315	81.8	84.6	84.3	83.9	87.3	90.6	92.0	93.3	94.6	100.0	104.3	107.0	100.7	139.9
400	82.6	84.6	84.3	83.9	87.3	90.1	92.1	94.1	96.1	101.7	105.3	107.8	101.4	140.9
500	83.6	85.9	85.2	84.4	87.8	91.1	93.0	94.8	96.6	101.7	104.4	106.8	100.7	140.3
630	83.3	86.6	85.9	85.1	89.2	92.1	93.7	95.3	96.8	102.4	104.3	104.5	98.9	139.8
800	85.3	85.9	85.5	85.2	91.0	92.6	94.4	96.1	97.9	102.2	103.3	102.5	98.4	139.3
1000	87.5	87.0	86.4	85.8	90.2	93.6	95.3	97.1	98.8	101.9	102.8	101.2	96.9	139.1
1250	86.2	88.5	87.5	86.6	89.9	93.2	95.1	96.9	98.7	101.3	100.9	100.1	96.0	138.4
1600	86.6	89.0	88.5	88.0	90.8	94.6	96.0	97.3	98.6	100.5	101.6	100.6	96.4	138.7
2000	87.5	88.8	88.3	87.9	90.5	93.8	95.5	97.3	99.0	100.8	100.5	100.0	96.6	138.5
2500	86.9	90.0	88.9	87.8	91.4	94.3	95.6	96.9	98.2	101.7	99.5	99.6	96.6	138.5
3150	88.0	89.6	88.9	88.1	91.0	94.8	96.4	98.1	99.7	100.8	98.8	98.6	95.4	138.6
4000	87.2	90.3	89.2	88.1	92.0	94.5	95.8	97.1	98.3	99.6	98.8	99.0	94.4	138.0
5000	87.0	89.7	89.1	88.5	91.8	95.5	96.4	97.3	98.2	100.3	98.9	98.2	94.9	138.4
6300	87.4	89.8	89.5	89.2	93.2	96.2	96.9	97.7	98.4	99.1	98.6	99.1	95.1	138.8
8000	86.0	89.4	89.3	89.2	92.6	95.9	96.3	96.7	97.2	98.3	97.2	97.4	94.5	138.3
10000	85.7	90.8	90.4	89.9	93.0	96.5	96.7	96.8	97.0	96.9	96.0	97.6	94.4	138.8
12500	86.1	89.9	89.6	89.3	92.9	95.8	95.8	95.8	95.8	94.8	93.9	95.6	92.4	138.4
16000	84.6	88.5	88.9	89.4	91.4	94.4	94.3	94.2	94.1	92.1	92.3	94.1	89.6	138.2
20000	84.1	87.2	87.3	87.5	89.5	93.0	92.8	92.6	92.5	90.5	89.8	90.6	85.6	138.2
25000	81.8	85.2	85.5	85.7	87.8	92.1	91.2	90.4	89.5	87.3	86.7	87.7	82.7	138.6
31500	78.4	80.5	82.0	83.4	84.9	88.8	88.0	87.3	86.6	84.0	84.0	84.0	78.5	138.5
40000	74.0	77.6	78.4	79.3	81.8	85.7	84.9	84.1	83.4	81.0	80.6	79.7	74.3	139.2
50000	67.8	71.2	72.8	74.3	75.9	81.2	80.2	79.2	78.2	76.5	75.4	75.2	68.2	138.7
63000	61.9	65.9	67.0	68.0	70.2	75.4	74.8	74.2	73.6	70.6	71.1	69.2	62.4	138.6
80000	55.2	58.8	59.8	60.7	63.3	69.3	68.6	68.0	67.3	64.1	64.6	62.9	54.6	139.1
OASPL	99.7	102.5	101.9	101.4	104.5	107.6	108.5	109.6	110.7	113.4	114.8	116.2	110.4	153.4
PNL	112.2	114.6	113.8	113.0	116.5	119.5	120.9	122.2	123.6	125.7	125.5	126.1	121.5	
PNLT	112.2	114.6	113.8	113.0	116.5	119.5	120.9	122.2	123.6	125.7	125.5	126.1	121.5	
DBA	177.6	181.3	182.4	183.4	185.7	191.4	190.7	190.0	189.3	186.4	186.7	185.1	177.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH269 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.55 PAMB HG = 29.57 RELHUM = 48.0 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 = 1088.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1785.4 FPS AE18 = 19.9 SQ IN

T = ZE 03 = X T 60 AETO CORR FAN SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1603 X16031

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	57.7	62.0	62.8	63.1	66.9	70.4	71.6	72.5	73.1	77.4	80.2	80.7	71.0	155.3
63	58.4	62.0	62.7	63.1	66.8	69.8	71.7	73.3	74.6	79.1	81.2	81.4	71.7	156.2
80	59.4	63.2	63.6	63.6	67.3	70.8	72.5	74.0	75.1	79.1	80.1	80.3	70.9	155.6
100	59.0	63.9	64.2	64.2	68.7	71.7	73.2	74.4	75.2	79.7	80.0	77.9	68.9	155.1
125	60.9	63.1	63.8	64.2	70.5	72.2	73.8	75.2	76.2	79.4	78.9	75.8	68.2	154.6
160	62.9	64.1	64.6	64.7	69.5	73.0	74.6	75.9	77.0	78.9	78.2	74.3	66.3	154.4
200	61.3	65.3	65.5	65.3	69.0	72.5	74.2	75.6	76.7	78.1	76.1	72.8	64.9	153.7
250	61.4	65.5	66.2	66.5	69.7	73.7	74.9	75.8	76.4	77.0	76.4	72.9	64.7	154.0
315	61.9	65.0	65.7	66.1	69.1	72.6	74.2	75.5	76.4	76.9	74.9	71.7	64.1	153.8
400	60.8	65.7	65.9	65.6	69.7	72.8	73.9	74.7	75.2	77.5	73.3	70.7	63.0	153.8
500	61.4	64.9	65.5	65.7	69.0	73.0	74.4	75.6	76.4	76.1	72.2	68.9	60.8	153.9
630	60.0	65.2	65.5	65.3	69.7	72.4	73.5	74.2	74.6	74.4	71.6	68.7	58.7	153.4
800	59.2	64.1	65.0	65.3	69.1	73.0	73.7	74.1	74.1	74.7	71.1	67.1	58.0	153.7
1000	59.0	63.7	65.0	65.7	70.3	73.4	74.0	74.2	74.0	73.1	70.3	67.2	56.9	154.1
1250	57.0	62.9	64.4	65.3	69.3	72.8	73.1	72.9	72.3	71.8	68.2	64.5	54.7	153.6
1600	55.5	63.4	64.8	65.5	69.2	72.9	72.9	72.4	71.4	69.5	65.8	63.1	52.0	154.1
2000	54.4	61.3	63.1	64.1	68.4	71.6	71.3	70.6	69.3	66.3	62.2	58.9	46.4	153.7
2500	50.7	58.3	61.2	63.1	66.0	69.2	68.8	67.9	66.3	61.9	58.4	54.2	38.3	153.5
3150	46.3	54.0	57.1	59.1	62.1	65.9	65.4	64.2	62.2	57.3	52.0	45.1	25.3	153.5
4000	36.9	46.5	50.6	53.3	56.6	61.4	60.1	57.9	54.6	48.6	41.9	32.5	7.1	153.9
5000	22.9	33.4	40.0	44.7	47.9	52.3	51.0	48.5	44.6	36.8	28.5	14.2		153.8
6300	0.3	15.8	24.0	29.3	34.3	38.9	37.4	34.2	29.0	19.3	7.0			154.6
8000				4.2	9.4	15.8	13.7	9.1	1.5					154.0
10000														153.9
12500														154.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	72.3	76.4	77.2	77.6	81.6	84.9	86.0	86.8	87.3	89.3	89.0	87.7	78.6	168.2
PNL	77.5	83.5	85.0	86.3	90.0	93.5	93.8	93.7	93.2	93.4	90.9	87.7	78.1	
PNLT	77.5	83.5	85.0	86.8	90.6	94.0	94.4	94.3	93.9	93.4	90.9	87.7	78.1	
DBA	67.5	72.8	74.0	74.7	78.6	82.0	82.5	82.6	82.5	82.3	79.3	76.1	67.1	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH269 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.55 PAMB HG = 29.57 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1088.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1785.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1603 TAPE = X16031 TEST PT NO = 1603 NC = AE100 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 83F-400-1604 X1604C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.9	83.5	81.6	78.8		77.8	78.1	77.3	79.4	79.7	85.7	87.2		123.0
63		87.8	89.8	89.8		84.9	84.3	84.5	87.3		87.1	89.1	91.9	128.7
80	83.9	87.8	84.8	81.9	83.0	87.3	87.1	87.7	88.2	86.2	89.0	90.9		128.8
100	82.4	87.1	84.6	81.6	84.7	87.8	87.4	87.0	86.8	89.7	91.0	95.1		130.0
125	80.6	82.7	82.6	82.5	85.1	87.9	87.4	87.1	86.8	90.3	94.3	98.0		131.3
160		79.1	79.5	79.4	81.1	83.9		84.8	85.3	90.1	94.6	98.3	89.4	130.7
200		82.4	81.1	79.1	79.6	83.4	82.9	86.8	88.5	89.6	93.5	99.9	91.4	131.7
250	76.4	82.1	79.7	77.1	80.8	83.9	84.8	86.7	88.3	93.6	97.5	101.2	92.4	133.6
315			77.5		80.1	84.7	84.0	86.8	88.5	94.1	97.6	100.8	93.0	133.4
400	77.5	80.3	79.1	77.5	81.4	84.4		88.5	90.6	95.4	97.3	100.0	91.5	133.4
500	78.9	81.3	79.8	78.2	82.6	85.5	86.7	89.0	90.9	95.7	97.6	97.5	89.3	133.0
630	79.1	81.5	80.2	78.7	83.3	86.2	87.7	89.3	90.8	96.1	97.3	94.2	85.8	132.5
800	80.5	81.3	80.4	79.4	87.0	87.1	88.7	90.4	92.1	96.4	95.8	90.7	84.6	132.4
1000	82.4	82.2	81.3	80.4	85.1	87.8	89.5	91.3	93.1	96.1	95.0	88.1	82.9	132.3
1250	80.9	82.7	81.8	81.0	84.3	87.9	89.6	91.3	93.0	95.3	92.7	86.3	84.3	131.7
1600	82.0	83.2	82.7	82.2	86.0	89.1	90.9	92.6	94.4	95.2	93.8	85.8	81.0	132.6
2000	83.7	84.0	83.3	82.5	85.6	89.0	90.8	92.5	94.2	95.5	92.8	84.6	82.8	132.5
2500	84.4	84.2	83.7	83.2	86.8	90.0	91.3	92.6	93.9	95.9	92.0	84.5	82.0	132.7
3150	85.5	84.8	84.3	83.8	87.4	90.7	92.0	93.4	94.7	95.5	91.8	84.0	81.1	133.2
4000	86.5	86.3	85.5	84.7	88.7	91.7	92.5	93.2	94.0	94.4	91.7	85.5	80.6	133.3
5000	86.7	85.9	85.7	85.4	89.2	92.4	93.0	93.7	94.4	95.7	91.8	85.6	81.4	134.0
6300	87.3	87.2	87.1	87.1	90.4	93.1	93.5	93.9	94.4	94.4	92.8	87.3	81.6	134.5
8000	86.4	87.0	86.9	86.8	90.2	93.2	93.3	93.4	93.5	93.6	91.9	87.8	82.6	134.4
10000	86.6	87.2	87.6	88.0	91.4	93.9	93.9	94.0	94.1	93.9	90.8	88.7	83.5	135.5
12500	86.2	87.0	87.1	87.1	90.7	93.9	93.5	93.1	92.6	91.3	88.2	86.9	83.7	135.4
16000	85.5	85.8	86.4	87.0	89.0	92.8	92.6	92.4	92.2	89.1	86.9	86.0	81.2	135.8
20000	84.4	85.2	85.3	85.5	87.4	91.2	90.7	90.2	89.7	87.2	83.8	83.3	78.5	135.7
25000	81.5	83.4	83.9	84.5	86.5	90.3	89.7	89.1	88.5	85.0	81.4	80.9	75.9	136.8
31500	78.1	79.7	81.2	82.8	84.0	87.8	87.2	86.6	86.0	82.9	78.8	78.5	72.3	137.5
40000	75.0	77.8	78.5	79.4	80.8	85.5	84.7	84.0	83.3	80.6	77.5	76.0	69.5	138.9
50000	69.8	71.7	72.7	73.9	76.0	81.2	80.5	79.7	79.0	76.4	73.1	71.2	64.7	138.8
63000	67.0	68.1	67.6	68.6	70.1	76.4	75.7	75.0	74.4	71.2	68.5	66.1	58.7	139.3
80000	64.9	65.7		60.6	62.9	69.7	69.1	68.6	68.0	65.2	62.0	59.3	50.9	139.7
OASPL	97.8	99.2	99.0	98.6	101.2	104.4	104.7	105.5	106.4	108.1	108.1	109.0	101.1	149.9
PNL	109.4	110.5	110.0	109.2	112.7	115.8	116.2	117.7	118.9	120.4	118.8	116.3	108.9	
PNLT	116.1	117.2	110.0	115.8	112.7	115.8	122.9	117.7	118.9	120.4	118.8	116.3	115.5	
DBA	96.1	96.3	95.9	95.4	99.2	102.1	103.0	104.2	105.3	107.0	105.5	102.9	96.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH278 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 64.38 PAMB HG = 29.36 RELHUM = 46.0 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 = 1107.0 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1805.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1604 TAPE = X1[illegible] TEST PT NO = 160 E10 R F[illegible]PEED PM

P1185-03

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

IDENTIFICATION - 83F-400-1604 X1604F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	85.0	89.0	84.8	80.3	82.3	83.9	82.8	83.1	86.4	91.4	94.7	98.5	92.7	131.7
315	85.0	89.0	84.8	80.3	81.8	84.9	83.2	85.0	88.6	92.9	94.8	98.6	92.8	132.1
400	83.8	87.0	82.1	80.5	83.2	84.7	84.5	86.6	88.7	93.1	95.1	96.7	92.2	131.6
500	84.7	86.5	83.8	80.8	84.4	85.8	85.7	86.9	88.6	93.5	94.8	93.9	90.4	131.1
630	86.2	87.4	84.6	81.6	85.3	86.6	86.7	86.9	90.4	94.3	94.1	91.9	92.0	131.4
800	86.8	87.9	85.2	82.2	89.6	87.6	87.8	88.2	91.8	94.6	94.2	90.7	93.0	132.1
1000	91.0	90.0	87.2	84.1	87.2	88.4	88.8	89.2	93.2	95.4	93.5	90.4	95.6	133.0
1250	89.9	88.6	86.4	84.0	86.6	88.7	89.8	90.6	93.8	94.3	93.5	88.9	91.8	132.6
1600	88.5	89.1	87.0	84.7	88.4	90.1	91.0	91.4	94.5	95.6	93.6	89.0	94.7	133.5
2000	89.7	89.7	87.9	86.0	88.3	90.3	91.3	91.9	94.5	96.3	93.0	89.2	94.4	133.8
2500	91.4	90.6	88.6	86.5	89.8	91.6	92.2	92.3	95.8	96.4	93.4	89.3	94.3	134.6
3150	92.0	90.8	89.1	87.4	90.6	92.8	93.4	93.6	96.2	96.3	94.3	91.6	94.6	135.3
4000	93.1	91.5	89.9	88.2	92.4	94.3	94.5	94.3	96.6	97.6	94.4	91.9	95.5	136.3
5000	94.0	93.0	91.3	89.4	93.8	95.4	95.3	95.0	97.0	96.9	96.0	94.0	96.0	137.2
6300	96.9	94.9	93.2	91.4	94.4	96.1	95.9	95.4	97.0	97.0	96.0	95.3	97.1	138.3
8000	94.6	93.8	92.8	91.8	94.8	96.2	95.8	95.3	97.8	97.6	94.9	95.8	97.4	138.6
10000	96.3	95.7	94.1	92.4	96.0	96.9	96.4	95.9	94.0	92.3	89.5	91.2	94.9	138.6
12500	96.2	95.6	94.6	93.4	95.3	96.9	94.9	93.0	94.1	90.5	88.6	90.8	93.0	138.9
16000	95.3	94.8	93.5	92.0	93.6	95.8	94.0	92.3	92.0	89.0	86.0	88.5	90.7	139.0
20000	94.2	93.3	92.5	91.5	91.5	94.2	92.1	90.2	91.4	87.5	84.2	86.7	88.6	139.3
25000	89.7	89.8	89.0	88.2	91.1	93.3	91.1	89.1	90.3	87.2	83.7	86.4	87.1	139.8
31500	88.8	89.5	88.6	87.5	88.6	90.8	88.8	86.9	88.9	86.3	83.9	85.5	85.9	141.4
40000	84.6	84.9	85.0	85.0	85.4	88.5	86.4	84.6	85.1	82.7	80.2	81.6	82.0	142.3
50000	81.1	82.6	81.9	81.2	80.6	84.2	82.2	80.4	81.9	79.0	77.5	78.6	78.4	142.9
63000	74.9	75.6	75.1	74.8	74.7	79.4	77.6	76.0	77.4	74.8	72.7	73.7	72 8	142.9
80000	70.7	70.6	68.6	68.0	67.5	72.7	71.2	69.9	67.6	65.0	62.9	63.9	63.0	142.8
OASPL	105.8	105.2	103.6	102.0	104.8	106.5	105.9	105.4	107.4	108.0	106.8	106.6	107.2	152.5
PNL	116.8	115.8	113.9	111.9	115.3	116.9	117.0	117.1	119.4	120.5	118.7	117.1	119.1	
PNLT	116.8	115.8	113.9	111.9	116.4	116.9	117.0	117.1	119.4	120.5	118.7	117.1	120.1	
DBA	192.2	192.4	190.9	190.4	190.1	194.9	193.2	191.8	191.2	188.6	186.5	187.5	186.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH278 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 64.38 PAMB HG = 29.36 RELHUM = 46.0 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 = 1107.0 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1805.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1604 TAPE = X1604F TEST PT NO = 1604 NC = AE100 CORR FAN SPEED = RPM

329

P1168-08

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 - 83F-400-1604 X16041

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	60.8	66.4	63.2	59.5	61.4	64.6	62.8	64.2	67.1	70.3	70.7	72.2	63.1	147.5
63	59.6	64.4	60.6	59.6	62.8	64.4	64.1	65.8	67.2	70.5	71.0	70.3	62.4	146.9
80	60.5	63.8	62.3	59.9	64.0	65.5	65.3	66.1	67.0	70.8	70.6	67.5	60.6	146.4
100	61.9	64.7	63.0	60.7	64.8	66.3	66.2	66.0	68.7	71.6	69.9	65.4	62.0	146.7
125	62.4	65.1	63.5	61.2	69.0	67.1	67.2	67.2	70.1	71.8	69.8	64.1	62.8	147.5
160	66.4	67.0	65.3	63.0	66.5	67.8	68.1	68.1	71.4	72.4	68.9	63.5	65.1	148.4
200	65.1	65.4	64.3	62.7	65.7	68.0	68.9	69.3	71.8	71.1	68.6	61.6	60.8	147.9
250	63.3	65.7	64.7	63.2	67.4	69.2	69.9	69.8	72.2	72.1	68.4	61.3	63.0	148.8
315	64.1	65.9	65.3	64.3	67.0	69.1	70.0	70.1	71.9	72.5	67.4	60.9	61.9	149.2
400	65.2	66.3	65.6	64.4	68.1	70.1	70.5	70.2	72.8	72.2	67.3	60.3	60.8	149.9
500	65.4	66.1	65.8	64.9	68.6	70.9	71.4	71.2	72.8	71.6	67.6	61.9	60.0	150.6
630	65.9	66.3	66.2	65.3	70.1	72.1	72.2	71.5	72.8	72.5	67.2	61.5	59.8	151.7
800	66.2	67.4	67.2	66.2	71.1	72.9	72.7	71.8	72.9	71.3	68.2	62.9	59.1	152.6
1000	68.5	68.9	68.7	67.9	71.5	73.4	72.9	71.9	72.5	71.0	67.7	63.3	58.9	153.6
1250	65.6	67.2	67.9	67.9	71.5	73.2	72.6	71.4	72.9	71.0	65.9	62.8	57.5	153.9
1600	66.2	68.3	68.5	68.0	72.2	73.3	72.6	71.5	68.4	64.8	59.3	56.6	52.4	153.9
2000	64.6	67.0	68.1	68.2	70.8	72.7	70.4	67.8	67.6	62.0	57.0	54.1	47.0	154.2
2500	61.4	64.7	65.7	65.7	68.2	70.6	68.6	66.1	64.2	58.9	52.1	48.6	39.4	154.3
3150	56.4	60.1	62.2	63.0	64.1	67.1	64.7	61.7	61.1	54.3	46.4	41.1	28.3	154.6
4000	44.8	51.0	54.2	55.7	59.9	62.6	59.9	56.6	55.5	48.5	38.8	31.2	11.5	155.2
5000	33.3	42.4	46.6	48.8	51.6	54.4	51.8	48.2	47.0	39.2	28.4	15.7		156.7
6300	11.0	23.2	30.6	35.1	37.9	41.7	38.9	34.7	30.7	21.0	6.6			157.6
8000			5.3	11.1	14.0	18.8	15.6	10.3	5.2					158.2
10000														158.2
12500														158.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	77.3	79.0	78.5	77.7	81.4	83.2	82.8	82.1	83.5	83.4	80.7	77.5	73.4	167.8
PNL	85.4	87.7	88.2	88.0	91.2	93.2	91.9	90.7	90.6	88.7	84.2	79.7	75.9	
PNLT	86.6	88.9	88.7	88.6	91.8	93.7	92.5	91.3	91.1	89.7	85.5	79.7	76.4	
DBA	75.2	76.7	77.1	76.8	80.3	82.1	81.3	80.1	80.6	78.9	74.7	69.9	66.8	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH278	TEST DATE = 05-17-83	LOCAT = C41 ANECH CH	CONFIG = 16	MODEL = SL	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 64.38	PAMB HG = 29.36	RELHUM = 46.0 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNINI = LBS	XNL = RPM	XNH = RPM	V8 = 1107.0 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1805.8 FPS	AE18 = 19.9 SQ IN

T = -401 04 E X16041 TEST NO = 1604 NC = AE10U CORR FAN SPEED = RPM

P1185-03

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 83F-ZER-1605 X1605C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	82.1	83.2	82.6	82.0	81.3	82.2	82.6	83.0	83.4	83.2	89.4	90.1	83.2	126.3
63	86.3	90.5	90.8	91.1	89.2	89.8	90.1	90.3	90.6	91.1	93.8	93.7	94.1	133.0
80	87.5	91.1	88.5	85.9	86.5	90.8	90.9	91.0	91.1	91.7	93.8	95.2	80.6	132.7
100	87.0	91.7	89.5	87.3	89.9	92.5	92.3	92.2	92.0	95.6	96.2	99.6	85.1	135.0
125	84.1	86.9	87.5	88.0	90.8	92.9	92.8	92.6	92.4	96.3	101.1	103.1	89.7	137.0
160	83.7	83.0	83.3	83.5	86.4	89.5	90.5	91.5	92.5	97.1	101.7	104.4	94.8	137.3
200	83.8	84.3	84.2	84.1	87.5	90.6	92.3	94.1	95.8	97.9	103.0	106.5	97.9	139.1
250	83.5	87.3	86.6	85.9	88.5	91.6	93.4	95.3	97.1	102.9	107.5	110.0	100.9	142.7
315	84.3	86.6	86.4	86.2	89.8	92.9	94.6	96.2	97.9	103.2	107.6	110.3	103.7	143.1
400	86.8	87.4	86.8	86.2	89.8	92.4	94.7	97.0	99.4	105.9	109.1	111.3	104.4	144.4
500	86.3	88.4	87.7	86.9	90.5	93.6	95.7	97.8	99.9	106.0	108.9	111.0	105.2	144.5
630	86.5	88.8	88.6	88.4	91.5	94.8	96.8	98.7	100.6	106.2	108.0	109.2	104.6	143.8
800	88.1	88.9	88.4	87.9	93.8	95.4	97.5	99.6	101.6	106.5	106.8	107.0	104.2	143.2
1000	91.5	90.5	89.8	89.1	93.2	96.3	98.4	100.5	102.6	105.9	105.5	104.9	102.4	142.7
1250	89.4	92.0	91.0	90.1	93.1	96.0	98.1	100.1	102.2	104.8	104.7	103.6	101.5	141.9
1600	90.1	91.5	91.0	90.5	94.0	97.1	99.1	101.0	102.9	104.5	105.1	104.1	101.2	142.3
2000	91.0	91.8	91.2	90.6	93.5	96.6	98.6	100.7	102.7	104.8	104.5	102.2	100.9	142.0
2500	90.7	92.5	91.5	90.5	94.1	97.0	98.7	100.5	102.2	105.0	103.7	101.6	100.6	141.8
3150	91.0	92.1	91.4	90.6	94.0	97.5	99.3	101.0	102.7	104.6	102.3	100.6	99.1	141.7
4000	90.5	91.3	91.1	90.8	94.5	97.2	98.7	100.1	101.6	102.8	102.0	99.5	97.9	140.9
5000	90.2	91.7	91.2	90.7	94.5	98.2	99.3	100.3	101.4	103.5	101.4	98.5	96.6	141.1
6300	90.3	91.5	91.7	91.9	95.5	98.7	99.4	100.2	100.9	102.3	100.8	98.1	96.3	141.1
8000	89.5	91.9	91.6	91.4	94.5	98.3	98.8	99.4	99.9	101.2	99.4	97.4	96 0	140.6
10000	90.4	94.0	93.3	92.6	95.5	98.2	98.7	99.2	99.7	99.8	97.9	96.8	95.1	140.9
12500	92.5	95.6	94.3	93.0	95.6	98.8	98.5	98.3	98.0	98.5	96.6	94.8	93.1	141.3
16000	91.8	94.4	94.9	95.4	95.9	97.9	97.5	97.1	96.8	95.3	94.5	94.4	90.8	141.7
20000	89.4	91.7	92.6	93.5	95.0	97.5	96.5	95.5	94.5	93.2	92.1	90.6	87.1	141.9
25000	86.1	89.0	89.7	90.3	92.6	96.4	95.0	93.5	92.1	89.7	88.8	87.3	83.2	142.2
31500	83.0	84.7	86.2	87.6	89.3	92.7	91.6	90.6	89.5	87.2	85.9	84.1	79.2	142.1
40000	78.8	82.2	83.2	84.3	86.1	90.0	88.8	87.6	86.5	84.4	83.4	80.0	75.3	143.1
50000	73.2	76.0	77.8	79.5	80.9	85.4	84.3	83.3	82.2	79.5	77.4	75.9	69.9	142.8
63000	67.2	71.0	72.2	73.3	75.5	79.9	79.0	78.1	77.2	74.8	73.0	70.0	63.9	142.8
80000	59.8	64.8	66.0	67.1	69.2	75.0	73.9	72.8	71.8	69.7	66.8	63.8	56.2	144.2
OASPL	103.4	105.5	105.0	104.7	107.4	110.4	111.4	112.6	114.0	117.1	118.3	119.4	114.3	156.9
PNL	115.3	116.8	116.2	115.7	119.1	122.1	123.7	125.2	126.8	129.2	129.0	128.2	125.1	
PNLT	115.3	116.8	116.2	115.7	119.1	122.1	123.7	125.2	126.8	129.2	129.0	128.2	125.1	
OBA	101.7	103.1	102.6	102.0	105.6	108.7	110.2	111.8	113.5	116.2	116.3	116.3	112.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH270 TEST DATE = 05-17-83 LOCAT = C4T ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 59.94 PAMB HG = 29.57 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1215.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1988.1 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1605 TAPE = X1605C TEST PT NO = 1605 NC = AE100 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 - 83F-ZER-1605 X1605F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	82.1	83.2	82.6	82.0	81.3	82.2	82.6	83.0	83.4	83.2	89.4	90.1	83.2	126.3
63	86.3	90.5	90.8	91.1	89.2	89.8	90.1	90.3	90.6	91.1	93.8	93.7	94.1	133.0
80	87.5	91.1	88.5	85.9	86.5	90.8	90.9	91.0	91.1	91.7	93.8	95.2	80.6	132.7
100	87.0	91.7	89.5	87.3	89.9	92.5	92.3	92.2	92.0	95.6	96.2	99.6	85.1	135.0
125	84.1	86.9	87.5	88.0	90.8	92.9	92.8	92.6	92.4	96.3	101.1	103.1	89.7	137.0
160	83.7	83.0	83.3	83.5	86.4	89.5	90.5	91.5	92.5	97.1	101.7	104.4	94.8	137.3
200	83.8	84.3	84.2	84.1	87.5	90.6	92.3	94.1	95.8	97.9	103.0	106.5	97.9	139.1
250	83.5	87.3	86.6	85.9	88.5	91.6	93.4	95.3	97.1	102.9	107.5	110.0	100.9	142.7
315	84.3	86.6	86.4	86.2	89.8	92.9	94.6	96.2	97.9	103.2	107.6	110.3	103.7	143.1
400	85.8	87.4	86.8	86.2	89.8	92.4	94.7	97.0	99.4	105.9	109.1	111.3	104.4	144.4
500	86.3	88.4	87.7	86.9	90.5	93.6	95.7	97.8	99.9	106.0	108.9	111.0	105.2	144.5
630	86.5	88.8	88.6	88.4	91.5	94.8	96.8	98.7	100.6	106.2	108.0	109.2	104.6	143.8
800	88.1	88.9	88.4	87.9	93.8	95.4	97.5	99 6	101.6	106.5	106.8	107.0	104.2	143.2
1000	91.5	90.5	89.8	89.1	93.2	96.3	98.4	100.5	102.6	105.9	105.5	104.9	102.4	142.7
1250	89.4	92.0	91.0	90.1	93.1	96.0	98.1	100.1	102.2	104.8	104.7	103.6	101.5	141.9
1600	90.1	91.5	91.0	90.5	94.0	97.1	99.1	101.0	102.9	104.5	105.1	104.1	101.2	142.3
2000	91.0	91.8	91.2	90.6	93.5	96.6	98.6	100.7	102.7	104.8	104.5	102.2	100.9	142.0
2500	90.7	92.5	91.5	90.5	94.1	97.0	98.7	100.5	102.2	105.0	103.7	101.6	100.6	141.8
3150	91.0	92.1	91.4	90.6	94.0	97.5	99.3	101.0	102.7	104.6	102.3	100.6	99.1	141.7
4000	90.5	91.3	91.1	90.8	94.5	97.2	98.7	100.1	101.6	102.8	102.0	99.5	97.9	140.9
5000	90.2	91.7	91.2	90.7	94.5	98.2	99.3	100.3	101.4	103.5	101.4	98.5	96.6	141.1
6300	90.3	91.5	91.7	91.9	95.5	98.7	99.4	100.2	100.9	102.3	100.8	98.1	96.3	141.1
8000	89.5	91.9	91.6	91.4	94.5	98.3	98.8	99.4	99.9	101.2	99.4	97.4	96.0	140.6
10000	90.4	94.0	93.3	92.6	95.5	98.2	98.7	99.2	99.7	99.8	97.9	96.8	95.1	140.9
12500	92.5	95.6	94.3	93.0	95.6	98.8	98.5	98.3	98.0	98.5	96.6	94.8	93.1	141.3
16000	91.8	94.4	94.9	95.4	95.9	97.9	97.5	97.1	96.8	95.3	94.5	94.4	90.8	141.7
20000	89.4	91.7	92.6	93.5	95.0	97.5	96.5	95.5	94.5	93.2	92.1	90.6	87.1	141.9
25000	86.1	89.0	89.7	90.3	92.6	96.4	95.0	93.5	92.1	89.7	88.8	87.3	83.2	142.2
31500	83.0	84.7	86.2	87.6	89.3	92.7	91.6	90.6	89.5	87.2	85.9	84.1	79.2	142.1
40000	78.8	82.2	83.2	84.3	86.1	90.0	88.8	87.6	86.5	84.4	83.4	80.0	75.3	143.1
50000	73.2	76.0	77.8	79.5	80.9	85.4	84.3	83.3	82.2	79.5	77.4	75.9	69.9	142.8
63000	67.2	71.0	72.2	73.3	75.5	79.9	79.0	78.1	77.2	74.8	73.0	70.0	63.9	142.8
80000	59.8	64.8	66.0	67.1	69.2	75.0	73.9	72.8	71.8	69.7	66.8	63.8	56.2	144.2
OASPL	103.4	105.5	105.0	104.7	107.4	110.4	111.4	112.6	114.0	117.1	118.3	119.4	114.3	156.9
PNL	115.3	116.8	116.2	115.7	119.1	122.1	123.7	125.2	126.8	129.2	129.0	128.2	125.1	
PNLT	115.3	116.8	116.2	115.7	119.1	122.1	123.7	125.2	126.8	129.2	129.0	128.2	125.1	
DBA	182.5	186.9	188.1	189.3	191.3	196.6	195.6	194.6	193.5	191.3	188.8	185.9	179.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH270	TEST DATE = 05-17-83	LOCAT = C41 ANECH CH	CONFIG = 16	MODEL = SL	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 59.94	PAMB HG = 29.57	RELHUM = 48.0 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT.	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1215.4 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1988.1 FPS	AE18 = 19.9 SQ IN

T = ZER 05 E = X1 TEST NO 1605 NO AETC CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1605 X16051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	60.2	64.0	64.9	65.4	69.4	72.6	74.2	75.4	76.4	80.6	83.5	84.0	74.0	158.4
63	61.7	64.7	65.2	65.3	69.3	72.1	74.3	76.2	77.8	83.3	84.9	84.9	74.7	159.8
80	62.1	65.7	66.1	66.1	70.1	73.3	75.3	77.0	78.3	83.3	84.6	84.6	75.4	159.8
100	62.3	66.1	67.0	67.5	71.0	74.5	76.3	77.8	79.0	83.4	83.8	82.7	74.7	159.1
125	63.7	66.1	66.7	66.9	73.2	75.0	76.9	78.6	79.9	83.6	82.4	80.3	74.0	158.6
160	66.9	67.6	68.0	68.0	72.5	75.8	77.7	79.4	80.7	82.9	80.9	78.0	71.8	158.0
200	64.6	68.8	69.0	68.8	72.2	75.3	77.2	78.9	80.2	81.6	79.8	76.3	70.4	157.3
250	64.9	68.0	68.7	69.0	73.0	76.2	78.0	79.5	80.6	81.0	79.9	76.4	69.5	157.7
315	65.4	68.0	68.6	68.8	72.1	75.4	77.3	78.9	80.1	80.9	78.9	73.9	68.3	157.3
400	64.5	68.2	68.5	68.4	72.5	75.5	77.1	78.3	79.2	80.7	77.6	72.7	67.0	157.2
500	64.4	67.4	68.0	68.2	72.0	75.7	77.3	78.5	79.4	79.9	75.7	70.9	64.5	157.0
630	63.3	66.2	67.4	68.0	72.2	75.1	76.4	77.3	77.9	77.7	74.8	69.2	62.2	156.2
800	62.4	66.1	67.1	67.5	71.9	75.7	76.6	77.2	77.3	78.0	73.6	67.3	59.7	156.5
1000	62.0	65.5	67.2	68.4	72.5	75.9	76.5	76.7	76.4	76.3	72.5	66.1	58.1	156.4
1250	60.5	65.3	66.7	67.6	71.3	75.3	75.6	75.5	75.0	74.7	70.4	64.5	56.2	156.0
1600	60.2	66.6	67.7	68.2	71.7	74.6	74.9	74.7	74.1	72.4	67.8	62.3	52.7	156.2
2000	60.8	67.0	67.8	67.8	71.1	74.6	74.0	73.1	71.5	70.0	64.9	58.1	47.1	156.6
2500	57.9	64.3	67.1	69.1	70.5	72.7	72.1	70.9	69.0	65.1	60.6	54.4	39.5	157.0
3150	51.5	58.5	62.3	65.1	67.6	70.4	69.0	67.0	64.2	60.0	54.2	45.1	26.8	157.2
4000	41.2	50.3	54.8	57.8	61.4	65.7	63.8	61.0	57.2	51.0	43.9	32.0	7.7	157.5
5000	27.5	37.6	44.2	48.8	52.3	56.2	54.6	51.8	47.6	40.1	30.4	14.3		157.4
6300	5.1	20.4	28.8	34.4	38.6	43.2	41.3	37.7	32.1	22.7	9.8			158.4
8000			1.1	9.4	14.3	20.0	17.8	13.1	5.5					158.1
10000														158.1
12500														159.5
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	75.8	79.2	80.1	80.6	84.4	87.6	88.8	89.9	90.8	93.1	92.6	91.4	82.9	171.8
PNL	82.4	87.6	89.4	90.7	93.5	96.5	96.7	96.6	96.3	96.9	94.3	90.9	82.2	
PNLT	82.4	87.6	90.1	91.3	94.1	97.1	97.3	97.2	96.9	96.9	94.3	90.9	82.2	
DBA	71.4	75.9	77.2	78.1	81.4	84.7	85.2	85.5	85.5	85.7	82.4	77.7	70.8	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH270 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 59.94 PAMB HG = 29.57 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1215.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1988.1 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1605 TAPE = X16051 TEST PT NO = 1605 NC = AE100 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 83F-400-1606 X1606C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.6	90.2	85.8	81.5	78.8	82.2	82.5	82.8	83.2	85.7	88.6	90.8	88.7	127.8
63	87.0	92.8	91.5	90.1	85.5	87.8	88.3	88.8	89.3	90.9	88.8	91.0	94.4	131.9
80	87.3	92.3	89.0	85.6	86.2	90.1	90.3	90.4	90.6	90.9	92.0	94.5	86.9	132.2
100	86.2	91.0	88.3	85.5	87.9	90.3	90.2	90.1	90.0	92.3	94.7	98.6	88.6	133.3
125	83.9	87.2	86.6	86.0	88.6	90.7	90.5	90.4	90.2	93.8	97.6	101.1	90.5	134.6
160	81.9	84.2	83.4	82.5	84.6	87.0	87.6	88.2	88.7	94.1	98.4	102.4	93.5	134.8
200	81.8	83.8	82.6	81.4	84.0	86.6	88.4	90.2	92.1	93.4	97.8	104.0	95.4	135.7
250	80.3	83.6	82.5	81.4	84.7	87.1	88.7	90.3	91.8	97.9	101.5	106.0	96.9	137.9
315	80.6	84.1	83.3	82.4	85.0	88.4	89.8	91.2	92.6	98.5	102.1	106.0	97.7	138.3
400	81.1	84.1	82.9	81.7	85.0	87.4	89.8	92.2	94.6	100.4	103.1	105.5	95.9	138.7
500	81.8	84.6	83.3	81.9	85.8	88.4	90.6	92.7	94.9	100.7	102.1	103.5	93.2	137.8
630	81.8	84.6	83.7	82.9	86.2	89.3	91.4	93.5	95.6	101.7	102.6	100.2	89.9	137.7
800	83.6	86.6	84.7	82.7	89.3	90.6	92.6	94.5	96.4	101.0	100.3	96.3	88.2	136.7
1000	85.0	91.8	87.8	83.9	88.2	90.8	93.1	95.3	97.6	100.9	99.5	94.2	86.1	136.9
1250	83.7	86.7	85.7	84.6	87.4	91.0	93.1	95.1	97.2	100.5	97.9	92.1	85.8	136.2
1600	85.1	87.2	86.5	85.8	88.5	92.4	94.3	96.2	98.1	100.2	98.3	91.4	85.4	136.7
2000	86.3	87.8	86.5	85.1	88.7	92.1	94.2	96.3	98.5	100.5	97.0	90.2	85.4	136.7
2500	87.2	87.5	86.6	85.8	89.9	93.0	94.7	96.5	98.2	100.5	96.0	89.3	85.3	136.7
3150	87.5	87.6	87.1	86.6	89.7	93.8	95.7	97.6	99.5	100.0	95.5	89.6	84.1	137.2
4000	88.2	87.8	87.4	87.1	91.3	94.5	95.7	96.9	98.1	98.8	95.0	89.3	84.9	136.7
5000	88.2	88.7	87.9	87.2	91.2	95.2	96.2	97.2	98.1	100.0	95.1	90.0	84.9	137.4
6300	88.8	90.0	89.3	88.6	92.4	95.6	96.6	97.6	98.6	99.0	96.1	91.3	84.8	137.9
8000	88.9	90.0	89.2	88.3	91.7	96.0	96.4	96.7	97.1	98.4	95.6	91.8	86.2	137.8
10000	91.6	91.4	90.7	90.0	92.9	96.7	96.7	96.8	96.8	98.7	95.4	93.3	87.8	138.7
12500	92.9	93.7	92.6	91.4	93.5	97.0	96.8	96.6	96.4	96.9	93.8	92.7	88.5	139.5
16000	92.2	93.9	93.7	93.5	93.6	95.8	95.6	95.4	95.2	93.7	91.9	92.0	85.8	140.0
20000	89.1	91.2	91.5	91.7	92.7	96.5	95.3	94.1	93.0	91.5	89.6	89.3	83.6	140.5
25000	85.7	88.2	88.7	89.2	91.3	95.8	94.5	93.1	91.7	88.8	85.7	86.1	80.6	141.4
31500	82.9	85.4	86.2	87.0	88.0	92.8	91.8	90.7	89.7	86.4	83.6	83.2	77.0	141.9
40000	79.4	84.2	83.9	83.6	84.8	89.9	89.0	88.1	87.2	83.8	81.7	79.7	74.0	143.2
50000	73.2	80.4	79.6	78.9	79.6	85.4	84.6	83.7	82.9	80.1	76.5	75.6	68.8	143.1
63000	68.2	78.3	75.4	72.5	74.8	80.0	79.6	79.2	78.8	75.0	72.7	70.5	63.9	143.7
80000	64.1	75.6	70.6	65.6	67.5	74.0	73.4	72.8	72.1	69.0	66.0	63.6	56.0	144.9
OASPL	101.8	104.0	102.9	102.0	104.2	107.7	108.3	109.2	110.3	112.8	112.5	113.8	105.5	154.2
PNL	112.6	113.8	112.8	111.9	115.5	118.7	120.0	121.6	123.2	125.1	122.8	121.3	113.7	
PNLT	112.6	115.5	112.8	111.9	115.5	118.7	120.0	121.6	123.2	125.1	122.8	121.3	113.7	
DBA	98.6	100.1	98.9	97.9	101.6	105.0	106.4	107.9	109.5	111.8	110.0	108.2	100.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH277 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = T6 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 64.06 PAMB HG = 29.36 RELHUM = 46.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1229.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2020.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1606 TAPE = X1606C TEST PT NO = 1606 NC = AE100 CORR FAN SPEED = RPM

P1165-08

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

IDENTIFICATION - 83F-400-1606 X1606F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	87.2	89.3	87.0	84.4	86.2	87.1	86.8	86.6	90.5	95.7	99.1	103.6	97.2	136.1
315	87.2	89.3	87.0	84.4	86.8	88.6	89.0	89.4	92.5	97.9	100.5	104.0	97.2	137.0
400	88.3	90.5	88.2	85.8	86.7	87.6	88.9	90.2	92.8	98.2	99.7	102.7	96.0	136.5
500	87.8	89.8	87.4	84.8	87.6	88.7	89.6	90.6	93.4	98.9	100.0	99.8	94.4	136.0
630	88.9	90.6	88.0	85.2	88.2	89.8	90.4	91.2	94.6	98.8	98.6	97.3	95.5	135.6
800	89.5	91.0	88.8	86.4	91.3	91.2	91.6	92.2	96.1	99.2	98.4	96.5	95.9	136.1
1000	91.3	93.1	89.7	86.3	89.8	91.5	92.2	93.2	96.0	99.0	96.9	94.5	95.7	135.9
1250	90.5	96.3	91.4	86.4	89.6	91.8	92.4	93.1	97.2	99.0	97.6	94.0	95.7	136.6
1600	91.3	93.2	90.8	88.4	91.0	93.4	94.1	94.6	98.0	99.7	96.7	93.3	96.1	136.9
2000	92.7	93.8	91.8	89.6	91.4	93.4	94.4	95.2	98.3	100.3	96.4	93.3	97.0	137.4
2500	93.8	94.3	91.8	89.1	92.8	94.6	95.5	95.9	99.7	99.9	95.8	92.9	94.5	137.8
3150	94.8	94.1	92.1	89.9	93.0	95.8	96.6	97.1	100.0	100.4	97.3	95.1	98.6	138.8
4000	95.1	94.2	92.7	91.0	95.5	97.0	97.7	97.9	99.9	101.4	97.0	95.4	98.1	139.5
5000	98.5	96.8	94.9	92.9	95.8	98.2	98.3	98.1	100.8	100.9	98.6	97.4	98.7	140.6
6300	98.4	97.7	95.5	93.2	97.0	98.6	98.9	98.8	100.0	101.2	99.1	98.7	100.4	141.2
8000	98.9	98.8	96.7	94.4	96.3	99.0	98.8	98.3	100.3	102.1	99.1	100.1	101.6	142.1
10000	98.9	98.7	96.4	94.0	96.9	99.7	99.2	98.6	97.8	97.8	95.0	97.0	99.7	141.6
12500	98.5	97.6	96.0	94.3	97.5	100.0	98.2	96.6	97.1	95.1	93.7	96.8	97.5	141.7
16000	99.2	99.3	97.3	95.2	97.6	98.8	97.0	95.4	95.3	93.3	91.8	94.5	95.7	142.7
20000	97.7	98.7	97.8	96.7	96.8	99.5	96.7	94.1	94.7	91.3	88.5	91.9	93.4	144.0
25000	94.4	95.8	95.2	94.5	95.9	98.8	95.9	93.1	93.4	89.6	87.1	89.8	90.6	144.8
31500	93.0	94.3	93.3	92.3	92.6	95.8	93.2	90.7	91.8	87.9	86.1	87.1	88.3	145.6
40000	89.4	90.6	90.0	89.2	89.4	92.9	90.4	88.1	88.4	85.5	82.5	84.7	84.8	146.5
50000	85.5	89.0	87.3	85.4	84.2	88.4	86.1	84.0	86.3	82.9	81.5	82.7	83.1	147.4
63000	78.4	84.3	82.1	79.7	79.4	83.0	81.5	80.1	81.3	78.6	76.8	78.1	77.8	147.7
80000	71.7	80.6	76.3	71.8	71.1	77.0	75.3	73.8	71.5	68.8	67.0	68.3	68.0	148.2
OASPL	108.8	109.1	107.1	105.2	107.6	109.8	109.2	108.7	110.8	112.2	110.8	111.6	110.6	156.7
PNL	119.5	119.1	116.9	114.7	117.9	119.8	120.2	120.5	122.9	124.6	122.0	121.2	122.1	
PNLT	119.5	120.2	116.9	114.7	117.9	119.8	120.2	120.5	122.9	124.6	122.0	121.2	122.1	
DBA	194.2	201.8	198.1	194.6	194.0	199.0	197.3	195.8	195.2	192.3	190.6	191.9	191.7	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH277 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 64.06 PAMB HG = 29.36 RELHUM = 46.0 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 = 1229.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2020.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1606 TAPE = X1606F TEST PT NO = 1606 NC = AE100 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 - 83F-400-1606 X16061

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.1	66.8	65.4	63.6	66.4	68.3	68.6	68.6	71.0	75.3	76.3	77.7	67.5	152.4
63	64.1	67.9	66.7	65.0	66.3	67.3	68.5	69.4	71.3	75.6	75.6	76.4	66.3	151.8
80	63.6	67.2	65.8	64.0	67.2	68.4	69.2	69.8	71.8	76.3	75.8	73.4	64.6	151.3
100	64.6	67.9	66.4	64.3	67.7	69.4	69.9	70.3	73.0	76.1	74.3	70.8	65.6	150.9
125	65.1	68.2	67.0	65.4	70.8	70.7	71.1	71.2	74.4	76.3	74.0	69.8	65.7	151.5
160	66.7	70.1	67.9	65.1	69.1	70.9	71.5	72.0	74.1	76.0	72.3	67.5	65.1	151.3
200	65.6	73.2	69.3	65.1	68.8	71.1	71.5	71.9	75.2	75.8	72.8	66.8	64.6	151.9
250	66.1	69.7	68.5	66.8	69.9	72.5	73.1	73.1	75.7	76.2	71.5	65.6	64.4	152.2
315	67.1	69.9	69.2	67.9	70.0	72.2	73.1	73.4	75.7	76.5	70.8	65.0	64.5	152.7
400	67.7	70.1	68.8	67.0	71.2	73.1	73.8	73.7	76.7	75.7	69.7	64.0	61.0	153.2
500	68.1	69.4	68.7	67.5	71.0	74.0	74.6	74.7	76.7	75.7	70.7	65.5	64.0	154.1
630	67.9	69.1	69.0	68.2	73.2	74.9	75.4	75.0	76.1	76.3	69.8	65.0	62.4	154.8
800	70.8	71.2	70.8	69.7	73.2	75.7	75.7	74.9	76.7	75.3	70.8	66.3	61.8	155.9
1000	70.0	71.6	71.0	69.7	74.1	75.9	76.0	75.3	75.5	75.2	70.8	66.8	62.2	156.6
1250	69.9	72.3	71.8	70.6	73.1	76.0	75.5	74.4	75.4	75.5	70.1	67.2	61.8	157.4
1600	68.7	71.3	70.8	69.5	73.2	76.1	75.4	74.2	72.2	70.4	64.8	62.4	57.2	156.9
2000	66.8	69.0	69.5	69.1	73.0	75.7	73.7	71.4	70.6	66.6	62.0	60.1	51.5	157.0
2500	65.4	69.1	69.5	68.9	72.1	73.6	71.6	69.1	67.5	63.2	57.9	54.6	44.4	158.0
3150	59.8	65.5	67.5	68.3	69.3	72.4	69.3	65.7	64.4	58.1	50.6	46.4	33.0	159.4
4000	49.6	57.0	60.3	62.0	64.7	68.1	64.7	60.6	58.5	50.9	42.3	34.6	15.0	160.1
5000	37.6	47.1	51.4	53.5	55.5	59.3	56.2	52.0	49.9	40.8	30.6	17.3		160.9
6300	15.7	28.9	35.6	39.3	41.9	46.2	42.9	38.2	34.0	23.8	8.9			161.8
8000		1.6	10.6	15.3	17.7	23.0	19.5	13.9	9.6					162.7
10000														163.0
12500														163.5
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	79.9	82.7	81.8	80.5	84.0	86.2	86.0	85.5	87.1	87.8	84.8	82.8	76.3	172.0
PNL	88.2	91.8	91.8	91.2	94.3	96.5	95.3	93.9	94.0	93.1	88.3	84.5	79.1	
PNLT	89.3	92.3	92.3	91.7	94.9	97.0	95.8	94.5	94.0	93.1	89.4	84.5	79.1	
DBA	78.1	80.3	80.1	79.3	82.7	85.1	84.4	83.3	83.9	83.1	78.0	74.0	69.9	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH277 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 64.06 PAMB HG = 29.36 RELHUM = 46.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1229.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2020.7 FPS AE18 = 19.9 SQ IN

PT F-41 606 PE = X.XXXT TEST PT NO. 1606 NC AETOO CORR FAN SPEED = RPM

P1185-03

DATPROC - FLTRAN 07/07/83 18.473 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 83F-ZER-1607 X1607C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.6	86.2	84.9	83.7	81.6	84.2	84.6	85.0	85.4	89.7	90.9	92.1	88 5	128.8
63	88.0	92.8	91.3	89.9	87.5	91.3	91.4	91.5	91.6	95.9	95.0	95.0	93.6	134.3
80	89.3	93.6	90.5	87.4	88.7	93.6	93.2	92.8	92.3	93.7	95.8	97.5	82.4	134.8
100	89.0	94.2	91.8	89.3	92.1	94.5	94.3	94.2	94.0	97.1	98.7	102.1	87.3	137.2
125	85.9	88.9	89.6	90.2	93.3	95.7	95.4	95.2	94.9	97.5	103.1	106.1	92.2	139.4
160	85.4	84.7	85.1	85.5	88.9	91.7	92.5	93.2	94.0	98.6	103.9	106.9	97.3	139.5
200	86.0	85.3	85.3	85.4	89.5	93.3	94.8	96.3	97.8	99.6	104.8	109.5	101.1	141.6
250	86.0	88.3	87.8	87.4	90.2	93.3	95.1	96.8	98.6	104.7	109.0	112.2	103.6	144.6
315	86.3	88.6	88.0	87.4	91.3	95.4	96.6	97.9	99.1	105.7	110.3	113.5	106.7	145.9
400	88.3	89.4	88.8	88.2	91.5	94.6	96.9	99.1	101.4	108.4	112.3	114.5	108.2	147.5
500	88.1	90.1	89.4	88.7	92.0	95.4	97.5	99.6	101.6	108.5	112.4	115.0	108.9	147.8
630	88.3	91.1	90.6	90.1	93.2	96.6	98.6	100.6	102.6	108.9	111.8	113.5	109.4	147.3
800	91.1	91.1	90.8	90.4	95.8	97.4	99.3	101.2	103.1	108.5	110.6	111.5	109.2	146.4
1000	94.3	93.8	92.8	91.9	95.4	98.6	100.6	102.6	104.6	107.6	109.8	110.7	108.6	146.1
1250	91.9	94.0	93.4	92.9	95.4	99.0	100.6	102.1	103.7	106.8	107.9	109.4	107.8	145.1
1600	92.8	94.0	93.6	93.3	96.0	99.6	101.4	103.1	104.9	107.0	108.8	108.6	106.9	145.5
2000	93.8	94.6	93.7	92.9	95.5	98.6	100.6	102.7	104.7	107.3	108.0	107.5	106.9	145.0
2500	93.2	94.7	93.7	92.8	96.4	99.5	101.2	103.0	104.7	107.5	107.2	106.8	105.6	144.9
3150	93.0	94.3	93.6	92.9	96.2	99.8	101.6	103.4	105.2	106.8	106.6	105.1	102.9	144.5
4000	92.2	94.1	93.3	92.6	96.8	100.0	101.3	102.7	104.1	105.0	105.8	104.3	101.7	143.7
5000	91.9	94.2	93.4	92.7	96.5	99.7	101.2	102.7	104.2	105.8	104.8	103.0	100.4	143.7
6300	92.8	95.0	94.3	93.6	97.4	99.9	101.2	102.6	103.9	104.1	104.3	102.6	98.8	143.5
8000	94.0	96.3	95.1	93.9	96.3	99.8	100.7	101.5	102.4	102.5	102.7	100.4	98.0	142.9
10000	95.9	99.7	98.0	96.3	98.0	100.2	100.6	101.0	101.4	101.3	100.2	99.6	97.4	143.3
12500	96.0	99.0	98.8	98.5	99.5	100.8	100.7	100.6	100.4	99.2	97.8	97.5	95.8	143.9
16000	93.8	96.9	98.0	99.1	99.9	101.1	100.4	99.7	99.0	96.5	96.2	96.3	92.1	144.5
20000	91.6	94.2	95.0	95.7	97.7	100.0	98.8	97.6	96.4	94.7	93.1	92.8	89.1	144.2
25000	88.6	92.1	92.6	93.1	95.2	98.2	97.0	95.8	94.6	91.5	90.3	89.8	84.3	144.4
31500	85.6	88.3	89.8	91.2	91.7	95.3	94.1	93.0	91.9	89.1	87.3	86.7	80.5	144.7
40000	82.0	86.4	87.0	87.5	89.0	92.9	91.7	90.4	89.2	86.7	84.7	82.7	77.0	146.0
50000	76.0	80.5	81.8	83.1	84.1	88.4	87.4	86.3	85.3	82.4	79.7	78.2	71.2	145.9
63000	71.0	75.7	76.7	77.7	79.3	83.6	82.7	81.8	80.9	77.3	75.9	73.1	66.0	146.5
80000	65.2	70.3	71.0	71.6	72.9	78.4	77.4	76.5	75.5	71.0	69.3	66.5	59.1	147.8
OASPL	106.1	108.5	107.9	107.5	109.9	112.6	113.6	114.8	116.1	119.3	121.5	123.2	118.7	159.8
PNL	117.7	119.4	118.6	117.8	121.2	124.4	125.9	127.4	129.0	131.4	132.4	132.6	129.5	
PNLT	117.7	119.4	118.6	117.8	121.2	124.4	125.9	127.4	129.0	131.4	132.4	132.6	129.5	
DBA	104.4	106.1	105.2	104.4	107.7	110.8	112.4	114.0	115.7	118.4	119.9	120.7	117.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH271 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.88 PAMB HG = 29.54 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1308.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2148.3 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1607 TAPE = X1607C TEST PT NO = 1607 NC = AE100 CORR FAN SPEED = RPM

127.

P1185-08

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

IDENTIFICATION - 83F-ZER-1607 X1607F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.6	86.2	84.9	83.7	81.6	84.2	84.6	85.0	85.4	89.7	90.9	92.1	88.5	128.8
63	88.0	92.8	91.3	89.9	87.5	91.3	91.4	91.5	91.6	95.9	95.0	95.0	93.6	134.3
80	89.3	93.6	90.5	87.4	88.7	93.6	93.2	92.8	92.3	93.7	95.8	97.5	82.4	134.8
100	89.0	94.2	91.8	89.3	92.1	94.5	94.3	94.2	94.0	97.1	98.7	102.1	87.3	137.2
125	85.9	88.9	89.6	90.2	93.3	95.7	95.4	95.2	94.9	97.5	103.1	106.1	92.2	139.4
160	85.4	84.7	85.1	85.5	88.9	91.7	92.5	93.2	94.0	98.6	103.9	106.9	97.3	139.5
200	86.0	85.3	85.3	85.4	89.5	93.3	94.8	96.3	97.8	99.6	104.8	109.5	101.1	141.6
250	86.0	88.3	87.8	87.4	90.2	93.3	95.1	96.8	98.6	104.7	109.0	112.2	103.6	144.6
315	86.3	88.6	88.0	87.4	91.3	95.4	96.6	97.9	99.1	105.7	110.3	113.5	106.7	145.9
400	88.3	89.4	88.8	88.2	91.5	94.6	96.9	99.1	101.4	108.4	112.3	114.5	108.2	147.5
500	88.1	90.1	89.4	88.7	92.0	95.4	97.5	99.6	101.6	108.5	112.4	115.0	108.9	147.8
630	88.3	91.1	90.6	90.1	93.2	96.6	98.6	100.6	102.6	108.9	111.8	113.5	109.4	147.3
800	91.1	91.1	90.8	90.4	95.8	97.4	99.3	101.2	103.1	108.5	110.6	111.5	109.2	146.4
1000	94.3	93.8	92.8	91.9	95.4	98.6	100.6	102.6	104.6	107.6	109.8	110.7	108.6	146.1
1250	91.9	94.0	93.4	92.9	95.4	99.0	100.6	102.1	103.7	106.8	107.9	109.4	107.8	145.1
1600	92.8	94.0	93.6	93.3	96.0	99.6	101.4	103.1	104.9	107.0	108.8	108.6	106.9	145.5
2000	93.8	94.6	93.7	92.9	95.5	98.6	100.6	102.7	104.7	107.3	108.0	107.5	106.9	145.0
2500	93.2	94.7	93.7	92.8	96.4	99.5	101.2	103.0	104.7	107.5	107.2	106.8	105.6	144.9
3150	93.0	94.3	93.6	92.9	96.2	99.8	101.6	103.4	105.2	106.8	106.6	105.1	102.9	144.5
4000	92.2	94.1	93.3	92.6	96.8	100.0	101.3	102.7	104.1	105.0	105.8	104.3	101.7	143.7
5000	91.9	94.2	93.4	92.7	96.5	99.7	101.2	102.7	104.2	105.8	104.8	103.0	100.4	143.7
6300	92.8	95.0	94.3	93.6	97.4	99.9	101.2	102.6	103.9	104.1	104.3	102.6	98.8	143.5
8000	94.0	96.3	95.1	93.9	96.3	99.8	100.7	101.5	102.4	102.5	102.7	100.4	98.0	142.9
10000	95.9	99.7	98.0	96.3	98.0	100.2	100.6	101.0	101.4	101.3	100.2	99.6	97.4	143.3
12500	96.0	99.0	98.8	98.5	99.5	100.8	100.7	100.6	100.4	99.2	97.8	97.5	95.8	143.9
16000	93.8	96.9	98.0	99.1	99.9	101.1	100.4	99.7	99.0	96.5	96.2	96.3	92.1	144.5
20000	91.6	94.2	95.0	95.7	97.7	100.0	98.8	97.6	96.4	94.7	93.1	92.8	89.1	144.2
25000	88.6	92.1	92.6	93.1	95.2	98.2	97.0	95.8	94.6	91.5	90.3	89.8	84.3	144.4
31500	85.6	88.3	89.8	91.2	91.7	95.3	94.1	93.0	91.9	89.1	87.3	86.7	80.5	144.7
40000	82.0	86.4	87.0	87.5	89.0	92.9	91.7	90.4	89.2	86.7	84.7	82.7	77.0	146.0
50000	76.0	80.5	81.8	83.1	84.1	88.4	87.4	86.3	85.3	82.4	79.7	78.2	71.2	145.9
63000	71.0	75.7	76.7	77.7	79.3	83.6	82.7	81.8	80.9	77.3	75.9	73.1	66.0	146.5
80000	65.2	70.3	71.0	71.6	72.9	78.4	77.4	76.5	75.5	71.0	69.3	66.5	59.1	147.8
OASPL	106.1	108.5	107.9	107.5	109.9	112.6	113.6	114.8	116.1	119.3	121.5	123.2	118.7	159.8
PNL	117.7	119.4	118.6	117.8	121.2	124.4	125.9	127.4	129.0	131.4	132.4	132.6	129.5	
PNLT	117.7	119.4	118.6	117.8	121.2	124.4	125.9	127.4	129.0	131.4	132.4	132.6	129.5	
DBA	187.1	192.1	192.8	193.6	195.0	200.1	199.1	198.2	197.2	193.1	191.3	188.7	181.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH271 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.88 PAMB HG = 29.54 RELHUM = 48.0 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 = 1308.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2148.3 FPS AE18 = 19.9 SQ IN

T = ZE 07 = X1 TES T NO 1607 NC = AE100 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-2ER-1607 X16071

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	62.2	66.0	66.5	66.6	70.9	75.1	76.2	77.1	77.6	83.1	86.2	87.2	77.0	161.3
63	64.2	66.7	67.2	67.3	71.1	74.3	76.5	78.3	79.8	85.8	88.2	88.1	78.4	162.8
80	63.9	67.5	67.8	67.8	71.6	75.1	77.0	78.7	80.1	85.8	88.1	88.6	79.1	163.1
100	64.0	68.4	69.0	69.2	72.7	76.2	78.1	79.7	81.0	86.2	87.5	86.9	79.4	162.6
125	66.7	68.3	69.1	69.4	75.2	77.0	78.7	80.2	81.4	85.6	86.2	84.8	79.0	161.8
160	69.7	70.8	71.0	70.7	74.8	78.0	79.9	81.4	82.7	84.7	85.2	83.8	78.0	161.4
200	67.1	70.8	71.4	71.6	74.5	78.3	79.7	80.9	81.7	83.6	83.1	82.1	76.7	160.4
250	67.7	70.5	71.3	71.8	75.0	78.7	80.3	81.6	82.6	83.5	83.7	80.9	75.2	160.8
315	68.2	70.7	71.1	71.1	74.1	77.4	79.3	80.9	82.1	83.4	82.4	79.2	74.3	160.4
400	67.0	70.5	70.8	70.6	74.7	78.0	79.6	80.8	81.7	83.2	81.1	77.9	72.0	160.2
500	66.4	69.7	70.3	70.4	74.2	78.0	79.6	80.9	81.9	82.1	79.9	75.4	68.3	159.8
630	65.0	68.9	69.6	69.8	74.5	77.8	79.0	79.9	80.4	79.9	78.6	73.9	66.0	159.1
800	64.1	68.6	69.3	69.5	73.9	77.2	78.5	79.5	80.0	80.2	77.1	71.8	63.4	159.0
1000	64.5	68.9	69.8	70.1	74.5	77.2	78.3	79.1	79.4	78.0	76.0	70.6	60.6	158.9
1250	64.9	69.8	70.2	70.0	73.0	76.8	77.4	77.7	77.5	75.9	73.6	67.4	58.1	158.2
1600	65.7	72.3	72.4	71.9	74.2	76.6	76.8	76.5	75.8	73.9	70.0	65.0	54.9	158.6
2000	64.3	70.5	72.3	73.3	75.1	76.5	76.2	75.4	74.0	70.7	66.1	60.8	49.8	159.2
2500	59.9	66.7	70.2	72.8	74.4	75.9	74.9	73.4	71.2	66.3	62.3	56.4	40.8	159.9
3150	53.8	61.0	64.7	67.3	70.3	72.9	71.4	69.2	66.2	61.5	55.2	47.3	28.8	159.5
4000	43.8	53.3	57.7	60.6	64.0	67.5	65.8	63.3	59.7	52.7	45.5	34.5	8.7	159.7
5000	30.1	41.2	47.8	52.5	54.7	58.8	57.1	54.3	49.9	41.9	31.8	16.9		160.0
6300	8.3	24.7	32.6	37.6	41.5	46.2	44.2	40.5	34.8	25.0	11.0			161.3
8000			5.1	13.0	17.6	23.0	20.8	16.2	8.6					161.2
10000														161.8
12500														163.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	78.4	82.1	82.9	83.2	86.7	89.7	91.0	92.1	92.9	95.4	96.1	95.4	87.6	174.8
PNL	85.5	90.9	92.4	93.9	96.6	99.1	99.2	98.9	98.5	99.1	97.8	95.2	87.6	
PNLT	85.5	90.9	93.1	94.5	97.2	99.7	99.8	99.5	99.1	99.1	97.8	95.2	87.6	
DBA	74.4	79.5	80.6	81.3	84.1	86.8	87.4	87.8	87.9	87.7	85.9	82.3	75.6	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH271 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.88 PAMB HG = 29.54 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1308.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2148.3 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-2ER-1607 TAPE = X16071 TEST PT NO = 1607 NC = AE100 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 83F-400-1608 X1608C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.4	86.4	84.1	81.7	81.8	83.4	84.2	84.9	85.7	86.5	90.9	93.1	89 5	129.1
63	90.3	91.5	91.2	90.9	88.2	89.8	90.2	90.6	91.1	90.4	91.5	95.2	95.6	133.3
80	91.3	93.6	90.7	87.9	89.0	92.8	92.6	92.3	92.1	92.4	94.3	96.7	92.4	134.4
100	90.2	92.5	90.0	87.5	90.1	92.8	92.5	92.3	92.0	94.6	96.2	100.9	91.6	135.5
125	87.9	87.7	88.3	89.0	91.6	93.7	93.2	92.7	92.2	95.5	100.4	104.1	94.2	137.3
160	85.4	83.0	83.5	84.0	85.9	88.7	89.2	89.6	90.0	96.1	100.7	105.1	96.5	137.1
200	84.5	84.3	83.7	83.1	85.7	88.8	90.7	92.5	94.3	96.1	100.8	107.0	98.6	138.5
250	83.0	85.3	84.3	83.4	86.5	89.3	91.1	92.8	94.6	100.7	104.8	109.2	100.1	141.0
315	83.1	85.1	84.7	84.2	87.0	89.9	91.5	93.1	94.6	101.7	105.8	109.3	101.2	141.5
400	84.6	85.1	84.3	83.4	87.5	90.1	92.2	94.3	96.4	103.4	106.6	109.0	99.9	141.9
500	85.1	86.1	85.2	84.2	87.8	91.1	93.2	95.3	97.4	104.2	106.4	108.0	97.7	141.7
630	84.5	85.8	85.5	85.1	88.5	91.8	93.8	95.7	97.6	104.4	106.1	105.5	94.4	141.0
800	85.8	86.1	85.9	85.7	91.5	92.6	94.7	96.8	98.9	103.7	104.1	101.5	91.7	139.8
1000	89.3	86.8	86.4	86.1	90.4	93.6	95.7	97.9	100.1	103.9	103.3	97.9	90 9	139.7
1250	86.9	88.0	87.3	86.6	89.9	93.5	95.6	97.8	100.0	102.8	101.7	95.1	88.8	138.9
1600	88.1	88.0	87.9	87.8	91.3	95.1	97.0	98.8	100.6	103.2	101.8	93.9	89.4	139.5
2000	89.8	88.1	87.7	87.4	91.2	94.3	96.5	98.8	101.0	103.3	100.8	93.0	88.4	139.3
2500	89.4	88.7	88.2	87.8	92.6	95.3	97.0	98.7	100.4	103.7	100.0	92.3	88.5	139.4
3150	89.5	88.8	88.8	88.9	92.5	95.8	97.7	99.6	101.4	102.8	99.3	92.1	87.1	139.6
4000	89.5	89.5	89.2	88.8	93.0	96.2	97.5	98.8	100.1	101.3	98.2	92.5	86.9	138.8
5000	90.4	90.6	89.9	89.2	93.0	96.7	98.0	99.3	100.6	102.0	98.3	92.4	86 6	139.5
6300	92.3	91.7	91.1	90.6	94.4	96.9	97.9	99.0	100.1	101.0	98.5	93.0	87.5	139.6
8000	94.1	93.7	92.5	91.3	93.7	97.0	97.7	98.3	99.0	100.9	98.1	94.3	89.1	139.8
10000	98.3	97.9	96.1	94.2	95.8	97.8	98.4	99.0	99.5	100.2	97.6	96.2	91.3	141.4
12500	97.9	98.9	98.0	97.1	97.9	99.4	98.9	98.5	98.1	98.6	96.7	94.7	90.9	142.5
16000	94.4	96.3	97.1	98.0	98.5	100.0	98.9	97.9	96.8	96.3	94.8	94.0	88.7	143.3
20000	92.1	93.6	94.1	94.7	96.7	99.4	98.1	96.7	95.4	93.9	92.0	92.0	85.8	143.4
25000	89.5	91.2	91.6	92.0	93.8	98.1	96.7	95.3	94.0	91.1	88.9	88.6	82.6	143.8
31500	86.0	88.3	89.4	90.4	91.1	94.9	93.9	92.9	91.8	89.3	86.7	85.6	79.7	144.4
40000	83.3	85.4	86.2	86.9	88.2	92.8	91.8	90.9	89.9	87.8	84.4	83.3	76.6	146.0
50000	77.6	80.1	81.1	82.0	84.5	88.5	87.8	87.1	86.4	83.2	80.7	79.5	72.0	146.3
63000	74.2	76.2	76.8	77.3	79.3	83.8	83.2	82.7	82.2	79.1	77.1	74.8	66.4	147.1
80000	71.0	70.4	70.7	70.9	73.1	79.1	78.0	76.9	75.9	73.5	71.0	68.9	59 7	148.4
OASPL	105.7	106.2	105.6	105.2	107.2	109.9	110.5	111.3	112.5	115.5	115.9	117.2	108.8	157.2
PNL	115.5	115.2	114.5	114.0	117.6	120.6	122.1	123.7	125.3	127.7	126.2	124.6	117.0	
PNLT	115.5	115.2	114.5	114.5	118.2	120.6	122.1	123.7	125.3	127.7	126.2	124.6	117.0	
DBA	102.2	101.8	101.0	100.3	103.9	106.9	108.4	110.1	111.7	114.5	113.6	112.0	103.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH276 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 63.97 PAMB HG = 26.51 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1423.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2253.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1608 TAPE = X1608C TEST PT NO - 160? NO . AE10? CORR FAN SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-400-1608 X1608F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	89.8	91.0	88.7	86.3	87.9	89.3	89.2	89.2	92.5	99.0	102.8	106.9	100.7	139.3
315	89.8	91.0	88.7	86.3	88.8	90.1	90.6	91.2	94.5	101.1	104.1	107.6	101.2	140.3
400	90.7	91.5	89.6	87.6	89.3	90.4	91.4	92.5	95.5	101.9	104.1	107.4	100.6	140.5
500	91.6	91.1	89.0	86.7	89.6	91.5	92.3	93.4	95.7	102.1	104.0	105.6	99.3	139.9
630	92.3	92.2	89.9	87.5	90.4	92.3	92.8	93.5	97.3	101.8	102.7	103.0	99.4	139.1
800	92.2	92.3	90.5	88.6	93.6	93.2	93.9	94.7	98.9	102.5	102.6	100.8	101.1	139.5
1000	93.5	92.6	91.0	89.3	93.2	94.2	95.0	95.9	98.8	101.3	100.8	97.6	98.8	138.6
1250	99.7	95.5	93.3	90.9	92.1	94.3	95.0	95.8	99.8	102.1	101.3	96.8	100.0	139.6
1600	94.6	94.4	92.4	90.4	93.7	96.2	96.8	97.2	100.3	102.3	100.3	95.8	98.8	139.5
2000	95.7	94.5	93.1	91.6	94.4	95.6	96.6	97.4	100.3	103.2	100.1	95.9	99.7	139.9
2500	100.2	96.9	94.8	92.5	96.1	96.9	97.5	97.8	101.8	102.7	99.7	95.7	98.2	140.7
3150	99.8	97.6	95.4	93.1	95.7	97.8	98.6	99.1	101.7	102.5	100.1	97.8	100.0	141.1
4000	97.1	95.5	94.4	93.3	97.3	98.8	99.4	99.5	102.0	102.9	99.7	97.1	98.9	141.3
5000	99.8	98.5	96.6	94.6	97.5	99.7	100.0	99.9	102.2	102.8	101.0	99.0	101.2	142.3
6300	100.6	99.6	97.5	95.1	98.4	99.9	100.2	100.1	101.8	103.5	101.4	101.0	103.0	143.1
8000	99.6	98.2	96.8	95.3	97.6	100.0	100.0	99.8	102.6	102.8	100.3	101.7	103.5	143.2
10000	100.4	99.6	97.6	95.6	99.3	100.8	100.6	100.5	99.5	99.5	97.9	98.9	102.1	143.2
12500	103.1	102.2	99.8	97.4	101.6	102.4	100.4	98.5	98.8	97.8	96.6	98.7	100.4	144.8
16000	102.2	103.0	101.7	100.2	102.5	103.0	100.3	97.9	97.7	95.8	94.2	97.2	97.9	146.4
20000	100.3	101.5	101.4	101.3	100.7	102.4	99.5	96.7	96.9	93.5	91.7	94.4	95.4	147.2
25000	97.4	98.2	97.8	97.4	98.4	101.1	98.1	95.3	95.6	92.6	90.3	92.2	93.2	147.3
31500	96.8	97.3	96.2	95.0	95.7	97.9	95.3	92.9	95.1	92.8	89.9	91.9	92.0	148.5
40000	92.5	93.5	93.1	92.6	92.8	95.8	93.4	91.2	92.5	89.4	87.7	89.7	89.0	149.7
50000	89.4	90.2	89.6	88.8	89.1	91.5	89.5	87.7	90.3	87.6	86.7	88.1	87.0	150.8
63000	82.7	84.0	83.5	82.9	83.9	86.8	85.3	84.1	84.7	82.7	81.3	82.7	80.7	150.9
80000	77.8	78.6	77.7	76.7	77.7	82.1	79.8	77.8	74.9	72.8	71.4	72.9	70.9	151.4
OASPL	111.9	111.2	109.7	108.3	110.5	112.0	111.2	110.8	112.9	114.7	114.2	115.1	113.5	159.7
PNL	122.3	120.6	118.7	116.7	120.0	121.5	122.1	122.4	124.9	126.7	125.0	124.0	124.8	
PNLT	124.1	120.6	118.7	116.7	120.0	121.5	122.1	122.4	124.9	126.7	125.0	124.0	124.8	
DBA	199.6	200.5	199.7	198.8	199.7	203.6	201 5	199.7	198.7	196.5	195.1	196.6	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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH276 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 63.97 PAMB HG = 26.51 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1423.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2253.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1608 TAPE = X1608F TEST PT NO = 1608 NC = AE100 CORR FAN SPEED = RPM

P1165-03

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

IDENTIFICATION - 83F-400-1608 X16081

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.6	68.4	67.2	65.5	68.4	69.8	70.2	70.4	72.9	78.5	80.0	81.3	71.6	155.7
63	66.6	68.9	68.0	66.7	68.9	70.1	71.0	71.6	74.0	79.3	80.0	81.0	70.9	155.8
80	67.4	68.4	67.4	65.8	69.2	71.2	71.9	72.5	74.1	79.5	79.8	79.2	69.5	155.2
100	68.0	69.5	68.3	66.6	70.0	71.9	72.3	72.6	75.7	79.1	78.4	76.4	69.4	154.4
125	67.8	69.4	68.8	67.7	73.0	72.7	73.3	73.7	77.2	79.7	78.2	74.1	70.9	154.8
160	68.9	69.6	69.1	68.1	72.5	73.6	74.3	74.8	76.9	78.3	76.2	70.7	68.3	154.0
200	74.9	72.3	71.2	69.6	71.3	73.6	74.1	74.6	77.8	78.9	76.5	69.5	68.9	155.0
250	69.4	71.0	70.2	68.8	72.7	75.2	75.7	75.7	78.0	78.8	75.1	68.1	67.1	154.8
315	70.1	70.7	70.5	69.9	73.1	74.4	75.2	75.6	77.7	79.4	74.5	67.6	67.2	155.2
400	74.1	72.7	71.8	70.4	74.5	75.4	75.8	75.7	78.8	78.5	73.6	66.8	64.7	156.0
500	73.2	72.9	72.0	70.6	73.7	76.0	76.6	76.7	78.3	77.8	73.4	68.2	65.4	156.5
630	69.9	70.4	70.7	70.4	75.0	76.6	77.1	76.7	78.2	77.8	72.5	66.7	63.2	156.6
800	72.0	72.9	72.5	71.5	74.9	77.2	77.3	76.7	78.1	77.2	73.2	67.9	64.2	157.6
1000	72.3	73.6	73.0	71.7	75.5	77.1	77.3	76.6	77.3	77.5	73.0	69.0	64.8	158.4
1250	70.5	71.7	71.9	71.4	74.4	76.9	76.8	76.0	77.7	76.2	71.2	68.7	63.7	158.6
1600	70.2	72.2	72.1	71.1	75.6	77.3	76.9	76.1	73.9	72.1	67.7	64.3	59.7	158.6
2000	71.5	73.6	73.3	72.2	77.1	78.1	75.9	73.3	72.3	69.2	64.9	62.0	54.4	160.1
2500	68.3	72.8	73.9	73.9	77.1	77.8	74.9	71.6	69.9	65.6	60.3	57.3	46.6	161.7
3150	62.5	68.3	71.1	72.8	73.3	75.3	72.1	68.3	66.6	60.3	53.9	48.9	35.0	162.5
4000	52.5	59.5	63.0	64.9	67.2	70.3	67.0	62.8	60.7	53.9	45.4	36.9	17.6	162.6
5000	41.3	50.1	54.3	56.3	58.7	61.5	58.3	54.1	53.1	45.7	34.5	22.1		163.8
6300	18.8	31.8	38.7	42.7	45.3	49.0	45.9	41.2	38.1	27.6	14.0			165.0
8000		2.7	12.9	18.6	22.6	26.1	23.0	17.6	13.6	0.1				166.1
10000														166.2
12500														166.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	83.4	84.2	83.9	83.2	86.7	88.3	88.0	87.5	89.2	90.4	88.5	86.9	80.0	175.0
PNL	91.9	94.4	95.0	94.8	98.1	99.4	97.8	96.0	96.1	95.2	91.2	87.3	81.9	
PNLT	93.1	95.4	95.6	95.4	98.6	100.0	98.4	96.6	96.6	96.3	92.2	87.3	81.9	
DBA	80.7	82.4	82.5	82.1	85.6	87.2	86.2	85.1	85.8	85.1	80.6	76.2	72.3	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH276	TEST DATE = 05-17-83	LOCAT = C41 ANECH CH	CONFIG = 16	MODEL = SL	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 63.97	PAMB HG = 26.51	RELHUM = 48.0 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNINI = LBS	XNL = RPM	XNH = RPM	V8 = 1423.6 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2253.5 FPS	AE18 = 19.9 SQ IN

NPT 3F 160 PE = 8T PT T6 IC AE ORR AMB SPEED RPI

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P1185-03

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 83F-ZER-1609 X1609C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	86.2	84.1	82.0	82.8	84.7	86.3	87.8	89.4	88.0	92.4	98.1	90.7	131.2
63	89.8	93.5	91.8	90.1	89.7	93.6	94.5	95.4	96.3	94.4	95.3	103.0	97.9	137.2
80	92.0	96.1	93.1	90.1	92.0	95.8	95.5	95.2	94.8	95.9	99.0	100.2	85.4	137.4
100	91.2	97.2	94.3	91.3	94.4	97.3	96.8	96.3	95.8	98.8	100.7	104.4	90.3	139.4
125	87.6	90.7	91.5	92.2	95.1	97.4	97.1	96.8	96.4	99.8	106.1	108.1	95.0	141.6
160	86.4	86.5	87.1	87.8	89.9	93.5	94.0	94.5	95.0	101.6	106.4	109.1	99.8	141.8
200	89.0	86.6	86.8	87.1	92.0	94.8	96.6	98.3	100.1	102.4	107.5	112.5	103.9	144.3
250	88.3	89.6	89.7	89.9	93.5	94.8	96.8	98.8	100.8	107.4	112.0	115.2	106.4	147.5
315	88.3	90.1	89.5	88.9	93.5	97.1	98.7	100.3	101.9	109.0	113.8	116.5	109.4	149.0
400	90.6	91.1	90.5	89.9	93.8	96.1	98.6	101.1	103.6	111.4	115.6	117.3	110.4	150.4
500	91.1	92.9	92.2	91.4	94.8	97.1	99.6	102.0	104.4	112.0	116.4	117.8	112.2	151.1
630	90.8	92.8	92.5	92.1	95.2	98.6	100.8	102.9	105.1	112.4	116.8	117.2	113.4	151.3
800	94.1	93.6	93.0	92.4	97.8	99.6	101.9	104.1	106.4	111.7	115.1	116.5	113.7	150.6
1000	98.0	98.0	96.6	95.1	97.7	100.1	102.5	104.9	107.3	111.4	114.8	115.7	113.9	150.4
1250	96.4	98.7	98.3	97.9	99.6	101.7	103.6	105.6	107.5	111.0	113.2	115.1	112.8	149.8
1600	95.6	97.0	96.1	95.3	98.8	101.9	104.1	106.2	108.4	110.5	113.6	114.1	111.2	149.5
2000	97.0	97.1	96.0	94.9	97.7	101.1	103.5	105.8	108.2	110.5	112.3	112.5	110.1	148.7
2500	95.4	97.2	96.0	94.8	98.4	101.5	103.6	105.6	107.7	110.7	111.5	110.6	107.8	148.1
3150	95.8	96.3	95.6	94.9	98.2	101.5	103.8	106.1	108.5	109.8	110.5	108.3	105.4	147.5
4000	94.5	95.8	95.3	94.8	98.3	101.5	103.3	105.2	107.1	108.5	109.3	106.0	103.4	146.5
5000	94.2	95.9	95.3	94.7	97.7	101.2	103.1	105.0	106.9	108.5	108.3	103.7	101.9	146.1
6300	95.3	97.2	96.2	95.1	98.2	101.9	103.4	104.9	106.4	107.3	107.8	103.1	100.8	146.0
8000	97.0	100.1	98.3	96.6	98.2	101.0	102.4	103.7	105.1	105.7	105.4	101.9	99.2	145.3
10000	97.9	101.5	100.4	99.3	100.2	101.9	102.8	103.7	104.6	104.3	103.4	100.8	98.4	145.8
12500	96.7	99.8	100.4	101.0	102.3	103.2	103.0	102.7	102.4	102.0	101.8	98.5	96.5	146.1
16000	95.0	97.1	98.7	100.3	101.3	102.8	102.0	101.2	100.5	99.2	99.4	97.1	93.3	146.1
20000	92.6	95.2	95.8	96.5	98.5	101.2	100.3	99.4	98.4	96.5	96.3	93.6	90.3	145.5
25000	89.9	92.8	93.6	94.4	95.7	99.5	98.4	97.4	96.4	93.7	93.1	90.3	85.3	145.7
31500	86.7	89.4	91.0	92.5	92.7	96.3	95.4	94.4	93.4	90.9	90.3	87.0	81.6	146.0
40000	82.8	86.8	87.7	88.6	89.7	93.5	92.6	91.7	90.8	88.8	87.8	83.1	77.9	147.1
50000	77.4	81.2	82.7	84.3	85.3	89.1	88.3	87.5	86.7	85.1	83.1	79.3	72.3	147.1
63000	72.2	76.7	78.1	79.4	80.6	84.5	83.8	83.1	82.4	80.3	79.4	73.1	66.7	147.9
80000	66.5	70.6	72.0	73.4	74.1	79.2	78.4	77.6	76.8	75.4	73.3	66.8	59.4	149.1
OASPL	108.5	110.6	110.0	109.6	111.9	114.5	115.7	117.3	119.1	122.6	125.6	126.7	122.4	162.6
PNL	120.4	121.7	120.8	120.0	123.1	126.1	128.1	130.1	132.1	134.5	136.3	136.1	132.4	
PNLT	120.4	122.3	120.8	120.0	123.1	126.1	128.1	130.1	132.1	134.5	136.3	136.1	132.4	
DBA	107.3	108.8	107.9	106.9	109.8	112.7	114.7	116.7	118.8	121.8	124.2	124.8	121.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH272 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.42 PAMB HG = 29.51 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTIN1 = LBS XNL = RPM XNH = RPM V8 = 1508.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2306.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1609 TAPE = X1609C TEST PT NO = 1609 NC = AE100 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 - 83F-ZER-1609 X1609F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	86.2	84.1	82.0	82.8	84.7	86.3	87.8	89.4	88.0	92.4	98.1	90.7	131.2
63	89.8	93.5	91.8	90.1	89.7	93.6	94.5	95.4	96.3	94.4	95.3	103.0	97.9	137.2
80	92.0	96.1	93.1	90.1	92.0	95.8	95.5	95.2	94.8	95.9	99.0	100.2	85.4	137.4
100	91.2	97.2	94.3	91.3	94.4	97.3	96.8	96.3	95.8	98.8	100.7	104.4	90.3	139.4
125	87.6	90.7	91.5	92.2	95.1	97.4	97.1	96.8	96.4	99.8	106.1	108.1	95.0	141.6
160	86.4	86.5	87.1	87.8	89.9	93.5	94.0	94.5	95.0	101.6	106.4	109.1	99.8	141.8
200	89.0	86.6	86.8	87.1	92.0	94.8	96.6	98.3	100.1	102.4	107.5	112.5	103.9	144.3
250	88.3	89.6	89.7	89.9	93.5	94.8	96.8	98.8	100.8	107.4	112.0	115.2	106.4	147.5
315	88.3	90.1	89.5	88.9	93.5	97.1	98.7	100.3	101.9	109.0	113.8	116.5	109.4	149.0
400	90.6	91.1	90.5	89.9	93.8	96.1	98.6	101.1	103.6	111.4	115.6	117.3	110.4	150.4
500	91.1	92.9	92.2	91.4	94.8	97.1	99.6	102.0	104.4	112.0	116.4	117.8	112.2	151.1
630	90.8	92.8	92.5	92.1	95.2	98.6	100.8	102.9	105.1	112.4	116.8	117.2	113.4	151.3
800	94.1	93.6	93.0	92.4	97.8	99.6	101.9	104.1	106.4	111.7	115.1	116.5	113.7	150.6
1000	98.0	98.0	96.6	95.1	97.7	100.1	102.5	104.9	107.3	111.4	114.8	115.7	113.9	150.4
1250	96.4	98.7	98.3	97.9	99.6	101.7	103.6	105.6	107.5	111.0	113.2	115.1	112.8	149.8
1600	95.6	97.0	96.1	95.3	98.8	101.9	104.1	106.2	108.4	110.5	113.6	114.1	111.2	149.5
2000	97.0	97.1	96.0	94.9	97.7	101.1	103.5	105.8	108.2	110.5	112.3	112.5	110.1	148.7
2500	95.4	97.2	96.0	94.8	98.4	101.5	103.6	105.6	107.7	110.7	111.5	110.6	107.8	148.1
3150	95.8	96.3	95.6	94.9	98.2	101.5	103.8	106.1	108.5	109.8	110.5	108.3	105.4	147.5
4000	94.5	95.8	95.3	94.8	98.3	101.5	103.3	105.2	107.1	108.5	109.3	106.0	103.4	146.5
5000	94.2	95.9	95.3	94.7	97.7	101.2	103.1	105.0	106.9	108.5	108.3	103.7	101.9	146.1
6300	95.3	97.2	96.2	95.1	98.2	101.9	103.4	104.9	106.4	107.3	107.8	103.1	100.8	146.0
8000	97.0	100.1	98.3	96.6	98.2	101.0	102.4	103.7	105.1	105.7	105.4	101.9	99.2	145.3
10000	97.9	101.5	100.4	99.3	100.2	101.9	102.8	103.7	104.6	104.3	103.4	100.8	98.4	145.8
12500	96.7	99.8	100.4	101.0	102.3	103.2	103.0	102.7	102.4	102.0	101.8	98.5	96.5	146.1
16000	95.0	97.1	98.7	100.3	101.3	102.8	102.0	101.2	100.5	99.2	99.4	97.1	93.3	146.1
20000	92.6	95.2	95.8	96.5	98.5	101.2	100.3	99.4	98.4	96.5	96.3	93.6	90.3	145.5
25000	89.9	92.8	93.6	94.4	95.7	99.5	98.4	97.4	96.4	93.7	93.1	90.3	85.3	145.7
31500	86.7	89.4	91.0	92.5	92.7	96.3	95.4	94.4	93.4	90.9	90.3	87.0	81.6	146.0
40000	82.8	86.8	87.7	88.6	89.7	93.5	92.6	91.7	90.8	88.8	87.8	83.1	77.9	147.1
50000	77.4	81.2	82.7	84.3	85.3	89.1	88.3	87.5	86.7	85.1	83.1	79.3	72.3	147.1
63000	72.2	76.7	78.1	79.4	80.6	84.5	83.8	83.1	82.4	80.3	79.4	73.1	66.7	147.9
80000	66.5	70.6	72.0	73.4	74.1	79.2	78.4	77.6	76.8	75.4	73.3	66.8	59.4	149.1
OASPL	108.5	110.6	110.0	109.6	111.9	114.5	115.7	117.3	119.1	122.6	125.6	126.7	122.4	162.6
PNL	120.4	121.7	120.8	120.0	123.1	126.1	128.1	130.1	132.1	134.5	136.3	136.1	132.4	
PNLT	120.4	122.3	120.8	120.0	123.1	126.1	128.1	130.1	132.1	134.5	136.3	136.1	132.4	
DBA	188.4	192.6	194.0	195.3	196.2	200.9	200.1	199 3	198.6	196.9	195.2	189.0	182.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH272 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.42 PAMB HG = 29.51 RELHUM = 48.0 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 = 1508.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2306.5 FPS AE18 = 19.9 SQ IN

T = ZERO9 E X1 TEST NO 1605 AE10 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 - 83F-ZER-1609 X16091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.2	67.5	68.0	68.1	73.1	76.9	78.3	79.5	80.4	86.4	89.7	90.2	79.8	164.4
63	66.4	68.5	69.0	69.1	73.3	75.8	78.2	80.3	82.1	88.8	91.4	90.9	80.7	165.7
80	66.9	70.2	70.6	70.6	74.3	76.8	79.1	81.1	82.8	89.3	92.1	91.3	82.4	166.4
100	66.5	70.1	70.8	71.2	74.7	78.2	80.3	82.0	83.5	89.7	92.5	90.7	83.4	166.6
125	69.7	70.8	71.3	71.4	77.2	79.2	81.3	83.2	84.7	88.9	90.7	89.8	83.5	165.9
160	73.4	75.1	74.7	74.0	77.0	79.5	81.8	83.8	85.5	88.4	90.2	88.8	83.3	165.7
200	71.6	75.5	76.2	76.6	78.7	81.0	82.8	84.3	85.4	87.9	88.3	87.8	81.7	165.2
250	70.4	73.5	73.8	73.8	77.7	81.0	83.0	84.7	86.1	87.0	88.4	86.4	79.5	164.9
315	71.4	73.2	73.4	73.1	76.4	79.9	82.1	84.1	85.6	86.7	86.7	84.2	77.6	164.0
400	69.3	73.0	73.0	72.6	76.7	80.0	81.9	83.5	84.7	86.5	85.3	81.6	74.2	163.4
500	69.1	71.7	72.3	72.4	76.2	79.7	81.9	83.7	85.1	85.1	83.9	78.7	70.8	162.9
630	67.3	70.7	71.6	72.0	76.0	79.3	81.0	82.4	83.3	83.4	82.1	75.7	67.7	161.8
800	66.4	70.3	71.2	71.5	75.1	78.7	80.5	81.8	82.8	82.9	80.6	72.6	64.9	161.5
1000	67.0	71.2	71.7	71.6	75.3	79.2	80.5	81.4	81.9	81.3	79.5	71.1	62.6	161.3
1250	67.9	73.5	73.4	72.8	75.0	78.0	79.2	79.9	80.2	79.2	76.4	68.9	59.4	160.6
1600	67.7	74.1	74.8	74.9	76.4	78.4	79.0	79.3	79.0	76.9	73.2	66.2	55.9	161.1
2000	65.0	71.2	73.9	75.8	77.8	79.0	78.5	77.5	75.9	73.4	70.1	61.8	50.5	161.4
2500	61.1	67.0	70.9	74.0	75.9	77.6	76.6	75.0	72.7	69.0	65.6	57.1	42.0	161.4
3150	54.8	62.0	65.5	68.0	71.0	74.1	72.9	70.9	68.2	63.3	58.5	48.0	30.0	160.9
4000	45.0	54.1	58.7	61.9	64.5	68.7	67.3	64.9	61.5	55.0	48.2	35.1	9.7	161.1
5000	31.2	42.3	49.0	53.8	55.7	59.9	58.4	55.6	51.5	43.8	34.9	17.2		161.3
6300	9.2	25.0	33.3	38.7	42.2	46.8	45.1	41.8	36.4	27.1	14.1			162.4
8000			6.1	14.1	18.7	23.7	21.7	17.4	10.0					162.4
10000														163.2
12500														164.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	81.3	84.7	85.3	85.7	88.8	91.7	93.3	94.7	95.9	98.8	100.3	99.1	91.4	177.6
PNL	87.6	92.8	94.4	95.7	98.4	100.9	101.2	101.3	101.4	102.4	102.1	99.1	91.5	
PNLT	87.6	92.8	95.0	96.3	98.9	101.4	101.7	101.9	102.1	102.4	102.1	99.1	91.5	
DBA	76.7	81.5	82.6	83.4	85.9	88.6	89.5	90.2	90.8	90.9	89.9	86.1	79.1	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH272	TEST DATE = 05-17-83	LOCAT = C41 ANECH CH	CONFIG = 16	MODEL = SL	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 61.42	PAMB HG = 29.51	RELHUM = 48.0 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1508.6 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2306.5 FPS	AE18 = 19.9 SQ IN	
RUNPT = 83F-ZER-1609	TAPE = X16091	TEST PT NO = 1609	NC = AE100	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 83F-400-1610 X1610C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.4	87.4	85.9	84.5	82.6	84.2	84.9	85.7	86.4	91.0	92.9	94.1	86.5	130.1
63	90.3	92.3	92.1	91.9	89.2	91.8	92.0	92.1	92.3	97.4	96.3	97.0	94.9	135.4
80	91.5	95.6	92.7	89.9	91.7	95.8	95.3	94.8	94.3	94.7	97.0	98.5	86 4	136.6
100	90.7	94.5	91.9	89.3	92.1	95.3	95.0	94.8	94.5	95.6	98.0	102.6	90.1	137.3
125	88.1	89.4	90.1	90.7	93.6	95.9	95.3	94.6	93.9	97.3	103.1	106.6	94.5	139.6
160	85.9	83.5	84.6	85.8	88.4	91.0	91.3	91.7	92.0	98.3	104.2	107.4	98.5	139.6
200	85.5	85.6	85.0	84.4	88.2	90.8	92.8	94.8	96.8	97.9	103.5	109.2	101.4	140.8
250	83.8	86.6	86.0	85.4	89.2	91.8	93.6	95.3	97.1	102.9	108.8	111.7	103.1	143.9
315	84.3	86.4	86.2	85.9	89.3	92.6	94.1	95.6	97.1	104.2	109.8	112.5	104.7	144.9
400	85.6	87.1	86.5	85.9	89.5	92.1	94.5	96.8	99.1	106.2	110.8	113.0	103.7	145.7
500	86.3	87.9	87.0	86.2	90.0	93.1	95.2	97.3	99.4	107.5	111.4	112.3	101.4	145.8
630	86.0	87.8	87.5	87.1	91.2	94.1	96.3	98 4	100.6	107.9	111.3	110.0	98.1	145.2
800	88.1	87.6	87.4	87.2	93.3	95.1	97.3	99.5	101.6	107.5	109.6	106.3	95.7	143.9
1000	90.3	89.0	88.7	88.4	92.9	96.1	98.3	100.6	102.8	107.6	108.3	103.7	93.4	143.5
1250	88.9	91.0	90.3	89.6	92.6	96.2	98.6	100.9	103.2	107.3	106.9	100.4	92.8	143.0
1600	89.3	90.0	89.9	89.8	93.5	97.1	99.5	101.8	104.1	106.5	106.8	98.1	90.9	143.0
2000	90.3	89.3	89.3	89.4	93.2	96.8	99.2	101.6	104.0	106.8	105.8	96.7	91.4	142.7
2500	90.2	90.0	89.7	89.5	94.1	97.0	99.1	101.1	103.2	106.7	105.0	96.3	91.3	142.4
3150	90.8	90.1	90.2	90.4	94.0	97.8	99.9	102.1	104.2	106.3	103.5	96.1	90.4	142.5
4000	91.2	90.3	90.4	90.6	94.0	98.0	99.7	101.5	103.3	104.5	103.3	95.8	90.4	141.8
5000	92.9	91.9	91.0	90.2	94.5	97.9	99.7	101.4	103.1	105.0	102.1	95.5	90.3	141.9
6300	95.3	93.9	93.1	92.3	95.7	98.4	99.9	101.5	103.1	104.0	102.5	95.8	91.0	142.3
8000	97.7	97.8	95.9	94.0	95.7	98.8	99.8	100.8	101.8	103.4	101.6	96.6	91.9	142.4
10000	99.8	100.2	99.1	98.0	98.9	99.9	100.8	101.6	102.5	103.0	101.3	97.7	92.8	144.1
12500	96.2	97.7	98.4	99.1	101.2	101.7	101.3	101.0	100.6	100.9	99.7	96.4	92.0	144.5
16000	95.4	95.5	96.6	97.7	100.3	101.7	100.9	100.0	99.1	98.1	97.6	95.7	90.0	144.7
20000	92.8	93.9	94.3	94.7	96.9	100.2	99.2	98.3	97.4	95.2	95.0	92.8	87.3	144.3
25000	89.4	91.4	92.4	93.4	95.7	99.3	98.2	97.2	96.2	93.3	91.9	89.8	83.8	145.4
31500	86.6	88.1	89.8	91.5	92.7	96.3	95.6	94.8	94.1	90.6	89.3	86.9	80.3	145.9
40000	82.9	85.5	86.6	87.8	89.5	93.4	92.7	92.0	91.2	87.6	86.7	84.0	77.2	146.9
50000	77.0	79.4	81.3	83.1	84.7	89.4	88.6	87.8	86.9	83.9	82.3	79.9	72.1	147.0
63000	71.5	75.1	76.5	77.8	79.9	84.8	84.3	83.7	83.1	79.4	78.0	74.6	67.0	147.9
80000	65.9	69.3	70.0	70.7	73.9	79.7	78.8	77.9	77.0	73.2	71.7	69.0	59.9	149.0
OASPL	106.7	107.4	106.9	106.8	109.2	111.8	112.6	113.8	115.3	118.7	120.4	120.6	111.6	159.2
PNL	117.5	117.4	116.5	115.9	119.2	122.5	124.3	126.2	128.1	130.9	130.7	128.2	119.9	
PNLT	117.5	117.4	116.5	116.4	119.8	122.5	124.3	126.2	128.1	130.9	130.7	128.2	119.9	
DBA	104.1	104.0	103.2	102.5	105.8	108.8	110.7	112.7	114.7	117.9	118.4	116.0	107.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH275 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 63.39 PAMB HG = 29.31 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1506.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2340.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1610 TAPE = X1610C TEST PT NO = 1610 NC = AE100. CORR FAN SPEED = RPM

P1188-03

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

IDENTIFICATION - 83F-400-1610 X1610F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.7	93.0	90.9	88.7	90.8	91.8	91.7	91.7	95.0	101.5	106.8	110.1	104.2	142.5
315	91.7	93.0	90.9	88.7	91.1	92.8	93.3	93.8	97.3	103.9	108.4	111.7	105.0	144.1
400	92.0	92.8	91.1	89.3	91.4	92.4	93.7	95.0	97.5	105.1	109.1	111.6	104.4	144.4
500	93.2	93.5	91.5	89.3	91.9	93.5	94.3	95.3	98.7	105.6	109.3	110.1	103.1	144.0
630	94.0	94.3	92.0	89.7	93.2	94.5	95.3	96.3	100.1	105.6	108.2	107.7	103.4	143.3
800	93.7	94.3	92.5	90.6	95.9	95.7	96.4	97.4	101.6	106.2	107.5	106.4	103.5	143.2
1000	98.6	96.3	94.2	91.9	95.7	96.7	97.5	98.5	102.0	105.8	106.0	102.9	102.8	142.7
1250	100.7	97.8	95.5	93.1	94.9	97.0	97.9	98.9	103.0	104.9	105.7	100.2	100.3	142.5
1600	96.6	97.4	95.4	93.4	96.0	98.2	99.0	100.0	103.1	105.5	105.0	99.2	101.2	142.6
2000	97.0	96.5	95.1	93.6	96.4	98.1	99.0	100 0	102.8	106.0	104.7	99.4	101.8	142.6
2500	100.7	98.2	96.4	94.5	97.1	98.6	99.2	99.9	104.3	106.1	103.8	99.6	101.2	143.2
3150	97.8	96.6	95.2	93.7	97.8	99.8	100.7	101.5	104.5	105.3	104.5	100.4	102.7	143.4
4000	101.1	99.0	97.5	95.9	98.3	100.5	101.4	101.8	104.5	105.9	103.5	100.3	102.9	144.0
5000	101.5	99.3	97.9	96.4	99.1	100.9	101.7	102.0	104.9	105.5	104.6	101.4	104.2	144.5
6300	103.1	100.9	98.6	96.2	99 7	101.4	102.1	102 4	104.4	105.8	104.7	103.0	105.6	145.2
8000	102.6	100.5	98.8	97.0	99.2	101.8	102.1	102.1	105.9	106.2	105.1	104.7	106.8	146.1
10000	102.1	102.0	99.8	97.5	102.4	102.9	103.2	103.4	103.5	103.5	102.5	102.1	104.4	146.1
12500	103.9	104.0	102.6	101.1	105.2	104.7	103.2	102.0	101.0	99.5	99.4	100.5	101.7	147.3
16000	102.5	103.3	103.1	102.9	104.3	104.7	102.3	100.0	99.7	97.0	97.2	98.0	99.4	148.0
20000	101.4	100.7	100.9	101.0	101.5	103.2	100.7	98.3	99.1	95.7	94.6	95.6	96.6	147.8
25000	100.9	100.7	99.7	98.5	100.3	102.3	99.7	97.2	98.9	95.4	94.8	95.5	95.7	149.3
31500	96.7	97.4	97.0	96.5	97.3	99.3	97.2	95.4	96.9	93.3	93.2	93.6	93.7	149.7
40000	93.1	93.3	93.6	93.7	94.1	96.4	94.4	92.6	93.3	90.4	89.7	90.7	89.9	150.5
50000	89.0	90.3	90.0	89.6	89.3	92.4	90.4	88.5	91.0	87.7	87.5	87.8	87.5	151.3
63000	82.1	83.3	83.7	84.0	84.5	87.8	86.2	84.9	85.8	82.3	82.0	83.0	81.1	151.5
80000	75.2	77.6	77.4	77.2	78.5	82.7	80.6	78.7	76.0	72.5	72.2	73.2	71.3	151.8
OASPL	113.3	112.6	111.3	110.1	112.6	113.8	113.3	113.2	115.7	117.8	118.8	118.9	116.4	161.2
PNL	123.8	122.3	120.6	118.8	121.5	123.4	124.2	124.7	127.6	129.7	129.4	127.1	127.6	
PNLT	125.5	122.3	120.6	118.8	121.5	123.4	124.2	124.7	127.6	129.7	129.4	127.1	127.6	
DBA	197.8	199.6	199.6	199.5	200.4	204.3	202.3	200.6	199.7	196.2	195.9	196.8	195.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH275 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 63.39 PAMB HG = 29.31 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1506.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2340.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1610 TAPE = X1610F TEST PT NO = 1610 NC = AE100 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 - 83F-400-1610 X16101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.6	70.4	69.4	67.9	70.7	72.6	72.9	73.0	75.8	81.3	84.3	85.3	75.4	159.4
63	67.9	70.1	69.6	68.5	70.9	72.1	73.2	74.2	75.9	82.5	85.0	85.2	74.7	159.8
80	69.0	70.8	69.9	68.5	71.5	73.2	73.9	74.5	77.1	83.0	85.1	83.7	73.2	159.4
100	69.7	71.6	70.4	68.7	72.7	74.1	74.8	75.4	78.4	82.9	83.9	81.2	73.4	158.6
125	69.3	71.4	70.8	69.7	75.3	75.2	75.9	76.4	79.9	83.4	83.1	79.7	73.3	158.5
160	74.0	73.4	72.3	70.8	75.0	76.1	76.8	77.4	80.2	82.8	81.4	75.9	72.3	158.0
200	75.9	74.6	73.5	71.9	74.0	76.3	77.0	77.6	80.9	81.7	80.9	72.9	69.2	157.8
250	71.4	74.0	73.2	71.8	74.9	77.2	77.9	78.5	80.9	82.1	79.9	71.5	69.5	157.9
315	71.4	72.7	72.5	71.9	75.1	76.9	77.7	78.3	80.2	82.1	79.1	71.1	69.3	158.0
400	74.6	73.9	73.4	72.4	75.4	77.1	77.5	77.8	81.4	81.8	77.7	70.6	67.7	158.5
500	71.1	71.9	71.8	71.2	75.8	78.0	78.7	79.0	81.1	80.6	77.9	70.8	68.1	158.7
630	73.9	73.9	73.8	73.1	76.0	78.4	79.1	79.0	80.7	80.8	76.3	69.9	67.2	159.3
800	73.7	73.7	73.8	73.2	76.4	78.5	79.0	78.8	80.8	79.9	76.9	70.2	67.3	159.8
1000	74.8	74.9	74.1	72.7	76.8	78.6	79.2	78.9	79.9	79.8	76.3	71.0	67.4	160.5
1250	73.6	74.0	73.9	73.2	76.0	78.7	78.8	78.3	81.0	79.6	76.1	71.8	67.0	161.4
1600	71.9	74.6	74.2	73.1	78.6	79.3	79.4	78.9	77.9	76.1	72.4	67.5	61.9	161.4
2000	72.2	75.5	76.1	75.9	80.7	80.4	78.7	76.8	74.5	71.0	67.7	63.8	55.7	162.6
2500	68.6	73.1	75.3	76.6	78.9	79.6	76.9	73.7	71.9	66.8	63.3	58.0	48 1	163.3
3150	63.5	67.5	70.7	72.6	74.1	76.1	73.2	69.9	68.8	62.5	56.8	50.1	36.2	163.2
4000	56.1	62.0	64.8	66.0	69.1	71.5	68.5	64.7	64.0	56.7	49.9	40.3	20.1	164.6
5000	41.3	50.3	55.1	57.7	60.2	62.8	60.2	56.7	55.0	46.2	37.7	23.8		165.1
6300	19.4	31.6	39.2	43.8	46.6	49.7	46.9	42.6	38.9	28.7	16.1			165.9
8000		2.8	13.3	19.5	22.7	27.0	23.8	18.4	14.3	0.2				166.6
10000														166.8
12500														167.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.0	85.9	85.8	85.2	88.8	90.2	90.2	90.0	92.0	93.7	93.3	91.1	83.1	176.5
PNL	93.2	95.6	96.6	97.0	100.0	101.2	99.9	98.6	99.1	98.4	95.7	91.0	84.9	
PNLT	94.0	96.2	97.2	97.6	100.6	101.8	100.4	99.2	99.1	99.0	96.8	91.0	84.9	
DBA	82.4	83.8	84.3	84.2	87.8	88.9	88.4	87.6	88.7	88.0	84.7	79.1	75.1	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL	= ADH275	TEST DATE	= 05-17-83	LOCAT	= C41 ANECH CH	CONFIG	= 16	MODEL	= SL	FLTVEL	= 400. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 63.39	PAMB HG	= 29.31	RELHUM	= 48.0 PCT
WIND DIR	= DEG	WIND VEL	= MPH	EXT DIST	= 2400.0 FT	EXT CONFIG	= SL	MIKE HT	=	NBFR	=

FNIN1	= LBS	XNL	= RPM	XNH	= RPM	V8	= 1506.4 FPS	AE8	= 4.0 SQ IN		
FNRAMB	= LBS	XNLR	= RPM	XNHR	= RPM	V18	= 2340.4 FPS	AE18	= 19.9 SQ IN		

T = -40 TO E = X1 TE T N 161(E10 R F SPEED NPM

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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 83F-ZER-1611 X1611C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.1	87.7	86.4	85.2	84.3	89.2	89.7	90.2	90.7	88.7	98.6	98.8	94.5	133.9
63	92.0	94.3	94.0	93.6	92.5	97.1	96.7	96.4	96.1	93.6	103.8	102.7	101.6	139.6
80	94.8	99.1	96.1	93.1	94.7	99.1	98.6	98.1	97.6	98.7	101.3	102.7	90.4	140.2
100	94.0	99.7	97.0	94.3	96.9	99.0	98.5	98.0	97.5	100.8	102.7	106.6	93.3	141.5
125	90.6	92.9	94.0	95.0	97.6	100.2	99.9	99.5	99.2	103.0	108.1	110.8	98.2	144.2
160	89.2	89.7	90.1	90.5	92.9	95.2	96.2	97.1	98.0	104.1	109.2	112.9	103.3	145.0
200	91.5	89.6	89.5	89.4	94.0	97.6	99.3	101.1	102.8	104.6	109.8	115.5	106.9	147.1
250	91.3	92.6	92.6	92.6	95.7	97.8	99.9	102.0	104.1	109.9	115.5	118.2	109.6	150.6
315	91.6	92.4	92.3	92.2	96.0	98.9	100.9	102.9	104.9	112.2	117.1	119.5	112.9	152.2
400	93.3	93.6	93.0	92.4	95.5	98.6	101.5	104.5	107.4	114.4	119.1	121.0	113.9	153.9
500	93.6	95.4	94.7	93.9	97.0	100.6	103.1	105.6	108.2	115.2	120.1	122.0	115.2	154.9
630	94.0	95.8	95.2	94.6	97.7	101.1	103.6	106.1	108.6	115.9	120.6	121.5	116.4	155.1
800	97.1	96.6	96.2	95.7	100.5	102.6	105.1	107.5	109.9	115.5	120.1	121.0	117.2	154.9
1000	102.0	102.8	100.2	97.6	100.2	103.6	106.1	108.6	111.1	114.6	119.8	121.2	116.6	154.9
1250	100.2	102.5	101.9	101.4	103.4	105.2	107.4	109.6	111.7	114.0	118.7	120.6	116.3	154.4
1600	99.3	99.7	99.4	99.0	102.3	105.4	107.8	110.2	112.6	114.7	119.3	119.1	114.2	154.3
2000	101.0	100.1	99.1	98.1	101.0	104.1	106.7	109.3	112.0	115.3	118.3	116.2	112.6	153.2
2500	99.7	101.0	99.7	98.5	101.6	104.8	107.1	109.4	111.7	116.0	116.7	114.8	110.6	152.6
3150	99.8	100.3	99.5	98.6	101.0	104.8	107.4	110.1	112.7	115.3	115.3	112.3	109.4	152.0
4000	98.5	99.8	98.9	98.1	101.8	105.0	107.2	109.4	111.6	113.3	113.8	111.0	107.2	150.8
5000	100.4	101.2	99.8	98.4	101.5	104.7	106.7	108.7	110.6	113.5	111.8	108.7	106.4	150.3
6300	100.6	103.0	101.3	99.6	102.7	104.9	106.5	108.2	109.9	111.3	110.8	107.6	104.5	149.6
8000	99.4	103.0	102.2	101.3	102.2	104.8	105.8	106.8	107.8	109.4	108.6	105.8	102.4	148.7
10000	98.4	101.4	102.6	103.8	104.9	106.2	106.7	107.3	107.8	108.7	107.4	105.5	101.8	149.5
12500	97.4	99.7	100.7	101.7	104.7	106.7	106.4	106.2	105.9	106.2	105.0	102.5	100.3	149.0
16000	95.7	98.1	98.9	99.8	102.6	105.0	104.7	104.5	104.2	103.7	102.6	101.5	97.0	148.5
20000	94.1	96.4	97.0	97.7	99.4	102.9	102.5	102.1	101.7	101.4	100.0	97.8	94.1	147.9
25000	91.9	94.8	95.5	96.1	97.7	101.5	100.9	100.3	99.6	97.5	96.9	94.8	89.6	148.3
31500	88.8	91.5	92.8	94.1	94.3	98.4	98.0	97.5	97.0	95.0	94.7	91.6	85.2	148.6
40000	85.3	89.0	90.2	91.3	91.8	95.7	95.2	94.7	94.3	92.8	92.5	88.3	81.8	149.9
50000	80.4	83.8	85.2	86.6	87.3	92.1	91.5	90.9	90.3	88.7	87.9	83.8	76.3	150.2
63000	75.1	79.9	80.9	81.8	83.2	87.9	87.6	87.2	86.8	84.6	84.8	78.2	72.1	151.6
80000	68.9	74.4	75.3	76.1	77.6	82.6	82.0	81.5	80.9	80.2	78.6	73.5	62.8	152.9
OASPL	111.8	113.5	112.8	112.4	114.8	117.6	119.1	120.9	122.8	126.5	130.0	130.9	125.6	166.4
PNL	124.2	125.5	124.4	123.6	126.4	129.4	131.5	133.7	135.9	139.1	140.9	140.3	135.5	
PNLT	125.3	126.5	124.4	124.6	126.4	129.9	131.5	133.7	135.9	139.1	140.9	140.3	135.5	
DBA	111.2	112.4	111.5	110.7	113.3	116.1	118.2	120.4	122.7	126.0	129.1	129.4	124.7	

P1185-03

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH273 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 62.36 PAMB HG = 29.48 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1515.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2495.2 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1611 TAPE = X1611C TEST PT NO = 1611 NC = AE100 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 - 83F-ZER-1611 X1611F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.1	87.7	86.4	85.2	84.3	89.2	89.7	90.2	90.7	88.7	98.6	98.8	94.5	133.9
63	92.0	94.3	94.0	93.6	92.5	97.1	96.7	96.4	96.1	93.6	103.8	102.7	101.6	139.6
80	94.8	99.1	96.1	93.1	94.7	99.1	98.6	98.1	97.6	98.7	101.3	102.7	90.4	140.2
100	94.0	99.7	97.0	94.3	96.9	99.0	98.5	98.0	97.5	100.8	102.7	106.6	93.3	141.5
125	90.6	92.9	94.0	95.0	97.6	100.2	99.9	99.5	99.2	103.0	108.1	110.8	98.2	144.2
160	89.2	89.7	90.1	90.5	92.9	95.2	96.2	97.1	98.0	104.1	109.2	112.9	103.3	145.0
200	91.5	89.6	89.5	89.4	94.0	97.6	99.3	101.1	102.8	104.6	109.8	115.5	106.9	147.1
250	91.3	92.6	92.6	92.6	95.7	97.8	99.9	102 0	104.1	109.9	115.5	118.2	109 6	150.6
315	91.6	92.4	92.3	92.2	96.0	98 9	100.9	102.9	104.9	112.2	117.1	119.5	112.9	152.2
400	93.3	93.6	93.0	92.4	95.5	98.6	101.5	104.5	107.4	114.4	119.1	121.0	113 9	153.9
500	93.6	95.4	94.7	93.9	97.0	100.6	103.1	105.6	108.2	115.2	120.1	122.0	115.2	154.9
630	94.0	95.8	95.2	94.6	97.7	101.1	103.6	106.1	108.6	115.9	120.6	121.5	116.4	155.1
800	97.1	96.6	96.2	95.7	100.5	102.6	105.1	107.5	109.9	115.5	120.1	121.0	117.2	154.9
1000	102.0	102.8	100.2	97.6	100.2	103.6	106.1	108.6	111.1	114.6	119.8	121.2	116.6	154.9
1250	100.2	102.5	101.9	101.4	103.4	105.2	107.4	109.6	111.7	114.0	118.7	120.6	116.3	154.4
1600	99.3	99.7	99.4	99.0	102.3	105.4	107.8	110.2	112.6	114.7	119.3	119.1	114.2	154.3
2000	101.0	100.1	99.1	98.1	101.0	104.1	106.7	109.3	112.0	115.3	118.3	116.2	112.6	153.2
2500	99.7	101.0	99.7	98.5	101.6	104.8	107.1	109.4	111.7	116.0	116.7	114.8	110.6	152.6
3150	99.8	100.3	99.5	98.6	101.0	104.8	107.4	110.1	112.7	115.3	115.3	112.3	109.4	152.0
4000	98.5	99.8	98.9	98.1	101.8	105.0	107.2	109.4	111.6	113.3	113.8	111.0	107.2	150.8
5000	100.4	101.2	99.8	98.4	101.5	104.7	106.7	108.7	110.6	113.5	111.8	108.7	106.4	150.3
6300	100.6	103.0	101.3	99.6	102.7	104.9	106.5	108.2	109.9	111.3	110.8	107.6	104.5	149.6
8000	99.4	103.0	102.2	101.3	102.2	104.8	105.8	106.8	107.8	109.4	108.6	105.8	102 4	148.7
10000	98.4	101.4	102.6	103.8	104.9	106.2	106.7	107.3	107.8	108.7	107.4	105.5	101.8	149.5
12500	97.4	99.7	100.7	101.7	104.7	106.7	106.4	106.2	105.9	106.2	105.0	102.5	100 3	149.0
16000	95.7	98.1	98.9	99.8	102.6	105.0	104.7	104.5	104.2	103.7	102.6	101.5	97.0	148.5
20000	94.1	96.4	97.0	97.7	99.4	102.9	102.5	102.1	101.7	101.4	100.0	97.8	94.1	147.9
25000	91.9	94.8	95.5	96.1	97.7	101.5	100.9	100.3	99.6	97.5	96.9	94.8	89.6	148.3
31500	88.8	91.5	92.8	94.1	94.3	98.4	98.0	97.5	97.0	95.0	94.7	91.6	85 2	148.6
40000	85.3	89 0	90.2	91.3	91.8	95.7	95.2	94.7	94.3	92.8	92.5	88.3	81.8	149.9
50000	80.4	83.8	85.2	86.6	87.3	92.1	91.5	90.9	90.3	88.7	87.9	83 8	76.3	150.2
63000	75.1	79.9	80.9	81.8	83.2	87.9	87.6	87.2	86.8	84.6	84.8	78.2	72 1	151.6
80000	68.9	74.4	75.3	76.1	77.6	82.6	82.0	81.5	80.9	80.2	78.6	73.5	62.8	152.9
OASPL	111.8	113.5	112.8	112.4	114.8	117.6	119.1	120.9	122.8	126.5	130.0	130.9	125.6	166.4
PNL	124.2	125.5	124.4	123.6	126.4	129.4	131.5	133.7	135.9	139.1	140.9	140.3	135.5	
PNLT	125.3	126.5	124.4	124.6	126.4	129.9	131.5	133.7	135.9	139.1	140.9	140.3	135.5	
DBA	191.0	196.1	197.0	197.9	199.3	204.2	203.7	203.2	202.7	201.6	200.4	195.1	186.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH273 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 62.36 PAMB HG = 29.48 RELHUM = 48.0 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 = 1515.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2495.2 FPS AE18 = 19.9 SQ IN

PT F-Z 611 PE = X F TL PT 161 AET 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 - 83F-ZER-1611 X16111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.5	69.8	70.8	71.4	75.6	78.6	80.5	82.1	83.4	89.6	93.0	93.2	83.3	167.5
63	69.2	71.0	71.5	71.6	75.1	78.3	81.1	83.6	85.8	91.8	94.9	94.6	84.2	169.2
80	69.4	72.7	73.1	73.1	76.6	80.3	82.7	84.8	86.6	92.6	95.9	95.6	85.4	170.2
100	69.8	73.1	73.6	73.7	77.2	80.7	83.1	85.2	87.0	93.2	96.3	94.9	86.4	170.4
125	72.7	73.8	74.4	74.7	80.0	82.2	84.5	86.5	88.2	92.6	95.7	94.3	87.0	170.2
160	77.4	79.8	78.3	76.5	79.5	83.0	85.4	87.4	89.2	91.7	95.2	94.3	86.0	170.2
200	75.3	79.3	79.9	80.1	82.5	84.5	86.5	88.3	89.7	90.9	93.8	93.3	85.2	169.8
250	74.2	76.3	77.1	77.5	81.2	84.5	86.7	88.7	90.4	91.3	94.2	91.4	82.5	169.6
315	75.4	76.2	76.5	76.3	79.6	82.9	85.4	87.6	89.4	91.4	92.7	87.9	80.1	168.5
400	73.5	76.7	76.8	76.4	80.0	83.2	85.4	87.2	88.7	91.7	90.6	85.9	77.0	167.9
500	73.1	75.6	76.1	76.1	79.0	83.0	85.4	87.6	89.4	90.6	88.6	82.7	74.8	167.3
630	71.3	74.7	75.2	75.3	79.5	82.8	84.9	86.6	87.8	88.1	86.6	80.6	71.5	166.2
800	72.6	75.6	75.7	75.3	78.8	82.2	84.0	85.5	86.5	87.9	84.0	77.6	69.4	165.6
1000	72.2	76.9	76.8	76.1	79.7	82.1	83.6	84.7	85.4	85.2	82.4	75.6	66.3	164.9
1250	70.4	76.5	77.3	77.5	79.0	81.7	82.6	83.0	82.9	82.9	79.6	72.9	62.6	164.0
1600	68.2	74.0	77.0	79.3	81.1	82.6	82.9	82.8	82.2	81.3	77.2	71.0	59.4	164.8
2000	65.8	71.2	74.2	76.5	80.2	82.5	82.0	81.0	79.4	77.6	73.3	65.7	54.3	164.4
2500	61.8	67.9	71.2	73.5	77.1	79.9	79.3	78.2	76.4	73.5	68.8	61.6	45.7	163.8
3150	56.2	63.2	66.8	69.3	72.0	75.8	75.1	73.7	71.4	68.2	62.2	52.3	33.7	163.2
4000	47.0	56.1	60.6	63.6	66.5	70.7	69.7	67.8	64.8	58.8	52.0	39.6	14.0	163.6
5000	33.3	44.4	50.9	55.4	57.3	62.0	60.9	58.7	55.1	47.9	39.2	21.8		163.9
6300	11.6	27.2	35.8	41.4	44.3	49.0	47.7	44.8	39.9	31.1	18.8			165.2
8000			8.5	16.4	20.8	26.7	24.9	20.8	13.6	1.2				165.6
10000														166.9
12500														168.2
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.0	88.1	88.5	88.8	92.0	94.9	96.7	98.3	99.8	102.6	104.8	103.4	94.6	181.5
PNL	90.0	94 7	96.6	98.0	101.1	103.9	104.5	104.8	105.3	106.9	106.9	103.9	95.0	
PNLT	90.6	95.2	97.3	98.6	101.7	104.4	105.0	105.4	106.0	107.6	106.9	103.9	95.0	
DBA	80.1	84.3	85.4	86.3	89.2	91.9	92.9	93.8	94.6	95.5	94.6	90.8	82.3	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH273 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 62.36 PAMB HG = 29.48 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1515.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2495.2 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1611 TAPE = X16111 TEST PT NO = 1611 NC = AE100 CORR FAN SPEED = RPM

P1185-03

DATPROC - FLTRAN 07/07/83 18.473 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 83F-400-1612 X1612C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.1	89.9	87.2	84.5	83.6	85.7	87.3	88.8	90.4	91.7	95.9	96.3	91.7	132.5
63	93.0	94.5	93.3	92.1	91.7	93.8	94.5	95.1	95.8	96.6	97.8	98.0	94 9	136.9
80	94.0	98.1	95.1	92.1	94.0	97.3	97.1	96.8	96.6	96.2	99.0	100.7	91.1	138.7
100	93.7	98.2	95.1	92.0	95.1	98.5	97.9	97.3	96.8	98.3	100.7	105.6	94.1	140.3
125	90.6	92.7	93.5	94.2	97.1	98.7	98.1	97.5	96.9	100.0	106.4	110.1	98.5	142.9
160	88.9	85.2	87.0	88.8	90.6	93.5	94.1	94.7	95.2	101.1	107.2	110.4	102.0	142.6
200	88.5	87.8	87.1	86.4	90.5	93.8	95.7	97.7	99.6	100.6	106.3	113.0	104.6	144.2
250	86.0	89.1	88.7	88.4	92.0	94.1	96.0	97.9	99.8	105.9	111.5	115.5	107.1	147.3
315	87.1	88.6	88.4	88.2	91.8	94.9	96.7	98.6	100.4	107.7	113.1	116.3	108.7	148.4
400	88.6	89.4	88.6	87.9	91.8	94.6	97.2	99.8	102.4	109.7	114.6	116.8	108.4	149.4
500	89.3	90.1	89.8	89.4	92.5	95.6	98.1	100.5	102.9	111.0	115.6	116.8	106.9	149.9
630	89.0	90.8	90.4	89.9	93.5	96.6	99.0	101.4	103.9	111.7	115.8	116.0	104.6	149.9
800	91.3	90.4	90.5	90.7	96.0	97.9	100.3	102.7	105.1	111.2	114.9	113.0	102.7	148.7
1000	93.5	92.8	92.3	91.9	95.7	98.3	101.0	103.6	106.3	110.6	113.8	110.9	99.6	147.9
1250	92.2	94.0	93.5	93.1	96.1	98.7	101.4	104.1	106.7	110.8	112.2	108.1	98.3	147.2
1600	93.3	93.5	93.8	94.0	97.0	99.9	102.3	104.7	107.1	110.7	112.6	105.9	96.9	147.3
2000	95.5	93.6	93.2	92.9	96.0	99.3	102.0	104.8	107.5	111.0	111.3	103.5	97.1	146.9
2500	95.2	95.5	94.5	93.5	97.4	100.3	102.5	104.7	106.9	111.0	110.2	103.3	97.5	146.7
3150	95.5	94.6	94.7	94.9	97.5	100.5	103.2	105.8	108.4	110.8	109.5	102.6	95.6	147.0
4000	97.0	95.3	94.8	94.3	98.0	101.2	103.2	105.3	107.3	108.8	108.0	102.0	95.4	146.0
5000	99.1	97.9	96.5	95.2	97.4	100.9	102.7	104.5	106.4	109.2	106.8	100.9	95.1	145.8
6300	101.0	100.7	98.9	97.1	99.4	101.6	103.3	104.9	106.6	108.0	106.0	100.5	94.8	146.1
8000	99.4	100.7	100.1	99.5	100.7	101.7	103.0	104.2	105.5	106.6	104.8	99.8	93.9	145.9
10000	98.3	99.6	100.4	101.2	103.1	103.6	104.1	104.7	105.2	105.4	103.3	99.2	93.5	146.6
12500	98.4	99.1	99.1	99.1	102.6	104.9	104.4	104.0	103.5	103.6	101.2	97.6	92.4	146.8
16000	96.4	97.2	98.2	99.2	100.5	103.2	102.8	102.4	102.1	100.8	99.3	96.7	90.4	146.5
20000	94.5	95.3	96.1	96.9	98.9	102.1	101.4	100.6	99.8	98.1	96.7	93.7	87.7	146.4
25000	91.4	93.1	94.0	94.9	97.2	101.3	100.3	99.4	98.4	96.0	93.6	91.1	84.6	147.3
31500	88.2	89.7	91.4	93.1	94.5	98.1	97.3	96.5	95.7	93.0	90.6	88.5	81.3	147.6
40000	85.2	87.7	88.9	90.0	91.5	95.4	94.7	94.1	93.5	90.9	88.4	85.9	78.9	149.0
50000	79.4	81.8	83.7	85.5	87.5	91.6	90.7	89.9	89.1	86.6	83.9	81.5	74.2	149.2
63000	74.3	77.5	78.9	80.4	82.2	87.1	86.7	86.3	86.0	82.6	80.1	76.1	68.7	150.4
80000	68.3	71.6	72.5	73.4	76.6	81.6	81.0	80.4	79.8	77.1	73.9	69.9	62 0	151.4
OASPL	109.5	110.1	109.6	109.5	111.9	114.4	115.5	116.9	118.7	122.4	124.8	125.0	116.1	162.4
PNL	121.9	121.9	120.8	119.9	122.7	125.5	127.4	129.6	131.8	134.9	135.4	132.8	124.6	
PNLT	121.9	121.9	120.8	120.5	123.4	125.5	127.4	129.6	131.8	134.9	135.4	132.8	124.6	
DBA	107.9	107.7	107.1	106.6	109.3	111.8	113.8	116.0	118.2	121.8	123.3	121.3	112.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH274 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 64.73 PAMB HG = 29.31 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1528.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2500.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1612 TAPE = X1612C TEST PT NO = 1612 NC = AE100 CORR FAN SPEED = RPM

P1188-03

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

IDENTIFICATION - 83F-400-1612 X1612F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	93.9	95.5	93.7	91.7	93.6	94.1	94.1	94.3	98.2	104.8	109.9	113.6	107.9	145.8
315	93.9	95.5	93.6	91.7	93.6	95.1	95.9	96.7	100.5	107.3	112.0	115.2	109.5	147.6
400	94.8	95.0	93.3	91.6	93.6	94.9	96.4	98.0	101.2	108.9	113.6	116.3	110.0	148.8
500	96.0	95.6	93.5	91.3	94.4	96.0	97.3	98.7	102.3	109.9	114.3	116.5	109.8	149.3
630	97.0	96.5	94.8	92.9	95.4	97.0	98.2	99.6	104.1	110.0	114.1	115.0	110.7	149.0
800	96.7	97.3	95.4	93.4	98.6	98.4	99.6	101.0	105.6	109.8	113.7	114.3	110.2	148.7
1000	101.8	99.1	97.3	95.4	97.8	99.0	100.4	102.0	105.9	109.8	111.9	111.3	108.9	147.6
1250	100.6	98.9	97.2	95.4	98.4	99.5	100.9	102.3	106.3	109.6	112.1	108.9	107.5	147.2
1600	99.8	100.4	98.7	96.9	99.5	100.9	101.9	103.1	106.9	110.1	111.1	106.7	107.9	147.2
2000	101.0	100.0	99.0	97.9	98.5	100.6	101.9	103.3	106.8	110.7	110.7	107.3	109.1	147.4
2500	102.2	99.5	98.2	96.6	100.3	101.9	102.7	103.7	108.6	110.6	110.0	106.4	106.9	147.5
3150	102.8	102.1	99.9	97.7	100.7	102.5	103.8	105.1	108.4	109.5	109.3	106.7	107.7	147.6
4000	103.1	101.2	100.3	99.3	102.3	103.8	104.7	105.4	107.5	110.1	108.2	105.7	107.4	147.7
5000	107.3	104.3	102.3	100.1	101.2	103.9	104.5	104.9	108.3	109.4	108.0	106.0	107.8	148.2
6300	104.8	103.3	101.5	99.4	102.9	104.6	105.4	105.7	107.7	108.5	107.4	105.8	107.4	148.1
8000	105.6	105.0	102.9	100.7	104.5	104.7	105.2	105.3	108.4	108.4	107.0	106.4	108.0	148.9
10000	105.3	106.3	105.1	103.7	107.1	106.6	106.5	106.3	107.5	107.6	105.8	105.4	107.1	150.0
12500	105.1	105.7	105.6	105.5	106.7	107.9	106.8	105.8	106.3	105.1	104.1	104.5	105.2	150.5
16000	104.7	104.7	103.8	102.8	104.5	106.2	105.0	104.0	103.6	101.9	101.1	101.2	102.0	149.8
20000	102.3	102.4	102.5	102.5	103.5	105.1	103.2	101.5	102.2	99.9	98.2	98.8	99.2	150.0
25000	102.6	102.2	101.5	100.7	101.8	104.3	101.9	99.8	100.8	98.2	96.7	97.9	97.6	151.2
31500	98.7	99.2	98.6	98.0	99.1	101.1	99.1	97.3	99.9	97.5	96.1	97.0	97.1	151.9
40000	94.7	94.9	95.2	95.3	96.1	98.4	96.7	95.2	95.6	93.3	91.7	92.6	92.4	152.6
50000	91.3	92.5	92.3	91.9	92.1	94.6	92.5	90.8	93.8	90.6	89.1	88.8	89.0	153.6
63000	84.5	85.7	86.1	86.4	86.8	90.1	88.8	87.7	89.0	86.4	84.2	83.8	83.6	154.0
80000	77.9	79.9	79.9	79.8	81.2	84.6	83.1	81.6	79.2	76.6	74.4	74.0	73.8	154.2
OASPL	115.9	115.3	114.1	112.9	115.2	116.4	116.3	116.5	119.3	121.8	123.7	124.3	121.2	164.2
PNL	127.6	125.8	124.0	122.2	125.0	126.4	127.3	128.1	131.3	133.7	134.1	132.7	132.2	
PNLT	128.7	125.8	124.0	122.2	125.0	126.4	127.3	128.1	131.3	133.7	134.1	132.7	132.2	
DBA	200.3	202.0	202.0	202.0	203.0	206.3	204.8	203.4	202.8	200.1	198.0	197.7	197.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH274 TEST DATE = 05-17-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = SL FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 64.73 PAMB HG = 29.31 RELHUM = 48.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1528.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2500.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1612 TAPE = X1612F TEST PT NO = 1612 NC = AE100 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 - 83F-400-1612 X16121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.8	72.9	72.1	70.9	73.2	74.8	75.5	75.9	79.0	84.7	87.9	88.9	79.8	163.0
63	70.6	72.4	71.8	70.7	73.2	74.6	76.0	77.2	79.7	86.3	89.5	89.9	80.2	164.2
80	71.8	72.9	71.9	70.4	74.0	75.7	76.8	77.9	80.8	87.2	90.1	90.1	80.0	164.6
100	72.7	73.8	73.1	72.0	75.0	76.6	77.7	78.7	82.5	87.2	89.8	88.5	80.8	164.3
125	72.3	74.4	73.7	72.4	78.1	78.0	79.1	80.0	83.9	87.0	89.3	87.6	80.0	164.0
160	77.2	76.1	75.4	74.3	77.1	78.4	79.7	80.8	84.0	86.9	87.3	84.4	78.3	162.9
200	75.8	75.7	75.2	74.1	77.5	78.8	80.0	81.1	84.2	86.4	87.3	81.6	76.4	162.6
250	74.6	77.0	76.4	75.3	78.4	80.0	80.8	81.5	84.6	86.7	85.9	79.0	76.2	162.5
315	75.4	76.2	76.4	76.1	77.2	79.4	80.6	81.6	84.2	86.9	85.1	79.1	76.5	162.7
400	76.1	75.3	75.2	74.5	78.7	80.4	81.1	81.6	85.6	86.4	83.8	77.4	73.4	162.8
500	76.1	77.4	76.6	75.2	78.7	80.7	81.8	82.6	85.0	84.8	82.7	77.1	73.1	162.9
630	75.9	76.1	76.6	76.4	80.0	81.6	82.4	82.6	83.8	84.9	81.0	75.4	71.7	163.0
800	79.5	78.7	78.1	77.0	78.6	81.4	81.9	81.7	84.2	83.8	80.2	74.8	70.9	163.5
1000	76.5	77.3	77.0	76.0	80.0	81.9	82.4	82.2	83.2	82.5	79.0	73.9	69.2	163.4
1250	76.5	78.5	78.0	76.8	81.3	81.7	82.0	81.4	83.5	81.9	78.0	73.4	68.2	164.2
1600	75.1	78.9	79.5	79.3	83.3	83.0	82.7	81.8	81.9	80.2	75.6	70.8	64.6	165.3
2000	73.5	77.2	79.2	80.3	82.2	83.6	82.3	80.6	79.8	76.5	72.4	67.8	59.2	165.8
2500	70.8	74.5	76.0	76.5	79.1	81.0	79.6	77.7	75.9	71.8	67.3	61.2	50.7	165.2
3150	64.5	69.2	72.2	74.1	76.0	78.0	75.7	73.0	72.0	66.7	60.4	53.3	38.8	165.3
4000	57.8	63.4	66.6	68.2	70.6	73.5	70.8	67.3	65.9	59.5	51.9	42.6	22.1	166.6
5000	43.3	52.1	56.7	59.2	62.1	64.6	62.1	58.5	58.0	50.4	40.6	27.2		167.2
6300	21.0	33.2	40.8	45.3	48.6	51.6	49.2	45.3	41.2	31.6	18.0			167.9
8000		5.1	15.6	21.7	25.6	29.1	26.0	20.7	17.1	3.1				168.9
10000														169.4
12500														169.6
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	87.7	88.9	88.9	88.5	91.6	93.0	93.3	93.4	95.7	97.7	98.4	96.9	89.1	179.5
PNL	95.4	98.0	99.1	99.5	102.1	103.7	103.1	102.1	102.9	102.7	100.9	97.2	90.6	
PNLT	96.5	98.5	99.6	100.0	102.7	104.2	103.6	102.8	102.9	103.7	102.1	97.2	90.6	
DBA	85.3	87.0	87.5	87.5	90.6	91.8	91.5	90.9	92.2	91.8	89.0	84.0	79.3	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH274	TEST DATE = 05-17-83	LOCAT = C41 ANECH CH	CONFIG = 16	MODEL = SL	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 64.73	PAMB HG = 29.31	RELHUM = 48.0 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNINI = LBS	XNL = RPM	XNH = RPM	V8 = 1528.6 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2500.5 FPS	AE18 = 19.9 SQ IN

T = 40 12 XT TES NC 6T2 ETOL CORR FAN SPEED RPM

C41

P1185-03

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 83F-ZER-1633 X1633C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.6	81.7	80.9	78.7	77.1	80.4	81.3	82.2	82.2	80.2	84.9	87.3	81.5	123.8
63	83.5	87.5	90.6	86.9	84.7	88.8	89.5	87.6	88.1	86.1	87.5	91.0	90.4	130.2
80	85.5	89.8	86.1	83.4	84.5	89.3	88.7	88.1	89.3	89.7	92.0	92.5	77.6	130.6
100	84.2	89.7	85.3	84.8	87.6	90.5	89.1	91.0	90.0	92.8	94.7	96.6	82.6	132.6
125	81.6	85.4	87.7	85.5	88.1	90.4	89.6	89.2	89.9	93.0	98.9	100.8	87.0	134.5
160	80.4	81.2	85.7	81.5	83.9	87.2	92.9	89.0	90.0	93.8	98.2	100.6	91.8	134.3
200	81.5	83.1	86.6	83.4	85.5	89.1	91.5	91.4	94.8	95.6	99.8	104.5	95.4	136.9
250	81.3	85.3	85.3	83.6	86.2	89.8	90.5	92.9	94.8	99.9	103.5	106.7	97.9	139.4
315	82.6	85.6	86.9	84.7	87.8	91.4	92.8	94.2	96.1	100.0	103.8	106.5	100.4	139.8
400	83.3	86.1	86.9	84.9	87.5	91.1	96.0	94.9	98.1	102.2	104.6	107.0	100.7	140.7
500	84.1	86.6	87.1	84.7	88.3	92.1	92.8	95.4	97.6	101.7	104.3	105.8	100.4	140.1
630	83.5	86.6	87.1	85.6	89.5	92.6	94.5	95.9	98.3	102.4	104.3	104.2	99.4	140.0
800	85.1	86.9	88.1	85.9	89.3	93.6	94.0	96.9	99.1	102.2	103.3	102.5	99.2	139.6
1000	88.0	88.8	89.1	86.4	90.4	94.3	94.9	98.1	99.6	101.6	102.0	100.7	97.6	139.2
1250	85.7	90.0	89.5	86.9	90.4	93.7	94.4	97.5	99.5	101.0	100.9	100.4	97.5	138.7
1600	86.3	89.0	89.9	87.8	91.3	94.9	95.7	97.8	100.2	100.2	101.4	99.8	96.9	138.9
2000	87.5	89.1	89.5	87.9	90.5	94.3	95.3	98.1	99.8	100.0	100.6	98.4	96.4	138.5
2500	86.2	89.7	90.1	87.3	91.4	94.5	94.7	98.1	98.5	99.7	98.8	97.1	95.6	137.8
3150	86.3	89.6	90.2	87.9	90.5	94.8	96.0	97.7	99.0	98.6	97.1	95.0	93.2	137.5
4000	86.8	89.9	90.3	87.7	91.3	94.3	94.7	97.3	96.9	95.9	95.6	93.4	91.2	136.3
5000	86.5	90.1	89.9	87.8	91.1	94.8	95.2	96.8	96.0	95.4	93.7	91.7	89.5	136.0
6300	87.2	89.4	90.2	88.8	92.1	95.3	95.6	97.3	95.3	92.8	93.3	91.5	88.0	136.2
8000	85.7	88.8	90.2	88.6	91.5	95.0	95.0	95.6	93.6	90.5	89.4	88.1	85.7	135.4
10000	85.4	88.8	90.3	89.4	92.0	95.5	94.7	95.5	93.9	89.2	87.0	85.6	84.4	135.9
12500	84.3	88.4	89.4	88.8	91.6	95.6	94.6	94.6	91.8	86.9	83.9	83.1	81.6	136.1
16000	82.7	87.6	88.3	88.3	90.3	93.8	93.6	93.8	90.5	83.7	81.4	79.6	78.0	136.2
20000	81.6	86.1	87.5	86.5	88.2	91.9	92.0	91.0	87.9	81.2	78.3	76.6	74.3	135.9
25000	79.2	84.1	85.6	85.4	87.0	91.3	90.5	88.8	86.4	78.9	75.3	74.3	71.4	136.9
31500	75.4	79.4	81.5	82.7	83.4	87.5	86.8	86.4	83.0	76.3	72.2	69.9	66.8	136.6
40000	71.4	76.2	77.5	78.3	79.9	84.8	83.1	82.9	79.3	73.0	69.3	66.3	62.4	137.1
50000	65.1	69.7	71.3	72.5	73.9	80.0	77.6	76.9	74.5	68.2	64.2	60.9	57.3	136.1
63000	58.6	63.3	65.8	65.8	67.8	73.8	71.4	71.3	69.3	62.8	60.4	55.4	50.7	135.5
80000	51.7	56.8	58.3	58.5	60.7	67.3	64.2	64.6	62.5	55.7	53.1	48.4	42.7	135.4
OASPL	99.3	102.4	103.0	101.1	104.0	107.6	108.2	109.7	110.6	112.4	114.1	115.3	109.7	152.4
PNL	111.6	114.6	115.1	112.9	116.1	119.6	120.5	122.2	123.2	123.7	124.1	123.6	120.0	
PNLT	111.6	114.6	115.1	112.9	116.1	119.6	121.0	122.2	123.2	123.7	124.1	123.6	120.0	
DBA	98.0	100.8	101.3	99.2	102.5	106.0	106.7	108.9	110.0	111.2	112.0	111.7	107.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH254 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 55.23 PAMB HG = 29.08 RELHUM = 43.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1075.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1790.2 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1633 TAPE = X1633C TEST PT NO = 1633 NC = AE096 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 - 83F-ZER-1633 X1633F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.6	81.7	80.9	78.7	77.1	80.4	81.3	82.2	82.2	80.2	84.9	87.3	81 5	123.8
63	83.5	87.5	90.6	86.9	84.7	88.8	89.5	87.6	88.1	86.1	87.5	91.0	90 4	130.2
80	85.5	89.8	86.1	83.4	84.5	89.3	88.7	88.1	89.3	89.7	92.0	92.5	77 6	130.6
100	84.2	89.7	85.3	84.8	87.6	90.5	89.1	91.0	90.0	92.8	94.7	96.6	82.6	132.6
125	81.6	85.4	87.7	85.5	88.1	90.4	89.6	89.2	89.9	93.0	98.9	100.8	87.0	134.5
160	80.4	81.2	85.7	81.5	83.9	87.2	92.9	89.0	90.0	93.8	98.2	100.6	91 8	134.3
200	81.5	83.1	86.6	83.4	85.5	89.1	91.5	91.4	94.8	95.6	99.8	104.5	95.4	136.9
250	81.3	85.3	85.3	83.6	86.2	89.8	90.5	92.9	94.8	99.9	103.5	106.7	97.9	139.4
315	82.6	85.6	86.9	84.7	87.8	91.4	92.8	94.2	96.1	100.0	103.8	106.5	100 4	139.8
400	83.3	86.1	86.9	84.9	87.5	91.1	96.0	94.9	98.1	102.2	104.6	107.0	100.7	140.7
500	84.1	86.6	87.1	84.7	88.3	92.1	92.8	95.4	97.6	101.7	104.3	105.8	100.4	140.1
630	83.5	86.6	87.1	85.6	89.5	92.6	94.5	95.9	98.3	102.4	104.3	104.2	99.4	140.0
800	85.1	86.9	88.1	85.9	89.3	93.6	94.0	96.9	99.1	102.2	103.3	102.5	99.2	139.6
1000	88.0	88.8	89.1	86.4	90.4	94 3	94.9	98.1	99.6	101.6	102.0	100.7	97.6	139.2
1250	85.7	90.0	89.5	86.9	90.4	93.7	94.4	97.5	99.5	101.0	100.9	100.4	97.5	138.7
1600	86.3	89.0	89.9	87.8	91.3	94.9	95.7	97.8	100.2	100.2	101.4	99.8	96 9	138.9
2000	87.5	89.1	89.5	87.9	90.5	94.3	95.3	98.1	99.8	100.0	100.6	98.4	96.4	138.5
2500	86.2	89.7	90.1	87.3	91.4	94.5	94.7	98.1	98.5	99.7	98.8	97.1	95.6	137.8
3150	86.3	89.6	90.2	87.9	90.5	94.8	96.0	97.7	99.0	98.6	97.1	95.0	93.2	137.5
4000	86.8	89.9	90.3	87.7	91.3	94.3	94.7	97.3	96.9	95.9	95.6	93.4	91.2	136.3
5000	86.5	90.1	89.9	87.8	91.1	94.8	95.2	96.8	96.0	95.4	93.7	91.7	89.5	136.0
6300	87.2	89.4	90.2	88.8	92.1	95.3	95.6	97.3	95.3	92.8	93.3	91.5	88.0	136.2
8000	85.7	88.8	90.2	88.6	91.5	95.0	95.0	95.6	93.6	90.5	89.4	88.1	85.7	135.4
10000	85.4	88.8	90.3	89.4	92.0	95.5	94.7	95.5	93.9	89.2	87.0	85.6	84.4	135.9
12500	84.3	88.4	89.4	88.8	91.6	95.6	94.6	94.6	91.8	86.9	83.9	83.1	81.6	136.1
16000	82.7	87.6	88.3	88.3	90.3	93.8	93.6	93.8	90.5	83.7	81.4	79.6	78.0	136.2
20000	81.6	86.1	87.5	86.5	88.2	91.9	92.0	91.0	87.9	81.2	78.3	76.6	74.3	135.9
25000	79.2	84.1	85.6	85.4	87.0	91.3	90.5	88.8	86.4	78.9	75.3	74.3	71.4	136.9
31500	75.4	79.4	81.5	82.7	83.4	87.5	86.8	86.4	83.0	76.3	72.2	69.9	66 8	136.6
40000	71.4	76.2	77.5	78.3	79.9	84.8	83.1	82.9	79.3	73.0	69.3	66.3	62.4	137.1
50000	65.1	69.7	71.3	72.5	73.9	80.0	77.6	76.9	74.5	68.2	64.2	60.9	57.3	136.1
63000	58.6	63.3	65.8	65.8	67.8	73.8	71.4	71.3	69.3	62.8	60.4	55.4	50.7	135.5
80000	51.7	56.8	58.3	58.5	60.7	67.3	64.2	64.6	62.5	55.7	53.1	48.4	42.7	135.4
OASPL	99.3	102.4	103.0	101.1	104.0	107.6	108.2	109.7	110.6	112.4	114.1	115.3	109.7	152.4
PNL	111.6	114.6	115.1	112.9	116.1	119.6	120.5	122.2	123.2	123.7	124.1	123.6	120.0	
PNLT	111.6	114.6	115.1	112.9	116.1	119.6	121.0	122.2	123.2	123.7	124.1	123.6	120.0	
DBA	174.4	179.2	181.0	181.3	183.3	189.6	186.9	187.0	184.8	178.2	175.4	170.9	165 8	

3.5.6

P1185-08

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH254 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 55.23 PAMB HG = 29.08 RELHUM = 43.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1075.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1790.2 FPS AE18 = 19.9 SQ IN

PT F-ZE 333 E = X F TE PT N 163 AE0 RR F SPEE 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 - 83F-2ER-1633 X16331

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	58.5	63.0	65.4	63.9	67.4	71.1	72.4	73.4	74.6	77.4	79.7	80.2	70.8	155.1
63	59.2	63.5	65.3	64.1	67.1	70.8	75.6	74.1	76.6	79.6	80.4	80.6	70.9	156.1
80	59.9	64.0	65.6	63.8	67.8	71.8	72.3	74.6	76.1	79.1	80.1	79.3	70.6	155.4
100	59.3	63.9	65.5	64.7	69.0	72.2	74.0	75.0	76.7	79.7	80.0	77.7	69.4	155.3
125	60.7	64.1	66.4	64.9	68.7	73.2	73.5	75.9	77.4	79.4	78.9	75.8	69 0	154.9
160	63.4	65.8	67.2	65.2	69.8	73.8	74.3	77.0	77.7	78.7	77.4	73.8	67.0	154.5
200	60.8	66.8	67.4	65.6	69.5	73.0	73.5	76.2	77.4	77.9	76.1	73.1	66.5	154.0
250	61.2	65.5	67.6	66.3	70.2	74.0	74.7	76.3	77.9	76.8	76.2	72.1	65.2	154.2
315	61.9	65.3	66.9	66.1	69.1	73.1	74.0	76.3	77.2	76.2	74.9	70.1	63.8	153.8
400	60.0	65.5	67.1	65.1	69.8	73.0	73.1	75.9	75.5	75.5	72.6	68.1	62.0	153.1
500	59.7	65.0	66.8	65.5	68.5	73.0	74.0	75.2	75.7	73.9	70.4	65.4	58 6	152.8
630	59.6	64.8	66.5	64.9	69.0	72.2	72.4	74.5	73.2	70.8	68.4	63.0	55.5	151.6
800	58.8	64.5	65.8	64.7	68.5	72.3	72.6	73.6	71.9	69.8	65.9	60.6	52.6	151.4
1000	58.9	63.4	65.7	65.3	69.2	72.6	72.7	73.8	70.8	66.7	64.9	59.5	49.4	151.6
1250	56.7	62.3	65.3	64.8	68.2	72.0	71.7	71.8	68.7	64.0	60.4	55.2	45.8	150.7
1600	55.2	61.4	64.7	64.9	68.2	71.9	70.9	71.0	68.3	61.8	56.8	51.0	41.9	151.3
2000	52.6	59.8	62.9	63.6	67.1	71.3	70.2	69.4	65.3	58.3	52.2	46.3	35.6	151.4
2500	48.9	57.5	60.5	62.0	64.9	68.6	68.2	67.5	62.7	53.6	47.6	39.6	26.7	151.5
3150	43.7	52.9	57.3	58.0	60.8	64.8	64.6	62.5	57.7	48.0	40.5	31.1	14.0	151.3
4000	34.4	45.4	50.7	52.9	55.8	60.5	59.3	56.3	51.5	40.2	30.5	19.0		152.2
5000	19.9	32.3	39.5	43.9	46.4	51.1	49.8	47.6	41.0	29.2	16.7	0.1		151.9
6300		14.5	23.1	28.3	32.4	38.0	35.6	32.9	24.9	11.3				152.4
8000				2.3	7.3	14.5	11.0	6.8						151.4
10000														150.8
12500														150.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	72.1	76.7	78.6	77.5	81.2	85.0	85.7	87.1	87.7	88.6	88.4	86.9	78.3	167.1
PNL	76.7	82.8	85.6	85.7	89.1	93.2	93.0	93.3	92.1	90.6	88.8	84.9	76.5	
PNLT	76.7	82.8	85.6	86.2	89.8	93.8	93.5	93.9	92.1	90.6	88.8	84.9	76.5	
DBA	66.9	72.3	74.7	74.2	77.8	81.5	81.4	82.3	80.9	78.9	76.7	72.4	65.3	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH254 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 55.23 PAMB HG = 29.08 RELHUM = 43.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1075.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1790.2 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-2ER-1633 TAPE = X16331T TEST PT NO = 1633 NC = AE096 CORR FAN SPEED = RPM

P1165-03

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 83F-400-1634 X1634C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.1	83.2	80.7	77.5	76.8	79.7	80.3	82.2	81.4	78.7	86.6	88.6	88.7	124.8
63	83.5	88.0	90.3	84.4	82.7	86.3	89.2	88.1	88.1	83.6	87.3	90.7	93.6	129.9
80	85.0	88.3	84.3	83.1	84.5	88.6	88.7	87.6	89.3	86.7	89.8	91.0	89.4	129.8
100	82.5	87.0	83.3	82.0	84.6	88.0	87.1	87.8	87.5	86.6	91.0	93.6	88.8	129.6
125	81.1	83.7	84.9	82.7	85.3	87.2	87.3	86.5	87.2	86.8	94.6	97.3	89.5	131.1
160	78.4	79.7	84.2	80.0	81.4	83.7	90.1	85.8	87.0	88.1	95.7	97.4	91.3	131.3
200	79.0	80.6	85.6	79.9	81.2	83.6	88.0	88.1	88.8	87.4	94.5	99.7	93.1	132.1
250	77.5	79.6	80.6	77.9	81.2	84.1	84.2	86.6	88.6	90.9	98.0	100.5	92.9	133.2
315	78.3	81.6	83.6	80.2	82.3	85.1	87.3	88.2	89.4	91.5	98.8	99.8	93.2	133.5
400	78.6	80.9	81.6	79.2	81.8	85.1	89.3	88.2	90.9	92.9	98.8	99.3	91.2	133.5
500	79.1	80.4	81.4	78.7	83.0	85.9	86.5	88.4	91.1	93.2	98.6	96.3	89.2	132.7
630	78.3	80.8	81.6	79.9	83.5	86.6	87.2	89.4	91.8	93.7	98.8	94.2	88.6	132.7
800	80.3	81.1	82.1	79.9	85.5	87.4	87.8	90.4	92.9	93.7	97.1	90.5	86.4	132.2
1000	82.3	82.3	82.8	80.9	85.7	88.3	88.4	91.6	93.6	93.9	96.5	87.9	84.6	132.3
1250	81.2	83.5	83.0	81.4	84.4	88.2	88.4	91.3	93.7	93.3	94.7	86.1	83.5	131.7
1600	82.1	84.2	84.7	82.8	86.0	89.4	90.0	91.5	94.9	93.2	95.1	85.5	81.9	132.4
2000	84.3	83.8	84.5	82.9	85.7	89.8	90.1	92.6	94.5	93.3	93.6	84.6	82.6	132.3
2500	84.4	85.3	85.6	83.0	87.2	89.8	89.7	92.3	93.7	93.0	92.5	83.6	81.3	132.0
3150	85.8	85.2	86.2	84.2	87.0	90.6	90.7	92.2	94.3	92.6	91.6	83.5	80.7	132.3
4000	86.1	86.7	87.0	84.7	88.4	91.6	91.2	92.5	92.9	90.9	90.4	83.9	80.3	132.2
5000	86.3	86.6	87.7	85.4	88.4	92.3	91.2	92.8	93.1	91.0	90.5	83.8	80.5	132.6
6300	86.5	87.2	88.5	86.9	90.2	92.6	91.9	92.6	92.1	89.3	90.1	84.8	80.3	133.0
8000	86.3	87.2	89.0	87.2	89.8	92.3	91.3	91.4	90.4	87.1	87.5	83.2	80.2	132.6
10000	86.5	88.2	89.4	88.2	90.6	93.1	92.6	92.3	91.3	85.8	85.6	82.9	80.2	133.8
12500	86.6	87.2	89.3	88.2	90.9	93.7	92.0	91.0	89.7	84.3	83.0	80.9	78.9	134.2
16000	86.1	88.0	88.0	88.4	89.5	92.7	91.3	90.4	88.9	81.7	81.3	79.0	76.4	134.7
20000	84.7	86.0	86.9	85.8	87.8	90.8	89.7	88.3	87.3	79.6	78.7	76.5	73.9	134.7
25000	81.6	83.7	85.0	84.8	86.3	90.4	89.1	86 9	85.7	77.3	77.2	75.1	71.5	135.9
31500	77.7	79.8	81.1	82.2	83.3	87.4	85.9	84.7	82.6	74.6	74.5	72.0	67.4	136.0
40000	73.2	76.0	77.5	78.1	79.7	84.6	82.4	80.9	79.3	71.6	72.6	68.9	64.0	136.6
50000	67.1	70.0	71.6	72.5	73.4	79.2	76.6	75.4	74.3	67.3	68.0	63.7	58.8	135.5
63000	60.9	63.8	65.6	65.6	67.8	73.1	70.4	69.8	70.0	62.3	63.4	58.7	53.2	135.0
80000	52.7	56.5	58.3	57.3	60.0	66.8	63.2	63.2	62.5	55.5	56.8	52.7	45.5	134.8
OASPL	98.2	99.7	100.5	98.6	101.2	104.2	104.1	104.8	105.8	105.0	108.8	108.2	102.6	148.4
PNL	110.1	111.0	111.7	109.5	112.7	115.8	115.9	117.1	118.5	117.3	118.8	115.3	110.1	
PNLT	110.1	111.0	112.3	109.5	112.7	115.8	115.9	117.1	118.5	117.3	118.8	115.3	110.1	
DBA	96.0	96.7	97.6	95.7	98.9	102.0	101.9	103.5	105.0	104.1	106.2	102.0	96.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH268 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.28 PAMB HG = 28.99 RELHUM = 37.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1111.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1801.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1634 TAPE = X1634C TEST PT NO - 1634 [illegible] RPM

P1185-03

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

IDENTIFICATION - 83F-400-1634 X1634F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	84.5	85.4	85.1	80.9	82.7	84.1	82.3	83.0	87.3	88.9	96.0	97.7	93.1	131.4
315	84.4	85.3	85.1	80.9	83.9	85.3	86.4	86.4	88.7	90.3	96.2	97.7	92.4	131.9
400	84.9	87.2	88.1	83.2	83.5	85.4	88.3	86.2	89.0	90.6	96.1	95.4	92.0	131.7
500	85.4	86.7	86.2	82.4	84.9	86.2	85.5	86.3	90.0	91.5	96.9	94.5	93.7	131.9
630	86.8	86.8	86.4	82.1	85.4	87.0	86.3	87.3	91.6	92.2	96.1	92.3	94.4	131.9
800	86.0	87.2	86.6	83.4	87.6	87.9	87.0	88.5	92.9	93.1	96.4	91.3	95.3	132.6
1000	88.0	87.6	87.2	83.5	87.9	89.0	88.1	90.0	93.5	92.9	95.0	89.9	94.6	132.6
1250	89.9	88.8	87.9	84.5	86.6	89.0	88.4	90.1	94.4	92.5	95.0	89.0	93.0	132.7
1600	88.8	90.0	88.1	85.1	88.5	90.4	90.1	90.3	95.1	93.7	94.7	89.3	94.8	133.4
2000	89.8	90.8	89.9	86.7	88.4	91.1	90.7	92.3	94.6	93.7	94.0	88.6	94.0	133.7
2500	91.9	90.4	89.9	86.9	90.1	91.4	90.7	92.3	95.8	94.1	93.9	89.4	94.3	134.2
3150	92.1	91.9	91.0	87.2	90.3	92.6	92.2	92.7	95.9	93.8	94.1	91.0	94.7	134.8
4000	93.4	91.8	91.7	88.6	92.1	94.1	93.4	94.1	96.3	94.3	94.6	91.3	95 3	135.8
5000	93.6	93.4	92.8	89.4	92.4	95.3	93.7	94.7	95.4	92.7	94.0	91.8	94.2	136.1
6300	93.8	93.3	93.5	90.2	94.2	95.6	94.2	94.3	91.4	87.6	88.3	87.0	91.0	135.7
8000	93.8	93.8	94.2	91.5	93.8	95.3	92.7	91.4	92.4	86.4	86.5	86.9	91.1	135.8
10000	93.4	93.6	94.5	91.7	94.6	96.1	94.0	92.3	91.1	85.2	84.3	85.2	90.1	136.6
12500	93.4	94.3	94.7	92.5	95.0	96.7	93.4	91.0	90.8	83.1	83.1	83.7	88.1	137.5
16000	93.0	92.8	94.0	91.9	93.5	95.7	92.7	90.4	89.6	81.4	80.9	81.7	86.1	137.9
20000	92.0	93.2	92.3	91.7	91.9	93.8	91.1	88.3	88.7	79.7	80.0	80.9	84.2	138.4
25000	90.0	90.6	90.6	88.5	90.9	93.4	90.5	86.9	86.3	77.8	78.1	78.5	80.9	139.3
31500	88.9	89.8	89.6	87.8	87.9	90.4	87.3	84.7	83.9	75.7	77.0	76.3	78.3	140.3
40000	84.2	85.0	84.9	84.5	84.3	87.6	83.8	80.9	79.2	71.7	72.8	71.5	73.6	140.5
50000	79.3	80.9	80.9	79.9	78.0	82.2	78.0	75.4	75.9	67.7	69.1	67.4	68.9	140.0
63000	72.3	73.9	74.1	73.4	72.4	76.1	71.9	69.8	69.9	62.4	64.0	62.9	62.7	138.9
80000	64.6	66.2	66.6	65.0	64.6	69.8	64.7	63.1	60.1	52.6	54.2	53.1	52.8	138.4
OASPL	104.5	104.6	104.5	101.9	104.3	106.2	104.4	104.2	106.1	104.5	107.0	105.0	106.1	150.7
PNL	115.9	115.4	115.0	111.7	114.9	116.8	115.9	116.5	118.7	116.9	118.2	115.3	118.4	
PNLT	115.9	115.4	115.0	111.7	114.9	116.8	115.9	116.5	118.7	116.9	118.2	115.3	118.4	
DBA	187.6	189.2	189.4	188.2	187.5	192.1	187.3	185.5	184.0	176.4	178.0	176.8	176.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH268 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = C0 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = N0 PWL AREA = FULL SPHERE TAMB F = 58.28 PAMB HG = 28.99 RELHUM = 37.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1111.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1801.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1634 TAPE = X1634F TEST PT NO = 1634 NC = AE096 CORR FAN SPEED = RPM

P1185-08

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

IDENTIFICATION - 83F-400-1634 X16341

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	60.3	62.8	63.6	60.1	63.5	65.1	66.0	65.6	67.2	67.7	72.0	71.4	62.8	147.3
63	60.7	64.6	66.5	62.4	63.1	65.1	67.9	65.3	67.4	68.0	71.9	69.0	62.3	147.0
80	61.2	64.0	64.6	61.5	64.5	65.9	65.1	65.4	68.5	68.9	72.7	68.1	63.8	147.2
100	62.5	64.1	64.8	61.2	64.9	66.6	65.8	66.4	70.0	69.5	71.8	65.8	64.4	147.3
125	61.6	64.4	64.9	62.4	67.0	67.5	66.4	67.5	71.2	70.2	72.0	64.6	65.1	147.9
160	63.4	64.6	65.3	62.4	67.2	68.4	67.4	68.9	71.6	69.9	70.4	62.9	64.0	147.9
200	65.1	65.6	65.9	63.2	65.8	68.3	67.5	68.9	72.4	69.3	70.2	61.7	61.9	148.0
250	63.7	66.5	65.9	63.6	67.4	69.5	69.0	68.8	72.8	70.2	69.5	61.6	63.1	148.8
315	64.1	66.9	67.3	64.9	67.1	69.9	69.4	70.5	72.0	69.9	68.4	60.4	61.4	149.0
400	65.8	66.2	66.9	64.8	68.4	69.9	69.0	70.2	72.8	69.8	67.7	60.4	60.7	149.6
500	65.4	67.2	67.7	64.8	68.3	70.8	70.2	70.3	72.5	69.1	67.4	61.4	60.2	150.2
630	66.2	66.7	68.0	65.8	69.8	72.0	71.1	71.3	72.6	69.1	67.4	60.9	59.6	151.1
800	65.8	67.8	68.7	66.2	69.8	72.9	71.0	71.5	71.3	67.1	66.2	60.7	57.3	151.4
1000	65.4	67.3	69.1	66.7	71.3	72.9	71.3	70.8	66.9	61.5	59.9	55.0	52.8	151.0
1250	64.8	67.2	69.3	67.7	70.6	72.3	69.5	67.6	67.5	59.9	57.5	54.0	51.3	151.1
1600	63.2	66.2	68.9	67.3	70.8	72.5	70.2	67.9	65.5	57.8	54.1	50.6	47.7	151.9
2000	61.7	65.8	68.2	67.3	70.5	72.4	68.9	65.8	64.3	54.6	51.4	47.0	42.1	152.8
2500	59.1	62.7	66.2	65.6	68.0	70.5	67.2	64.1	61.9	51.3	47.0	41.7	34.7	153.2
3150	54.2	60.0	62.0	63.3	64.4	66.7	63.7	59.9	58.4	46.5	42.1	35.4	23.9	153.7
4000	45.2	51.9	55.7	56.1	59.7	62.6	59.3	54.4	51.4	39.1	33.2	23.3	5.3	154.6
5000	33.4	42.7	47.7	49.1	50.8	53.9	50.3	45.9	42.0	28.5	21.5	6.5		155.6
6300	10.6	23.3	30.5	34.5	36.8	40.8	36.3	31.0	24.8	10.0				155.8
8000			4.2	9.8	11.4	16.8	11.5	5.3						155.3
10000														154.3
12500														153.7
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	76.4	78.5	79.7	77.6	81.0	83.0	81.5	81.3	82.9	80.5	81.5	76.7	73.7	165.9
PNL	83.6	86.9	89.0	87.8	90.9	93.0	90.6	88.8	88.7	84.4	83.2	76.8	75.0	
PNLT	84.9	88.1	90.0	88.3	91.5	93.6	91.2	89.3	88.7	84.4	83.2	76.8	75.0	
DBA	73.6	76.0	77.9	76.4	79.7	81.7	79.5	78.5	78.4	74.1	72.7	66.5	65.2	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH268	TEST DATE = 05-05-83	LOCAT = C41 ANECH CH	CONFIG = 16	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 58.28	PAMB HG = 28.99	RELHUM = 37.9 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 = 1111.7 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1801.8 FPS	AE18 = 19.9 SQ IN

T = -40 34 XL TE T NL 1634 E09 R FAN SPEED RPM

360

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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 83F-ZER-1635 X1635C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.1	83.7	82.2	81.2	79.3	82.4	82.3	83.5	84.4	81.5	87.4	90.1	82.5	125.9
63	85.5	88.5	91.8	90.4	86.2	89.8	89.5	89.9	90.3	87.9	90.0	92.2	89.6	131.7
80	88.0	92.1	88.3	86.6	87.2	92.3	90.7	90.4	91.8	91.7	94.8	94.7	80.6	133.1
100	87.5	92.7	88.5	87.8	90.4	93.3	92.1	94.0	93.3	96.3	97.2	99.6	85.6	135.6
125	84.1	87.9	90.2	88.2	90.6	92.7	91.8	92.2	93.2	96.5	101.4	103.3	89.5	137.2
160	83.2	83.2	87.7	84.5	85.9	89.7	94.1	91.8	93.0	97.6	101.4	103.9	95.0	137.4
200	83.8	85.1	88.3	85.4	87.5	91.1	93.0	94.4	97.6	98.9	102.8	107.7	98.1	139.9
250	84.0	87.8	87.6	85.6	88.5	92.1	93.0	95.4	97.6	103.2	106.8	110.0	100.9	142.5
315	85.3	87.6	88.9	87.2	90.0	93.6	95.3	96.2	99.6	104.5	107.6	110.5	104.2	143.5
400	86.3	88.6	89.4	86.9	90.3	93.4	97.3	97.4	101.4	106.2	109.1	111.5	105.2	144.8
500	87.1	88.9	89.6	87.4	91.3	94.4	95.3	97.9	101.6	106.5	108.6	110.3	105.4	144.4
630	86.8	89.6	90.1	88.6	92.2	95.8	96.5	98.9	101.8	106.7	108.5	109.2	105.4	144.2
800	88.3	89.1	90.9	88.4	92.3	96.4	96.8	99.7	103.1	106.5	107.3	108.0	104 9	143.8
1000	91.0	91.5	92.1	89.4	93.9	97.1	96.9	101.1	103.3	105.6	106.5	106.7	104.1	143.3
1250	88.7	92.5	92.2	90.1	93.1	96.5	97.1	100.3	103.5	105.1	104.9	105.6	103.5	142.6
1600	89.3	91.7	91.9	90.3	94.3	98.1	98.2	101.0	104.4	104.5	105.4	105.5	102.7	142.9
2000	89.3	91.1	92.3	90.6	93.5	97.1	98.1	101.1	103.3	104.8	104.6	104.4	101.6	142.4
2500	88.7	92.7	93.1	91.0	94.2	97.5	97.7	100.6	102.7	105.0	102.8	102.8	100.1	141.9
3150	88.3	91.1	92.7	90.4	93.8	97.6	98.0	100.4	103.0	103.4	101.6	101.8	97.7	141.3
4000	87.8	90.9	92.3	90.4	94.4	97.6	97.7	100.3	101.7	100.9	99.4	98.4	95.0	140.0
5000	87.5	91.6	92.2	90.1	94.1	97.3	97.2	99.3	100.1	100.7	97.5	95.7	92.2	139.3
6300	87.3	90.9	92.5	90.8	94.4	97.8	97.9	99.8	99.1	98.3	95.5	94.0	89.5	139.1
8000	86.5	90.9	91.7	90.6	94.0	96.8	97.5	98.4	97.1	96.1	93.2	90.9	87.7	138.1
10000	87.7	92.6	93.6	91.7	94.8	97.5	97.5	98.3	96.5	94.7	90.8	88.9	86.4	138.8
12500	89.3	94.2	94.7	93.1	95.4	98.1	96.4	96.9	95.1	91.4	87.2	86.9	83.9	139.2
16000	89.3	95.2	96.1	95.1	96.1	98.1	96.4	96.3	94.3	88.8	85.2	83.6	80.8	140.8
20000	86.1	91.4	92.8	92.7	94.7	97.0	95.8	94.0	91.9	86.5	82.1	80.6	77.1	140.6
25000	83.0	87.8	89.9	89.6	92.2	96.3	95.7	92.5	90.9	84.2	79.6	78.5	74.6	141.6
31500	79.4	84.2	85.5	87.1	88.6	92.5	91.5	90.6	88.5	81.7	77.4	75.1	70.8	141.3
40000	75.6	80.2	82.2	82.5	84.8	89.2	88.0	86.3	84.7	79.7	75.2	71.5	67.4	141.7
50000	69.3	73.9	76.0	77.6	79.1	84.1	82.0	81.1	80.1	74.6	70.1	66.8	62 2	140.7
63000	62.5	67.9	70.7	70.4	73.0	79.0	75.6	75.4	74.6	69.1	65.5	61.3	55.8	140.3
80000	54.3	60.6	63.9	63.6	65.6	72.9	68.6	69.0	68.1	62.3	58.4	54.1	48.1	140.5
OASPL	101.9	105.4	106.1	104.5	107.2	110.5	110.6	112.5	114.4	116.7	118.0	119.7	114.6	156.3
PNL	113.5	116.7	117.5	115.5	118.9	122.3	122.7	125.0	127.0	128.5	127.9	128.5	124.4	
PNLT	113.5	116.7	117.5	115.5	118.9	122.3	122.7	125.0	127.0	128.5	127.9	128.5	124.4	
DBA	100.1	103.0	103.8	101.8	105.4	108.8	109.2	111.7	113.9	115.7	116.1	116.8	113.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH256 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 55.95 PAMB HG = 29.18 RELHUM = 41.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1224.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1992.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1635 TAPE = X1635C TEST PT NO = 1635 NC = AE096 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-2ER-1635 X1635F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.1	83.7	82.2	81.2	79.3	82.4	82.3	83.5	84.4	81.5	87.4	90.1	82.5	125.9
63	85.5	88.5	91.8	90.4	86.2	89.8	89.5	89.9	90.3	87.9	90.0	92.2	89.6	131.7
80	88.0	92.1	88.3	86.6	87.2	92.3	90.7	90.4	91.8	91.7	94.8	94.7	80.6	133.1
100	87.5	92.7	88.5	87.8	90.4	93.3	92.1	94.0	93.3	96.3	97.2	99.6	85.6	135.6
125	84.1	87.9	90.2	88.2	90.6	92.7	91.8	92.2	93.2	96.5	101.4	103.3	89.5	137.2
160	83.2	83.2	87.7	84.5	85.9	89.7	94.1	91.8	93.0	97.6	101.4	103.9	95.0	137.4
200	83.8	85.1	88.3	85.4	87.5	91.1	93.0	94.4	97.6	98.9	102.8	107.7	98.1	139.9
250	84.0	87.8	87.6	85.6	88.5	92.1	93.0	95.4	97.6	103.2	106.8	110.0	100.9	142.5
315	85.3	87.6	88.9	87.2	90.0	93.6	95.3	96.2	99.6	104.5	107.6	110.5	104.2	143.5
400	86.3	88.6	89.4	86.9	90.3	93.4	97.3	97.4	101.4	106.2	109.1	111.5	105.2	144.8
500	87.1	88.9	89.6	87.4	91.3	94.4	95.3	97.9	101.6	106.5	108.6	110.3	105.4	144.4
630	86.8	89.6	90.1	88.6	92.2	95.8	96.5	98.9	101.8	106.7	108.5	109.2	105.4	144.2
800	88.3	89.1	90.9	88.4	92.3	96.4	96.8	99.7	103.1	106.5	107.3	108.0	104.9	143.8
1000	91.0	91.5	92.1	89.4	93.9	97.1	96.9	101.1	103.3	105.6	106.5	106.7	104.1	143.3
1250	88.7	92.5	92.2	90.1	93.1	96.5	97.1	100.3	103.5	105.1	104.9	105.6	103.5	142.6
1600	89.3	91.7	91.9	90.3	94.3	98.1	98.2	101.0	104.4	104.5	105.4	105.5	102.7	142.9
2000	89.3	91.1	92.3	90.6	93.5	97.1	98.1	101.1	103.3	104.8	104.6	104.4	101.6	142.4
2500	88.7	92.7	93.1	91.0	94.2	97.5	97.7	100.6	102.7	105.0	102.8	102.8	100.1	141.9
3150	88.3	91.1	92.7	90.4	93.8	97.6	98.0	100.4	103.0	103.4	101.6	101.8	97.7	141.3
4000	87.8	90.9	92.3	90.4	94.4	97.6	97.7	100.3	101.7	100.9	99.4	98.4	95.0	140.0
5000	87.5	91.6	92.2	90.1	94.1	97.3	97.2	99.3	100.1	100.7	97.5	95.7	92.2	139.3
6300	87.3	90.9	92.5	90.8	94.4	97.8	97.9	99.8	99.1	98.3	95.5	94.0	89.5	139.1
8000	86.5	90.9	91.7	90.6	94.0	96.8	97.5	98.4	97.1	96.1	93.2	90.9	87.7	138.1
10000	87.7	92.6	93.6	91.7	94.8	97.5	97.5	98.3	96.5	94.7	90.8	88.9	86.4	138.8
12500	89.3	94.2	94.7	93.1	95.4	98.1	96.4	96.9	95.1	91.4	87.2	86.9	83.9	139.2
16000	89.3	95.2	96.1	95.1	96.1	98.1	96.4	96.3	94.3	88.8	85.2	83.6	80.8	140.8
20000	86.1	91.4	92.8	92.7	94.7	97.0	95.8	94.0	91.9	86.5	82.1	80.6	77.1	140.6
25000	83.0	87.8	89.9	89.6	92.2	96.3	95.7	92.5	90.9	84.2	79.6	78.5	74.6	141.6
31500	79.4	84.2	85.5	87.1	88.6	92.5	91.5	90.6	88.5	81.7	77.4	75.1	70.8	141.3
40000	75.6	80.2	82.2	82.5	84.8	89.2	88.0	86.3	84.7	79.7	75.2	71.5	67.4	141.7
50000	69.3	73.9	76.0	77.6	79.1	84.1	82.0	81.1	80.1	74.6	70.1	66.8	62.2	140.7
63000	62.5	67.9	70.7	70.4	73.0	79.0	75.6	75.4	74.6	69.1	65.5	61.3	55.8	140.3
80000	54.3	60.6	63.9	63.6	65.6	72.9	68.6	69.0	68.1	62.3	58.4	54.1	48.1	140.5
OASPL	101.9	105.4	106.1	104.5	107.2	110.5	110.6	112.5	114.4	116.7	118.0	119.7	114.6	156.3
PNL	113.5	116.7	117.5	115.5	118.9	122.3	122.7	125.0	127.0	128.5	127.9	128.5	124.4	
PNLT	113.5	116.7	117.5	115.5	118.9	122.3	122.7	125.0	127.0	128.5	127.9	128.5	124.4	
DBA	177.7	183.3	186.2	186.3	188.3	194.9	191.2	191.2	190.3	184.6	180.8	176.6	171.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH256 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = C0 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = N0 PWL AREA = FULL SPHERE TAMB F = 55.95 PAMB HG = 29.18 RELHUM = 41.8 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 = 1224.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1992.4 FPS AE18 = 19.9 SQ IN

PT = ZE 535 E = X F TEST PT NO = 1635 NC = AE096 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1635 X16351

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	61.2	65.0	67.4	66.4	69.6	73.4	74.9	75.4	78.1	81.9	83.5	84.2	74.5	158.9
63	62.2	66.0	67.8	66.1	69.8	73.1	76.8	76.6	79.8	83.6	84.9	85.1	75.4	160.1
80	62.9	66.2	68.1	66.6	70.8	74.1	74.8	77.1	80.1	83.8	84.4	83.8	75.6	159.7
100	62.5	66.9	68.5	67.7	71.7	75.5	76.0	78.0	80.2	83.9	84.3	82.7	75.4	159.6
125	63.9	66.3	69.2	67.4	71.7	76.0	76.2	78.7	81.4	83.6	82.9	81.3	74.7	159.1
160	66.4	68.6	70.2	68.2	73.3	76.5	76.3	80.0	81.5	82.7	81.9	79.8	73.5	158.7
200	63.8	69.3	70.2	68.8	72.3	75.8	76.3	79.0	81.4	81.9	80.1	78.3	72.5	157.9
250	64.2	68.3	69.6	68.8	73.2	77.2	77.2	79.5	82.1	81.0	80.2	77.8	71.0	158.3
315	63.7	67.3	69.7	68.8	72.1	75.9	76.7	79.3	80.7	81.0	78.9	76.1	69.1	157.7
400	62.5	68.5	70.1	68.9	72.5	76.0	76.1	78.4	79.7	80.7	76.6	73.9	66.5	157.2
500	61.7	66.5	69.3	68.0	71.8	75.8	76.0	78.0	79.7	78.7	75.0	72.1	63.1	156.6
630	60.6	65.8	68.5	67.6	72.1	75.4	75.4	77.5	77.9	75.8	72.2	68.0	59.3	155.4
800	59.8	66.0	68.1	66.9	71.5	74.9	74.6	76.1	75.9	75.1	69.7	64.6	55.3	154.6
1000	58.9	64.9	68.0	67.3	71.5	75.1	75.0	76.3	74.6	72.3	67.2	62.1	51.3	154.4
1250	57.4	64.3	66.8	66.8	70.8	73.8	74.3	74.5	72.3	69.5	64.2	57.9	47.9	153.5
1600	57.5	65.2	68.0	67.2	71.0	73.9	73.7	73.8	70.9	67.3	60.6	54.3	44.0	154.1
2000	57.6	65.6	68.2	67.9	70.9	73.9	71.9	71.7	68.6	62.9	55.5	50.1	37.9	154.5
2500	55.4	65.0	68.3	68.8	70.7	72.9	71.0	70.1	66.5	58.6	51.4	43.7	29.5	156.1
3150	48.3	58.2	62.5	64.3	67.3	69.9	68.4	65.6	61.7	53.3	44.2	35.1	16.8	156.0
4000	38.1	49.1	55.0	57.2	61.0	65.5	64.5	60.1	56.0	45.4	34.7	23.3		156.9
5000	23.9	37.0	43.5	48.4	51.6	56.0	54.5	51.8	46.5	34.6	21.9	5.3		156.6
6300	1.9	18.4	27.8	32.5	37.3	42.5	40.5	36.4	30.3	18.0	1.6			157.0
8000				7.5	12.5	18.7	15.4	10.9	3.4					156.0
10000														155.6
12500														155.9
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	74.6	79.2	81.4	80.5	84.3	87.8	88.0	89.9	91.5	93.0	92.6	91.7	83.7	171.2
PNL	80.0	87.5	90.5	90.4	93.5	96.6	95.8	96.1	96.1	95.6	93.0	90.4	82.3	
PNLT	80.0	87.5	90.5	90.9	94.1	97.1	96.4	96.6	96.7	95.6	93.0	90.4	82.3	
DBA	68.8	75.3	78.0	77.6	81.1	84.3	83.9	85.0	84.8	83.8	80.7	77.8	70.4	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH256 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 55.95 PAMB HG = 29.18 RELHUM = 41.8 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 = 1224.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1992.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1635 TAPE = X16351 TEST PT NO = 1635 NC = AE096 CORR FAN SPEED = RPM

P1185-03

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 83F-400-1636 X1636C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	85.4	82.2	79.2	79.6	82.4	82.3	84.2	83.9	80.2	89.4	91.3	87.7	127.0
63	86.3	89.0	91.1	86.4	85.7	88.6	91.5	89.6	89.6	83.1	90.3	93.0	91.4	131.4
80	87.8	91.6	87.3	85.9	87.0	90.3	90.2	89.4	91.1	87.9	93.3	94.2	87.9	132.0
100	86.5	91.0	86.8	85.5	88.1	90.8	90.1	91.3	90.3	89.3	95.5	98.6	88.8	133.4
125	83.6	86.7	88.2	87.0	89.3	91.2	91.3	90.5	90.4	90.3	98.9	101.6	90.7	135.0
160	81.7	81.5	86.2	82.3	84.1	86.2	90.9	87.3	89.5	90.6	98.9	101.6	94.3	134.5
200	81.5	82.8	86.6	81.9	83.7	86.8	89.5	90.4	92.3	90.6	99.0	104.2	95.9	136.0
250	80.8	82.8	82.6	81.1	84.7	87.6	88.2	90.1	93.1	95.2	103.3	106.0	96.9	138.2
315	80.8	83.9	85.4	82.9	85.3	88.1	90.5	91.7	93.6	96.0	103.8	105.3	97.7	138.4
400	81.8	83.6	84.6	82.2	85.0	88.1	93.0	91.7	95.6	97.7	104.1	105.0	96.2	138.6
500	82.3	83.9	84.4	82.4	85.5	89.1	90.3	92.4	95.6	97.5	104.1	102.3	92.7	137.7
630	82.0	84.1	84.6	83.4	87.0	90.8	91.5	93.9	95.8	98.2	103.3	99.7	90.4	137.2
800	83.8	83.9	85.6	83.2	87.0	90.9	91.5	94.2	97.4	97.7	101.8	96.3	88.2	136.4
1000	85.5	85.3	86.1	84.1	88.4	91.8	92.4	95.6	98.3	97.6	101.0	92.9	86.4	136.5
1250	84.2	86.7	86.5	84.6	87.6	92.0	92.4	95.5	98.7	97.6	99.4	91.1	85.5	136.1
1600	85.3	86.2	87.4	85.5	89.5	93.4	94.0	96.3	99.4	97.0	99.6	90.3	84.7	136.6
2000	87.0	86.3	87.3	85.6	89.0	92.8	94.1	97.1	99.0	97.3	98.8	89.4	85.1	136.5
2500	87.2	88.0	88.3	85.8	90.2	93.5	93.7	97.1	98.5	97.3	97.8	88.8	85.1	136.3
3150	87.3	86.9	87.9	86.9	90.3	94.1	95.0	96.4	99.0	96.6	96.6	88.5	83.9	136.4
4000	87.3	87.9	89.0	86.9	90.6	94.3	94.2	96.8	97.4	93.9	95.4	88.2	83.5	135.7
5000	87.3	88.9	89.7	87.4	91.1	94.8	94.5	95.6	97.1	94.5	94.8	87.3	83.5	135.7
6300	88.3	89.5	90.0	88.1	91.7	95.1	94.7	95.6	95.9	91.8	94.1	88.0	83.3	135.7
8000	87.8	89.4	90.5	88.4	91.6	94.9	94.6	94.4	94.7	90.6	92.5	87.4	83.5	135.4
10000	90.5	91.7	92.0	90.2	92.3	95.8	95.3	94.1	94.6	89.1	90.1	87.4	84.5	136.5
12500	93.4	93.3	93.6	91.7	93.7	96.7	95.0	94.0	93.7	87.3	87.8	86.2	84.0	137.8
16000	92.9	95.1	95.0	93.5	93.5	95.9	94.5	93.2	91.9	84.7	86.1	83.7	81.4	139.1
20000	88.7	91.6	92.7	92.1	92.9	95.4	93.7	92.1	90.1	82.7	82.7	80.5	78.0	139.3
25000	85.6	87.3	88.8	89.3	91.1	95.5	94.4	91.2	89.3	80.4	80.5	78.9	75.8	140.6
31500	82.1	84.4	85.4	86.3	87.3	92.2	91.2	89.5	87.7	78.5	79.1	75.8	72.2	140.8
40000	77.8	80.9	82.4	82.2	84.0	88.4	87.5	86.0	84.2	76.0	77.0	73.2	68.8	141.2
50000	71.5	74.6	76.7	76.9	78.3	83.8	81.7	80.6	79.6	71.7	72.1	68.6	63.2	140.3
63000	64.8	68.5	70.5	70.5	72.5	77.7	75.8	75.0	74.7	66.2	67.8	63.3	58.1	139.8
80000	56.6	61.2	63.2	62.7	64.9	71.7	68.1	67.8	67.1	59.4	60.7	56.8	49.8	139.6
OASPL	101.7	103.3	103.6	101.9	104.2	107.5	107.5	108.4	110.1	108.9	113.6	113.3	105.2	152.7
PNL	112.2	113.1	114.0	111.9	115.2	118.8	119.4	121.0	122.9	121.1	123.6	120.4	113.3	
PNLT	112.2	113.1	114.0	112.4	115.8	118.8	119.4	121.0	122.9	121.1	123.6	120.4	113.3	
DBA	98.3	99.2	99.9	98.0	101.5	105.1	105.4	107.5	109.5	108.0	111.1	107.4	99.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH267 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 59.40 PAMB HG = 29.04 RELHUM = 36.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1230.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2017.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1636 TAPE = X1636C TEST PT NO - 1636 NC - AE000 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 - 83F-400-1636 X1636F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	88.1	88.9	87.3	84.3	86.3	87.6	86.3	86.5	91.6	93.4	101.1	103.2	97.6	136.3
315	88.1	88.9	87.3	84.3	87.0	88.3	89.7	89.9	93.6	95.2	101.5	103.5	97.4	136.9
400	88.1	90.0	90.2	86.2	86.8	88.4	92.1	89.7	93.4	94.7	101.5	101.3	95.4	136.3
500	88.7	89.5	89.2	85.4	87.4	89.5	89.3	90.2	93.8	95.7	101.0	99.6	95.2	135.8
630	89.9	90.2	89.3	85.9	88.9	91.2	90.5	91.6	95.7	95.7	100.3	97.5	95.7	135.8
800	89.7	90.5	89.6	86.9	89.1	91.4	90.6	92.0	97.0	96.1	100.1	95.4	96.4	135.9
1000	91.5	90.3	90.7	86.8	90.6	92.5	91.6	93.5	97.6	96.1	98.6	93.7	95 7	135.9
1250	93.2	91.8	91.2	87.8	89.9	92.8	91.9	93.7	98.6	95.8	99.0	93.1	95.1	136.4
1600	91.8	93.2	91.6	88.4	92.0	94.4	93.9	94.8	98.8	96.8	98.9	93.0	96.5	137.1
2000	93.0	92.8	92.7	89.4	91.7	94.1	94.5	96.2	98.9	97.5	98.7	93.3	97.3	137.4
2500	94.7	92.9	92.6	89.7	93.1	95.2	94.6	96.7	100.1	97.5	98.2	93.8	97.1	138.0
3150	94.8	94.6	93.8	90.0	93.5	96.1	96.3	96.7	99.9	96.2	98.3	94.7	97.7	138.3
4000	94.9	93.6	93.5	91.3	94.3	96.9	96.3	98.1	99.8	97.0	98.1	94.1	97.9	138.7
5000	94.9	94.6	94.8	91.6	95.7	97.8	96.9	97.1	99.4	95.4	98.4	95.7	98.0	139.0
6300	97.6	97.8	97.3	93.3	95.7	98.1	97.1	97.5	97.2	93.0	95.3	93.1	95.9	139.3
8000	95.6	96.0	95.7	92.8	95.6	97.9	96.4	95.4	95.7	89.7	91.1	91.4	95.4	138.4
10000	94.9	95.8	96.0	93.0	96.4	98.8	96.8	94.1	95.1	88.2	89.0	90.4	95.2	139.0
12500	97.4	97.8	97.2	94.5	97.7	99.7	96.4	94.0	93.8	86.1	87.9	88.5	93.1	140.5
16000	99.3	98.6	98.1	95.3	97.3	98.9	96.0	93.2	92.4	84.5	84.9	85.7	90.1	141.9
20000	97.3	99.2	98.6	96.3	96.9	98.4	95.1	92.1	92.2	82.8	83.3	84.7	88.5	143.4
25000	94.1	96.2	96.4	94.9	95.7	98.5	95.8	91.2	91.4	81.7	82.7	82.4	85.8	144.5
31500	93.0	93.3	93.4	92.4	91.9	95.2	92.6	89.5	88.8	80.0	81.4	80.7	83.2	144.7
40000	88.5	89.6	89.2	88.6	88.6	91.4	88.9	86.0	84.6	76.1	76.9	76.4	77.9	144.9
50000	83.9	85.8	85.8	84.0	82.9	86.8	83.2	80.6	80.6	71.6	73.5	72.1	73 8	144.7
63000	76.7	78.5	79.2	77.8	77.1	80.7	77.2	74.9	74.5	66.3	67.9	67.1	67.0	143.7
80000	68.4	70.9	71.4	69.9	69.5	74.7	69.6	67.8	64.7	56.5	58.1	57.3	57.2	143.1
OASPL	107.9	108.2	107.8	105.0	107.3	109 5	108.0	107.8	110.2	107.9	111.4	110.1	109.1	154.9
PNL	118.3	118.4	117.9	114.4	117.5	119.7	119.2	120.3	122.6	120.1	122.4	119.4	121 3	
PNLT	118.3	118.4	117.9	114.4	117.5	119.7	119.2	120.3	122.6	120.1	122.4	119.4	121.3	
DBA	191.8	193.9	194.3	192.8	192.3	196.8	192.4	190.3	188.6	180.3	181.9	181.0	181.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH267 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = C0 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 59.40 PAMB HG = 29.04 RELHUM = 36.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1230.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2017.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1636 TAPE = X1636F TEST PT NO = 1636 NC = AE095 CORR FAN SPEED = RPM

P1186-08

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

IDENTIFICATION - 83F-400-1636 X16361

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.0	66.3	65.8	63.5	66.6	68.1	69.3	69.1	72.0	72.6	77.4	77.2	67.8	152.2
63	64.0	67.4	68.6	65.4	66.3	68.1	71.7	68.9	71.8	72.1	77.3	74.9	65.7	151.6
80	64.5	66.8	67.7	64.5	67.0	69.2	68.8	69.4	72.2	73.0	76.8	73.2	65.3	151.1
100	65.6	67.5	67.7	65.0	68.4	70.9	70.0	70.7	74.1	73.0	76.0	71.0	65.8	151.1
125	65.3	67.7	67.9	65.9	68.5	71.0	70.0	71.0	75.3	73.2	75.7	68.7	66.2	151.2
160	66.9	67.3	68.8	65.6	69.9	71.9	71.0	72.4	75.7	73.1	74.0	66.7	65.1	151.3
200	68.3	68.6	69.1	66.5	69.0	72.1	71.0	72.4	76.6	72.7	74.2	65.8	64.1	151.7
250	66.7	69.7	69.4	66.8	70.9	73.5	72.9	73.3	76.5	73.3	73.7	65.3	64.8	152.4
315	67.4	68.9	70.1	67.6	70.3	72.9	73.1	74.4	76.3	73.6	73.1	65.0	64.8	152.8
400	68.6	68.7	69.6	67.5	71.4	73.6	72.9	74.6	77.2	73.3	72.1	64.8	63.6	153.3
500	68.2	69.9	70.4	67.5	71.6	74.3	74.4	74.2	76.5	71.5	71.7	65.1	63.1	153.6
630	67.7	68.4	69.8	68.5	72.0	74.8	74.0	75.3	76.0	71.9	70.9	63.8	62.3	154.0
800	67.1	69.0	70.7	68.4	73.1	75.4	74.2	74.0	75.3	69.8	70.6	64.5	61.1	154.4
1000	69.2	71.8	72.8	69.8	72.8	75.4	74.2	74.0	72.7	67.0	66.9	61.1	57.7	154.6
1250	66.6	69.5	70.8	69.0	72.4	74.8	73.2	71.6	70.8	63.1	62.0	58.5	55.6	153.7
1600	64.7	68.4	70.4	68.5	72.6	75.2	73.0	69.6	69.5	60.8	58.8	55.9	52.7	154.3
2000	65.7	69.3	70.7	69.3	73.2	75.4	72.0	68.8	67.3	57.6	56.2	51.8	47.1	155.8
2500	65.4	68.4	70.3	69.0	71.9	73.8	70.5	66.9	64.7	54.4	51.0	45.8	38.8	157.2
3150	59.5	66.0	68.3	67.9	69.5	71.3	67.7	63.7	62.0	49.6	45.5	39.2	28.2	158.7
4000	49.2	57.5	61.5	62.4	64.6	67.7	64.6	58.7	56.5	43.0	37.8	27.1	10.2	159.8
5000	37.5	46.2	51.5	53.6	54.9	58.7	55.6	50.8	46.8	32.9	25.9	10.9		160.1
6300	14.9	27.9	34.8	38.6	41.1	44.7	41.4	36.1	30.2	14.4	3.2			160.2
8000			9.1	13.9	16.3	21.4	16.6	10.4	3.9					160.0
10000														159.0
12500														158.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	79.3	81.4	82.5	80.4	83.7	86.1	85.0	84.9	87.0	84.0	85.9	81.9	76.2	170.1
PNL	87.8	90.9	92.6	91.0	94.1	96.4	94.1	92.2	92.9	87.9	87.8	81.3	78.1	
PNLT	89.0	90.9	93.1	91.6	94.7	96.9	94.7	92.8	93.4	87.9	89.0	81.3	78.1	
DBA	76.5	79.2	80.7	78.9	82.3	84.7	82.8	81.8	82.4	77.3	77.1	70.6	68 3	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH267	TEST DATE = 05-05-83	LOCAT = C41 ANECH CH	CONFIG = 16	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 59.40	PAMB HG = 29.04	RELHUM = 36.7 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 = 1230.3 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2017.5 FPS	AE18 = 19.9 SQ IN

PT = F40 536 E = X T TE PT N 163 AE0 CORR FAN SPEED = RPM

P1188-03

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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 83F-ZER-1637 X1637C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.9	84.9	83.7	82.0	81.8	84.7	83.3	85.2	88.2	86.7	90.4	92.1	85.7	128.3
63	88.3	89.0	91.1	89.6	88.7	91.8	90.7	89.9	94.1	92.9	93.8	95.2	92.4	133.6
80	89.8	94.1	90.1	88.1	90.0	94.8	93.5	93.1	93.6	94.4	97.0	97.2	84.6	135.4
100	89.5	95.2	91.0	90.3	92.4	95.5	94.9	96.5	94.5	97.6	99.2	102.1	88.8	137.8
125	86.4	89.9	91.9	90.2	93.1	95.4	94.1	94.7	94.7	98.3	104.4	106.8	92.7	140.0
160	85.2	86.2	89.2	86.3	88.6	92.0	95.6	94.3	94.5	99.8	104.7	107.6	98.3	140.4
200	86.0	86.8	89.3	86.9	90.2	93.8	95.2	96.4	99.3	100.9	105.8	110.7	100.9	142.6
250	86.0	89.6	89.6	88.4	91.5	94.3	95.2	97.9	100.1	105.9	109.8	113.2	103.9	145.5
315	87.6	89.4	90.1	88.9	92.0	96.1	97.3	98.7	101.6	107.0	111.3	113.5	106.7	146.5
400	88.8	90.6	91.4	88.7	92.3	95.9	99.3	99.7	102.9	109.2	112.3	114.5	107.9	147.7
500	89.3	91.9	91.9	89.7	93.8	96.9	97.8	100.2	103.4	109.5	113.3	115.0	109.2	148.4
630	89.3	91.8	92.3	91.1	94.2	98.1	99.0	101.4	104.3	109.7	112.8	114.2	109.9	148.2
800	91.3	91.6	93.6	91.2	94.5	98.9	99.5	101.9	105.6	109.5	111.3	113.0	109.9	147.5
1000	93.8	94.8	94.8	92.1	96.4	99.3	100.2	103.6	105.8	109.1	111.0	112.4	109.6	147.4
1250	91.9	95.0	94.5	93.1	96.1	99.5	99.9	103.3	106.0	108.3	109.7	111.1	109.0	146.6
1600	91.8	94.2	94.7	93.3	96.3	100.4	101.2	103.8	106.9	108.2	109.4	110.5	108.2	146.6
2000	92.3	93.6	94.8	93.1	96.0	99.6	101.1	103.9	106.3	108.3	108.1	109.6	106.6	146.0
2500	90.7	94.5	95.3	92.8	96.9	99.8	101.0	104.3	105.5	108.5	107.5	106.6	104.1	145.4
3150	90.6	93.2	94.9	92.9	96.5	100.1	101.0	103.4	105.8	107.9	105.6	104.8	101.2	144.6
4000	89.8	92.9	94.5	92.7	96.9	99.8	101.0	103.0	104.4	105.4	103.9	101.7	97.3	143.3
5000	89.6	93.3	94.2	92.6	96.1	100.1	100.5	102.6	102.3	105.0	101.5	98.5	94.8	142.4
6300	89.3	93.7	94.5	93.1	96.4	99.9	100.4	101.9	101.6	101.6	99.1	96.3	91.5	141.5
8000	89.5	94.4	95.0	93.4	95.8	99.1	100.0	100.7	99.9	99.1	96.2	93.4	90.2	140.7
10000	91.2	97.2	97.9	95.7	97.3	100.0	99.6	100.1	99.0	97.5	94.1	92.2	89.0	141.5
12500	91.6	96.5	98.5	97.4	99.7	100.9	99.7	98.7	97.6	94.7	91.2	89.6	86.7	142.3
16000	90.5	95.7	97.4	97.9	99.4	101.6	99.7	98.6	95.8	92.3	89.0	86.2	83.3	143.4
20000	88.4	93.5	95.1	95.3	97.5	100.5	99.3	96.8	94.0	90.0	86.1	83.7	79.4	143.6
25000	85.5	90.1	92.4	92.7	94.7	98.6	98.0	95.1	93.1	87.2	83.6	81.5	77.1	144.0
31500	81.4	86.1	87.9	90.1	91.4	95.5	94.5	93.3	90.7	84.7	81.1	78.1	73.3	144.1
40000	77.3	82.6	84.4	85.9	87.0	91.7	91.0	89.3	87.2	82.4	79.2	74.7	69.9	144.3
50000	71.5	76.6	78.7	80.3	81.7	87.1	85.2	83.8	82.1	77.3	74.0	69.5	64.2	143.4
63000	64.9	70.6	73.6	73.9	76.1	81.4	79.5	78.6	77.1	71.8	68.4	64.2	58.0	143.2
80000	57.0	63.5	66.8	66.8	69.5	76.1	72.8	72.2	70.2	64.9	61.6	57.5	50.5	143.8
OASPL	104.3	107.7	108.5	107.2	109.9	113.0	113.4	115.1	116.9	120.0	122.0	123.7	118.9	159.6
PNL	115.9	118.9	119.8	117.9	121.4	124.7	125.6	127.7	129.6	132.0	132.1	132.7	128.5	
PNLT	115.9	119.4	119.8	117.9	121.4	124.7	125.6	127.7	129.6	132.0	132.1	132.7	128 5	
DBA	102.7	105.5	106.3	104.4	107.8	111.2	112.1	114.5	116.5	119.2	120.2	121.5	117.9	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHTCL = ADH257 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 56.89 PAMB HG = 29.18 RELHUM = 39.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1326.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2168.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1637 TAPE = X1637C TEST PT NO = 1637 NC = AE096 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1637 X1637F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.9	84.9	83.7	82.0	81.8	84.7	83.3	85.2	88.2	86.7	90.4	92.1	85.7	128.3
63	88.3	89.0	91.1	89.6	88.7	91.8	90.7	89.9	94.1	92.9	93.8	95.2	92.4	133.6
80	89.8	94.1	90.1	88.1	90.0	94.8	93.5	93.1	93.6	94.4	97.0	97.2	84.6	135.4
100	89.5	95.2	91.0	90.3	92.4	95.5	94.9	96.5	94.5	97.6	99.2	102.1	88.8	137.8
125	86.4	89.9	91.9	90.2	93.1	95.4	94.1	94.7	94.7	98.3	104.4	106.8	92.7	140.0
160	85.2	86.2	89.2	86.3	88.6	92.0	95.6	94.3	94.5	99.8	104.7	107.6	98.3	140.4
200	86.0	86.8	89.3	86.9	90.2	93.8	95.2	96.4	99.3	100.9	105.8	110.7	100.9	142.6
250	86.0	89.6	89.6	88.4	91.5	94.3	95.2	97.9	100.1	105.9	109.8	113.2	103.9	145.5
315	87.6	89.4	90.1	88.9	92.0	96.1	97.3	98.7	101.6	107.0	111.3	113.5	106.7	146.5
400	88.8	90.6	91.4	88.7	92.3	95.9	99.3	99.7	102.9	109.2	112.3	114.5	107.9	147.7
500	89.3	91.9	91.9	89.7	93.8	96.9	97.8	100.2	103.4	109.5	113.3	115.0	109.2	148.4
630	89.3	91.8	92.3	91.1	94.2	98.1	99.0	101.4	104.3	109.7	112.8	114.2	109.9	148.2
800	91.3	91.6	93.6	91.2	94.5	98.9	99.5	101.9	105.6	109.5	111.3	113.0	109.9	147.5
1000	93.8	94.8	94.8	92.1	96.4	99.3	100.2	103.6	105.8	109.1	111.0	112.4	109.6	147.4
1250	91.9	95.0	94.5	93.1	96.1	99.5	99.9	103.3	106.0	108.3	109.7	111.1	109.0	146.6
1600	91.8	94.2	94.7	93.3	96.3	100.4	101.2	103.8	106.9	108.2	109.4	110.5	108.2	146.6
2000	92.3	93.6	94.8	93.1	96.0	99.6	101.1	103.9	106.3	108.3	108.1	109.6	106.6	146.0
2500	90.7	94.5	95.3	92.8	96.9	99.8	101.0	104.3	105.5	108.5	107.5	106.6	104.1	145.4
3150	90.6	93.2	94.9	92.9	96.5	100.1	101.0	103.4	105.8	107.9	105.6	104.8	101.2	144.6
4000	89.8	92.9	94.5	92.7	96.9	99.8	101.0	103.0	104.4	105.4	103.9	101.7	97 3	143.3
5000	89.6	93.3	94.2	92.6	96.1	100.1	100.5	102.6	102.3	105.0	101.5	98.5	94.8	142.4
6300	89.3	93.7	94.5	93.1	96.4	99.9	100.4	101.9	101.6	101.6	99.1	96.3	91.5	141.5
8000	89.5	94.4	95.0	93.4	95.8	99.1	100.0	100.7	99.9	99.1	96.2	93.4	90.2	140.7
10000	91.2	97.2	97.9	95.7	97.3	100.0	99.6	100.1	99.0	97.5	94.1	92.2	89.0	141.5
12500	91.6	96.5	98.5	97.4	99.7	100.9	99.7	98.7	97.6	94.7	91.2	89.6	86.7	142.3
16000	90.5	95.7	97.4	97.9	99.4	101.6	99.7	98.6	95.8	92.3	89.0	86.2	83.3	143.4
20000	88.4	93.5	95.1	95.3	97.5	100.5	99.3	96.8	94.0	90.0	86.1	83.7	79.4	143.6
25000	85.5	90.1	92.4	92.7	94.7	98.6	98.0	95.1	93.1	87.2	83.6	81.5	77.1	144.0
31500	81.4	86.1	87.9	90.1	91.4	95.5	94.5	93.3	90.7	84.7	81.1	78.1	73.3	144.1
40000	77.3	82.6	84.4	85.9	87.0	91.7	91.0	89.3	87.2	82.4	79.2	74.7	69 9	144.3
50000	71.5	76.6	78.7	80.3	81.7	87.1	85.2	83.8	82.1	77.3	74.0	69.5	64.2	143.4
63000	64.9	70.6	73.6	73.9	76.1	81.4	79.5	78.6	77.1	71.8	68.4	64.2	58.0	143.2
80000	57.0	63.5	66.8	66.8	69.5	76.1	72.8	72.2	70.2	64.9	61.6	57.5	50.5	143.8
OASPL	104.3	107.7	108.5	107.2	109.9	113.0	113.4	115.1	116.9	120.0	122.0	123.7	118.9	159.6
PNL	115.9	118.9	119.8	117.9	121.4	124.7	125.6	127.7	129.6	132.0	132.1	132.7	128.5	
PNLT	115.9	119.4	119.8	117.9	121.4	124.7	125.6	127.7	129.6	132.0	132.1	132.7	128.5	
DBA	180.1	186.1	189.1	189.5	191.8	197.9	195.1	194.3	192.5	187.3	183.9	179.8	173.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH257 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 56.89 PAMB HG = 29.18 RELHUM = 39.6 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 = 1326.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2168.9 FPS AE18 = 19.9 SQ IN

NPT JF-2 1637 PE = X1637F TEMP PT HG 1657 HG = AE090 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 - 83F-ZER-1637 X16371

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.5	66.8	68.6	68.1	71.6	75.9	76.9	77.9	80.1	84.4	87.2	87.2	77.0	161.9
63	64.7	68.0	69.8	67.8	71.8	75.6	78.8	78.8	81.3	86.6	88.2	88.1	78.2	163.1
80	65.1	69.2	70.3	68.8	73.3	76.6	77.3	79.3	81.8	86.8	89.1	88.6	79.4	163.7
100	65.0	69.1	70.7	70.2	73.7	77.7	78.5	80.5	82.7	86.9	88.5	87.7	79.9	163.5
125	66.9	68.8	71.9	70.2	74.0	78.5	79.0	80.9	83.9	86.6	86.9	86.3	79.7	162.9
160	69.2	71.8	73.0	71.0	75.8	78.8	79.5	82.5	84.0	86.2	86.4	85.5	79.0	162.7
200	67.1	71.8	72.4	71.8	75.3	78.8	79.0	82.0	83.9	85.1	84.8	83.8	78.0	161.9
250	66.7	70.8	72.4	71.8	75.2	79.5	80.2	82.3	84.6	84.8	84.2	82.8	76.5	161.9
315	66.7	69.8	72.2	71.3	74.6	78.4	79.7	82.1	83.7	84.5	82.4	81.4	74.1	161.3
400	64.6	70.2	72.3	70.7	75.3	78.3	79.3	82.2	82.5	84.3	81.4	77.6	70.5	160.7
500	63.9	68.5	71.6	70.5	74.5	78.3	79.0	81.0	82.4	83.2	79.0	75.1	66.6	159.9
630	62.6	67.8	70.8	69.9	74.6	77.7	78.7	80.2	80.7	80.3	76.7	71.3	61.6	158.6
800	61.8	67.8	70.1	69.4	73.5	77.6	77.8	79.4	78.2	79.4	73.7	67.4	57.8	157.7
1000	60.9	67.7	70.1	69.6	73.5	77.1	77.5	78.4	77.2	75.5	70.7	64.3	53.5	156.8
1250	60.5	67.9	70.1	69.6	72.6	76.0	76.8	76.8	75.0	72.6	67.2	60.5	50.4	156.1
1600	61.1	69.7	72.3	71.3	73.5	76.5	75.8	75.6	73.4	70.1	63.9	57.6	46.5	156.8
2000	59.9	67.9	72.0	72.2	75.2	76.6	75.2	73.5	71.1	66.2	59.6	52.9	40.7	157.6
2500	56.7	65.6	69.6	71.6	74.0	76.4	74.3	72.4	68.0	62.2	55.2	46.2	32.0	158.8
3150	50.5	60.2	64.8	66.8	70.1	73.4	71.9	68.3	63.7	56.8	48.3	38.1	19.0	159.0
4000	40.6	51.4	57.5	60.2	63.5	67.8	66.8	62.6	58.2	48.5	38.7	26.3	1.5	159.3
5000	25.9	39.0	46.0	51.4	54.4	59.0	57.5	54.6	48.7	37.6	25.6	8.3		159.5
6300	3.6	20.9	30.0	36.0	39.5	44.9	43.5	39.3	32.8	20.7	5.5			159.7
8000			2.0	10.2	15.2	21.6	18.6	13.6	5.4					158.8
10000														158.5
12500														159.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	77.2	81.7	83.9	83.2	86.8	90.3	90.9	92.6	94.0	96.3	96.7	96.0	88.0	174.5
PNL	82.5	89.4	92.8	93.3	96.4	99.5	98.8	98.6	98.6	99.2	97.1	94.9	87.2	
PNLT	82.5	89.4	93.4	93.9	96.9	100.0	99.4	99.2	99.3	99.2	97.1	94.9	87.2	
DBA	71.3	77.9	80.8	80.6	83.9	86.9	86.8	87.6	87.4	87.6	84.8	82.3	75.2	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH257 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = C0 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 56.89 PAMB HG = 29.18 RELHUM = 39.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1326.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2168.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1637 TAPE = X16371 TEST PT NO = 1637 NC = AE096 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 83F-400-1638 X1638C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.9	86.9	82.7	81.0	80.8	83.7	83.6	85.0	85.9	82.5	91.4	93.1	92.0	128.8
63	88.0	90.3	91.3	87.4	87.5	90.3	92.0	88.4	90.6	84.6	92.0	93.7	94.4	132.4
80	89.5	93.3	89.1	87.6	88.7	93.1	92.5	91.6	93.6	89.7	95.8	96.0	90.4	134.2
100	88.7	93.7	88.8	87.3	89.6	93.5	92.9	93.8	93.0	91.6	96.7	100.9	93.8	135.7
125	86.4	89.4	90.2	89.0	91.6	93.9	93.3	92.7	92.2	92.3	101.6	105.1	94.2	137.9
160	84.4	83.2	87.7	84.3	86.4	88.7	92.4	90.0	91.5	94.1	101.9	104.9	97.5	137.4
200	84.3	84.8	87.8	83.6	86.5	89.6	91.2	92.6	95.6	93.6	101.5	107.5	99.1	139.0
250	82.0	85.6	85.1	83.9	86.7	90.3	90.5	92.6	95.3	98.4	106.0	109.2	100.1	141.2
315	83.3	85.6	86.9	84.7	87.8	90.9	93.0	93.9	96.4	99.5	107.6	109.3	101.4	142.0
400	84.1	86.1	87.1	84.2	87.5	90.9	95.8	94.4	97.9	101.4	108.6	109.5	100.7	142.8
500	84.6	86.4	86.6	84.7	88.0	91.4	92.3	95.4	98.4	101.7	108.6	107.8	97.9	142.1
630	84.3	86.6	87.3	85.6	89.5	92.8	93.5	96.4	99.1	102.2	107.5	105.7	95.1	141.3
800	86.3	86.4	88.1	85.9	90.0	93.1	94.0	97.2	99.9	101.7	105.6	102.0	92.9	140.0
1000	87.8	88.0	88.6	86.6	91.2	94.3	94.9	98.6	101.3	102.1	105.0	98.2	90.9	140.1
1250	86.7	89.7	89.2	87.9	90.6	94.0	95.4	98.5	101.5	101.3	103.2	95.9	90.0	139.3
1600	88.1	88.7	89.9	88.5	92.0	95.6	96.5	99.0	102.7	101.5	103.4	94.3	89.4	139.9
2000	88.8	88.6	89.5	87.9	91.7	95.3	96.8	100.4	102.0	101.8	102.1	92.9	88.9	139.8
2500	89.2	90.0	90.6	88.1	92.7	96.1	96.5	99.9	102.0	102.5	101.8	92.8	88.3	139.9
3150	89.1	89.7	91.4	89.7	92.3	96.6	97.0	99.9	102.8	100.9	100.9	93.3	87.4	139.8
4000	89.6	89.9	91.5	89.4	92.9	96.6	97.0	99.0	100.4	98.7	99.6	92.7	87.5	138.7
5000	90.1	91.1	92.2	89.6	92.6	96.8	96.5	98.8	100.1	98.7	98.3	92.3	86.8	138.6
6300	91.5	92.0	93.3	90.9	93.7	96.4	96.7	98.9	99.2	96.4	97.3	92.1	86.8	138.5
8000	93.0	93.2	94.0	90.7	93.6	96.9	96.6	96.9	97.0	94.4	95.3	90.7	87.5	138.0
10000	97.3	97.4	97.2	93.7	94.8	97.6	96.8	97.1	96.8	93.3	93.9	90.7	88.0	139.7
12500	96.6	97.8	99.6	96.4	96.5	98.4	96.5	96.0	95.2	90.5	90.8	89.2	86.0	140.8
16000	94.1	97.5	98.5	97.9	98.0	99.7	97.3	96.2	93.9	87.9	88.8	86.5	83.1	142.4
20000	91.4	93.7	95.1	95.1	96.3	99.3	97.1	94.6	92.5	85.3	85.9	83.7	79.7	142.4
25000	88.3	90.6	92.4	92.2	93.8	97.6	96.3	93.3	91.4	83.5	83.1	81.8	77.9	142.9
31500	84.6	86.7	88.2	89.6	90.2	94.3	93.0	92.1	89.7	81.2	81.4	78.6	74.3	143.1
40000	80.0	82.9	84.9	85.4	86.3	90.9	89.5	88.3	86.2	78.7	79.2	76.0	71.1	143.5
50000	73.7	77.1	78.9	79.8	80.5	86.1	83.4	82.5	81.6	74.3	74.5	70.8	65.7	142.4
63000	67.5	70.9	73.4	73.4	74.9	79.9	77.2	76.6	76.1	68.3	70.2	65.2	59.8	141.8
80000	59.3	63.5	65.8	65.8	67.8	73.9	70.3	69.9	69.0	61.7	63.1	58.5	51.8	141.9
OASPL	104.8	106.3	106.9	105.1	106.8	109.9	109.8	111.2	113.0	113.0	117.3	117.3	109.0	155.7
PNL	114.8	115.6	116.6	114.4	117.5	121.0	121.6	123.9	126.1	125.5	127.4	124.6	117.3	
PNLT	114.8	115.6	116.6	115.0	118.1	121.0	122.1	123.9	126.1	125.5	127.4	124.6	117.3	
DBA	101.6	102.2	103.0	100.6	103.8	107.3	107.8	110.4	112.6	112.4	115.0	112.1	103.9	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHTCL = ADH264 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 57.97 PAMB HG = 28.98 RELHUM = 37.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1356.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2183.0 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1638 TAPE = X1638C TEST PT NO - 1630 - AE09 - FAN SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-400-1638 X1638F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	89.9	92.0	90.0	87.2	88.3	90.3	88.6	89.0	94.3	96.8	104.7	107.1	101.2	139.9
315	89.9	92.0	90.0	87.2	89.6	91.1	92.2	92.1	95.9	99.0	106.1	108.1	102.0	141.1
400	91.0	92.0	91.8	88.1	89.3	91.1	94.9	92.6	96.4	99.3	106.3	107.0	100.8	140.8
500	91.3	92.2	91.9	87.5	89.9	91.7	91.3	93.4	97.3	100.0	105.6	106.0	100.1	140.3
630	92.1	92.7	91.6	88.1	91.4	93.2	92.6	94.3	98.5	100.1	104.5	103.7	100.8	139.8
800	92.0	93.0	92.4	89.1	92.1	93.7	93.2	95.2	100.1	100.8	104.3	101.0	101.1	139.8
1000	94.0	92.8	93.2	89.5	93.4	95.0	94.2	96.6	100.4	100.1	102.6	98.8	100.4	139.4
1250	95.4	94.5	93.7	90.3	92.9	94.8	94.8	96.7	101.8	100.3	102.8	97.1	99.8	139.7
1600	94.3	96.2	94.4	91.6	94.5	96.7	96.2	97.4	101.7	101.1	102.0	96.3	100.0	140.1
2000	95.8	95.3	95.2	92.4	94.4	96.6	97.1	99.3	101.8	102.0	101.8	96.3	99.4	140.5
2500	96.4	95.2	94.9	91.9	95.6	97.7	97.0	99.0	103.4	101.2	101.9	97.8	99.8	140.9
3150	96.8	96.6	96.0	92.2	95.5	98.6	98.2	99.8	102.4	100.4	102.0	98.5	100.9	141.1
4000	96.7	96.3	97.0	94.1	96.6	99.2	99.0	100.0	102.3	100.7	100.9	98.5	100.6	141.4
5000	97.1	96.6	97.3	94.1	96.7	99.8	98.8	100.1	102.1	99 2	100.9	99.0	101.0	141.5
6300	97.5	97.8	98.1	94.5	97.7	99.4	99.1	100.5	98.4	95.4	96.6	94.9	98.6	140.8
8000	98.8	98.6	99.0	95.6	97.6	99.9	98.1	97.2	97.9	94.0	94.8	94.7	98.9	140.9
10000	100.0	99.5	99.5	95.2	98.3	100.6	98.3	97.1	96.6	91.4	92.0	93.4	97.2	141.5
12500	101.9	101.6	100.9	96.9	100.2	101.4	97.9	96.0	95.8	89.3	90.6	91.2	94.9	143.2
16000	100.9	101.8	103.2	99.4	102.0	102.7	98.7	96.2	94.9	87.2	88.1	88.9	91.8	145.5
20000	100.0	102.7	102.8	101.2	100.3	102.3	98.6	94.5	94.3	85.9	85.9	87.6	90.6	147.1
25000	96.7	98.3	98.8	97.8	98.4	100.6	97.7	93.3	93.4	84.5	85.0	85.2	87.8	146.8
31500	95.6	96.7	97.0	95.3	94.7	97.3	94.4	92.1	90.7	82.7	83.6	83.4	85.5	147.4
40000	91.1	91.9	92.0	91.9	90.9	93.9	90.9	88.3	86.5	78.7	79.3	78.6	80.4	147.4
50000	86.1	87.7	88.3	87.3	85.1	89.1	84.9	82.5	82.0	73.7	75.9	74.0	75.5	146.9
63000	78.9	81.0	81.4	80.7	79.5	82.9	78.7	76.6	76.4	68.6	70.3	68.7	69.0	145.9
80000	71.1	73.3	74.3	72.8	72.4	76.9	71.7	69.9	66.6	58.8	60.5	58.9	59.1	145.6
OASPL	110.4	110.9	111.0	108.2	110.0	111.9	110.2	110.4	112.9	112.0	115.3	114.8	112.8	157.7
PNL	120.2	120.1	120.1	116.9	119.6	121.9	121.6	122.7	125.2	124.0	126.0	123.5	124.6	
PNLT	120.2	120.1	120.1	116.9	119.6	121.9	122.1	122.7	125.2	124.0	126.0	123.5	124.6	
DBA	194.2	196.2	197.0	195.8	194.9	199.0	194.3	192.3	190.4	182.6	184.3	182.7	183.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH264 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 57.97 PAMB HG = 28.98 RELHUM = 37.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V0 = 1356.5 FPS AE0 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2183.0 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1638 TAPE = X1638F TEST PT NO = 1638 NC = AE096 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 - 83F-400-1638 X16381

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.8	69.4	68.5	66.4	69.2	70.8	71.8	71.3	74.4	76.4	82.0	81.8	72.3	156.4
63	66.9	69.4	70.3	67.2	68.9	70.8	74.5	71.7	74.8	76.6	82.1	80.6	71.1	156.2
80	67.0	69.5	70.3	66.6	69.5	71.4	70.9	72.5	75.7	77.3	81.4	79.5	70.3	155.7
100	67.8	70.0	69.9	67.2	70.9	72.9	72.1	73.4	76.9	77.4	80.2	77.2	70.8	155.1
125	67.6	70.2	70.6	68.2	71.5	73.2	72.6	74.2	78.4	77.9	79.9	74.3	70.9	155.1
160	69.4	69.8	71.3	68.4	72.7	74.4	73.5	75.5	78.6	77.1	78.0	71.8	69.9	154.7
200	70.6	71.3	71.6	69.0	72.0	74.1	73.9	75.4	79.7	77.1	77.9	69.8	68.8	155.0
250	69.2	72.7	72.1	70.1	73.4	75.8	75.1	75.9	79.4	77.7	76.8	68.6	68.3	155.4
315	70.1	71.4	72.6	70.6	73.1	75.4	75.8	77.5	79.2	78.2	76.2	68.0	66.9	155.8
400	70.3	70.9	71.9	69.8	73.9	76.1	75.3	76.8	80.5	77.0	75.7	68.8	66.2	156.2
500	70.2	71.9	72.7	69.8	73.6	76.8	76.2	77.4	79.1	75.7	75.4	68.9	66.4	156.5
630	69.5	71.2	73.3	71.3	74.3	77.0	76.7	77.2	78.6	75.6	73.7	68.1	64.9	156.7
800	69.3	71.1	73.2	71.0	74.0	77.4	76.2	76.9	78.0	73.7	73.1	67.9	64.1	156.9
1000	69.2	71.8	73.6	71.0	74.8	76.6	76.2	77.1	73.9	69.4	68.2	63.0	60.4	156.1
1250	69.8	72.0	74.1	71.7	74.4	76.8	74.9	73.4	73.1	67.4	65.8	61.7	59.1	156.2
1600	69.8	72.1	73.9	70.7	74.5	77.0	74.5	72.6	71.0	64.0	61.8	58.9	54.7	156.8
2000	70.2	73.1	74.4	71.7	75.7	77.2	73.5	70.8	69.3	60.8	58.9	54.5	48.9	158.5
2500	67.0	71.6	75.4	73.2	76.6	77.5	73.2	69.9	67.1	57.0	54.2	48.9	40.5	160.9
3150	62.2	69.5	72.5	72.8	72.9	75.2	71.1	66.1	64.1	52.7	48.1	42.1	30.3	162.4
4000	51.9	59.6	64.0	65.3	67.2	69.8	66.5	60.8	58.6	45.7	40.1	29.9	12.2	162.1
5000	40.1	49.6	55.1	56.5	57.7	60.8	57.4	53.3	48.8	35.6	28.1	13.6		162.7
6300	17.5	30.2	37.6	41.9	43.4	47.2	43.4	38.3	32.1	17.0	5.7			162.7
8000		0.2	11.6	17.1	18.5	23.6	18.3	12.4	5.3					162.3
10000														161.2
12500														160.9
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	81.7	84.0	85.4	83.1	86.2	88.4	87.3	87.7	89.8	88.1	90.0	87.0	80.4	172.9
PNL	90.5	93.8	96.4	94.7	97.6	99.3	96.6	95.0	95.7	91.9	91.5	85.9	81.5	
PNLT	91.7	94.8	96.4	95.3	98.2	99.9	97.2	95.6	96.3	91.9	92.7	85.9	81.5	
DBA	79.1	81.8	83.9	81.9	84.9	87.0	84.8	84.4	84.8	81.1	80.2	74.3	71.4	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH264	TEST DATE = 05-05-83		LOCAT = C41 ANECH CH		CONFIG = 16		MODEL = CO		FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO		PWL AREA = FULL SPHERE		TAMB F = 57.97		PAMB HG = 28.98		RELHUM = 37.4 PCT
WIND DIR = DEG	WIND VEL = MPH		EXT DIST = 2400.0 FT		EXT CONFIG = SL		MIKE HT =		NBFR =
FNIN1 = LBS	XNL = RPM		XNH = RPM		V8 = 1356.5 FPS		AE8 = 4.0 SQ IN		
FNRAMB = LBS	XNLR = RPM		XNHR = RPM		V18 = 2183.0 FPS		AE18 = 19.9 SQ IN		

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 83F-ZER-1639 X1639C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.9	86.7	84.4	83.0	82.6	85.7	84.6	88.7	89.4	88.0	95.1	96.1	85.0	131.0
63	90.0	91.5	92.3	90.1	90.2	93.8	92.2	93.4	94.6	93.9	100.8	100.7	92.6	136.7
80	92.3	96.1	91.1	89.9	92.0	96.6	95.2	93.6	95.1	95.4	98.5	99.2	85.4	137.0
100	90.5	97.5	92.3	91.8	94.1	97.0	97.1	97.5	96.0	99.1	101.0	103.6	89.8	139.4
125	88.1	92.2	94.4	92.5	95.6	97.9	96.8	96.5	97.2	100.0	105.9	108.1	95.2	141.7
160	86.2	87.0	91.0	87.8	89.6	93.5	97.4	95.5	96.0	101.6	106.4	109.4	100.3	142.1
200	88.3	88.3	90.8	88.6	92.7	96.1	97.0	97.4	101.3	103.1	107.8	113.0	103.9	144.8
250	88.3	91.6	91.6	90.4	93.7	95.8	97.0	99.6	101.8	107.7	112.3	115.5	106.4	147.8
315	89.3	90.9	91.9	90.7	94.0	97.4	98.5	99.9	103.4	109.0	113.8	115.8	109.7	148.8
400	90.6	93.1	93.4	90.9	94.3	97.4	101.0	101.7	105.1	111.2	115.1	117.3	110.9	150.3
500	91.8	93.9	94.1	92.2	95.3	98.9	99.5	102.9	105.9	111.7	115.8	117.5	112.4	150.9
630	91.5	94.3	94.8	93.1	97.0	100.1	101.0	103.4	106.1	112.2	116.8	117.5	112.9	151.4
800	94.8	94.9	95.6	93.4	97.0	100.9	101.3	104.4	107.4	111.7	115.6	117.3	114 7	151.2
1000	98.0	98.3	97.3	94.9	98.9	101.6	102.2	105.9	108.1	111.6	115.8	116.4	114.1	151.1
1250	95.7	99.2	98.0	96.9	99.1	103.0	102.9	106.0	108.5	112.1	115.4	117.6	113.8	151.4
1600	95.3	97.0	97.4	96.0	99.8	103.1	104.0	106.3	108.9	111.2	115.4	116.0	111.4	150.8
2000	95.0	96.3	97.3	95.1	98.7	102.3	104.1	107.4	108.0	111.5	113.8	113.4	109.1	149.6
2500	93.7	96.8	97.3	95.3	98.9	102.3	103.2	106.1	107.7	111.3	112.8	109.8	106.6	148.5
3150	93.3	95.9	96.9	95.2	98.5	102.6	104.0	106.2	108.0	110.1	110.1	107.8	103.4	147.4
4000	92.6	95.2	97.0	94.7	98.9	102.1	103.2	105.8	106.9	107.4	107.9	104.4	100.8	145.9
5000	91.6	95.9	96.5	94.6	97.9	102.1	102.2	104.8	105.1	107.0	105.0	101.8	98.0	144.8
6300	91.5	95.7	96.8	95.4	98.9	101.9	102.2	104.6	104.2	104.4	103.3	99.8	95.3	144.1
8000	91.3	96.9	97.8	95.7	98.1	101.4	102.1	102.2	102.2	102.1	100.5	97.2	93.0	143.1
10000	92.8	98.4	100.2	98.5	100.1	102.1	101.8	102.1	101.6	99.6	98.3	95.9	92.0	143.8
12500	92.6	97.7	100.1	99.2	101.4	103.4	101.5	100.5	98.9	97.8	95.5	93.2	90 2	144.3
16000	91.8	97.2	99.2	99.4	100.2	102.6	101.7	100.1	97.3	94.4	93.8	90.2	86.1	144.9
20000	89.4	94.2	96.1	96.8	98.2	101.0	101.1	98.0	95.2	92.0	89.8	87.2	82.1	144.8
25000	86.4	91.0	93.1	94.1	95.9	100.3	99.4	96.3	93.3	89.1	86.6	84.2	79.6	145.4
31500	82.5	87.6	89.6	91.3	92.3	96.2	95.7	93.7	90.6	85.6	83.8	79.8	75.2	145.0
40000	78.9	83.7	86.5	87.0	89.2	92.8	91.9	89.6	87.0	82.5	80.6	76.6	71 5	145.4
50000	73.1	78.1	81.0	81.9	83.3	87.9	86.3	84.6	82.4	77.6	75.4	71.9	66.0	144.5
63000	66.5	71.7	75.2	75.9	77.7	82.5	80.3	79.2	77.4	72.0	71.0	65.8	60 1	144.2
80000	60.1	65.3	69.0	68.9	70.8	77.1	74.3	73.0	71.2	65.2	63.9	58.8	52.3	145.0
OASPL	106.9	110.0	110.6	109.3	111.9	115.1	115.6	117.4	119.0	122.5	125.9	127.1	122.5	162.4
PNL	118.5	121.3	122.0	120.2	123.6	127.0	128.0	130.2	131.8	134.4	136 5	136.4	131 5	
PNLT	118.5	121.9	122.0	120.2	124.2	127.0	128.0	130.2	131.8	134.4	136.5	136.4	131.5	
DBA	105.7	108.2	108.7	106.9	110.2	113.6	114.5	117.1	118.7	121.9	124.8	125.5	121.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHTCL = ADH258 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 56.94 PAMB HG = 29.19 RELHUM = 38.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1509.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2338.1 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1639 TAPE = X1639C TEST PT NO = 1639 NC = AE096 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 - 83F-ZER-1639 X1639F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.9	86.7	84.4	83.0	82.6	85.7	84.6	88.7	89.4	88.0	95.1	96.1	85.0	131.0
63	90.0	91.5	92.3	90.1	90.2	93.8	92.2	93.4	94.6	93.9	100.8	100.7	92.6	136.7
80	92.3	96.1	91.1	89.9	92.0	96.6	95.2	93.6	95.1	95.4	98.5	99.2	85.4	137.0
100	90.5	97.5	92.3	91.8	94.1	97.0	97.1	97.5	96.0	99.1	101.0	103.6	89.8	139.4
125	88.1	92.2	94.4	92.5	95.6	97.9	96.8	96.5	97.2	100.0	105.9	108.1	95.2	141.7
160	86.2	87.0	91.0	87.8	89.6	93.5	97.4	95.5	96.0	101.6	106.4	109.4	100.3	142.1
200	88.3	88.3	90.8	88.6	92.7	96.1	97.0	97.4	101.3	103.1	107.8	113.0	103.9	144.8
250	88.3	91.6	91.6	90.4	93.7	95.8	97.0	99.6	101.8	107.7	112.3	115.5	106.4	147.8
315	89.3	90.9	91.9	90.7	94.0	97.4	98.5	99.9	103.4	109.0	113.8	115.8	109.7	148.8
400	90.6	93.1	93.4	90.9	94.3	97.4	101.0	101.7	105.1	111.2	115.1	117.3	110.9	150.3
500	91.8	93.9	94.1	92.2	95.3	98.9	99.5	102.9	105.9	111.7	115.8	117.5	112.4	150.9
630	91.5	94.3	94.8	93.1	97.0	100.1	101.0	103.4	106.1	112.2	116.8	117.5	112.9	151.4
800	94.8	94.9	95.6	93.4	97.0	100.9	101.3	104.4	107.4	111.7	115.6	117.3	114.7	151.2
1000	98.0	98.3	97.3	94.9	98.9	101.6	102.2	105.9	108.1	111.6	115.8	116.4	114.1	151.1
1250	95.7	99.2	98.0	96.9	99.1	103.0	102.9	106.0	108.5	112.1	115.4	117.6	113.8	151.4
1600	95.3	97.0	97.4	96.0	99.8	103.1	104.0	106.3	108.9	111.2	115.4	116.0	111.4	150.8
2000	95.0	96.3	97.3	95.1	98.7	102.3	104.1	107.4	108.0	111.5	113.8	113.4	109.1	149.6
2500	93.7	96.8	97.3	95.3	98.9	102.3	103.2	106.1	107.7	111.3	112.8	109.8	106.6	148.5
3150	93.3	95.9	96.9	95.2	98.5	102.6	104.0	106.2	108.0	110.1	110.1	107.8	103.4	147.4
4000	92.6	95.2	97.0	94.7	98.9	102.1	103.2	105.8	106.9	107.4	107.9	104.4	100.8	145.9
5000	91.6	95.9	96.5	94.6	97.9	102.1	102.2	104.8	105.1	107.0	105.0	101.8	98.0	144.8
6300	91.5	95.7	96.8	95.4	98.9	101.9	102.2	104.6	104.2	104.4	103.3	99.8	95.3	144.1
8000	91.3	96.9	97.8	95.7	98.1	101.4	102.1	102.2	102.2	102.1	100.5	97.2	93.0	143.1
10000	92.8	98.4	100.2	98.5	100.1	102.1	101.8	102.1	101.6	99.6	98.3	95.9	92.0	143.8
12500	92.6	97.7	100.1	99.2	101.4	103.4	101.5	100.5	98.9	97.8	95.5	93.2	90.2	144.3
16000	91.8	97.2	99.2	99.4	100.2	102.6	101.7	100.1	97.3	94.4	93.8	90.2	86.1	144.9
20000	89.4	94.2	96.1	96.8	98.2	101.0	101.1	98.0	95.2	92.0	89.8	87.2	82.1	144.8
25000	86.4	91.0	93.1	94.1	95.9	100.3	99.4	96.3	93.3	89.1	86.6	84.2	79.6	145.4
31500	82.5	87.6	89.6	91.3	92.3	96.2	95.7	93.7	90.6	85.6	83.8	79.8	75.2	145.0
40000	78.9	83.7	86.5	87.0	89.2	92.8	91.9	89.6	87.0	82.5	80.6	76.6	71.5	145.4
50000	73.1	78.1	81.0	81.9	83.3	87.9	86.3	84.6	82.4	77.6	75.4	71.9	66.0	144.5
63000	66.5	71.7	75.2	75.9	77.7	82.5	80.3	79.2	77.4	72.0	71.0	65.8	60.1	144.2
80000	60.1	65.3	69.0	68.9	70.8	77.1	74.3	73.0	71.2	65.2	63.9	58.8	52.3	145.0
OASPL	106.9	110.0	110.6	109.3	111.9	115.1	115.6	117.4	119.0	122.5	125.9	127.1	122.5	162.4
PNL	118.5	121.3	122.0	120.2	123.6	127.0	128.0	130.2	131.8	134.4	136.5	136.4	131.5	
PNLT	118.5	121.9	122.0	120.2	124.2	127.0	128.0	130.2	131.8	134.4	136.5	136.4	131.5	
DBA	182.5	187.6	191.2	191.4	193.3	198.9	196.4	195.1	193.3	187.6	186.2	181.3	175.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH258 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 56.94 PAMB HG = 29.19 RELHUM = 38.6 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 = 1509.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2338.1 FPS AE18 = 19.9 SQ IN

CT = ZE 39 E = X TE T N 163 AE05 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-2ER-1639 X16391

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.2	68.3	70.4	69.9	73.6	77.1	78.1	79.1	81.9	86.4	89.7	89.5	80.0	164.1
63	66.4	70.5	71.8	70.1	73.8	77.1	80.6	80.8	83.6	88.6	90.9	90.9	81.2	165.6
80	67.5	71.2	72.6	71.3	74.8	78.6	79.1	82.1	84.3	89.1	91.6	91.1	82.6	166.2
100	67.3	71.6	73.2	72.2	76.5	79.7	80.5	82.5	84.5	89.4	92.5	90.9	82.9	166.7
125	70.4	72.1	73.9	72.4	76.5	80.5	80.7	83.4	85.7	88.9	91.2	90.6	84.5	166.5
160	73.4	75.3	75.5	73.7	78.3	81.0	81.5	84.7	86.2	88.7	91.2	89.5	83.5	166.4
200	70.8	76.0	75.9	75.6	78.3	82.3	82.0	84.7	86.4	88.9	90.6	90.3	82.7	166.8
250	70.2	73.5	75.1	74.5	78.7	82.2	82.9	84.8	86.6	87.8	90.2	88.3	79.7	166.1
315	69.4	72.5	74.7	73.3	77.4	81.2	82.7	85.6	85.4	87.7	88.2	85.1	76.6	164.9
400	67.6	72.5	74.3	73.2	77.3	80.8	81.6	84.0	84.7	87.0	86.6	80.9	73.0	163.8
500	66.7	71.2	73.6	72.7	76.5	80.8	82.0	83.7	84.7	85.4	83.5	78.1	68.8	162.8
630	65.4	70.1	73.3	71.9	76.6	80.0	80.9	83.0	83.2	82.3	80.7	74.1	65.1	161.2
800	63.8	70.3	72.4	71.5	75.3	79.6	79.6	81.7	81.0	81.4	77.2	70.6	61.1	160.1
1000	63.2	69.7	72.3	71.9	76.0	79.1	79.2	81.1	79.7	78.3	75.0	67.8	57.1	159.4
1250	62.2	70.4	72.9	71.9	74.8	78.3	78.8	78.4	77.3	75.6	71.5	64.2	53.2	158.4
1600	62.6	71.0	74.6	74.0	76.3	78.5	78.0	77.6	76.0	72.1	68.2	61.4	49.5	159.1
2000	61.0	69.2	73.6	74.0	77.0	79.2	77.0	75.3	72.4	69.2	63.8	56.4	44.2	159.6
2500	57.9	67.1	71.4	73.1	74.7	77.5	76.3	73.9	69.5	64.2	59.9	50.2	34.8	160.2
3150	51.5	61.0	65.8	68.3	70.8	73.9	73.7	69.6	65.0	58.8	52.0	41.6	21.8	160.1
4000	41.6	52.3	58.2	61.6	64.8	69.5	68.3	63.8	58.4	50.4	41.7	29.0	4.0	160.7
5000	27.1	40.4	47.7	52.5	55.3	59.7	58.6	55.0	48.7	38.5	28.3	10.0		160.3
6300	5.3	22.0	32.1	37.1	41.7	46.1	44.4	39.7	32.6	20.8	6.9			160.7
8000			4.3	11.8	16.8	22.5	19.7	14.5	5.7					159.8
10000														159.6
12500														160.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	80.3	84.4	86.2	85.5	89.1	92.5	93.1	95.0	96.1	98.8	100.7	99.5	91.7	177.3
PNL	84.6	91.4	94.7	95.2	98.1	101.2	100.9	100.8	100.7	101.8	102.1	99.7	91.3	
PNLT	84.6	91.4	95.4	95.8	98.7	101.8	101.5	101.4	101.3	101.8	102.1	99.7	91.3	
DBA	73.6	79.9	82.9	82.7	85.8	89.0	89.0	89.9	89.7	90.2	89.8	86.6	78.7	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH258 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 56.94 PAMB HG = 29.19 RELHUM = 38.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1509.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2338.1 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-2ER-1639 TAPE = X16391 TEST PT NO = 1639 NC = AE096 CORR FAN SPEED = RPM

P1185-03

DATPROC - FLTRAN 07/07/83 18.473 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 83F-400-1640 X1640C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.9	89.2	85.2	82.0	82.1	84.7	83.6	87.2	88.4	88.2	93.9	94.6	86.7	130.5
63	90.8	90.5	92.8	88.1	88.2	92.1	90.5	90.4	92.6	94.1	95.3	95.7	92.1	134.1
80	92.3	96.3	91.6	90.4	92.2	96.3	95.0	94.4	95.6	94.7	97.5	98.7	87.4	136.9
100	91.2	96.2	91.3	90.0	92.9	96.0	95.6	97.0	95.5	96.8	98.7	103.4	91.3	138.3
125	88.9	91.7	92.7	91.5	94.6	96.7	96.1	95.7	95.7	98.0	103.9	107.6	95.2	140.6
160	86.4	84.5	90.0	86.0	88.9	91.2	94.4	92.5	93.7	98.8	104.7	107.4	99.3	140.1
200	86.3	86.1	88.6	84.9	88.5	91.8	93.5	95.4	97.8	98.9	104.8	111.2	101.9	142.4
250	84.0	87.3	87.6	86.1	89.5	92.3	93.5	95.6	98.3	104.2	109.3	113.0	103.9	144.9
315	85.1	87.6	88.4	86.2	89.5	93.6	95.3	96.4	99.4	105.7	110.8	113.0	105.2	145.7
400	86.6	88.1	89.6	86.9	90.3	93.4	99.0	96.9	100.9	107.7	112.1	113.5	103.9	146.7
500	87.3	88.9	89.1	87.2	90.8	94.1	95.3	97.7	101.1	108.2	112.1	112.3	101.7	146.3
630	86.5	88.6	89.6	88.4	92.0	95.3	96.5	98.9	102.1	109.2	112.0	110.2	98.6	146.0
800	88.1	88.4	90.4	88.9	92.5	95.9	97.0	99.7	103.4	109.0	110.3	107.0	95.9	144.9
1000	90.3	90.5	91.6	89.9	93.7	97.1	97.9	102.1	104.8	108.9	109.8	103.7	93.1	144.8
1250	88.7	92.2	92.0	90.6	93.4	97.5	98.1	101.8	104.7	109.1	108.4	100.9	92.5	144.3
1600	90.1	90.7	91.7	91.0	94.8	98.4	99.5	102.8	105.9	108.5	108.6	98.8	91.7	144.6
2000	90.3	90.1	91.3	90.4	94.0	97.8	99.6	103.1	105.5	108.8	107.1	98.1	91.9	144.2
2500	90.4	91.5	92.6	90.8	94.7	98.5	99.5	103.1	105.0	108.3	106.5	96.8	92.1	143.9
3150	91.1	91.4	91.9	90.9	95.0	99.1	100.0	103.2	105.5	107.6	105.6	97.8	91.2	143.8
4000	91.6	91.4	93.0	90.9	95.4	98.8	99.2	102.5	103.7	105.4	103.6	96.7	90.5	142.5
5000	92.8	92.9	93.5	91.4	94.6	98.6	99.2	101.8	102.6	105.5	103.0	95.8	90.5	142.2
6300	94.0	94.5	94.6	91.9	95.4	98.4	99.2	101.6	102.2	102.6	101.1	95.0	89.5	141.5
8000	97.0	97.2	96.5	93.9	96.1	98.1	99.1	99.9	100.7	100.9	99.0	93.9	90.0	141.3
10000	99.3	100.7	100.5	97.0	97.8	99.1	98.6	99.6	99.6	99.0	96.1	92.7	88.7	142.4
12500	96.9	98.5	100.3	98.7	99.9	101.2	99.2	98.2	97.7	97.0	93.8	90.9	87.4	143.0
16000	95.1	97.7	97.7	97.9	99.4	100.9	99.2	97.9	96.6	93.4	91.5	88.2	84.1	143.5
20000	92.1	94.7	95.3	95.0	97.2	100.2	98.8	96.8	94.5	91.0	88.6	85.7	81.4	143.6
25000	89.0	92.1	92.9	93.1	95.2	99.0	98.0	95.0	93.4	87.9	85.3	83.5	79.4	144.4
31500	85.8	88.4	89.4	91.1	92.1	95.5	94.5	93.0	91.2	85.7	83.6	79.8	75.3	144.5
40000	81.7	84.8	86.1	86.6	88.2	92.1	91.2	89.5	87.4	83.3	81.2	77.7	72.3	145.0
50000	75.2	78.8	79.8	81.5	82.9	87.5	85.4	84.5	82.7	78.5	76.5	72.2	66.4	144.2
63000	68.9	72.8	74.8	74.6	77.3	81.9	79.2	78.8	78.0	72.7	72.3	67.2	61.2	143.8
80000	61.5	66.0	67.5	66.5	70.2	75.8	73.0	71.9	71.4	66.1	65.3	60.2	53.7	144.0
OASPL	106.6	108.2	108.4	106.8	109.1	112.0	112.3	114.1	116.0	119.7	121.3	121.2	111.9	158.8
PNL	117.1	117.9	118.4	116.3	119.9	123.4	124.3	127.0	129.1	131.9	131.6	128.6	120.1	
PNLT	117.1	117.9	118.4	116.9	120.6	123.9	124.9	127.0	129.1	131.9	131.6	128.6	120.1	
DBA	103.9	104.6	105.0	103.0	106.2	109.6	110.5	113.5	115.7	119.2	119.5	116.4	107.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH263 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = T6 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 57.07 PAMB HG = 28.98 RELHUM = 38.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1516.1 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2362.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1640 TAPE = X1640C TEST PT NO - 1640 NO AEO CORR FAN SPEED RPM

P1185-08

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

IDENTIFICATION - 83F-400-1640 X1640F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.9	93.8	92.5	89.4	91.1	92.3	91.6	92.0	97.3	103.1	108.0	110.9	105.1	143.6
315	91.9	93.8	92.5	89.4	91.3	93.8	94.4	94.6	98.8	105.1	109.4	112.0	105.2	144.8
400	92.8	94.0	93.3	89.6	92.1	93.6	98.1	94.9	99.1	105.7	109.7	111.5	104.6	144.9
500	94.1	94.4	94.5	90.3	92.7	94.5	94.3	95.6	100.1	106.7	109.9	110.2	103.5	144.6
630	95.0	95.3	94.1	90.6	93.9	95.7	95.5	96.7	101.7	106.9	108.8	108.3	103.5	144.1
800	94.2	95.0	94.6	91.9	94.6	96.4	96.1	97.5	103.3	107.1	108.5	105.8	102.7	143.8
1000	95.8	94.8	95.5	92.5	95.8	97.7	97.1	99.9	103.3	107.2	107.1	102.7	101.7	143.4
1250	97.9	97.0	96.7	93.5	95.6	98.3	97.4	99.7	104.7	106.8	107.4	100.6	100.5	143.6
1600	96.3	98.7	97.1	94.4	97.2	99.4	99.0	100.9	104.6	107.5	106.1	100.3	101.1	143.9
2000	97.8	97.3	96.9	94.9	96.7	99.1	99.4	101.6	104.5	107.4	106.0	99.4	101.7	143.8
2500	97.9	96.7	96.6	94.4	98.2	100.2	99.6	101.9	105.5	107.3	105.7	101.0	101.4	144.1
3150	100.9	100.4	99.7	96.1	98.8	101.1	100.5	102.4	104.7	106.0	104.7	101.0	102.4	144.3
4000	101.5	100.3	99.2	96.5	99.6	101.4	100.8	102.7	103.7	106.2	104.3	100.4	102.7	144.4
5000	101.9	100.4	100.5	96.8	98.7	101.6	101.1	102.2	104.2	104.3	103.4	100.9	103.0	144.2
6300	100.3	99.6	99.3	96.2	99.5	101.4	101.4	102.7	103.8	103.9	102.7	100.9	104.2	144.2
8000	101.3	101.0	100.2	96.6	99.7	101.1	101.5	101.6	103.4	102.8	100.3	99.9	102.8	144.2
10000	101.7	101.7	100.6	97.5	101.3	102.1	101.1	101.5	99.1	97.9	95.0	95.2	98.6	144.0
12500	104.0	105.0	104.2	100.2	104.0	104.2	100.7	98.2	98.5	94.8	93.3	93.0	95.8	146.2
16000	103.2	104.1	105.0	102.4	103.5	103.9	100.6	97.9	96.8	92.9	90.8	90.9	93.5	147.4
20000	101.0	102.9	102.0	101.2	101.3	103.2	100.3	96.8	96.3	90.4	88.1	89.3	92.1	147.7
25000	97.5	99.3	99.0	97.7	99.8	102.0	99.4	95.0	94.9	88.9	87.2	86.4	88.8	147.9
31500	96.3	98.2	97.5	96.2	96.7	98.5	95.9	93.0	91.9	87.4	85.6	85.1	86.7	148.6
40000	92.3	93.6	93.2	93.3	92.8	95.1	92.6	89.5	87.7	82.9	81.3	80.0	81.1	148.8
50000	87.8	89.7	89.5	88.5	87.5	90.5	86.8	84.4	83.9	78.1	78.1	75.9	76.9	148.6
63000	80.3	82.7	82.3	82.4	81.9	84.9	80.6	78.8	78.8	73.0	72.5	70.4	70.9	147.7
80000	72.6	75.2	75.8	74.0	74.8	78.8	74.4	71.9	69.0	63.2	62.7	60.6	61.1	147.5
OASPL	112.8	113.1	112.7	110.0	112.3	113.8	112.6	113.2	115.6	118.3	119.2	118.8	115.3	160.0
PNL	123.7	123.1	122.5	119.4	122.3	124.2	123.9	125.4	127.9	130.0	129.4	126.8	126.8	
PNLT	123.7	123.1	122.5	119.4	122.3	124.2	124.5	125.4	127.9	130.0	129.4	126.8	126.8	
DBA	195.7	198.1	198.2	197.2	197.3	200.9	196.6	194.3	192.7	187.0	186.5	184.4	185.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH263 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 57.07 PAMB HG = 28.98 RELHUM = 38.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1516.1 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2362.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1640 TAPE = X1640F TEST PT NO = 1640 NC = AE096 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1640 X16401

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.8	71.2	71.0	68.6	70.9	73.6	74.0	73.8	77.2	82.5	85.3	85.7	75.5	160.1
63	68.6	71.4	71.8	68.7	71.7	73.3	77.7	74.1	77.5	83.1	85.6	85.1	74.8	160.2
80	69.9	71.8	72.9	69.4	72.2	74.2	73.9	74.7	78.5	84.1	85.7	83.8	73.6	160.0
100	70.7	72.6	72.5	69.7	73.4	75.4	75.0	75.8	80.1	84.2	84.5	81.8	73.5	159.4
125	69.8	72.2	72.9	70.9	74.0	76.0	75.5	76.5	81.6	84.3	84.1	79.1	72.5	159.2
160	71.2	71.8	73.6	71.4	75.2	77.1	76.4	78.8	81.5	84.3	82.5	75.7	71.1	158.8
200	73.1	73.8	74.6	72.2	74.8	77.6	76.5	78.4	82.7	83.7	82.5	73.3	69.4	159.0
250	71.2	75.2	74.9	72.8	76.2	78.5	77.9	79.4	82.3	84.0	81.0	72.6	69.4	159.2
315	72.1	73.4	74.3	73.1	75.3	77.9	78.0	79.8	81.9	83.5	80.4	71.2	69.2	159.1
400	71.8	72.4	73.6	72.3	76.5	78.6	77.9	79.7	82.5	83.0	79.5	72.0	67.9	159.5
500	74.2	75.7	76.4	73.6	76.9	79.3	78.6	80.0	81.4	81.3	78.0	71.4	67.8	159.6
630	74.3	75.2	75.5	73.7	77.3	79.3	78.5	79.9	80.0	81.1	77.1	70.0	67.0	159.7
800	74.1	74.8	76.4	73.6	76.0	79.1	78.5	79.1	80.0	78.7	75.6	69.8	66.1	159.6
1000	71.9	73.5	74.8	72.7	76.5	78.6	78.5	79.2	79.3	77.8	74.3	68.9	66.0	159.6
1250	72.3	74.5	75.3	72.7	76.4	78.1	78.2	77.8	78.5	76.2	71.3	67.0	63.0	159.6
1600	71.5	74.3	75.0	73.1	77.5	78.5	77.3	77.1	73.5	70.5	64.8	60.6	56.2	159.3
2000	72.4	76.4	77.7	74.9	79.5	79.9	76.2	73.0	72.0	66.3	61.6	56.2	49.8	161.6
2500	69.3	73.9	77.2	76.1	78.0	78.7	75.2	71.6	69.0	62.7	56.9	50.9	42.2	162.8
3150	63.2	69.7	71.7	72.8	73.9	76.1	72.9	68.3	66.0	57.1	50.3	43.8	31.8	163.0
4000	52.6	60.6	64.2	65.2	68.6	71.3	68.2	62.5	60.0	50.2	42.3	31.1	13.2	163.2
5000	40.8	51.0	55.5	57.5	59.7	62.0	58.9	54.3	50.0	40.3	30.1	15.3		163.9
6300	18.7	31.9	38.8	43.4	45.3	48.4	45.1	39.5	33.3	21.2	7.6			164.2
8000		2.2	12.8	18.3	21.0	25.1	20.2	14.3	7.2					163.9
10000														163.0
12500														162.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	84.4	86.5	87.5	85.5	88.7	90.6	89.8	90.4	92.6	94.5	94.0	91.2	82.9	175.2
PNL	92.9	96.3	98.3	96.9	99.6	101.1	98.9	97.8	98.3	98.2	95.5	90.1	83.6	
PNLT	94.1	97.4	98.8	97.5	100.2	101.6	99.5	98.4	98.8	99.3	96.6	90.1	83.6	
DBA	81.9	84.4	85.8	84.0	87.3	88.8	87.3	87.2	87.7	87.3	84.0	77.6	73.8	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL	= ADH263	TEST DATE	= 05-05-83	LOCAT	= C41 ANECH CH	CONFIG	= 16	MODEL	= CO	FLTVEL =	400. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 57.07	PAMB HG	= 28.98	RELHUM =	38.7 PCT
WIND DIR =	DEG	WIND VEL	= MPH	EXT DIST	= 2400.0 FT.	EXT CONFIG	= SL	MIKE HT	=	NBFR =	
FNIN1 =	LBS	XNL	= RPM	XNH	= RPM	V8	= 1516.1 FPS	AE8	= 4.0 SQ IN		
FNRAMB =	LBS	XNLR	= RPM	XNHR	= RPM	V18	= 2362.4 FPS	AE18	= 19.9 SQ IN		

T = -40 40 X1 TE T NO 1640 AE09 CORR FAN SPEED = RPM

P1188-03

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 83F-ZER-1641 X1641C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.9	88.9	86.7	84.0	84.6	87.9	88.1	90.7	91.4	90.0	96.6	97.8	88.5	132.9
63	92.3	92.5	93.8	89.9	92.2	96.3	94.7	94.1	95.6	92.9	101.3	100.7	93.9	137.6
80	94.8	99.6	94.8	93.6	95.0	99.1	97.5	96.9	98.1	98.4	101.5	102.2	88.4	140.0
100	93.0	100.7	96.0	95.3	97.4	100.3	100.1	101.0	99.3	101.8	103.2	106.6	93.8	142.4
125	90.9	94.4	96.4	94.7	97.6	100.4	99.1	99.0	99.4	102.8	108.4	111.3	98.2	144.5
160	88.2	89.5	92.5	89.5	91.6	94.7	98.1	98.0	98.5	104.6	108.9	111.9	104.0	144.6
200	90.8	90.6	93.1	90.6	94.5	98.1	98.7	99.9	102.8	105.4	110.0	115.5	106.9	147.1
250	90.0	93.3	93.3	92.1	95.7	98.1	99.0	101.9	104.3	110.2	115.3	118.2	109.9	150.5
315	91.8	93.1	93.6	91.9	95.8	99.9	101.0	101.9	105.4	112.0	116.8	119.0	112.4	151.8
400	93.1	94.6	95.1	93.2	96.0	99.6	107.3	103.9	107.4	114.4	118.8	120.0	113.9	153.5
500	93.6	95.9	96.1	94.4	97.5	101.1	101.5	104.7	107.6	115.0	119.6	120.3	115.4	154.0
630	93.8	96.6	96.6	94.9	99.0	102.6	103.2	105.9	108.6	115.4	120.5	122.0	116.4	155.2
800	97.1	96.9	97.9	95.7	99.3	102.9	103.8	106.9	109.9	115.5	119.3	121.0	117.4	154.6
1000	98.8	100.3	100.3	97.9	101.2	104.6	104.7	108.1	111.1	115.1	119.3	120.4	116.9	154.5
1250	98.2	102.2	100.5	99.4	101.1	105.0	104.6	107.8	111.2	115.6	119.2	119.9	115.5	154.3
1600	97.8	99.7	100.4	98.5	102.0	105.9	105.7	108.8	111.7	115.5	120.1	118.5	112.9	154.2
2000	98.3	99.3	99.8	98.4	101.0	104.3	106.6	109.4	111.8	115.8	117.8	115.6	111.1	152.9
2500	96.7	100.0	100.6	98.3	101.7	105.3	106.0	109.6	110.7	115.8	116.0	112.6	109.3	151.9
3150	96.6	99.2	100.4	98.7	101.3	105.1	106.5	108.9	111.5	114.4	113.9	111.3	106.7	151.0
4000	95.6	98.2	100.0	98.2	102.4	105.6	106.0	109.0	109.9	111.7	111.9	108.7	104.5	149.5
5000	95.1	99.6	100.0	97.9	101.6	105.8	105.5	107.6	108.6	111.5	109.8	106.0	102.3	148.6
6300	95.8	99.5	100.6	99.1	102.4	105.1	105.4	108.1	107.9	108.9	108.6	105.3	100.5	148.1
8000	95.8	99.7	101.3	100.2	101.8	104.4	104.8	105.4	106.0	107.4	105.5	102.2	98.7	146.9
10000	96.0	100.4	102.7	101.7	103.6	106.1	104.8	105.3	105.1	105.6	104.3	101.2	97.7	147.5
12500	95.1	98.8	101.3	101.2	103.7	106.4	104.8	104.2	103.7	104.0	101.8	100.2	96.2	147.6
16000	93.6	97.5	99.5	100.4	102.5	105.7	104.3	103.4	102.1	100.7	100.1	97.0	93.1	147.7
20000	91.7	95.3	97.1	97.6	99.6	103.3	102.2	101.1	99.5	98.6	96.7	94.0	89.4	147.0
25000	88.5	92.4	94.4	95.5	97.0	101.6	100.3	98.1	96.4	94.0	91.2	90.3	85.4	146.9
31500	85.2	89.0	91.0	92.9	93.9	98.1	96.8	95.9	94.0	90.5	88.7	85.7	80.9	146.9
40000	81.1	85.2	87.7	88.5	90.3	94.7	93.3	91.6	90.0	86.7	85.5	82.3	76.9	147.2
50000	74.8	79.1	82.0	83.4	85.3	90.1	87.5	86.6	85.1	82.1	79.6	76.6	71.2	146.5
63000	69.3	73.9	76.9	77.2	79.2	84.2	81.3	80.9	80.6	76.4	75.2	70.8	66.1	146.1
80000	61.6	66.9	70.6	70.6	72.1	78.7	75.6	74.5	73.6	70.8	68.4	63.6	58.3	146.8
OASPL	109.4	112.5	113.0	111.8	114.5	117.9	118.2	120.1	122.0	126.3	129.6	130.3	125.2	165.5
PNL	121.5	124.2	125.1	123.3	126.5	129.9	130.6	132.9	135.0	138.5	140.2	139.4	134.2	
PNLT	121.5	124.9	125.1	123.3	127.1	129.9	131.6	133.5	135.0	138.5	140.2	139.4	134.2	
DBA	108.4	111.1	111.7	110.0	113.0	116.5	117.1	119.7	121.8	125.9	128.7	128.7	124.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH261 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = T6 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.28 PAMB HG = 29.11 RELHUM = 37.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1540.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2512.2 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1641 TAPE = X1641C TEST PT NO = 1641 NC = AE096 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-2ER-1641 X1641F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.9	88.9	86.7	84.0	84.6	87.9	88.1	90.7	91.4	90.0	96.6	97.8	88.5	132.9
63	92.3	92.5	93.8	89.9	92.2	96.3	94.7	94.1	95.6	92.9	101.3	100.7	93.9	137.6
80	94.8	99.6	94.8	93.6	95.0	99.1	97.5	96.9	98.1	98.4	101.5	102.2	88.4	140.0
100	93.0	100.7	96.0	95.3	97.4	100.3	100.1	101.0	99.3	101.8	103.2	106.6	93.8	142.4
125	90.9	94.4	96.4	94.7	97.6	100.4	99.1	99.0	99.4	102.8	108.4	111.3	98.2	144.5
160	88.2	89.5	92.5	89.5	91.6	94.7	98.1	98.0	98.5	104.6	108.9	111.9	104.0	144.6
200	90.8	90.6	93.1	90.6	94.5	98.1	98.7	99.9	102.8	105.4	110.0	115.5	106.9	147.1
250	90.0	93.3	93.3	92.1	95.7	98.1	99.0	101.9	104.3	110.2	115.3	118.2	109.9	150.5
315	91.8	93.1	93.6	91.9	95.8	99.9	101.0	101.9	105.4	112.0	116.8	119.0	112.4	151.8
400	93.1	94.6	95.1	93.2	96.0	99.6	107.3	103.9	107.4	114.4	118.8	120.0	113.9	153.5
500	93.6	95.9	96.1	94.4	97.5	101.1	101.5	104.7	107.6	115.0	119.6	120.3	115.4	154.0
630	93.8	96.6	96.6	94.9	99.0	102.6	103.2	105.9	108.6	115.4	120.5	122.0	116.4	155.2
800	97.1	96.9	97.9	95.7	99.3	102.9	103.8	106.9	109.9	115.5	119.3	121.0	117.4	154.6
1000	98.8	100.3	100.3	97.9	101.2	104.6	104.7	108.1	111.1	115.1	119.3	120.4	116.9	154.5
1250	98.2	102.2	100.5	99.4	101.1	105.0	104.6	107.8	111.2	115.6	119.2	119.9	115.5	154.3
1600	97.8	99.7	100.4	98.5	102.0	105.9	105.7	108.8	111.7	115.5	120.1	118.5	112.9	154.2
2000	98.3	99.3	99.8	98.4	101.0	104.3	106.6	109.4	111.8	115.8	117.8	115.6	111.1	152.9
2500	96.7	100.0	100.6	98.3	101.7	105.3	106.0	109.6	110.7	115.8	116.0	112.6	109.3	151.9
3150	96.6	99.2	100.4	98.7	101.3	105.1	106.5	108.9	111.5	114.4	113.9	111.3	106.7	151.0
4000	95.6	98.2	100.0	98.2	102.4	105.6	106.0	109.0	109.9	111.7	111.9	108.7	104.5	149.5
5000	95.1	99.6	100.0	97.9	101.6	105.8	105.5	107.6	108.6	111.5	109.8	106.0	102.3	148.6
6300	95.8	99.5	100.6	99.1	102.4	105.1	105.4	108.1	107.9	108.9	108.6	105.3	100.5	148.1
8000	95.8	99.7	101.3	100.2	101.8	104.4	104.8	105.4	106.0	107.4	105.5	102.2	98.7	146.9
10000	96.0	100.4	102.7	101.7	103.6	106.1	104.8	105.3	105.1	105.6	104.3	101.2	97.7	147.5
12500	95.1	98.8	101.3	101.2	103.7	106.4	104.8	104.2	103.7	104.0	101.8	100.2	96.2	147.6
16000	93.6	97.5	99.5	100.4	102.5	105.7	104.3	103.4	102.1	100.7	100.1	97.0	93.1	147.7
20000	91.7	95.3	97.1	97.6	99.6	103.3	102.2	101.1	99.5	98.6	96.7	94.0	89.4	147.0
25000	88.5	92.4	94.4	95.5	97.0	101.6	100.3	98.1	96.4	94.0	91.2	90.3	85.4	146.9
31500	85.2	89.0	91.0	92.9	93.9	98.1	96.8	95.9	94.0	90.5	88.7	85.7	80.9	146.9
40000	81.1	85.2	87.7	88.5	90.3	94.7	93.3	91.6	90.0	86.7	85.5	82.3	76.9	147.2
50000	74.8	79.1	82.0	83.4	85.3	90.1	87.5	86.6	85.1	82.1	79.6	76.6	71.2	146.5
63000	69.3	73.9	76.9	77.2	79.2	84.2	81.3	80.9	80.6	76.4	75.2	70.8	66.1	146.1
80000	61.6	66.9	70.6	70.6	72.1	78.7	75.6	74.5	73.6	70.8	68.4	63.6	58.3	146.8
OASPL	109.4	112.5	113.0	111.8	114.5	117.9	118.2	120.1	122.0	126.3	129.6	130.3	125.2	165.5
PNL	121.5	124.2	125.1	123.3	126.5	129.9	130.6	132.9	135.0	138.5	140.2	139.4	134.2	
PNLT	121.5	124.9	125.1	123.3	127.1	129.9	131.6	133.5	135.0	138.5	140.2	139.4	134.2	
DBA	104.4	109.3	112.7	113.0	114.7	120.6	117.6	116.7	115.9	112.7	110.7	106.2	101.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH261 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.28 PAMB HG = 29.11 RELHUM = 37.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1540.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2512.2 FPS AE18 = 19.9 SQ IN

JPT F-Z 641 PE = X F TI PT 162 AEO RR FAN SPEED RPM

P1185-08

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

IDENTIFICATION - 83F-ZER-1641 X16411

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.7	70.5	72.1	71.1	75.4	79.6	80.6	81.1	83.9	89.4	92.7	92.7	82.8	167.1
63	68.9	72.0	73.6	72.3	75.6	79.3	86.8	83.1	85.8	91.8	94.7	93.6	84.2	168.8
80	69.4	73.2	74.6	73.6	77.1	80.8	81.1	83.8	86.1	92.3	95.4	93.8	85.6	169.3
100	69.5	73.9	75.0	74.0	78.5	82.2	82.7	85.0	87.0	92.7	96.3	95.4	86.4	170.5
125	72.7	74.1	76.2	74.7	78.7	82.5	83.2	85.9	88.2	92.6	94.9	94.3	87.2	170.0
160	74.2	77.3	78.5	76.7	80.5	84.0	84.0	87.0	89.2	92.2	94.7	93.5	86.3	169.8
200	73.3	79.0	78.4	78.1	80.3	84.3	83.8	86.5	89.2	92.4	94.3	92.6	84.5	169.6
250	72.7	76.3	78.1	77.0	81.0	85.0	84.7	87.3	89.4	92.0	94.9	90.8	81.2	169.6
315	72.7	75.5	77.2	76.6	79.6	83.2	85.2	87.6	89.2	92.0	92.2	87.4	78.6	168.3
400	70.6	75.7	77.6	76.2	80.0	83.8	84.3	87.5	87.7	91.5	89.9	83.6	75.8	167.3
500	69.9	74.5	77.1	76.2	79.3	83.3	84.5	86.5	88.2	89.7	87.2	81.6	72.1	166.3
630	68.4	73.0	76.3	75.4	80.1	83.4	83.7	86.2	86.2	86.5	84.7	78.3	68.8	164.8
800	67.3	74.0	75.9	74.7	79.0	83.4	82.9	84.4	84.5	85.9	82.0	74.9	65.3	164.0
1000	67.4	73.4	76.1	75.6	79.5	82.4	82.5	84.6	83.4	82.8	80.2	73.3	62.3	163.4
1250	66.7	73.1	76.4	76.4	78.6	81.3	81.6	81.6	81.1	80.8	76.5	69.2	58.9	162.2
1600	65.8	73.0	77.1	77.3	79.8	82.5	81.1	80.9	79.5	78.1	74.2	66.6	55.3	162.8
2000	63.5	70.2	74.8	76.0	79.2	82.2	80.3	79.0	77.2	75.5	70.1	63.5	50.2	162.9
2500	59.7	67.4	71.7	74.2	77.0	80.5	78.8	77.2	74.3	70.5	66.2	57.0	41.8	163.0
3150	53.9	62.1	66.9	69.1	72.1	76.2	74.7	72.6	69.3	65.4	58.8	48.4	29.1	162.4
4000	43.7	53.7	59.6	63.0	65.9	70.9	69.1	65.6	61.6	55.3	46.3	35.1	9.9	162.3
5000	29.7	41.9	49.1	54.2	56.9	61.6	59.8	57.1	52.1	43.4	33.2	15.9		162.3
6300	7.4	23.5	33.3	38.6	42.8	48.0	45.8	41.7	35.6	25.0	11.9			162.6
8000			5.3	13.3	18.7	24.7	20.9	16.5	8.4					161.8
10000														161.4
12500														162.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	82.7	87.0	88.9	88.3	91.7	95.3	95.9	97.6	99.0	102.5	104.5	102.8	94.4	180.5
PNL	87.5	93.6	96.8	97.3	100.6	104.1	103.5	103.7	104.1	106.2	106.5	102.8	93.9	
PNLT	87.5	93.6	97.5	97.8	101.1	104.7	104.1	104.3	104.7	106.2	106.5	102.8	93.9	
DBA	76.8	82.5	85.5	85.6	88.8	92.1	91.7	93.0	93.1	94.6	93.8	89.7	81.1	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH261 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.28 PAMB HG = 29.11 RELHUM = 37.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1540.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2512.2 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1641 TAPE = X16411 TEST PT NO = 1641 NC = AE096 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 83F-400-1642 X1642C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.9	91.4	86.4	85.0	84.6	86.7	86.1	89.5	91.4	90.7	95.9	96.3	92.5	132.7
63	93.3	92.8	93.6	90.1	91.5	94.1	92.5	91.9	95.8	94.4	97.5	97.5	93.4	136.0
80	94.5	99.1	93.8	92.9	95.2	98.8	97.2	96.1	97.3	96.9	100.3	100.7	91.6	139.2
100	93.7	98.7	93.8	92.5	95.4	99.3	98.9	99.8	98.0	99.3	101.0	105.6	94.1	140.9
125	91.1	93.2	94.9	94.0	97.1	99.2	98.3	98.5	97.7	100.0	105.9	110.1	98.2	142.9
160	89.4	86.0	91.5	88.0	90.9	94.0	97.1	95.3	95.5	101.8	107.9	110.6	102.3	143.2
200	88.8	88.3	90.1	87.1	91.2	94.1	95.7	97.6	99.8	101.1	106.8	113.5	105.4	144.7
250	86.8	90.3	90.1	88.6	92.0	94.8	95.7	97.9	100.6	106.7	112.0	116.0	107.1	147.7
315	87.6	89.4	89.9	88.7	92.0	95.4	97.5	98.9	101.1	108.0	113.3	116.5	108.9	148.7
400	89.1	90.1	91.1	88.7	92.5	95.4	102.0	99.4	103.4	110.2	114.8	116.8	108.2	149.6
500	89.6	90.9	91.9	89.9	93.3	96.6	97.3	100.2	103.6	111.5	115.8	116.8	105.9	150.1
630	90.3	91.6	91.6	90.4	94.2	97.3	98.7	101.1	104.6	112.2	116.3	115.5	103.6	150.0
800	91.6	91.4	92.6	91.2	95.0	98.4	99.3	101.9	106.1	112.2	115.6	114.0	101.4	149.5
1000	93.3	93.5	94.3	92.1	96.4	99.6	100.4	103.9	107.6	112.1	115.0	111.2	99.1	149.0
1250	92.7	95.2	94.7	93.4	96.1	100.0	100.4	104.3	108.0	113.1	114.4	108.9	98.0	148.9
1600	93.3	94.0	94.7	93.8	97.0	101.1	101.5	104.5	108.9	113.2	115.4	107.0	97.4	149.4
2000	94.5	93.8	94.3	92.9	97.0	100.8	102.1	105.6	108.5	112.5	113.8	105.6	97.6	148.6
2500	94.9	96.3	95.8	93.5	97.2	101.0	101.5	105.3	108.0	112.5	112.5	104.6	97.8	148.1
3150	94.8	94.7	95.9	93.9	97.3	101.6	103.0	105.2	108.8	111.6	110.9	104.5	96.9	147.6
4000	95.6	95.4	96.5	93.2	97.9	101.1	102.0	104.8	107.2	109.4	109.6	102.7	96.3	146.3
5000	97.8	98.1	98.0	94.1	97.6	101.3	101.7	104.3	106.1	108.5	107.3	100.8	94.8	145.5
6300	99.5	100.2	100.3	96.6	98.9	101.1	101.7	104.4	105.6	106.3	105.3	98.8	93.8	145.2
8000	99.8	100.9	101.5	97.7	99.3	101.3	100.6	102.2	103.2	104.1	103.0	96.7	92.0	144.3
10000	99.0	100.7	102.4	100.0	100.8	103.1	101.3	101.8	103.0	102.5	100.6	95.7	91.5	145.0
12500	98.1	98.7	101.1	98.9	101.4	103.4	101.5	100.5	100.9	99.8	97.8	93.7	89.9	144.9
16000	96.8	99.3	100.0	98.7	100.5	102.7	101.3	100.2	100.1	97.2	95.3	91.5	86.4	145.4
20000	94.7	96.8	98.2	96.6	98.3	101.6	100.4	98.3	97.3	93.6	92.2	88.7	83.9	145.4
25000	92.1	94.4	95.5	94.8	96.6	100.4	99.1	96.7	95.2	90.8	88.7	85.9	81.0	146.0
31500	88.5	90.6	91.8	92.3	93.3	97.4	95.9	94.7	92.3	87.9	86.3	82.5	77.7	146.2
40000	84.2	87.1	88.8	88.1	89.4	94.1	92.1	90.9	89.6	84.9	83.4	79.9	74.3	146.7
50000	78.4	82.0	83.4	83.0	84.7	89.3	86.6	86.2	84.8	80.3	78.5	75.0	68.9	146.0
63000	72.4	75.9	78.1	77.1	79.1	83.9	81.0	80.6	79.8	75.6	74.7	69.5	63.2	145.9
80000	64.8	69.1	71.3	70.1	71.8	77.9	74.8	74.2	73.8	68.8	68.6	64.2	56.0	146.3
OASPL	109.3	110.7	111.1	108.9	111.4	114.5	114.6	116.3	119.0	123.2	125.7	125.2	115.9	162.0
PNL	121.2	122.0	122.2	119.4	122.6	126.0	126.9	129.2	132.1	135.5	136.7	133.0	124.5	
PNLT	121.2	122.0	122.2	120.0	123.2	126.0	127.7	129.2	132.1	135.5	136.7	133.0	124.5	
DBA	107.3	108.1	108.6	105.9	109.0	112.3	113.0	115.8	118.8	122.9	124.7	121.6	111.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH262	TEST DATE = 05-05-83	LOCAT = C41 ANECH CH	CONFIG = 16	MODEL = C0	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = N0	PWL AREA = FULL SPHERE	TAMB F = 58.33	PAMB HG = 28.95	RELHUM = 37.9 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1555.3 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2519.6 FPS	AE18 = 19.9 SQ IN	

RUNPT = 83F-400-1642 TAPE = X1642C TEST PT NO - 1640 NO - AE0[illegible] CORR F[illegible] SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-400-1642 X1642F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	94.7	96.8	95.0	91.9	93.6	94.8	93.8	94.3	99.0	105.1	110.1	113.9	108.2	146.1
315	94.7	96.8	95.0	91.9	93.8	95.6	96.7	97.1	101.6	107.9	112.4	115.4	109.5	148.0
400	95.3	95.8	94.8	92.1	94.3	95.6	101.2	97.7	101.8	109.2	113.7	116.1	108.9	148.9
500	96.4	96.3	96.0	92.0	95.2	97.0	96.4	98.3	102.8	110.1	114.5	115.8	108.7	149.1
630	97.3	97.3	96.9	93.4	96.2	97.7	97.8	99.1	104.8	110.7	114.6	115.8	109.4	149.4
800	98.0	98.0	96.6	93.9	97.1	98.9	98.5	100.0	106.5	110.9	114.5	114.2	109.5	149.1
1000	99.3	97.8	97.7	94.8	98.6	100.2	99.7	101.9	106.8	111.6	113.6	111.5	108.2	148.6
1250	100.9	100.0	99.4	95.8	98.4	100.8	99.7	102.3	107.8	111.8	114.5	109.4	107.3	148.8
1600	100.3	101.7	99.9	97.1	99.5	102.2	101.0	102.7	107.8	111.5	113.4	108.6	108.1	148.5
2000	101.0	100.5	99.9	97.7	100.2	102.1	101.9	104.2	107.7	112.0	112.6	108.1	109.0	148.5
2500	105.0	102.7	101.3	98.0	100.1	102.7	101.7	104.3	109.0	111.6	111.5	108.7	108.7	148.7
3150	102.6	102.9	101.3	97.7	100.5	103.6	103.6	104.6	108.2	110.1	110.9	107.3	108.4	148.1
4000	102.4	101.3	101.5	98.3	101.6	103.6	103.2	104.8	107.2	109.3	108.6	105.5	107.0	147.3
5000	103.1	102.1	102.3	97.9	101.6	104.3	103.4	104.6	107.4	107.8	107.4	104.4	106.9	147.1
6300	104.5	104.3	103.5	98.8	102.5	104.1	103.8	105.2	105.6	106.3	105.9	103.0	105.8	147.0
8000	104.5	105.0	104.7	100.5	102.9	104.3	102.8	103.4	106.7	106.2	104.9	103.4	106.3	147.5
10000	104.5	105.5	105.7	101.3	104.8	106.1	103.8	103.7	103.2	101.8	100.3	99.1	102.2	147.6
12500	105.4	106.5	107.5	104.1	105.5	106.4	103.1	101.0	102.9	100.0	98.8	98.1	99.9	148.8
16000	104.5	104.3	105.8	102.6	104.5	105.7	102.9	100.7	99.6	95.5	94.4	93.9	96.1	148.7
20000	102.8	104.5	104.3	102.0	102.4	104.6	101.8	98.3	98.2	93.2	91.5	91.7	93.7	149.2
25000	100.0	101.4	101.9	99.3	101.2	103.4	100.5	96.6	96.1	91.1	89.8	89.0	91.2	149.6
31500	99.4	100.5	100.1	97.8	97.9	100.4	97.3	94.7	94.2	88.9	87.8	87.3	88.6	150.6
40000	95.0	95.8	95.6	94.5	94.0	97.1	93.6	90.9	89.7	84.8	83.3	82.8	83.6	150.6
50000	90.3	91.9	92.2	89.9	89.3	92.3	88.1	86.2	85.7	81.0	80.4	78.2	78.9	150.6
63000	83.6	85.9	85.8	83.9	83.7	86.9	82.4	80.6	81.2	75.8	76.1	74.8	73.5	150.1
80000	76.1	78.3	79.1	76.5	76.4	80.9	76.2	74.2	71.4	66.0	66.3	65.0	63.7	150.0
OASPL	115.4	115.6	115.5	112.2	114.4	116.2	114.9	115.4	118.8	122.1	124.4	124.2	120.4	163.0
PNL	126.5	126.0	125.0	121.6	124.6	126 7	126.4	127.6	131.1	133.9	135.0	132.8	132.1	
PNLT	127.6	126.0	125.0	121.6	124.6	126.7	127.2	127.6	131.1	133.9	135.0	132.8	132.1	
DBA	198.9	201.0	201.5	199.2	199.0	202.9	198.4	196.4	195.1	189.8	189.9	188.5	187.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH262 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.33 PAMB HG = 28.95 RELHUM = 37.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1555.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2519.6 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1642 TAPE = X1642F TEST PT NO = 1642 NC = AE096 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1642 X16421

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.6	74.2	73.5	71.1	73.4	75.3	76.3	76.3	80.0	85.3	88.3	89.1	79.8	163.3
63	71.1	73.1	73.3	71.2	73.9	75.3	80.8	76.9	80.2	86.6	89.5	89.8	79.2	164.2
80	72.2	73.7	74.4	71.2	74.7	76.7	76.0	77.4	81.2	87.4	90.3	89.3	78.9	164.4
100	73.0	74.6	75.3	72.5	75.7	77.4	77.3	78.2	83.2	88.0	90.3	89.3	79.4	164.8
125	73.6	75.2	74.9	72.9	76.5	78.5	77.9	79.0	84.8	88.1	90.1	87.5	79.3	164.5
160	74.7	74.8	75.8	73.6	77.9	79.6	79.0	80.8	85.0	88.7	89.0	84.6	77.6	163.9
200	76.1	76.8	77.4	74.5	77.5	80.1	78.9	81.0	85.8	88.6	89.6	82.2	76.3	164.1
250	75.2	78.2	77.6	75.6	78.4	81.3	80.0	81.2	85.5	88.1	88.2	80.9	76.4	163.8
315	75.4	76.7	77.3	75.9	78.9	80.9	80.6	82.4	85.1	88.2	87.0	79.9	76.4	163.9
400	78.8	78.4	78.3	75.9	78.4	81.1	80.0	82.1	86.0	87.4	85.4	79.7	75.1	164.0
500	75.9	78.2	77.9	75.2	78.6	81.8	81.6	82.1	84.8	85.4	84.2	77.7	73.9	163.4
630	75.2	76.2	77.8	75.5	79.3	81.5	80.9	82.0	83.5	84.1	81.4	75.2	71.3	162.6
800	75.3	76.5	78.2	74.7	78.9	81.9	80.8	81.4	83.3	82.2	79.7	73.2	70.0	162.4
1000	76.2	78.3	79.0	75.3	79.6	81.4	80.9	81.7	81.1	80.3	77.5	71.0	67.6	162.4
1250	75.5	78.5	79.8	76.6	79.7	81.3	79.6	79.6	81.8	79.7	75.9	70.4	66.5	162.8
1600	74.3	78.1	80.1	76.9	81.0	82.5	80.0	79.2	77.6	74.4	70.1	64.5	59.7	162.9
2000	73.8	78.0	81.0	78.9	81.0	82.2	78.6	75.7	76.4	71.4	67.2	61.3	53.9	164.1
2500	70.6	74.2	78.0	76.4	79.0	80.5	77.4	74.4	71.9	65.3	60.5	54.0	44.7	164.0
3150	64.9	71.3	74.0	73.6	74.9	77.5	74.4	69.9	67.9	60.0	53.7	46.1	33.4	164.5
4000	55.2	62.7	67.0	66.8	70.0	72.6	69.3	64.2	61.2	52.4	45.0	33.8	15.6	164.9
5000	43.9	53.4	58.2	59.1	60.8	63.9	60.3	55.9	52.2	41.8	32.3	17.5		165.9
6300	21.3	34.1	41.2	44.5	46.5	50.4	46.1	41.0	35.3	23.0	9.6			166.0
8000		4.4	15.5	19.8	22.7	26.8	21.5	16.1	9.0					165.9
10000														165.4
12500														165.3
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	87.4	89.3	90.4	87.9	91.1	93.2	92.2	92.7	95.8	98.4	93.3	96.9	88.5	178.2
PNL	95.2	98.6	100.7	98.6	101.4	103.3	101.2	100.1	101.6	102.3	101.4	96.8	89.9	
PNLT	96.5	99.7	100.7	99.2	101.9	103.8	101.7	100.6	102.1	102.3	102.5	96.8	89.9	
DBA	84.5	87.1	88.9	86.4	89.5	91.4	89.6	89.5	90.9	91.1	89.5	83.6	78.9	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH262		TEST DATE = 05-05-83		LOCAT = C41 ANECH CH		CONFIG = 16		MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59		IEGA = NO		PWL AREA = FULL SPHERE		TAMB F = 58.33		PAMB HG = 28.95	RELHUM = 37.9 PCT
WIND DIR =	DEG	WIND VEL =	MPH	EXT DIST = 2400.0 FT		EXT CONFIG = SL		MIKE HT =	NBFR =
FNIN1 =	LBS	XNL =	RPM	XNH =	RPM	V8 = 1555.3 FPS		AE8 = 4.0 SQ IN	
FNRAMB =	LBS	XNLR =	RPM	XNHR =	RPM	V18 = 2519.6 FPS		AE18 = 19.9 SQ IN	

T = -40 42 X1 TE T NO 1642 CORR FAN SPEED = RPM

P1188-03

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 83F-ZER-1645 X1645C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.4	87.7	85.2	83.5	83.1	86.9	85.1	88.2	89.4	86.7	95.1	95.6	83.2	131.0
63	90.3	92.0	92.3	91.1	90.7	95.3	93.5	93.4	95.6	92.9	101.3	101.7	88.9	137.3
80	92.0	97.1	92.8	90.9	92.2	96.8	96.0	95.1	95.6	96.2	99.5	99.7	85.9	137.8
100	91.5	98.2	93.8	92.8	95.4	98.0	98.1	98.8	96.5	100.3	101.7	104.6	90.8	140.4
125	88.6	92.7	95.4	93.2	96.6	98.7	97.6	97.5	97.9	101.5	107.1	109.6	96.2	142.9
160	86.9	87.7	91.2	88.3	90.4	93.5	97.1	96.0	97.0	102.8	106.9	109.9	101.5	142.7
200	89.0	89.1	91.6	89.4	93.2	96.1	97.5	98.9	102.3	104.1	108.8	114.2	105.6	145.9
250	88.5	92.3	91.8	90.9	94.2	96.6	97.7	100.6	103.1	109.2	113.5	117.0	108.4	149.2
315	90.6	91.9	92.4	90.9	94.8	97.9	99.8	101.4	104.6	110.5	114.6	117.3	110.7	150.0
400	91.3	93.9	93.4	91.4	94.5	97.4	104.8	102.2	106.6	113.2	116.3	118.8	111.9	151.8
500	92.6	94.6	94.6	92.4	95.8	99.6	100.3	103.9	107.1	114.2	117.8	119.3	113.7	152.7
630	92.8	94.8	95.1	93.6	96.7	100.6	101.7	104.6	107.6	114.9	118.3	119.5	115.1	153.3
800	95.8	95.1	96.1	93.9	97.5	101.4	102.0	105.7	108.9	114.2	118.1	119.8	116.2	153.4
1000	98.5	99.0	98.8	96.1	99.7	102.8	103.2	107.4	109.8	113.6	117.5	119.4	115.1	153.1
1250	96.9	100.2	98.2	97.4	99.6	103.2	103.4	106.8	109.7	112.3	116.4	118.1	115.0	152.2
1600	96.1	97.7	98.4	96.5	99.5	103.4	104.2	107.5	110.2	112.0	116.6	116.5	112.9	151.7
2000	95.5	97.1	97.5	95.6	98.7	102.6	103.8	107.6	109.8	112.3	114.1	114.1	110.1	150.2
2500	94.2	96.8	97.6	95.3	98.9	102.5	103.2	107.3	108.7	111.8	112.5	110.3	107.3	148.9
3150	93.8	95.9	96.9	95.4	98.3	102.6	104.0	106.7	109.3	109.9	109.6	108.0	104.9	147.6
4000	91.8	94.7	97.0	94.9	98.9	102.3	102.7	106.3	107.7	107.7	107.4	105.7	102.5	146.2
5000	91.8	95.9	96.7	94.9	98.4	101.8	102.2	105.3	106.1	107.0	105.0	102.3	99.3	145.1
6300	91.3	96.2	97.0	95.1	98.7	101.9	101.9	104.9	105.1	104.3	103.3	100.3	96.0	144.3
8000	91.8	96.7	97.8	95.7	98.3	101.6	101.1	102.7	103.0	101.9	100.5	97.7	94.5	143.2
10000	93.3	98.2	99.7	98.0	99.8	102.3	101.3	102.3	102.3	100.3	97.8	95.9	92.7	143.8
12500	93.1	97.7	100.1	99.2	100.9	103.9	101.2	101.0	100.7	97.8	95.5	93.7	91.2	144.5
16000	92.1	97.5	98.7	98.9	100.4	102.7	101.2	100.4	98.6	94.7	93.3	89.4	87.1	144.9
20000	90.2	94.8	96.6	96.3	98.5	101.5	100.1	98.3	96.8	92.3	91.4	87.2	83.2	144.9
25000	86.8	91.7	93.9	94.0	95.8	100.4	98.8	96.4	94.4	89.7	85.9	84.3	80.4	145.4
31500	84.2	88.2	90.3	91.7	92.5	97.1	94.8	93.9	92.3	87.1	83.2	80.4	76.9	145.3
40000	79.9	84.5	87.2	88.0	88.9	93.5	91.8	90.6	88.8	84.8	80.5	77.3	73.2	146.0
50000	73.8	78.9	81.3	82.7	83.3	88.6	86.0	85.4	83.9	80.1	75.1	72.4	67.5	145.1
63000	67.5	73.5	76.0	76.2	78.2	83.5	79.8	79.5	79.4	74.4	71.3	66.8	61.8	145.0
80000	60.9	66.4	69.4	69.7	71.9	77.9	73.6	73.5	72.8	68.1	63.7	60.1	53.6	145.7
OASPL	107.5	110.4	110.9	109.4	112.1	115.5	115.8	118.2	120.3	123.9	127.2	128.7	123.9	163.5
PNL	119.0	121.6	122.3	120.5	123.7	127.2	128.2	130.9	133.0	135.2	137 0	137.3	132.9	
PNLT	119.0	122.1	122.3	120.5	124.3	127.2	129.0	130.9	133.0	135.2	137.0	137.3	132.9	
DBA	106.3	108.6	109.1	107.2	110.3	113.9	114.6	117.9	120.0	123.0	126.0	127.1	123.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH259 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.10 PAMB HG = 29.15 RELHUM = 37.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1911.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2350.3 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1645 TAPE = X1645C TEST PT NO = 1645 NC = AE096 CORR FAN SPEED = RPM

P1165-03

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

IDENTIFICATION - 83F-2ER-1645 X1645F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	96.4	98.8	96.8	94.2	95.8	96.6	95.8	97.0	102.5	107.7	111.4	114.7	110.0	147.6
315	96.4	98.8	96.8	94.2	96.6	98.1	98.9	99.6	104.7	110.6	113.5	116.9	112.6	149.8
400	98.3	98.3	97.3	94.3	96.2	97.6	104.0	100.4	105.1	111.4	114.8	117.4	115.1	150.9
500	97.8	99.4	97.8	94.5	97.7	100.0	99.5	102.1	105.0	111.6	114.9	117.9	117.9	151.6
630	100.1	100.9	99.6	95.9	98.7	101.0	100.6	102.1	106.8	111.5	115.6	119.7	121.8	153.6
800	100.5	101.2	100.1	97.1	99.5	101.9	101.0	103.2	108.1	111.5	115.8	120.7	123.4	154.6
1000	103.1	101.3	101.0	97.4	101.5	103.5	102.3	105.1	108.3	110.4	114.9	119.6	123.5	154.3
1250	104.3	104.1	102.9	99.1	101.8	104.0	102.6	104.6	108.9	110.3	115.4	118.3	121.8	153.4
1600	103.6	106.0	102.9	100.8	102.0	104.4	103.7	105.7	108.9	111.0	113.1	116.3	119.3	151.9
2000	103.8	104.3	103.7	100.4	101.4	103.9	103.6	106.1	108.2	110.9	112.0	112.9	117.0	150.4
2500	103.2	103.7	102.9	99.7	101.9	104.2	103.4	106.1	109.3	109.5	109.7	111.2	115.2	149.4
3150	101.8	103.4	103.0	99.5	102.1	104.6	104.5	105.9	108.4	107.8	107.9	109.2	113.0	148.3
4000	104.2	104.8	104.2	101.0	103.1	104.9	103.9	106.1	107.0	107.4	105.7	105.9	109.9	147.7
5000	102.1	103.7	104.5	100.8	103.0	104.8	103.7	105.5	108.3	107.0	106.2	106.0	108.5	147.7
6300	102.1	104.8	104.3	100.8	103.3	104.9	104.4	106.7	103.9	102.3	101.3	101.5	105.2	146.6
8000	101.4	105.1	104.4	100.9	102.9	104.6	102.5	102.7	103.4	100.9	98.8	99.9	103.6	146.0
10000	101.7	105.4	105.0	101.3	103.9	105.3	102.8	102.3	102.1	98.7	96.8	97.9	102.4	146.6
12500	100.1	104.3	104.9	102.2	105.5	106.9	102.7	101.0	100.5	96.1	95.1	94.2	98.9	147.5
16000	102.3	105.6	106.5	104.0	105.0	105.7	102.7	100.4	99.1	94.2	93.6	92.4	95.3	149.0
20000	100.8	105.0	104.7	103.4	103.1	104.5	101.6	98.3	97.4	92.2	88.7	90.1	93.2	149.4
25000	98.3	101.6	102.1	100.2	100.4	103.4	100.2	96.4	96.0	90.3	86.8	87.0	90.4	149.5
31500	94.1	97.7	98.6	97.0	97.1	100.1	96.2	93.9	93.3	88.8	84.9	84.7	87.5	149.2
40000	90.7	93.5	94.1	93.9	93.5	96.5	93.2	90.6	88.9	84.6	79.9	80.2	82.2	149.5
50000	86.0	89.3	90.6	89.8	87.9	91.6	87.5	85.3	85.3	79.8	77.0	75.6	77.5	149.3
63000	79.0	82.8	83.7	83.6	82.8	86.5	81.3	79.5	80.2	75.0	70.9	70.3	70.8	148.7
80000	71.2	75.9	76.9	75.6	76.5	80.9	75.0	73.5	70.4	65.2	61.1	60.5	61.0	148.9
OASPL	114.9	116.8	116.3	113.4	115.3	117.1	115.8	116.9	119.4	121.8	124.8	128.2	130.3	164.5
PNL	126.9	128.0	127.2	124.0	126.2	128.1	127.6	129.2	131.5	132.6	133.8	136.2	138.7	
PNLT	126.9	128.0	127.2	124.0	126.2	128.1	128.4	129.2	131.5	132.6	133.8	136.2	138.7	
DBA	194.2	198.4	199.4	198.6	198.6	202.8	197.3	195.6	194.1	188.9	185.0	184.3	185.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH259 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.10 PAMB HG = 29.15 RELHUM = 37.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1911.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2350.3 FPS AE18 = 19.9 SQ IN

PT F-2E 345 E = X F TE PT K 164 AE0 CORR FAN SPEED RPM

P1165-03

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

IDENTIFICATION - 83F-ZER-1645 X16451

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	72.3	76.2	75.2	73.4	76.2	77.8	78.5	78.8	83.2	88.0	89.4	90.5	82.9	165.1
63	74.1	75.6	75.8	73.5	75.8	77.3	83.6	79.6	83.6	88.8	90.7	91.1	85.4	166.2
80	73.6	76.7	76.2	73.6	77.2	79.7	79.1	81.2	83.4	89.0	90.7	91.4	88.1	166.9
100	75.8	78.2	77.9	75.0	78.2	80.6	80.1	81.2	85.1	88.8	91.3	93.1	91.8	168.9
125	76.1	78.4	78.4	76.2	79.0	81.5	80.4	82.3	86.4	88.7	91.4	94.0	93.2	169.9
160	78.5	78.3	79.2	76.3	80.9	82.9	81.6	83.9	86.4	87.4	90.3	92.7	92.9	169.6
200	79.4	80.9	80.9	77.8	80.9	83.3	81.8	83.4	86.9	87.2	90.5	91.1	90.7	168.7
250	78.4	82.6	80.7	79.3	80.9	83.5	82.7	84.2	86.6	87.5	88.0	88.6	87.6	167.2
315	78.1	80.4	81.1	78.6	80.1	82.7	82.3	84.3	85.6	87.0	86.4	84.7	84.4	165.7
400	77.1	79.4	79.9	77.5	80.2	82.6	81.7	84.0	86.3	85.2	83.5	82.3	81.6	164.7
500	75.2	78.7	79.7	77.0	80.1	82.8	82.6	83.5	85.0	83.2	81.2	79.6	78.4	163.7
630	77.0	79.7	80.5	78.2	80.8	82.8	81.6	83.3	83.3	82.3	78.5	75.6	74.2	163.0
800	74.4	78.1	80.4	77.6	80.3	82.4	81.1	82.3	84.2	81.5	78.4	74.9	71.6	163.0
1000	73.7	78.8	79.8	77.3	80.3	82.1	81.5	83.2	79.4	76.3	72.9	69.5	67.0	162.0
1250	72.3	78.5	79.6	77.1	79.7	81.6	79.3	78.8	78.5	74.4	69.8	67.0	63.8	161.3
1600	71.5	77.9	79.4	76.9	80.1	81.7	79.0	77.9	76.5	71.3	66.6	63.4	59.9	161.9
2000	68.4	75.8	78.4	77.0	81.1	82.7	78.2	75.8	74.0	67.6	63.4	57.5	52.9	162.8
2500	68.4	75.5	78.7	77.8	79.6	80.5	77.2	74.1	71.3	64.0	59.7	52.5	44.0	164.3
3150	63.0	71.8	74.5	74.9	75.7	77.4	74.2	69.9	67.1	59.0	50.9	44.6	32.9	164.7
4000	53.4	62.9	67.2	67.7	69.2	72.6	69.0	63.9	61.1	51.6	41.9	31.7	14.8	164.8
5000	38.6	50.6	56.6	58.3	60.0	63.6	59.2	55.1	51.4	41.7	29.5	15.0		164.5
6300	17.0	31.7	39.7	44.0	46.0	49.8	45.7	40.7	34.5	22.9	6.3			164.8
8000		1.8	13.9	19.7	21.4	26.2	20.9	15.2	8.6					164.6
10000														164.1
12500														164.3
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	88.2	91.3	91.9	89.7	92.4	94.5	93.6	94.6	96.7	98.3	99.9	101.1	99.6	179.7
PNL	93.9	99.3	101.3	99.9	102.2	104.0	101.7	100.6	101.8	101.0	101.1	101.0	99.6	
PNLT	93.9	99.9	101.3	100.4	102.8	104.5	102.3	101.3	101.8	101.0	102.3	101.0	99 6	
DBA	83.1	87.8	89.3	87.3	90.0	91.9	89.8	90.3	90.6	89.2	88.3	88.0	87.2	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH259 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.10 PAMB HG = 29.15 RELHUM = 37.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1911.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2350.3 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1645 TAPE = X16451 TEST PT NO = 1645 NC = AE096 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 83F-ZER-1651 X1651C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.6	86.2	83.7	82.5	81.6	83.9	82.3	87.7	88.4	86.5	91.1	95.8	84.2	129.6
63	89.3	90.3	90.8	90.9	90.2	93.1	91.0	94.6	94.1	93.6	95.3	102.0	91.9	135.9
80	91.0	96.1	91.6	89.6	91.5	96.1	95.0	94.1	94.8	95.2	98.3	98.7	84.6	136.8
100	89.7	97.0	92.5	91.8	93.9	97.0	96.6	97.8	96.3	98.8	100.2	103.1	89.6	139.1
125	87.4	91.7	93.7	92.0	94.8	97.7	96.3	95.7	96.2	99.3	105.4	107.8	94.0	141.2
160	85.2	86.5	90.2	87.3	89.1	93.0	96.1	94.8	95.2	101.3	105.9	108.1	99.8	141.3
200	87.5	87.3	90.3	87.4	91.5	95.6	96.0	97.6	100.6	102.4	107.8	112.2	103.9	144.2
250	87.5	90.1	90.8	89.1	92.7	95.3	96.7	99.1	101.3	107.4	111.8	115.0	106.4	147.3
315	88.3	90.1	91.1	89.7	92.8	96.6	98.3	99.4	102.6	109.0	113.1	115.3	108.9	148.3
400	90.1	91.9	92.4	89.9	93.0	96.9	103.3	100.4	104.6	110.9	115.3	117.0	110.7	150.2
500	90.6	92.9	93.1	91.2	94.0	97.6	98.3	101.4	104.9	111.2	115.3	117.5	111.7	150.5
630	91.3	93.8	93.6	91.9	95.5	98.8	99.7	102.9	105.1	111.9	115.5	117.0	112.4	150.6
800	93.1	93.6	95.1	92.7	96.3	99.6	100.0	103.7	106.6	111.7	114.8	116.5	112.9	150.4
1000	95.3	96.3	96.3	94.1	97.4	100.3	100.9	105.1	107.6	111.6	114.3	115.7	112.6	150.1
1250	93.4	97.2	96.2	94.9	97.4	100.7	101.1	104.8	107.5	110.8	113.2	115.9	112.3	149.7
1600	94.1	96.0	96.4	95.0	98.0	101.4	102.5	105.0	108.4	110.5	113.9	115.3	111.2	149.8
2000	94.3	95.3	96.3	94.4	97.2	101.1	103.1	105.9	107.8	110.8	112.8	113.1	108.6	148.8
2500	93.2	95.5	96.6	94.5	97.7	101.5	102.2	105.6	107.0	110.8	111.0	109.8	106.3	147.6
3150	92.8	94.4	95.9	94.4	97.3	101.3	103.2	105.7	108.0	109.6	109.6	107.5	103.2	147.0
4000	91.6	94.7	96.0	94.4	97.9	101.3	102.0	105.0	106.2	107.4	107.6	104.7	100.0	145.4
5000	91.6	95.1	96.5	94.1	97.4	101.1	101.7	104.1	104.8	107.0	105.5	101.8	97.8	144.5
6300	92.0	95.7	96.8	94.9	97.7	100.9	101.4	103.9	103.9	104.6	103.6	99.3	95.8	143.7
8000	92.8	95.9	97.8	95.7	97.3	100.6	100.8	102.4	101.7	102.1	101.8	97.4	94.5	142.9
10000	94.8	99.2	100.5	98.7	99.3	101.3	100.8	101.6	101.3	100.5	98.6	96.7	93.7	143.6
12500	94.4	97.7	100.3	99.7	100.7	102.4	100.7	100.0	99.2	98.0	96.5	94.9	91.9	144.0
16000	92.8	97.3	99.2	99.4	99.9	102.1	100.7	99.7	97.8	94.9	93.8	91.4	88.1	144.6
20000	90.7	94.5	96.4	96.3	98.0	100.3	99.6	96.8	94.5	92.3	89.6	88.4	84.1	144.1
25000	86.7	91.3	93.4	94.2	94.7	98.6	98.0	94.6	92.6	88.7	86.6	85.8	81.1	144.2
31500	82.6	87.4	89.9	91.4	91.4	95.2	94.0	92.6	89.7	85.2	84.1	81.3	76.8	144.1
40000	78.8	83.8	86.1	86.6	87.8	91.4	90.0	87.7	86.1	81.9	81.2	77.5	73.3	144.1
50000	72.7	77.5	80.6	81.8	82.0	86.3	84.7	82.2	80.8	77.2	75.5	72.0	67.4	143.1
63000	67.2	71.3	75.1	75.6	76.3	80.6	78.2	77.1	75.8	71.7	70.6	66.2	61.2	142.7
80000	60.0	64.9	69.0	68.0	69.7	75.0	71.2	69.9	68.4	64.4	64.3	59.4	53 0	143.0
OASPL	106.3	109.3	110.2	108.9	111.0	114.1	114.7	116.6	118.5	122.1	125.0	126.6	121.6	161.6
PNL	118.0	120.3	121.3	119.5	122.5	125.9	127.2	129.5	131.5	134.1	135.5	135.8	131.1	
PNLT	118.0	120.8	121.3	119.5	123.0	125.9	128.0	129.5	131.5	134.1	135.5	135.8	131.1	
DBA	104.8	107.2	108.0	106.2	109.0	112.4	113.4	116.2	118.2	121.4	123.7	124.8	120.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHTCL = ADH260 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 57.38 PAMB HG = 29.19 RELHUM = 38.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1225.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2338.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZEP-1651 TAPE = X1651C TEST PT NO = 1651 NO AE09 CORR F SPEED RPM

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P1185-03

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

IDENTIFICATION - 83F-ZER-1651 X1651F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	95.4	96.5	95.8	92.4	94.3	95.3	94.8	95.5	100.5	106.2	110.0	112.8	108.4	145.9
315	95.4	96.5	95.8	92.4	94.6	96.8	97.4	97.6	102.6	108.3	112.5	115.0	111.3	148.1
400	96.0	96.5	96.1	93.1	94.8	97.1	102.5	98.6	102.6	108.1	112.0	115.3	112.8	148.5
500	97.3	98.0	97.2	93.2	95.9	98.0	97.5	99.4	102.5	108.6	112.2	115.4	115.1	148.9
630	98.0	99.1	98.0	94.6	97.4	99.2	98.6	100.3	104.5	109.0	112.3	116.4	118.6	150.5
800	99.0	100.2	98.6	95.4	98.3	100.2	99.0	101.2	105.9	109.5	112.5	117.0	120.9	151.7
1000	100.8	100.1	100.2	96.3	99.4	101.0	100.1	102.8	106.0	108.9	111.6	117.4	120.8	151.7
1250	101.7	101.9	100.9	97.4	99.6	101.5	100.4	102.6	107.2	108.8	112.6	117.1	120.0	151.6
1600	100.9	103.6	101.3	98.6	100.5	102.4	102.0	103.2	106.9	109.5	111.9	115.3	117.8	150.4
2000	101.8	102.5	101.7	98.9	99.9	102.4	102.9	104.3	106.5	109.9	110.5	112.4	116.0	149.2
2500	101.9	101.9	101.6	98.4	100.6	103.2	102.4	104.4	108.0	109.3	109.7	110.7	113.4	148.4
3150	100.8	102.1	102.0	98.7	101.1	103.4	103.8	104.9	108.5	109.0	109.3	109.2	111.4	148.1
4000	103.2	103.3	103.2	100.0	102.1	103.9	104.1	106.5	107.5	109.2	108.0	107.3	110.2	148.0
5000	101.9	103.7	103.5	100.3	102.0	104.1	104.2	105.7	106.9	107.2	106.4	105.0	108.4	147.3
6300	101.8	104.1	104.0	100.1	101.7	103.9	103.9	105.7	103.5	103.4	103.3	101.8	105.7	146.2
8000	99.3	102.3	102.5	99.6	101.4	103.6	102.5	103.1	102.4	101.2	99.5	100.7	104.6	145.1
10000	99.9	102.3	103.3	100.2	103.4	104.3	102.3	101.6	100.6	98.9	97.8	99.2	103.1	145.5
12500	101.6	105.3	105.7	103.0	104.7	105.4	102.2	100.0	99.8	96.3	95.6	96.2	99.8	147.3
16000	100.7	103.3	105.0	103.4	104.0	105.1	102.2	99.6	96.8	94.1	91.8	93.6	96.3	147.9
20000	98.7	102.4	103.5	102.7	102.1	103.3	101.0	96.8	95.6	91.1	89.4	91.6	93.9	148.1
25000	96.0	99.1	100.0	99.0	99.3	101.6	99.4	94.5	93.4	88.4	87.7	87.9	90.3	147.8
31500	94.1	97.4	98.0	97.2	96.0	98.2	95.4	92.5	90.7	85.9	85.6	84.9	87.7	148.3
40000	89.1	92.6	93.7	93.6	92.3	94.4	91.4	87.7	85.7	81.7	80.3	79.8	82.1	148.2
50000	84.9	88.7	89.5	88.5	86.6	89.3	86.1	82.2	81.7	77.1	76.3	74.9	76.9	147.7
63000	77.8	81.4	83.1	82.7	80.9	83.6	79.6	77.1	75.8	71.3	71.5	69.7	70.1	146.9
80000	70.8	73.7	76.0	75.0	74.3	78.0	72.6	69.8	66.0	61.5	61.7	59.8	60.3	146.8
OASPL	113.5	115.2	115.2	112.6	114.1	115.8	115.0	115.7	118.0	120.4	122.7	126.1	128.1	162.8
PNL	125.6	126.4	126.1	122.8	125.0	126.9	126.9	128.6	130.8	132.3	133.3	135.0	137.3	
PNLT	125.6	126.4	126.1	122.8	125.0	126.9	127.7	128.6	130.8	132.3	133.3	135.0	137.3	
DBA	193.5	196.8	198.6	197.8	196.6	199.9	195.2	192.4	189.9	185.4	185.4	183.7	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 DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH260 TEST DATE = 05-05-83 LOCAT = C41 ANECH CH CONFIG = 16 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 57.38 PAMB HG = 29.19 RELHUM = 38.5 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 = 1225.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2338.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1651 TAPE = X1651F TEST PT NO = 1651 NC = AE096 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 - 83F-ZER-1651   X16511

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.3	73.9	74.2	71.6	74.2	76.6	77.0	76.8	81.1	85.7	88.3	88.7	81.6	163.5
63	71.9	73.9	74.5	72.2	74.4	76.8	82.1	77.8	81.1	85.5	87.8	89.0	83.1	163.8
80	73.1	75.3	75.6	72.4	75.5	77.7	77.1	78.6	80.9	86.0	88.0	88.9	85.3	164.3
100	73.8	76.4	76.4	73.7	76.9	78.9	78.1	79.4	82.9	86.3	88.0	89.9	88.6	165.8
125	74.6	77.4	76.9	74.4	77.8	79.7	78.4	80.3	84.2	86.7	88.1	90.3	90.7	167.1
160	76.2	77.1	78.3	75.1	78.7	80.4	79.4	81.7	84.1	85.9	87.0	90.4	90.2	167.1
200	76.8	78.7	78.8	76.1	78.8	80.8	79.5	81.4	85.2	85.7	87.8	89.8	88.9	166.9
250	75.7	80.1	79.0	77.0	79.4	81.5	80.9	81.7	84.6	86.0	86.7	87.6	86.1	165.7
315	76.1	78.7	79.1	77.1	78.6	81.2	81.5	82.5	83.9	86.0	84.9	84.2	83.4	164.5
400	75.8	77.7	78.6	76.3	78.9	81.6	80.7	82.2	85.0	85.0	83.5	81.8	79.9	163.7
500	74.2	77.4	78.7	76.3	79.1	81.5	81.8	82.5	85.2	84.3	82.7	79.6	76.8	163.4
630	76.0	78.2	79.5	77.2	79.8	81.8	81.8	83.7	83.7	84.1	80.8	76.9	74.5	163.4
800	74.1	78.1	79.4	77.1	79.4	81.6	81.5	82.5	82.8	81.6	78.6	73.9	71.4	162.6
1000	73.4	78.1	79.5	76.6	78.8	81.1	80.9	82.2	79.1	77.4	74.9	69.8	67.5	161.5
1250	70.3	75.8	77.6	75.7	78.1	80.6	79.3	79.2	77.5	74.6	70.5	67.7	64.8	160.4
1600	69.7	74.9	77.7	75.8	79.6	80.7	78.5	77.1	75.0	71.5	67.6	64.6	60.7	160.8
2000	69.9	76.8	79.2	77.8	80.3	81.2	77.7	74.8	73.3	67.8	63.9	59.5	53.8	162.6
2500	66.8	73.2	77.2	77.1	78.5	80.0	76.7	73.4	69.1	64.0	57.9	53.7	44.9	163.2
3150	60.9	69.2	73.2	74.3	74.6	76.2	73.6	68.3	65.3	57.9	51.5	46.0	33.6	163.4
4000	51.1	60.3	65.2	66.5	68.2	70.8	68.2	62.1	58.5	49.7	42.8	32.7	14.7	163.1
5000	38.6	50.3	56.1	58.5	59.0	61.8	58.4	53.8	48.8	38.8	30.1	15.1		163.6
6300	15.4	30.9	39.3	43.6	44.8	47.7	43.9	37.8	31.3	20.0	6.6			163.5
8000		1.2	12.8	18.4	20.0	23.8	19.5	12.1	5.0					163.0
10000														162.2
12500														162.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	86.6	89.7	90.7	88.6	91.1	93.1	92.6	93.2	95.1	96.7	97.6	98.8	97.2	178.0
PNL	92.8	98.0	100.0	99.0	101.0	102.8	100.9	99.7	100.4	100.1	99.5	99.7	97.8	
PNLT	94.0	99.0	100.6	99.6	101.6	103.4	101.4	100.2	100.4	100.1	100.7	99.7	97.8	
DBA	82.1	86.4	88.3	86.6	89.0	90.8	89.5	89.7	89.8	89.3	87.7	86.8	85.5	

390

MODEL AREA = 265.1 SQ CM (41.1 SQ IN)   SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)   DIAMETER RATIO = 5.837   FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL	= ADH260	TEST DATE	= 05-05-83	LOCAT	= C41 ANECH CH	CONFIG	= 16	MODEL	= CO	FLTVEL =	400. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 57.38	PAMB HG	= 29.19	RELHUM =	38.5 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	= 1225.2 FPS	AE8	= 4.0 SQ IN		
FNRAMB	= LBS	XNLR	= RPM	XNHR	= RPM	V18	= 2338.7 FPS	AE18	= 19.9 SQ IN		

P1188-03

TAS-17 (Shield to Outer Stream Velocity Ratio at Takeoff is 0.83).

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 83F-ZER-1703 X1703C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.6	85.2	85.4	82.0	78.8	81.9	84.3	86.0	82.4	83.5	86.4	89.3	87.7	126.5
63	85.0	92.5	97.1	91.9	87.5	88.6	95.2	94.6	88.1	88.9	88.3	93.5	96.4	134.7
80	86.0	90.6	86.6	84.9	85.7	90.1	89.5	89.1	89.3	90.9	93.6	93.0	81.1	131.5
100	85.7	90.7	86.3	86.5	88.9	91.3	90.4	92.3	90.3	93.6	95.7	97.1	85.3	133.5
125	83.1	86.7	88.4	87.0	89.3	91.9	90.8	90.2	90.7	93.5	99.4	101.1	88.7	135.2
160	81.9	82.0	85.7	82.5	85.1	87.7	90.4	89.8	89.5	94.6	99.7	102.1	93.8	135.3
200	82.5	83.3	86.8	83.1	86.5	89.8	91.0	92.4	94.3	96.1	100.8	105.2	97.1	137.6
250	82.8	86.3	85.8	85.1	87.7	90.6	91.5	93.9	95.1	100.7	105.5	108.5	100.1	141.0
315	84.3	86.1	87.9	85.9	89.0	92.4	93.8	94.7	96.1	100.7	105.1	107.8	102.9	140.9
400	84.6	87.1	87.1	85.9	89.3	92.1	94.5	95.7	97.4	102.4	106.3	108.5	103.4	141.9
500	85.3	87.4	88.2	86.9	90.0	93.6	94.0	96.4	97.4	102.5	106.1	107.5	103.7	141.6
630	84.8	88.1	88.4	87.9	91.5	94.6	95.0	97.4	97.4	102.9	106.3	106.5	102.9	141.5
800	86.8	87.9	89.4	87.9	91.8	95.1	95.5	97.9	98.7	102.5	105.4	104.5	102.2	140.9
1000	89.0	89.3	90.6	89.1	92.7	95.8	96.0	98.9	99.3	102.7	104.5	102.7	100.6	140.6
1250	86.9	90.5	90.5	89.1	92.1	96.0	95.9	98.8	99.5	101.8	103.2	102.1	100.3	140.1
1600	87.1	89.8	90.7	89.8	93.1	96.4	97.0	99.1	100.2	101.0	103.9	101.1	99.7	140.2
2000	87.4	89.2	90.3	89.7	92.3	96.2	96.9	99.7	99.8	101.6	101.9	100.2	99.0	139.8
2500	86.5	90.4	91.0	89.9	93.0	96.4	96.6	99.5	99.1	100.7	101.1	97.9	97.2	139.2
3150	86.2	89.3	90.6	89.6	92.7	96.5	97.4	99.1	99.2	99.8	99.3	96.2	95.1	138.7
4000	85.6	89.7	90.8	90.0	93.6	96.3	97.2	98.8	97.2	97.2	97.9	94.2	92.7	137.8
5000	85.4	89.7	90.6	90.0	93.5	97.2	96.6	98.2	96.5	96.9	96.4	92.1	90.6	137.5
6300	85.2	90.2	91.0	91.0	94.6	97.3	97.1	98.0	95.6	94.6	95.0	91.7	89.9	137.5
8000	84.2	90.2	91.0	91.4	94.3	97.5	97.8	96.9	94.5	93.2	93.5	90.4	88.9	137.5
10000	83.6	90.1	91.6	92.4	95.0	98.4	97.7	97.2	94.2	92.5	91.5	89.3	88.6	138.3
12500	83.8	88.9	91.0	91.6	94.6	97.6	97.1	95.6	92.8	89.5	89.2	87.6	85.6	138.1
16000	82.8	89.5	90.4	91.4	92.9	96.1	96.2	94.4	91.0	86.8	87.3	84.2	82.1	138.2
20000	81.7	87.4	88.5	89.3	90.8	95.0	94.9	93.0	89.4	85.1	84.1	81.7	78.4	138.4
25000	79.8	84.6	86.9	87.3	89.7	94.1	93.2	90.2	87.9	82.5	80.2	78.5	75.7	139.2
31500	76.2	80.9	82.9	85.0	86.1	90.5	89.7	87.4	84.9	79.4	77.7	74.4	71.1	139.0
40000	72.2	77.3	79.1	80.8	82.3	87.0	86.2	83.7	81.4	76.3	74.7	71.1	67.3	139.3
50000	65.8	71.4	73.5	75.4	76.7	81.8	80.4	78.1	75.9	70.5	69.5	65.3	61.8	138.2
63000	60.1	65.7	67.4	68.5	70.4	76.4	73.7	72.2	70.6	64.7	63.8	59.3	54.9	137.6
80000	52.2	58.2	60.7	60.7	63.3	69.0	67.1	65.1	63.6	57.7	57.4	52.4	46.5	137.3
OASPL	99.6	103.4	104.6	103.5	106.2	109.5	109.8	111.0	110.7	113.2	116.0	116.8	112.5	154.0
PNL	111.5	115.0	116.0	115.0	118.2	121.4	121.9	123.6	123.3	124.8	126.2	125.1	122.3	
PNLT	111.5	115.0	116.0	115.0	118.2	121.4	121.9	123.6	123.3	124.8	126.2	125.1	122.3	
DBA	98.1	101.2	102.1	101.4	104.6	108.0	108.3	110.2	110.1	112.1	114.1	113.4	110.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH241 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.02 PAMB HG = 29.11 RELHUM = 21.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1113.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1819.0 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1703 TAPE = X1703C TEST PT NO = 1703 NO = IE09 R F/ SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1703 X1703F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.6	85.2	85.4	82.0	78.8	81.9	84.3	86.0	82.4	83.5	86.4	89.3	87.7	126.5
63	85.0	92.5	97.1	91.9	87.5	88.6	95.2	94.6	88.1	88.9	88.3	93.5	96.4	134.7
80	86.0	90.6	86.6	84.9	85.7	90.1	89.5	89.1	89.3	90.9	93.6	93.0	81.1	131.5
100	85.7	90.7	86.3	86.5	88.9	91.3	90.4	92.3	90.3	93.6	95.7	97.1	85.3	133.5
125	83.1	86.7	88.4	87.0	89.3	91.9	90.8	90.2	90.7	93.5	99.4	101.1	88.7	135.2
160	81.9	82.0	85.7	82.5	85.1	87.7	90.4	89.8	89.5	94.6	99.7	102.1	93.8	135.3
200	82.5	83.3	86.8	83.1	86.5	89.8	91.0	92.4	94.3	96.1	100.8	105.2	97.1	137.6
250	82.8	86.3	85.8	85.1	87.7	90.6	91.5	93.9	95.1	100.7	105.5	108.5	100.1	141.0
315	84.3	86.1	87.9	85.9	89.0	92.4	93.8	94.7	96.1	100.7	105.1	107.8	102.9	140.9
400	84.6	87.1	87.1	85.9	89.3	92.1	94.5	95.7	97.4	102.4	106.3	108.5	103.4	141.9
500	85.3	87.4	88.2	86.9	90.0	93.6	94.0	96.4	97.4	102.5	106.1	107.5	103.7	141.6
630	84.8	88.1	88.4	87.9	91.5	94.6	95.0	97.4	97.4	102.9	106.3	106.5	102.9	141.5
800	86.8	87.9	89.4	87.9	91.8	95.1	95.5	97.9	98.7	102.5	105.4	104.5	102.2	140.9
1000	89.0	89.3	90.6	89.1	92.7	95.8	96.0	98.9	99.3	102.7	104.5	102.7	100.6	140.6
1250	86.9	90.5	90.5	89.1	92.1	96.0	95.9	98.8	99.5	101.8	103.2	102.1	100.3	140.1
1600	87.1	89.8	90.7	89.8	93.1	96.4	97.0	99.1	100.2	101.0	103.9	101.1	99.7	140.2
2000	87.4	89.2	90.3	89.7	92.3	96.2	96.9	99.7	99.8	101.6	101.9	100.2	99.0	139.8
2500	86.5	90.4	91.0	89.9	93.0	96.4	96.6	99.5	99.1	100.7	101.1	97.9	97.2	139.2
3150	86.2	89.3	90.6	89.6	92.7	96.5	97.4	99.1	99.2	99.8	99.3	96.2	95.1	138.7
4000	85.6	89.7	90.8	90.0	93.6	96.3	97.2	98.8	97.2	97.2	97.9	94.2	92.7	137.8
5000	85.4	89.7	90.6	90.0	93.5	97.2	96.6	98.2	96.5	96.9	96.4	92.1	90.6	137.5
6300	85.2	90.2	91.0	91.0	94.6	97.3	97.1	98.0	95.6	94.6	95.0	91.7	89.9	137.5
8000	84.2	90.2	91.0	91.4	94.3	97.5	97.8	96.9	94.5	93.2	93.5	90.4	88.9	137.5
10000	83.6	90.1	91.6	92.4	95.0	98.4	97.7	97.2	94.2	92.5	91.5	89.3	88.6	138.3
12500	83.8	88.9	91.0	91.6	94.6	97.6	97.1	95.6	92.8	89.5	89.2	87.6	85.6	138.1
16000	82.8	89.5	90.4	91.4	92.9	96.1	96.2	94.4	91.0	86.8	87.3	84.2	82.1	138.2
20000	81.7	87.4	88.5	89.3	90.8	95.0	94.9	93.0	89.4	85.1	84.1	81.7	78.4	138.4
25000	79.8	84.6	86.9	87.3	89.7	94.1	93.2	90.2	87.9	82.5	80.2	78.5	75.7	139.2
31500	76.2	80.9	82.9	85.0	86.1	90.5	89.7	87.4	84.9	79.4	77.7	74.4	71.1	139.0
40000	72.2	77.3	79.1	80.8	82.3	87.0	86.2	83.7	81.4	76.3	74.7	71.1	67.3	139.3
50000	65.8	71.4	73.5	75.4	76.7	81.8	80.4	78.1	75.9	70.5	69.5	65.3	61.8	138.2
63000	60.1	65.7	67.4	68.5	70.4	76.4	73.7	72.2	70.6	64.7	63.8	59.3	54.9	137.6
80000	52.2	58.2	60.7	60.7	63.3	69.0	67.1	65.1	63.6	57.7	57.4	52.4	46.5	137.3
OASPL	99.6	103.4	104.6	103.5	106.2	109.5	109.8	111.0	110.7	113.2	116.0	116.8	112.5	154.0
PNL	111.5	115.0	116.0	115.0	118.2	121.4	121.9	123.6	123.3	124.8	126.2	125.1	122.3	
PNLT	111.5	115.0	116.0	115.0	118.2	121.4	121.9	123.6	123.3	124.8	126.2	125.1	122.3	
DBA	175.2	180.9	183.1	183.8	185.9	191.6	189.6	187.7	186.1	180.2	179.6	174.9	169.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH241 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.02 PAMB HG = 29.11 RELHUM = 21.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT- EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1113.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1819.0 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1703 TAPE = X1703F TEST PT NO = 1703 NC = AE094 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 - 83F-ZER-1703 X17031

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	60.2	63.5	66.4	65.1	68.6	72.1	73.4	73.9	74.6	78.1	81.0	81.5	73.3	156.3
63	60.4	64.5	65.6	65.1	68.8	71.8	74.1	74.8	75.8	79.8	82.2	82.1	73.7	157.2
80	61.1	64.7	66.6	66.1	69.6	73.3	73.6	75.6	75.8	79.8	81.9	81.1	73.9	156.9
100	60.5	65.4	66.7	67.0	71.0	74.2	74.5	76.5	75.7	80.2	82.0	79.9	72.9	156.9
125	62.4	65.1	67.7	67.0	71.2	74.7	75.0	77.0	76.9	79.7	81.0	77.8	72.0	156.2
160	64.4	66.3	68.7	68.0	72.0	75.3	75.3	77.8	77.5	79.7	79.9	75.8	70.0	155.9
200	62.1	67.3	68.5	67.9	71.3	75.3	75.0	77.5	77.5	78.6	78.4	74.9	69.2	155.4
250	62.0	66.3	68.4	68.3	72.0	75.5	76.0	77.6	77.9	77.6	78.7	73.4	68.0	155.6
315	61.7	65.3	67.7	67.9	71.0	75.0	75.6	77.9	77.2	77.8	76.3	71.9	66.4	155.1
400	60.4	66.1	68.0	67.8	71.4	74.9	74.9	77.3	76.1	76.4	75.0	69.0	63.6	154.5
500	59.6	64.7	67.3	67.1	70.7	74.7	75.4	76.6	75.9	75.2	72.7	66.6	60.5	154.0
630	58.4	64.6	67.1	67.1	71.3	74.2	74.9	76.0	73.5	72.1	70.7	63.8	57.1	153.2
800	57.6	64.1	66.5	66.8	70.8	74.7	73.9	75.0	72.3	71.3	68.6	60.9	53.6	152.8
1000	56.8	64.2	66.5	67.6	71.7	74.5	74.2	74.6	71.1	68.6	66.7	59.7	51.7	152.9
1250	55.1	63.6	66.1	67.6	71.0	74.5	74.5	73.1	69.6	66.6	64.5	57.4	49.1	152.9
1600	53.4	62.7	66.0	67.9	71.2	74.9	73.9	72.8	68.6	65.1	61.3	54.7	46.1	153.6
2000	52.1	60.4	64.5	66.4	70.1	73.3	72.7	70.4	66.3	60.9	57.5	50.8	39.6	153.4
2500	49.0	59.3	62.6	65.1	67.5	71.0	70.8	68.1	63.3	56.6	53.4	44.2	30.8	153.6
3150	43.9	54.2	58.2	60.8	63.3	67.9	67.4	64.6	59.1	51.9	46.2	36.2	18.1	153.8
4000	34.9	45.9	52.1	54.8	58.5	63.3	62.0	57.7	53.1	43.8	35.4	23.3	0.1	154.5
5000	20.7	33.7	41.0	46.2	49.1	54.0	52.7	48.7	43.0	32.3	22.2	4.6		154.3
6300		15.6	24.7	30.9	34.8	40.2	38.7	33.7	27.0	14.5	1.1			154.7
8000				5.3	10.1	16.4	13.8	8.0						153.5
10000														152.9
12500														152.6
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	72.6	77.3	79.5	79.7	83.4	86.9	87.1	88.3	87.6	89.3	90.4	88.5	81.4	168.7
PNL	76.5	83.8	86.9	88.4	91.8	95.4	95.1	94.6	92.3	92.0	91.5	87.1	79.5	
PNLT	76.5	83.8	86.9	88.9	92.3	95.9	95.7	95.2	92.3	92.0	91.5	87.1	79.5	
DBA	66.1	72.9	75.6	76.7	80.3	83.8	83.5	83 5	81.2	80.3	79.0	73.9	67.8	

894

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH241	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 61.02	PAMB HG = 29.11	RELHUM = 21.2 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1113.6 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1819.0 FPS	AE18 = 19.9 SQ IN	

...PT = ...-ZE...03 ...E ... = X... TE...T NO 1703 ... NO = AE094 CORR FAN SPEED = RPM

P1185-03

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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 83F-400-1704 X1704C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.0	85.5	86.2	81.9		81.4	84.2	86.3	81.7	82.3	87.4	91.8		126.8
63		91.0	96.9	90.3		88.5	93.3	93.6	89.3	89.9	88.4	98.1	95.3	134.4
80	85.5	89.6	84.9	84.0	84.7	89.0	87.6	87.2	89.8	87.1	91.4	92.0		130.0
100	83.5	88.1	84.2	82.8	85.3	88.6	87.3	88.3	88.6	89.9	92.5	95.6		130.8
125	82.5	84.0	86.0	84.7	86.7	88.4	88.1	87.8	87.5	90.0	96.9	99.3		132.7
160		78.2	84.1	79.7	81.7	83.7	89.0	85.8	88.2	90.1	96.2	98.8	89.4	132.0
200		79.0	85.6	79.4	80.6	83.7	86.8	88.2	91.8	90.9	96.8	101.4	91.4	133.6
250	77.3	80.2	81.3	79.4	82.4	84.9	85.3	88.0	91.0	94.8	100.3	102.7	93.0	135.4
315		79.5	84.2	80.1	81.2	86.0	87.1	89.6	91.3	95.6	100.3	102.0	94.1	135.4
400	78.6	80.3	81.4	80.0	82.7	85.5	88.5	89.6	92.1	96.9	100.8	101.5	91.7	135.6
500	80.0	81.5	82.8	80.4	83.6	86.5	87.1	89.6	92.1	97.4	100.3	99.3	88.2	134.9
630	78.6	81.7	82.7	81.1	84.6	87.8	88.1	91.1	92.8	98.1	100.8	96.5	86.5	135.0
800	80.7	81.8	82.3	81.3	84.4	88.3	89.0	91.9	93.9	98.2	99.6	93.3	85 8	134.5
1000	82.7	83.3	83.8	82.5	86.1	89.3	89.7	93.3	95.1	98.4	98.8	90.4	83.8	134.6
1250	81.4	85.0	84.0	83.6	85.6	89.5	89.8	93.0	95.3	97.8	97.2	88.6	83.7	134.1
1600	84.4	85.5	85.7	84.3	87.3	90.7	91.0	93.8	95.9	97.5	97.6	88.3	82.9	134.6
2000	85.1	84.4	85.1	84.4	87.2	90.4	91.4	94.7	95.8	97.9	96.4	87.2	81.7	134.5
2500	85.8	85.6	86.4	84.8	88.0	91.1	91.3	94.4	95.1	97.1	94.9	85.9	81.9	134.1
3150	87.5	86.3	87.8	86.5	88.9	92.5	92.1	94.6	95.7	96.5	93.5	85.1	81.3	134.4
4000	88.0	87.9	88.8	87.1	89.8	93.3	92.9	95.0	94.7	94.1	92.3	84.6	81.0	134.2
5000	88.1	88.7	89.5	88.1	90.6	93.6	93.5	95.1	93.9	94.2	91.8	84.5	81.0	134.5
6300	89.1	89.6	90.4	89.7	92.5	94.9	93.7	95.2	93.2	92.1	90.9	84.5	81.2	135.0
8000	89.0	90.0	91.6	91.0	93.3	95.9	94.6	94.7	92.8	91.1	89.0	83.9	81.6	135.7
10000	89.6	90.1	91.4	91.1	93.5	96.2	95.2	95.5	92.5	90.6	87.4	84.3	81.3	136.5
12500	88.7	88.6	90.4	90.5	92.5	96.5	94.3	94.3	92.0	88.7	86.1	83.0	80.0	136.6
16000	87.5	89.5	90.0	89.7	92.0	95.0	94.3	94.0	91.1	86.4	84.8	81.0	77.7	137.3
20000	86.5	87.6	88.2	88.8	89.8	93.6	93.2	91.3	89.4	84.9	82.0	79.0	75.7	137.4
25000	83.0	85.1	86.3	87.3	87.9	92.6	91.9	90.2	88.1	83.1	79.1	77.5	72.9	138.3
31500	79.9	81.2	82.3	84.4	84.3	88.7	88.4	87.6	86.0	80.9	77.0	73.8	69.1	138.2
40000	74.8	77.2	78.9	80.0	80.9	85.6	84.4	83.6	82.2	77.5	74.3	71.0	66.2	138.5
50000	68.7	71.5	72.7	74.5	75.1	80.7	78.3	78.2	76.9	72.7	69.8	66.2	60.2	137.4
63000	61.9	64.9	66.1	67.8	69.2	74.5	72.0	72.3	71.9	66.8	64.8	60.4	53.9	136.7
80000	52.9	57.4		59.6	61.2	68.0	64.8	65.4	64.8	59.0	57.7	53.2	46.3	136.3
OASPL	99.6	101.2	102.8	101.1	102.9	106.2	105.9	107.1	107.2	109.1	110.7	110.5	101.8	150.6
PNL	111.0	112.3	113.3	111.9	114.2	117.4	117.4	119.4	119.9	121.2	120.8	117.4	109.3	
PNLT	117.7	112.3	113.3	112.4	114.7	117.4	117.4	119.4	119.9	121.2	120.8	117.4	115.9	
DBA	97.8	98.3	99.2	98.1	100.8	103.8	103.5	105.7	106.3	108.2	108.4	104.3	96.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VERTCL = ADH228 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = C0 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.78 PAMB HG = 29.00 RELHUM = 29.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1112.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1775.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1704 TAPE = X1704C TEST PT NO = 1704 NC = AE094 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 - 83F-400-1704 X1704F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	85.1	86.6	86.2	82.7	84.0	84.9	83.4	84.4	89.1	92.8	97.4	99.8	94.0	133.2
315	85.1	86.6	86.2	82.6	83.0	86.2	86.1	87.6	89.7	94.0	97.9	99.8	92.9	133.6
400	85.6	85.9	89.2	83.4	84.6	85.7	87.5	87.4	89.7	94.5	97.4	98.0	90.7	133.2
500	86.3	86.7	86.4	83.4	85.5	86.9	86.0	87.2	90.5	95.3	98.0	95.8	90.7	133.1
630	87.4	87.8	87.7	83.8	86.6	88.2	87.1	88.7	92.0	95.9	97.7	94.1	92.9	133.4
800	86.3	88.2	87.8	84.6	86.5	88.9	88.0	89.6	93.6	96.5	97.5	92.4	93.4	133.7
1000	88.4	88.3	87.4	84.8	88.3	89.9	88.8	91.1	94.0	96.2	96.1	90.9	93.6	133.7
1250	90.4	89.7	88.9	86.1	87.9	90.3	89.2	91.0	94.8	96.0	96.6	90.5	92.5	134.0
1600	89.1	91.4	89.1	87.3	89.7	91.7	90.5	92.0	95.0	96.6	95.5	89.3	91.0	134.4
2000	92.0	92.0	90.9	88.1	89.9	91.7	91.3	93.2	95.1	96.8	95.1	89.5	93.2	134.9
2500	92.7	91.0	90.4	88.4	90.9	92.7	92.0	93.7	96.2	96.7	94.2	89.2	92.9	135.2
3150	93.4	92.2	91.9	89.0	92.1	94.5	93.1	94.4	96.9	96.1	95.1	90.9	95.2	136.1
4000	95.0	93.0	93.4	90.9	93.5	95.8	94.9	96.1	96.6	96.9	95.2	91.5	95.8	137.2
5000	95.5	94.6	94.5	91.8	94.7	96.6	95.8	96.6	96.5	95.6	95.2	92.2	95.9	137.8
6300	95.5	95.4	95.4	93.0	96.5	97.9	95.9	96.8	93.7	91.5	89.8	87.7	92.4	137.9
8000	96.4	96.1	96.1	94.4	97.4	98.9	96.0	94.7	93.6	91.2	88.4	88.2	92.2	138.6
10000	96.2	96.4	97.1	95.5	97.5	99.2	96.6	95.5	93.4	89.6	87.3	87.2	91.2	139.5
12500	96.5	96.2	96.6	95.4	97.1	99.5	95.8	94.3	93.0	87.9	86.6	85.8	89.4	140.0
16000	97.9	96.4	96.8	95.4	96.1	98.0	95.8	94.0	91.7	86.8	84.2	84.2	87.8	141.0
20000	93.4	94.7	94.3	93.0	93.8	96.6	94.6	91.3	91.0	85.5	81.9	83.3	85.7	140.6
25000	91.8	92.2	91.9	91.5	92.5	95.6	93.4	90.2	89.7	84.1	80.6	80.4	82.6	141.5
31500	90.4	91.1	91.0	90.4	88.9	91.7	89.8	87.6	86.8	81.6	78.7	78.4	80.6	142.1
40000	86.4	86.5	86.1	86.6	85.5	88.6	85.8	83.5	81.9	77.1	74.6	74.0	74.9	142.2
50000	80.9	82.0	82.3	81.8	79.7	83.7	79.7	78.2	78.9	74.0	73.3	72.8	73.7	141.7
63000	73.9	75.4	75.1	75.4	73.8	77.5	73.7	72.8	72.7	66.8	66.4	65.6	65.8	140.7
80000	65.5	67.3	67.1	67.2	65.8	71.0	66.3	65.6	62.9	57.0	56.6	55.8	56.0	139.8
OASPL	106.6	106.3	106.3	104.4	106.4	108.4	106.4	106.4	107.1	107.7	108.2	106.6	105.8	152.6
PNL	117.4	116.6	116.5	113.9	116.8	118.5	117.3	118.4	119.5	119.9	119.2	116.0	118.4	
PNLT	117.4	116.6	116.5	113.9	116.8	118.5	117.3	118.4	119.5	119.9	119.2	116.0	118.4	
DBA	188.9	190.4	190.3	190.3	188.8	193.3	189.1	188.1	186.8	181.1	180.6	179.8	180.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH228	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 50.78	PAMB HG = 29.00	RELHUM = 29.3 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 = 1112.5 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1775.5 FPS	AE18 = 19.9 SQ IN
FRONT PT = 83F-400-1704	TAPE = X1704F	TEST PT NO = 1704	NO = AE094	CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1704 X17041

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	61.0	64.0	64.7	61.8	62.6	65.9	65.7	66.8	68.2	71.4	73.8	73.4	63.2	149.0
63	61.5	63.3	67.6	62.6	64.2	65.4	67.1	66.5	68.1	71.9	73.3	71.6	61.0	148.5
80	62.1	64.1	64.8	62.6	65.1	66.6	65.6	66.4	68.9	72.6	73.8	69.4	60.9	148.4
100	63.1	65.1	66.1	62.9	66.1	67.8	66.6	67.8	70.4	73.2	73.4	67.6	63.0	148.7
125	61.9	65.3	66.0	63.6	65.9	68.4	67.4	68.6	71.9	73.7	73.1	65.8	63.2	149.0
160	63.8	65.3	65.5	63.7	67.6	69.4	68.1	70.0	72.1	73.2	71.5	64.0	63.0	149.0
200	65.5	66.5	66.8	64.9	67.0	69.5	68.3	69.7	72.8	72.8	71.8	63.2	61.4	149.3
250	63.9	68.0	66.8	65.8	68.7	70.8	69.5	70.5	72.7	73.1	70.3	61.6	59.2	149.7
315	66.4	68.2	68.3	66.3	68.6	70.5	69.9	71.4	72.5	72.9	69.4	61.2	60.7	150.2
400	66.6	66.7	67.4	66.3	69.2	71.2	70.3	71.6	73.2	72.5	68.1	60.2	59.4	150.5
500	66.7	67.5	68.5	66.5	70.1	72.7	71.2	71.9	73.6	71.4	68.4	61.3	60.6	151.4
630	67.8	67.8	69.7	68.1	71.2	73.7	72.6	73.3	72.8	71.7	68.0	61.1	60.1	152.5
800	67.8	69.0	70.4	68.6	72.0	74.1	73.2	73.4	72.4	70.0	67.4	61.0	58.9	153.1
1000	67.2	69.3	70.9	69.5	73.6	75.2	73.0	73.3	69.2	65.5	61.5	55.8	54.2	153.2
1250	67.3	69.6	71.2	70.5	74.1	75.8	72.8	70.9	68.7	64.7	59.4	55.3	52.4	153.9
1600	66.0	69.0	71.5	71.1	73.7	75.6	72.9	71.0	67.8	62.2	57.1	52.7	48.7	154.8
2000	64.8	67.7	70.1	70.2	72.7	75.3	71.3	69.1	66.5	59.3	54.9	49.1	43.4	155.3
2500	64.0	66.3	69.0	69.1	70.6	72.8	70.3	67.7	63.9	56.6	50.3	44.2	36.5	156.3
3150	55.5	61.5	64.0	64.6	66.4	69.5	67.2	62.8	60.8	52.3	44.1	37.8	25.3	156.0
4000	47.0	53.5	57.1	59.0	61.4	64.8	62.2	57.7	54.9	45.4	35.7	25.1	7.0	156.8
5000	34.9	44.0	49.0	51.6	51.9	55.2	52.8	48.8	44.8	34.4	23.3	8.6		157.4
6300	12.7	24.7	31.6	36.7	38.0	41.9	38.3	33.6	27.5	15.4	0.9			157.5
8000			5.6	11.7	13.1	18.2	13.1	8.1	2.2					157.1
10000														156.0
12500														155.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	78.0	79.8	81.3	80.0	82.9	85.0	83.2	83.2	83.6	83.8	82.8	78.3	72.6	167.9
PNL	86.4	88.9	91.0	90.6	92.8	95.3	92.9	91.5	90.1	87.9	84.5	77.6	74.7	
PNLT	87.5	90.0	92.1	91.2	93.5	95.9	93.5	92 0	90.1	87.9	85.6	77.6	74.7	
DBA	75.9	78.0	79.9	79.2	82.1	84.2	81.8	80.9	79.5	77.2	73.8	67.1	65.3	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH228 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 50.78 PAMB HG = 29.00 RELHUM = 29.3 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 = 1112.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1775.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1704 TAPE = X17041 TEST PT NO = 1704 NC = AE094 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 83F-ZER-1705 X1705C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.1	86.9	87.2	83.5	81.1	85.2	86.6	88.0	88.7	83.2	90.1	92.3	87.5	129.1
63	88.0	94.5	97.8	90.6	90.0	92.1	94.7	94.4	94.3	91.1	94.3	95.5	96.1	135.9
80	88.3	92.6	88.8	87.4	88.5	92.3	91.5	91.6	93.6	92.7	95.6	95.5	83.4	133.9
100	87.7	93.7	88.8	89.0	91.1	93.8	93.4	94.5	94.0	96.1	98.2	100.4	87.1	136.3
125	85.6	88.9	90.7	90.0	92.6	94.7	94.1	94.0	94.9	97.8	103.2	105.1	91.7	138.9
160	83.7	84.2	88.0	85.5	87.9	90.2	93.1	93.0	93.7	98.1	103.7	105.1	96.5	138.6
200	85.3	85.1	87.8	86.1	89.7	92.1	93.2	94.9	97.8	99.1	104.5	108.7	100.1	140.9
250	85.3	87.8	88.1	87.9	90.7	92.8	94.2	96.1	99.1	103.7	108.8	111.2	103.4	143.9
315	86.8	88.1	89.6	88.4	91.3	94.9	96.3	97.9	100.1	105.0	109.6	111.8	106.4	144.9
400	87.6	89.6	90.1	88.4	92.0	94.1	97.3	98.4	101.6	106.4	110.6	112.8	107.7	146.0
500	88.1	90.1	90.9	89.2	92.5	95.4	96.5	98.9	103.2	107.0	111.1	112.3	108.4	146.2
630	87.8	90.6	91.1	90.4	93.7	96.6	97.7	99.9	102.6	107.2	110.8	111.7	108.9	146.1
800	89.6	90.6	92.2	90.4	93.5	96.7	98.3	100.7	103.9	106.7	109.6	110.0	108.7	145.4
1000	91.8	92.8	93.6	91.9	95.0	98.3	98.7	101.6	104.3	106.7	108.5	108.2	107.4	144.9
1250	89.9	93.7	93.3	92.4	94.9	97.8	98.6	101.8	104.5	105.6	107.7	107.4	106.8	144.3
1600	90.4	92.8	94.2	92.8	95.6	99.2	99.8	102.1	105.2	105.6	108.2	107.1	106.0	144.6
2000	90.4	92.2	93.6	92.7	95.3	98.4	99.9	102.2	104.4	105.6	107.1	105.7	105.7	144.0
2500	89.8	93.4	93.7	92.7	96.1	98.9	99.6	102.0	103.9	105.4	105.2	103.7	103.4	143.2
3150	89.5	92.6	93.6	93.4	95.5	99.3	100.7	101.9	104.2	104.4	103.8	101.9	101.6	142.8
4000	88.8	92.2	93.8	92.2	95.9	99.1	99.7	101.3	102.7	101.7	102.2	99.7	99.5	141.5
5000	88.9	93.0	93.9	92.5	95.5	99.4	99.8	101.2	102.2	101.4	100.1	97.4	96.8	141.2
6300	88.2	93.0	94.3	93.1	96.1	99.3	99.8	101.1	101.6	98.9	98.8	97.0	96.9	140.9
8000	87.7	92.4	94.0	93.7	95.8	99.1	99.5	99.2	99.0	97.2	96.5	95.6	95.2	140.1
10000	88.9	93.8	95.9	94.6	96.9	100.2	99.7	99.5	99.2	96.5	96.0	95.3	95.6	141.1
12500	89.3	93.4	95.5	94.8	96.8	100.3	99.1	98.9	97.6	94.7	93.7	94.1	93.8	141.3
16000	88.3	94.4	95.3	95.6	95.1	98.9	97.9	97.3	96.0	92.2	91.5	90.6	90.3	141.5
20000	86.9	91.3	93.4	93.4	94.2	97.5	96.6	94.7	93.6	89.8	88.2	87.4	85.6	141.3
25000	83.9	88.6	90.8	91.2	92.1	96.5	95.6	92.4	92.1	86.7	84.4	84.0	82.4	142.0
31500	80.3	84.8	86.8	88.4	88.8	93.1	91.9	90.3	88.6	83.5	81.6	79.8	77.5	141.8
40000	76.1	80.7	83.2	83.7	84.7	88.9	88.1	86.3	85.0	80.2	78.6	76.2	73.4	141.8
50000	70.5	74.6	77.1	78.5	78.8	83.9	82.0	80.7	79.8	75.1	73.1	70.2	67.2	140.7
63000	63.7	68.6	71.8	72.1	72.7	78.3	75.6	75.1	74.0	69.1	67.7	64.2	60.3	140.2
80000	55.4	62.3	64.3	63.9	65.2	71.6	68.7	67.7	67.3	62.0	60.7	57.0	51.2	139.9
OASPL	102.8	106.4	107.5	106.3	108.5	111.8	112.3	113.6	115.6	117.4	120.3	121.2	117.9	157.7
PNL	114.7	117.8	118.9	117.9	120.5	123.8	124.8	126.3	128.3	129.1	130.4	129.9	128.1	
PNLT	114.7	117.8	118.9	117.9	121.1	123.8	124.8	126.3	128.3	129.1	130.4	129.9	128.1	
DBA	101.2	104.2	105.2	104.1	107.0	110.3	111.1	112.9	115.1	116.4	118.4	118.5	116.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH240	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = C0	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 61.11	PAMB HG = 29.12	RELHUM = 20.7 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1226.5 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2026.7 FPS	AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1705 TAPE = X1705C TEST PT NO = 1705 NO AE0 CORR FAN SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1705 X1705F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.1	86.9	87.2	83.5	81.1	85.2	86.6	88.0	88.7	83.2	90.1	92.3	87.5	129.1
63	88.0	94.5	97.8	90.6	90.0	92.1	94.7	94.4	94.3	91.1	94.3	95.5	96.1	135.9
80	88.3	92.6	88.8	87.4	88.5	92.3	91.5	91.6	93.6	92.7	95.6	95.5	83.4	133.9
100	87.7	93.7	88.8	89.0	91.1	93.8	93.4	94.5	94.0	96.1	98.2	100.4	87.1	136.3
125	85.6	88.9	90.7	90.0	92.6	94.7	94.1	94.0	94.9	97.8	103.2	105.1	91.7	138.9
160	83.7	84.2	88.0	85.5	87.9	90.2	93.1	93.0	93.7	98.1	103.7	105.1	96.5	138.6
200	85.3	85.1	87.8	86.1	89.7	92.1	93.2	94.9	97.8	99.1	104.5	108.7	100.1	140.9
250	85.3	87.8	88.1	87.9	90.7	92.8	94.2	96.1	99.1	103.7	108.8	111.2	103.4	143.9
315	86.8	88.1	89.6	88.4	91.3	94.9	96.3	97.9	100.1	105.0	109.6	111.8	106.4	144.9
400	87.6	89.6	90.1	88.4	92.0	94.1	97.3	98.4	101.6	106.4	110.6	112.8	107.7	146.0
500	88.1	90.1	90.9	89.2	92.5	95.4	96.5	98.9	103.2	107.0	111.1	112.3	108.4	146.2
630	87.8	90.6	91.1	90.4	93.7	96.6	97.7	99.9	102.6	107.2	110.8	111.7	108.9	146.1
800	89.6	90.6	92.2	90.4	93.5	96.7	98.3	100.7	103.9	106.7	109.6	110.0	108.7	145.4
1000	91.8	92.8	93.6	91.9	95.0	98.3	98.7	101.6	104.3	106.7	108.5	108.2	107.4	144.9
1250	89.9	93.7	93.3	92.4	94.9	97.8	98.6	101.8	104.5	105.6	107.7	107.4	106.0	144.3
1600	90.4	92.8	94.2	92.8	95.6	99.2	99.8	102.1	105.2	105.6	108.2	107.1	106.0	144.6
2000	90.4	92.2	93.6	92.7	95.3	98.4	99.9	102.2	104.4	105.6	107.1	105.7	105.7	144.0
2500	89.8	93.4	93.7	92.7	96.1	98.9	99.6	102.0	103.9	105.4	105.2	103.7	103.4	143.2
3150	89.5	92.6	93.6	93.4	95.5	99.3	100.7	101.9	104.2	104.4	103.8	101.9	101.6	142.8
4000	88.8	92.2	93.8	92.2	95.9	99.1	99.7	101.3	102.7	101.7	102.2	99.7	99.5	141.5
5000	88.9	93.0	93.9	92.5	95.5	99.4	99.8	101.2	102.2	101.4	100.1	97.4	96.8	141.2
6300	88.2	93.0	94.3	93.1	96.1	99.3	99.8	101.1	101.6	98.9	98.8	97.0	96.9	140.9
8000	87.7	92.4	94.0	93.7	95.8	99.1	99.5	99.2	99.0	97.2	96.5	95.6	95.2	140.1
10000	88.9	93.8	95.9	94.6	96.9	100.2	99.7	99.5	99.2	96.5	96.0	95.3	95.6	141.1
12500	89.3	93.4	95.5	94.8	96.8	100.3	99.1	98.9	97.6	94.7	93.7	94.1	93.8	141.3
16000	88.3	94.4	95.3	95.6	95.1	98.9	97.9	97.3	96.0	92.2	91.5	90.6	90.3	141.5
20000	86.9	91.3	93.4	93.4	94.2	97.5	96.6	94.7	93.6	89.8	88.2	87.4	85.6	141.3
25000	83.9	88.6	90.8	91.2	92.1	96.5	95.6	92.4	92.1	86.7	84.4	84.0	82 4	142.0
31500	80.3	84.8	86.8	88.4	88.8	93.1	91.9	90.3	88.6	83.5	81.6	79.8	77.5	141.8
40000	76.1	80.7	83.2	83.7	84.7	88.9	88.1	86.3	85.0	80.2	78.6	76.2	73.4	141.8
50000	70.5	74.6	77.1	78.5	78.8	83.9	82.0	80.7	79.8	75.1	73.1	70.2	67.2	140.7
63000	63.7	68.6	71.8	72.1	72.7	78.3	75.6	75.1	74.0	69.1	67.7	64.2	60.3	140.2
80000	55.4	62.3	64.3	63.9	65.2	71.6	68.7	67.7	67.3	62.0	60.7	57.0	51.2	139.9
OASPL	102.8	106.4	107.5	106.3	108.5	111.8	112.3	113.6	115.6	117.4	120.3	121.2	117.5	157.7
PNL	114.7	117.8	118.9	117.9	120.5	123.8	124.8	126.3	128.3	129.1	130.4	129.9	128.1	
PNLT	114.7	117.8	118.9	117.9	121.1	123.8	124.8	126.3	128.3	129.1	130.4	129.9	128.1	
DBA	178.7	184.6	187.0	187.1	188.0	193.9	191.3	190.4	189.6	184.6	183.2	179.7	175.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH240 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.11 PAMB HG = 29.12 RELHUM = 20.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1226.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2026.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1705 TAPE = X1705F TEST PT NO = 1705 NC = AE094 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 - 83F-ZER-1705 X17051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	62.7	65.5	68.1	67.6	70.9	74.6	75.9	77.1	78.6	82.4	85.5	85.5	76.8	160.3
63	63.4	67.0	68.6	67.6	71.6	73.8	76.8	77.6	80.1	83.8	86.4	86.4	77.9	161.3
80	63.9	67.5	69.3	68.3	72.1	75.1	76.1	78.1	81.6	84.3	86.9	85.9	78.6	161.6
100	63.5	67.9	69.5	69.5	73.2	76.2	77.2	79.0	81.0	84.5	86.5	85.2	78.9	161.4
125	65.2	67.8	70.4	69.5	73.0	76.2	77.7	79.7	82.2	83.9	85.2	83.3	78.5	160.7
160	67.2	69.8	71.7	70.8	74.3	77.8	78.0	80.5	82.5	83.7	83.9	81.3	76.8	160.2
200	65.1	70.6	71.2	71.1	74.0	77.0	77.8	80.5	82.5	82.4	82.9	80.1	75.7	159.6
250	65.2	69.3	71.9	71.3	74.5	78.3	78.7	80.6	82.9	82.1	83.0	79.4	74.3	159.9
315	64.8	68.4	71.0	70.9	74.0	77.2	78.6	80.4	81.7	81.8	81.5	77.4	73.2	159.3
400	63.7	69.1	70.7	70.5	74.4	77.4	77.9	79.8	80.9	81.2	79.0	74.8	69.9	158.5
500	62.8	67.9	70.3	70.9	73.5	77.4	78.7	79.4	80.9	79.7	77.2	72.3	67.0	158.1
630	61.6	67.1	70.1	69.4	73.6	77.0	77.4	78.5	79.0	76.6	75.0	69.3	63.8	156.9
800	61.1	67.4	69.7	69.3	72.8	77.0	77.2	78.0	78.1	75.8	72.4	66.2	59.9	156.5
1000	59.8	66.9	69.8	69.6	73.2	76 5	76.9	77.6	77.1	72.9	70.4	65.0	58.7	156.3
1250	58.7	65.9	69.1	69.8	72.5	76.0	76.3	75.3	74.1	70.7	67.5	62.7	55.3	155.4
1600	58.7	66.4	70.3	70.2	73.2	76.6	75.9	75.0	73.6	69.1	65.8	60.7	53.1	156.5
2000	57.6	64.9	69.0	69.6	72.3	76.1	74.6	73.7	71.1	66.2	62.0	57.3	47 8	156.7
2500	54.4	64.3	67.6	69.3	69.7	73.7	72.5	71.1	68.2	62.1	57.6	50.7	39.0	156.8
3150	49.0	58.1	63.2	65.0	66.8	70.4	69.1	66.3	63.3	56.6	50.4	41.9	25.3	156.7
4000	39.1	49.8	56.0	58.8	61.0	65.7	64.5	59.9	57.2	48.0	39.5	28.7	6.8	157.3
5000	24.9	37.7	44.9	49.6	51.7	56.7	54.8	51.6	46.6	36.4	26.1	10.0		157.2
6300	2.4	19.0	28.8	33.8	37.2	42.1	40.6	36.4	30.6	18.4	5.0			157.2
8000			0.5	8.4	12.3	18.5	15.5	10.6	3.1					156.0
10000														155.5
12500														155.2
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	75.7	80.3	82.7	82.5	85.7	89.1	89.7	91.1	92.6	93.6	94.8	93.4	86.8	172.5
PNL	80.7	87.8	91.0	91.8	94.1	97.8	97.4	97.4	97.4	96.5	95.9	92.7	86.4	
PNLT	80.7	87.8	91.7	92.4	94.7	98.4	98.1	97.9	98.0	96.5	95.9	92.7	86.4	
DBA	69.7	76.2	79.3	79.6	82.4	86.0	86.0	86.2	86.4	84.7	83.3	79.4	74.2	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH240 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.11 PAMB HG = 29.12 RELHUM = 20.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT. EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1226.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2026.7 FPS AE18 = 19.9 SQ IN

PT F-ZL 705 TAPE = X17051 TEST PT NO 1705 NO = AE094 CORR FAN SPEED = RPM

400

P1185-08

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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 83F-400-1706 X1706C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	86.9	86.9	83.2	80.8	82.7	84.3	87.0	84.9	85.5	90.1	92.6	90.2	128.7
63	88.8	94.0	97.3	91.9	86.7	89.1	95.2	96.4	90.3	91.6	91.3	97.7	96.9	135.9
80	89.0	92.6	88.1	87.1	87.7	91.3	91.5	90.6	92.6	91.7	93.8	95.0	87.1	133.2
100	87.2	91.7	87.8	87.0	88.9	92.0	91.4	93.0	91.3	93.1	96.0	99.4	89.1	134.5
125	84.9	87.2	89.4	88.2	90.6	91.9	91.3	91.2	90.9	93.5	99.7	102.8	90.7	136.1
160	82.2	81.2	86.5	82.8	84.6	87.2	91.4	88.5	90.5	94.1	99.9	102.6	93.8	135.5
200	82.8	83.1	86.3	82.4	84.5	87.8	89.7	91.1	94.1	94.9	100.5	105.2	95.9	137.2
250	81.0	83.8	84.6	83.1	85.2	88.3	88.7	90.9	94.1	99.2	104.3	107.0	97.9	139.5
315	82.1	84.4	85.9	84.4	86.3	89.4	91.3	92.4	95.4	100.0	105.1	106.5	98.4	139.8
400	82.6	84.1	84.9	83.4	85.8	89.4	93.3	92.9	96.1	101.7	105.8	106.8	96.9	140.5
500	83.6	84.9	85.6	84.2	86.8	90.4	90.5	92.9	96.1	102.0	105.4	104.8	94.7	139.7
630	83.0	84.8	85.6	84.9	88.0	91.1	91.5	94.1	96.6	103.2	105.3	102.7	92.1	139.6
800	84.6	84.4	85.9	84.9	88.3	92.2	92.3	95.4	97.9	102.5	104.1	98.8	89.9	138.8
1000	87.0	86.6	86.8	85.9	89.7	93.1	93.0	96.4	98.8	102.7	103.3	96.0	88.4	138.7
1250	85.5	88.2	87.3	87.2	89.6	93.3	93.4	96.6	99.3	102.3	101.5	93.9	87.3	138.2
1600	86.9	88.1	88.2	87.6	91.1	94.7	94.8	97.4	99.5	102.1	102.4	92.8	87.2	138.7
2000	88.6	87.7	88.1	88.0	91.1	94.2	95.2	98.2	99.6	102.7	101.4	92.2	86.7	138.8
2500	88.6	89.2	89.5	88.2	91.8	94.9	94.9	98.0	98.9	102.2	100.2	90.7	86.5	138.4
3150	89.0	89.4	89.9	89.2	92.0	95.5	96.4	98.2	99.5	100.9	98.8	90.5	85.6	138.3
4000	89.8	89.7	90.9	90.0	93.1	96.6	96.2	98.1	98.3	98.8	97.7	89.7	85.3	137.8
5000	90.4	91.3	91.4	90.7	93.2	96.9	96.3	97.9	97.5	99.4	96.6	88.6	84.8	138.0
6300	90.7	91.9	92.2	91.5	94.3	97.0	96.6	98.3	96.8	96.6	95.7	88.9	84.9	137.9
8000	91.1	91.8	92.4	92.5	94.6	97.7	96.4	96.8	95.3	95.1	94.4	88.5	84.3	137.9
10000	93.1	94.3	94.9	94.9	96.7	99.4	97.7	96.7	95.7	95.2	93.0	88.8	85.6	139.6
12500	93.7	94.2	94.5	94.7	96.5	99.2	97.5	96.7	95.1	93.5	91.5	88.2	85.2	140.1
16000	92.3	94.8	94.8	94.8	94.9	97.6	96.9	95.5	93.4	90.1	89.7	86.1	82.3	140.4
20000	89.8	92.1	92.5	93.0	94.1	96.8	95.9	93.3	91.6	88.2	87.0	83.8	80.0	140.7
25000	87.5	89.2	90.3	91.2	92.4	96.0	95.2	91.9	90.3	85.5	83.6	82.0	77.7	141.6
31500	83.6	85.3	86.4	88.0	88.7	93.1	91.5	90.0	88.1	83.3	81.2	78.5	73.3	141.7
40000	79.2	81.0	82.5	83.8	85.3	89.3	88.0	86.2	84.8	80.3	78.7	75.6	70.1	142.0
50000	72.3	75.3	76.6	77.8	79.7	84.8	82.4	80.5	80.0	75.2	73.6	70.1	64.1	141.1
63000	65.6	69.0	70.5	71.6	73.3	78.1	75.7	75.1	74.5	69.6	69.2	65.0	58.4	140.2
80000	57.2	62.2	64.0	64.1	65.8	72.1	69.0	68.0	67.2	62.8	61.7	58.1	50.5	140.3
OASPL	103.1	104.7	105.3	104.4	106.2	109.3	109.0	110.0	110.7	113.6	115.3	114.9	106.4	154.2
PNL	114.2	115.0	115.6	114.6	117.4	120.6	120.7	122.5	123.5	125.8	125.6	122.2	114.5	
PNLT	114.2	115.0	115.6	115.2	118.0	120.6	120.7	122.5	123.5	125.8	125.6	122.2	114.5	
DBA	100.4	101.1	101.5	101.0	103.7	107.0	106.8	108.9	110.0	112.9	113.1	109.4	101.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH229 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 52.63 PAMB HG = 29.00 RELHUM = 24.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1226.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1988.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1706 TAPE = X1706C TEST PT NO = 1706 NC = AE094 CORR FAN SPEED = RPM

ORIGINAL PAGE IS
OF POOR QUALITY

P1185-03

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

IDENTIFICATION - 83F-400-1706 X1706F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	88.4	89.9	89.3	86.3	86.8	88.3	86.8	87.3	93.1	97.1	102.1	104.3	98.3	137.5
315	88.4	89.9	89.3	86.3	88.1	89.6	90.3	90.4	93.8	98.9	103.0	105.1	98.1	138.5
400	89.8	90.8	90.8	87.8	87.6	89.6	92.2	90.8	93.9	99.3	102.8	103.8	97.4	138.2
500	90.1	90.4	89.8	86.8	88.7	90.7	89.5	90.7	94.4	100.6	102.9	102.5	96.8	138.1
630	91.3	91.3	90.6	87.6	89.9	91.5	90.5	91.8	96.1	100.3	102.3	99.8	97.3	137.7
800	90.7	91.3	90.6	88.4	90.3	92.7	91.3	93.2	97.4	100.9	102.2	98.2	98.2	138.0
1000	92.3	90.8	91.0	88.5	91.9	93.7	92.1	94.2	97.9	100.7	100.3	96.0	96.9	137.6
1250	94.7	93.0	91.9	89.5	91.9	94.1	92.7	94.5	98.4	100.6	101.4	95.1	96.9	138.1
1600	93.1	94.7	92.4	90.9	93.6	95.7	94.3	95.5	98.7	101.4	100.5	94.4	96.0	138.6
2000	94.6	94.6	93.5	91.5	93.7	95.5	95.0	96.7	98.5	101.4	99.8	93.6	96.6	138.7
2500	96.3	94.3	93.5	92.0	94.7	96.5	95.1	96.9	100.0	101.1	99.6	94.7	97.6	139.2
3150	96.2	95.8	94.9	92.4	95.2	97.6	97.5	97.9	100.2	100.4	100.0	95.5	98.9	139.8
4000	96.6	96.0	95.5	93.5	96.8	99.2	98.2	99.1	99.4	101.1	98.9	94.4	98.5	140.3
5000	97.4	96.5	96.6	94.7	97.3	99.9	98.5	99.0	100.0	99.7	99.7	96.4	99.7	140.9
6300	97.8	98.0	97.2	95.6	98.3	100.0	99.0	100.0	99.0	99.3	98.8	96.2	99.0	141.3
8000	98.0	98.5	97.9	96.2	98.7	100.7	98.8	98.7	96.8	95.9	93.9	92.8	96.5	141.0
10000	98.2	98.2	97.9	97.0	100.8	102.4	99.1	96.7	96.5	94.4	92.7	92.4	96.4	142.1
12500	100.0	100.5	100.1	99.1	100.5	102.2	98.9	96.7	95.3	91.5	91.4	90.9	94.1	143.3
16000	100.0	99.8	99.3	98.4	98.9	100.6	98.3	95.5	93.9	90.0	89.2	89.0	92.2	143.6
20000	98.2	100.0	99.1	98.1	98.1	99.8	97.3	93.3	93.2	87.9	86.3	87.8	90.4	144.6
25000	95.1	96.7	96.2	95.7	97.0	99.0	96.6	91.9	91.8	86.5	84.7	85.0	86.8	145.1
31500	94.8	95.3	94.9	94.3	93.3	96.1	93.0	90.0	89.3	84.4	83.1	83.0	84.5	146.0
40000	90.0	90.6	90.2	90.3	89.9	92.3	89.4	86.2	85.0	79.7	78.4	77.9	78.8	145.9
50000	85.3	85.8	85.9	85.7	84.3	87.8	83.8	80.5	80.4	75.0	74.9	73.8	74.1	145.5
63000	77.5	79.2	79.1	78.7	77.9	81.1	77.1	75.1	74.5	69.7	68.9	68.3	67.7	144.1
80000	69.2	71.4	71.5	71.0	70.4	75.1	70.4	68.0	64.7	59.9	59.1	58.5	57.9	143.7
OASPL	109.4	109.6	109.0	107.7	109.5	111.4	109.5	109.2	110.6	112.3	113.1	111.9	110.3	156.2
PNL	119.7	119.3	118.8	116.8	119.6	121.7	120.7	121.4	123.0	124.4	124.1	120.8	122.4	
PNLT	119.7	119.3	118.8	116.8	119.6	121.7	120.7	121.4	123.0	124.4	124.1	120.8	122.4	
DBA	192.7	194.4	194.4	194.0	193.2	197.3	192.9	190.5	188.6	183.7	183.0	182.3	182.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH229 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 52.63 PAMB HG = 29.00 RELHUM = 24.4 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 = 1226.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1988.4 FPS AE18 = 19.9 SQ IN

PINDT = 83F-400-1706 X1 TES NO 706 094 FA EED RPM

P1185-03

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

IDENTIFICATION - 83F-400-1706 X17061

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.3	67.3	67.8	65.5	67.7	69.3	69.9	69.6	72.3	76.3	78.9	78.8	68.4	153.8
63	65.6	68.1	69.3	67.0	67.2	69.3	71.8	70.0	72.4	76.7	78.6	77.4	67.7	153.5
80	65.9	67.8	68.2	65.9	68.2	70.4	69.1	69.9	72.9	77.9	78.7	76.1	67.0	153.4
100	67.0	68.6	69.0	66.7	69.5	71.1	70.0	70.9	74.5	77.6	78.0	73.3	67.3	153.0
125	66.3	68.4	68.9	67.4	69.8	72.2	70.8	72.2	75.7	78.1	77.8	71.6	68.0	153.3
160	67.7	67.9	69.1	67.4	71.2	73.2	71.4	73.1	76.1	77.7	75.7	69.1	66.3	152.9
200	69.8	69.8	69.9	68.2	71.1	73.3	71.8	73.2	76.3	77.4	76.6	67.8	65.9	153.5
250	67.9	71.3	70.1	69.4	72.5	74.8	73.3	74.0	76.4	77.9	75.3	66.7	64.3	153.9
315	68.9	70.8	70.9	69.7	72.4	74.3	73.6	74.9	75.9	77.6	74.2	65.3	64.1	154.0
400	70.1	70.0	70.5	69.9	73.1	75.0	73.5	74.7	77.0	76.8	73.5	65.7	64.0	154.5
500	69.5	71.1	71.6	69.9	73.3	75.7	75.6	75.5	76.9	75.7	73.3	65.9	64.3	155.1
630	69.4	70.9	71.8	70.7	74.5	77.0	75.9	76.3	75.7	76.0	71.7	64.1	62.9	155.7
800	69.6	70.9	72.5	71.5	74.6	77.5	75.9	75.8	75.9	74.1	71.9	65.2	62.8	156.2
1000	69.5	71.9	72.7	72.1	75.4	77.3	76.1	76.5	74.5	73.3	70.5	64.2	60.8	156.6
1250	68.9	71.9	73.0	72.4	75.4	77.6	75.6	74.8	71.9	69.3	64.9	59.8	56.7	156.3
1600	68.0	70.8	72.3	72.6	77.0	78.9	75.4	72.3	70.9	67.0	62.6	57.9	54.0	157.4
2000	68.3	71.9	73.6	73.9	76.0	77.9	74.5	71.5	68.8	63.0	59.7	54.2	48.1	158.6
2500	66.1	69.7	71.5	72.1	73.5	75.4	72.9	69.3	66.2	59.9	55.3	49.0	40.8	158.9
3150	60.4	66.8	68.8	69.7	70.7	72.7	69.9	64.8	62.9	54.7	48.5	42.3	30.1	159.9
4000	50.2	58.0	61.3	63.2	65.8	68.2	65.4	59.4	57.0	47.8	39.9	29.8	11.2	160.5
5000	39.3	48.2	52.9	55.5	56.3	59.6	56.0	51.2	47.4	37.2	27.6	13.3		161.4
6300	16.4	28.9	35.8	40.3	42.4	45.5	41.9	36.2	30.6	17.9	4.8			161.2
8000			9.2	15.5	17.7	22.4	17.2	10.4	3.7					160.8
10000														159.4
12500														159.0
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	80.8	82.9	83.8	83.1	86.0	88.1	86.4	86.2	87.2	88.4	87.7	83.9	77.3	171.5
PNL	89.2	92.4	93.8	93.8	96.2	98.4	95.9	94.0	93.3	92.5	89.8	83.0	79.2	
PNLT	90.6	93.4	94.3	94.4	96.8	98.9	96.5	94.6	93.9	92.5	91.0	83.0	79.2	
DBA	78.2	80.9	82.2	82.0	84.9	87.0	84.7	83.7	83.0	81.9	78.9	72.0	69.5	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH229	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 52.63	PAMB HG = 29.00	RELHUM = 24.4 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 = 1226.6 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1988.4 FPS	AE18 = 19.9 SQ IN

RUNPT = 83F-400-1706 TAPE = X17061 TEST PT NO = 1706 NC = AE094 CORR FAN SPEED = RPM

P1185-03

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 83F-ZER-1707 X1707C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.9	87.4	87.2	87.0	82.6	86.9	86.8	89.5	88.9	87.0	92.4	95.6	90.7	130.9
63	89.3	94.3	97.6	95.4	91.0	94.6	95.7	94.4	95.3	92.6	95.0	102.5	98.1	137.8
80	91.3	95.3	90.3	89.6	90.7	95.3	93.7	93.4	95.6	95.2	98.1	98.2	85.4	136.3
100	90.0	96.5	91.5	91.8	93.6	96.3	95.4	97.3	96.0	98.3	100.7	102.9	89.6	138.7
125	87.4	90.2	92.9	92.2	94.8	96.9	95.8	95.5	96.9	99.3	106.2	107.1	94.2	141.1
160	85.9	86.0	90.2	88.0	89.6	92.0	94.1	95.0	96.2	100.1	105.5	107.4	98.8	140.6
200	87.3	86.8	89.3	87.9	91.2	94.8	94.7	96.9	100.3	101.1	106.5	111.2	102.9	143.2
250	87.8	90.3	90.3	90.4	93.0	95.1	95.7	98.6	101.8	106.4	111.5	114.2	105.4	146.7
315	88.8	90.4	91.1	90.7	93.5	96.6	97.3	99.4	102.9	107.7	112.6	115.0	108.7	147.8
400	89.8	92.1	92.1	90.7	93.5	96.4	99.5	100.4	104.9	109.4	113.8	116.0	109.4	149.0
500	90.3	92.9	93.2	91.9	94.3	97.6	98.0	100.9	105.2	109.7	113.9	115.8	110.9	149.1
630	90.5	93.1	93.6	92.9	96.2	99.1	99.2	102.4	105.4	110.7	114.3	115.7	112.1	149.6
800	92.9	93.4	94.4	93.4	96.3	99.4	99.5	102.9	106.4	110.2	113.1	115.0	112.9	149.2
1000	95.0	95.3	95.3	94.4	97.7	100.6	101.2	104.6	107.6	109.7	112.5	114.0	112.1	148.8
1250	93.0	96.5	95.8	94.9	97.1	101.0	101.1	104.3	107.5	108.9	111.5	113.6	111.6	148.3
1600	93.4	95.1	96.0	95.6	98.3	102.0	102.3	105.1	108.5	108.8	112.2	113.1	110.0	148.5
2000	92.9	94.5	95.6	95.0	97.8	101.2	102.2	105.7	108.1	108.9	111.7	111.5	108.5	147.9
2500	92.6	94.9	95.5	94.7	98.1	101.5	101.9	105.0	106.9	108.7	109.9	108.2	107.2	146.7
3150	92.0	94.2	95.7	94.9	97.8	101.3	102 2	104.7	108.0	107.9	109.1	106.7	104.4	146.3
4000	91.1	94.0	95.7	94.5	98.7	101.6	101.3	104.6	106.3	104.8	106.7	104.5	102.1	144.8
5000	90.0	94.8	95.7	94.5	97.8	100.7	100.6	104.0	105.3	105.0	105.7	102.2	100.9	144.2
6300	90.2	94.8	95.6	94.9	98.4	101.6	101.1	103.4	104.7	103.0	104.1	100.8	99.0	143.7
8000	89.7	95.0	95.8	95.2	97.8	100.8	100.5	101.4	102.7	101.2	102.5	99.1	97.2	142.8
10000	90.8	95.8	97.6	96.6	98.1	101.4	100.4	100.9	102.2	99.7	100.9	99.0	97.5	143.1
12500	91.6	96.2	97.8	97.7	99.2	102.2	99.2	99.0	100.4	97.5	98.8	97.9	95.9	143.3
16000	91.1	95 9	97.6	98.6	98.9	101.9	99.9	98.8	99.0	95.4	96.2	94.4	92.6	144.2
20000	89.1	93.2	95.6	95.6	97.4	99.9	98.2	96.1	96.5	91.8	92.4	90.8	88.8	143.6
25000	86.1	90.1	92.6	92.8	94.5	99 1	96.7	94.0	94.1	88.7	88.4	88.1	84.7	144.0
31500	82.9	86.5	88.3	90.4	91.0	95.2	92.9	91.1	91.3	85.5	84.8	83.3	79.4	143.6
40000	78.3	82.9	84.4	85.5	86.9	91.1	89.1	87.1	87.2	81.8	81.3	79.0	75.5	143.6
50000	72.0	77.0	79.5	80.5	81.6	85.9	83.5	81.7	82.4	76.9	76.0	72.9	69.4	142.7
63000	65.4	71.0	73.7	74.0	75.7	80.5	77.6	76.0	76.7	71.1	70.6	66.9	62.6	142.3
80000	58.1	64.2	66.4	67.1	68.4	74.3	70.4	69.4	69.4	64.1	63.4	59.5	53.9	142.3
OASPL	105.3	108.4	109.3	108.7	110.9	114.1	113.9	116.2	118.7	120.5	123.8	125.3	121.2	160.7
PNL	117.1	119.7	120.7	119.9	123.0	126.1	126.4	128.9	131.6	132.4	134.6	134.6	131.4	
PNLT	117.1	120.4	120.7	119.9	123.5	126.1	126.4	128.9	131.6	132.4	135.1	134.6	131.4	
DBA	103.8	106.4	107.1	106.3	109.3	112.6	112.9	115.8	118.4	119.7	122.4	123.3	120.4	

404

P1185-03

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH239 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.84 PAMB HG = 29.10 RELHUM = 18.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1332.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2179.1 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1707 TAPE = X1707C TEST PT NO - 1707 NO - AEO84 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 - 83F-ZER-1707 X1707F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.9	87.4	87.2	87.0	82.6	86.9	86.8	89.5	88.9	87.0	92.4	95.6	90.7	130.9
63	89.3	94.3	97.6	95.4	91.0	94.6	95.7	94.4	95.3	92.6	95.0	102.5	98.1	137.8
80	91.3	95.3	90.3	89.6	90.7	95.3	93.7	93.4	95.6	95.2	98.1	98.2	85.4	136.3
100	90.0	96.5	91.5	91.8	93.6	96.3	95.4	97.3	96.0	98.3	100.7	102.9	89.6	138.7
125	87.4	90.2	92.9	92.2	94.8	96.9	95.8	95.5	96.9	99.3	106.2	107.1	94.2	141.1
160	85.9	86.0	90.2	88.0	89.6	92.0	94.1	95.0	96.2	100.1	105.5	107.4	98.8	140.6
200	87.3	86.8	89.3	87.9	91.2	94.8	94.7	96.9	100.3	101.1	106.5	111.2	102.9	143.2
250	87.8	90.3	90.3	90.4	93.0	95.1	95.7	98.6	101.8	106.4	111.5	114.2	105.4	146.7
315	88.8	90.4	91.1	90.7	93.5	96.6	97.3	99.4	102.9	107.7	112.6	115.0	108.7	147.8
400	89.8	92.1	92.1	90.7	93.5	96.4	99.5	100.4	104.9	109.4	113.8	116.0	109.4	149.0
500	90.3	92.9	93.2	91.9	94.3	97.6	98.0	100.9	105.2	109.7	113.9	115.8	110.9	149.1
630	90.5	93.1	93.6	92.9	96.2	99.1	99.2	102.4	105.4	110.7	114.3	115.7	112.1	149.6
800	92.9	93.4	94.4	93.4	96.3	99.4	99.5	102.9	106.4	110.2	113.1	115.0	112.9	149.2
1000	95.0	95.3	95.3	94.4	97.7	100.6	101.2	104.6	107.6	109.7	112.5	114.0	112.1	148.8
1250	93.0	96.5	95.8	94.9	97.1	101.0	101.1	104.3	107.5	108.9	111.5	113.6	111.6	148.3
1600	93.4	95.1	96.0	95.6	98.3	102.0	102.3	105.1	108.5	108.8	112.2	113.1	110.0	148.5
2000	92.9	94.5	95.6	95.0	97.8	101.2	102.2	105.7	108.1	108.9	111.7	111.5	108.5	147.9
2500	92.6	94.9	95.5	94.7	98.1	101.5	101.9	105.0	106.9	108.7	109.9	108.2	107.2	146.7
3150	92.0	94.2	95.7	94.9	97.8	101.3	102.2	104.7	108.0	107.9	109.1	106.7	104.4	146.3
4000	91.1	94.0	95.7	94.5	98.7	101.6	101.3	104.6	106.3	104.8	106.7	104.5	102.1	144.8
5000	90.0	94.8	95.7	94.5	97.8	100.7	100.6	104.0	105.3	105.0	105.7	102.2	100.9	144.2
6300	90.2	94.8	95.6	94.9	98.4	101.6	101.1	103.4	104.7	103.0	104.1	100.8	99.0	143.7
8000	89.7	95.0	95.8	95.2	97.8	100.8	100.5	101.4	102.7	101.2	102.5	99.1	97.2	142.8
10000	90.8	95.8	97.6	96.6	98.1	101.4	100.4	100.9	102.2	99.7	100.9	99.0	97.5	143.1
12500	91.6	96.2	97.8	97.7	99.2	102.2	99.2	99.0	100.4	97.5	98.8	97.9	95.9	143.3
16000	91.1	95.9	97.6	98.6	98.9	101.9	99.9	98.8	99.0	95.4	96.2	94.4	92.6	144.2
20000	89.1	93.2	95.6	95.6	97.4	99.9	98.2	96.1	96.5	91.8	92.4	90.8	88.8	143.6
25000	86.1	90.1	92.6	92.8	94.5	99.1	96.7	94.0	94.1	88.7	88.4	88.1	84.7	144.0
31500	82.9	86.5	88.3	90.4	91.0	95.2	92.9	91.1	91.3	85.5	84.8	83.3	79.4	143.6
40000	78.3	82.9	84.4	85.5	86.9	91.1	89.1	87.1	87.2	81.8	81.3	79.0	75.5	143.6
50000	72.0	77.0	79.5	80.5	81.6	85.9	83.5	81.7	82.4	76.9	76.0	72.9	69.4	142.7
63000	65.4	71.0	73.7	74.0	75.7	80.5	77.6	76.0	76.7	71.1	70.6	66.9	62.6	142.3
80000	58.1	64.2	66.4	67.1	68.4	74.3	70.4	69.4	69.4	64.1	63.4	59.5	53.9	142.3
OASPL	105.3	108.4	109.3	108.7	110.9	114.1	113.9	116.2	118.7	120.5	123.8	125.3	121.2	160.7
PNL	117.1	119.7	120.7	119.9	123.0	126.1	126.4	128.9	131.6	132.4	134.6	134.6	131.4	
PNLT	117.1	120.4	120.7	119.9	123.5	126.1	126.4	128.9	131.6	132.4	135.1	134.6	131.4	
DBA	181.0	186.6	189.0	189.6	191.1	196.4	193.0	191.7	192.0	186.6	185.9	182.3	177.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH239 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.84 PAMB HG = 29.10 RELHUM = 18.7 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 = 1332.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2179.1 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1707 TAPE = X1707F TEST PT NO = 1707 NC = AE094 CORR FAN SPEED = RPM

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 - 83F-2ER-1707 X17071

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.7	67.8	69.6	69.9	73.1	76.4	76.9	78.6	81.4	85.1	88.5	88.7	79.0	163.2
63	65.7	69.5	70.6	69.8	73.1	76.1	79.1	79.6	83.3	86.8	89.7	89.6	79.7	164.3
80	66.1	70.2	71.6	71.1	73.8	77.3	77.6	80.1	83.6	87.1	89.6	89.4	81.1	164.4
100	66.3	70.4	72.0	72.0	75.7	78.7	78.7	81.5	83.7	88.0	90.0	89.2	82.2	164.9
125	68.5	70.6	72.7	72.5	75.7	79.0	79.0	82.0	84.7	87.4	88.7	88.4	82.7	164.5
160	70.4	72.3	73.5	73.3	77.0	80.0	80.5	83.5	85.7	86.7	87.9	87.0	81.5	164.2
200	68.1	73.3	73.7	73.6	76.3	80.3	80.3	83.0	85.5	85.7	86.6	86.4	80.5	163.7
250	68.2	71.6	73.7	74.1	77.3	81.0	81.2	83.6	86.2	85.4	87.0	85.4	78.3	163.8
315	67.3	70.6	73.0	73.2	76.5	80.0	80.8	84.0	85.5	85.1	86.1	83.2	75.9	163.2
400	66.5	70.7	72.5	72.6	76.4	79.9	80.2	82.9	83.9	84.5	83.8	79.3	73.7	162.0
500	65.4	69.5	72.3	72.5	75.8	79.5	80.2	82.2	84.7	83.2	82.5	77.1	69.8	161.6
630	63.9	68.9	71.9	71.7	76.4	79.5	79.0	81.8	82.6	79.7	79.5	74.1	66 4	160.1
800	62.2	69.2	71.6	71.4	75.2	78.3	78.0	80.8	81.2	79.4	77.9	71.0	64.0	159.5
1000	61.9	68.7	71.1	71.4	75.5	78.8	78.2	79.9	80.2	76.9	75.7	68.8	60.8	159.1
1250	60.7	68.4	70.9	71.3	74.5	77.8	77.3	77.6	77.8	74.7	73.5	66.2	57.3	158.1
1600	60.6	68.4	72.0	72.1	74.4	77.8	76.6	76.5	76.6	72.3	70.8	64.4	55.1	158.5
2000	59.9	67.7	71.3	72.5	74.7	77.9	74.8	73.8	73.9	69.0	67.1	61.2	49.9	158.6
2500	57.2	65.7	69.8	72.3	73.4	76.7	74.5	72.6	71.2	65.3	62.3	54.5	41.3	159.5
3150	51.2	60.0	65.3	67.2	70.0	72.8	70.8	67.7	66.2	58.6	54.5	45.3	28.5	159.0
4000	41.2	51.4	57.8	60.3	63.3	68.3	65.6	61.5	59.3	50.0	43.6	32.8	9.2	159.3
5000	27.4	39.4	46.3	51.7	54.0	58.7	55.9	52.4	49.3	38.3	29.3	13.5		159.0
6300	4.7	21.2	30.0	35.5	39.4	44.4	41.6	37.1	32.8	20.0	7.7			158.9
8000			2.9	10.4	15.0	20.5	16.9	11.6	5.8					158.0
10000														157.6
12500														157.6
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	78.4	82.6	84.6	84.8	88.1	91.5	91.5	93.7	95.7	96.8	98.4	97.6	90.2	175.6
PNL	83.2	89.7	93.1	94.4	96.8	100.3	99.1	99.4	100.7	99.8	100.1	97.5	90.3	
PNLT	83.2	89.7	93.7	94.9	97.4	100.8	99.7	100.0	101.3	99.8	100.1	97.5	90.3	
DBA	72.0	78.2	81.1	81.8	84.8	88.1	87.3	88.7	89.7	88.1	88.0	84.6	77.9	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH239 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.84 PAMB HG = 29.10 RELHUM = 18.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1332.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2179.1 FPS AE18 = 19.9 SQ IN

PT F-ZI 707 E = X T TL PT T 170 AE0 CORR FAN SPEED RPM

P1165-03

DATPROC - FLTRAN 07/07/83 18.846 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 83F-400-1708 X1708C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.6	89.2	87.4	83.0	81.8	84.4	86.8	88.0	87.2	86.2	92.9	95.1	90.5	130.5
63	89.5	94.5	95.8	91.4	89.0	92.1	96.2	95.9	92.3	92.6	95.0	99.5	97.4	136.5
80	91.0	94.1	89.8	89.9	90.7	94.8	93.0	92.4	94.1	94.2	97.0	96.7	87.9	135.4
100	89.7	95.0	89.8	89.3	91.4	94.8	93.9	95.3	93.5	94.8	97.5	101.4	90.1	136.7
125	87.1	89.7	91.4	91.0	93.3	95.4	94.3	93.7	93.7	97.0	103.2	105.3	93.2	139.0
160	84.7	83.5	87.2	84.8	87.4	89.7	93.1	90.3	92.2	97.8	103.2	105.4	96.5	138.4
200	85.3	84.8	87.3	83.9	86.7	90.3	91.5	93.6	96.3	97.6	103.8	108.7	99.4	140.4
250	83.5	86.1	86.1	85.4	88.0	91.3	91.7	94.4	96.6	101.9	107.8	110.5	100.6	142.8
315	84.3	86.4	87.1	86.2	88.8	92.4	93.8	95.4	97.4	103.5	108.8	110.3	101.7	143.4
400	85.1	86.1	87.4	85.4	88.8	92.1	95.5	96.2	98.9	105.2	109.6	110.5	100.9	144.0
500	85.6	86.9	87.9	86.2	89.5	93.1	93.0	95.9	99.1	106.0	109.8	109.0	98.9	143.8
630	85.3	87.1	88.1	87.1	90.7	94.6	95.0	97.4	99.8	106.7	109.8	107.5	95.6	143.7
800	87.3	87.1	88.7	87.7	90.8	94.6	95.5	98.2	100.9	106.2	108.4	104.0	93.2	142.6
1000	89.0	88.8	89.3	88.6	92.2	95.3	96.2	99.9	102.6	105.9	107.3	100.5	90.9	142.3
1250	87.9	90.5	90.3	89.4	92.1	95.7	96.4	100.0	102.8	105.6	105.5	97.6	89.8	141.6
1600	89.4	89.8	91.0	90.1	93.6	97.4	97.8	101.1	103.7	105.5	105.9	96.3	89.2	142.2
2000	90.1	88.9	90.6	90.0	93.8	97.2	98.1	101.5	103.1	106.1	105.1	95.4	90.2	142.1
2500	90.3	90.6	91.4	90.4	94.0	97.6	97.8	101.2	102.8	105.9	104.4	93.9	89.7	141.9
3150	91.2	90.8	91.8	91.3	94.2	98.0	99.1	101.6	103.7	104.6	103.3	94.2	88.8	141.8
4000	91.5	90.9	92.0	91.7	95.1	98.3	98.7	101.8	101.9	102.7	102.1	93.4	87.7	141.0
5000	91.8	92.7	92.8	91.6	94.9	98.1	98.5	100.3	101.1	102.8	100.0	92.8	87.5	140.6
6300	92.6	93.6	93.7	93.2	96.0	98.7	98.5	100.7	100.5	101.0	99.2	91.9	87.6	140.5
8000	94.1	93.8	94.4	93.0	95.6	98.4	98.1	99.5	99.3	99.5	97.6	91.5	88.0	140.2
10000	96.7	97.4	96.7	95.5	96.8	99.3	98.6	99.6	99.1	99.3	96.8	92.2	88.7	141.4
12500	96.9	97.5	98.1	97.7	98.2	100.9	99.0	98.0	97.9	97.8	95.5	91.7	88.4	142.5
16000	95.7	97.3	98.0	98.2	98.3	100.5	99.1	98.5	96.6	94.8	93.3	89.5	85.7	143.4
20000	92.8	94.7	95.6	95.6	96.6	99.1	98.0	96.3	94.7	92.4	90.6	87.1	83.0	143.3
25000	89.9	91.7	92.7	93.4	94.8	98.2	96.6	94.6	92.7	89.8	87.3	85.4	80.5	143.8
31500	86.5	87.7	89.2	90.8	90.9	95.1	93.5	92.0	90.2	87.0	84.0	81.4	76.5	143.9
40000	81.8	84.4	85.4	86.4	87.1	91.1	89.8	88.8	86.9	83.6	81.1	78.4	72.9	144.1
50000	75.1	78.2	79.3	81.0	82.0	86.4	84.0	83.7	82.0	79.0	76.0	72.9	67.1	143.3
63000	68.9	72.0	74.3	74.8	76.2	81.0	78.0	78.3	77.7	73.7	71.7	67.1	61.2	143.2
80000	61.1	65.2	67.2	67.1	68.9	74.8	71.7	71.4	70.2	67.0	64.9	61.5	53.3	143.2
OASPL	105.7	106.9	107.2	106.5	108.2	111.3	111.2	112.9	114.2	117.2	119.2	118.5	109.3	157.2
PNL	116.2	116.7	117.2	116.3	119.4	122.6	123.3	125.7	127.2	129.4	129.6	125.8	117.6	
PNLT	116.2	117.2	117.2	117.0	120.0	123.2	123.3	125.7	127.2	129.4	129.6	125.8	117.6	
DBA	102.6	103.0	103.4	102.6	105.6	108.9	109.3	112.1	113.7	116.4	117.2	113.5	104.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH230 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.52 PAMB HG = 29.01 RELHUM = 27.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1319.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2168.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1708 TAPE = X1708C TEST PT NO = 1708 NC = AE094 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 - 83F-400-1708 X1708F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.4	92.5	91.0	88.7	89.6	91.3	89.8	90.8	95.1	100.6	105.8	108.0	101.5	141.0
315	91.4	92.5	91.0	88.7	90.6	92.6	92.8	93.4	96.6	102.5	106.8	108.9	102.1	142.1
400	92.0	92.8	92.1	89.6	90.6	92.4	94.5	94.1	96.9	103.3	107.3	108.1	101.7	142.2
500	92.7	92.5	92.3	88.8	91.4	93.5	92.0	93.7	97.7	104.1	107.5	107.3	100.4	142.1
630	93.3	93.3	92.9	89.6	92.7	95.0	94.0	95.1	99.1	104.1	106.7	105.2	100.6	141.6
800	93.0	93.5	93.1	90.6	92.8	95.2	94.6	96.0	101.1	104.1	106.0	102.6	100.5	141.4
1000	95.0	93.6	93.7	91.3	94.4	96.0	95.4	97.7	101.3	103.8	104.1	99.5	99.0	140.8
1250	96.7	95.3	94.4	92.3	94.4	96.5	95.7	98.0	102.5	103.9	104.6	98.1	98.0	141.3
1600	95.6	97.0	95.4	93.1	96.0	98.5	97.3	99.2	102.2	104.8	104.2	97.6	99.5	141.8
2000	97.0	96.3	96.2	93.9	96.5	98.4	97.9	99.9	102.3	105.0	103.9	96.5	99.3	142.0
2500	97.7	95.5	95.9	94.0	97.0	99.2	97.9	100.0	103.8	104.3	103.4	97.4	99.1	142.1
3150	97.9	97.2	96.9	94.6	97.4	100.0	99.9	100.9	102.9	103.1	102.9	97.3	98.8	142.2
4000	98.8	97.5	97.4	95.7	99.3	100.8	100.2	101.9	102.4	103.7	101.4	97.4	99.7	142.7
5000	101.8	99.9	99.5	97.5	98.9	101.1	100.5	100.9	102.8	103.1	101.9	98.2	101.7	143.3
6300	99.3	99.4	98.6	96.5	100.0	101.7	100.8	102.0	102.5	102.7	101.5	98.8	102.6	143.5
8000	99.9	100.2	99.3	97.9	99.7	101.4	100.6	101.2	102.8	103.1	101.1	99.5	103.0	144.0
10000	101.2	100.2	99.9	97.5	100.7	102.3	101.0	101.5	99.3	98.7	96.8	95.9	99.6	143.8
12500	102.3	102.7	101.3	99.3	102.2	103.9	100.4	98.0	98.5	96.3	95.1	94.3	97.5	145.1
16000	103.2	103.1	102.8	101.4	102.3	103.5	100.5	98.5	97.0	94.2	92.8	92.2	95.2	146.7
20000	101.6	102.5	102.3	101.5	100.6	102.1	99.4	96.3	95.7	92.3	90.1	91.2	93.3	147.4
25000	98.1	99.3	99.3	98.3	99.4	101.2	98.0	94.5	93.9	90.2	87.5	88.0	90.0	147.6
31500	97.2	97.8	97.4	96.5	95.5	98.1	95.0	92.0	91.5	87.6	85.5	85.8	87.2	148.3
40000	93.0	92.9	93.0	93.0	91.7	94.1	91.3	88.7	86.9	83.5	80.8	80.7	81.9	148.2
50000	87.8	89.2	88.8	88.2	86.6	89.4	85.4	83.7	84.4	80.5	79.4	78.3	79.5	148.0
63000	80.3	82.1	81.8	81.9	80.8	84.0	79.6	78.7	77.6	73.9	72.1	71.7	70.5	147.1
80000	72.6	74.4	75.2	74.2	73.5	77.8	73.1	71.4	67.8	64.0	62.3	61.9	60.7	146.7
OASPL	112.0	111.9	111.4	109.8	111.5	113.3	111.7	112.1	114.0	115.9	117.0	115.9	113.2	158.9
PNL	122.7	121.6	121.2	119.1	121.8	123.6	122.9	124.3	126.1	127.6	127.6	123.8	124.7	
PNLT	122.7	121.6	121.2	119.1	121.8	123.6	122.9	124.3	126.1	127.6	127.6	123.8	124.7	
DBA	195.7	197.4	197.7	197.1	196.1	199.9	195.4	193.9	191.8	188.0	186.4	185.9	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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH230 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = C6 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 54.52 PAMB HG = 29.01 RELHUM = 27.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1319.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2168.9 FPS AE18 = 19.9 SQ IN

R = 400 8 X17 TES NO 708 N2094 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 - 83F-400-1708 X17081

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.3	69.9	69.5	67.9	70.2	72.3	72.4	72.6	75.1	79.9	82.7	82.6	72.5	157.4
63	67.9	70.1	70.5	68.7	70.2	72.1	74.1	73.3	75.4	80.7	83.1	81.7	72.0	157.5
80	68.5	69.8	70.8	68.0	71.0	73.2	71.6	72.9	76.2	81.5	83.3	80.9	70.5	157.4
100	69.0	70.6	71.3	68.7	72.2	74.6	73.5	74.2	77.5	81.4	82.4	78.6	70.6	157.0
125	68.6	70.7	71.4	69.7	72.3	74.7	74.0	75.0	79.4	81.3	81.6	75.9	70.3	156.7
160	70.4	70.6	71.9	70.1	73.7	75.4	74.7	76.6	79.5	80.8	79.5	72.5	68.4	156.1
200	71.8	72.1	72.4	71.0	73.6	75.8	74.8	76.7	80.4	80.7	79.8	70.9	67.0	156.6
250	70.4	73.5	73.1	71.6	75.0	77.5	76.2	77.7	79.9	81.3	79.0	69.9	67.8	157.1
315	71.4	72.5	73.6	72.2	75.1	77.2	76.6	78.1	79.7	81.1	78.3	68.3	66.8	157.3
400	71.6	71.2	72.9	71.8	75.3	77.7	76.3	77.8	80.8	80.0	77.3	68.5	65.5	157.5
500	71.2	72.5	73.5	72.1	75.4	78.2	77.9	78.5	79.5	78.5	76.3	67.6	64.2	157.6
630	71.6	72.3	73.7	72.9	77.0	78.7	77.9	79.1	78.7	78.6	74.2	67.0	64.0	158.0
800	74.0	74.3	75.4	74.3	76.3	78.6	77.8	77.8	78.7	77.5	74.2	67.1	64.8	158.6
1000	70.9	73.3	74.1	73.0	77.1	78.9	77.9	78.5	78.0	76.6	73.1	66.8	64.4	158.8
1250	70.9	73.6	74.5	74.1	76.4	78.4	77.3	77.4	78.0	76.5	72.1	66.6	63.2	159.3
1600	71.0	72.8	74.3	73.1	76.9	78.7	77.2	77.1	73.7	71.3	66.6	61.4	57.2	159.1
2000	70.6	74.1	74.8	74.1	77.8	79.7	75.9	72.8	72.0	67.8	63.4	57.6	51.5	160.4
2500	69.3	72.9	75.0	75.1	76.9	78.3	75.1	72.2	69.3	64.1	58.9	52.3	43.8	162.0
3150	63.8	69.3	72.0	73.1	73.2	75.0	72.0	67.9	65.4	59.1	52.2	45.6	33.0	162.7
4000	53.3	60.6	64.4	65.8	68.2	70.4	66.8	62.1	59.1	51.5	42.7	32.8	14.4	162.9
5000	41.7	50.7	55.4	57.7	58.5	61.6	57.9	53.2	49.6	40.5	30.0	16.0		163.6
6300	19.3	31.2	38.6	43.1	44.2	47.3	43.7	38.8	32.5	21.8	7.2			163.5
8000		1.8	12.1	18.1	20.1	23.9	18.8	13.5	7.7					163.4
10000														162.4
12500														162.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	83.3	85.0	86.0	85.0	87.9	90.0	88.7	89.2	90.7	91.9	91.6	88.1	80.3	174.2
PNL	92.0	94.9	96.6	96.3	98.6	100.5	98.2	97.1	96.8	96.1	93.7	87.3	81.6	
PNLT	93.2	96.0	97.1	96.9	99.2	101.0	98.8	97.7	96.8	96.1	94.8	87.3	81.6	
DBA	80.8	83.0	84.3	83.8	86.6	88.5	86.7	86.4	86.5	85.5	82.3	75.2	72.0	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH230	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 54.52	PAMB HG = 29.01	RELHUM = 27.3 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 = 1319.8 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2168.9 FPS	AE18 = 19.9 SQ IN

RUNPT = 83F-400-1708 TAPE = X17081 TEST PT NO = 1708 NC = AE094 CORR FAN SPEED = RPM

40.6

P1185-03

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 83F-ZER-1709 X1709C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.9	88.9	87.9	88.0	84.6	87.7	88.3	90.2	90.2	89.0	94.1	97.8	89.2	132.4
63	91.3	95.3	97.8	97.4	92.2	95.6	96.7	95.4	96.3	94.1	95.8	101.5	96.4	138.3
80	92.8	97.3	92.8	91.9	93.2	97.1	96.0	95.4	96.6	96.4	100.1	100.2	88.9	138.2
100	91.7	99.2	94.0	94.0	96.4	98.5	98.4	99.8	98.8	100.3	103.0	105.4	92.3	141.2
125	89.6	92.7	94.9	94.7	97.1	99.4	97.8	98.2	99.2	101.0	107.9	109.8	97.5	143.4
160	87.2	88.5	92.0	89.5	91.4	93.5	96.1	96.8	98.2	101.8	108.0	110.1	101.8	143.1
200	89.5	89.1	91.6	89.9	93.2	96.8	97.2	99.1	102.6	103.4	108.8	114.0	105.6	145.8
250	89.8	91.3	92.1	91.9	95.2	97.1	97.7	100.9	104.1	108.4	113.5	117.0	107.9	149.1
315	90.3	92.1	93.1	91.9	95.5	99.1	99.8	101.7	105.1	109.7	114.8	116.8	110.9	149.9
400	92.1	93.6	93.9	92.7	96.0	98.4	102.5	102.7	106.9	111.9	116.1	118.0	112.2	151.2
500	92.8	94.6	94.4	93.4	96.8	100.1	100.8	103.9	107.6	112.5	117.1	118.3	114.2	152.0
630	92.8	95.3	95.6	94.9	98.0	101.3	102.5	104.9	108.6	113.4	118.1	119.2	115.4	153.0
800	95.6	95.1	96.2	95.2	98.8	102.1	103.0	105.9	109.7	112.7	116.9	119.0	116.7	152.7
1000	97.5	98.3	98.1	96.6	100.5	103.8	104.0	107.9	110.6	113.2	117.3	118.5	115.9	152.9
1250	96.2	99.5	98.3	97.6	100.1	103.5	104.1	107.5	110.8	112.1	116.5	118.1	114.8	152.3
1600	96.1	98.0	98.0	97.6	100.8	104.7	105.8	108.1	111.7	112.3	116.9	116.6	113.2	152.1
2000	96.4	97.2	97.8	96.7	100.0	103.7	104.9	108.5	110.6	112.1	115.9	114.7	111.2	151.1
2500	94.8	98.1	98.2	96.9	100.5	104.4	104.8	108.2	110.6	112.4	114.4	111.2	110.2	150.3
3150	94.5	97.1	98.1	97.1	99.7	104.5	105.9	107.8	110.9	111.3	112.5	110.2	107.3	149.5
4000	93.8	96.7	97.8	96.7	100.3	104.0	104.9	107.5	109.7	109.4	110.6	108.1	107.2	148.3
5000	93.1	97.4	98.3	96.7	100.2	103.9	104.5	106.1	109.2	109.1	109.8	106.1	105.5	147.8
6300	93.4	97.7	98.2	96.8	100.5	103.7	104.3	106.3	107.8	106.8	108.0	105.7	104.4	147.0
8000	93.2	97.4	98.7	97.1	100.0	103.3	104.0	104.4	105.9	105.6	106.0	103.8	103.4	146.1
10000	94.6	99.3	101.1	98.9	100.9	103.4	103.4	104.0	105.2	104.8	105.0	104.3	102.8	146.5
12500	94.3	98.5	101.5	99.9	101.9	104.1	102.7	102.2	103.9	102.5	103.0	102.1	100.4	146.5
16000	92.9	98.1	100.0	100.0	101.0	103.5	102.8	101.5	102.1	99.9	100.6	99.3	97.7	146.7
20000	90.8	95.3	97.4	96.4	98.9	102.1	101.0	99.1	99.0	97.0	97.4	96.1	93.8	146.2
25000	87.9	92.3	94.4	94.5	96.4	100.5	99.4	96.4	96.4	93.7	92.9	93.0	90.3	146.2
31500	84.3	88.3	90.6	92.2	92.8	96.7	95.4	93.6	93.1	89.7	88.9	88.5	85.3	145.8
40000	79.9	85.1	87.3	88.1	88.8	92.9	92.2	89.4	88.9	86.3	85.5	84.5	81.2	146.0
50000	73.8	79.4	81.8	82.4	83.4	88.0	85.9	84.1	83.9	80.6	79.7	78.0	74.2	144.9
63000	67.8	73.2	76.2	76.2	77.8	82.9	79.9	78.5	78.7	74.5	74.4	72.0	68.1	144.7
80000	60.0	66.2	69.7	69.3	70.1	76.2	73.3	72.4	71.9	68.5	67.4	65.6	59.3	144.8
OASPL	107.9	111.0	111.7	110.6	113.2	116.5	117.0	119.0	121.7	123.6	127.4	128.4	124.6	163.8
PNL	119.7	122.4	123.1	122.0	125.0	128.7	129.7	131.8	134.6	135.7	138.5	137.9	134.7	
PNLT	119.7	123.1	123.1	122.0	125.6	129.3	129.7	131.8	134.6	135.7	138.5	137.9	134.7	
DBA	106.6	109.2	109.6	108.4	111.6	115.3	116.1	118.7	121.5	123.0	126.5	126.9	123.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH237		TEST DATE = 04-25-83		LOCAT = C41 ANECH CH		CONFIG = 17		MODEL = CO		FLTVEL = 0. FPS	
IAPLHA = SB59		IEGA = NO		PWL AREA = FULL SPHERE		TAMB F = 60.79		PAMB HG = 29.09		RELHUM = 22.4 PCT	
WIND DIR =	DEG	WIND VEL =	MPH	EXT DIST =	40.0 FT	EXT CONFIG = ARC		MIKE HT =		NBFR =	
FNINT =	LBS	XNL =	RPM	XNH =	RPM	V8 = 1508.7 FPS		AE8 = 4.0 SQ IN			
FNRAMB =	LBS	XNLR =	RPM	XNHR =	RPM	V18 = 2358.3 FPS		AE18 = 19.9 SQ IN			

PUNPT - 83F-ZER-1709 TAPE = X1709C TEST PT NO. 1709 AE09 R F SPEED RPM

P1165-03

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

IDENTIFICATION - 83F-ZER-1709 X1709F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.9	88.9	87.9	88.0	84.6	87.7	88.3	90.2	90.2	89.0	94.1	97.8	89.2	132.4
63	91.3	95.3	97.8	97.4	92.2	95.6	96.7	95.4	96.3	94.1	95.8	101.5	96.4	138.3
80	92.8	97.3	92.8	91.9	93.2	97.1	96.0	95.4	96.6	96.4	100.1	100.2	88.9	138.2
100	91.7	99.2	94.0	94.0	96.4	98.5	98.4	99.8	98.8	100.3	103.0	105.4	92.3	141.2
125	89.6	92.7	94.9	94.7	97.1	99.4	97.8	98.2	99.2	101.0	107.9	109.8	97.5	143.4
160	87.2	88.5	92.0	89.5	91.4	93.5	96.1	96.8	98.2	101.8	108.0	110.1	101.8	143.1
200	89.5	89.1	91.6	89.9	93.2	96.8	97.2	99.1	102.6	103.4	108.8	114.0	105.6	145.8
250	89.8	91.3	92.1	91.9	95.2	97.1	97.7	100.9	104.1	108.4	113.5	117.0	107.9	149.1
315	90.3	92.1	93.1	91.9	95.5	99.1	99.8	101.7	105.1	109.7	114.8	116.8	110.9	149.9
400	92.1	93.6	93.9	92.7	96.0	98.4	102.5	102.7	106.9	111.9	116.1	118.0	112.2	151.2
500	92.8	94.6	94.4	93.4	96.8	100.1	100.8	103.9	107.6	112.5	117.1	118.3	114.2	152.0
630	92.8	95.3	95.6	94.9	98.0	101.3	102.5	104.9	108.6	113.4	118.1	119.2	115.4	153.0
800	95.6	95.1	96.2	95.2	98.8	102.1	103.0	105.9	109.7	112.7	116.9	119.0	116.7	152.7
1000	97.5	98.3	98.1	96.6	100.5	103.8	104.0	107.9	110.6	113.2	117.3	118.5	115.9	152.9
1250	96.2	99.5	98.3	97.6	100.1	103.5	104.1	107.5	110.8	112.1	116.5	118.1	114.8	152.3
1600	96.1	98.0	98.0	97.6	100.8	104.7	105.8	108.1	111.7	112.3	116.9	116.6	113.2	152.1
2000	96.4	97.2	97.8	96.7	100.0	103.7	104.9	108.5	110.6	112.1	115.9	114.7	111.2	151.1
2500	94.8	98.1	98.2	96.9	100.5	104.4	104.8	108.2	110.6	112.4	114.4	111.2	110.2	150.3
3150	94.5	97.1	98.1	97.1	99.7	104.5	105.9	107.8	110.9	111.3	112.5	110.2	107.3	149.5
4000	93.8	96.7	97.8	96.7	100.3	104.0	104.9	107.5	109.7	109.4	110.6	108.1	107.2	148.3
5000	93.1	97.4	98.3	96.7	100.2	103.9	104.5	106.1	109.2	109.1	109.8	106.1	105.5	147.8
6300	93.4	97.7	98.2	96.8	100.5	103.7	104.3	106.3	107.8	106.8	108.0	105.7	104.4	147.0
8000	93.2	97.4	98.7	97.1	100.0	103.3	104.0	104.4	105.9	105.6	106.0	103.8	103.4	146.1
10000	94.6	99.3	101.1	98.9	100.9	103.4	103.4	104.0	105.2	104.8	105.0	104.3	102.8	146.5
12500	94.3	98.5	101.5	99.9	101.9	104.1	102.7	102.2	103.9	102.5	103.0	102.1	100.4	146.5
16000	92.9	98.1	100.0	100.0	101.0	103.5	102.8	101.5	102.1	99.9	100.6	99.3	97.7	146.7
20000	90.8	95.3	97.4	96.4	98.9	102.1	101.0	99.1	99.0	97.0	97.4	96.1	93.8	146.2
25000	87.9	92.3	94.4	94.5	96.4	100.5	99.4	96.4	96.4	93.7	92.9	93.0	90.3	146.2
31500	84.3	88.3	90.6	92.2	92.8	96.7	95.4	93.6	93.1	89.7	88.9	88.5	85.3	145.8
40000	79.9	85.1	87.3	88.1	88.8	92.9	92.2	89.4	88.9	86.3	85.5	84.5	81.2	146.0
50000	73.8	79.4	81.8	82.4	83.4	88.0	85.9	84.1	83.9	80.6	79.7	78.0	74.2	144.9
63000	67.8	73.2	76.2	76.2	77.8	82.9	79.9	78.5	78.7	74.5	74.4	72.0	68.1	144.7
80000	60.0	66.2	69.7	69.3	70.1	76.2	73.3	72.4	71.9	68.5	67.4	65.6	59.3	144.8
OASPL	107.9	111.0	111.7	110.6	113.2	116.5	117.0	119.0	121.7	123.6	127.4	128.4	124.6	163.8
PNL	119.7	122.4	123.1	122.0	125.0	128.7	129.7	131.8	134.6	135.7	138.5	137.9	134.7	
PNLT	119.7	123.1	123.1	122.0	125.6	129.3	129.7	131.8	134.6	135.7	138.5	137.9	134 7	
DBA	182.9	188.8	192.0	191.8	192.9	198.5	195.7	194.5	194.2	190.7	189.8	188.0	182.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH237 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.79 PAMB HG = 29.09 RELHUM = 22.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1508.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2358.3 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1709 TAPE = X1709F TEST PT NO = 1709 NC = AE094 CORR FAN SPEED = RPM

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ORIGINAL PAGE IS
OF POOR QUALITY

P1185-03

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

IDENTIFICATION - 83F-ZER-1709 X17091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.2	69.5	71.6	71.1	75.1	78.9	79.4	80.9	83.6	87.1	90.7	90.5	81.3	165.2
63	67.9	71.0	72.3	71.8	75.6	78.1	82.1	81.8	85.3	89.3	91.9	91.6	82.4	166.6
80	68.6	72.0	72.8	72.6	76.3	79.8	80.3	83.1	86.1	89.8	92.9	91.8	84.4	167.3
100	68.5	72.6	74.0	74.0	77.5	81.0	82.0	84.0	87.0	90.7	93.8	92.7	85.4	168.3
125	71.2	72.3	74.4	74.2	78.2	81.7	82.5	85.0	87.9	89.9	92.5	92.3	86.5	168.0
160	72.9	75.3	76.2	75.5	79.8	83.3	83.3	86.7	88.7	90.2	92.7	91.5	85.3	168.2
200	71.3	76.3	76.2	76.4	79.3	82.8	83.3	86.3	88.7	88.9	91.6	90.9	83.7	167.6
250	71.0	74.6	75.7	76.1	79.8	83.8	84.7	86.6	89.4	88.8	91.7	88.9	81.5	167.5
315	70.7	73.3	75.2	74.9	78.7	82.5	83.6	86.7	88.0	88.3	90.3	86.4	78.7	166.5
400	68.6	73.9	75.2	74.8	78.9	82.9	83.2	86.1	87.6	88.1	88.2	82.2	76.6	165.6
500	67.8	72.4	74.7	74.6	77.7	82.7	83.9	85.4	87.6	86.6	85.9	80.5	72.7	164.8
630	66.6	71.5	74.1	73.9	78.0	81.9	82.6	84.7	86.0	84.3	83.4	77.8	71.5	163.7
800	65.3	71.9	74.2	73.5	77.5	81.4	81.9	83.0	85.0	83.5	82.1	74.9	68.6	163.1
1000	65.0	71.6	73.7	73.3	77.6	81.0	81.4	82.8	83.3	80.8	79.6	73.7	66.2	162.3
1250	64.1	70.9	73.8	73.3	76.7	80.2	80.7	80.5	81.0	79.1	76.9	70.9	63.6	161.5
1600	64.4	71.9	75.5	74.4	77.2	79.9	79.7	79.5	79.6	77.4	74.8	69.7	60.4	161.9
2000	62.6	69.9	75.0	74.7	77.4	79.9	78.2	77.0	77.4	74.0	71.3	65.4	54.4	161.8
2500	59.0	67.9	72.2	73.7	75.6	78.3	77.4	75.2	74.4	69.7	66.7	59.3	46.4	162.1
3150	53.0	62.1	67.1	67.9	71.5	75.0	73.6	70.7	68.8	63.8	59.6	50.5	33.5	161.5
4000	43.1	53.6	59.5	62.0	65.2	69.7	68.2	63.9	61.5	55.0	48.0	37.7	14.8	161.5
5000	28.9	41.2	48.7	53.4	55.8	60.2	58.4	54.9	51.2	42.5	33.4	18.8		161.1
6300	6.2	23.4	32.9	38.1	41.3	46.2	44.7	39.5	34.5	24.6	11.8			161.3
8000			5.1	12.3	16.9	22.6	19.3	14.0	7.2					160.2
10000														160.0
12500														160.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	81.1	85.2	87.1	86.9	90.4	94.0	94.7	96.6	98.7	99.8	102.1	100.8	93.5	178.8
PNL	86.0	92.3	95.9	96.2	99.1	102.4	102.2	102.4	103.8	103.5	104.4	101.5	93.9	
PNLT	86.0	92.3	96.5	96.8	99.6	103.0	102.9	103.0	104.4	103.5	104.4	101.5	93.9	
DBA	75.0	81.0	84.0	83.8	87.1	90.5	90.6	91.6	92.9	91.9	92.1	88.3	81.4	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH237	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 60.79	PAMB HG = 29.09	RELHUM = 22.4 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 = 1508.7 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2358.3 FPS	AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1709 TAPE = X17091 TEST PT NO = 1709 NO AE09 SQ.R FAN SPEED RPM

P1165-03

DATPROC - FLTRAN

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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 83F-400-1710 X1710C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	90.9	90.4	87.4	84.7	83.6	86.7	87.6	89.7	89.4	89.2	95.1	96.1	94.0	132.3
63	91.3	95.5	98.6	93.9	91.5	93.3	95.2	94.6	93.8	96.9	96.3	98.5	96.9	137.4
80	93.8	97.3	92.3	92.6	93.5	96.8	95.5	94.9	96.8	95.7	98.8	99.5	90.9	137.9
100	92.5	97.5	92.8	91.5	94.1	97.5	96.9	98.3	96.5	97.6	99.7	104.1	92.8	139.4
125	89.9	91.9	93.9	93.0	95.6	97.4	96.6	96.5	96.2	98.0	105.2	108.3	96.5	141.4
160	87.7	85.0	89.2	87.3	89.9	92.7	94.4	93.5	94.0	99.6	105.9	108.6	99.5	141.2
200	87.3	86.8	88.8	86.4	89.7	93.3	93.5	96.1	98.6	99.4	105.8	111.5	102.1	142.9
250	85.5	88.3	88.6	88.1	90.5	93.6	94.5	96.9	98.8	104.9	111.0	114.0	104.1	146.1
315	86.3	88.1	88.1	88.2	90.8	93.9	95.3	97.4	99.4	106.0	112.1	113.8	105.9	146.6
400	87.6	88.6	89.6	87.7	91.0	93.9	97.3	98.2	101.9	108.2	113.1	114.5	104.9	147.6
500	88.3	89.9	90.6	88.9	91.8	95.4	95.5	98.7	102.1	109.0	113.6	113.5	102.9	147.5
630	87.5	88.8	90.6	89.6	93.2	96.3	96.5	99.9	102.6	109.9	114.1	113.0	100.6	147.8
800	89.3	88.9	90.7	89.9	93.8	96.9	97.5	100.9	103.9	109.7	112.9	110.0	98.2	146.7
1000	91.5	91.3	92.1	91.4	95.2	98.3	99.0	101.9	105.1	109.7	111.5	106.7	95.9	146.0
1250	90.7	92.7	92.5	92.1	94.6	98.5	98.6	102.5	105.5	109.6	110.5	103.6	94.8	145.5
1600	91.4	91.8	92.9	92.6	96.3	99.9	100.5	103.1	106.2	109.5	110.9	102.6	94.0	145.9
2000	91.8	91.2	92.6	92.7	96.0	99.4	100.9	104.2	106.6	109.9	109.1	100.9	93.7	145.6
2500	91.8	92.6	93.4	92.1	96.8	99.4	100.6	103.9	105.6	109.4	108.4	99.2	94.4	145.1
3150	93.2	92.3	93.6	93.1	96.4	100.0	101.4	104.3	106.4	108.3	107.0	99.2	93.5	144.9
4000	93.8	92.6	94.3	93.1	96.8	100.0	100.7	103.5	104.9	106.2	105.6	98.4	93.2	143.7
5000	94.6	94.4	95.0	93.4	96.9	99.9	101.0	103.3	104.4	106.6	104.5	97.0	92.5	143.7
6300	95.9	95.4	96.2	94.7	98.0	100.2	100.7	103.5	104.0	104.5	103.9	96.9	91.1	143.5
8000	97.1	97.1	96.9	95.0	97.9	100.0	100.2	101.5	101.9	103.1	102.1	95.8	91.1	142.8
10000	99.8	100.0	100.3	98.0	99.1	100.9	100.4	101.6	102.1	101.9	100.6	96.0	91.5	144.0
12500	97.7	98.3	100.2	99.0	100.5	101.8	100.1	100.3	101.0	100.6	99.4	96.0	91.3	144.4
16000	95.3	97.4	98.1	98.9	100.4	102.1	100.4	100.1	99.8	97.8	98.0	94.4	89.3	145.0
20000	93.2	95.1	95.7	96.2	98.0	100.8	99.6	98.0	97.6	95.6	95.1	92.0	86.2	144.9
25000	90.8	92.4	94.2	94.1	96.0	99.3	98.0	96.0	95.5	92.6	91.2	89.3	84.2	145.3
31500	87.2	88.9	90.0	92.0	92.6	96.3	95.2	93.5	92.7	89.0	87.7	84.9	79.9	145.4
40000	83.2	85.4	86.7	87.9	88.9	92.8	91.3	90.0	89.2	85.9	84.3	81.6	75.8	145.8
50000	77.4	79.5	81.1	82.2	83.8	88.4	85.5	84.9	84.2	80.6	79.1	75.9	69.9	145.0
63000	70.4	73.1	75.3	76.1	77.9	82.5	79.5	79.1	79.5	75.1	73.9	70.1	63.7	144.6
80000	62.3	66.3	68.6	68.9	70.4	76.3	72.9	73.0	72.5	68.8	67.0	63.7	55.6	144.8
OASPL	107.7	108.7	109.2	108.2	110.5	113.1	113.2	115.2	117.0	120.6	123.0	122.5	113.1	160.0
PNL	118.6	118.7	119.4	118.3	121.5	124.5	125.5	128.1	130.0	132.8	133.5	130.1	121.6	
PNLT	118.6	118.7	119.4	118.9	122.1	124.5	125.5	128.1	130.0	132.8	133.5	130.1	121.6	
DBA	105.1	105.1	105.9	104.7	107.9	110.9	111.7	114.5	116.6	120.1	121.4	118.3	108.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH231 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 56.94 PAMB HG = 28.95 RELHUM = 25.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1523.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2345.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1710 TAPE = X1710C TEST PT NO = 1710 NC = AE094 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1710 X1710F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	93.4	94.8	93.5	91.4	92.1	93.6	92.6	93.3	97.3	103.4	109.3	111.7	105.8	144.4
315	93.4	94.8	93.5	91.4	92.6	94.1	94.4	95.6	99.8	105.7	110.5	113.0	106.2	145.8
400	94.0	94.5	93.1	91.6	92.8	94.1	96.3	96.2	100.1	106.5	111.2	112.7	105.8	146.0
500	95.0	94.8	94.5	91.0	93.7	95.7	94.6	96.6	100.7	107.7	112.1	113.2	105.6	146.7
630	96.0	96.3	95.6	92.4	95.2	96.7	95.6	97.8	102.4	107.9	111.6	111.6	106.0	146.3
800	95.2	95.3	95.6	93.1	95.8	97.4	96.7	98.9	103.9	108.2	110.8	109.4	106.1	145.7
1000	97.0	95.3	95.7	93.5	97.4	99.0	98.2	99.8	104.3	108.0	109.5	106.1	104.8	145.0
1250	99.2	97.8	97.2	95.0	96.9	99.3	98.0	100.6	105.1	108.1	109.9	104.9	103.8	145.3
1600	98.4	99.2	97.7	95.9	99.3	101.0	100.1	101.3	105.7	108.6	108.3	103.3	103.3	145.3
2000	101.8	100.6	99.9	97.6	98.7	100.7	100.7	102.6	105.2	108.7	108.2	102.4	105.2	145.6
2500	99.5	97.7	97.9	96.7	99.7	101.0	100.7	102.8	106.6	108.1	107.4	102.9	104.8	145.4
3150	99.4	99.2	98.9	96.3	99.7	102.0	102.0	103.6	106.2	107.1	107.1	103.3	105.7	145.5
4000	100.8	99.0	99.2	97.5	100.5	102.6	102.3	103.9	105.7	107.5	106.1	102.0	105.1	145.6
5000	101.3	99.4	100.0	97.8	100.9	102.9	103.0	103.9	105.7	105.9	105.9	102.3	104.2	145.6
6300	102.0	101.1	100.9	98.2	102.0	103.2	102.9	104.3	104.3	105.3	105.1	102.2	104.9	145.8
8000	103.2	101.9	101.9	99.4	101.9	103.0	102.5	102.8	105.6	105.3	104.7	103.3	106.0	146.4
10000	103.6	103.1	102.2	99.4	102.8	103.9	102.8	103.4	104.7	104.1	103.1	102.6	104.7	146.8
12500	104.3	104.4	104.2	101.5	104.6	104.8	102.4	102.0	102.5	100.2	100.8	100.1	101.9	147.5
16000	104.0	103.9	104.9	102.7	104.4	105.1	102.1	100.5	100.2	97.8	97.7	97.5	98.7	148.5
20000	101.2	102.6	102.4	102.2	102.1	103.8	101.1	98.1	98.4	95.0	94.0	95.1	97.0	148.5
25000	98.5	99.7	99.4	99.0	100.6	102.3	99.4	96.0	96.4	92.2	91.3	91.5	93.4	148.6
31500	98.1	98.5	98.8	97.2	97.2	99.3	96.7	93.5	93.8	89.9	88.7	89.0	90.2	149.6
40000	93.7	94.2	93.7	94.3	93.5	95.8	92.7	90.0	89.2	85.1	83.9	83.7	84.6	149.6
50000	89.3	90.3	90.1	89.7	88.4	91.4	86.9	84.9	86.2	81.8	81.6	81.0	81.6	149.6
63000	82.5	83.4	83.6	83.1	82.5	85.5	81.2	79.5	80.7	77.1	76.2	76.4	75.3	148.8
80000	74.1	75.5	76.3	75.5	75.0	79.3	74.5	73.4	70.9	67.3	66.4	66.6	65.5	148.3
OASPL	113.8	113.4	113.3	111.3	113.5	114.9	113.8	114.5	117.0	119.5	121.4	120.9	117.8	161.2
PNL	124.1	123.0	122.8	120.8	123.6	125.4	125.1	126.6	129.2	131.3	131.9	129.2	129.5	
PNLT	124.1	123.0	122.8	120.8	123.6	125.4	125.1	126.6	129.2	131.3	131.9	129.2	129.5	
DBA	197.4	198.5	198.9	198.3	197.8	201.4	196.9	195.4	194.7	190.9	190.1	190.2	189.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH231	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 56.94	PAMB HG = 28.95	RELHUM = 25.7 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT.	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1523.5 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2345.7 FPS	AE18 = 19.9 SQ IN

T = -40 TO [illegible] = X1710F TEST T NO 1710 AE09 CORR FAN SPEED = RPM

P1185-08

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

IDENTIFICATION - 83F-400-1710 X17101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.3	72.2	72.0	70.6	72.2	73.8	74.0	74.8	78.3	83.1	86.4	86.7	76.5	161.1
63	69.9	71.9	71.5	70.7	72.4	73.8	75.9	75.4	78.6	83.9	87.1	86.4	76.1	161.3
80	70.8	72.2	72.9	70.2	73.2	75.4	74.1	75.8	79.2	85.0	87.9	86.7	75.8	162.0
100	71.7	73.6	74.0	71.5	74.7	76.4	75.1	76.9	80.8	85.2	87.3	85.1	76.0	161.6
125	70.8	72.4	73.9	72.2	75.3	77.0	76.1	77.9	82.2	85.4	86.4	82.8	75.9	161.1
160	72.4	72.3	73.9	72.4	76.7	78.4	77.5	78.7	82.4	85.1	84.9	79.1	74.2	160.3
200	74.3	74.6	75.1	73.7	76.1	78.6	77.1	79.3	83.1	84.9	85.1	77.6	72.7	160.6
250	73.2	75.8	75.4	74.4	78.3	80.0	79.0	79.8	83.4	85.2	83.1	75.6	71.6	160.6
315	76.2	76.8	77.3	75.8	77.4	79.5	79.3	80.8	82.6	84.9	82.6	74.1	72.6	161.0
400	73.4	73.5	74.9	74.6	78.0	79.5	79.1	80.7	83.6	83.9	81.3	74.0	71.3	160.7
500	72.7	74.5	75.5	73.8	77.7	80.2	80.0	81.2	82.8	82.4	80.5	73.7	71.1	160.8
630	73.6	73.8	75.4	74.7	78.2	80.5	80.0	81.0	82.0	82.4	78.9	71.6	69.4	160.9
800	73.5	73.8	75.9	74.7	78.3	80.4	80.4	80.8	81.6	80.3	78.1	71.1	67.3	160.9
1000	73.7	75.1	76.4	74.7	79.1	80.5	80.0	80.8	79.8	79.3	76.7	70.2	66 7	161.1
1250	74.1	75.4	77.0	75.6	78.6	79.9	79.2	79.0	80.7	78.8	75.7	70.4	66.1	161.7
1600	73.4	75.7	76.6	75.0	79.0	80.3	79.0	79.0	79.1	76.7	73.0	68.0	62.2	162.2
2000	72.7	75.8	77.7	76.3	80.1	80.5	77.9	76.8	76.0	71.7	69.1	63.4	55.9	162.9
2500	70.2	73.8	77.1	76.5	79.0	79.9	76.6	74.3	72.5	67.7	63.8	57.6	47.3	163.8
3150	63.4	69.4	72.1	73.7	74.6	76.7	73.7	69.7	68.1	61.8	56.2	49.6	36.6	163.8
4000	53.7	61.0	64.6	66.5	69.4	71.6	68.2	63.5	61.6	53.5	46.4	36.2	17.9	163.9
5000	42.6	51.4	56.9	58.4	60.2	62.8	59.6	54.7	51.8	42.8	33.2	19.3		164.9
6300	20.0	32.4	39.3	44.3	46.0	49.1	45.2	40.1	34.8	23.3	10.2			164.9
8000		2.8	13.4	19.6	21.8	25.9	20.3	14.8	9.5					164.9
10000														164.1
12500														163.6
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.5	86.9	88.2	86.9	90.2	91.8	90.9	91.6	93.7	95.6	96.1	93.4	85.2	176.5
PNL	93.7	96.3	98.6	97.9	100.8	102.2	100.1	99.4	100.3	99.9	98.4	93.4	86.9	
PNLT	95.0	97.4	99.7	98.5	101.3	102.7	100.7	100.0	100.3	99.9	99.5	93.4	86.9	
DBA	82.7	84.6	86.4	85.4	88.7	90.0	88.7	88.8	89.6	89.0	86.7	80.3	76.4	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH231 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 56.94 PAMB HG = 28.95 RELHUM = 25.7 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 = 1523.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2345.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1710 TAPE = X17101 TEST PT NO = 1710 NC = AE094 CORR FAN SPEED = RPM

P1182-03

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 83F-ZER-1711 X1711C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.6	89.7	88.4	88.0	87.8	89.2	89.6	93.7	92.4	91.2	98.4	98.1	90.7	134.4
63	94.3	94.8	97.3	95.6	95.5	98.1	95.5	98.6	98.3	95.4	102.8	100.2	95.9	139.7
80	95.8	100.1	95.1	94.6	96.0	100.3	98.7	97.6	99.3	99.2	102.8	103.0	90.4	140.9
100	94.5	101.2	96.5	96.3	98.1	100.8	100.4	102.0	100.3	102.8	105.2	107.9	94.6	143.4
125	91.9	95.2	97.7	97.2	99.6	101.9	100.6	100.7	101.4	103.5	109.9	112.3	99.2	145.8
160	89.4	91.0	92.2	91.5	93.1	96.2	99.1	99.5	101.5	105.1	110.7	113.1	104.8	146.0
200	92.0	90.8	93.6	91.4	95.0	99.1	100.2	101.9	104.8	106.1	111.8	116.5	107.9	148.4
250	91.3	93.8	94.1	93.9	96.7	99.6	100.0	103.1	106.6	111.4	116.5	119.5	110.9	151.8
315	92.3	93.6	93.6	93.9	97.0	100.4	101.3	103.9	107.6	113.0	118.1	119.8	113.7	152.9
400	94.3	95.6	96.6	94.4	97.0	100.1	104.3	104.7	109.4	115.2	119.8	121.3	115.2	154.5
500	95.3	96.6	97.1	95.2	98.3	101.9	102.0	105.7	110.1	116.0	121.4	121.8	116.9	155.5
630	95.8	97.6	97.3	96.6	99.2	103.1	103.7	106.6	110.8	117.2	122.6	122.7	117.9	156.6
800	98.6	97.9	98.7	96.9	99.8	103.9	104.3	108.2	112.4	117.0	122.6	122.5	118.4	156.7
1000	100.5	101.1	100.1	99.4	103.0	104.8	105.7	109.4	113.3	116.9	122.8	122.0	117.4	156.7
1250	100.4	103.2	101.5	100.6	102.9	105.5	105.9	109.5	114.3	117.1	122.0	120.9	116.0	156.2
1600	101.4	102.8	101.2	100.6	103.3	106.7	106.8	109.8	114.2	116.5	122.1	119.1	114.0	155.8
2000	103.1	102.7	102.3	100.5	102.3	105.9	106.9	110.7	113.8	117.4	120.6	117.2	112.7	155.0
2500	101.0	103.1	102.9	101.4	103.8	106.1	106.8	110.2	113.6	117.6	119.1	114.9	112.2	154.2
3150	100.5	101.6	102.3	101.3	103.4	106.7	107.9	109.8	114.4	116.1	117.5	113.4	110.3	153.4
4000	99.5	101.9	102.3	100.2	103.8	106.8	107.4	110.0	112.7	114.2	116.8	112.4	109.4	152.4
5000	99.3	101.9	102.3	100.9	102.9	106.9	107.3	109.3	111.6	113.8	114.8	111.0	108.5	151.6
6300	99.4	101.6	102.9	101.5	103.5	106.7	107.0	109.5	111.3	112.0	113.7	111.1	107.3	151.2
8000	98.4	101.4	102.9	102.1	103.4	105.7	106.4	107.6	109.1	110.6	112.4	108.5	107.1	150.2
10000	98.3	101.8	104.3	103.8	104.4	106.4	106.6	107.4	109.2	109.5	110.4	108.2	106.8	150.5
12500	97.5	99.4	102.2	102.6	104.6	106.6	105.4	105.1	107.3	107.7	109.2	106.8	104.8	149.9
16000	95.4	98.7	100.7	101.4	102.7	105.4	104.5	104.2	105.6	104.8	106.6	104.5	101.9	149.5
20000	93.5	96.2	98.6	99.3	100.3	103.6	102.9	101.3	102.7	102.9	103.4	100.8	98.5	148.9
25000	90.4	93.8	96.1	96.4	98.1	101.9	100.8	98.8	99.8	99.4	98.3	98.4	94.1	148.6
31500	86.3	90.5	92.1	93.9	94.2	98.1	97.3	95.8	96.3	95.4	95.3	93.5	89.8	148.2
40000	82.6	87.0	89.0	89.5	90.5	94.4	93.4	91.9	92.8	91.8	91.9	90.5	84.9	148.4
50000	76.5	81.1	83.2	84.6	84.4	89.7	87.1	85.5	87.4	87.0	86.7	84.0	78.7	147.3
63000	70.3	74.9	77.7	78.4	79.3	83.9	80.9	80.4	82.6	81.5	81.6	78.7	73.1	147.1
80000	62.2	68.9	71.7	71.2	73.0	77.9	74.8	74.6	75.9	75.7	74.8	71.3	66.0	147.7
OASPL	112.2	114.2	114.5	113.7	115.8	118.7	119.0	121.3	124.7	127.9	132.2	131.6	126.7	167.4
PNL	124.8	126.5	126.7	125.6	127.9	131.0	131.8	134.1	137.7	140.4	143.2	141.0	136.9	
PNLT	124.8	127.1	127.3	126.2	128.6	131.5	131.8	134.1	137.7	140.4	143.2	141.0	136.9	
DBA	111.8	113.3	113.4	112.2	114.5	117.5	118.1	120.9	124.5	127.6	131.6	130.1	125.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH235 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.46 PAMB HG = 29.05 RELHUM = 24.6 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1529.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2481.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1711 TAPE = X1711C TEST PT NO = 1711 NC = AE09 CORR FAN SPEED RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1711 X1711F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.6	89.7	88.4	88.0	87.8	89.2	89.6	93.7	92.4	91.2	98.4	98.1	90.7	134.4
63	94.3	94.8	97.3	95.6	95.5	98.1	95.5	98.6	98.3	95.4	102.8	100.2	95.9	139.7
80	95.8	100.1	95.1	94.6	96.0	100.3	98.7	97.6	99.3	99.2	102.8	103.0	90.4	140.9
100	94.5	101.2	96.5	96.3	98.1	100.8	100.4	102.0	100.3	102.8	105.2	107.9	94.6	143.4
125	91.9	95.2	97.7	97.2	99.6	101.9	100.6	100.7	101.4	103.5	109.9	112.3	99.2	145.8
160	89.4	91.0	92.2	91.5	93.1	96.2	99.1	99.5	101.5	105.1	110.7	113.1	104.8	146.0
200	92.0	90.8	93.6	91.4	95.0	99.1	100.2	101.9	104.8	106.1	111.8	116.5	107.9	148.4
250	91.3	93.8	94.1	93.9	96.7	99.6	100.0	103.1	106.6	111.4	116.5	119.5	110.9	151.8
315	92.3	93.6	93.6	93.9	97.0	100.4	101.3	103.9	107.6	113.0	118.1	119.8	113.7	152.9
400	94.3	95.6	96.6	94.4	97.0	100.1	104.3	104.7	109.4	115.2	119.8	121.3	115.2	154.5
500	95.3	96.6	97.1	95.2	98.3	101.9	102.0	105.7	110.1	116.0	121.4	121.8	116.9	155.5
630	95.8	97.6	97.3	96.6	99.2	103.1	103.7	106.6	110.8	117.2	122.6	122.7	117.9	156.6
800	98.6	97.9	98.7	96.9	99.8	103.9	104.3	108.2	112.4	117.0	122.6	122.5	118.4	156.7
1000	100.5	101.1	100.1	99.4	103.0	104.8	105.7	109.4	113.3	116.9	122.8	122.0	117.4	156.7
1250	100.4	103.2	101.5	100.6	102.9	105.5	105.9	109.5	114.3	117.1	122.0	120.9	116.0	156.2
1600	101.4	102.8	101.2	100.6	103.3	106.7	106.8	109.8	114.2	116.5	122.1	119.1	114.0	155.8
2000	103.1	102.7	102.3	100.5	102.3	105.9	106.9	110.7	113.8	117.4	120.6	117.2	112.7	155.0
2500	101.0	103.1	102.9	101.4	103.8	106.1	106.8	110.2	113.6	117.6	119.1	114.9	112.2	154.2
3150	100.5	101.6	102.3	101.3	103.4	106.7	107.9	109.8	114.4	116.1	117.5	113.4	110.3	153.4
4000	99.5	101.9	102.3	100.2	103.8	106.8	107.4	110.0	112.7	114.2	116.8	112.4	109.4	152.4
5000	99.3	101.9	102.3	100.9	102.9	106.9	107.3	109.3	111.6	113.8	114.8	111.0	108.5	151.6
6300	99.4	101.6	102.9	101.5	103.5	106.7	107.0	109.5	111.3	112.0	113.7	111.1	107.3	151.2
8000	98.4	101.4	102.9	102.1	103.4	105.7	106.4	107.6	109.1	110.6	112.4	108.5	107.1	150.2
10000	98.3	101.8	104.3	103.8	104.4	106.4	106.6	107.4	109.2	109.5	110.4	108.2	106.8	150.5
12500	97.5	99.4	102.2	102.6	104.6	106.6	105.4	105.1	107.3	107.7	109.2	106.8	104.8	149.9
16000	95.4	98.7	100.7	101.4	102.7	105.4	104.5	104.2	105.6	104.8	106.6	104.5	101.9	149.5
20000	93.5	96.2	98.6	99.3	100.3	103.6	102.9	101.3	102.7	102.9	103.4	100.8	98.5	148.9
25000	90.4	93.8	96.1	96.4	98.1	101.9	100.8	98.8	99.8	99.4	98.3	98.4	94.1	148.6
31500	86.3	90.5	92.1	93.9	94.2	98.1	97.3	95.8	96.3	95.4	95.3	93.5	89.8	148.2
40000	82.6	87.0	89.0	89.5	90.5	94.4	93.4	91.9	92.8	91.8	91.9	90.5	84.9	148.4
50000	76.5	81.1	83.2	84.6	84.4	89.7	87.1	85.5	87.4	87.0	86.7	84.0	78.7	147.3
63000	70.3	74.9	77.7	78.4	79.3	83.9	80.9	80.4	82.6	81.5	81.6	78.7	73.1	147.1
80000	62.2	68.9	71.7	71.2	73.0	77.9	74.8	74.6	75.9	75.7	74.8	71.3	66.0	147.7
OASPL	112.2	114.2	114.5	113.7	115.8	118.7	119.0	121.3	124.7	127.9	132.2	131.6	126.7	167.4
PNL	124.8	126.5	126.7	125.6	127.9	131.0	131.8	134.1	137.7	140.4	143.2	141.0	136.9	
PNLT	124.8	127.1	127.3	126.2	128.6	131.5	131.8	134.1	137.7	140.4	143.2	141.0	136.9	
DBA	185.3	191.1	193.7	193.8	195.2	200.0	197.0	196.6	198.1	197.6	197.1	194.0	188.6	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH235 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = C0 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.46 PAMB HG = 29.05 RELHUM = 24.6 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 = 1529.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2481.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1711 TAPE = X1711F TEST PT NO = 1711 NC = AE094 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1711 X17111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.2	71.0	72.1	73.1	76.6	80.1	80.9	83.1	86.1	90.4	94.0	93.5	84.0	168.2
63	70.2	73.0	75.1	73.6	76.6	79.8	83.8	83.8	87.8	92.6	95.7	94.9	85.4	169.8
80	71.1	74.0	75.6	74.3	77.8	81.6	81.6	84.8	88.6	93.3	97.1	95.3	87.1	170.9
100	71.5	74.9	75.7	75.7	78.7	82.7	83.2	85.7	89.2	94.4	98.3	96.2	87.9	171.9
125	74.2	75.1	76.9	76.0	79.2	83.5	83.7	87.2	90.7	94.2	98.2	95.8	88.2	172.0
160	75.9	78.1	78.2	78.2	82.3	84.3	85.0	88.2	91.5	93.9	98.2	95.0	86.8	172.0
200	75.6	80.0	79.5	79.4	82.0	84.8	85.0	88.3	92.2	93.9	97.1	93.6	85.0	171.5
250	76.2	79.3	78.9	79.1	82.3	85.8	85.7	88.3	91.9	93.1	97.0	91.4	82.3	171.1
315	77.5	78.8	79.7	78.7	81.0	84.7	85.6	88.9	91.2	93.5	95.0	88.9	80.2	170.3
400	74.9	78.8	79.9	79.3	82.1	84.6	85.2	88.1	90.6	93.4	93.0	86.0	78.6	169.6
500	73.8	76.9	79.0	78.9	81.4	84.9	85.9	87.4	91.1	91.4	90.9	83.8	75.7	168.7
630	72.3	76.8	78.5	77.3	81.5	84.6	85.1	87.2	88.9	89.0	89.6	82.0	73.8	167.8
800	71.5	76.3	78.2	77.7	80.3	84.4	84.6	86.2	87.5	88.2	87.0	79.9	71.6	166.9
1000	71.0	75.6	78.4	78.0	80.6	84.0	84.1	86.0	86.8	86.0	85.3	79.2	69.1	166.5
1250	69.3	74.8	78.0	78.2	80.2	82.7	83.2	83.7	84.2	84.0	83.4	75.6	67.3	165.6
1600	68.1	74.4	78.7	79.4	80.6	82.8	82.9	83.0	83.6	82.0	80.3	73.7	64.3	165.8
2000	65.8	70.9	75.7	77.4	80.1	82.3	80.9	79.9	80.8	79.2	77.5	70.1	58.8	165.3
2500	61.5	68.6	72.9	75.1	77.3	80.2	79.1	77.9	77.8	74.7	72.7	64.5	50.6	164.9
3150	55.7	63.0	68.3	70.9	72.9	76.5	75.5	72.9	72.5	69.7	65.6	55.2	38.2	164.2
4000	45.5	55.1	61.2	64.0	66.9	71.2	69.6	66.4	64.9	60.7	53.5	43.2	18.5	163.9
5000	30.8	43.4	50.1	55.1	57.2	61.7	60.3	57.1	54.4	48.2	39.8	23.7		163.5
6300	8.9	25.3	34.6	39.6	43.0	47.7	45.9	41.9	38.4	30.0	18.3			163.8
8000			6.5	14.5	17.8	24.3	20.5	15.4	10.7					162.7
10000														162.4
12500														163.0
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.6	88.9	90.4	90.2	93.0	96.1	96.6	98.8	101.7	104.1	107.0	104.0	95.6	182.4
PNL	90.9	95.3	98.4	98.9	101.6	104.5	104.2	104.9	107.0	108.4	109.6	104.8	96.0	
PNLT	90.9	95.3	99.1	99.4	102.2	105.0	104.8	105.6	107.7	108.4	109.6	104.8	96.0	
DBA	80.3	84.6	87.3	87.6	90.0	92.9	93.0	94.3	96.1	96.7	97.4	91.7	83.2	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH235	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 58.46	PAMB HG = 29.05	RELHUM = 24.6 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1529.8 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2481.9 FPS	AE18 = 19.9 SQ IN

IPT -Z 711 E = X T PT 17 AEO RR 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 83F-400-1712 X1712C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	93.6	92.4	89.9	88.7	86.1	88.7	91.1	93.0	92.9	91.5	98.6	97.1	91.0	134.7
63	94.3	96.0	98.1	96.9	93.2	96.1	97.2	95.9	96.1	92.4	103.0	99.7	95.9	139.2
80	95.8	99.8	94.6	95.1	96.5	99.1	97.7	97.4	99.6	97.4	101.3	101.7	89.4	140.2
100	95.0	100.2	95.5	94.8	97.6	100.0	99.9	100.8	100.0	100.1	102.2	106.9	95.3	142.2
125	92.4	94.9	96.4	96.2	99.1	100.9	100.1	100.2	99.9	101.3	107.9	111.6	99.7	144.6
160	90.9	87.2	91.5	90.0	91.9	95.0	96.9	96.0	97.5	102.6	108.7	111.1	103.0	143.8
200	90.5	89.3	90.8	88.6	92.2	95.3	96.2	98.1	102.1	102.4	109.0	114.7	106.1	146.1
250	88.0	91.1	90.8	90.6	92.7	95.8	96.5	99.4	102.8	107.2	114.0	117.2	108.6	149.2
315	89.3	90.4	90.9	90.4	93.0	95.9	97.5	99.4	103.1	109.2	115.6	117.5	110.2	150.1
400	90.8	91.4	92.1	89.9	93.0	95.6	99.3	100.4	105.4	111.4	117.3	118.5	109.7	151.5
500	91.6	92.6	93.4	91.7	94.3	96.9	97.5	101.4	105.9	112.7	118.6	118.3	108.7	152.1
630	91.8	92.8	93.6	92.4	94.7	98.6	99.7	102.6	107.1	113.9	119.6	117.7	106.4	152.6
800	92.8	92.4	93.7	92.7	96.3	99.2	100.0	103.4	107.9	113.5	119.1	116.0	104.2	152.0
1000	95.0	95.3	95.6	94.1	97.5	100.1	101.2	105.6	109.6	114.2	119.0	113.5	102.1	151.9
1250	95.7	97.8	96.8	95.9	97.9	100.8	101.9	105.6	110.3	114.3	118.5	111.6	101.6	151.6
1600	99.4	99.6	98.0	96.9	98.8	102.2	103.5	106.6	110.7	113.8	119.2	109.8	100.7	151.9
2000	98.6	98.7	99.9	98.5	98.8	102.2	103.7	107.2	111.1	114.4	117.7	108.2	100.7	151.4
2500	98.3	98.9	99.0	97.9	101.6	103.2	103.6	107.5	110.4	114.9	116.4	106.7	101.2	151.0
3150	98.0	98.1	99.4	97.7	99.5	104.0	104.7	107.7	111.5	113.9	114.6	105.5	98.9	150.3
4000	98.4	98.8	99.4	97.5	99.9	103.1	104.3	107.6	110.3	111.8	113.2	105.2	98.5	149.2
5000	99.4	99.8	100.2	98.0	100.0	103.5	103.9	107.5	109.8	111.7	111.7	103.4	97.6	148.8
6300	100.2	101.7	101.3	99.3	101.1	103.3	104.4	107.6	109.4	109.7	110.1	102.7	96.9	148.4
8000	99.7	101.7	102.2	99.6	100.5	102.8	104.0	106.1	108.2	108.2	108.0	101.3	96.1	147.6
10000	99.5	101.5	103.0	101.8	102.6	103.8	103.6	105.4	108.4	106.9	106.9	101.7	96.0	148.1
12500	97.9	100.0	101.0	100.6	101.7	103.9	102.7	104.2	106.4	105.2	104.7	100.9	94.9	147.5
16000	96.5	98.6	100.1	99.8	100.4	102.6	102.4	103.3	105.0	102.7	102.4	98.9	93.3	147.5
20000	94.1	96.7	98.1	97.6	98.9	101.6	101.5	100.8	102.0	99.6	99.9	96.1	90.3	147.2
25000	90.8	93.6	95.4	95.1	96.2	100.1	99.2	97.7	99.4	95.9	95.4	93.1	87.7	146.9
31500	87.4	90.0	91.0	92.2	92.6	96.7	95.7	95.4	96.3	92.2	92.1	88.8	82.9	146.7
40000	83.4	86.4	87.9	88.2	88.5	92.6	91.9	91.8	92.2	88.3	88.4	84.8	79.5	146.9
50000	77.2	80.5	81.8	82.7	83.3	87.9	85.8	85.7	87.0	83.0	82.6	78.4	73.0	145.7
63000	70.7	74.2	76.5	76.8	77.5	82.6	79.8	80.8	82.2	77.4	77.6	72.7	67.1	145.7
80000	62.9	67.5	69.7	69.1	70.4	76.3	72.9	73.4	75.7	71.6	70.9	66.0	58.2	145.8
OASPL	110.8	112.2	112.5	111.3	112.8	115.5	116.1	118.6	121.8	125.0	129.1	126.9	117.8	164.1
PNL	122.9	124.0	124.0	122.5	124.7	127.8	128.6	131.5	134.9	137.6	140.3	135.0	127.0	
PNLT	122.9	124.0	124.0	123.1	125.5	128.4	128.6	131.5	134.9	137.6	140.3	135.0	127.0	
DBA	109.6	110.4	110.7	109.1	111.1	113.9	114.8	116.1	121.5	124.8	128.4	123.7	114.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH233 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CD FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.95 PAMB HG = 29.04 RELHUM = 20.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1542.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2515.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1712 TAPE = X1712C TEST PT NO = 1712 NC = AE094 CORR FAN SPEED = RPM

P1165-03

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

IDENTIFICATION - 83F-400-1712 X1712F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	95.9	97.5	95.6	93.9	94.3	95.8	94.6	95.8	101.0	106.5	112.6	115.2	109.8	147.8
315	95.9	97.5	95.8	93.9	94.8	96.1	96.7	97.6	103.4	109.0	114.9	117.1	111.0	149.8
400	97.0	96.8	95.8	93.8	94.6	95.9	98.4	98.6	104.0	110.4	116.4	117.6	111.6	150.8
500	96.9	96.6	96.3	92.9	96.0	97.2	96.6	99.5	105.3	111.8	117.7	118.0	111.4	151.6
630	98.1	98.2	97.9	94.8	96.7	99.0	98.8	100.6	106.5	111.9	118.0	117.8	112.1	151.8
800	99.5	99.3	98.6	95.9	98.3	99.7	99.2	101.5	108.5	112.9	118.4	116.3	112.5	151.9
1000	100.5	98.8	98.7	96.3	99.5	100.7	100.5	103.7	109.2	113.1	117.8	114.5	111.9	151.5
1250	101.9	101.3	100.4	97.6	100.0	101.6	101.3	103.7	109.7	112.5	118.5	112.6	111.0	151.6
1600	102.0	103.3	101.3	99.2	100.8	103.2	103.1	104.9	110.4	113.5	117.3	111.3	111.3	151.3
2000	104.3	103.9	101.5	99.6	101.2	103.5	103.5	105.8	110.1	114.5	116.6	110.4	112.5	151.4
2500	104.5	104.0	104.3	101.9	104.5	104.8	103.8	106.4	111.6	113.7	115.0	109.2	110.1	151.0
3150	106.0	105.5	104.4	102.1	102.7	106.1	105.3	107.0	111.2	112.4	114.3	109.7	110.5	150.8
4000	105.6	104.8	105.0	102.1	103.6	105.7	105.5	107.6	110.6	112.2	112.6	107.6	109.3	150.3
5000	105.9	105.5	105.1	102.2	104.1	106.5	105.3	107.5	110.7	110.6	111.6	107.7	109.5	150.1
6300	106.9	106.5	106.0	102.9	105.0	106.3	106.2	108.0	110.1	109.8	110.2	107.0	109.4	150.2
8000	106.4	107.5	106.5	103.7	104.3	105.8	106.1	106.9	110.9	109.2	109.8	108.1	109.8	150.6
10000	105.4	107.1	107.1	103.7	106.7	106.8	105.9	106.5	109.7	108.4	108.6	108.1	109.3	150.9
12500	106.4	107.6	108.3	106.0	105.7	106.9	105.1	105.7	109.3	106.9	107.3	107.0	108.5	151.5
16000	104.2	105.6	105.7	104.4	104.4	105.6	104.9	105.1	106.9	104.5	105.3	104.6	105.7	151.1
20000	102.5	103.8	104.4	103.1	102.9	104.6	103.9	102.8	103.3	99.7	99.5	100.1	101.6	150.6
25000	99.4	101.3	101.7	100.3	100.8	103.1	100.9	98.3	102.2	98.3	98.8	98.7	99.7	150.7
31500	98.1	99.7	100.0	98.1	97.2	99.7	97.8	96.8	98.7	94.8	95.5	94.9	96.5	151.1
40000	93.9	95.2	94.8	94.4	93.0	95.6	93.9	93.0	94.2	90.4	90.8	90.0	91.5	150.8
50000	89.4	91.3	91.3	90.0	87.9	90.9	87.9	87.2	90.7	86.2	87.4	86.0	87.7	150.8
63000	82.4	84.4	84.3	83.6	82.1	85.6	82.2	82.6	84.7	80.5	80.5	79.2	79.2	149.9
80000	74.4	76.7	77.4	76.2	75.0	79.3	75.0	74.6	74.9	70.7	70.7	69.4	69.4	149.1
OASPL	116.8	117.2	116.9	114.5	115.7	117.3	116.6	118.0	122.1	124.2	128.1	126.4	123.5	165.0
PNL	128.4	128.3	127.6	124.9	126.6	128.6	128.1	130.1	134.1	136.1	138.7	135.2	134.7	
PNLT	128.4	128.3	127.6	124.9	126.6	128.6	128.1	130.1	134.1	136.1	138.7	135.2	134.7	
DBA	197.5	199.6	200.0	198.9	197.5	201.4	197.6	197.4	198.8	194.6	194.8	193.5	193.9	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH233 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.95 PAMB HG = 29.04 RELHUM = 20.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1542.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2515.5 FPS AE18 = 19.9 SQ IN

RUNPT - 83F-400-1712 TAPE = X1712F TEST PT NO = 1712 NC = AE094 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 - 83F-400-1712 X17121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.8	74.9	74.2	73.1	74.4	75.8	76.3	76.8	81.9	86.5	90.7	90.8	81.3	165.1
63	72.9	74.1	74.3	73.0	74.2	75.6	78.0	77.8	82.5	87.8	92.2	91.3	81.9	166.1
80	72.7	74.0	74.8	72.0	75.6	76.9	76.2	78.6	83.7	89.1	93.5	91.6	81.6	166.9
100	73.8	75.5	76.2	73.9	76.2	78.6	78.3	79.7	84.9	89.2	93.7	91.2	82.1	167.2
125	75.1	76.4	76.9	74.9	77.8	79.2	78.7	80.5	86.7	90.0	94.0	89.6	82.2	167.3
160	75.9	75.9	76.9	75.2	78.8	80.2	79.8	82.5	87.3	90.1	93.2	87.5	81.3	166.8
200	77.1	78.1	78.3	76.3	79.1	80.8	80.4	82.4	87.7	89.4	93.7	85.3	80.0	166.9
250	76.8	79.8	79.0	77.7	79.7	82.3	82.1	83.4	88.2	90.0	92.1	83.6	79.6	166.6
315	78.7	80.0	78.9	77.8	79.9	82.3	82.2	84.0	87.5	90.6	91.0	82.1	79.9	166.7
400	78.3	79.7	81.3	79.8	82.8	83.3	82.2	84.3	88.6	89.5	88.8	80.2	76.5	166.3
500	79.3	80.8	81.1	79.7	80.8	84.3	83.3	84.5	87.8	87.7	87.7	80.0	75.9	166.1
630	78.4	79.7	81.3	79.2	81.3	83.6	83.2	84.8	86.9	87.1	85.4	77.3	73.6	165.6
800	78.1	79.9	81.0	79.0	81.4	84.0	82.7	84.4	86.6	85.1	83.8	76.5	72.5	165.5
1000	78.5	80.5	81.5	79.4	82.1	83.6	83.3	84.5	85.6	83.7	81.9	75.1	71.2	165.6
1250	77.3	81.0	81.6	79.9	81.1	82.7	82.9	83.1	86.0	82.6	80.8	75.1	70.0	166.0
1600	75.2	79.7	81.5	79.3	82.9	83.3	82.1	82.1	84.1	81.0	78.4	73.5	66.9	166.2
2000	74.7	79.1	81.8	80.8	81.2	82.6	80.6	80.5	82.8	78.4	75.6	70.2	62.5	166.8
2500	70.3	75.4	78.0	78.1	79.0	80.4	79.4	78.9	79.2	74.3	71.4	64.6	54.4	166.4
3150	64.6	70.6	74.1	74.7	75.5	77.5	76.5	74.3	73.1	66.5	61.7	54.5	41.2	165.9
4000	54.5	62.5	66.9	67.8	69.7	72.3	69.7	65.8	67.4	59.6	54.0	43.5	24.1	166.0
5000	42.7	52.6	58.1	59.4	60.1	63.2	60.8	58.1	56.8	47.7	40.0	25.2		166.5
6300	20.2	33.5	40.4	44.5	45.5	48.9	46.4	43.1	39.8	28.7	17.2			166.2
8000		3.8	14.6	19.9	21.4	25.5	21.4	17.0	14.1					166.1
10000														165.3
12500														164.5
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	89.1	91.2	92.2	90.6	92.7	94.5	93.8	95.1	98.6	100.3	102.9	99.0	91.3	180.2
PNL	96.5	100.0	101.9	100.8	102.2	103.9	102.9	103.1	105.7	105.1	105.8	99.7	93.4	
PNLT	97.7	101.0	101.9	101.4	102.8	104.4	103.5	103.7	105.7	105.1	105.8	99.7	93.4	
DBA	86.3	89.1	90.6	89.2	91.0	92.6	91.8	92.5	94.9	93.9	93.6	86.5	81.8	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH233 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 58.95 PAMB HG = 29.04 RELHUM = 20.3 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 = 1542.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2515.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1712 TAPE = X17121 TEST PT NO = 1712 NC = AE094 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 83F-ZER-1715 XT715C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.1	88.4	87.7	86.7	83.8	87.7	87.1	88.7	89.9	87.2	93.6	96.3	90.7	131.5
63	91.8	95.3	98.3	95.1	91.5	95.8	96.5	96.4	95.3	94.1	95.8	101.5	96.9	138.2
80	92.5	96.8	92.6	91.9	93.0	96.8	95.7	95.6	96.8	96.7	99.8	99.7	86.9	138.0
100	91.0	98.2	93.5	93.8	95.6	97.8	96.6	98.5	98.0	99.8	102.0	104.4	91.8	140.3
125	89.1	92.4	94.7	94.0	96.6	98.7	98.1	97.7	98.4	100.5	107.7	109.3	96.7	143.0
160	86.4	87.7	91.7	89.0	91.1	93.2	95.4	96.3	97.5	101.6	107.7	109.6	101.5	142.7
200	89.3	88.1	91.3	89.4	93.2	96.1	97.0	98.6	102.1	103.1	108.5	113.7	105.1	145.5
250	89.3	91.3	91.6	91.6	95.0	96.6	97.7	100.4	103.6	108.2	113.3	116.2	107.6	148.6
315	89.8	91.6	92.9	91.7	95.0	98.1	98.8	101.7	104.4	109.5	114.8	116.5	110.4	149.6
400	91.6	93.9	93.9	92.2	95.0	97.6	101.5	102.2	106.6	111.7	116.1	118.0	112.2	151.1
500	91.8	94.4	94.6	93.2	96.3	99.1	99.8	102.9	107.1	112.2	117.4	118.0	113.7	151.8
630	91.8	94.8	95.6	94.1	97.5	100.8	102.0	104.6	108.1	112.9	117.8	119.2	115.1	152.7
800	94.6	94.6	96.2	94.4	98.0	101.6	102.3	105.4	109.2	112.5	116.4	118.3	115.4	152.1
1000	96.3	97.3	97.3	96.1	99.5	102.8	102.5	106.6	110.3	112.4	116.0	117.7	115.4	152.0
1250	94.9	98.2	98.0	96.9	99.1	102.2	103.1	106.5	110.0	111.3	114.9	117.4	114.8	151.4
1600	94.9	97.3	97.9	97.3	100.6	103.7	104.5	107.3	110.9	112.0	116.4	116.8	113.5	151.8
2000	95.3	96.4	97.6	96.4	99.3	103.1	104.6	107.9	110.8	111.9	116.1	115.2	111.7	151.2
2500	94.8	97.3	98.4	96.6	100.5	103.6	104.1	107.4	110.3	111.9	114.3	112.1	110.4	150.1
3150	94.4	96.3	97.8	97.3	99.9	104.2	105.6	108.1	111.1	111.5	113.2	110.9	108.5	149.8
4000	93.7	96.3	98.0	96.9	100.3	103.5	104.1	107.5	109.4	109.1	112.0	109.1	107.4	148.5
5000	93.8	96.9	98.0	97.1	100.1	103.3	104.0	106.8	108.8	109.5	110.7	108.0	107.0	148.1
6300	94.3	96.6	97.9	97.2	100.7	103.4	103.7	106.4	107.5	107.0	109.9	108.1	105.8	147.5
8000	94.6	97.1	98.4	98.0	100.1	102.7	103.4	105.0	106.3	105.8	107.9	106.0	104.6	146.7
10000	96.6	99.1	101.3	99.8	101.7	103.6	103.4	104.7	105.7	104.7	107.0	106.0	104.5	147.2
12500	96.6	98.0	101.3	101.2	102.2	103.7	102.2	103.2	104.2	102.8	104.8	103.9	103.2	147.0
16000	94.1	96.8	99.2	101.2	101.7	103.1	102.2	102.2	102.8	100.6	103.0	101.9	99.1	147.2
20000	91.6	94.3	96.7	97.7	98.7	101.7	100.5	99.7	99.9	97.9	99.5	99.1	95.3	146.5
25000	88.3	91.8	94.6	95.4	96.8	100.4	99.0	96.8	97.1	93.8	94.1	94.8	92.0	146.4
31500	85.1	87.9	90.4	92.7	93.5	96.4	95.4	94.4	93.7	91.1	90.7	89.8	86.3	146.1
40000	81.7	84.7	87.7	88.9	88.8	92.7	91.5	90.3	90.0	86.8	87.1	85.8	83.0	146.3
50000	74.4	78.9	82.0	83.3	84.1	88.1	85.5	84.5	85.1	81.6	81.4	80.4	76.3	145.3
63000	68.4	72.7	76.5	77.7	77.8	82.6	78.9	79.2	79.7	74.9	75.8	74.9	70.3	144.8
80000	60.4	65.8	69.3	69.5	71.0	76.1	72.5	72.8	72.7	69.4	69.4	68.8	61.4	145.0
OASPL	107.8	110.3	111.5	110.9	113.1	115.9	116.3	118.7	121.4	123.3	127.3	128.3	124.4	163.7
PNL	119.6	121.8	122.9	122.0	124.8	128.2	129.2	131.7	134.5	135.6	138.6	138.3	134.9	
PNLT	119.6	122.4	122.9	122.0	125.4	128.7	129.2	131.7	134.5	135.6	138.6	138.3	134.9	
DBA	106.2	108.4	109.5	108.4	111.4	114.6	115.4	118.4	121.2	122.7	126.3	126.7	123.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH238 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.79 PAMB HG = 29.09 RELHUM = 25.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1268.0 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2349.1 FPS AE18 = 10.9 SQ IN

RUNPT = 83F-ZER-1715 TAPE = X C T PT 17 NC = AE094 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1715 X1715F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.1	88.4	87.7	86.7	83.8	87.7	87.1	88.7	89.9	87.2	93.6	96.3	90.7	131.5
63	91.8	95.3	98.3	95.1	91.5	95.8	96.5	96.4	95.3	94.1	95.8	101.5	96.9	138.2
80	92.5	96.8	92.6	91.9	93.0	96.8	95.7	95.6	96.8	96.7	99.8	99.7	86.9	138.0
100	91.0	98.2	93.5	93.8	95.6	97.8	96.6	98.5	98.0	99.8	102.0	104.4	91.8	140.3
125	89.1	92.4	94.7	94.0	96.6	98.7	98.1	97.7	98.4	100.5	107.7	109.3	96.7	143.0
160	86.4	87.7	91.7	89.0	91.1	93.2	95.4	96.3	97.5	101.6	107.7	109.6	101.5	142.7
200	89.3	88.1	91.3	89.4	93.2	96.1	97.0	98.6	102.1	103.1	108.5	113.7	105.1	145.5
250	89.3	91.3	91.6	91.6	95.0	96.6	97.7	100.4	103.6	108.2	113.3	116.2	107.6	148.6
315	89.8	91.6	92.9	91.7	95.0	98.1	98.8	101.7	104.4	109.5	114.8	116.5	110.4	149.6
400	91.6	93.9	93.9	92.2	95.0	97.6	101.5	102.2	106.6	111.7	116.1	118.0	112.2	151.1
500	91.8	94.4	94.6	93.2	96.3	99.1	99.8	102.9	107.1	112.2	117.4	118.0	113.7	151.8
630	91.8	94.8	95.6	94.1	97.5	100.8	102.0	104.6	108.1	112.9	117.8	119.2	115.1	152.7
800	94.6	94.6	96.2	94.4	98.0	101.6	102.3	105.4	109.2	112.5	116.4	118.3	115.4	152.1
1000	96.3	97.3	97.3	96.1	99.5	102.8	102.5	106.6	110.3	112.4	116.0	117.7	115.4	152.0
1250	94.9	98.2	98.0	96.9	99.1	102.2	103.1	106.5	110.0	111.3	114.9	117.4	114.8	151.4
1600	94.9	97.3	97.9	97.3	100.6	103.7	104.5	107.3	110.9	112.0	116.4	116.8	113.5	151.8
2000	95.3	96.4	97.6	96.4	99.3	103.1	104.6	107.9	110.8	111.9	116.1	115.2	111.7	151.2
2500	94.8	97.3	98.4	96.6	100.5	103.6	104.1	107.4	110.3	111.9	114.3	112.1	110.4	150.1
3150	94.4	96.3	97.8	97.3	99.9	104.2	105.6	108.1	111.1	111.5	113.2	110.9	108.5	149.8
4000	93.7	96.3	98.0	96.9	100.3	103.5	104.1	107.5	109.4	109.1	112.0	109.1	107.4	148.5
5000	93.8	96.9	98.0	97.1	100.1	103.3	104.0	106.8	108.8	109.5	110.7	108.0	107.0	148.1
6300	94.3	96.6	97.9	97.2	100.7	103.4	103.7	106.4	107.5	107.0	109.9	108.1	105.8	147.5
8000	94.6	97.1	98.4	98.0	100.1	102.7	103.4	105.0	106.3	105.8	107.9	106.0	104.6	146.7
10000	96.6	99.1	101.3	99.8	101.7	103.6	103.4	104.7	105.7	104.7	107.0	106.0	104.5	147.2
12500	96.6	98.0	101.3	101.2	102.2	103.7	102.2	103.2	104.2	102.8	104.8	103.9	103.2	147.0
16000	94.1	96.8	99.2	101.2	101.7	103.1	102.2	102.2	102.8	100.6	103.0	101.9	99.1	147.2
20000	91.6	94.3	96.7	97.7	98.7	101.7	100.5	99.7	99.9	97.9	99.5	99.1	95.3	146.5
25000	88.3	91.8	94.6	95.4	96.8	100.4	99.0	96.8	97.1	93.8	94.1	94.8	92.0	146.4
31500	85.1	87.9	90.4	92.7	93.5	96.4	95.4	94.4	93.7	91.1	90.7	89.8	86.3	146.1
40000	81.7	84.7	87.7	88.9	88.8	92.7	91.5	90.3	90.0	86.8	87.1	85.8	83.0	146.3
50000	74.4	78.9	82.0	83.3	84.1	88.1	85.5	84.5	85.1	81.6	81.4	80.4	76.3	145.3
63000	68.4	72.7	76.5	77.7	77.8	82.6	78.9	79.2	79.7	74.9	75.8	74.9	70.3	144.8
80000	60.4	65.8	69.3	69.5	71.0	76.1	72.5	72.8	72.7	69.4	69.4	68.8	61.4	145.0
OASPL	107.8	110.3	111.5	110.9	113.1	115.9	116.3	118.7	121.4	123.3	127.3	128.3	124.4	163.7
PNL	119.6	121.8	122.9	122.0	124.8	128.2	129.2	131.7	134.5	135.6	138.6	138.3	134.9	
PNLT	119.6	122.4	122.9	122.0	125.4	128.7	129.2	131.7	134.5	135.6	138.6	138.3	134.9	
DBA	183.5	188.3	191.8	192.5	193.5	198.3	194.9	195.0	195.1	191.4	191.6	190.9	185.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH238 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.79 PAMB HG = 29.09 RELHUM = 25.1 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 = 1268.0 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2349.1 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1715 TAPE = X1715F TEST PT NO = 1715 NO

423

P1185-08

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

IDENTIFICATION - 83F-ZER-1715 X17151

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.7	69.0	71.4	70.9	74.6	77.9	78.4	80.9	82.9	86.9	90.7	90.2	80.8	165.0
63	67.4	71.2	72.3	71.3	74.6	77.3	81.1	81.3	85.1	89.1	91.9	91.6	82.4	166.5
80	67.6	71.7	73.1	72.3	75.8	78.8	79.3	82.1	85.6	89.6	93.1	91.6	83.9	167.1
100	67.5	72.1	74.0	73.2	77.0	80.5	81.5	83.7	86.5	90.2	93.5	92.7	85.2	168.1
125	70.2	71.8	74.4	73.5	77.5	81.2	81.7	84.5	87.4	89.7	92.0	91.6	85.2	167.4
160	71.7	74.3	75.5	75.0	78.8	82.3	81.8	85.5	88.5	89.4	91.4	90.8	84.8	167.3
200	70.1	75.0	76.0	75.6	78.3	81.5	82.3	85.2	88.0	88.1	90.1	90.1	83.7	166.7
250	69.7	73.8	75.7	75.8	79.5	82.8	83.4	85.8	88.7	88.6	91.2	89.1	81.8	167.1
315	69.7	72.6	75.0	74.6	77.9	81.9	83.3	86.1	88.2	88.0	90.5	86.9	79.1	166.6
400	68.6	73.1	75.4	74.5	78.8	82.1	82.4	85.3	87.3	87.6	88.2	83.2	76.8	165.4
500	67.8	71.6	74.4	74.8	77.9	82.4	83.6	85.6	87.8	86.8	86.6	81.2	73.9	165.2
630	66.5	71.2	74.2	74.0	78.0	81.4	81.8	84.6	85.6	84.0	84.9	78.7	71.7	163.8
800	66.0	71.3	73.9	73.9	77.5	80.8	81.3	83.6	84.7	83.9	83.0	76.8	70.0	163.5
1000	66.0	70.5	73.4	73.7	77.8	80.7	80.8	82.9	83.0	80.9	81.5	76.1	67.6	162.8
1250	65.5	70.5	73.5	74.2	76.9	79.6	80.2	81.2	81.4	79.3	78.8	73.1	64.7	162.0
1600	66.4	71.6	75.7	75.4	77.9	80.1	79.6	80.2	80.1	77.3	76.8	71.4	62.1	162.6
2000	64.9	69.5	74.8	76.0	77.7	79.4	77.7	78.0	77.7	74.3	73.1	67.2	57.2	162.3
2500	60.2	66.6	71.4	74.9	76.2	78.0	76.8	75.9	75.1	70.5	69.2	62.0	47.8	162.5
3150	53.8	61.1	66.5	69.3	71.3	74.6	73.1	71.3	69.6	64.7	61.7	53.6	35.0	161.8
4000	43.4	53.1	59.7	62.9	65.6	69.6	67.8	64.3	62.2	55.1	49.2	39.6	16.4	161.7
5000	29.6	40.8	48.5	54.0	56.5	60.0	58.4	55.7	51.8	43.9	35.2	20.0		161.4
6300	8.0	23.0	33.3	39.0	41.3	46.0	44.0	40.3	35.6	25.1	13.5			161.6
8000			5.3	13.2	17.5	22.7	18.9	14.4	8.4					160.6
10000														160.2
12500														160.3
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	80.5	84.5	86.9	86.9	90.2	93.4	93.9	96.2	98.4	99.5	101.9	100.5	93.2	178.7
PNL	86.8	91.7	95.7	96.9	99.3	102.0	101.6	102.4	103.8	103.3	104.6	101.6	94.0	
PNLT	86.8	91.7	96.4	97.5	99.3	102.5	102.2	103.0	104.4	103.3	104.6	101.6	94.0	
DBA	75.6	80.3	83.8	84.5	87.2	90.0	90.1	91.8	92.8	91.8	92.5	88.7	81.6	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH238	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 60.79	PAMB HG = 29.09	RELHUM = 25.1 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1268.0 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2340.1 FPS	AE18 = SQ

NPT 3F-Z 1715 TAPE = X17151 TEST PT NO = 1715 NO = AE094

P1185-03

DATPROC - FLTRAN

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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 83F-ZER-1721 X1721C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.1	88.4	87.4	88.7	85.3	87.7	90.6	89.0	90.4	89.7	96.4	96.1	92.5	132.7
63	92.8	93.8	97.8	96.9	93.5	96.1	97.7	97.1	98.1	94.1	101.5	99.0	99.4	139.2
80	93.8	98.3	93.3	92.9	94.2	97.6	96.7	95.9	97.8	98.2	101.3	101.0	90.9	139.2
100	92.2	99.5	94.8	94.5	96.9	99.0	98.4	100.0	99.5	101.3	103.0	106.1	94.3	141.7
125	89.9	93.4	95.9	94.7	97.8	99.9	98.6	99.2	99.9	102.3	108.4	110.3	98.0	144.0
160	87.7	88.5	91.0	90.0	91.6	94.0	96.1	97.5	98.7	103.3	108.7	111.1	102.8	143.9
200	90.0	89.1	92.1	90.1	93.7	96.8	98.0	99.6	103.1	104.1	110.0	115.0	105.6	146.7
250	90.3	91.8	93.6	92.4	95.5	97.1	98.0	101.4	104.8	109.9	115.5	117.7	108.6	150.3
315	91.3	91.9	92.4	92.4	95.5	99.4	100.5	102.2	105.9	111.5	116.3	118.3	111.9	151.3
400	93.1	94.1	94.9	92.7	96.0	99.1	102.8	103.7	108.1	113.7	118.8	119.8	112.9	153.2
500	93.1	95.4	95.4	93.9	97.3	100.6	101.3	104.4	108.4	114.7	119.1	120.0	114.4	153.6
630	93.5	96.1	96.1	95.4	98.2	101.6	102.7	105.4	109.3	115.4	121.3	121.0	116.4	155.1
800	96.6	96.1	96.7	95.7	99.3	102.4	103.3	106.7	110.2	115.0	120.6	121.3	117.7	155.1
1000	99.0	100.1	99.1	97.6	101.2	103.8	104.5	107.9	111.1	114.4	120.3	120.2	116.4	154.6
1250	97.4	100.5	99.8	98.6	101.4	104.2	104.6	108.0	111.3	113.6	118.5	119.4	115.8	153.6
1600	97.1	98.5	98.7	98.3	101.1	104.7	105.5	108.6	111.7	113.5	119.6	118.1	113.7	153.7
2000	97.1	97.9	98.3	97.7	100.8	103.9	105.4	109.7	111.3	113.9	118.1	115.7	111.4	152.6
2500	96.5	98.4	98.7	97.6	100.5	104.4	104.8	108.9	110.3	113.6	115.9	112.7	109.9	151.1
3150	95.2	97.1	98.6	97.6	100.4	104 5	105.4	108.8	111.4	112.3	114.3	111.4	108.3	150.4
4000	93.8	96.9	98.8	97.2	100.6	103.5	105.2	108.3	109.7	109.9	113.1	109.1	105.9	149.1
5000	93.1	97.2	98.3	97.2	100.2	103.9	104.0	107.4	108.9	110.1	111.8	108.0	104.8	148.5
6300	93.4	97.1	98.4	98.0	100.8	104.0	103.8	107.0	107.8	107.8	110.2	107.1	103.9	147.7
8000	92.6	97.1	98.4	98.1	100.5	103.5	103.5	104.8	106.1	106.1	108.2	104.8	102.6	146.7
10000	94.8	98.6	100.8	100.1	101.4	104.2	103.2	104.4	105.7	105.5	106.2	104.5	102.1	147.0
12500	94.8	98.2	100.0	100.9	102.4	104.4	102.7	102.9	104.1	103.5	104.5	102.4	101.1	146.9
16000	92.9	97.6	99.8	101.0	101.8	104.2	102.1	102.0	102.7	100.4	102.9	100.0	98.5	147.3
20000	90.6	94.6	96.9	98.2	99.4	102.4	101.0	99.4	99.8	98.0	99.0	97.1	94.1	146.6
25000	88.0	91.9	94.2	95.8	96.7	100.8	99.4	96.7	97.7	94.6	93.5	93.8	90.1	146.6
31500	84.9	88.7	90.9	92.8	93.6	97.2	95.5	94.5	94.4	90.5	89.2	88.4	85.4	146.3
40000	80.7	84.9	87.9	88.9	89.3	93.8	92.0	90.2	90.5	87.2	86.3	84.6	81.0	146.6
50000	74.6	79.3	82.1	83.7	84.3	89.4	86.0	84.9	85.5	81.7	80.3	78.9	74.3	145.8
63000	68.6	73.3	76.8	77.8	78.9	83.8	79.5	79.6	81.0	75.9	75.5	73.6	68.7	145.6
80000	61.1	66.8	70.1	71.4	72.4	77.8	72.9	73.2	74.5	69.9	68.7	67.5	60.1	146.1
OASPL	108.6	111.2	111.9	111.4	113.7	116.8	117.0	119.7	122.1	125.1	129.9	130.0	125.2	165.2
PNL	120.5	122.7	123.6	122.6	125.4	128.8	129.6	132.6	135.0	137.0	140.5	139.3	134.8	
PNLT	120.5	123.3	124.1	122.6	126.0	129 4	129.6	132.6	135.0	137.0	140.5	139.3	134.8	
DBA	107.5	109.6	110.1	109.2	112.1	115.4	116.1	119.4	121.8	124.4	129.0	128.5	124.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH236	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = C6	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 60.07	PAMB HG = 29.09	RELHUM = 23.5 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1943.6 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2342.1 FPS	AE18 = 19.9 SQ IN
RUNPT = 83F-ZER-1721	TAPE = X1721C	TEST PT NO = 1721	NC = AE094	CORR FAN SPEED = RPM

425

P1185-09

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

IDENTIFICATION - 83F-ZER-1721 X1721F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.1	88.4	87.4	88.7	85.3	87.7	90.6	89.0	90.4	89.7	96.4	96.1	92.5	132.7
63	92.8	93.8	97.8	96.9	93.5	96.1	97.7	97.1	98.1	94.1	101.5	99.0	99.4	139.2
80	93.8	98.3	93.3	92.9	94.2	97.6	96.7	95.9	97.8	98.2	101.3	101.0	90.9	139.2
100	92.2	99.5	94.8	94.5	96.9	99.0	98.4	100.0	99.5	101.3	103.0	106.1	94.3	141.7
125	89.9	93.4	95.9	94.7	97.8	99.9	98.6	99.2	99.9	102.3	108.4	110.3	96.0	144.0
160	87.7	88.5	91.0	90.0	91.6	94.0	96.1	97.5	98.7	103.3	108.7	111.1	102.8	143.9
200	90.0	89.1	92.1	90.1	93.7	96.8	98.0	99.6	103.1	104.1	110.0	115.0	105.6	146.7
250	90.3	91.8	93.6	92.4	95.5	97.1	98.0	101.4	104.8	109.9	115.5	117.7	108.6	150.3
315	91.3	91.9	92.4	92.4	95.5	99.4	100.5	102.2	105.9	111.5	116.3	118.3	111.9	151.3
400	93.1	94.1	94.9	92.7	96.0	99.1	102.8	103.7	108.1	113.7	118.8	119.8	112.9	153.2
500	93.1	95.4	95.4	93.9	97.3	100.6	101.3	104.4	108.4	114.7	119.1	120.0	114.4	153.6
630	93.5	96.1	96.1	95.4	98.2	101.6	102.7	105.4	109.3	115.4	121.3	121.0	116.4	155.1
800	96.6	96.1	96.7	95.7	99.3	102.4	103.3	106.7	110.2	115.0	120.6	121.3	117.7	155.1
1000	99.0	100.1	99.1	97.6	101.2	103.8	104.5	107.9	111.1	114.4	120.3	120.2	116.4	154.6
1250	97.4	100.5	99.8	98.6	101.4	104.2	104.6	108.0	111.3	113.6	118.5	119.4	115.8	153.6
1600	97.1	98.5	98.7	98.3	101.1	104.7	105.5	108.6	111.7	113.5	119.6	118.1	113.7	153.7
2000	97.1	97.9	98.3	97.7	100.8	103.9	105.4	109.7	111.3	113.9	118.1	115.7	111.4	152.6
2500	96.5	98.4	98.7	97.6	100.5	104.4	104.8	108.9	110.3	113.6	115.9	112.7	109.9	151.1
3150	95.2	97.1	98.6	97.6	100.4	104.5	105.4	108.8	111.4	112.3	114.3	111.4	108.3	150.4
4000	93.8	96.9	98.8	97.2	100.6	103.5	105.2	108.3	109.7	109.9	113.1	109.1	105.9	149.1
5000	93.1	97.2	98.3	97.2	100.2	103.9	104.0	107.4	108.9	110.1	111.8	108.0	104.8	148.5
6300	93.4	97.1	98.4	98.0	100.8	104.0	103.8	107.0	107.8	107.8	110.2	107.1	103.9	147.7
8000	92.6	97.1	98.4	98.1	100.5	103.5	103.5	104.8	106.1	106.1	108.2	104.8	102.6	146.7
10000	94.8	98.6	100.8	100.1	101.4	104.2	103.2	104.4	105.7	105.5	106.2	104.5	102.1	147.0
12500	94.8	98.2	100.0	100.9	102.4	104.4	102.7	102.9	104.1	103.5	104.5	102.4	101.1	146.9
16000	92.9	97.6	99.8	101.0	101.8	104.2	102.1	102.0	102.7	100.4	102.9	100.0	98.5	147.3
20000	90.6	94.6	96.9	98.2	99.4	102.4	101.0	99.4	99.8	98.0	99.0	97.1	94.1	146.6
25000	88.0	91.9	94.2	95.8	96.7	100.8	99.4	96.7	97.7	94.6	93.5	93.8	90.1	146.6
31500	84.9	88.7	90.9	92.8	93.6	97.2	95.5	94.5	94.4	90.5	89.2	88.4	85.4	146.3
40000	80.7	84.9	87.9	88.9	89.3	93.8	92.0	90.2	90.5	87.2	86.3	84.6	81.0	146.6
50000	74.6	79.3	82.1	83.7	84.3	89.4	86.0	84.9	85.5	81.7	80.3	78.9	74.3	145.8
63000	68.6	73.3	76.8	77.8	78.9	83.8	79.5	79.6	81.0	75.9	75.5	73.6	68.7	145.6
80000	61.1	66.8	70.1	71.4	72.4	77.8	72.9	73.2	74.5	69.9	68.7	67.5	60.1	146.1
OASPL	108.6	111.2	111.9	111.4	113.7	116.8	117.0	119.7	122.1	125.1	129.9	130.0	125.2	165.2
PNL	120.5	122.7	123.6	122.6	125.4	128.8	129.6	132.6	135.0	137.0	140.5	139.3	134.8	
PNLT	120.5	123.3	124.1	122.6	126.0	129.4	129.6	132.6	135.0	137.0	140.5	139.3	134.8	
DBA	183.9	189.2	192.4	193.6	194.6	199.8	195.4	195.4	196.6	192.0	191.0	189.6	183.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH236 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.07 PAMB HG = 29.09 RELHUM = 23.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1943.6 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2342.1 FPS AE18 = 19.9 SQ IN

INPT 83F 172 APE = 21F PT = 1 VC AE CORR SP RF

P1185-03

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

IDENTIFICATION - 83F-ZER-1721 X17211

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.2	69.3	70.9	71.6	75.1	79.1	80.1	81.4	84.4	88.9	92.2	92.0	82.3	166.6
63	68.9	71.5	73.3	71.8	75.6	78.8	82.3	82.8	86.6	91.1	94.7	93.4	83.2	168.5
80	68.9	72.7	73.8	73.1	76.8	80.3	80.8	83.6	86.8	92.1	94.9	93.6	84.6	169.0
100	69.3	73.4	74.5	74.5	77.7	81.2	82.2	84.5	87.7	92.7	97.0	94.4	86.4	170.4
125	72.2	73.3	74.9	74.7	78.7	82.0	82.7	85.7	88.4	92.2	96.2	94.6	87.5	170.4
160	74.4	77.1	77.2	76.5	80.5	83.3	83.8	86.7	89.2	91.4	95.7	93.3	85.8	169.9
200	72.6	77.3	77.7	77.4	80.5	83.5	83.8	86.8	89.2	90.4	93.6	92.1	84.7	169.0
250	71.9	75.1	76.4	76.8	80.0	83.8	84.5	87.1	89.4	90.1	94.5	90.4	82.0	169.0
315	71.5	74.1	75.7	75.9	79.5	82.7	84.1	87.9	88.7	90.0	92.5	87.4	78.9	167.9
400	70.4	74.1	75.7	75.5	78.9	82.9	83.2	86.8	87.3	89.4	89.7	83.7	76.4	166.5
500	68.6	72.4	75.2	75.1	78.4	82.7	83.4	86.4	88.1	87.6	87.6	81.8	73.7	165.8
630	66.6	71.8	75.0	74.3	78.3	81.4	82.9	85.4	85.9	84.8	85.9	78.8	70.3	164.4
800	65.3	71.6	74.2	74.0	77.5	81.4	81.4	84.2	84.8	84.5	84.0	76.9	67.8	163.9
1000	65.0	71.1	74.0	74.5	77.8	81.2	80.8	83.5	83.3	81.8	81.8	75.2	65.6	163.1
1250	63.6	70.6	73.6	74.3	77.2	80.4	80.2	81.0	81.3	79.6	79.2	71.9	62.8	162.0
1600	64.7	71.2	75.3	75.7	77.6	80.6	79.4	80.0	80.1	78.1	76.0	70.0	59.6	162.3
2000	63.1	69.7	73.5	75.7	77.9	80.1	78.2	77.7	77.6	75.0	72.8	65.6	55.1	162.2
2500	59.0	67.4	72.0	74.7	76.3	79.1	76.6	75.7	74.9	70.3	69.0	60.1	47.1	162.6
3150	52.8	61.4	66.7	69.7	72.0	75.3	73.6	71.0	69.6	64.8	61.1	51.6	33.8	162.0
4000	43.1	53.2	59.3	63.3	65.5	70.0	68.2	64.2	62.8	55.9	48.6	38.5	14.6	161.9
5000	29.4	41.5	49.0	54.0	56.6	60.8	58.4	55.7	52.5	43.4	33.7	18.6		161.7
6300	7.0	23.2	33.5	39.0	41.8	47.0	44.5	40.3	36.1	25.4	12.7			162.0
8000			5.4	13.6	17.7	23.9	19.4	14.8	8.8					161.2
10000														161.0
12500														161.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	82.0	85.7	87.5	87.7	90.9	94.2	94.7	97.3	99.1	101.5	104.8	102.5	91.3	180.2
PNL	86.6	92.3	95.6	97.1	99.7	102.9	102.0	103.1	104.2	104.8	106.8	102.9	94.5	
PNLT	86.6	92.3	96.3	97.7	100.2	103.4	102.6	103.7	104.8	104.8	106.8	102.9	94.5	
DBA	75.4	80.8	83.9	84.7	87.5	90.7	90.4	92.4	93.1	93.0	94.3	89.7	81.7	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH236	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 60.07	PAMB HG = 29.09	RELHUM = 23.5 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 = 1943.6 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2342.1 FPS	AE18 = 19.9 SQ IN	
RUNPT = 83F-ZER-1721	TAPE = X17211	TEST PT NO = 1721	NC = AE094	CORR FAN SPEED = RPM	

P1185-03

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 83F-400-1722 X1722C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.1	90.7	88.9	86.2	83.8	85.9	87.1	90.2	90.2	89.2	95.4	96.6	90.2	132.5
63	93.8	93.5	97.6	93.1	90.7	94.6	95.2	95.4	94.8	95.9	97.3	101.2	97.1	137.7
80	93.8	97.6	92.8	92.9	94.0	97.8	96.5	95.6	96.6	96.2	100.0	100.2	89.9	138.5
100	93.7	97.7	93.0	92.5	94.4	98.0	97.4	98.8	96.8	98.3	100.7	104.9	93.6	140.0
125	90.9	93.2	95.2	94.2	96.8	98.7	97.3	97.7	96.9	99.5	106.4	109.3	97.2	142.5
160	88.4	85.5	89.7	88.5	89.9	93.0	95.4	94.5	95.2	100.6	106.9	109.1	100.5	141.9
200	88.0	87.1	88.8	87.1	90.2	93.3	94.2	96.6	99.3	100.6	106.8	112.0	103.4	143.6
250	86.5	89.1	89.1	88.4	91.2	94.3	95.2	97.4	99.6	105.4	111.5	114.0	105.1	146.4
315	87.3	88.9	89.4	88.9	91.5	94.4	96.3	98.2	100.4	107.2	113.6	115.0	106.9	147.9
400	88.1	89.6	90.4	88.4	91.8	94.6	97.8	98.7	102.1	109.7	114.3	115.8	105.9	148.8
500	88.8	89.9	90.9	89.9	92.8	95.9	96.0	99.4	102.6	110.7	116.1	115.3	104.4	149.5
630	89.0	90.6	91.3	90.4	93.7	97.1	97.7	100.6	103.6	111.7	117.1	115.2	102.1	150.2
800	90.3	90.1	90.9	91.2	94.3	97.6	98.0	101.4	105.2	111.0	116.4	112.3	99.9	149.2
1000	92.8	92.8	93.1	91.9	95.5	98.8	99.2	102.9	105.8	110.7	114.8	109.0	98.1	148.0
1250	91.4	94.0	93.5	93.1	95.1	99.0	99.4	102 8	106.0	109.6	113.0	106.1	96.5	146.7
1600	91.9	92.5	93.2	93.6	96.6	100.4	100.8	103.8	107.0	109.5	112.9	104.1	94.7	146.9
2000	92.1	91.7	93.1	93.0	96.0	99.7	100.9	104.2	106.3	109.6	110.6	102.2	94.7	146.0
2500	92.0	92.9	93.7	92.6	96.8	99.9	100.8	104.2	105.3	109.1	109.1	99.9	94.9	145.3
3150	92.7	93.1	94.1	93.6	96.4	100.0	101.6	104.3	106.4	108.8	107.5	99.4	93.8	145.1
4000	93.3	93.9	94.5	93.2	97.1	100.0	100.9	104.0	104.9	106.4	105.9	98.1	92.7	143.9
5000	94.1	94.7	95.5	93.4	96 2	100.1	100.5	103.4	104.9	106.6	104.6	97.0	92.5	143.8
6300	95.6	96.1	96.2	94.5	97.3	100.2	100.8	103.5	104.0	105.0	103.9	96.6	92.1	143.6
8000	96.9	97.1	97.7	95.1	97.4	100.0	100.4	101.6	102.4	103.1	101.7	95.8	91.6	142.9
10000	99.0	100.5	100.5	97.8	98.6	100.6	100.1	101.6	102.4	102.4	100.7	96.0	91 5	144.0
12500	98.0	99.1	101.2	98.8	99.8	101.7	99.8	100.3	100.8	100.4	98.6	95.3	91.0	144.3
16000	95.8	98.1	98.8	99.1	99.6	101.3	99.9	99.8	99.2	97.7	98.0	93.9	89.1	144.8
20000	93.4	95.8	97.0	96.0	98.0	100.2	99.6	98.2	97.1	95.8	94.3	90.9	86.4	144.8
25000	91.0	93.1	94.6	94.5	95.4	99.3	98.4	95.9	95.1	92.5	90.2	88.5	83.7	145.3
31500	87.6	89.6	90.9	91.7	92.1	96.2	94.9	93.9	92.1	89.4	86.9	85.1	79.6	145.4
40000	83.4	86.1	87.1	87.6	88.8	92.5	91.2	90.4	88.9	86.0	84.2	81.1	75.0	145.7
50000	76.8	79.9	81.5	82.4	83.4	87.8	85.9	84.8	83.9	81.0	79.2	75.3	69.5	144.9
63000	70.6	74.0	76.5	76.2	77.6	82.2	79.7	80.0	78.4	74.7	74.4	69.8	63.7	144.6
80000	62.0	66.7	69.0	69.0	70.3	76.0	73.1	73.1	72.2	68.5	67.1	63.4	55.8	144.7
OASPL	107.8	109.2	109.7	108.4	110.3	113.3	113.4	115.5	117.3	121.3	125.1	123.8	114.1	160.8
PNL	118.7	119.4	119.8	118.7	121.6	124.8	125.8	128.4	130.3	133.3	134.7	131.2	122.5	
PNLT	118.7	119.4	120.5	119.3	122.4	125.3	125.8	128.4	130.3	133.3	134.7	131.2	122.5	
DBA	105.1	105.8	106.3	105.0	107.9	111.2	111.9	114.8	116.9	120.5	123.6	120.0	109.9	

P1185-03

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH232 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CD FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 57.07 PAMB HG = 28.97 RELHUM = 25.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1929.1 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2342.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1722 TAPE = X1722C TEST PT NO = 1722 NC = AE094 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 - 83F-400-1722 X1722F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	94.4	95.5	94.0	91.7	92.8	94.3	93.3	93.8	98.2	104.5	110.7	112.9	106.8	145.6
315	94.4	95.5	94.0	91.7	93.3	94.6	95.4	96.3	100.0	107.1	111.7	114.3	107.2	146.9
400	95.0	95.3	94.3	92.3	93.6	94.9	96.8	96.7	100.5	108.1	113.6	114.4	107.3	147.8
500	95.5	95.9	95.2	91.8	94.7	96.2	95.0	97.3	101.7	109.3	115.0	115.3	107.1	148.9
630	96.5	96.3	95.9	93.4	95.7	97.5	96.8	98.5	103.6	109.1	115.0	113.7	107.6	148.5
800	96.7	97.0	96.4	93.9	96.3	98.2	97.2	99.3	104.7	109.3	114.1	111.7	108.4	147.9
1000	98.0	96.6	96.0	94.8	97.6	99.5	98.5	100.9	104.9	108.3	112.3	108.9	106.9	146.6
1250	100.4	99.3	98.2	95.5	97.4	99.8	98.8	100.9	105.9	108.1	112.0	106.5	104.6	146.4
1600	99.1	100.5	98.7	96.9	99.6	101.5	100.3	102.0	105.6	108.5	110.1	105.0	105.0	146.0
2000	102.3	101.3	100.2	98.6	98.7	100.9	100.7	102.7	105.0	108.6	109.2	103.4	106.0	146.0
2500	99.7	98.2	98.4	97.0	99.7	101.5	101.0	103.1	106.5	108.6	107.9	103.1	105.0	145.7
3150	99.7	99.5	99.1	96.8	99.7	102.0	102.2	103.6	106.0	107.2	107.1	102.7	104.9	145.5
4000	100.3	99.7	99.7	98.0	100.8	102.6	102.5	104.3	106.2	107.5	106.0	101.9	105.0	145.8
5000	100.8	100.6	100.3	97.8	100.2	103.1	102.5	103.9	105.9	106.5	106.1	102.2	105.3	145.8
6300	101.5	101.4	101.4	98.2	101.3	103.2	102.9	104.4	105.1	105.6	104.9	102.4	105.5	145.9
8000	102.9	102.7	101.9	99.2	101.4	103.0	102.8	103.0	105.7	105.6	104.5	103.1	105.9	146.4
10000	103.2	103.0	102.9	99.4	102.2	103.6	102.5	103.3	104.1	103.5	102.0	101.5	104.0	146.5
12500	103.5	104.8	104.4	101.2	103.8	104.7	101 9	101.7	102.5	100.8	101.4	100.2	102.2	147.4
16000	104.0	104.5	105.7	102.4	103.7	104.3	101.7	100.6	99.4	97.6	96.4	96.1	98.5	148.3
20000	101.7	103.3	103.1	102.4	102.0	103.2	101.0	98.2	98.1	95.0	93.0	94.3	96.4	148.6
25000	98.7	100.4	100.7	98.7	99.5	102.3	99.9	95.9	95.8	92.6	90.4	91.7	93.1	148.7
31500	95.5	96.9	97.6	96.5	96.7	99.2	96.4	93.9	93.4	90.1	88.6	88.5	89.4	148.9
40000	94.1	94.8	94.7	93.9	93.4	95.5	92.7	90.4	88.9	85.5	84.0	83.1	84.3	149.7
50000	89.5	90.9	90.5	89.4	88.0	90.8	87.3	84.8	84.7	80.8	81.1	79.7	80.4	149.5
63000	82.0	83.8	84.0	83.3	82.2	85.2	81.2	80.2	80.2	76.5	76.1	75.7	75.1	148.7
80000	74.2	76.4	77.4	75.6	74.9	79.0	74.7	73.4	70.4	66.7	66.2	65.9	65.2	148.4
OASPL	113.7	114.0	113.8	111.4	113.2	114.9	113.8	114.7	117.3	120.1	123.4	122.5	118.7	161.7
PNL	124.1	123.7	123.3	121.2	123.7	125.6	125.3	126.9	129.4	131.6	132.7	130.3	129.7	
PNLT	124.1	123.7	123.3	121.2	123.7	125.6	125.3	126.9	129.4	131.6	132.7	130.3	129.7	
DBA	197.3	199.2	199.8	198.4	197.6	201.1	197.0	195.7	194.1	190.4	189.9	189.4	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 DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH232 TEST DATE = 04-25-83 LOCAT = C41 ANECH CH CONFIG = 17 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 57.07 PAMB HG = 28.97 RELHUM = 25.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1929.1 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2342.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1722 TAPE = X1722F TEST PT NO = 1722 NC = AE094 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 - 83F-400-1722 X17221

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.3	72.9	72.5	70.9	72.9	74.3	75.0	75.5	78.5	84.5	87.6	87.9	77.5	162.3
63	70.9	72.6	72.8	71.5	73.2	74.6	76.4	75.9	79.0	85.5	89.5	88.0	77.5	163.1
80	71.3	73.2	73.7	70.9	74.2	75.9	74.6	76.4	80.1	86.7	90.8	88.9	77.2	164.2
100	72.2	73.6	74.3	72.5	75.2	77.1	76.3	77.6	81.9	86.4	90.7	87.2	77.7	163.9
125	72.3	74.2	74.6	72.9	75.8	77.7	76.6	78.3	82.9	86.5	89.7	85.1	78.2	163.2
160	73.4	73.6	74.1	73.6	76.9	78.9	77.8	79.8	83.0	85.3	87.7	82.0	76.3	161.9
200	75.6	76.1	76.1	74.2	76.6	79.1	77.9	79.6	83.8	84.9	87.2	79.2	73.6	161.7
250	73.9	77.0	76.4	75.4	78.5	80.5	79.3	80.5	83.3	85.1	84.9	77.3	73.3	161.4
315	76.7	77.5	77.6	76.8	77.4	79.8	79.4	80.9	82.4	84.7	83.6	75.1	73.5	161.3
400	73.6	74.0	75.4	74.8	78.0	80.0	79.3	81.0	83.6	84.4	81.8	74.2	71.5	161.1
500	73.0	74.8	75.8	74.3	77.7	80.2	80.2	81.2	82.7	82.5	80.5	73.1	70.3	160.8
630	73.1	74.6	75.9	75.2	78.5	80.5	80.2	81.4	82.5	82.4	78.8	71.6	69.3	161.1
800	73.0	75.0	76.1	74.7	77.6	80.7	79.9	80.7	81.7	81.0	78.3	71.1	68.4	161.1
1000	73.2	75.3	76.9	74.8	78.4	80.5	80.0	80.9	80.6	79.6	76.5	70.4	67.3	161.2
1250	73.9	76.1	77.0	75.3	78.1	79.9	79.5	79.1	80.8	79.0	75.5	70.2	66.0	161.7
1600	73.1	75.6	77.3	75.0	78.4	80.0	78.7	78.9	78.5	76.1	71.8	66.9	61.6	161.8
2000	71.8	76.2	77.9	75.9	79.3	80.5	77.4	76.5	76.0	72.3	69.7	63.4	56.2	162.7
2500	70.1	74.3	78.0	76.1	78.2	79.2	76.3	74.4	71.7	67.5	62.6	56.2	47.2	163.6
3150	63.9	70.1	72.9	74.0	74.6	76.1	73.6	69.8	67.8	61.7	55.1	48.8	36.1	163.9
4000	53.9	61.7	65.8	66.2	68.3	71.5	68.7	63.4	61.0	53.9	45.6	36.4	17.5	164.0
5000	40.1	49.8	55.6	57.7	59.7	62.8	59.3	55.2	51.5	43.0	33.2	18.7		164.2
6300	20.5	33.1	40.3	44.0	45.9	48.7	45.2	40.5	34.5	23.7	10.4			165.0
8000		3.4	13.8	19.3	21.5	25.4	20.8	14.7	8.0					164.8
10000														164.1
12500														163.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.8	87.7	88.7	87.3	90.0	91.9	91.0	91.9	94.1	96.3	98.4	95.2	86.5	176.9
PNL	93.6	96.9	99.3	97.9	100.3	102.0	100.0	99.5	100.2	100.3	99.8	94.7	87.7	
PNLT	93.6	97.6	99.9	98.5	100.9	102.5	100.6	100.1	100.7	100.3	101.0	94.7	87.7	
DBA	82.5	85.1	86.8	85.3	88.1	89.9	88.7	88.9	89.7	89.2	87.3	80.8	76.8	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-17/NAS3-22137

VEHICL = ADH232	TEST DATE = 04-25-83	LOCAT = C41 ANECH CH	CONFIG = 17	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 57.07	PAMB HG = 28.97	RELHUM = 25.2 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 = 1929.1 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2342.9 FPS	AE18 = 19.9 SQ IN

NPT 3F-2 1722 PE = 2T PT T7 C AE DRR SPE RPI

P1165-03

TAS-18 (Shield to Outer Stream Velocity Ratio at Takeoff is 0.48).

DATPROC - FLTRAN

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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 83F-ZER-1803 X1803C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.4	85.7	85.9	86.0	77.8	79.4	83.8	86.7	81.7	83.0	84.4	87.6	85.7	126.3
63	84.8	94.3	96.6	96.1	85.7	87.3	93.4	95.1	90.8	88.9	87.0	95.2	97.1	135.3
80	84.5	88.8	84.6	82.9	83.7	88.3	87.7	87.4	87.8	89.6	91.3	91.7	77.6	129.8
100	83.7	89.2	84.8	84.8	87.4	89.0	88.1	89.8	88.5	91.1	93.7	95.9	81.8	131.6
125	80.6	84.4	85.9	84.7	87.3	89.7	89.3	89.0	89.2	93.5	97.9	99.6	85.7	133.7
160	79.9	81.2	85.0	82.8	83.1	86.0	88.1	88.0	88.2	93.0	97.7	99.9	91.5	133.3
200	80.8	82.3	85.8	84.1	85.0	88.1	89.2	90.6	92.8	95.9	99.0	103.5	94.6	136.0
250	81.0	85.3	84.8	83.6	86.0	88.6	89.7	91.4	93.3	98.2	103.0	105.5	96.9	138.3
315	82.1	85.9	87.1	85.4	87.5	90.6	92.3	93.4	94.9	99.0	103.1	105.0	99.9	138.7
400	83.1	85.4	86.4	84.2	86.8	89.9	92.8	93.7	96.4	100.2	104.1	105.5	99.7	139.4
500	83.3	86.1	86.2	84.7	87.8	91.1	91.5	93.7	96.4	99.9	103.4	103.8	98.7	138.6
630	82.8	86.3	86.6	85.6	88.5	91.8	93.0	94.6	96.6	100.1	103.6	102.5	97.6	138.5
800	84.3	86.1	87.2	85.4	88.5	92.1	92.8	95.4	98.2	100.4	102.6	100.5	96.7	138.2
1000	86.5	87.8	88.3	86.6	90.2	93.1	93.7	96.4	98.8	100.3	101.8	99.2	95.9	138.1
1250	84.9	89.0	88.5	87.1	89.4	93.0	92.9	96.3	98.2	99.5	100.7	98.4	95.0	137.5
1600	84.8	88.5	89.4	87.3	90.3	93.6	94.2	96.5	98.9	100.0	101.1	98.0	95.2	137.9
2000	85.3	88.1	89.0	87.4	90.5	93.6	94.1	96.9	98.2	99.3	100.3	97.9	95.4	137.6
2500	84.4	88.7	88.8	87.5	90.1	93.7	93.7	96.5	97.7	98.3	99.0	96.5	94.5	136.9
3150	84.7	88.3	89.6	87.8	90.4	94.0	94.6	96.3	98.7	98.5	98.3	95.7	92.8	137.1
4000	84.1	88.2	88.8	87.3	90.9	93.7	94.0	96.1	97.0	96.8	96.7	95.0	91.6	136.2
5000	84.5	88.8	89.2	87.3	90.8	94.1	93.7	96.0	96.8	96.2	95.7	93.5	90.5	136.0
6300	84.9	88.5	89.3	87.7	91.2	94.2	94.5	96.7	95.9	95.1	94.3	91.9	89.1	136.0
8000	83.6	87.4	88.3	87.5	90.2	93.7	93.9	95.5	94.5	93.3	92.0	89.3	86.9	135.2
10000	83.2	87.7	88.7	88.1	91.2	94.2	93.9	95.2	94.5	92.1	89.6	87.3	85.1	135.6
12500	82.1	86.0	87.8	87.3	90.3	93.8	93.4	93.8	93.2	90.1	87.1	84.8	82.4	135.3
16000	79.9	85.9	86.3	86.6	88.5	92.4	92.5	92.6	91.7	87.8	84.0	80.5	78.2	135.3
20000	79.1	84.3	85.1	84.9	86.7	90.2	90.8	89.9	88.8	84.6	80.5	76.6	74.9	134.8
25000	77.5	82.0	83.3	84.1	85.2	89.3	88.5	87.0	86.3	81.6	76.8	74.8	71.2	135.3
31500	73.0	78.1	79.2	81.3	82.3	86.1	84.9	84.5	82.9	78.1	73.3	71.0	66.4	135.2
40000	68.6	73.6	75.4	77.0	78.4	83.0	82.1	80.8	79.7	75.6	71.6	67.8	62.9	135.8
50000	62.3	67.7	69.0	71.0	72.2	77.7	75.7	75.7	74.7	70.3	66.0	62.4	56.6	134.6
63000	56.5	62.9	63.6	64.5	66.5	71.9	69.6	70.0	70.1	65.9	61.7	57.4	50.7	134.3
80000	50.0	59.1	56.9	56.6	59.4	65.8	63.4	63.0	62.9	58.6	54.4	50.1	42.8	134.6
OASPL	97.9	102.1	102.9	101.9	103.2	106.4	107.0	108.7	109.9	111.4	113.7	114.0	108.8	151.5
PNL	109.9	113.6	114.4	112.9	115.5	118.7	119.2	121.2	122.7	123.4	124.3	123.0	119.2	
PNLT	109.9	113.6	114.4	112.9	115.5	118.7	119.2	121.2	122.7	123.4	124.3	123.0	119.2	
DBA	96.3	99.7	100.3	98.8	101.8	105.1	105.4	107.7	109.2	110.3	111.8	110.4	106.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH252 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 65.86 PAMB HG = 29.61 RELHUM = 68.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1083.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1748.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1803 TAPE = X1803C TEST PT NO = 1803 NC = AE095 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1803 X1803F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.4	85.7	85.9	86.0	77.8	79.4	83.8	86.7	81.7	83.0	84.4	87.6	85.7	126.3
63	84.8	94.3	96.6	96.1	85.7	87.3	93.4	95.1	90.8	88.9	87.0	95.2	97.1	135.3
80	84.5	88.8	84.6	82.9	83.7	88.3	87.7	87.4	87.8	89.6	91.3	91.7	77.6	129.8
100	83.7	89.2	84.8	84.8	87.4	89.0	88.1	89.8	88.5	91.1	93.7	95.9	81.8	131.6
125	80.6	84.4	85.9	84.7	87.3	89.7	89.3	89.0	89.2	93.5	97.9	99.6	85.7	133.7
160	79.9	81.2	85.0	82.8	83 1	86.0	88.1	88.0	88.2	93.0	97.7	99.9	91.5	133.3
200	80.8	82.3	85.8	84.1	85.0	88.1	89.2	90.6	92.8	95.9	99.0	103.5	94.6	136.0
250	81.0	85.3	84.8	83.6	86.0	88.6	89.7	91.4	93.3	98.2	103.0	105.5	96.9	138.3
315	82.1	85.9	87.1	85.4	87.5	90.6	92.3	93.4	94.9	99.0	103.1	105.0	99.9	138.7
400	83.1	85.4	86.4	84.2	86.8	89.9	92.8	93.7	96.4	100.2	104.1	105.5	99.7	139.4
500	83.3	86.1	86.2	84.7	87.8	91.1	91.5	93.7	96.4	99.9	103.4	103.8	98.7	138.6
630	82.8	86 3	86.6	85.6	88.5	91.8	93.0	94.6	96.6	100.1	103.6	102.5	97.6	138.5
800	84.3	86.1	87.2	85.4	88.5	92.1	92.8	95.4	98.2	100.4	102.6	100.5	96.7	138.2
1000	86.5	87.8	88.3	86.6	90.2	93.1	93.7	96.4	98.8	100.3	101.8	99.2	95.9	138.1
1250	84.9	89.0	88.5	87.1	89.4	93.0	92.9	96.3	98.2	99.5	100.7	98.4	95.0	137.5
1600	84.8	88.5	89.4	87.3	90.3	93.6	94.2	96.5	98.9	100.0	101.1	98.0	95.2	137.9
2000	85.3	88.1	89.0	87.4	90.5	93.6	94.1	96.9	98.2	99.3	100.3	97.9	95.4	137.6
2500	84.4	88.7	88.8	87.5	90.1	93.7	93.7	96.5	97.7	98.3	99.0	96.5	94.5	136.9
3150	84.7	88.3	89.6	87.8	90.4	94.0	94.6	96.3	98.7	98.5	98.3	95.7	92.8	137.1
4000	84.1	88.2	88.8	87.3	90.9	93.7	94.0	96.1	97.0	96.8	96.7	95.0	91.6	136.2
5000	84.5	88.8	89.2	87.3	90.8	94.1	93.7	96.0	96.8	96.2	95.7	93.5	90.5	136.0
6300	84.9	88.5	89.3	87.7	91.2	94.2	94.5	96.7	95.9	95.1	94.3	91.9	89.1	136.0
8000	83.6	87.4	88.3	87.5	90.2	93.7	93.9	95.5	94.5	93.3	92.0	89.3	86.9	135.2
10000	83.2	87.7	88.7	88.1	91.2	94.2	93.9	95.2	94.5	92.1	89.6	87.3	85.1	135.6
12500	82.1	86.0	87.8	87.3	90.3	93.8	93.4	93.8	93.2	90.1	87.1	84.8	82.4	135.3
16000	79.9	85.9	86.3	86.6	88.5	92.4	92.5	92.6	91.7	87.8	84.0	80.5	78.2	135.3
20000	79.1	84.3	85.1	84.9	86.7	90.2	90.8	89.9	88.8	84.6	80.5	76.6	74.9	134.8
25000	77.5	82.0	83.3	84.1	85.2	89.3	88.5	87.0	86.3	81.6	76.8	74.8	71.2	135.3
31500	73.0	78.1	79.2	81.3	82.3	86.1	84.9	84.5	82.9	78.1	73.3	71.0	66.4	135.2
40000	68.6	73.6	75.4	77.0	78.4	83.0	82.1	80.8	79.7	75.6	71.6	67.8	62.9	135.8
50000	62.3	67.7	69.0	71.0	72.2	77.7	75.7	75.7	74.7	70.3	66.0	62.4	56.6	134.6
63000	56.5	62.9	63.6	64.5	66.5	71.9	69.6	70.0	70.1	65.9	61.7	57.4	50.7	134.3
80000	50.0	59.1	56.9	56.6	59.4	65.8	63.4	63.0	62.9	58.6	54.4	50.1	42.8	134.6
OASPL	97.9	102.1	102.9	101.9	103.2	106.4	107.0	108.7	109.9	111.4	113.7	114.0	108.8	151.5
PNL	109.9	113.6	114.4	112.9	115.5	118.7	119.2	121.2	122.7	123.4	124.3	123.0	119.2	
PNLT	109.9	113.6	114.4	112.9	115.5	118.7	119.2	121.2	122.7	123.4	124.3	123.0	119.2	
DBA	172.3	180.4	179.3	179.7	182.0	187.9	185.6	185.5	185.3	181.0	176.8	172.6	165.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH252 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 65.86 PAMB HG = 29.61 RELHUM = 68.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1083.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1748.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1803 TAPE = X1803F TEST PT NO = 1803 NC = AE095 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 - 83F-2ER-1803 X18031

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	58.0	63.3	65.6	64.6	67.1	70.4	71.9	72.6	73.4	76.4	79.0	78.7	70.3	154.1
63	58.9	62.7	64.8	63.3	66.3	69.6	72.3	72.8	74.8	77.6	79.9	79.1	69.9	154.7
80	59.1	63.5	64.6	63.8	67.3	70.8	71.1	72.8	74.8	77.2	79.1	77.4	68.9	153.9
100	58.5	63.6	65.0	64.7	68.0	71.5	72.5	73.7	75.0	77.4	79.3	75.9	67.7	153.9
125	59.9	63.3	65.4	64.5	68.0	71.7	72.2	74.5	76.4	77.6	78.2	73.8	66.5	153.5
160	61.9	64.8	66.5	65.5	69.5	72.5	73.0	75.2	77.0	77.3	77.2	72.3	65.3	153.5
200	60.1	65.8	66.4	65.8	68.5	72.3	72.0	75.0	76.2	76.3	75.8	71.1	64.0	152.8
250	59.6	65.0	67.1	65.8	69.2	72.7	73.2	75.0	76.6	76.5	75.9	70.3	63.5	153.3
315	59.6	64.2	66.4	65.6	69.1	72.4	72.7	75.1	75.6	75.4	74.7	69.6	62.8	152.9
400	58.2	64.4	65.8	65.3	68.5	72.2	72.0	74.4	74.7	74.0	72.8	67.6	61.0	152.2
500	58.1	63.6	66.2	65.4	68.4	72.2	72.6	73.9	75.3	73.8	71.6	66.0	58.2	152.4
630	56.9	63.1	65.1	64.4	68.6	71.5	71.7	73.3	73.3	71.7	69.5	64.6	55.9	151.5
800	56.8	63.2	65.0	64.1	68.2	71.6	71 1	72.8	72.6	70.6	67.9	62.3	53.6	151.3
1000	56.5	62.4	64.8	64.2	68.3	71.4	71.6	73.2	71.4	69.1	66.0	59.9	50.9	151.3
1250	54.6	60.9	63.4	63.7	66.9	70.7	70.7	71.7	69.6	66.7	63.0	56.4	47.1	150.5
1600	53.0	60.3	63.1	63.6	67.4	70.6	70.2	70.7	69.0	64.7	59.4	52.8	42.7	150.9
2000	50.4	57.4	61.3	62.1	65.9	69.6	68.9	68.6	66.7	61.6	55.4	48.1	36.4	150.7
2500	46.0	55.7	59.5	60.3	63.0	67.3	67.1	66.3	63.9	57.7	50.1	40.6	26.9	150.6
3150	41.3	51.0	54.9	56.5	59.3	63.1	63.4	61.5	58.5	51.4	42.6	31.1	14.6	150.2
4000	32.6	43.3	48.4	51.6	54.1	58.6	57.3	54 5	51.4	42.8	31.9	19.6		150.6
5000	17.5	31.0	37.2	42.5	45.2	49.7	47.8	45.7	41.0	31.0	17.8	1.2		150.5
6300		11.9	21.0	27.0	30.9	36.3	34.6	30.9	25.3	13.9				151.1
8000				0.9	5.7	12.3	9.1	5.6						149.9
10000														149.6
12500														149.9
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	70.7	75.8	77.7	77.1	80.5	83.9	84.3	85.9	86.7	87.3	88.0	85.3	77.1	166.1
PNL	74.7	81.5	84.2	84.6	88.1	91.8	91.7	92.2	91.7	90.4	89.0	83.7	75.3	
PNLT	74.7	81.5	84.2	85.2	88.7	92.4	92.4	92.8	91.7	90.4	89.0	83.7	75.3	
DBA	64.8	71.0	73.4	73.3	76.9	80.4	80.2	81.4	80.8	79.1	77.2	72.0	64.4	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH252 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 65.86 PAMB HG = 29.61 RELHUM = 68.2 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 = 1083.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1748.8 FPS AE18 = 19.9 SQ IN

RUNF 83F -18 TAP 3031 T P = NC = A COR N SI = R

P1185-03

DATPROC - FLTRAN

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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 83F-400-1804 X1804C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50		85.8	86.8	81.3		79.3	85.6	85.2	79.7	82.0	86.0	88.4		125.7
63		92.4	97.5	91.7		87.1	95.5	93.9	86.4		88.4	92.1	94.1	134.1
80	83.3	87.0	83.1	81.6	82.0	86.5	86.7	86.6	87.6	85.6	88.7	87.9		127.8
100	80.7	86.5	81.5	80.3	83.6	86.5	84.9	86.5	85.5	87.6	90.4	88.4		127.8
125	78.4	82.1	83.7	81.1	84.3	86.6	86.0	85.7	86.0	89.8	93.8	91.4		129.2
160		78.8	82.7	78.2	79.5	83.1	86.4	84.8	85.6	89.9	94.4	91.8	87.0	129.0
200		79.0	84.3	78.7	78.9	82.9	85.4	86.6	87.7	90.8	94.2	92.6	89.8	129.6
250	75.7	78.8	80.0	77.7	80.8	83.9	83.5	85.6	88.0	92.7	97.5	94.4	90.7	131.3
315		80.4	84.8	80.1	80.5	84.7	87.4	88.2	88.5	93.1	97.8	95.1	91.9	132.1
400	77.5	80.1	81.2	79.2	81.9	84.9		87.2	90.6	94.3	98.1	93.6	88.3	131.9
500	78.4	80.5	81.0	79.0	82.3	85.8	85.6	88.1	90.6	94.2	97.8	93.1	87.6	131.9
630	77.5	80.7	81.2	79.5	83.6	86.8	87.9	88.8	90.6	94.0	97.5	91.9	85.2	131.9
800	79.2	80.3	82.0	80.2	83.4	87.1	88.2	90.1	91.6	93.6	95.6	90.5	84.6	131.4
1000	81.7	82.0	82.5	81.4	86.1	88.0	88.4	91.3	92.6	93.8	95.0	89.3	82.6	131.7
1250	80.9	83.4	82.4	81.7	84.3	87.9	88.5	91.2	93.5	93.5	93.7	88.4	82.6	131.5
1600	82.3	83.4	83.8	82.9	85.9	89.6	89.7	92.3	94.1	94.2	94.3	89.1	83.2	132.4
2000	83.2	83.3	84.7	83.3	85.9	89.5	90.5	93.1	94.2	93.7	93.3	87.1	80.1	132.4
2500	83.6	84.7	85.2	83.7	87.1	90.0	89.9	92.8	93.6	93.0	92.4	87.2	81.7	132.1
3150	84.7	84.3	85.3	84.2	87.1	90.7	91.3	93.0	94.6	93.5	92.5	86.1	79.4	132.7
4000	84.6	84.7	86.0	84.4	88.4	91.6	91.7	93.6	93.7	92.8	92.1	86.1	79.8	132.9
5000	84.8	85.8	86.6	85.0	88.5	92.5	92.1	94.5	93.7	93.0	92.4	86.5	80.5	133.5
6300	85.4	86.7	87.5	86.1	89.2	92.1	92.2	93.9	93.1	92.5	92.1	86.7	81.2	133.5
8000	84.9	85.4	86.7	86.4	89.1	92.4	91.9	92.4	92.4	91.6	91.0	86.4	81.7	133.3
10000	84.6	86.9	87.7	87.5	89.4	93.2	92.6	93.1	92.3	91.1	90.1	85.9	81.8	134.2
12500	83.5	85.2	87.3	86.9	90.5	93.3	92.1	92.0	90.6	88.6	86.7	83.7	80.5	134.2
16000	82.6	85.1	86.2	86.8	88.1	92.1	91.7	91.1	89.6	87.0	84.6	81.1	77.6	134.5
20000	81.6	83.9	85.3	84.8	86.1	89.9	89.7	88.8	86.7	83.8	81.1	77.8	74.5	134.1
25000	79.2	81.2	83.7	83.5	84.9	89.0	88.6	85.7	84.9	80.8	76.9	74.1	71.3	134.8
31500	74.6	77.2	79.0	81.1	81.9	86.5	85.2	83.1	82.3	78.0	73.9	70.4	67.0	135.0
40000	69.9	73.7	76.4	77.0	78.5	82.6	81.7	80.1	78.7	75.2	71.7	67.6	63.4	135.5
50000	64.6	69.0	73.7	70.9	72.1	78.1	76.3	74.6	74.0	70.6	67.3	62.6	57.9	134.9
63000	62.0	65.9	74.8	66.6	66.5	73.0	71.9	69.8	69.4	66.6	63.9	58.1	52.8	136.5
80000	60.5	61.6	74.3	60.9	59.1	68.2	68.7	64.6	62.8	59.3	57.2	51.4	46.6	140.2
OASPL	96.1	99.3	101.4	98.8	100.4	103.9	104.4	105.4	105.7	106.3	108.2	104.4	100.2	148.6
PNL	108.0	110.0	111.1	109.3	112.2	115.7	115.8	117.8	118.6	118.5	119.1	114.1	108.0	
PNLT	114.6	110.0	111.8	109.3	112.2	115.7	122.5	117.8	118.6	118.5	119.1	114.1	114.6	
DBA	94.9	95.8	96.7	95.5	98.6	102.0	102.1	104.1	104.9	105.0	105.8	100.7	95.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH242	TEST DATE = 04-28-83	LOCAT = C41 ANECH CH	CONFIG = 18	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 63.75	PAMB HG = 29.01	RELHUM = 73.8 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT = .	NBFR =
FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1116.9 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1796.1 FPS	AE18 = 19.9 SQ IN	

RUNPT = 83F-400-1804 TAPE = X1804C TEST PT NO = 1804 NC = AE095 CORR FAN SPEED = RPM

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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 - 83F-400-1804 X1804F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	83.6	85.3	84.9	81.0	82.4	83.9	81.6	82.0	85.9	90.0	94.5	92.6	91.6	129.6
315	83.6	85.3	84.9	81.0	82.1	84.9	86.3	86.0	87.7	90.7	94.4	91.1	88.8	129.8
400	83.2	86.1	89.3	83.2	83.8	85.2	85.3	84.7	88.1	91.1	94.8	91.7	90.0	130.5
500	85.2	86.5	86.1	82.6	84.2	86.1	84.5	85.6	88.3	91.3	95.0	91.5	89.7	130.4
630	86.1	86.9	86.0	82.5	85.5	87.2	86.8	86.4	90.2	91.9	94.4	92.1	92.4	131.1
800	85.2	87.1	86.2	83.0	85.4	87.6	87.4	88.1	91.6	92.7	94.6	92.3	93.1	131.7
1000	86.9	86.7	87.1	83.8	88.3	88.7	87.9	89.5	93.1	93.0	93.8	92.1	93.6	132.2
1250	89.4	88.5	87.6	85.1	86.6	88.7	88.5	90.0	94.1	94.0	94.9	93.1	94.6	133.1
1600	88.5	89.9	87.6	85.5	88.4	90.6	89.9	91.4	94.2	93.4	93.6	91.0	91.8	133.1
2000	89.9	90.0	89.1	86.8	88.6	90.8	91.0	92.3	94.7	93.9	94.1	92.4	94.4	133.9
2500	90.9	89.8	90.0	87.3	90.0	91.6	90.9	92.8	95.7	94.3	93.9	91.2	92.5	134.2
3150	91.2	91.3	90.7	87.8	90.3	92.7	92.6	93.2	95.9	94.7	94.8	92.3	93.8	135.0
4000	92.3	90.9	90.8	88.6	92.6	94.2	93.8	94.7	96.3	95.4	95.6	93.3	94.9	136.1
5000	95.0	93.7	93.5	90.2	93.1	95.5	94.5	96.0	96.1	95.4	95.7	93.7	95 6	137.1
6300	95.0	94.8	94.2	91.0	93.2	95.1	94.6	95.5	96.0	95.1	95.0	93.5	95.8	137.3
8000	92.7	93.3	93.2	90.8	93.7	95.4	94.3	94.3	95.2	94.0	93.4	92.1	94.8	137.0
10000	94.8	94.1	94.0	92.1	94.0	96.2	94.7	94.3	92.0	89.5	88.0	87.9	91.7	137.2
12500	94.3	95.3	94.6	92.9	95.1	96.3	93.5	92.0	91.6	88.5	86.4	85.9	89.3	137.9
16000	92.7	93.1	93.7	91.8	92.7	95.1	93.1	91.0	89.0	85.6	83.2	83.0	86.6	137.7
20000	91.3	92.5	92.3	91.2	90.1	92.9	91.1	88.8	87.9	83.3	79.7	79.9	84.0	137.8
25000	86.9	88.5	89.0	87.5	89.5	92.0	90.1	85.6	86.0	81.3	77.5	77.0	80.5	137.9
31500	86.5	87.2	88.3	86.6	86.5	89.5	86.7	83.1	83.3	79.2	76.1	75.0	77.8	139.0
40000	81.1	82.5	82.8	83.4	83.1	85.6	83.2	80.1	78.9	75.0	72.1	70.4	72.7	138.9
50000	76.0	78.5	79.8	78.9	76.7	81.1	77.7	74.5	75.7	72.8	71.0	68.5	70.4	138.8
63000	69.7	72.9	76.2	71.7	70.5	76.0	73.4	70.1	70.2	66.2	64.5	61.6	63.8	139.0
80000	62.9	66.0	74.1	64.9	62.9	71.2	70.2	64.6	60.4	56.4	54.7	51.8	54.0	141.2
OASPL	104.3	104.5	104.3	101.9	103.9	105.9	104.8	105.0	106.4	105.8	106.7	104.6	105.8	150.6
PNL	115.9	115.4	115.1	112.1	115.0	116.9	116.2	117.2	118.9	118.4	118.9	116.8	118.1	
PNLT	115.9	115.4	115.8	112.1	115.0	116.9	116 2	117.2	118.9	118.4	118.9	116.8	118.1	
DBA	185.4	188.4	194.9	187.5	185.8	192 7	191.3	186.3	184.2	180.4	178.6	175.8	178.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH242	TEST DATE = 04-28-83	LOCAT = C41 ANECH CH	CONFIG = 18	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 63.75	PAMB HG = 29.01	REL.HUM = 73.8 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 = 1116.9 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1796.1 FPS	AE18 = 19.9 SQ IN

INPT 33F= T80 APE = 04F PT = T NC = AE CORR SP = RF

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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 - 83F-400-1804 X18041

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	59.5	62.7	63.4	60.2	61.7	64.6	65.9	65.2	66.2	68.1	70.2	64.8	59.2	145.1
63	59.1	63.5	67.7	62.3	63.4	64.9	64.9	63.9	66.5	68.5	70.6	65.3	60.2	145.8
80	61.0	63.8	64.5	61.8	63.8	65.8	64.1	64.8	66.7	68.6	70.8	65.1	59.8	145.7
100	61.8	64.2	64.3	61.6	65.0	66.8	66.3	65.5	68.5	69.1	70.1	65.6	62.4	146.4
125	60.8	64.3	64.5	62.0	64.9	67.1	66.8	67.1	69.9	69.8	70.2	65.7	62.9	147.0
160	62.3	63.7	65.2	62.7	67.6	68.1	67.2	68.4	71.2	70.0	69.2	65.1	63.0	147.6
200	64.5	65.3	65.6	63.8	65.7	68.0	67.7	68.7	72.1	70.8	70.0	65.9	63.5	148.4
250	63.3	66.4	65.3	64.0	67.3	69.7	68.9	69.9	71.9	69.9	68.4	63.3	60.1	148.4
315	64.3	66.1	66.5	65 0	67.2	69.6	69.7	70.5	72.1	70.1	68.5	64.1	61.8	149.2
400	64.7	65.6	67.0	65.2	68.3	70.1	69.2	70.7	72.7	70.0	67.8	62.3	58.9	149.6
500	64.6	66.6	67.3	65.4	68.3	70.9	70.7	70.8	72.5	70.1	68.1	62.7	59.2	150.3
630	65.1	65.8	67.1	65.8	70.3	72.0	71.5	71.9	72.6	70.3	68.4	62.9	59.2	151.4
800	67.2	68.1	69.4	67.0	70.5	73.1	71.9	72.8	71.9	69.8	67.9	62.6	58.7	152.4
1000	66.7	68.7	69.7	67.5	70.3	72.4	71.6	72.0	71.5	69.0	66.7	61.5	57.6	152.7
1250	63.6	66.7	68.3	67.0	70.5	72.4	71.1	70.5	70.4	67.4	64.3	59.2	55.0	152.3
1600	64.6	66 7	68.4	67.7	70.2	72.6	70.9	69.9	66.4	62.1	57.8	53.3	49.3	152.5
2000	62.6	66.8	68.1	67.7	70.6	72.0	69.0	66.8	65.1	59.9	54.7	49.2	43.3	153.2
2500	58.8	62.9	65.9	65.5	67.3	70.0	67.7	64.8	61.2	55.5	49.4	43.0	35.3	153.1
3150	53.5	59.3	62.0	62.8	62.7	65.8	63.7	60.4	57.6	50.1	41.8	34.3	23.7	153.1
4000	42.0	49.8	54.1	55.0	58.3	61.2	58.9	53.2	51.1	42.5	32.6	21.8	4.9	153.3
5000	31.0	40.1	46.4	47.8	49.5	53.0	49.6	44.3	41.4	32.1	20.6	5.2		154.3
6300	7.4	20.7	28.4	33.4	35.6	38.9	35.7	30.2	24.5	13.3				154.3
8000			3.1	8.7	10.1	15.6	11.1	4.4						154.1
10000														154.3
12500														156.5
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	76.2	78.4	79.6	77.8	80.8	82.9	81.8	82.0	82.9	81.4	80.8	75.9	72.4	165.9
PNL	83.8	87.2	88.7	87.8	90.6	92.6	90.9	89.7	88.9	86.1	83.9	78.4	74.7	
PNLT	85.2	88.2	89.9	88.4	91.3	93.1	91.5	90.4	88.9	86.1	83.9	78.4	74.7	
DBA	73.9	76.2	77.7	76.5	79.4	81.5	80.1	79.7	79.4	76.7	74.5	69.3	65.7	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH242 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = C0 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = N0 PWL AREA = FULL SPHERE TAMB F = 63.75 PAMB HG = 29.01 RELHUM = 73.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1116.9 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1796.1 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1804 TAPE = X18041 TEST PT NO = 1804 NC = AE095 CORR FAN SPEED = RPM

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DATPROC - FLTRAN

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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 83F-ZER-1805 X1805C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.9	85.2	85.7	86.0	80.8	80.9	85.3	87.2	81.9	84.4	86.9	89.8	88.0	127.3
63	85.3	93.8	96.6	95.9	90.2	89.3	93.2	95.9	88.8	89.2	89.5	90.5	96.4	135.2
80	87.5	92.3	88.1	86.1	86.2	91.3	90.7	90.4	90.8	92.6	94.3	94.7	81.6	132.8
100	86.5	92.0	87.5	87.5	89.9	92.3	91.4	92.8	91.3	94.1	97.0	98.6	84.3	134.6
125	82.9	86.9	89.2	87.5	90.3	92.7	92.3	91.7	92.2	96.7	101.1	102.3	89.2	136.7
160	82.9	83.0	86.7	84.5	86.4	88.7	91.1	90.5	90.7	96.1	101.4	103.1	94.5	136.5
200	83.0	84.1	87.1	85.1	87.5	90.8	91.5	93.4	96.1	99.0	102.0	106.5	97.4	138.9
250	83.5	88.1	87.6	86.1	88.5	91.3	92.5	94.6	96.6	101.7	106.8	109.0	100.6	141.8
315	85.1	87.4	88.1	87.2	90.0	93.4	94.3	95.9	97.9	102.5	107.1	109.0	103.2	142.4
400	85.3	88.4	88.4	86.7	90.0	93.1	96.3	96.9	99.6	103.8	108.1	109.8	103.9	143.3
500	85.8	88.6	89.2	87.4	90.5	94.1	94.5	97.2	99.9	103.9	107.9	109.0	104.2	143.1
630	86.0	89.3	89.6	88.1	92.2	95.3	95.7	98.4	100.4	104.0	107.6	108.0	103.9	142.8
800	87.3	89.1	90.2	87.9	92.3	95.9	96.0	98.9	101.2	103.8	106.4	105.8	103.2	142.1
1000	89.5	90.8	91.6	89.4	93.2	96.1	96.9	100.4	102.1	103.9	105.8	104.7	101.6	142.1
1250	87.9	92.0	91.5	89.9	92.9	96.2	96.6	100.0	101.7	103.0	104.2	104.4	101.0	141.4
1600	88.1	91.5	91.9	90.5	94.0	97.1	98.0	100.0	102.9	104.1	105.3	104.0	100.9	142.1
2000	88.3	90.8	91.7	90.6	93.7	96.6	97.5	100.6	102.0	103 1	104.3	103.1	100.6	141.5
2500	87.4	91.7	92.3	90.5	94.6	97.0	97.2	100.5	101.7	102.7	103.7	101.3	99.8	141.1
3150	87.0	90.8	92.1	90.6	93.7	97.0	97.9	100.3	102.2	101.9	101.7	100.7	97.8	140.6
4000	86.6	90.0	91.6	90.0	93.9	97.1	97.3	99.8	100.5	100.3	100.2	99.0	96.1	139.7
5000	86.8	90.8	91.6	90.6	93.6	97.1	97.2	99.3	99.7	99.3	98.9	97.5	94.0	139.1
6300	87.4	91.0	91.5	90.9	94.2	96.7	97.5	99.9	99.4	98.7	98.1	95.4	92.1	139.2
8000	86.1	89.9	90.7	90.2	93.4	96.5	96.9	98.2	97.7	96.7	95.8	92.8	89.9	138.2
10000	87.1	91.4	92.4	91.0	93.9	96.9	96.4	97.9	97.3	95.6	93.8	91.3	88.1	138.5
12500	88.8	92.7	93.0	92.2	94.3	96.8	95.6	96.3	95.6	93.1	90.5	87.6	85.4	138.5
16000	89.1	94.3	94.7	94.6	95.4	96.6	95.7	95.8	94.4	90.8	87.1	84.9	81.4	140.0
20000	86.6	90.7	92.1	92.3	94.4	97.1	95.5	93.6	91.7	87.9	84.1	80.8	78.6	140.4
25000	82.2	86.7	88.2	89.3	91.6	95.7	94.1	91.7	90.2	85.1	79.9	78.2	74.6	140.7
31500	79.3	82.7	84.5	86.4	87.9	92.2	91.0	89 8	87.5	82.5	77.4	74.8	70.3	140.8
40000	74.9	79.4	81.7	82.8	84.5	88.6	87 2	86.1	84.7	80.2	75.7	72.2	67.5	141.3
50000	68.4	73.5	75.6	77.1	78.8	84.1	81.8	81.3	80.2	75.5	70.8	67.2	61.7	140.6
63000	61.3	67.4	70.0	72.1	73.3	79.0	75.9	75.9	75.4	70.7	66.0	61.5	55.3	140.6
80000	54.3	62.7	63.5	65.0	67.8	73.0	70.3	70.1	68.7	64.1	59.5	54.5	47.4	141.4
OASPL	101.1	105.0	105.7	104.7	106.9	109.8	110.1	112.1	113.3	115.0	117.6	118.3	113.4	155.6
PNL	112.5	116.1	117.0	115.6	118.7	121.7	122.4	124.7	126.1	126.9	128.3	127.5	124.0	
PNLT	112.5	116.1	117.0	115.6	118.7	121.7	122.4	124.7	126.1	126.9	128.3	127.5	124.0	
DBA	99.1	102.4	103.1	101.7	105.2	108 2	108.7	111.3	112.8	114.0	115.7	115.4	111.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-16/NAS3-22137

VEHICL = ADH250 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 64.06 PAMB HG = 29.26 RELHUM = 73.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1203.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1984.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1805 TAPE = X1805C TEST PT NO = 1805 NC = AF095 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1805 X1805F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.9	85.2	85.7	86.0	80.8	80.9	85.3	87.2	81.9	84.4	86.9	89.8	88.0	127.3
63	85.3	93.8	96.6	95.9	90 2	89.3	93.2	95.9	88.8	89.2	89.5	90.5	96.4	135.2
80	87.5	92.3	88.1	86.1	86.2	91.3	90.7	90.4	90.8	92.6	94.3	94.7	81.6	132.8
100	86.5	92.0	87.5	87.5	89.9	92.3	91.4	92.8	91.3	94.1	97.0	98.6	84.3	134.6
125	82.9	86.9	89.2	87.5	90.3	92.7	92.3	91.7	92.2	96.7	101.1	102.3	89.2	136.7
160	82.9	83.0	86.7	84.5	86.4	88.7	91.1	90.5	90.7	96.1	101.4	103.1	94.5	136.5
200	83.0	84.1	87.1	85.1	87.5	90.8	91.5	93.4	96.1	99.0	102.0	106.5	97.4	138.9
250	83.5	88.1	87.6	86.1	88.5	91.3	92.5	94.6	96.6	101.7	106.8	109.0	100.6	141.8
315	85.1	87.4	88.1	87.2	90.0	93.4	94.3	95.9	97.9	102.5	107.1	109.0	103.2	142.4
400	85.3	88.4	88.4	86.7	90.0	93.1	96.3	96.9	99.6	103.8	108.1	109.8	103.9	143.3
500	85.8	88.6	89.2	87.4	90.5	94.1	94.5	97.2	99.9	103.9	107.9	109.0	104.2	143.1
630	86.0	89.3	89.6	88.1	92.2	95.3	95.7	98.4	100.4	104.0	107.6	108.0	103.9	142.8
800	87.3	89.1	90.2	87.9	92.3	95.9	96.0	98.9	101.2	103.8	106.4	105.8	103.2	142.1
1000	89.5	90.8	91.6	89.4	93.2	96.1	96.9	100.4	102.1	103.9	105.8	104.7	101.6	142.1
1250	87.9	92.0	91.5	89.9	92.9	96.2	96.6	100.0	101.7	103.0	104.2	104.4	101.0	141.4
1600	88.1	91.5	91.9	90.5	94.0	97.1	98.0	100.0	102.9	104.1	105.3	104.0	100.9	142.1
2000	88.3	90.8	91.7	90.6	93.7	96.6	97.5	100.6	102.0	103.1	104.3	103.1	100.6	141.5
2500	87.4	91.7	92.3	90.5	94.6	97.0	97.2	100.5	101.7	102.7	103.7	101.3	99.8	141.1
3150	87.0	90.8	92.1	90.6	93.7	97.0	97.9	100.3	102.2	101.9	101.7	100.7	97.8	140.6
4000	86.6	90.0	91.6	90.0	93.9	97.1	97.3	99.8	100.5	100.3	100.2	99.0	96.1	139.7
5000	86.8	90.8	91.6	90.6	93.6	97.1	97.2	99.3	99.7	99.3	98.9	97.5	94.0	139.1
6300	87 4	91.0	91.5	90.9	94.2	96.7	97.5	99.9	99.4	98.7	98.1	95.4	92.1	139.2
8000	86.1	89.9	90.7	90.2	93.4	96.5	96.9	98.2	97.7	96.7	95.8	92.8	89.9	138.2
10000	87.1	91.4	92.4	91.0	93.9	96.9	96.4	97.9	97.3	95.6	93.8	91.3	88.1	138.5
12500	88.8	92.7	93.0	92.2	94.3	96.8	95.6	96.3	95.6	93.1	90.5	87.6	85.4	138.5
16000	89.1	94.3	94.7	94.6	95.4	96.6	95.7	95.8	94.4	90.8	87.1	84.9	81.4	140.0
20000	86.6	90.7	92.1	92.3	94.4	97.1	95.5	93.6	91.7	87.9	84.1	80.8	78.6	140.4
25000	82.2	86.7	88.2	89.3	91.6	95.7	94.1	91.7	90.2	85.1	79.9	78.2	74.6	140.7
31500	79.3	82.7	84.5	86.4	87.9	92.2	91.0	89.8	87.5	82.5	77.4	74.8	70.3	140.8
40000	74.9	79.4	81.7	82.8	84.5	88.6	87.2	86.1	84.7	80.2	75.7	72.2	67.5	141.3
50000	68.4	73.5	75.6	77.1	78.8	84.1	81.8	81.3	80.2	75.5	70.8	67.2	61.7	140.6
63000	61.3	67.4	70.0	72.1	73.3	79.0	75.9	75.9	75.4	70.7	66.0	61.5	55.3	140.6
80000	54.3	62.7	63.5	65.0	67.8	73.0	70.3	70.1	68.7	64.1	59.5	54.5	47.4	141.4
OASPL	101.1	105.0	105.7	104.7	106.9	109.8	110.1	112.1	113.3	115.0	117.6	118.3	113.4	155.6
PNL	112.5	116.1	117.0	115.6	118.7	121.7	122.4	124.7	126.1	126.9	128.3	127.5	124.0	
PNLT	112.5	116.1	117.0	115.6	118.7	121.7	122.4	124.7	126.1	126.9	128.3	127.5	124.0	
DBA	177.1	184.4	185.8	187.4	189.7	194.9	192.2	192.0	190.9	186.3	181.6	177.0	170.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH250 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = C0 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 64.06 PAMB HG = 29.26 RELHUM = 73.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1203.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1984.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1805 TAPE = X1805F TEST PT NO = 1805 NC = AE095 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 - 83F-ZER-1805 X18051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	61.0	64.8	66.6	66.4	69.6	73.1	73.9	75.1	76.4	79.9	83.0	82.7	73.5	157.7
63	61.2	65.7	66.8	65.8	69.6	72.8	75.8	76.1	78.1	81.2	83.9	83.4	74.2	158.6
80	61.6	66.0	67.6	66.6	70.1	73.8	74.1	76.3	78.3	81.2	83.6	82.6	74.4	158.4
100	61.8	66.6	68.0	67.2	71.7	75.0	75.2	77.5	78.7	81.2	83.3	81.4	73.9	158.2
125	62.9	66.3	68.4	67.0	71.7	75.5	75.5	78.0	79.4	80.9	82.0	79.1	73.0	157.4
160	64.9	67.8	69.7	68.2	72.5	75.5	76.3	79.2	80.2	80.9	81.2	77.8	71.0	157.4
200	63.1	68.8	69.4	68.6	72.0	75.5	75.8	78.7	79.7	79.8	79.3	77.1	70.0	156.7
250	62.9	68.0	69.6	69.0	73.0	76.2	76.9	78.5	80.6	80.7	80.2	76.3	69.2	157.5
315	62.6	67.0	69.1	68.8	72.4	75.4	76.2	78.8	79.4	79.3	78.7	74.8	68.1	156.8
400	61.2	67.4	69.3	68.3	73.0	75.5	75.5	78.4	78.7	78.4	77.6	72.3	66.2	156.4
500	60.3	66.1	68.7	68.1	71.7	75.2	75.9	77.9	78.8	77.3	75.1	71.0	63.2	156.0
630	59.4	64.8	67.9	67.2	71.6	75.0	75.0	77.0	76.8	75.2	73.0	68.6	60.4	155.0
800	59.0	65.2	67.5	67.4	71.0	74.6	74.6	76.1	75.6	73.7	71.2	66.3	57.1	154.5
1000	59.0	64.9	67.1	67.4	71.3	73.9	74.5	76.4	74.9	72.7	69.7	63.4	53.9	154.5
1250	57.1	63.4	65.9	66.4	70.2	73.4	73.7	74.4	72.8	70.2	66.7	59.8	50.0	153.5
1600	57.0	64.0	66.8	66.6	70.1	73.3	72.6	73 4	71.7	68.1	63.7	56.7	45.7	153.9
2000	57.1	64.2	66.5	67.0	69.8	72.5	71.1	71.1	69.1	64.5	58.8	50.8	39.4	153.9
2500	55.2	64.1	67.0	68.3	70.0	71.5	70.3	69.5	66.6	60.6	53.3	45.0	30.1	155.4
3150	48.7	57.5	61.8	63.9	66.9	70.0	68.0	65.2	61.4	54.7	46.3	35.3	18.2	155.8
4000	37.3	47.9	53.3	56.8	60.5	65.0	63.0	59.2	55.3	46.4	35.1	23.0		156.0
5000	23.9	35.6	42.6	47.6	50.9	55.8	54.0	51.1	45.6	35.4	22.0	5.1		156.1
6300	1.3	17.7	27.3	32.9	37.0	41.9	39.7	36.2	30.3	18.5	2.0			156.6
8000				7.0	12.3	18.6	15.2	11.2	3.6					155.9
10000														155.9
12500														156.7
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	73.7	78.7	80.7	80.2	84.0	87.2	87.5	89.4	90.2	91.0	92.0	90.2	82.2	170.4
PNL	79.4	86.7	89.4	90.0	93.0	95.7	95.1	95.6	95.2	94.2	93.2	89.3	80.8	
PNLT	80.4	86.7	89.4	90.6	93.6	96.2	95.7	96.2	95.8	94.2	93.2	89.3	80.8	
DBA	68.1	74.5	77.0	77.3	80.6	83.6	83.4	84.7	84.2	82 8	81.1	76.9	69.5	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH250	TEST DATE = 04-28-83	LOCAT = C41 ANECH CH	CONFIG = 18	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 64.06	PAMB HG = 29.26	RELHUM = 73.2 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 = 1203.8 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1984.7 FPS	AE18 = 19.9 SQ IN

CONF 83F TAPE = 05T TP = NC = A CORR SF = R

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DATPROC - FLTRAN

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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 83F-400-1806 X1806C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.9	86.7	86.2	82.5	79.8	82.2	85.1	86.7	83.4	86.0	88.6	89.2	89.7	127.7
63	85.8	93.5	96.8	91.9	86.9	87.6	94.9	95.4	91.3	90.3	89.3	93.1	96.9	135.0
80	86.8	90.8	86.8	85.1	86.5	89.8	89.5	89.6	90.6	91.4	92.3	89.2	86.1	131.4
100	84.5	90.2	85.3	85.0	87.4	89.5	89.4	90.0	88.8	91.5	94.2	91.1	88.1	131.5
125	83.4	85.7	87.2	85.7	88.3	90.4	89.6	89.0	89.2	93.7	98.1	93.9	89.7	133.0
160	80.4	81.0	84.7	81.3	84.1	85.5	90.6	87.3	88.2	93.3	98.4	95.4	92.3	132.7
200	80.8	82.1	85.6	80.9	83.5	86.1	88.5	89.9	91.3	94.9	98.5	96.4	94.4	133.4
250	79.8	82.3	82.6	81.4	84.5	86.6	87.2	89.6	91.8	96.8	101.8	98.3	94.9	135.3
315	80.3	84.1	85.4	82.9	85.3	88.1	90.0	91.2	92.9	97.7	102.6	99.0	95.4	136.3
400	80.8	83.6	84.1	82.4	84.8	87.9	92.0	91.4	94.6	98.8	103.1	98.1	93.2	136.7
500	81.8	83.6	84.4	82.4	85.8	88.6	89.5	92.2	95.2	98.9	102.6	96.8	90.9	136.4
630	81.0	83.6	84.3	83.1	86.5	89.6	90.5	93.1	95.3	99.1	102.8	95.6	88.4	136.5
800	82.8	83.6	84.6	83.4	86.5	90.4	91.5	93.9	96.4	98.9	101.4	94.1	86.9	136.1
1000	85.5	85.5	85.3	84.1	88.4	91.3	92.2	95.4	97.6	99.0	100.5	93.1	85.6	136.4
1250	83.9	86.2	85.5	84.9	88.4	91.5	92.4	95.0	97.7	98.2	98.7	91.6	84.5	135.7
1600	85.6	86.7	87.1	85.8	89.5	92.9	93.7	96.5	98.9	99.1	99.3	91.6	83.9	136.8
2000	86.8	86.3	87.7	85.6	89.2	92.8	94.3	96.9	98.7	98.7	98.8	91.7	84.6	136.7
2500	86.9	88.7	88.2	86.5	90.6	93.7	93.7	96.8	98.6	98.3	97.9	91.4	84.8	136.6
3150	87.5	87.5	88.8	87.3	90.4	94.2	94.6	96.8	99.4	98.3	97.2	90.5	83.8	136.9
4000	86.9	87.7	88.8	87.0	91.2	94.4	94.8	96.8	98.0	97.4	96.9	90.4	83.8	136.5
5000	87.0	88.5	89.1	87.0	91.1	95.0	94.9	97.0	98.2	97.5	96.7	90.5	84.2	136.9
6300	87.9	89.5	89.8	88.1	91.7	95.4	95.5	96.9	97.4	97.3	97.3	91.2	85.1	137.2
8000	87.6	88.7	90.0	88.5	90.9	94.9	94.6	96.0	95.9	95.6	95.3	90.3	85.4	136.5
10000	90.1	90.6	92.1	90.0	91.6	96.2	95.4	95.8	96.2	95.3	94.3	90.2	86.1	137.6
12500	93.0	92.7	93.5	90.4	92.5	95.8	94.6	94.2	94.1	93.1	92.2	89.0	85.8	137.8
16000	92.0	94.5	95.9	94.3	93.6	95.8	94.1	93.8	92.8	91.1	89.3	86.3	83.4	139.4
20000	88.0	90.6	92.7	92.5	93.3	95.8	94.4	92.0	90.4	87.9	85.5	82 8	80.0	139.7
25000	84.3	87.0	88.8	88.6	91.0	95.4	94.0	90.5	89.3	85.4	81.6	78.6	75.7	140.4
31500	81.2	83.3	85.6	86.2	87.5	92.3	90.3	88.7	86.8	82.7	78.5	75.1	71.6	140.5
40000	77.0	79.9	81.9	81.8	83.1	88.7	87.3	84.9	84.5	80.5	76.4	72.5	68.5	141.0
50000	70.8	73.9	77.0	76.8	77.5	84.3	82.0	80.0	78.7	75.3	72.0	67.6	63.2	140.4
63000	67.2	70.3	75.6	72.0	72.0	79.4	76.8	75.5	73.8	70.9	68.1	62.9	57.7	141.1
80000	65.5	68.0	74.8	66.6	64.9	75.3	72.1	70.7	67.3	64.7	62.0	56.7	51.3	143.9
OASPL	101.2	103.2	104.3	102.2	104.0	107.4	107.5	108.7	110.0	111.0	113.0	108.0	104.4	152.9
PNL	111.9	113.0	113.8	112.1	115.4	118.7	119.3	121.2	123.1	123.3	123.9	118.0	112.4	
PNLT	111.9	113.0	113.8	112.1	115.4	118.7	119.3	121.2	123.1	123.3	123.9	118.0	112.4	
DBA	98.0	99.1	99.7	98.1	101.5	105.1	105.5	107.7	109.5	109.9	110.9	104.5	98.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH243	TEST DATE = 04-28-83	LOCAT = C41 ANECH CH	CONFIG = 18	MODEL = C8	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 61.15	PAMB HG = 29.03	RELHUM = 81.2 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1243.6 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2012.4 FPS	AE18 = 19.9 SQ IN	
RUNPT = 83F-400-1806	TAPE = X1806C	TEST PT NO = 1806	NC = AE095	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 - 83F-400-1806 X1806F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	87.1	88.4	87.3	84.5	86.0	86.6	85.3	86.0	90.1	94.3	99.0	96.3	95.0	133.5
315	87.1	88.4	87.3	84.5	87.0	88.3	88.9	88.8	91.7	95.3	99.4	95.6	93.8	134.1
400	87.7	90.3	90.2	86.2	86.6	88.1	90.8	88.9	92.4	95.5	99.2	94.9	93.0	134.4
500	88.1	89.7	88.9	85.7	87.7	89.0	88.4	89.7	92.9	96.0	99.8	94.6	92.3	134.5
630	89.5	90.0	89.4	85.9	88.4	90.0	89.4	90.7	94.5	96.5	99.3	94.9	94.0	135.0
800	88.7	90.0	89.4	86.6	88.6	90.9	90.6	91.6	96.1	97.3	99.4	95.3	95.4	135.6
1000	90.5	90.1	89.7	87.0	90.6	92.0	91.4	93.2	96.4	96.6	97.6	93.9	94.3	135.4
1250	93.2	92.0	90.4	87.8	90.6	92.3	91.7	93.0	97.8	97.6	98.2	93.7	93.2	136.1
1600	91.6	92.7	90.6	88.6	92.0	93.9	93.4	94.7	98.2	97.9	98.5	94.8	95.4	136.9
2000	93.2	93.3	92.4	89.6	91.9	94.1	94.5	95.7	98.8	98.2	98.5	95.4	96.6	137.5
2500	94.4	92.9	93.1	89.6	93.5	95.3	94.4	96.2	100.0	98.6	98.2	94.9	96.0	138.1
3150	94.5	95.3	93.7	90.7	93.7	96.3	95.8	96.7	99.6	98.7	98.8	95.8	97.0	138.6
4000	95.1	94.2	94.4	91.7	95.4	97.0	96.7	97.6	100.2	99.1	99.0	96.3	97.9	139.3
5000	97.2	96.7	96.3	92.8	95.7	98.0	97.2	98.1	99.6	99.4	100.0	97.4	98.8	140.2
6300	97.3	97.5	96.7	93.0	96.3	98.4	97.8	98.1	99.2	98.8	99.1	97.4	99.6	140.5
8000	97.9	98.3	97.2	94.0	95.5	97.9	97.1	97.7	99.8	98.6	98.0	96.8	99.5	140.8
10000	97.5	97.3	97.2	94.1	95.7	99.2	97.8	97.6	95.5	94.1	93.5	93.3	97.0	140.3
12500	97.0	96.7	97.4	94.3	96.4	98.8	96.0	94.2	94.7	92.5	91.1	91.1	95.1	140.3
16000	98.2	97.5	97.7	93.8	97.5	98.8	95.6	93.7	92.7	89.8	87.7	87.9	92.1	141.6
20000	97.0	99.1	99.8	97.3	97.3	98.8	95.8	92.0	92.2	87.9	84.3	84.4	88.4	143.9
25000	93.3	95.2	96.4	95.2	95.6	98.4	95.4	90.5	90.5	85.9	82.0	81.6	85.1	144.2
31500	91.6	93.1	93.4	91.7	92.1	95.3	91.7	88.6	89.0	84.5	80.8	79.9	82.9	144.5
40000	87.7	88.5	89.4	88.4	87.6	91.7	88.7	84.9	83.6	79.8	76.8	75.4	77.9	144.6
50000	83.1	84.8	85.3	83.6	82.1	87.3	83.4	80.0	79.7	76.3	73.8	71.6	73.4	144.4
63000	76.0	77.8	79.5	77.7	76.6	82.4	78.2	75.5	74.7	71.6	69.3	66.9	68.5	144.2
80000	70.9	72.7	76.5	71.4	69.2	78.3	73.6	70.7	64.8	61.7	59.5	57.1	58.7	146.3
OASPL	108.0	108.3	108.1	105.3	107.3	109.5	108.0	108.1	110.3	110.0	111.1	108.0	109.0	155.2
PNL	118.8	118.6	118.0	114.8	117.9	119.8	119.3	120.2	122.8	122.4	122.9	120.1	121.1	
PNLT	118.8	118.6	118.0	114.8	117.9	119.8	119.3	120.2	122.8	122.4	122.9	120.1	121.1	
DBA	192.8	194.6	197.7	193.6	191.9	199.7	195.1	192.2	188.6	185.4	183.1	180.8	182.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH243	TEST DATE = 04-28-83	LOCAT = C41 ANECH CH	CONFIG = 18	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 61.15	PAMB HG = 29.03	RELHUM = 81.2 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINI = LBS	XNL = RPM	XNH = RPM	V8 = 1243.6 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2012.4 FPS	AE18 = 19.9 SQ IN	

UNP 83F T18 APE = 06F P = NC = AL CORR SP = RI

P1185-03

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

IDENTIFICATION - 83F-400-1806 X18061

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	63.0	65.8	65.8	63.7	66.6	68.1	68.5	68.0	70.2	72.7	75.3	69.3	64.1	149.4
63	63.5	67.7	68.7	65.4	66.1	67.8	70.4	68.1	70.9	72.9	75.1	68.6	63.3	149.7
80	63.9	67.1	67.3	64.9	67.2	68.7	67.9	68.8	71.3	73.4	75.6	68.2	62.4	149.8
100	65.2	67.3	67.8	65.0	68.0	69.6	68.9	69.7	72.9	73.8	75.1	68.4	64.0	150.3
125	64.3	67.2	67.6	65.7	68.0	70.5	70.0	70.6	74.4	74.5	75.0	68.6	65.2	150.9
160	65.9	67.1	67.8	65.9	69.9	71.4	70.7	72.1	74.6	73.6	73.0	66.9	63.7	150.7
200	68.3	68.8	68.4	66.5	69.8	71.6	70.8	71.7	75.7	74.4	73.4	66.4	62.1	151.5
250	66.4	69.2	68.4	67.1	70.9	73.0	72.3	73.2	75.9	74.4	73.3	67.1	63.7	152.2
315	67.6	69.4	69.8	67.8	70.5	72.9	73.2	73.9	76.2	74.4	72.9	67.1	64.0	152.8
400	68.3	68.6	70.1	67.5	71.9	73.8	72.7	74.0	77.1	74.4	72.0	66.0	62.5	153.4
500	67.8	70.6	70.3	68.2	71.7	74.4	73.8	74.2	76.3	74.1	72.1	66.1	62.4	153.9
630	67.9	69.1	70.6	68.9	73.1	74.8	74.4	74.8	76.5	74.0	71.8	65.9	62.2	154.6
800	69.4	71.1	72.2	69.6	73.0	75.6	74.6	74.9	75.5	73.8	72.2	66.2	61.9	155.5
1000	68.9	71.5	72.2	69.5	73.4	75.7	74.8	74.6	74.7	72.8	70.8	65.5	61.4	155.8
1250	68.9	71.8	72.3	70.1	72.2	74.9	73.8	73.9	74.9	72.1	69.0	63.8	59.6	156.1
1600	67.4	69.9	71.6	69.7	71.9	75.6	74.0	73.2	69.9	66.6	63.3	58.7	54.6	155.6
2000	65.3	68.2	70.9	69.0	71.9	74.5	71.5	69.0	68.2	64.0	59.4	54.4	49.1	155.6
2500	64.3	67.3	69.9	67.6	72.1	73.7	70.1	67.5	64.9	59.6	53.8	48.0	40.8	156.9
3150	59.2	65.9	69.5	68.9	69.9	71.7	68.4	63.5	62.0	54.7	46.5	38.9	28.1	159.2
4000	48.4	56.4	61.5	62.7	64.4	67.6	64.3	58.0	55.7	47.2	37.2	26.4	9.5	159.5
5000	36.1	46.0	51.5	53.0	55.0	58.9	54.7	49.9	47.1	37.4	25.4	10.1		159.8
6300	14.0	26.8	34.9	38.5	40.1	44.9	41.2	34.9	29.2	18.1	3.1			159.9
8000			8.6	13.5	15.6	21.9	16.8	9.9	3.0					159.8
10000														159.6
12500														161.6
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	79.5	81.8	82.7	80.7	83.8	86.1	85.0	85.1	86.9	85.6	85.3	79.0	74.8	170.5
PNL	87.6	90.6	92.8	91.5	94.2	96.3	94.0	93.0	93.0	90.4	88.4	82.0	77.7	
PNLT	88.6	90.6	93.3	92.7	94.7	96.8	94.6	93.6	94.0	91.5	89.5	82.0	77.7	
DBA	77.2	79.7	81.2	79.2	82.2	84.7	83.1	82.6	83.2	80.8	78.7	73.0	69.0	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH243	TEST DATE = 04-28-83	LOCAT = C41 ANECH CH	CONFIG = 18	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 61.15	PAMB HG = 29.03	RELHUM = 81.2 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1243.6 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2012.4 FPS	AE18 = 19.9 SQ IN
RUNPT = 83F-400-1806	TAPE = X18061	TEST PT NO = 1806	NC = AE095	CORR FAN SPEED = RPM

P1188-03

DATPROC - FLTRAN

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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 83F-ZER-1807 X1807C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.9	87.7	85.4	85.0	80.6	83.9	85.6	87.7	85.2	87.5	89.9	90.3	82.7	128.4
63	87.5	94.3	96.1	95.4	88.4	91.8	93.2	95.9	91.8	92.7	93.5	96.2	96.4	135.9
80	89.5	93.8	89.3	87.6	88.7	94.1	93 5	92.1	92.8	94.6	96.3	97.0	82.1	134.9
100	88.7	94.5	89.3	89.3	91.9	94.3	93.9	95.5	94.0	96.2	98.5	100.9	86.8	136.8
125	85.6	88.4	90.4	89.7	92.3	95.2	94.8	94.2	94.2	98.9	103.6	105.6	91.5	139.3
160	84.9	85.0	89.0	86.0	88.1	91.0	93.1	92.8	93.7	99.2	104.7	106.1	96.8	139.5
200	86.0	85.1	88.1	86.4	90.0	92.8	94.0	95.4	98.3	101.7	105.0	109.5	100.1	141.7
250	85.8	88.6	89.3	87.6	91.0	93.3	94.7	97.1	98.8	104.2	109.5	112.0	103 1	144.6
315	86.6	89.1	90.4	88.2	92.5	95.6	96.5	97.9	99.9	105.4	110.8	112.8	106.2	145.8
400	88.3	89.6	90.9	88.7	92.0	94.9	97.5	98.9	101.9	107.0	112.1	113.5	107.4	146.8
500	88.3	91.4	91.7	89.7	93.0	96.1	96.8	99.4	102.2	107.0	111.9	113.3	108.2	146.8
630	88.0	91.8	91.9	90.6	93.7	97.1	98.0	100.6	103.1	107.7	112.3	112.5	108.6	146.9
800	90.1	91.1	93.1	90.9	94.3	97.6	98.3	101.4	103.4	106.9	110.4	111.0	108.9	145.9
1000	93.0	94.8	93.8	92.1	95.9	98.3	99.4	102.4	104.3	106.7	109.0	109.7	107.4	145.4
1250	90.9	95.0	94.2	93.1	95.6	98.7	99.6	102.3	104.5	106.1	107.7	108.6	107.3	144.8
1600	90.3	93.7	93.9	93.3	96.0	99.6	100.5	103.0	105.4	106.7	108.1	108.0	105.9	145.1
2000	90.8	93.3	94.5	92.9	95.7	98.8	100.3	103.6	105.2	106.1	107.0	107.1	104.6	144.5
2500	89.6	94.7	95.0	93.0	96.6	99.5	99.9	103.0	104.1	105.4	106.7	105.8	104.0	144.0
3150	90 0	93.0	94.3	93.1	95.9	99.2	100.6	102.8	104.9	105.4	106.0	105.2	102.1	143.9
4000	89.4	92.5	94.1	92.7	96.4	99.1	99.8	102.6	103.5	103.8	104.2	103.2	100.3	142.8
5000	89.5	93.5	94.1	92.3	96.1	99.0	99.7	102.3	102.7	102.8	102.9	101.0	96.7	142.1
6300	89.9	93.7	95.0	93.1	96.2	98.7	99.5	102.1	102.1	101.6	101.1	98.6	94.6	141.7
8000	90.6	95.2	95.0	93.7	96.1	98.9	98.9	100.2	100.2	99.7	99.3	96.0	91.6	140.9
10000	93.4	98.1	98.7	97.0	97.9	99.9	98.9	99.9	100.0	98.6	97.1	94.0	90.1	142.0
12500	94.3	97.4	99.8	98.5	100.1	100.8	99.4	98.5	98.4	96.1	93.8	90.8	88.4	142.8
16000	91.9	96.8	98.5	98.8	100.4	102.1	99.9	98.3	96.9	94.3	91.6	87.4	86.2	144.1
20000	89.1	93.9	95.8	95.6	98.1	101.1	99.5	97.1	94.9	91.8	88.6	84.8	84.8	144.2
25000	86.1	90.6	92.9	93.0	94.9	98.4	97.9	95.2	93.7	89.0	84.4	82.4	78.0	144.1
31500	82.1	86.9	89.2	90.1	92.1	95.2	94.2	93.0	91.7	87.2	82.6	79.3	74.0	144.3
40000	78.1	83.8	87.1	86.7	88.2	92.1	91.1	89.5	88.6	84.9	81.1	76.6	71.6	145.1
50000	72.0	79.1	85.4	82.2	83.7	88.4	86.1	84.4	83.8	79.9	75.9	71.1	65.3	145.2
63000	66.4	76.2	86.2	77.4	78.1	85.0	82.0	80.1	79.2	75.5	71.8	65.5	59.8	147.5
80000	62.8	72.2	86.0	71.7	72.7	81.2	77.7	76.3	73.9	70.0	66.2	59.2	53.9	151.6
OASPL	104.2	108.0	108.8	107.7	109.9	112.6	112.7	114.5	115.9	118.0	121.2	122.2	117.8	159.7
PNL	115.4	118.9	119.5	118.1	121.0	123.9	124.9	127.2	128.7	130.1	131.7	131.6	128.0	
PNLT	115.4	119.5	119.5	118.1	121.0	123.9	124.9	127.2	128.7	130.1	131.7	131.6	128.0	
DBA	102.1	105.5	106.1	104.5	107.5	110.5	111.2	113.9	115.4	117.1	119.3	119.7	116.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHTCL = ADH249 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = C0' FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 62.09 PAMB HG = 28.75 RELHUM = 77.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1342.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2173.0 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1807 TAPE = X1807C TEST PT NO = 1807 NC = AE095 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1807 X1807F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.9	87.7	85.4	85.0	80.6	83.9	85.6	87.7	85.2	87.5	89.9	90.3	82.7	128.4
63	87.5	94.3	96.1	95.4	88.4	91.8	93.2	95.9	91.8	92.7	93.5	96.2	96.4	135.9
80	89.5	93.8	89.3	87.6	88.7	94.1	93.5	92.1	92.8	94.6	96.3	97.0	82.1	134.9
100	88.7	94.5	89.3	89.3	91.9	94.3	93.9	95.5	94.0	96.2	98.5	100.9	86.8	136.8
125	85.6	88.4	90.4	89.7	92.3	95.2	94.8	94.2	94.2	98.9	103.6	105.6	91.5	139.3
160	84.9	85.0	89.0	86.0	88.1	91.0	93.1	92.8	93.7	99.2	104.7	106.1	96.8	139.5
200	86.0	85.1	88.1	86.4	90.0	92.8	94.0	95.4	98.3	101.7	105.0	109.5	100.1	141.7
250	85.8	88.6	89.3	87.6	91.0	93.3	94.7	97.1	98.8	104.2	109.5	112.0	103.1	144.6
315	86.6	89.1	90.4	88.2	92.5	95.6	96.5	97.9	99.9	105.4	110.8	112.8	106.2	145.8
400	88.3	89.6	90.9	88.7	92.0	94.9	97.5	98.9	101.9	107.0	112.1	113.5	107.4	146.8
500	88.3	91.4	91.7	89.7	93.0	96.1	96.8	99.4	102.2	107.0	111.9	113.3	108.2	146.8
630	88.0	91.8	91.9	90.6	93.7	97.1	98.0	100.6	103.1	107.7	112.3	112.5	108.6	146.9
800	90.1	91.1	93.1	90.9	94.3	97.6	98.3	101.4	103.4	106.9	110.4	111.0	108.9	145.9
1000	93.0	94.8	93.8	92.1	95.9	98.3	99.4	102.4	104.3	106.7	109.0	109.7	107.4	145.4
1250	90.9	95.0	94.2	93.1	95.6	98.7	99.6	102.3	104.5	106.1	107.7	108.6	107.3	144.8
1600	90.3	93.7	93.9	93.3	96.0	99.6	100.5	103.0	105.4	106.7	108.1	108.0	105.9	145.1
2000	90.8	93.3	94.5	92.9	95.7	98.8	100.3	103.6	105.2	106.1	107.0	107.1	104.6	144.5
2500	89.6	94.7	95.0	93.0	96.6	99.5	99.9	103.0	104.1	105.4	106.7	105.8	104.0	144.0
3150	90.0	93.0	94.3	93.1	95.9	99.2	100.6	102.8	104.9	105.4	106.0	105.2	102.1	143.9
4000	89.4	92.5	94.1	92.7	96.4	99.1	99.8	102.6	103.5	103.8	104.2	103.2	100.3	142.8
5000	89.5	93.5	94.1	92.3	96.1	99.0	99.7	102.3	102.7	102.8	102.9	101.0	96.7	142.1
6300	89.9	93.7	95.0	93.1	96.2	98.7	99.5	102.1	102.1	101.6	101.1	98.6	94.6	141.7
8000	90.6	95.2	95.0	93.7	96.1	98.9	98.9	100.2	100.2	99.7	99.3	96.0	91.6	140.9
10000	93.4	98.1	98.7	97.0	97.9	99.9	98.9	99.9	100.0	98.6	97.1	94.0	90.1	142.0
12500	94.3	97.4	99.8	98.5	100.1	100.8	99.4	98.5	98.4	96.1	93.8	90.8	88.4	142.8
16000	91.9	96.8	98.5	98.8	100.4	102.1	99.9	98.3	96.9	94.3	91.6	87.4	86.2	144.1
20000	89.1	93.9	95.8	95.6	98.1	101.1	99.5	97.1	94.9	91.8	88.6	84.8	84.8	144.2
25000	86.1	90.6	92.9	93.0	94.9	98.4	97.9	95.2	93.7	89.0	84.4	82.4	78.0	144.1
31500	82.1	86.9	89.2	90.1	92.1	95.2	94.2	93.0	91.7	87.2	82.6	79.3	74.0	144.3
40000	78.1	83.8	87.1	86.7	88.2	92.1	91.1	89.5	88.6	84.9	81.1	76.6	71.6	145.1
50000	72.0	79.1	85.4	82.2	83.7	88.4	86.1	84.4	83.8	79.9	75.9	71.1	65.3	145.2
63000	66.4	76.2	86.2	77.4	78.1	85.0	82.0	80.1	79.2	75.5	71.8	65.5	59.8	147.5
80000	62.8	72.2	86.0	71.7	72.7	81.2	77.7	76.3	73.9	70.0	66.2	59.2	53.9	151.6
OASPL	104.2	108.0	108.8	107.7	109.9	112.6	112.7	114.5	115.9	118.0	121.2	122.2	117.8	159.7
PNL	115.4	118.9	119.5	118.1	121.0	123.9	124.9	127.2	128.7	130.1	131.7	131.6	128.0	
PNLT	115.4	119.5	119.5	118.1	121.0	123.9	124.9	127.2	128.7	130.1	131.7	131.6	128.0	
DBA	184.1	193.4	206.4	193.5	194.5	202.4	199.1	197.6	195.6	191.7	187.9	181.4	176.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH249 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 62.09 PAMB HG = 28.75 RELHUM = 77.1 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 = 1342.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2173.0 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1807 TAPE = X1807F TEST PT NO = 1807 NC = AE095 CORR FAN SPEED = RPM

P1186-03

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

IDENTIFICATION - 83F-2ER-1807 X18071

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	62.5	66.5	68.9	67.4	72.1	75.4	76.1	77.1	78.4	82.8	86.7	86.5	76.5	161.1
63	64.2	67.0	69.3	67.8	71.6	74.6	77.1	78.1	80.3	84.4	87.9	87.1	77.7	162.1
80	64.1	68.7	70.1	68.8	72.6	75.8	76.3	78.6	80.6	84.3	87.6	86.9	78.4	162.1
100	63.8	69.1	70.2	69.7	73.2	76.7	77.5	79.7	81.5	85.0	88.0	85.9	78.7	162.3
125	65.7	68.3	71.4	69.9	73.7	77.2	77.7	80.4	81.7	84.1	86.0	84.3	78.7	161.3
160	68.4	71.8	72.0	71.0	75.3	77.8	78.8	81.2	82.5	83.7	84.4	82.8	76.8	160.7
200	66.1	71.8	72.2	71.8	74.7	78.0	78.7	81.0	82.4	82.9	82.8	81.3	76.2	160.1
250	65.1	70.3	71.6	71.8	75.0	78.7	79.4	81.5	83.1	83.3	82.9	80.3	74.2	160.4
315	65.1	69.5	71.9	71.1	74.4	77.6	79.0	81.8	82.6	82.3	81.4	78.8	72.1	159.9
400	63.5	70.4	72.0	70.8	75.0	78.0	78.3	80.9	81.2	81.2	80.6	76.8	70.5	159.3
500	63.3	68.3	71.0	70.6	73.9	77.4	78.6	80 3	81.6	80.8	79.3	75.5	67.5	159.2
630	62.2	67.3	70.3	69.9	74.1	77.0	77.5	79.8	79.7	78.7	77.0	72.9	64.6	158.1
800	61.8	67.9	70.0	69.1	73.5	76.6	77.1	79.1	78.6	77.2	75.2	69.8	59.8	157.5
1000	61.5	67.7	70.5	69.7	73.3	75.9	76.5	78.7	77.6	75.6	72.7	66.6	56.4	157.0
1250	61.6	68.6	70.1	69.9	72.9	75.9	75.7	76.4	75.3	73.2	70.2	63.1	51.8	156.2
1600	63.2	70.7	73.1	72.6	74.1	76.3	75.1	75.4	74.4	71.1	66.9	59.5	47.7	157.3
2000	62.6	68.9	73.3	73.3	75.6	76.5	74.9	73.3	71.9	67.5	62.1	54.1	42.4	158.1
2500	58.0	66.6	70.7	72.5	75.0	77.0	74.5	72.0	69.1	64.1	57.8	47.5	34.8	159.4
3150	51.2	60.7	65.5	67.1	70.7	74.0	72.0	68.6	64.7	58.6	50.8	39.3	24.5	159.5
4000	41.3	51.9	58.0	60.5	63.7	67.7	66.7	62.7	58.8	50.3	39.6	27.2	2.5	159.5
5000	26.6	39.8	47.3	51.3	55.1	58.7	57.2	54.3	49.8	40.0	27.2	9.5		159.6
6300	4.4	22.1	32.7	36.8	40.7	45.3	43.6	39.6	34.2	23.1	7.4			160.4
8000			8.7	12.1	17.1	23.0	19.6	14.3	7.1					160.6
10000														162.8
12500														167.0
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	76.6	81.8	83.8	83.4	86.7	89.6	90.0	91.9	92.8	94.1	95.8	94.4	86.8	174.7
PNL	83.5	89.9	93.3	93.9	96.8	99.4	98.5	98.2	97.9	97.3	96.7	93.7	86.2	
PNLT	83.5	89.9	93.8	94.4	97.3	99.4	99.0	98 8	98.6	97.3	96.7	93.7	87.5	
DBA	71.8	78.4	81.2	81.3	84.1	86.6	86.1	87.2	87.0	85.9	84.6	81.1	74.1	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH249 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 62.09 PAMB HG = 28.75 RELHUM = 77.1 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 = 1342.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2173.0 FPS AE18 = 19.9 SQ IN

NPT 3F-2 807 PE = 71 PT 18 AEC RR SPE RPM

446

P1185-03

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 83F-400-1808 X1808C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	87.7	86.7	82.5	81.3	83.2	85.6	88.0	84.7	87.5	90.4	91.6	92.7	129.2
63	88.0	92.5	96.6	93.1	85.9	89.6	95.4	95.1	91.1	91.3	91.5	94.7	97.9	135.4
80	89.8	93.6	89.8	87.6	88.5	92.6	92.5	91.1	92.3	94.1	95.8	92.7	89.6	134.1
100	87.5	93.0	88.0	87.3	90.4	93.0	92.1	93.3	91.5	94.2	97.0	94.5	92.1	134.5
125	85.6	88.4	89.4	88.2	91.3	93.2	92.3	92.0	91.2	96.5	101.9	97.8	93.7	136.3
160	83.4	82.2	87.0	83.5	86.4	88.2	92.4	89.3	89.7	95.7	101.7	99.0	96.3	135.6
200	83.3	83.1	86.6	82.6	85.7	88.6	90.5	91.9	94.3	97.8	101.3	99.6	97.9	136.2
250	82.0	84.6	84.8	83.6	86.7	90.1	90.2	92.4	94.6	100.1	105.5	102.3	99.1	138.9
315	82.6	85.9	86.9	84.7	87.5	90.6	92.5	94.2	95.6	101.0	106.3	103.3	100.2	139.9
400	83.6	85.6	85.9	83.9	87.8	91.1	94.5	94.4	97.1	102.3	107.6	102.9	98.2	140.7
500	84.1	85.6	86.6	84.9	88.3	91.4	92.3	94.4	97.9	102.5	107.1	101.4	95.7	140.3
630	83.5	85.6	86.3	85.6	89.2	92.3	93.7	96.1	98.8	102.8	106.8	100.1	93.4	140.3
800	85.3	85.4	87.1	85.4	89.0	93.1	94.0	97.2	99.6	102.4	105.1	97.8	90.4	139.5
1000	87.5	86.8	88.1	86.4	91.2	93.8	94.9	98.4	100.8	102.5	104.3	96.6	88.9	139.7
1250	86.4	88.5	88.0	87.6	91.1	94.2	94.6	98.3	101.2	101.7	102.2	94.8	87.5	139.0
1600	87.6	87.7	89.1	88.3	92.0	95.6	96.7	99.3	102.1	102.5	102.8	95.0	87.2	139.9
2000	89.3	87.6	88.7	88.6	91.7	95.6	96.5	100.4	102.2	102.2	102.3	94.9	87.6	140.0
2500	89.6	89.2	90.2	89.0	93.4	96.5	96.7	100.5	101.6	101.8	101.9	95.0	88.0	139.9
3150	89.5	88.3	89.8	89.8	92.7	96.5	97.1	100.3	102.6	101.9	101.2	93.9	86.6	140.1
4000	89.1	88.4	90.6	89.2	94.2	96.9	96.8	100.3	101.5	100.9	100.4	93.5	86.6	139.7
5000	90.0	89.8	90.9	89.5	93.3	96.5	97.2	99.5	101.0	100.7	100.4	93.6	86.7	139.5
6300	92.1	90.9	91.3	90.4	93.7	96.9	97.2	100.1	100.4	100.2	100.1	94.1	88.1	139.8
8000	94.6	93.1	92.5	91.2	93.4	96.7	97.1	98.5	98.9	99.0	99.0	94.3	89.6	139.5
10000	98.6	98.4	97.6	95.0	96.1	97.9	96.9	98.1	98.5	98.1	97.8	94.2	90.6	141.0
12500	97.0	97.6	98.9	97.9	99.0	99.0	97.0	97.0	97.3	96.2	95.2	91.6	88.1	141.9
16000	94.5	95.4	96.9	98.2	99.8	100.5	97.6	96.5	95.3	93.8	92.3	88.9	85.6	142.9
20000	91.9	92.5	94.1	94.9	97.5	100.2	99.1	95.7	93.3	91.0	88.7	85.3	81.9	143.4
25000	88.5	89.7	91.5	92.6	94.7	98.5	97.2	94.7	93.0	89.0	85.0	81.9	78.9	143.8
31500	84.6	86.2	87.7	90.1	90.9	94.7	94.0	92.1	90.5	86.4	82.4	78.6	74.8	143.6
40000	80.4	82.0	84.3	85.7	87.9	91.8	90.4	89.3	87.3	84.2	81.1	76.2	71.4	144.4
50000	73.9	76.5	79.9	80.7	82.4	87.4	85.1	83.4	82.5	79.3	76.1	70.8	65.6	143.8
63000	69.6	72.6	76.6	76.1	77.3	83.3	79.9	78.9	77.3	74.4	71.4	65.7	60.0	144.6
80000	66.8	70.6	74.4	70.2	71.7	79.7	74.7	74.5	71.3	69.0	66.6	59.9	53.2	147.1
OASPL	105.2	105.8	106.5	105.7	107.8	110.2	110.1	111.7	113.1	114.3	116.8	111.9	108.1	156.3
PNL	115.2	115.2	115.8	114.6	118.1	121.1	121.7	124.4	126.2	126.7	127.6	121.6	116.3	
PNLT	115.2	115.2	115.8	114.6	118.1	121.1	121.7	124.4	126.2	126.7	127.6	121.6	116.3	
DBA	102.1	101.6	102.1	100.8	104.2	107.4	107.9	110.9	112.7	113.3	114.7	108.3	102.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH244 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 59.89 PAMB HG = 29.00 RELHUM = 85.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1343.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2186.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1808 TAPE = X1808C TEST PT NO = 1808 NC = AE095 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 - 83F-400-1808 X1808F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	89.9	91.0	89.8	86.9	88.3	90.1	88.3	88.8	93.1	97.9	103.1	100.8	99.9	137.4
315	89.9	91.0	89.8	86.9	89.3	90.8	91.5	92.0	94.4	99.0	104.2	100.7	99.0	138.2
400	90.3	92.3	91.8	88.1	89.6	91.4	93.3	92.0	95.3	99.3	103.9	99.8	98.0	138.2
500	91.2	92.0	90.8	87.3	90.2	91.7	91.1	92.0	96.5	100.0	104.1	99.5	97.7	138.3
630	91.8	92.0	91.6	88.4	91.2	92.8	92.7	93.7	97.7	100.0	103.1	98.5	97.5	138.3
800	91.2	92.0	91.4	89.1	91.1	93.7	93.1	94.9	99.4	100.8	103.1	98.7	98.6	138.8
1000	93.0	91.8	92.2	89.0	93.4	94.5	94.1	96.2	99.9	100.0	101.0	96.9	97.1	138.5
1250	95.2	93.3	93.2	90.0	93.4	95.0	93.9	96.2	100.9	100.9	101.6	96.9	96.2	139.1
1600	94.1	94.9	93.1	91.3	94.5	96.7	96.2	97.4	101.5	101.2	101.7	97.6	97.8	139.8
2000	95.2	94.2	94.4	92.1	94.9	96.8	96.6	99.0	101.6	101.5	102.2	98.7	99.5	140.4
2500	99.7	96.4	95.8	93.7	96.3	98.1	97.3	99.7	102.8	101.7	101.4	97.2	96.9	141.1
3150	97.2	95.8	95.7	93.2	96.5	98.5	97.9	99.7	102.7	101.7	101.7	98.1	98.8	141.2
4000	99.8	97.2	97.1	95.3	98.4	99.5	98.5	100.8	102.4	101.8	102.0	98.6	99.5	142.0
5000	99.5	97.4	98.0	95.0	97.9	99.5	99.3	100.2	102.4	102.0	102.5	100.0	101.6	142.4
6300	100.3	98.7	98.4	95.5	97.7	99.9	99.4	101.2	102.1	101.9	102.5	101.0	103.3	143.0
8000	99.4	97.5	96.9	95.1	97.2	99.7	99.5	100.2	100.5	99.6	99.5	98.7	102.0	142.1
10000	100.4	98.6	97.4	95.3	99.6	100.9	98.6	98.7	98.7	97.2	96.4	95.9	99.3	142.3
12500	103.5	102.7	101.4	98.2	102.9	102.0	98.5	97.0	97.2	95.2	94.1	93.7	97.3	144.6
16000	102.4	102.6	103.3	101.4	103.8	103.5	99.0	96.5	95 6	92.9	90.9	90.5	94.1	146.6
20000	100.4	100.6	101.2	101.5	102.1	103.2	100.5	95.7	95.9	91.4	87.8	87.7	91.6	147.4
25000	100.0	99.4	99.6	98.8	99.3	101.5	98.6	94.7	94.2	89.7	85.9	85.1	88.3	147.9
31500	95.8	95.8	96.1	95.6	95.5	97.7	95.4	92.1	91.9	88.3	85.4	83.6	85.7	147.6
40000	91.1	91.4	91.5	92.3	92.5	94.8	91.8	89.3	87.5	83.8	80.9	78.6	80.3	148.0
50000	86.4	86.9	87.7	87.5	87.0	90.4	86.5	83.3	83.2	79.8	77.2	74.5	75.7	147.7
63000	79.1	80.4	82.3	81.6	81 9	86.3	81.3	78.8	78.7	75.9	73.9	70.1	70.4	147.9
80000	73.3	75.0	77.6	75.5	76.3	82.7	76.2	74.5	68.9	66.1	64.0	60.3	60.5	149.8
OASPL	111.7	110.8	110.6	108.9	111.2	112.4	110.6	110.9	113.1	113.1	114.7	111.4	112.0	158.6
PNL	122.0	120.2	119.9	117.7	120.6	122.1	121.4	123.1	125.5	125.3	126.2	123.0	124.2	
PNLT	123.1	120.2	119.9	117.7	120.6	122.1	121.4	123.1	125.5	125.3	126.2	123.0	124.2	
DBA	195.5	197.0	199.2	197.6	198.2	203.8	197.9	195.9	192.6	189.6	187.5	184.0	184.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH244	TEST DATE = 04-28-83	LOCAT = C41 ANECH CH	CONFIG = 18	MODEL = CO	FLTVEL = 400. FPS
TAPLHA = SB59	TEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 59.89	PAMB HG = 29.00	RELHUM = 85.5 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1343.7 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2186 5 FPS	AE18 = 19.9 SQ IN

INPT 3F T80 APE = 83F PT = TI JC AE ORR SPE = RP

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

IDENTIFICATION - 83F-400-1808 X18081

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.8	68.4	68.2	66.1	68.9	70.6	71.1	71.2	72.9	76.4	80.1	74.4	69.4	153.5
63	66.1	69.6	70.3	67.2	69.2	71.1	72.9	71.2	73.8	76.7	79.8	73.5	68.3	153.5
80	67.0	69.3	69.3	66.5	69.7	71.4	70.7	71.1	74.9	77.3	79.9	73.0	67.8	153.6
100	67.5	69.3	70.0	67.5	70.7	72.4	72.2	72.8	76.1	77.3	78.8	72.0	67.5	153.6
125	66.8	69.2	69.6	68.2	70.5	73.2	72.5	73.9	77.7	78.0	78.7	72.1	68.4	154.1
160	68.4	68.8	70.3	67.9	72.7	73.9	73.4	75.1	78.0	77.0	76.4	70.0	66.5	153.8
200	70.3	70.1	71.1	68.7	72.5	74.3	73.1	74.9	78.9	77.7	76.8	69.6	65.2	154.4
250	68.9	71.5	70.9	69.8	73.4	75.7	75.2	75.9	79.2	77.7	76.5	69.9	66.1	155.2
315	69.6	70.4	71.8	70.3	73.6	75.7	75.2	77.2	79.0	77.6	76.6	70.5	66.9	155.7
400	73.6	72.1	72.8	71.6	74.6	76.6	75.6	77.6	79.8	77.4	75.3	68.2	63.3	156.5
500	70.6	71.1	72.3	70.7	74.5	76.7	75.9	77.3	79.4	77.1	75.0	68.5	64.3	156.5
630	72.6	72.1	73.4	72.5	76.1	77.3	76.2	77.9	78.7	76.7	74.8	68.3	63.8	157.4
800	71.7	71.8	73.9	71.9	75.3	77.1	76.6	77.0	78.3	76.4	74.7	68.9	64.7	157.7
1000	71.9	72.7	73.9	72.0	74.8	77.2	76.5	77.7	77.6	75.9	74.1	69.0	65.1	158.3
1250	70.4	71.0	72.1	71.2	74.0	76.6	76.3	76.3	75.6	73.1	70.4	65.8	62.2	157.5
1600	70.2	71.2	71.8	70.9	75.8	77.3	74.8	74.3	73.1	69.7	66.3	61.3	56.8	157.6
2000	71.9	74.2	74.9	73.0	78.4	77.7	74.0	71.7	70.7	66.7	62.4	57.0	51.3	159.9
2500	68.6	72.5	75.5	75.1	78.4	78.4	73.6	70.2	67.8	62.7	57.0	50.6	42.7	161.9
3150	62.6	67.4	70.9	73.1	74.7	76.1	73.1	67.2	65.6	58.2	49.9	42.2	31.3	162.7
4000	55.2	60.7	64.7	66.3	68.1	70.8	67.4	62.2	59.3	50.9	41.1	29.9	12.7	163.3
5000	40.3	48.6	54.2	56.9	58.5	61.3	58.4	53.3	50.0	41.1	30.0	13.8		162.9
6300	17.4	29.7	37.1	42.4	45.0	48.1	44.3	39.3	33.0	22.0	7.2			163.3
8000			11.0	17.4	20.4	25.0	20.0	13.2	6.6					163.0
10000														163.2
12500														165.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	82.7	83.8	85.0	83.8	87.2	88.7	87.3	87.9	89.7	88.8	89.0	82.6	78.2	173.8
PNL	91.8	94.0	96.2	95.6	98.9	99.9	97.1	95.4	95.9	93.6	91.8	85.2	80.6	
PNLT	92.4	94.0	96.7	96.2	99.6	100.4	97.7	96.1	96.4	94.6	93.1	85.2	80.6	
DBA	80.6	82.0	83.6	82.8	86.3	87.4	85.3	85.2	85.7	83.5	81.6	75.7	71.6	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH244 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 59.89 PAMB HG = 29.00 RELHUM = 85.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400 0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1343.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2186.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1808 TAPE = X18081 TEST PT NO = 1808 NC = AE095 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 83F-ZER-1809 X1809C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.6	88.4	85.7	85.7	83.1	84.7	85.3	88.0	87.7	89.7	91.6	94.1	89.2	130.1
63	90.3	94.8	96.3	96.1	91.2	93.1	93.4	96.1	93.6	94.8	96.0	99.0	99.9	137.2
80	91.3	96.1	91.6	89.9	92.0	95.8	95.0	93.6	95.1	96.8	98.5	98.5	86.1	136.9
100	90.7	97.2	92.3	91.8	94.4	97.3	96.9	97.5	95.8	98.2	100.7	103.4	90.6	139.2
125	87.6	90.9	92.7	91.7	95.1	97.2	96.8	96.7	96.2	101.2	106.1	108.1	94.7	141.7
160	85.7	87.2	90.7	87.8	89.6	92.5	95.9	95.3	95.2	101.0	106.7	108.9	100.0	141.8
200	88.0	87.1	90.3	88.1	91.5	95.6	95.5	97.4	100.3	103.8	107.3	112.0	103.6	144.1
250	87.5	91.1	90.8	90.1	93.2	95.6	96.2	99.1	100.8	106.4	112.0	114.5	106.4	147.0
315	88.1	90.6	91.1	90.4	94.0	97.4	98.5	99.9	102.6	108.0	113.3	115.0	108.9	148.1
400	90.3	92.1	92.9	90.9	94.0	96.9	99.8	101.2	104.9	110.0	115.1	116.5	110.2	149.8
500	91.1	93.1	93.2	91.4	94.8	97.6	99.0	101.9	105.4	110.4	115.4	116.5	111.9	150.1
630	91.0	93.8	94.1	92.6	96.0	99.1	100.5	102.9	106.1	110.8	115.6	116.2	112.9	150.3
800	94.1	94.1	94.9	92.9	96.5	99.9	100.8	103.9	107.4	110.9	114.4	116.0	114.2	150.2
1000	97.0	98.3	96.8	94.9	98.7	100.8	101.9	105.6	108.3	111.2	114.0	115.4	114.4	150.3
1250	95.7	98.7	98.0	96.4	98.6	102.0	102.4	105.8	108.5	111.3	114.2	116.4	114.8	150.7
1600	94.6	96.7	96.6	95.8	98.8	102.1	103.2	106.0	109.1	111.4	113.6	115.0	112.9	150.1
2000	95.3	97.1	97.7	95.6	98.4	101.8	103.0	106.6	109.2	111.1	113.0	113.8	112.1	149.7
2500	93.9	96.9	97.2	95.0	99.1	102.0	102.2	106.5	108.4	110.0	111.7	111.0	110.8	148.4
3150	94.0	96.0	96.8	95.6	98.7	101.5	103.1	106.1	109.1	109.7	110.2	109.7	107.1	147.8
4000	92.9	95.2	96.6	94.5	98.4	101.4	102.5	105.3	107.2	107.9	108.7	107.5	105.8	146.4
5000	92.8	97.3	97.6	95.3	98.6	101.8	101.9	105.5	106.7	107.0	107.2	104.5	102.5	145.8
6300	93.4	97.2	97.8	96.4	99.2	101.4	102.2	104.4	105.6	105.5	105.3	102.4	99.3	145.0
8000	94.1	98.9	99.5	97.5	99.1	101.2	101.4	102.5	104.2	103.5	102.8	99.5	96.6	144.1
10000	95.1	100.1	101.7	100.0	101.9	103.2	101.4	102.4	103.3	102.0	100.8	97.0	94.6	145.0
12500	95.0	98.9	101.0	100.7	102.8	104.5	101.8	101.2	101.6	99.8	98.0	94.8	91.1	145.5
16000	93.8	98.3	99.9	100.0	101.6	103.8	102.4	100.8	100.3	97.8	95.3	91.4	88.4	146.1
20000	92.0	95.6	98.0	97.5	99.3	101.8	101.4	98.8	98.1	95.3	92.6	88.8	86.2	145.9
25000	88.3	93.0	94.6	95.4	96.8	100.6	99.8	97.1	95.8	92.0	88.1	84.4	80.2	146.2
31500	84.5	89.6	90.8	92.5	93.7	97.6	96.1	95.2	93.6	89.6	85.5	80.9	76.6	146.4
40000	80.7	86.7	88.7	88.8	90.3	93.9	92.8	91.4	90.8	86.9	83.0	77.7	73.3	147.0
50000	75.6	81.9	85.8	84.6	85.3	90.1	87.8	86.8	85.7	82.0	78.3	73.0	67.7	147.0
63000	74.5	79.5	86.1	81.0	80.7	86.4	83.6	83.0	82.0	78.2	74.4	68.2	62.4	149.1
80000	73.4	77.5	85.5	77.1	76.1	83.0	80.8	78.7	77.0	73.9	70.7	62.1	55.8	153.1
OASPL	107.2	110.5	111.1	110.0	112.3	115.0	115.1	117.3	119.5	121.9	125.1	126.4	123.1	162.8
PNL	118.9	121.7	122.1	120.6	123.5	126.3	127.3	130.1	132.5	134.1	136.0	136.4	133.8	
PNLT	118.9	122.3	122.1	120.6	124.0	126.3	127.3	130.1	132.5	134.1	136.0	136.4	133.8	
DBA	105.9	108.6	109.0	107.2	110.2	113.0	113.8	116.9	119.3	121.4	123.9	124.9	122.7	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH248 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.51 PAMB HG = 29.23 RELHUM = 79.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1486.0 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2337.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1809 TAPE = X1809C TEST PT NO = 1809 NC = AE095 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 - 83F-ZER-1809 X1809F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.6	88.4	85.7	85.7	83.1	84.7	85.3	88.0	87.7	89.7	91.6	94.1	89.2	130.1
63	90.3	94.8	96.3	96.1	91.2	93.1	93.4	96.1	93.6	94.8	96.0	99.0	99.9	137.2
80	91.3	96.1	91.6	89.9	92.0	95.8	95.0	93.6	95.1	96.8	98.5	98.5	86.1	136.9
100	90.7	97.2	92.3	91.8	94.4	97.3	96.9	97.5	95.8	98.2	100.7	103.4	90.6	139.2
125	87.6	90.9	92.7	91.7	95.1	97.2	96.8	96.7	96.2	101.2	106.1	108.1	94.7	141.7
160	85.7	87.2	90.7	87.8	89.6	92.5	95.9	95.3	95.2	101.0	106.7	108.9	100.0	141.8
200	88.0	87.1	90.3	88.1	91.5	95.6	95.5	97.4	100.3	103.8	107.3	112.0	103.6	144.1
250	87.5	91.1	90.8	90.1	93.2	95.6	96.2	99.1	100.8	106.4	112.0	114.5	106.4	147.0
315	88.1	90.6	91.1	90.4	94.0	97.4	98.5	99.9	102.6	108.0	113.3	115.0	108.9	148.1
400	90.3	92.1	92.9	90.9	94.0	96.9	99.8	101.2	104.9	110.0	115.1	116.5	110.2	149.8
500	91.1	93.1	93.2	91.4	94.8	97.6	99.0	101.9	105.4	110.4	115.4	116.5	111.9	150.1
630	91.0	93.8	94.1	92.6	96.0	99.1	100.5	102.9	106.1	110.8	115.6	116.2	112.9	150.3
800	94.1	94.1	94.9	92.9	96.5	99.9	100.8	103.9	107.4	110.9	114.4	116.0	114.2	150.2
1000	97.0	98.3	96.8	94.9	98.7	100.8	101.9	105.6	108.3	111.2	114.0	115.4	114.4	150.3
1250	95.7	98.7	98.0	96.4	98.6	102.0	102.4	105.8	108.5	111.3	114.2	116.4	114.8	150.7
1600	94.6	96.7	96.6	95.8	98.8	102.1	103.2	106.0	109.1	111.4	113.6	115.0	112.9	150.1
2000	95.3	97.1	97.7	95.6	98.4	101.8	103.0	106.6	109.2	111.1	113.0	113.8	112.1	149.7
2500	93.9	96.9	97.2	95.0	99.1	102.0	102.2	106.5	108.4	110.0	111.7	111.0	110.8	148.4
3150	94.0	96.0	96.8	95.6	98.7	101.5	103.1	106.1	109.1	109.7	110.2	109.7	107.1	147.8
4000	92.9	95.2	96.6	94.5	98.4	101.4	102.5	105.3	107.2	107.9	108.7	107.5	105.8	146.4
5000	92.8	97.3	97.6	95.3	98.6	101.8	101.9	105.5	106.7	107.0	107.2	104.5	102.5	145.8
6300	93.4	97.2	97.8	96.4	99.2	101.4	102.2	104.4	105.6	105.5	105.3	102.4	99.3	145.0
8000	94.1	98.9	99.5	97.5	99.1	101.2	101.4	102.5	104.2	103.5	102.8	99.5	96.6	144.1
10000	95.1	100.1	101.7	100.0	101.9	103.2	101.4	102.4	103.3	102.0	100.8	97.0	94.6	145.0
12500	95.0	98.9	101.0	100.7	102.8	104.5	101.8	101.2	101.6	99.8	98.0	94.8	91.1	145.5
16000	93.8	98.3	99.9	100.0	101.6	103.8	102.4	100.8	100.3	97.8	95.3	91.4	88.4	146.1
20000	92.0	95.6	98.0	97.5	99.3	101.8	101.4	98.8	98.1	95.3	92.6	88.8	86.2	145.9
25000	88.3	93.0	94.6	95.4	96.8	100.6	99.8	97.1	95.8	92.0	88.1	84.4	80.2	146.2
31500	84.5	89.6	90.8	92.5	93.7	97.6	96.1	95.2	93.6	89.6	85.5	80.9	76.6	146.4
40000	80.7	86.7	88.7	88.8	90.3	93.9	92.8	91.4	90.8	86.9	83.0	77.7	73.3	147.0
50000	75.6	81.9	85.8	84.6	85.3	90.1	87.8	86.8	85.7	82.0	78.3	73.0	67.7	147.0
63000	74.5	79.5	86.1	81.0	80.7	86.4	83.6	83.0	82.0	78.2	74.4	68.2	62.4	149.1
80000	73.4	77.5	85.5	77.1	76.1	83.0	80.8	78.7	77.0	73.9	70.7	62.1	55.8	153.1
OASPL	107.2	110.5	111.1	110.0	112.3	115.0	115.1	117.3	119.5	121.9	125.1	126.4	123.1	162.8
PNL	118.9	121.7	122.1	120.6	123.5	126.3	127.3	130.1	132.5	134.1	136.0	136.4	133.8	
PNLT	118.9	122.3	122.1	120.6	124.0	126.3	127.3	130.1	132.5	134.1	136.0	136.4	133.8	
DBA	194.0	198.3	206.0	198.3	197.6	204.1	201.8	200.0	198.5	195.2	191.9	184.0	178.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH248	TEST DATE = 04-28-83	LOCAT = C41 ANECH CH	CONFIG = 18	MODEL = CO	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 61.51	PAMB HG = 29.23	RELHUM = 79.8 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1486.0 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2337.7 FPS	AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1809 TAPE = X1809F TEST PT NO = 1809 NC = AE095 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 - 83F-ZER-1809 X18091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.0	68.0	69.6	69.6	73.6	77.1	78.1	79.1	81.1	85.4	89.2	88.7	79.3	163.5
63	66.2	69.5	71.3	70.1	73.6	76.6	79.3	80.3	83.3	87.4	90.9	90.1	80.4	165.1
80	66.9	70.5	71.6	70.6	74.3	77.3	78.6	81.1	83.8	87.7	91.1	90.1	82.1	165.4
100	66.8	71.1	72.5	71.7	75.5	78.7	80.0	82.0	84.5	88.1	91.3	89.7	82.9	165.6
125	69.7	71.3	73.2	71.9	76.0	79.5	80.2	82.9	85 7	88.1	89.9	89.3	84.0	165.5
160	72.4	75.3	75.0	73.7	78.0	80.3	81.3	84.5	86.5	88.2	89.4	88.5	83.8	165.6
200	70.8	75.5	75.9	75.1	77.7	81.3	81.5	84.5	86.4	88.1	89.3	89.1	83.7	166.0
250	69 4	73.3	74.4	74.3	77.7	81.2	82.2	84.5	86.9	87.9	88.4	87.3	81.2	165.4
315	69.6	73.2	75.1	73.8	77.1	80.6	81.7	84.8	86.6	87.3	87.4	85.6	79.6	165.0
400	67.7	72.7	74.3	72.8	77.5	80.5	80.5	84.4	85.4	85.8	85.6	82.1	77.2	163.8
500	67.3	71.3	73.4	73.1	76.7	79.7	81.1	83.6	85.8	85.0	83.6	80.0	72.5	163.1
630	65.7	70.1	72.8	71.7	76.1	79.3	80.2	82.5	83.5	82.8	81.5	77.1	70.1	161.8
800	65.0	71.7	73.5	72.1	76.0	79.3	79.3	82.3	82.6	81.4	79.4	73.3	65.6	161.1
1000	65.0	71.2	73.3	72.9	76.3	78.7	79.3	80.9	81.1	79.4	77.0	70.4	61.1	160.3
1250	65.1	72.4	74.6	73.6	75.9	78.1	78.1	78.6	79.3	76.9	73.7	66.6	56.8	159.5
1600	64.9	72.7	76.1	75.6	78.1	79.6	77.6	77.9	77.7	74.6	70.6	62.5	52.2	160.3
2000	63.3	70.4	74.5	75.5	78.3	80.3	77.3	76.0	75.1	71.2	66.3	58.1	45.1	160.9
2500	59.9	68.1	72.2	73.7	76.2	78.7	77.0	74.5	72.6	67.7	61.5	51.5	37.1	161.4
3150	54.2	62.4	67.7	69.1	71.9	74.7	74.0	70.3	67.9	62.1	54.7	43.2	25.9	161.2
4000	43.5	54.3	59.7	62.9	65.6	69.9	68.6	64.6	61.0	53.2	43.2	29.1	4.6	161.5
5000	29.0	42.4	48.9	53.7	56.7	61.1	59.1	56.4	51.7	42.4	30.1	11.2		161.7
6300	7.1	25.0	34.3	38.9	42.8	47.2	45.3	41.5	36.4	25.1	9.3			162.3
8000			9.1	14.4	18.7	24.6	21.2	16.6	9.0					162.3
10000														164.4
12500														168.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	80.2	84.6	86.4	85.9	89.2	92.1	92.5	91.8	96.6	98.1	99.8	98.7	92.0	177.8
PNL	85.9	92.3	95.4	95.9	98.9	101.6	100.9	100.9	101.8	101.7	101.4	99.3	92.6	
PNLT	85.9	92.3	96.0	96.4	99.4	101.6	101.5	101.4	102.5	101.7	101.4	99.3	93.7	
DBA	74.8	81.0	83.8	83.7	86.7	89.2	88.6	90.0	90.8	90.2	89.4	86.7	80.7	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH248 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.51 PAMB HG = 29.23 RELHUM = 79.8 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 = 1486.0 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2337.7 FPS AE18 = 19.9 SQ IN

NPT [illegible]

DATPROC - FLTRAN

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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 83F-400-1810 X1810C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.9	88.9	85.9	84.0	83.1	84.7	86.6	87.7	87.2	90.3	93.4	94.3	91.0	130.7
63	91.3	93.5	94.6	93.6	91.2	91.6	95.9	95.4	91.6	93.2	94.8	96.5	97.6	136.1
80	91.8	96.1	91.3	90.1	91.7	95.3	95.0	93.6	94.6	96.2	97.8	98.2	89.6	136.6
100	91.0	96.2	91.3	90.3	93.1	95.8	95.4	96.8	94.5	96.9	99 2	102.6	92.1	138.1
125	88.4	90.7	92.7	91.2	94.3	96.2	95.8	95.2	94.7	99.3	103.9	107.1	95.5	140.4
160	85.7	84.5	88.7	86.0	87.9	90.2	94.4	91.3	92.5	98.2	103.9	106.1	98.3	139.1
200	85.5	85.1	87.6	84.6	87.7	91.1	92.5	94.4	97.1	100.5	104.0	109.7	101.1	141.4
250	84.3	87.3	87.1	85.9	89.0	91.8	92.7	95.1	97.1	102.9	108.8	111.5	102.6	143.8
315	85.3	87.6	87.9	86.7	90.0	92.9	94.8	95.9	98.4	104.4	110.3	112.3	103.9	145.0
400	86.3	88.1	89.1	86.4	90.0	93.1	96.8	96.9	99.9	105.6	111.3	112.5	102.4	145.6
.500	86.8	88.9	89.4	87.7	91.5	94.1	95.0	97.4	100.6	106.0	111.4	110.3	99.9	145.0
630	86.0	88.8	89.3	87.9	92.2	95.1	96.2	98.4	101.6	106.3	111.1	108.7	97.1	144.6
800	87.8	88.1	89.9	88.4	92.3	96.1	96.8	99.7	102.9	106.1	109.4	105.0	94.9	143.5
1000	90.3	90.0	91.3	89.6	94.2	96.8	97.4	101.6	104.3	106.7	109.0	101.4	92.6	143.7
1250	89.7	92.5	91.7	90.9	93.9	98.0	98.4	101.5	104.7	106.2	107.7	98.9	92.3	143.2
1600	90.1	90.5	91.9	91.5	94.8	98.4	99.7	102.0	105.6	106.6	107.6	97.5	90.9	143.6
2000	91.0	91.6	92.2	90.4	94.2	98.6	100.0	102.9	106.0	106.4	106.8	96.6	91.6	143.6
2500	90.6	92.2	92.7	91.2	95.1	98.7	99.7	103.0	104.9	105.3	105.7	96.0	91.5	143.0
3150	91.2	91.8	92.8	91.3	94.9	99.0	100.4	102.8	105.6	105.2	104.7	96.4	90.8	143.1
4000	91.6	91.9	93.3	91.5	95.7	98.6	100.0	102.8	104.0	103.8	103.7	95.2	89.8	142.3
5000	94.0	94.0	93.6	91.3	95.3	98.5	99.9	102.2	103.5	103.4	103 4	95.2	91.0	142.2
6300	96.3	95.9	95.3	93.1	96.2	98.9	100.2	102.6	102.9	103.0	103.1	96.1	91.6	142.5
8000	98.3	99.6	98.7	94.7	96.4	98.4	99.4	100.9	101.9	101.7	101.5	95.0	91.8	142.5
10000	98.3	100.6	102.4	99.7	99.6	99.9	99.6	100.8	101.2	100.4	99.5	94.7	91.3	143.7
12500	96.5	98.1	100.4	100.1	102.0	102.7	100.3	99.4	99.3	98.0	96.7	93.0	89.5	144.2
16000	96.2	98.2	99.1	98.9	100.5	102.3	100.8	98.7	98.0	96.3	94.5	90.1	86.8	144.8
20000	92.9	96.2	97.1	96.4	97.9	100.5	100.0	97.2	95.5	93.2	90.9	86.7	83.4	144.6
25000	89.4	92.4	94.2	94.5	96.4	99.7	99.1	96.4	94.7	90.6	86.4	84.2	80.3	145.5
31500	85.6	89.4	90.7	91.8	92.6	96.9	95.7	94.8	92.4	88.5	84.6	80.8	76.2	145.8
40000	81.8	86.3	88.3	88.4	89.2	93.0	92 4	91 2	88.8	85 5	82.3	78.1	72.9	146.3
50000	77.2	81.5	85.6	82.9	83.9	89.4	87.6	85.9	84.3	80.8	77.3	73.3	67.6	146.2
63000	76.4	79.0	85.5	78.4	78.9	85.6	83.8	81.9	80.2	77.1	74.0	68.6	61.9	148.3
80000	74.5	76.1	85.1	73.4	73.4	83.1	80.2	76.5	74.8	71.9	69.1	62.6	55.1	152.3
OASPL	107.0	108.7	109.3	107.9	110.0	112.4	112.8	114.2	116.1	117.8	120.7	119.9	111.1	159.7
PNL	118.1	119.0	119.1	117.0	120.3	123.4	124.6	126.9	129.1	130.0	131.2	127.5	119.6	
PNLT	118.1	119.0	119.1	117.5	120.9	123.9	124.6	126.9	129.1	130.0	131.2	127.5	119.6	
DBA	104.5	105.4	105.9	103.8	106.7	109.8	110.9	113.5	115.8	116.9	118.8	115.0	106.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH245 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.25 PAMB HG = 29.01 RELHUM = 86.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1479.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2364.6 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1810 TAPE = X1810C TEST PT NO = 1810 NC = AE095 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1810 X1810F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.9	93.6	91.9	89.1	90.5	91.8	90.8	91.5	96.3	101.7	107.5	110.2	103.8	142.8
315	91.9	93.6	91.9	89.1	91.8	93.1	93.9	94.1	97.7	103.0	108.7	111.0	103.7	143.8
400	93.0	94.0	92.8	90.1	91.8	93.4	95.8	94.9	98.5	103.4	108.8	109.4	102.7	143.3
500	93.8	94.4	94.0	89.8	93.4	94.5	94.0	95.3	99.6	103.9	108.9	108.7	102.0	143.3
630	94.5	95.3	94.4	91.1	94.2	95.5	95.3	96.2	101.2	104.1	107.8	106.4	102.5	142.7
800	93.7	95.3	94.4	91.4	94.3	96.7	95.9	97.5	102.9	104.9	107.8	103.6	102.3	142.8
1000	95.5	94.6	95.0	92.0	96.4	97.5	96.6	99.4	103.4	104.5	106.5	101.1	102.0	142.5
1250	97.9	96.5	96.4	93.3	96.1	98.8	97.7	99.5	104.4	105.0	106.3	99.3	99.7	142.9
1600	97.3	98.9	96.9	94.6	97.2	99.4	99.2	100.2	105.1	105.1	105.9	98.8	100.9	143.3
2000	97.7	97.0	97.1	95.4	96.9	99.8	99.8	101.3	104.6	104.7	105.7	99.3	102.4	143.3
2500	98.7	98.1	97.6	94.4	98.0	100.3	100.0	102.0	106.0	105.2	105.3	100.4	102.4	143.9
3150	98.2	98.8	98.2	95.4	98.7	101.0	101.4	102.4	105.2	104.6	105.0	99.9	102.2	143.9
4000	101.6	100.7	100.1	96.8	99.4	101.2	101.8	103.3	105.1	104.8	105.4	100.6	104.0	144.7
5000	99.2	98.7	99.1	96.2	99.4	101.5	102.1	103.1	105.0	104.9	105.7	102.1	105.1	144.8
6300	101.5	100.7	99.5	96.1	100.1	101.9	102.5	103.8	104.9	104.5	105.0	101.8	105.8	145.3
8000	102.6	101.8	100.5	97.5	99.9	101.4	101.8	102.5	104.9	103.8	103.3	101.4	104.8	145.3
10000	103.5	104.3	102.7	98.2	103.3	102.9	102.1	102 7	100.7	98.9	97.9	97.2	100.7	145.6
12500	103.1	105.2	106.5	103.3	106.0	105.7	101.7	99.4	99.9	97.7	96.3	94.9	98.5	147.7
16000	102.8	103.7	105.1	103.9	104.6	105.3	102.3	98.7	97.8	95.1	93.1	91.8	95.5	146.2
20000	102.2	103.4	103.4	102.3	102.0	103.5	101.5	97.1	97.6	93.0	89.2	90.0	93.1	148.5
25000	98.2	100.8	100.8	99.1	101.0	102.7	100.6	96.4	96.1	91.7	88.1	87.4	89.8	149.1
31500	96.8	98.5	98.8	97.6	97.2	99.9	97.1	94.8	93.4	89.6	86.7	85.5	87.2	149.7
40000	92.0	94.6	94.4	94.0	93.8	96.0	93.8	91.2	89.2	85.3	82.1	81.1	82.3	149.8
50000	87.9	91.1	91.7	90.2	88.5	92.4	89.0	85.9	86.1	82.5	79.8	77.3	77.6	150.3
63000	82.4	85.4	88.1	83.8	83.2	88.6	85.2	81.9	82.2	78.8	76.3	72.9	72.3	151.2
80000	78.2	80.0	85.5	77.2	77.5	86.1	81.6	76.5	72.4	69.0	66.5	63.1	62.5	154.1
OASPL	112.9	113.5	113.5	111.1	113.2	114.4	113.3	113.6	116.1	116.6	118.9	117.7	115.5	161.4
PNL	123.7	123.3	122.6	119.5	122.4	124.2	124 5	125.8	128.3	128.6	129.8	126.4	127.6	
PNLT	123.7	123.3	122.6	119.5	122.4	124.2	124.5	125 8	128.3	128.6	129.8	126.4	127.6	
DBA	199.6	201.8	206.4	199.6	199.4	207.0	202.8	198.2	195.9	192.5	190.0	186.7	186.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH245 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.25 PAMB HG = 29.01 RELHUM = 86.1 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 = 1479.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2364.6 FPS AE18 = 19.9 SQ IN

NPT 3F T8T APE = OF PT = T 3 AF ORR SPE RP

P1185-03

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

IDENTIFICATION - 83F-400-1810 X18101

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	68.3	71.4	72.8	73.5	73.3	76.2	80.4	84.6	84.7	74.0	159.1
63	68.9	71.4	71.3	69.2	71.4	73.1	75.4	74.1	76.9	80.7	84.7	83.0	73.0	158.7
80	69.6	71.7	72.4	68.9	73.0	74.2	73.6	74.4	78.0	81.2	84.7	82.3	72.2	158.6
100	70.2	72.6	72.8	70.2	73.7	75.1	74.8	75.3	79.6	81.4	83.5	79.8	72.6	158.1
125	69.3	72.4	72.6	70.4	73.8	76.2	75.3	76.5	81.2	82.1	83.4	76.9	72.1	158.1
160	70.9	71.6	73.1	70.9	75.7	76.9	75.9	78.3	81.5	81.6	81.9	74.1	71.4	157.8
200	73.1	73.3	74.4	72.0	75.3	78.1	76.8	78.2	82.4	81.8	81.5	72.1	68.7	158.2
250	72.1	75.5	74.6	73.1	76.2	78.5	78.2	78.6	82.8	81.6	80.7	71.1	69.2	158.6
315	72.1	73.2	74.5	73.6	75.5	78.7	78.5	79.5	82.0	80.9	80.0	71.1	69.9	158.6
400	72.5	73.9	74.6	72.2	76.4	78.8	78.4	79.9	83.0	81.0	79.2	71.4	68.9	159.2
500	71.6	74.1	74.8	72.9	76.7	79.2	79.4	80.0	81.9	80.0	78.3	70.3	67.6	159.2
630	74.4	75.6	76.4	74.0	77.1	79.1	79.5	80.5	81.4	79.6	78.2	70.3	68.3	160.0
800	71.4	73.1	74.9	73.0	76.7	79.1	79.4	79.9	80.9	79.3	77.9	71.0	68.2	160.1
1000	73.1	74.7	75.0	72.6	77.2	79.2	79.5	80.3	80.4	78.5	76.6	69.8	67.6	160.6
1250	73.6	75.3	75.6	73.7	76.6	78.4	78.5	78.7	80.0	77.2	74.2	68.5	65.0	160.6
1600	73.4	76.9	77.1	73.7	79.5	79.3	78.3	78.3	75.1	71.5	67.7	62.7	58.3	160.9
2000	71.5	76.6	80.0	78.1	81.5	81.5	77.2	74.2	73.4	69.2	64.6	58.1	52.5	163.1
2500	68.9	73.5	77.4	77.6	79.1	80.1	76.8	72.4	70.1	64.9	59.2	51.9	44.2	163.6
3150	64.3	70.2	73.1	73.8	74.6	76.4	74.0	68.7	67.3	59.8	51.4	44.5	32.8	163.8
4000	53.4	62.1	65.9	66.6	69.8	72.0	69.4	63.9	61.3	53.0	43.3	32.1	14.2	164.4
5000	41.3	51.3	56.9	58.8	60.2	63.5	60.1	56.0	51.4	42.5	31.2	15.7		165.0
6300	18.4	32.9	40.0	44.1	46.3	49.3	46.3	41.3	34.8	23.5	8.5			165.1
8000		3.6	15.0	20.1	21.9	27.0	22.5	15.7	9.4					165.6
10000														166.5
12500														169.4
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	84.3	86.7	87.9	86.2	89.5	91.0	90.3	90.6	92.9	92.5	93.4	89.7	82.3	176.7
PNL	92.6	96.6	98.9	98.0	100.6	101.9	99.9	98.5	98.9	97.0	95.6	89.1	84.3	
PNLT	93.8	97.2	98.9	98.5	101.2	101.9	100.5	99.1	98.9	97.0	96.8	89.1	84.3	
DBA	82.0	84.9	86.7	85.2	88.4	89.5	88.2	87.9	88.7	86.6	84.9	77.7	74.9	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH245 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = C0 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.25 PAMB HG = 29.01 RELHUM = 86.1 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1479.8 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNIIR = RPM V18 = 2364.6 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1810 TAPE = X18101 TEST PT NO = 1810 NC = AE095 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 83F-ZER-1811 X1811C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.9	89.2	86.9	87.0	84.8	88.2	88.8	88.0	90.2	93.3	96.4	97.1	91.5	132.9
63	91.3	94.8	95.3	97.1	92.7	97.8	94.4	95.9	96.6	99.8	103.0	101.2	98.9	139.6
80	93.8	97.8	93.1	91.9	93.5	97.6	96.7	95.9	96.6	98.6	100.5	100.7	87.6	138.8
100	92.5	99.5	94.8	94.3	96.9	98.8	98.6	100.0	97.3	100.1	103.0	105.6	92.1	141.3
125	89.6	92.9	95.4	94.0	97.6	99.4	99.1	98.7	98.2	103.0	107.9	110.3	97.2	143.8
160	87.9	88.0	92.2	89.3	91.4	94.2	97.1	96.8	97.5	103.0	108.4	110.9	102.5	143.7
200	89.5	89.1	91.1	90.4	94.0	97.1	97.0	99.1	101.8	105.4	109.0	114.7	105.9	146.3
250	89.5	92.6	92.6	91.6	95.2	97.3	98.5	101.1	103.1	108.7	114.3	117.2	108.6	149.5
315	91.1	92.4	93.1	92.4	95.5	99.1	99.8	101.4	103.6	109.7	115.8	118.0	111.4	150.7
400	92.6	94.4	94.4	92.7	95.5	98.4	102.0	102.9	106.1	111.8	117.6	119.8	112.9	152.4
500	93.1	95.1	95.4	93.2	96.8	99.4	100.5	103.7	106.9	112.6	118.4	119.3	114.4	152.7
630	93.8	95.8	95.8	94.6	98.0	101.3	101.7	105.4	107.8	113.5	119.1	119.7	116.1	153.5
800	96.8	96.1	97.4	95.2	98.5	102.4	102.5	106.2	109.1	113.5	117.9	119.8	117.2	153.4
1000	100.5	101.0	99.8	97.4	100.7	103.6	103.9	107.4	110.8	114.4	118.0	119.4	117.4	153.7
1250	98.9	101.7	100.7	99.6	102.1	104.7	104.6	107.5	111.0	114.7	118.4	119.9	117.0	154.0
1600	98.1	99.2	99.4	98.0	101.5	105.1	105.7	108.3	111.6	115.4	119.1	119.0	115.9	154.1
2000	98.3	99.6	99.2	97.6	100.7	104.6	105.8	109.1	111.5	114.7	118.0	117.1	113.4	153.1
2500	97.1	100.2	99.5	97.7	101.1	104.7	105.4	108.5	111.4	114.0	116.7	114.3	112.3	152.0
3150	97.0	99.5	99.8	97.6	100.9	105.0	106.1	108.8	112.1	113.6	115.0	111.9	108.8	151.2
4000	96.1	99.2	99.6	97.5	101.7	104.6	105.5	108.3	110.0	111.8	113.7	109.7	106.6	149.9
5000	96.0	100.5	100.4	98.3	100.6	105.0	104.7	107.5	109.5	110.5	111.4	107.5	104.0	148.8
6300	96.4	100.7	101.5	99.6	102.0	104.9	104.7	107.4	108.4	109.2	110.1	105.9	101.6	148.3
8000	96.6	100.9	102.0	100.5	102.1	104.4	104.1	105.5	106.2	107.1	108.0	102.8	98.9	147.3
10000	97.6	101.4	103.2	102.0	104.7	105.9	105.2	105.1	105.8	105.9	106.1	100.8	96.9	147.9
12500	96.5	100.2	101.7	101.7	104.5	106.8	104.6	104.0	103.8	103.7	103.5	98.8	94.9	147.9
16000	95.3	99.5	100.7	101.3	102.9	105.9	104.9	103.0	102.1	102.1	102.1	96.2	91.1	148.3
20000	93.3	96.6	98.7	98.0	100.3	104.1	102.9	100.8	100.4	99.5	98.6	92.8	87.5	147.8
25000	89.6	93 6	95.6	95.9	98.1	102.4	101.3	98.6	97.8	94.4	90.9	87.9	82.5	147.7
31500	86.0	90.6	92.4	94.0	94.8	98.9	97.4	96.7	95.1	91.4	87.8	84.7	78.2	147.8
40000	82.7	87.7	89.4	90.3	91.8	96.9	94.8	92.9	91.5	88.6	85.7	81.2	75.0	148.9
50000	78.1	83.4	86.5	86.3	87.3	93.3	91.0	87.7	87.1	84.2	81.2	76.2	68 9	149.3
63000	76.9	81.4	86.5	82.2	82.6	89.6	86.7	84.4	83.4	81.0	78.5	72.1	63.6	151.2
80000	76.0	80.1	85.3	77.9	78.2	86.1	82.4	81.0	79.8	76.4	73.1	67.7	59.1	154.8
OASPL	109.9	112.8	113.1	112.0	114.5	117.6	117.6	119.6	121.9	125.1	128.9	129.7	125.7	165.6
PNL	121.8	124.5	124.7	122.9	126.1	129.3	130 0	132.5	135.1	137.5	140.4	139.5	135.7	
PNLT	121.8	125.2	124.7	122.9	126.7	129.3	130.0	132.5	135.1	137.5	140.4	139.5	135.7	
DBA	109.0	111.5	111.5	109.8	112.8	116.0	116.5	119.2	121.9	124.8	128.2	128.3	125.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHTCL = ADH247 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.97 PAMB HG = 29.18 RELHUM = 80.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1526.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2472.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1811 TAPE = X1811C TEST PT NO = 1811 NC = AE095 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1811 X1811F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.9	89.2	86.9	87.0	84.8	88.2	88.8	88.0	90.2	93.3	96.4	97.1	91.5	132.9
63	91.3	94.8	95.3	97.1	92.7	97 8	94.4	95.9	96.6	99.8	103.0	101.2	98.9	139.6
80	93.8	97.8	93.1	91.9	93.5	97.6	96.7	95.9	96.6	98.6	100.5	100.7	87.6	138.8
100	92.5	99.5	94.8	94.3	96.9	98.8	98.6	100.0	97.3	100.1	103.0	105.6	92.1	141.3
125	89.6	92.9	95.4	94.0	97.6	99.4	99.1	98.7	98.2	103.0	107.9	110.3	97.2	143.8
160	87.9	88.0	92.2	89.3	91.4	94.2	97.1	96.8	97.5	103.0	108.4	110.9	102.5	143.7
200	89.5	89.1	91.1	90.4	94.0	97.1	97.0	99.1	101.8	105.4	109.0	114.7	105.9	146.3
250	89.5	92.6	92.6	91.6	95.2	97.3	98.5	101.1	103.1	108.7	114.3	117.2	108.6	149.5
315	91.1	92.4	93.1	92.4	95.5	99.1	99.8	101.4	103.6	109.7	115.8	118.0	111.4	150.7
400	92.6	94.4	94.4	92.7	95.5	98.4	102.0	102.9	106.1	111.8	117.6	119.8	112.9	152.4
500	93.1	95.1	95.4	93.2	96.8	99.4	100.5	103.7	106.9	112.6	118.4	119.3	114.4	152.7
630	93.8	95.8	95.8	94.6	98.0	101.3	101.7	105.4	107.8	113.5	119.1	119.7	116.1	153.5
800	96.8	96.1	97.4	95.2	98.5	102.4	102.5	106 2	109 1	113.5	117.9	119.8	117.2	153.4
1000	100.5	101.0	99.8	97.4	100.7	103.6	103.9	107.4	110.8	114.4	118.0	119.4	117 4	153.7
1250	98.9	101.7	100.7	99.6	102.1	104.7	104.6	107 5	111 0	114.7	118.4	119.9	117.0	154.0
1600	98.1	99.2	99.4	98.0	101.5	105.1	105.7	108.3	111.6	115.4	119 1	119.0	115.9	154.1
2000	98.3	99.6	99.2	97.6	100.7	104.6	105 8	109.1	111.5	114.7	118.0	117.1	113.4	153.1
2500	97.1	100.2	99.5	97.7	101.1	104.7	105.4	108 5	111.4	114.0	116.7	114.3	112.3	152 0
3150	97.0	99.5	99.8	97.6	100.9	105.0	106.1	108.8	112.1	113.6	115.0	111.9	108.8	151.2
4000	96.1	99.2	99.6	97.5	101.7	104.6	105.5	108.3	110.0	111.8	113.7	109.7	106.6	149.9
5000	96.0	100.5	100.4	98.3	100.6	105.0	104.7	107.5	109.5	110.5	111.4	107.5	104.0	148.8
6300	96.4	100.7	101.5	99.6	102.0	104.9	104.7	107.4	108.4	109.2	110.1	105.9	101.6	148.3
8000	96.6	100.9	102.0	100.5	102.1	104.4	104.1	105.5	106.2	107.1	108.0	102.8	98.9	147.3
10000	97.6	101.4	103.2	102.0	104.7	105.9	105.2	105.1	105.8	105.9	106.1	100.8	96.9	147.9
12500	96.5	100.2	101.7	101.7	104.5	106.8	104.6	104 0	103.8	103.7	103.5	98.8	94.9	147.9
16000	95.3	99.5	100.7	101.3	102.9	105.9	104.9	103.0	102.1	102.1	102.1	96.2	91.1	148.3
20000	93.3	96.6	98.7	98.0	100.3	104.1	102.9	100.8	100.4	99.5	98.6	92.8	87.5	147.8
25000	89.6	93.6	95.6	95.9	98.1	102.4	101.3	98.6	97.8	94.4	90.9	87.9	82.5	147.7
31500	86.0	90.6	92.4	94.0	94.8	98.9	97.4	96.7	95.1	91.4	87.8	84.7	78.2	147.8
40000	82.7	87.7	89.4	90.3	91.8	96.9	94.8	92.9	91.5	88.6	85.7	81.2	75.0	148.9
50000	78.1	83.4	86.5	86.3	87.3	93.3	91.0	87.7	87.1	84.2	81.2	76.2	68.9	149.3
63000	76.9	81.4	86.5	82.2	82.6	89.6	86.7	84.4	83.4	81.0	78.5	72.1	63 6	151.2
80000	76.0	80.1	85.3	77.9	78.2	86.1	82.4	81.0	79.8	76.4	73.1	67.7	59.1	154.8
OASPL	109.9	112.8	113.1	112.0	114.5	117.6	117.6	119.6	121.9	125.1	128.9	129.7	125 7	165.6
PNL	121.8	124.5	124.7	122.9	126.1	129.3	130.0	132.5	135.1	137.5	140.4	139.5	135.7	
PNLT	121.8	125.2	124.7	122.9	126.7	129.3	130.0	132.5	135.1	137.5	140.4	139.5	135.7	
DBA	196.6	200.7	205.9	199.2	199.6	207.2	203.8	202.1	200.9	197.8	194.6	189.0	180.7	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH247 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.97 PAMB HG = 29.18 RELHUM = 80.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1526.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2472.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1811 TAPE = X1811F TEST PT NO = 1811 NC = AE095 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1811 X18111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.0	69.8	71.6	71.6	75.1	78.9	79.4	80.6	82.1	87.2	91.7	91.7	81.8	166.0
63	68.4	71.7	72.8	71.8	75.1	78.1	81.6	82.1	84.6	89.2	93.4	93.4	83.2	167.7
80	68.9	72.5	73.8	72.3	76.3	79.1	80.1	82.8	85.3	90.0	94.1	92.8	84.6	168.1
100	69.5	73.1	74.2	73.7	77.5	81.0	81.2	84.5	86.2	90.7	94.8	93.2	86.2	168.8
125	72.4	73.3	75.7	74.2	78.0	82.0	82.0	85.2	87.4	90.7	93.4	93.1	87.0	168.7
160	75.9	78.1	78.0	76.2	80.0	83.0	83.3	86.2	89.0	91.4	93.4	92.5	86.8	169.0
200	74.1	78.5	78.7	78.3	81.2	84.0	83.7	86.2	88.9	91.5	93.6	92.6	85.9	169.4
250	72.9	75.8	77.1	76.5	80.5	84.2	84.7	86.8	89.4	91.9	93.9	91.3	84.2	169.4
315	72.6	75.7	76.6	75.8	79.4	83.4	84.5	87.3	88.9	90.9	92.4	88.8	80.8	168.4
400	71.0	75.9	76.5	75.6	79.5	83.2	83.8	86.4	88.4	89.8	90.6	85.3	78.7	167.3
500	70.3	74.8	76.4	75.1	78.9	83.2	84.1	86.3	88.8	88.9	88.3	82.3	74.2	166.5
630	68.9	74.1	75.8	74.7	79.4	82.5	83.2	85.5	86.2	86.7	86.5	79.4	70.9	165.2
800	68.3	74.9	76.3	75.1	78.0	82.6	82.1	84.3	85.4	84.9	83.6	76.3	67.1	164.1
1000	68.0	74.7	77.0	76.1	79.0	82.2	81.8	83.9	83.9	83.2	81.7	73.9	63.4	163.7
1250	67.6	74.4	77.1	76.6	78.9	81.4	80.9	81.6	81.3	80.6	79.0	69.8	59.0	162.6
1600	67.5	74.0	77.6	77.6	80.9	82.3	81.4	80.7	80.2	78.5	75.9	66.2	54.4	163.3
2000	64.9	71.6	75.2	76.5	80.1	82.5	80.1	78.8	77.3	75.1	71.8	62.1	48.9	163.2
2500	61.5	69.4	72.9	75.0	77.4	80.7	79.5	76.8	74.3	71.9	68.2	56.2	39.8	163.6
3150	55.4	63.4	68.5	69.6	72.9	77.0	75.5	72.3	70.1	66.3	60.7	47.2	27.2	163.1
4000	44.7	54.8	60.7	63.5	66.9	71.6	70.1	66.1	63.0	55.6	46.0	32.6	6.9	163.1
5000	30.5	43.5	50.4	55.2	57.7	62.4	60.3	57.9	53.2	44.3	32.3	14.9		163.1
6300	9.1	26.0	35.0	40.4	44.3	50.2	47.3	43.0	37.1	26.9	12.0			164.3
8000			9.8	16.2	20.7	27.8	24.4	17.6	10.4					164.6
10000														166.5
12500														170.1
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	83.2	87.2	88.7	88.1	91.6	94.8	95.0	97.1	98.9	101.2	103.6	102.1	94.7	180.7
PNL	88.5	94.3	97.1	97.6	100.9	104.1	103.4	103.2	104.3	105.2	106.2	102.7	95.0	
PNLT	88.5	94.3	97.6	98.1	101.5	104.6	104.0	103.8	104.9	105.2	106.2	102.7	95.0	
DBA	77.6	83.4	85.9	85.8	89.0	92.0	91.4	92.6	93.5	93.9	94.2	90.0	82.8	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH247 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.97 PAMB HG = 29.18 RELHUM = 80.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1526.7 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2472.7 FPS AE18 = 19.9 SQ IN

NPT 3F TBT PE = TT PT T& Q AE ORR SPR RP

P1185-08

DATPROC - FLTRAN

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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 83F-400-1812 X1812C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.4	91.4	88.4	87.7	84.3	87.4	85.8	89.0	90.2	92.8	95.4	96.8	91.0	132.9
63	91.5	94.8	97.1	95.1	92.4	95.8	95.2	90.4	95.8	96.2	96.5	99.5	95.6	137.4
80	94.0	99.1	93.3	93.4	94.2	97.8	97.2	95.4	96.1	98.1	100.0	100.5	89.1	138.9
100	93.2	98.5	93.5	92.8	95.9	98.3	98.4	99.0	96.5	98.7	101.0	105.6	93.6	140.5
125	90.1	92.4	93.9	93.5	96.8	98.7	97.8	97.5	96.7	101.4	106.1	109.3	97.7	142.6
160	88.4	85.7	91.2	88.3	90.4	92.5	96.1	94.3	94.7	101.0	107.2	109.6	101.3	142.3
200	88.0	87.3	89.1	86.9	90.2	93.3	94.7	96.6	99.3	102.9	106.5	112.5	104.4	144.0
250	86.0	89.3	88.8	88.1	91.7	93.8	95.2	97.6	99.6	105.3	111.0	115.0	105.9	146.7
315	86.8	89.4	89.9	88.4	91.8	94.6	96.5	98.2	100.6	107.0	113.3	115.0	107.4	147.8
400	88.6	89.4	90.6	88.7	92.3	94.4	98.3	98.9	102.4	108.3	114.3	115.5	106.4	148.5
500	88.8	90.1	90.9	89.2	93.0	95 6	97.0	100.2	102.9	108.9	114.9	114.3	104.4	148.4
630	88.3	90.8	91.6	90.4	93.7	96 8	98.0	100.9	103.8	109.3	114.8	113.0	101.4	148.1
800	90.8	90.1	91.1	90.2	94.3	97.6	98.8	102.2	105.4	109.5	113.6	110.0	98.9	147.2
1000	92.3	92.8	92.8	91.6	95.7	98.8	99.7	103.9	106.3	109.5	112.8	106.9	96.6	146.8
1250	91.2	94.0	94.2	92.4	95.6	99.2	100.4	103.8	107.2	109.5	111.7	104.4	95.8	146.4
1600	92.1	93.0	94.1	92.8	96.8	100.6	101.5	105.0	108.4	110.2	112.1	102.5	95.2	147.1
2000	92.8	92.8	93.5	92.1	96.2	99.6	101.8	106.1	108.0	109.7	111.5	101.6	95.1	146.8
2500	93.9	94.2	94.2	92.7	96.9	100.2	101.2	105.8	107.6	109.0	110.4	100.8	95.5	146.3
3150	94.2	94.5	94.8	93.8	96.7	101.0	102.4	105.8	108.4	108.8	109.2	100.9	94.8	146.3
4000	95.6	95.2	95.6	93.7	97.2	100.9	102.0	105.6	107.5	107.8	108.2	100.7	95.3	145.7
5000	97.8	98.3	97.1	94.0	96.8	101.0	101.4	105.2	106.7	107.1	107.4	99.5	94.5	145.4
6300	99.6	100.2	99.8	96.6	98.2	100.9	102.0	105.4	106.4	106.3	106.3	99.1	93.8	145.6
8000	98.4	100.4	101.2	98.7	99.6	101.7	100.9	103.7	103.9	103.8	103.8	97 0	92.6	144.7
10000	98.9	100.4	101.9	101.0	102.1	103.1	101.9	103.1	104.0	102.8	101.6	96.0	92.6	145.5
12500	98.3	99.6	100.5	99.7	102.0	104.5	102.1	102.0	101.8	100.1	98.5	94.0	91.1	145.6
16000	97.0	99.7	99.9	100.0	101.1	103.6	102.4	101.3	100.1	98.1	96.1	91.1	87.9	146.2
20000	94.7	96.6	97.7	97.7	99.5	102.3	101.1	100.2	98.3	95.4	92.5	88.5	84.7	146.2
25000	91.5	93.8	95.3	95.1	97.0	101.3	99.8	98.0	96.8	92.5	88.3	85.8	81.2	146.7
31500	87.7	90.5	91.8	93.2	93.7	98.1	96.8	95.9	93.8	89.9	86.0	81.9	76.9	146.9
40000	83.2	87.4	88.9	89.3	90.5	95.4	93.2	91.9	90.5	86.8	83.2	79.5	73.5	147.7
50000	78.3	82.4	86.3	85.3	85.5	91.3	88.5	87.5	85.7	82.2	78.7	73.9	67.9	147.7
63000	75.5	80.1	86.8	81.0	81.0	86.9	84.1	83.8	81.8	78.3	74.9	69.2	62.7	149.6
80000	74.0	76.8	86.1	75.9	74.9	82.3	80.4	79.7	75.8	72.9	70.1	63.4	56.8	153.0
OASPL	108.8	110.5	110.7	109.5	111.5	114.4	114 5	116.8	118.7	120.9	124.3	123.3	114.4	161.8
PNL	120.8	121.6	121.6	119.4	122.1	125.4	126.5	129.6	131.8	133.3	135.2	131.1	123.0	
PNLT	120.8	121.6	121.6	119.4	122.7	126.0	126.5	129.6	131.8	133.3	135.2	131.1	123.0	
DBA	106.7	107.6	107.9	106.0	108.6	111.8	112.7	116.3	118.5	120.3	122.8	119.0	110.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH246 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.11 PAMB HG = 29.02 RELHUM = 81.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1535.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2482.3 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1812 TAPE = X1812C TEST PT NO = 1812 NC = AE095 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1812 X1812F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	93.9	95.8	93.8	91.4	93.3	93.8	93.3	94.0	98.6	104.4	110.5	112.9	107.3	145.6
315	93.9	95.8	93.8	91.4	93.6	94.8	95.7	96.4	100.4	105.9	111.8	114.1	107.7	146.8
400	94.5	95.8	94.8	91.8	94.0	94.6	97.4	97.0	100.9	106.5	112.5	113.5	107.3	147.0
500	95.8	95.5	95.4	92.0	94.9	96.0	96.1	98.2	102.0	107.1	112.9	113.2	106.4	147.0
630	96.5	96.5	95.9	92.6	95.7	97.3	97.1	98.8	103.9	107.7	112.3	111.6	106.7	146.7
800	96.0	97.3	96.6	93.9	96.3	98.2	97.9	100.1	105.1	108.1	112.0	109.6	106.8	146.5
1000	98.5	96.6	96.2	93.8	97.9	99.5	98.9	101.8	106.0	108.0	110.8	106.9	105.8	145.9
1250	99.9	99.3	97.9	95.3	97.9	100.0	99.7	101.8	107.2	108.7	111.0	104.7	104.7	146.3
1600	98.8	100.4	99.4	96.1	99.8	101.7	101.0	103.2	107.1	108.6	110.8	104.2	105.1	146.5
2000	102.5	101.8	101.1	97.8	98.9	100.8	101.6	104.6	107.3	108.4	110.4	104.1	106.5	146.8
2500	100.4	99.4	98.8	96.1	99.8	101.8	101.3	104.7	108.5	108.7	109.7	104.7	106.1	146.8
3150	101.5	100.8	99.7	96.9	99.9	103.0	103.0	105.1	108.6	108.6	109.5	105.5	107.7	147.3
4000	101.8	101.2	100.4	98.2	100.9	103.5	103.5	105.8	108.0	108.0	108.9	104.4	107.0	147.2
5000	103.2	101.9	101.3	98.4	100.7	104.0	103.3	105.7	108.0	107.7	108.2	104.5	106.8	147.3
6300	104.1	104.2	102.4	98.6	101.8	103.9	104.0	106.1	106.5	106.2	106.8	103.5	106.5	147.2
8000	104.3	104.7	103.9	100.3	103.5	104.7	103.2	105.0	107.7	106.5	105.9	103.6	107.3	148.0
10000	104.3	106.0	106.2	102.9	106.2	106.1	104.4	105.0	103.2	101.1	99.7	98.3	102.3	148.1
12500	105.7	106.5	107.1	105.3	106.1	107.5	103.5	102.0	102.0	99.5	97.8	95.9	99.6	149.1
16000	104.6	105.2	105.2	103.4	105.1	106.6	103.8	101.2	100.7	97.3	94.7	93.7	96.8	149.3
20000	103.0	104.9	104.2	103.3	103.6	105.3	102.6	100.2	99.7	95.0	91.1	91.6	93.9	150.0
25000	100.0	101.2	101.4	100.5	101.6	104.3	101.2	98.0	97.5	93.1	89.5	88.5	90.4	150.2
31500	98.9	99.8	99.9	98.2	98.3	101.1	98.2	95.9	95.0	90.9	87.6	86.9	87.8	150.9
40000	94.2	95.8	95.6	95.4	95.1	98.4	94.7	91.9	90.6	86.7	83.5	81.8	82.7	151.3
50000	89.3	92.3	92.3	91.1	90.1	94.3	89.9	87.5	87.7	83.7	80.6	77.9	78.4	151.6
63000	83.5	86.3	88.7	86.2	85.4	89.9	85.5	83.7	83.2	79.8	77.3	73.6	74.0	152.4
80000	77.7	81.5	87.1	80.0	78.8	85.3	81.8	79.7	73.4	70.0	67.5	63.8	64.2	154.9
OASPL	114.9	115.4	115.0	112.7	114.6	116.4	114.9	116.1	118.7	119.8	122.7	121.6	118.9	163.2
PNL	125.3	125.3	124.1	121.4	124.2	126.3	126.2	128.3	131.2	131.9	133.7	130.5	131.0	
PNLT	125.3	125.3	124.1	121.4	124.2	126.3	126.2	128.3	131.2	131.9	133.7	130.5	131.0	
DBA	199.7	203.1	207.9	202.0	201.0	206.8	203.0	201.0	197.0	193.5	190.9	187.4	187.8	

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 DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH246 TEST DATE = 04-28-83 LOCAT = C41 ANECH CH CONFIG = 18 MODEL = CO FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 61.11 PAMB HG = 29.02 RELHUM = 81.5 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 = 1535.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2482.3 FPS AE18 = 19.9 SQ IN

NPT F-2 BT2 PE = 2F PT T8 C AE SRR SPEED RPM

460

P1185-03

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

IDENTIFICATION - 83F-400-1812 X18121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.8	73.2	72.2	70.6	73.2	74.6	75.3	75.6	78.9	83.3	87.7	87.8	78.1	162.1
63	70.4	73.1	73.3	71.0	73.6	74.3	77.0	76.2	79.4	83.9	88.4	87.2	77.6	162.3
80	71.6	72.8	73.8	71.1	74.5	75.7	75.7	77.3	80.4	84.4	88.6	86.7	76.5	162.4
100	72.2	73.8	74.3	71.7	75.2	76.9	76.6	77.9	82.2	85.0	88.0	85.0	76.7	162.0
125	71.6	74.4	74.9	72.9	75.8	77.7	77.4	79.1	83.4	85.3	87.6	82.9	76.6	161.8
160	73.9	73.6	74.3	72.6	77.2	78.9	78.2	80.7	84.2	85.0	86.2	79.9	75.3	161.2
200	75.1	76.1	75.9	74.0	77.0	79.3	78.8	80.5	85.2	85.5	86.2	77.4	73.6	161.6
250	73.6	77.0	77.1	74.6	78.7	80.7	79.9	81.7	84.9	85.1	85.6	76.5	73.4	161.8
315	76.9	77.9	78.5	76.0	77.5	79.7	80.3	82.8	84.7	84.6	84.8	75.9	73.9	162.1
400	74.3	75.1	75.8	74.0	78.1	80.3	79.7	82.5	85.5	84.4	83.5	75.8	72.6	162.1
500	74.8	76.1	76.3	74.4	77.9	81.2	81.0	82.7	85.3	83.9	82.9	75.9	73.1	162.6
630	74.6	76.1	76.6	75.4	78.6	81.3	81.2	83.0	84.3	82.9	81.7	74.1	71.3	162.5
800	75.4	76.3	77.2	75.2	78.1	81.6	80.7	82.6	83.9	82.1	80.5	73.3	69.9	162.6
1000	75.7	78.1	77.9	75.1	78.8	81.2	81.1	82.6	82.0	80.2	78.4	71.5	68.3	162.6
1250	75.3	78.2	79.0	76.5	80.3	81.6	80.0	81.2	82.8	79.9	76.9	70.7	67.4	163.3
1600	74.1	78.6	80.6	78.5	82.4	82.6	80.6	80.5	77.6	73.6	69.5	63.7	59.8	163.4
2000	74.0	78.0	80.6	80.0	81.6	83.3	79.0	76.8	75.5	71.0	66.2	59.2	53.6	164.4
2500	70.7	75.1	77.4	77.1	79.7	81.4	78.4	75.0	72.9	67.1	60.8	53.7	45.5	164.6
3150	65.1	71.7	73.9	74.9	76.1	78.2	75.1	71.8	69.5	61.8	53.2	46.1	33.6	165.3
4000	55.2	62.4	66.5	68.0	70.4	73.6	70.0	65.5	62.7	54.4	44.7	33.2	14.8	165.5
5000	43.4	52.7	58.0	59.5	61.3	64.6	61.2	57.1	53.1	43.8	32.1	17.1		166.2
6300	20.5	34.0	41.2	45.5	47.6	51.7	47.2	41.9	36.2	24.9	9.9			166.6
8000		4.8	15.6	21.0	23.6	28.8	23.3	17.4	11.0					166.9
10000														167.7
12500														170.2
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	86.6	88.8	89.8	88.1	91.1	93.0	92.0	93.2	95.5	95.8	97.4	94.0	80.4	178.4
PNL	94.9	98.3	100.2	99.2	101.7	103.6	101.5	101.0	101.5	100.2	99.6	93.6	88.1	
PNLT	96.2	98.9	100.2	99.8	102.3	104.2	102.1	101.5	101.5	100.2	100.6	93.6	88.1	
DBA	84.0	87.0	88.4	87.1	89.9	91.7	89.8	90.5	91.3	89.6	88.5	81.3	77.9	

MODEL AREA = 265.1 SQ CM (41.1 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.837 FREQ SHIFT = -8

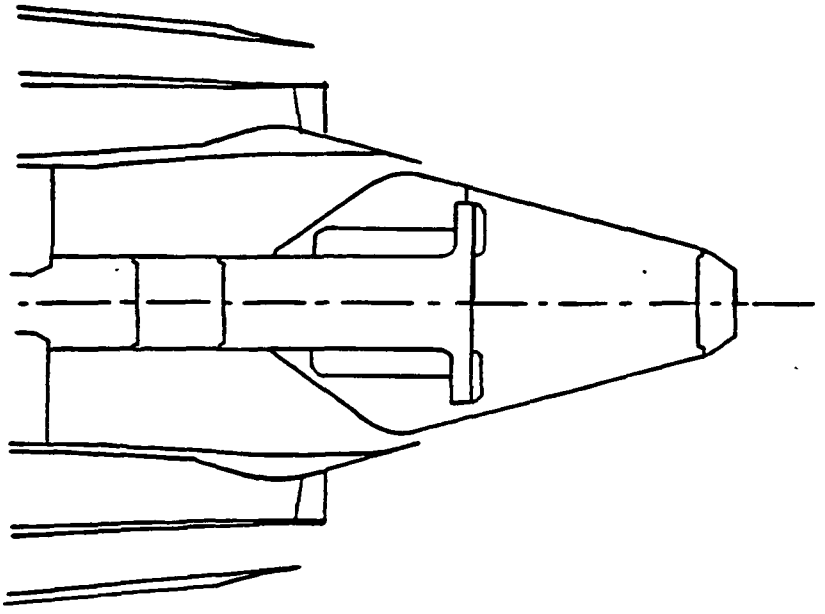
NASA DUAL FLOW THERMAL SHIELD/DFTAS-18/NAS3-22137

VEHICL = ADH246	TEST DATE = 04-28-83	LOCAT = C41 ANECH CH	CONFIG = 18	MODEL = CO	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 61.11	PAMB HG = 29.02	RELHUM = 81.5 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 = 1535.4 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2482.3 FPS	AE18 = 19.9 SQ IN

RUNPT = 83F-400-1812 TAPE = X18121 TEST PT NO = 1812 NC = AE095 CORR FAN SPEED = RPM

4.3.3 Acoustic Data of Suppressed Coannular Plug Nozzle with 360° Thermal Acoustic Shield (TAS-19).



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 83F-ZER-1903 X1903C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	82.6	86.7	87.9	82.7	79.1	82.2	85.6	88.7	84.2	81.5	87.9	90.1	87.2	127.8
63	87.8	93.8	98.1	91.6	85.5	89.6	97.0	99.6	90.6	85.4	90.0	92.5	95.6	136.4
80	86.8	91.1	87.8	87.1	86.7	91.6	90.0	90.9	91.1	91.7	94.8	94.2	80.1	132.7
100	85.7	91.0	87.8	87.8	88.6	93.0	90.4	94.0	91.5	96.6	96.7	99.4	84.3	135.1
125	82.9	87.2	89.7	89.2	90.3	92.9	91.3	92.0	91.9	95.8	101.6	103.1	88.2	137.0
160	81.9	82.7	87.2	84.3	85.6	89.7	93.6	90.8	92.2	96.3	100.7	103.4	93.3	136.6
200	83.5	84.6	88.1	85.1	86.5	91.3	93.0	93.1	98.1	98.4	104.0	106.5	96.1	139.5
250	83.0	86.6	87.8	86.1	87.7	91.1	92.2	94.4	98.1	102.9	107.3	109.5	99.6	142.3
315	84.1	86.9	87.4	86.9	88.0	93.4	97.0	95.4	99.1	103.5	107.8	109.8	101.7	143.0
400	85.6	87.1	88.1	86.4	88.5	92.6	104.0	95.9	98.6	104.9	109.3	110.5	103.2	144.5
500	85.3	87.9	88.9	87.9	89.5	94.6	94.0	96.9	99.1	105.7	109.3	110.5	103.9	144.2
630	85.8	87.6	88.8	87.9	90.2	94.1	94.2	97.4	98.6	105.4	108.0	108.2	103.9	143.1
800	87.6	88.4	89.4	88.7	91.0	94.9	95.3	98.7	100.6	105.0	107.3	106.5	103.7	142.6
1000	89.8	90.3	91.1	89.6	91.0	95.6	95.2	98.6	99.8	104.4	105.0	104.2	101.6	141.3
1250	87.4	91.5	90.8	89.9	90.6	95.2	94.9	98.3	101.0	103.3	104.2	101.9	100.0	140.6
1600	88.4	89.8	90.9	89.6	91.6	95.9	95.5	99.1	100.9	102.0	103.9	101.1	99.2	140.3
2000	88.8	90.2	90.6	90.0	91.5	95.4	95.6	99.5	100.1	102.9	102.6	99.2	97.7	139.9
2500	87.3	90.4	90.4	90.1	91.5	95.1	95.1	98.4	99.6	102.1	101.1	98.2	96.7	139.2
3150	87.2	91.6	91.3	89.3	91.2	96.0	95.1	98.3	99.4	101.3	100.3	97.1	95.3	138.8
4000	86.7	91.6	91.7	89.9	92.0	95.5	95.4	98.5	98.9	100.4	100.3	96.6	95.7	138.7
5000	85.8	90.6	91.2	90.1	92.1	95.8	95.4	98.0	98.5	101.0	101.0	97.5	95.9	139.0
6300	85.7	91.9	92.2	91.5	93.6	97.5	96.6	99.0	98.8	100.3	100.8	97.5	95.7	139.7
8000	84.8	91.0	92.5	92.2	93.8	97.9	96.1	98.2	97.5	98.2	99.8	95.5	94.8	139.2
10000	85.8	91.9	92.9	93.0	94.6	98.3	97.1	99.1	97.5	96.5	97.3	94.0	93.0	139.7
12500	84.8	90.5	92.1	92.2	94.0	98.3	96.8	97.6	96.2	95.0	93.8	91.8	90.6	139.5
16000	83.6	89.8	90.9	91.3	92.9	96.9	95.7	96.3	95.1	92.2	91.9	87.9	86.9	139.4
20000	82.0	87.7	88.8	89.7	91.0	93.8	94.4	93.7	92.0	88.7	88.5	85.5	83.8	138.7
25000	79.7	85.3	86.4	87.4	88.8	93.2	92.6	91.3	90.4	86.5	83.4	81.2	78.4	139.2
31500	76.5	81.4	82.7	84.7	84.8	89.5	88.7	88.4	86.9	83.2	80.3	76.1	73.0	138.8
40000	71.9	76.8	78.5	80.6	80.2	86.4	84.1	84.2	83.3	80.2	76.7	71.5	67.5	138.9
50000	65.4	70.2	72.6	75.1	74.7	81.6	78.2	79.1	77.2	74.8	71.1	66.9	60.9	137.9
63000	59.6	65.4	68.2	69.3	70.1	76.4	72.7	73.8	73.4	69.4	65.9	61.8	54.7	138.2
80000	53.7	58.3	61.5	61.5	62.9	70.8	66.4	67.6	66.0	62.2	60.3	56.0	47.5	138.6
OASPL	100.4	104.3	105.4	104.0	105.4	109.4	110.3	111.5	112.3	115.6	118.1	118.6	112.9	155.2
PNL	112.4	116.2	116.8	115.3	117.0	121.1	121.2	123.6	124.5	127.0	127.9	127.0	122.8	
PNLT	112.4	116.2	116.8	115.9	117.6	121.1	123.0	123.6	124.5	127.0	127.9	127.0	122.8	
DBA	98.9	102.2	102.7	101.7	103.5	107.5	107.7	110.2	111.3	114.3	115.8	115.0	111.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH216 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 34.11 PAMB HG = 29.18 RELHUM = 48.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1095.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1784.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1903 TAPE = X1903C TEST PT NO = 1903 NC = AE089 CORR FAN SPEED = RPM

P1188-03

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

IDENTIFICATION - 83F-ZER-1903 X1903F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	82.6	86.7	87.9	82.7	79.1	82.2	85.6	88.7	84.2	81.5	87.9	90.1	87.2	127.8
63	87.8	93.8	98.1	91.6	85.5	89.6	97.0	99.6	90.6	85.4	90.0	92.5	95.6	136.4
80	86.8	91.1	87.8	87.1	86.7	91.6	90.0	90.9	91.1	91.7	94.8	94.2	80.1	132.7
100	85.7	91.0	87.8	87.8	88.6	93.0	90.4	94.0	91.5	96.6	96.7	99.4	84.3	135.1
125	82.9	87.2	89.7	89.2	90.3	92.9	91.3	92.0	91.9	95.8	101.6	103.1	88.2	137.0
160	81.9	82.7	87.2	84.3	85.6	89.7	93.6	90.8	92.2	96.3	100.7	103.4	93.3	136.6
200	83.5	84.6	88.1	85.1	86.5	91.3	93.0	93.1	98.1	98.4	104.0	106.5	96.1	139.5
250	83.0	86.6	87.8	86.1	87.7	91.1	92.2	94.4	98.1	102.9	107.3	109.5	99.6	142.3
315	84.1	86.9	87.4	86.9	88.0	93.4	97.0	95.4	99.1	103.5	107.8	109.8	101.7	143.0
400	85.6	87.1	88.1	86.4	88.5	92.6	104.0	95.9	98.6	104.9	109.3	110.5	103.2	144.5
500	85.3	87.9	88.9	87.9	89.5	94.6	94.0	96.9	99.1	105.7	109.3	110.5	103.9	144.2
630	85.8	87.6	88.8	87.9	90.2	94.1	94.2	97.4	98.6	105.4	108.0	108.2	103.9	143.1
800	87.6	88.4	89.4	88.7	91.0	94.9	95.3	98.7	100.6	105.0	107.3	106.5	103.7	142.6
1000	89.8	90.3	91.1	89.6	91.0	95.6	95.2	98.6	99.8	104.4	105.0	104.2	101.6	141.3
1250	87.4	91.5	90.8	89.9	90.6	95.2	94.9	98.3	101.0	103.3	104.2	101.9	100.0	140.6
1600	88.4	89.8	90.9	89.6	91.6	95.9	95.5	99.1	100.9	102.0	103.9	101.1	99.2	140.3
2000	88.8	90.2	90.6	90.0	91.5	95.4	95.6	99.5	100.1	102.9	102.6	99.2	97.7	139.9
2500	87.3	90.4	90.4	90.1	91.5	95.1	95.1	98.4	99.6	102.1	101.1	98.2	96.7	139.2
3150	87.2	91.6	91.3	89.3	91.2	96.0	95.1	98.3	99.4	101.3	100.3	97.1	95.3	138.8
4000	86.7	91.6	91.7	89.9	92.0	95.5	95.4	98.5	98.9	100.4	100.3	96.6	95.7	138.7
5000	85.8	90.6	91.2	90.1	92.1	95.8	95.4	98.0	98.5	101.0	101.0	97.5	95.9	139.0
6300	85.7	91.9	92.2	91.5	93.6	97.5	96.6	99.0	98.8	100.3	100.8	97.5	95.7	139.7
8000	84.8	91.0	92.5	92.2	93.8	97.9	96.1	98.2	97.5	98.2	99.8	95.5	94.8	139.2
10000	85.8	91.9	92.9	93.0	94.6	98.3	97.1	99.1	97.5	96.5	97.3	94.0	93.0	139.7
12500	84.8	90.5	92.1	92.2	94.0	98.3	96.8	97.6	96.2	95.0	93.8	91.8	90.6	139.5
16000	83.6	89.8	90.9	91.3	92.9	96.9	95.7	96.3	95.1	92.2	91.9	87.9	86.9	139.4
20000	82.0	87.7	88.8	89.7	91.0	93.8	94.4	93.7	92.0	88.7	88.5	85.5	83.8	138.7
25000	79.7	85.3	86.4	87.4	88.8	93.2	92.6	91.3	90.4	86.5	83.4	81.2	78.4	139.2
31500	76.5	81.4	82.7	84.7	84.8	89.5	88.7	88.4	86.9	83.2	80.3	76.1	73.0	138.8
40000	71.9	76.8	78.5	80.6	80.2	86.4	84.1	84.2	83.3	80.2	76.7	71.5	67.5	138.9
50000	65.4	70.2	72.6	75.1	74.7	81.6	78.2	79.1	77.2	74.8	71.1	66.9	60.9	137.9
63000	59.6	65.4	68.2	69.3	70.1	76.4	72.7	73.8	73.4	69.4	65.9	61.8	54.7	138.2
80000	53.7	58.3	61.5	61.5	62.9	70.8	66.4	67.6	66.0	62.2	60.3	56.0	47.5	138.6
OASPL	100.4	104.3	105.4	104.0	105.4	109.4	110.3	111.5	112.3	115.6	118.1	118.6	112.9	155.2
PNL	112.4	116.2	116.8	115.3	117.0	121.1	121.2	123.6	124.5	127.0	127.9	127.0	122.8	
PNLT	112.4	116.2	116.8	115.9	117.6	121.1	123.0	123.6	124.5	127.0	127.9	127.0	122.8	
DBA	175.8	180.8	183.7	184.4	185.3	192.7	188.6	189.7	188.4	184.8	182.2	177.9	170.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH216 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 34.11 PAMB HG = 29.18 RELHUM = 48.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1095.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1784.9 FPS AE18 = 19.9 SQ IN

INPT 83F= T90 APE = 83F PT = TC AE CORR SPB RF

P1185-03

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

IDENTIFICATION - 83F-ZER-1903 X19031

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	59.9	64.2	65.8	66.1	67.6	73.1	76.6	74.6	77.6	80.8	83.7	83.4	72.0	158.3
63	61.4	64.4	66.5	65.5	68.0	72.3	83.5	75.0	77.0	82.3	85.1	84.1	73.4	159.8
80	61.1	65.2	67.3	67.0	69.0	74.3	73.5	76.0	77.5	83.0	85.1	84.0	74.1	159.5
100	61.5	64.8	67.2	66.9	69.7	73.7	73.7	76.4	76.9	82.6	83.7	81.6	73.9	158.3
125	63.1	65.5	67.6	67.7	70.4	74.4	74.7	77.7	78.9	82.1	82.9	79.8	73.4	157.9
160	65.1	67.3	69.2	68.4	70.2	75.0	74.5	77.4	77.9	81.4	80.4	77.2	71.0	156.6
200	62.5	68.2	68.7	68.5	69.7	74.5	74.0	76.9	78.9	80.1	79.3	74.6	68.9	155.9
250	63.1	66.3	68.6	68.0	70.5	75.0	74.4	77.5	78.6	78.5	78.7	73.3	67.5	155.6
315	63.2	66.3	67.9	68.1	70.2	74.2	74.3	77.6	77.4	79.0	77.0	70.9	65.1	155.2
400	61.1	66.0	67.4	68.0	69.8	73.6	73.4	76.3	76.5	77.8	74.9	69.2	63.1	154.4
500	60.5	66.8	67.9	66.8	69.1	74.1	73.1	75.8	76.0	76.6	73.6	67.5	60.7	154.1
630	59.5	66.4	68.0	67.0	69.7	73.3	73.0	75.6	75.1	75.2	73.1	66.2	59.9	154.0
800	57.9	64.9	67.0	66.9	69.4	73.3	72.7	74.8	74.4	75.3	73.1	66.3	59.0	154.3
1000	57.3	65.8	67.7	68.0	70.6	74.7	73.6	75.5	74.3	74.2	72.3	65.4	57.4	155.0
1250	55.7	64.4	67.6	68.3	70.6	74.8	72.8	74.3	72.6	71.6	70.7	62.5	54.9	154.5
1600	55.6	64.5	67.3	68.5	70.8	74.7	73.3	74.6	71.9	69.0	67.1	59.3	50.5	155.0
2000	53.0	61.9	65.5	67.0	69.5	74.0	72.3	72.3	69.6	66.4	62.1	55.0	44.5	154.7
2500	49.7	59.6	63.1	65.0	67.4	71.6	70.2	70.0	67.3	62.0	57.9	47.9	35.5	154.7
3150	44.1	54.5	58.5	61.2	63.6	66.7	66.9	65.2	61.7	55.5	50.6	39.9	23.4	154.0
4000	34.8	46.6	51.4	54.8	57.6	62.4	61.3	58.7	55.4	47.7	38.5	25.9	2.8	154.5
5000	21.0	34.2	40.7	45.9	47.8	53.0	51.6	49.6	44.9	36.1	24.7	6.3		154.1
6300		15.0	24.0	30.7	32.6	39.6	36.6	34.3	28.8	18.4	3.0			154.2
8000				4.9	8.1	16.1	11.6	8.9	0.5					153.2
10000														153.5
12500														153.9
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	73.4	78.1	80.0	80.1	82.3	86.6	88.0	88.4	88.9	91.6	92.5	90.5	81.6	169.8
PNL	77.4	84.8	87.5	88.5	90.9	95.4	94.6	95.4	94.2	94.4	93.3	89.1	80.6	
PNLT	77.4	84.8	87.5	89.1	91.4	95.9	95.2	96.0	94.8	94.4	93.3	89.1	80.6	
DBA	67.0	74.1	76.5	77.1	79.5	83.6	82.5	84.1	83.0	83.1	81.3	75.5	68.7	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH216 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 34.11 PAMB HG = 29.18 RELHUM = 48.7 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 = 1095.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1784.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1903 TAPE = XT9031 TEST PT NO = 1903 NC = AE089 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 83F-400-1904 X1904C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.1	86.4	87.0	80.1		81.4	85.0	87.4	83.1	82.7	88.0	92.1		127.4
63		92.1	97.5	90.1		87.1	95.2	95.5	88.2		90.0	97.4	93.7	134.7
80	86.3	89.6	86.3	86.2	85.8	89.8	88.8	89.5	89.8	87.5	91.9	93.0		130.9
100	83.2	89.1	86.1	85.9	86.6	90.4	88.1	91.4	89.1	92.6	93.3	97.3		132.4
125	81.9	84.8	87.1	86.6	87.7	90.6	89.4	88.6	88.6	91.3	98.1	100.6		134.0
160		79.4	85.6	80.3	81.7	85.5	92.8	86.9	91.2	92.5	97.7	100.4	90.8	133.8
200		80.4	85.6	79.9	80.9	84.8	90.4	88.7	93.3	92.5	98.5	102.9	92.9	135.2
250	78.2	81.0	82.9	81.0	83.0	86.2	86.4	89.0	93.6	96.9	102.3	104.7	95.1	137.3
315		81.2	85.1	81.1	81.2	87.3	91.8	90.4	93.6	97.9	102.8	104.5	95.2	137.8
400	79.7	80.9	83.0	81.1	83.3	86.2	98.4	90.6	92.6	99.2	103.3	104.2	93.4	138.5
500	80.0	81.8	83.6	82.2	83.9	88.3	87.4	91.1	93.4	99.9	103.1	102.8	91.0	137.5
630	80.1	81.7	83.2	82.2	84.3	87.5	88.4	91.6	93.1	99.9	101.8	99.5	87.7	136.3
800	81.5	81.6	83.8	82.8	85.4	88.3	89.2	92.7	94.9	99.2	101.3	96.5	86.3	135.8
1000	82.7	82.5	84.0	83.3	85.6	89.8	89.4	92.8	94.6	98.9	99.0	93.2	85.9	134.9
1250	81.9	84.5	84.2	83.3	85.3	89.2	88.8	92.8	95.8	97.8	97.7	89.9	84.0	134.2
1600	83.4	84.0	84.9	84.3	86.0	90.4	90.2	94.6	95.7	97.0	96.6	88.5	83.5	134.2
2000	83.8	83.9	84.8	83.9	86.8	90.6	90.4	94.2	95.8	97.6	95.9	86.7	82.6	134.2
2500	84.5	84.9	85.2	84.6	88.5	92.1	90.6	93.9	94.6	97.6	94.6	85.9	83.2	134.1
3150	86.2	86.1	86.8	86.0	88.9	92.7	91.8	94.3	95.2	96.8	93.5	85.6	82.6	134.3
4000	87.8	87.9	88.3	86.8	89.0	93.0	92.4	95.2	94.9	95.9	94.1	85.6	82.5	134.6
5000	86.8	87.6	89.2	87.8	89.6	93.3	92.9	95.0	94.3	97.0	94.5	87.2	82.3	135.0
6300	88.7	90.5	90.5	89.6	91.3	95.6	94.1	95.8	95.1	96.8	95.0	88.5	84.4	136.3
8000	89.1	90.3	91.1	90.7	92.4	96.4	94.4	94.7	94.5	95.1	94.1	89.0	85.0	136.5
10000	90.8	91.7	93.0	92.0	93.9	97.9	96.1	97.6	94.8	93.5	92.6	87.7	84.2	138.2
12500	89.0	90.0	91.3	91.2	93.3	97.6	95.3	95.1	93.4	91.9	89.1	85.8	82.8	137.8
16000	87.6	90.3	90.7	90.8	92.6	96.3	94.2	94.5	92.1	89.4	86.6	82.9	79.1	138.1
20000	85.7	88.7	89.3	88.9	90.5	94.0	93.6	92.7	90.7	86.9	83.6	79.7	77.0	138.1
25000	83.2	85.8	86.3	87.3	88.8	93.7	92.0	90.2	89.1	84.7	80.6	78.4	73.1	138.9
31500	78.9	82.1	83.4	84.4	84.8	89.7	87.9	87.3	85.9	81.6	78.7	74.1	68.9	138.4
40000	74.3	77.7	78.9	79.9	80.1	85.6	83.6	83.7	82.7	78.4	76.2	71.2	65.0	138.4
50000	68.1	71.2	72.4	73.8	74.7	80.8	78.2	78.3	76.7	72.7	70.3	66.3	59.6	137.3
63000	62.3	65.3	67.6	68.5	69.8	75.9	71.6	73.3	71.8	67.5	65.3	60.5	54.3	137.4
80000	54.7	58.7		60.3	61.8	69.5	65.3	66.6	64.4	60.4	59.2	54.2	46.7	137.3
OASPL	99.5	101.8	103.3	101.5	102.9	107.0	107.0	107.7	107.9	110.5	112.4	112.6	102.9	151.5
PNL	110.7	112.5	113.3	112.0	113.6	117.8	117.7	119.7	120.2	122.3	122.0	119.6	110.7	
PNLT	117.4	112.5	113.3	112.6	114.2	117.8	119.6	119.7	120.2	122.8	122.0	119.6	117.3	
DBA	97.4	98.3	99.1	98.1	100.3	104.2	103.8	105.9	106.6	109.3	109.6	106.9	98.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH227 TEST DATE = 04-16-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.61 PAMB HG = 29.08 RELHUM = 42.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1101.9 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1797.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1904 TAPE = X1904C TEST PT NO = 1904 NC = AE089 CORR FAN SPEED = RPM

P1165-03

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

IDENTIFICATION - 83F-400-1904 X1904F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	86.1	87.5	87.8	84.3	84.6	86.2	84.5	85.4	91.2	94.9	99.7	102.2	95.0	135.3
315	86.1	87.5	87.8	84.3	83.0	87.5	90.8	88.3	90.2	96.3	100.4	102.5	94.5	135.9
400	86.4	87.5	89.9	84.4	85.1	86.5	97.3	88.4	91.0	97.1	100.4	101.7	93.7	136.6
500	87.2	87.1	87.9	84.5	85.8	88.6	86.4	88.9	90.9	97.2	99.3	99.1	92.2	134.7
630	87.6	88.2	88.5	85.7	86.3	87.9	87.4	89.2	93.1	97.0	99.6	97.5	93.7	134.8
800	87.8	88.2	88.3	85.7	87.5	88.9	88.3	90.4	93.4	97.5	98.3	96.0	96.1	134.7
1000	89.2	88.0	88.9	86.4	87.8	90.4	88.7	90.8	94.5	96.3	96.7	92.3	94.0	134.0
1250	90.4	89.0	89.1	86.9	87.6	90.0	88.2	90.8	94.9	95.9	96.1	91.5	94.0	134.0
1600	89.6	90.9	89.4	87.0	88.5	91.4	90.1	93.0	95.2	96.6	95.3	89.4	92.8	134.4
2000	91.0	90.5	90.2	88.1	89.4	91.9	90.5	92.9	94.8	97.5	95.2	90.0	95.1	134.9
2500	91.5	90.5	90.1	87.9	92.0	93.7	91.3	93.4	96.3	97.7	95.1	90.8	95.7	135.6
3150	94.9	93.7	92.3	89.9	92.1	94.7	93.2	94.6	96.9	97.5	96.4	91.5	96.2	136.8
4000	93.8	92.7	92.4	90.4	92.7	95.6	94.4	96.2	96.1	98.5	96.6	92.8	95.8	137.3
5000	95.3	94.6	94.0	91.5	93.6	96.3	95.1	96.0	97.8	99.4	98.3	95.2	98.6	138.6
6300	94.2	94.3	95.1	92.7	95.4	98.6	96.5	97.3	98.1	98.6	97.9	95.8	98.6	139.4
8000	96.0	97.0	96.2	94.2	96.4	99.4	96.8	96.7	96.4	94.8	94.3	92.4	95.8	139.5
10000	96.2	96.7	96.6	95.3	97.9	100.9	97.6	97.8	94.8	92.8	90.3	90.0	94.0	140.5
12500	97.7	97.8	98.2	96.2	97.9	100.6	96.8	95.1	94.0	90.8	88.3	87.7	90.8	141.1
16000	98.1	97.9	97.7	96.1	97.2	99.3	95.6	94.5	93.0	88.8	85.8	84.9	89.1	141.8
20000	96.3	97.7	96.7	95.2	94.5	97.0	95.0	92.7	92.0	87.1	83.4	84.2	85.8	142.2
25000	91.1	93.3	93.0	91.6	93.4	96.7	93.5	90.2	89.6	84.9	82.3	80.7	82.4	142.1
31500	90.5	91.9	90.9	90.4	89.4	92.7	89.3	87.3	88.4	84.3	83.4	82.4	83.6	142.6
40000	85.4	87.4	87.2	86.6	84.7	88.6	85.3	84.3	81.6	77.2	75.1	74.1	74.4	142.2
50000	80.4	82.6	82.3	81.7	79.3	83.8	79.6	78.3	78.0	73.4	71.9	70.4	71.2	141.6
63000	73.3	75.1	74.8	74.7	74.4	78.9	73.1	73.4	71.8	67.3	66.4	64.4	63.9	140.8
80000	65.9	67.8	68.6	67.9	66.4	72.5	66.8	66.6	61.9	57.5	56.6	54.6	54.0	140.7
OASPL	106.8	107.0	106.8	104.9	106.4	109.2	107.1	107.0	108.0	109.5	110.1	109.4	107.9	153.3
PNL	117.2	116.7	116.3	113.9	116.2	119.0	117.5	118.7	120.0	121.8	121.3	118.6	120.4	
PNLT	117.2	116.7	116.3	113.9	116.2	119.0	118.9	118.7	120.0	121.8	121.3	118.6	120.4	
DBA	188.8	190.7	191.0	190.5	189.2	194.6	189.1	188.9	185.9	181.5	180.4	178.6	178.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH227 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.61 PAMB HG = 29.08 RELHUM = 42.3 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1101.9 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1797.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1904 TAPE = X1904F TEST PT NO = 1904 NC = AE089 CORR FAN SPEED = RPM

P1185-03

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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 - 83F-400-1904   X19041

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	62.0	64.8	66.2	63.5	62.5	67.2	70.4	67.4	68.6	73.6	76.2	76.1	64.8	151.2
63	62.2	64.8	68.4	63.6	64.6	66.2	76.9	67.5	69.5	74.5	76.2	75.3	63.9	151.8
80	62.9	64.4	66.2	63.6	65.3	68.3	65.9	68.0	69.2	74.5	75.0	72.6	62.4	150.0
100	63.3	65.4	66.9	64.7	65.8	67.5	66.8	68.3	71.4	74.2	75.2	71.0	63.6	150.1
125	63.4	65.3	66.5	64.7	66.9	68.4	67.7	69.4	71.6	74.7	73.9	69.2	65.9	150.0
160	64.5	65.0	67.0	65.2	67.0	69.8	67.9	69.7	72.6	73.2	72.1	65.3	63.4	149.3
200	65.5	65.7	67.0	65.6	66.7	69.2	67.3	69.5	72.8	72.7	71.2	64.1	62.9	149.2
250	64.3	67.4	67.0	65.5	67.4	70.5	69.0	71.5	72.8	73.1	70.1	61.6	61.1	149.7
315	65.3	66.7	67.5	66.3	68.0	70.7	69.1	71.0	72.1	73.7	69.5	61.7	62.5	150.2
400	65.3	66.2	67.1	65.7	70.3	72.2	69.6	71.2	73.2	73.4	68.9	61.9	62.1	150.9
500	68.2	69.0	68.9	67.4	70.1	72.9	71.2	72.0	73.5	72.8	69.7	61.8	61.6	152.0
630	66.6	67.5	68.6	67.6	70.4	73.4	72.0	73.4	72.4	73.3	69.3	62.4	60.0	152.5
800	67.5	69.0	69.8	68.3	70.9	73.8	72.5	72.8	73.7	73.7	70.5	64.0	61.6	153.9
1000	65.8	68.2	70.5	69.1	72.4	75.8	73.5	73.8	73.6	72.5	69.5	63.8	60.4	154.7
1250	66.9	70.4	71.3	70.4	73.1	76.3	73.5	72.8	71.5	68.2	65.2	59.4	58.9	154.8
1600	66.0	69.2	70.9	70.8	74.1	77.2	73.8	73.4	69.2	65.4	60.1	55.4	51.5	155.8
2000	65.9	69.2	71.7	71.0	73.3	76.3	72.2	69.8	67.5	62.2	56.6	50.9	44.8	156.4
2500	64.2	67.7	69.9	69.8	71.7	74.1	70.1	68.2	65.2	58.5	51.9	44.9	37.7	157.1
3150	58.4	64.5	66.4	66.7	67.1	69.9	67.6	64.2	61.7	53.9	45.5	38.6	25.5	157.4
4000	46.2	54.5	58.1	59.1	62.2	65.8	62.2	57.7	54.7	46.1	37.4	25.4	6.8	157.4
5000	35.0	44.7	49.0	51.6	52.3	56.2	52.3	48.5	46.4	37.1	27.9	12.5		157.9
6300	11.7	25.6	32.7	36.6	37.2	41.8	37.7	34.3	27.2	15.4	1.4			157.5
8000			5.6	11.5	12.7	18.4	13.0	8.1	1.2					156.9
10000														156.1
12500														156.0
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	77.9	80.1	81.5	80.3	82.8	85.6	84.2	83.6	84.2	85.2	84.4	81.3	74.4	168.6
PNL	86.6	89.7	91.7	91.1	93.3	96.1	93.1	92.4	90.9	89.6	86.5	80.2	76.6	
PNLT	87.9	90.8	92.3	91.7	93.8	96.6	93.7	93.1	92.2	91.1	88.4	80.2	76.6	
DBA	75.8	78.5	80.1	79.4	82.0	85.0	82.1	81.7	80.8	79.8	76.4	70.0	67.6	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN)   SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)   DIAMETER RATIO = 5.804   FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL	= ADH227	TEST DATE	= 04-18-83	LOCAT	= C41 ANECH CH	CONFIG	= 19	MODEL	= AX	FLTVEL =	400. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 36.61	PAMB HG	= 29.08	RELHUM =	42.3 PCT
WIND DIR =	DEG	WIND VEL	= MPH	EXT DIST	= 2400.0 FT	EXT CONFIG	= SL	MIKE HT	=	NBFR =	
FNIN1 =	LBS	XNL	= RPM	XNH	= RPM	V8	= 1101.9 FPS	AE8	= 4.0 SQ IN		
FNRAMB =	LBS	XNLR	= RPM	XNHR	= RPM	V18	= 1797.8 FPS	AE18	= 19.9 SQ IN		

NPT 3F-2 .904 PE = 4T PT 19 C AE CORR FAN SPEED RPM

P1165-08

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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 83F-ZER-1905 X1905C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.9	86.4	88.2	85.0	81.6	83.4	86.8	89.0	85.7	83.7	90.1	92.1	88.0	129.1
63	89.0	93.5	99.1	92.9	88.2	92.1	97.0	98.1	92.6	88.1	93.8	99.2	95.9	137.2
80	89.5	93.3	90.1	89.9	89.5	94.6	92.5	93.1	93.6	93.7	97.5	97.0	82.9	135.2
100	88.0	93.7	90.5	90.3	91.6	95.8	93.4	96.8	94.3	98.6	98.5	102.1	86.6	137.6
125	85.6	89.7	92.7	92.2	93.8	96.2	94.1	95.0	94.7	98.8	105.1	106.3	91.5	140.2
160	84.2	85.2	89.7	86.0	87.9	92.0	98.1	93.5	95.0	99.1	104.2	106.4	96.5	139.8
200	86.3	86.6	89.8	86.9	89.2	93.8	95.2	95.6	99.6	101.4	107.0	109.7	99.9	142.5
250	85.8	90.1	90.1	88.6	90.5	94.1	94.7	97.1	99.6	105.9	110.3	112.7	103.4	145.4
315	86.8	89.4	89.1	88.7	90.3	95.6	99.3	97.9	101.1	107.2	111.3	113.3	105.2	146.4
400	87.8	89.6	91.1	89.4	91.2	94.9	105.2	98.9	100.9	108.9	113.3	114.3	107.2	148.1
500	88.1	91.1	91.6	90.2	92.8	96.6	96.3	99.9	101.1	109.2	113.8	115.0	108.4	148.4
630	89.0	90.3	91.8	90.6	93.2	96.6	97.2	100.4	101.3	109.7	112.8	114.2	109.6	147.9
800	90.6	91.4	92.2	91.9	94.0	97.6	97.5	100.9	103.4	108.5	112.6	113.0	110.4	147.5
1000	94.5	95.6	94.6	93.4	94.2	98.1	97.7	101.1	103.1	107.7	109.8	111.7	109.6	146.2
1250	90.9	94.7	94.8	93.9	95.4	98.2	97.9	101.0	103.8	106.8	108.5	109.1	108.5	145.1
1600	91.9	92.8	94.0	93.1	95.1	99.2	98.5	101.8	103.7	105.3	108.2	109.1	107.2	144.7
2000	92.9	93.9	93.8	92.7	94.6	98.4	98.4	102.2	103.6	106.1	107.1	107.0	106.2	144.2
2500	90.8	93.1	93.4	92.7	94.3	98.2	98.3	100.7	102.3	105.9	106.1	105.9	105.2	143.4
3150	90.2	93.3	93.4	92.6	94.2	98.2	98.4	100.9	102.5	104.8	104.8	103.7	103.1	142.6
4000	88.8	91.9	92.8	91.7	94.3	98.0	97.9	101.0	102.2	103.4	104.1	102.1	101.7	141.9
5000	87.8	91.6	93.0	92.6	94.9	98.1	97.7	100.3	101.1	104.0	104.5	101.7	100.7	141.9
6300	87.2	92.4	93.8	93.1	95.6	98.3	98.1	101.1	101.4	102.8	103.8	100.7	100.2	142.0
8000	86.3	92.2	94.0	93.2	95.6	98.9	97.8	100.0	99.5	101.4	102.5	99.2	99.0	141.4
10000	87.5	93.9	94.9	95.0	96.8	100.3	99.3	100.6	99.3	100.0	101.0	97.9	97.2	142.0
12500	88.2	93.7	95.5	95.7	97.7	101.0	99.5	99.3	98.1	98.1	97.8	96.7	95.8	142.3
16000	87.5	93.2	94.6	95.4	96.8	99.5	98.1	97.9	97.0	95.6	95.7	93.8	92.0	142.2
20000	84.6	90.3	91.9	93.8	94.4	96.7	96.7	95.8	93.8	92.3	91.8	90.4	89.2	141.6
25000	81.8	86.9	88.7	91.2	91.4	96.8	94.9	93.9	92.2	89.8	88.0	87.5	84.3	142.1
31500	78.8	84 0	85.7	88.0	88.2	92.8	91.5	91.2	89.0	86.8	84.6	83.2	79.1	141.9
40000	74.0	79.8	81.3	83.5	83.5	89.0	86.7	86.8	86.1	83.7	81.3	78.1	74.1	141.8
50000	68.0	73.5	75.4	78.2	78.1	84.2	81.5	81.4	79.8	78.1	75.7	73.0	67.5	140.8
63000	62.4	67.7	70.7	72.6	73.4	79.5	75.5	76.4	75.2	72.4	70.2	66.6	61.1	141.0
80000	55.0	60.8	63.6	65.3	65.8	73.7	69.5	70.4	68.5	66.3	63.8	60.1	52.8	141.6
OASPL	103.5	106.6	107.7	106.8	108.3	111.9	112.6	113.8	114.9	119.1	122.2	123.3	118.9	158.8
PNL	115.3	118.3	118.8	117.9	119.7	123.4	123.8	126.0	127.2	130.4	132.1	132.2	129.5	
PNLT	116.5	118.3	118.8	118.6	120.3	123.4	125.4	126.0	127.2	130.4	132.7	132.2	129.5	
DBA	102.2	104.7	105.2	104.4	106.3	109.9	110.2	112.6	114.1	117.8	120.2	120.8	118.0	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH217 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 35.16 PAMB HG = 29.17 RELHUM = 43.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1214.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1982.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1905 TAPE = X1905C TEST PT NO = 1905 NC = AE089 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 - 83F-2ER-1905 X1905F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.9	86.4	88.2	85.0	81.6	83.4	86.8	89.0	85.7	83.7	90.1	92.1	88.0	129.1
63	89.0	93.5	99.1	92.9	88.2	92.1	97.0	98.1	92.6	88.1	93.8	99.2	95.9	137.2
80	89.5	93.3	90.1	89.9	89.5	94.6	92.5	93.1	93.6	93.7	97.5	97.0	82.9	135.2
100	88.0	93.7	90.5	90.3	91.6	95.8	93.4	96.8	94.3	98.6	98.5	102.1	86.6	137.6
125	85.6	89.7	92.7	92.2	93.8	96.2	94.1	95.0	94.7	98.8	105.1	106.3	91.5	140.2
160	84.2	85.2	89.7	86.0	87.9	92.0	98.1	93.5	95.0	99.1	104.2	106.4	96.5	139.8
200	86.3	86.6	89.8	86.9	89.2	93.8	95.2	95.6	99.6	101.4	107.0	109.7	99.9	142.5
250	85.8	90.1	90.1	88.6	90.5	94.1	94.7	97.1	99.6	105.9	110.3	112.7	103.4	145.4
315	86.8	89.4	89.1	88.7	90.3	95.6	99.3	97.9	101.1	107.2	111.3	113.3	105.2	146.4
400	87.8	89.6	91.1	89.4	91.2	94.9	105.2	98.9	100.9	108.9	113.3	114.3	107.2	148.1
500	88.1	91.1	91.6	90.2	92.8	96.6	96.3	99.9	101.1	109.2	113.8	115.0	108.4	148.4
630	89.0	90.3	91.8	90.6	93.2	96.6	97.2	100.4	101.3	109.7	112.8	114.2	109.6	147.9
800	90.6	91.4	92.2	91.9	94.0	97.6	97.5	100.9	103.4	108.5	112.6	113.0	110.4	147.5
1000	94.5	95.6	94.6	93.4	94.2	98.1	97.7	101.1	103.1	107.7	109.8	111.7	109.6	146.2
1250	90.9	94.7	94.8	93.9	95.4	98.2	97.9	101.0	103.8	106.8	108.5	109.1	108.5	145.1
1600	91.9	92.8	94.0	93.1	95.1	99.2	98.5	101.8	103.7	105.3	108.2	109.1	107.2	144.7
2000	92.9	93.9	93.8	92.7	94.6	98.4	98.4	102.2	103.6	106.1	107.1	107.0	106.2	144.2
2500	90.8	93.1	93.4	92.7	94.3	98.2	98.3	100.7	102.3	105.9	106.1	105.9	105.2	143.4
3150	90.2	93.3	93.4	92.6	94.2	98.2	98.4	100.9	102.5	104.8	104.8	103.7	103.1	142.6
4000	88.8	91.9	92.8	91.7	94.3	98.0	97.9	101.0	102.2	103.4	104.1	102.1	101.7	141.9
5000	87.8	91.6	93.0	92.6	94.9	98.1	97.7	100.3	101.1	104.0	104.5	101.7	100.7	141.9
6300	87.2	92.4	93.8	93.1	95.6	98.3	98.1	101.1	101.4	102.8	103.8	100.7	100.2	142.0
8000	86.3	92.2	94.0	93.2	95.6	98.9	97.8	100.0	99.5	101.4	102.5	99.2	99.0	141.4
10000	87.5	93.9	94.9	95.0	96.8	100.3	99.3	100.6	99.3	100.0	101.0	97.9	97.2	142.0
12500	88.2	93.7	95.5	95.7	97.7	101.0	99.5	99.3	98.1	98.1	97.8	96.7	95.8	142.3
16000	87.5	93.2	94.6	95.4	96.8	99.5	98.1	97.9	97.0	95.6	95.7	93.8	92.0	142.2
20000	84.6	90.3	91.9	93.8	94.4	96.7	96.7	95.8	93.8	92.3	91.8	90.4	89.2	141.6
25000	81.8	86.9	88.7	91.2	91.4	96.8	94.9	93.9	92.2	89.8	88.0	87.5	84.3	142.1
31500	78.8	84.0	85.7	88.0	88.2	92.8	91.5	91.2	89.0	86.8	84.6	83.2	79.1	141.9
40000	74.0	79.8	81.3	83.5	83.5	89.0	86.7	86.8	86.1	83.7	81.3	78.1	74.1	141.8
50000	68.0	73.5	75.4	78.2	78.1	84.2	81.5	81.4	79.8	78.1	75.7	73.0	67.5	140.8
63000	62.4	67.7	70.7	72.6	73.4	79.5	75.5	76.4	75.2	72.4	70.2	66.6	61.1	141.0
80000	55.0	60.8	63.6	65.3	65.8	73.7	69.5	70.4	68.5	66.3	63.8	60.1	52.8	141.6
OASPL	103.5	106.6	107.7	106.8	108.3	111.9	112.6	113.8	114.9	119.1	122.2	123.3	118.9	158.8
PNL	115.3	118.3	118.8	117.9	119.7	123.4	123.8	126.0	127.2	130.4	132.1	132.2	129.5	
PNLT	116.5	118.3	118.8	118.6	120.3	123.4	125.4	126.0	127.2	130.4	132.7	132.2	129.5	
DBA	177.7	183.3	186.0	187.9	188.4	195.5	191.6	192.4	190.7	188.4	186.0	182.5	176.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH217	TEST DATE = 04-18-83	LOCAT = C41 ANECH CH	CONFIG = 19	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 35.16	PAMB HG = 29.17	RELHUM = 43.4 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 = 1214.3 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1982.5 FPS	AE18 = 19.9 SQ IN

UNPT 33F 190 APE = 05F PT = NC AE CORR SP = RI

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

IDENTIFICATION - 83F-ZER-1905 X19051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	62.7	66.7	67.6	67.8	69.8	75.3	78.8	77.1	79.6	84.6	87.2	86.9	75.5	161.7
63	63.6	66.9	69.5	68.5	70.8	74.5	84.8	78.0	79.3	86.3	89.1	87.8	77.4	163.3
80	63.8	68.4	70.0	69.3	72.3	76.3	75.8	79.0	79.5	86.5	89.6	88.5	78.6	163.7
100	64.7	67.6	70.2	69.7	72.7	76.2	76.7	79.4	79.7	86.9	88.5	87.6	79.6	163.2
125	66.1	68.5	70.4	70.9	73.4	77.2	76.9	79.9	81.6	85.6	88.2	86.3	80.2	162.8
160	69.9	72.5	72.7	72.2	73.5	77.5	77.0	80.0	81.2	84.6	85.1	84.7	79.0	161.5
200	66.0	71.5	72.7	72.6	74.5	77.5	77.0	79.7	81.7	83.6	83.6	81.8	77.4	160.4
250	66.7	69.3	71.6	71.5	74.0	78.2	77.4	80.3	81.4	81.8	82.9	81.3	75.5	160.0
315	67.2	70.1	71.2	70.9	73.2	77.2	77.0	80.4	80.9	82.3	81.5	78.6	73.6	159.4
400	64.6	68.8	70.4	70.5	72.6	76.6	76.6	78.5	79.3	81.6	80.0	76.9	71.6	158.7
500	63.5	68.6	70.0	70.1	72.2	76.4	76.4	78.3	79.1	80.1	78.1	74.0	68.4	157.8
630	61.5	66.7	69.0	68.8	72.0	75.8	75.6	78.1	78.4	78.3	76.9	71.7	66.0	157.2
800	60.0	66.0	68.8	69.4	72.2	75.6	75.0	77.1	76.9	78.4	76.7	70.5	63.8	157.2
1000	58.8	66.4	69.2	69.5	72.6	75.5	75.1	77.5	76.8	76.8	75.4	68.7	61.9	157.2
1250	57.2	65.6	69.1	69.3	72.3	75.8	74.6	76.1	74.6	74.8	73.5	66.2	59.2	156.7
1600	57.3	66.4	69.3	70.5	73.0	76.7	75.5	76.1	73.6	72.5	70.8	63.3	54.7	157.3
2000	56.5	65.1	68.9	70.4	73.2	76.7	75.0	74.0	71.5	69.5	66.0	59.9	49.7	157.6
2500	53.6	62.9	66.8	69.1	71.3	74.3	72.6	71.6	69.2	65.4	61.8	53.8	40.7	157.5
3150	46.8	57.1	61.6	65.3	66.9	69.5	69.3	67.3	63.5	59.1	53.9	44.8	28.8	156.8
4000	36.9	48.1	53.8	58.7	60.2	66.0	63.7	61.3	57.3	51.0	43.1	32.3	8.6	157.4
5000	23.3	36.8	43.8	49.2	51.1	56.3	54.4	52.4	47.0	39.6	29.0	13.4		157.2
6300	0.3	18.0	26.8	33.5	36.0	42.2	39.2	36.8	31.6	21.9	7.6			157.0
8000				8.0	11.4	18.7	14.9	11.2	3.0					156.1
10000														156.3
12500														156.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	76.8	80.9	82.7	82.9	85.3	89.0	90.1	90.9	91.6	95.2	96.8	95.6	87.6	173.6
PNL	80.8	87.4	90.5	91.9	94.3	98.0	97.2	97.5	96.6	98.0	97.9	95.1	87.9	
PNLT	81.9	87.4	90.5	92.5	94.8	98.5	97.2	98.1	97.3	98.0	97.9	95.1	87.9	
DBA	69.8	76.0	78.7	79.6	82.2	85.7	84.8	86.1	85.6	86.3	85.3	81.7	75.8	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH217 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 35.16 PAMB HG = 29.17 RELHUM = 43.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1214.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1982.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1905 TAPE = X19051 TEST PT NO = 1905 NC = AE089 CORR FAN SPEED = RPM

P1185-03

DATPROC - FLTRAN 07/07/83 19.636 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 83F-400-1906 X1906C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.6	88.2	87.9	82.7	81.1	82.9	85.1	86.7	84.7	84.0	89.9	93.3	87.2	128.8
63	90.0	93.8	98.1	91.1	87.2	90.6	96.5	93.1	91.6	89.9	91.5	97.2	95.6	135.7
80	89.0	93.1	89.1	88.9	88.2	93.3	91.7	92.6	92.1	91.4	94.8	95.5	85.1	133.9
100	86.5	91.5	88.3	87.5	88.4	92.5	91.1	94.3	91.5	94.1	95.5	100.1	87.1	134.8
125	85.1	87.2	89.4	89.2	90.8	92.9	91.6	91.7	90.9	94.5	100.4	103.3	90.7	136.7
160	81.9	82.0	87.0	83.5	84.6	88.2	93.9	89.0	91.7	95.1	100.7	103.4	94.5	136.4
200	82.8	83.6	86.8	82.9	84.2	88.1	91.2	91.4	95.8	95.4	101.3	105.7	95.6	137.8
250	81.3	84.1	85.6	83.9	85.5	89.1	90.0	92.1	95.8	99.9	105.5	108.2	97.9	140.6
315	82.1	84.9	86.4	84.4	85.0	90.1	94.3	93.2	96.4	101.0	106.1	108.3	98.7	141.1
400	82.3	84.6	85.6	84.2	86.2	89.4	100.5	93.4	95.4	102.7	107.6	108.5	97.7	142.2
500	82.8	84.9	86.4	84.7	87.0	90.9	91.0	94.2	96.4	103.5	107.8	107.3	94.7	141.7
630	83.0	84.1	86.1	85.1	87.5	90.6	91.5	94.9	96.1	103.4	106.3	104.5	91.9	140.4
800	84.3	84.9	86.4	85.7	88.0	91.9	92.3	95.7	98.4	102.7	105.1	101.0	89.9	139.5
1000	85.3	85.8	87.1	86.4	88.5	92.3	92.7	96.1	97.8	102.7	103.3	98.0	88.6	138.6
1250	84.4	87.0	87.0	86.4	88.4	92.5	92.9	96.3	99.3	101.6	101.7	94.1	87.5	137.9
1600	85.9	86.3	88.2	86.8	89.3	93.4	93.8	97.1	99.2	100.5	101.2	92.6	86.5	137.7
2000	86.1	86.4	87.3	87.2	89.1	93.2	93.2	97.7	98.6	101.4	99.6	91.4	86.2	137.6
2500	86.0	86.6	86.9	87.4	91.0	94.7	93.6	97.2	97.8	101.1	98.4	90.9	85.9	137.3
3150	86.2	87.6	88.6	87.9	90.9	94.7	93.6	97.9	97.9	100.3	97.0	89.4	84.3	137.1
4000	87.0	87.9	89.8	88.7	91.1	94.0	93.9	97.5	97.7	98.9	97.1	88.9	84.7	136.8
5000	88.5	88.4	91.5	89.4	91.6	94.3	94.2	97.6	97.3	100.0	97.3	89.5	84.5	137.4
6300	89.2	91.5	92.3	90.8	93.4	96.3	95.1	97.6	98.1	99.4	98.0	91.0	85.7	138.2
8000	89.6	91.8	93.3	92.2	94.4	97.2	94.9	97.5	97.3	98.4	97.3	91.5	86.5	138.5
10000	91.8	93.4	94.7	93.7	96.1	99.1	96.9	98.8	97.6	97.0	97.1	91.5	86.5	140.0
12500	93.2	94.2	96.3	96.0	97.5	100.8	97.3	97.6	95.9	95.2	94.1	90.3	86.1	141.1
16000	91.3	93.7	94.7	94.5	95.8	98.3	96.1	96.5	95.3	92.4	90.8	87.4	82.4	140.8
20000	88.0	90.7	92.1	92.7	94.5	96.0	95.1	95.2	92.2	88.9	87.4	84.5	80.0	140.5
25000	84.9	88.0	89.0	90.1	91.8	96.2	94.0	92.0	91.3	85.9	84.1	80.7	75.9	141.2
31500	81.2	84.3	85.9	87.4	88.0	92.2	90.1	89.8	88.1	83.9	81.7	77.6	71.9	140.9
40000	76.1	80.0	81.9	82.6	83.6	88.6	86.1	86.4	85.7	80.9	79.2	74.2	68.2	141.2
50000	70.4	74.2	75.5	76.8	77.5	83.8	80.7	80.5	80.2	75.8	74.6	69.8	62.4	140.2
63000	64.6	68.1	70.1	71.5	73.3	78.9	74.6	75.8	74.8	70.1	69.1	64.3	56.7	140.4
80000	56.9	61.0	64.0	63.7	65.2	72.3	68.4	69.6	67.0	63.2	62.5	58.5	50.0	140.4
OASPL	102.0	104.1	105.5	104.2	105.9	109.1	108.9	110.2	110.8	113.9	116.2	116.3	106.3	154.4
PNL	112.5	114.1	115.4	113.9	116.2	119.6	119.6	122.4	123.0	125.7	125.5	123.4	114.5	
PNLT	112.5	114.1	115.4	114.6	116.9	119.6	121.2	122.4	123.0	125.7	125.5	123.4	114.5	
DBA	98.6	99.8	101.2	100.2	102.6	106.0	105.8	108.7	109.7	112.7	113.6	111.1	101.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH226 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.21 PAMB HG = 29.05 RELHUM = 42.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1206.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1987.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1906 TAPE = X1906C TEST PT NO = 1906 NC = AE089 CORR FAN SPEED = RPM

P1165-03

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

IDENTIFICATION - 83F-400-1906 X1906F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	88.9	90.4	90.4	87.1	87.0	89.1	88.4	88.8	94.1	98.1	103.1	106.0	98.5	138.8
315	88.9	90.3	90.4	87.1	86.8	90.3	93.3	91.2	93.1	99.9	104.7	106.8	98.8	139.9
400	89.7	91.2	91.3	87.8	88.1	89.6	99.5	91.3	94.1	100.7	105.2	106.2	97.4	140.4
500	89.9	90.9	90.5	87.5	88.9	91.2	90.0	91.9	94.0	100.9	104.0	104.4	96.6	139.0
630	90.5	91.3	91.4	88.1	89.4	91.0	90.5	92.6	96.6	100.6	103.4	102.2	97.4	138.6
800	90.7	90.5	91.1	88.6	90.1	92.4	91.4	93.5	96.6	101.2	102.4	100.6	98.8	138.3
1000	92.0	91.3	91.5	89.3	90.6	93.0	91.9	94.1	98.0	100.0	100.7	96.5	97.5	137.6
1250	92.9	92.3	92.2	90.0	90.7	93.3	92.2	94.3	98.1	99.1	100.3	95.0	96.4	137.3
1600	92.1	93.5	92.2	90.1	91.8	94.5	93.3	95.3	97.8	100.2	98.9	94.0	96.2	137.5
2000	93.5	92.8	93.5	90.7	91.7	94.5	93.0	96.2	97.7	100.7	98.5	94.5	97.1	137.8
2500	93.8	93.0	92.7	91.2	94.5	96.3	94.1	96.3	98.2	100.2	97.4	93.1	95.3	138.0
3150	96.5	95.5	94.1	92.7	94.7	96.8	94.6	97.4	99.1	100.0	98.7	93.9	97.5	138.9
4000	96.6	96.5	95.9	93.4	94.8	96.6	95.7	98.1	98.5	100.7	98.4	93.8	96.3	139.3
5000	94.5	94.6	95.5	93.3	95.7	97.3	96.1	98.0	100.0	100.9	100.3	96.7	99.1	140.0
6300	96.0	95.1	97.3	94.2	97.4	99.3	97.3	98.6	100.0	101.0	100.6	98.2	100.6	141.1
8000	96.5	98.0	98.0	95.5	98.4	100.2	97.2	98.9	101.3	100.8	101.6	99.3	101.4	142.3
10000	96.7	98.1	98.8	96.8	100.2	102.1	99.3	100.8	97.3	96.1	95.3	94.5	97.3	142.5
12500	98.7	99.6	99.9	98.0	101.6	103.8	98.8	97.6	97.6	94.5	93.4	92.9	94.8	143.8
16000	99.6	99.8	101.0	99.7	99.9	101.3	97.7	96.7	94.5	90.8	89.6	89.7	92.1	144.3
20000	97.2	98.9	99.0	97.8	98.5	99.0	96.5	95.2	94.2	88.4	86.9	86.4	88.6	144.3
25000	93.3	95.3	95.8	95.4	96.4	99.2	95.5	92.0	91.8	87.1	85.3	84.2	85.4	144.6
31500	92.2	94.1	93.7	93.1	92.6	95.2	91.6	89.8	91.3	86.6	86.1	84.9	86.3	145.2
40000	87.7	89.6	89.7	89.6	88.2	91.6	87.7	86.9	85.9	81.5	81.4	80.2	80.0	145.1
50000	82.2	84.8	85.3	84.4	82.0	86.8	82.2	80.9	81.2	76.4	76.3	74.9	74.5	144.4
63000	75.5	78.1	78.0	77.7	77.9	81.9	76.2	76.0	74.3	70.1	69.7	68.7	67.2	143.8
80000	68.2	70.6	71.1	70.9	69.8	75.3	69.8	69.6	64.5	60.3	59.9	58.9	57.3	143.6
OASPL	108.3	108.9	109.2	107.4	109.2	111.1	109.0	109.5	110.8	112.7	114.0	113.7	110.6	156.0
PNL	119.0	119.1	118.9	116.5	118.5	120.5	119.2	121.0	122.6	124.6	124.3	121.8	122.3	
PNLT	119.0	119.1	118.9	116.5	118.5	120.5	120.5	121.0	122.6	124.6	124.9	121.8	122.3	
DBA	191.0	193.4	193.8	193.5	192.6	197.5	192.1	191.7	188.7	184.4	184.0	183.0	181.7	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH226 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.21 PAMB HG = 29.05 RELHUM = 42.9 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 = 1206.3 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1987.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1906 TAPE = X1906F TEST PT NO = 1906 NC = AE089 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 - 83F-400-1906 X19061

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.8	67.7	68.8	66.2	66.4	70.0	72.9	70.3	71.5	77.2	80.6	80.5	69.1	155.2
63	65.5	68.6	69.7	66.9	67.6	69.3	79.0	70.4	72.5	78.0	81.0	79.8	67.6	155.7
80	65.6	68.2	68.9	66.6	68.4	70.9	69.5	71.0	72.4	78.2	79.8	77.9	66.8	154.3
100	66.2	68.5	69.7	67.2	68.9	70.6	69.9	71.7	75.0	77.8	79.1	75.6	67.4	153.8
125	66.3	67.6	69.3	67.6	69.5	71.9	70.7	72.4	74.8	78.3	78.0	73.8	68.5	153.6
160	67.4	68.3	69.6	68.1	69.9	72.4	71.2	72.9	76.1	77.0	76.1	69.5	66.8	152.8
200	68.0	69.0	70.1	68.7	69.8	72.5	71.3	73.0	76.0	75.9	75.4	67.7	65.3	152.6
250	66.9	70.0	69.8	68.6	70.7	73.5	72.2	73.7	75.4	76.7	73.7	66.3	64.4	152.8
315	67.9	68.9	70.8	68.9	70.3	73.2	71.6	74.3	75.0	76.8	72.8	66.1	64.5	153.1
400	67.6	68.7	69.7	69.0	72.8	74.7	72.4	74.1	75.2	75.9	71.2	64.1	61.7	153.3
500	69.8	70.8	70.7	70.2	72.7	74.9	72.5	74.9	75.7	75.3	72.0	64.2	62.9	154.2
630	69.3	71.3	72.1	70.5	72.4	74.4	73.4	75.2	74.7	75.5	71.1	63.4	60.6	154.6
800	66.7	69.0	71.3	70.1	73.0	74.8	73.4	74.8	75.9	75.3	72.4	65.5	62.2	155.3
1000	67.6	69.0	72.8	70.7	74.4	76.5	74.4	75.0	75.5	74.9	72.2	66.2	62.4	156.4
1250	67.4	71.4	73.0	71.6	75.1	77.1	73.9	75.1	76.4	74.2	72.5	66.3	61.6	157.6
1600	66.5	70.7	73.2	72.3	76.3	78.5	75.5	76.3	71.7	68.7	65.1	59.9	54.8	157.8
2000	66.9	71.0	73.4	72.7	77.0	79.5	74.2	72.3	71.1	65.9	61.7	56.2	48.8	159.1
2500	65.7	69.6	73.2	73.4	74.4	76.1	72.2	70.4	66.7	60.6	55.7	49.7	40.8	159.5
3150	59.3	65.7	68.7	69.3	71.1	71.9	69.0	66.7	63.9	55.1	49.0	40.8	28.2	159.6
4000	48.4	56.5	60.8	62.8	65.1	68.3	64.2	59.4	56.9	48.4	40.3	28.9	9.8	159.9
5000	36.7	46.9	51.7	54.3	55.6	58.7	54.5	51.0	49.3	39.5	30.6	15.1		160.5
6300	14.0	27.8	35.2	39.6	40.7	44.8	40.2	37.0	31.4	19.8	7.7			160.4
8000			8.6	14.2	15.4	21.3	15.6	10.7	4.5					159.7
10000														159.1
12500														158.9
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	79.8	82.2	83.9	82.7	85.4	87.6	86.1	86.2	87.1	88.5	88.4	85.7	77.4	171.2
PNL	88.2	91.7	94.5	94.1	96.3	98.6	95.2	95.1	94.0	92.7	90.5	84.5	79.0	
PNLT	89.4	92.8	95.0	94.7	96.9	99.2	95.7	95.8	95.2	93.9	92.0	85.6	79.0	
DBA	76.9	80.0	82.4	81.6	84.7	86.7	83.5	84.0	83.6	82.6	79.7	73.3	69.6	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH226	TEST DATE = 04-18-83	LOCAT = C41 ANECH CH	CONFIG = 19	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 36.21	PAMB HG = 29.05	RELHUM = 42.9 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 = 1206.3 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 1987.8 FPS	AE18 = 19.9 SQ IN

INPT 3F T90 APE = 61 PT = TS IC AE ORR SPEED RP

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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 83F-ZER-1907 X1907C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	88.7	88.9	84.0	82.1	84.7	86.8	89.5	88.7	86.5	92.6	93.1	89.2	130.4
63	90.3	94.5	98.1	93.1	90.2	93.8	97.0	97.9	94.6	95.9	96.0	97.7	98.6	137.7
80	91.5	95.6	92.1	91.4	91.5	96.8	94.5	95.4	95.1	96.2	100.0	99.2	84.9	137.4
100	90.0	96.7	92.8	93.0	94.1	98.0	95.9	99.3	96.3	101.1	100.7	104.1	89.3	139.9
125	87.1	91.2	93.7	94.0	95.8	98.4	96.1	97.2	96.4	100.5	107.1	108.6	94.2	142.3
160	85.7	87.2	91.2	88.3	89.6	94.0	98.6	96.0	96.7	101.6	106.4	108.9	99.0	142.0
200	89.0	87.6	90.6	89.1	91.2	95.6	96.5	96.9	101.1	103.6	109.3	112.0	102.1	144.6
250	88.0	90.8	91.6	91.4	92.7	95.8	96.7	99.1	101.6	108.4	113.0	115.0	105.6	147.8
315	88.6	91.1	90.6	90.4	92.8	97.6	100.5	99.9	103.4	110.0	114.6	115.8	107.4	149.1
400	90.3	91.8	92.4	91.4	93.0	96.9	106.0	100.7	103.4	111.7	116.6	116.8	109.2	150.7
500	90.6	93.1	94.4	92.7	94.8	98.4	98.5	101.7	104.1	112.7	117.3	117.8	110.7	151.5
630	91.0	93.3	94.1	93.1	95.7	98.8	99.2	102.4	103.8	112.9	116.5	117.5	112.6	151.2
800	94.1	94.4	94.7	94.2	96.5	99.4	100.0	103.7	105.9	112.0	116.1	117.5	113.9	151.2
1000	97.5	98.8	97.6	96.4	97.2	100.6	100.2	103.9	105.8	111.4	114.3	117.0	113.6	150.5
1250	94.9	98.7	98.5	97.1	98.4	101.5	100.6	104.0	106.3	110.3	113.5	114.9	112.8	149.4
1600	95.4	95.5	96.7	95.6	97.8	101.2	101.8	105.1	106.2	108.8	112.4	113.8	111.2	148.5
2000	95.1	96.9	96.6	95.2	96.8	100.7	100.9	104.7	106.3	109.9	111.9	111.9	109.7	148.0
2500	93.3	95.6	96.2	95.4	96.8	100.9	100.8	104.2	104.8	109.4	110.9	110.7	108.2	147.1
3150	92.7	95.6	95.8	94.6	96.4	101.0	101.1	103.8	104.9	108.8	110.0	108.7	106.3	146.4
4000	90.7	94.1	95.3	94.4	96.8	100.8	100.4	104.2	104.4	107.2	108.6	106.8	104.4	145.3
5000	90.0	93.9	95.2	94.1	96.1	100.1	100.2	103.8	103.8	107.3	107.5	105.5	102.7	144.9
6300	89.7	95.2	95.8	94.8	96.9	100.8	100.4	103.8	104.1	106.1	107.3	104.7	102.0	144.9
8000	89.3	95.3	96.1	96.0	97.4	100.7	99.9	102.5	102.0	104.2	105.6	103.2	100.1	144.0
10000	90.8	96.7	97.2	97.0	98.4	101.4	100.6	103.1	102.1	102.8	104.1	101.7	99.5	144.4
12500	89.8	94.0	96.8	97.0	99.3	102.6	100.9	101.1	100.2	101.0	101.6	101.1	97.8	144.3
16000	88.8	94.3	95.7	96.6	98.4	101.4	100.2	100.3	99.4	98.7	99.6	98.7	95.4	144.5
20000	86.5	92.2	93.6	94.2	96.0	98.6	98.1	98.0	96.0	95.5	96.7	94.8	92.5	143.6
25000	84.0	89.3	90.9	92.6	93.3	98.0	96.6	95.8	93.4	92.0	91.7	90.7	87.7	143.8
31500	81.2	85.7	88.2	89.9	90.1	94.3	92.9	92.9	89.9	89.0	88.3	86.4	83.0	143.6
40000	76.6	82.0	83.5	85.7	85.7	91.1	88.6	89.0	87.6	85.7	85.0	82.0	78.0	143.9
50000	70.5	76.3	78.6	79.9	80.3	85.9	83.7	83.6	81.7	80.3	79.1	77.4	72.2	142.9
63000	64.9	70.5	73.2	75.4	76.1	81.2	77.2	78.6	77.4	75.4	73.9	72.1	65.3	143.2
80000	59.2	63.8	66.8	67.8	68.5	75.1	71.5	72.6	70.3	68.8	67.5	66.6	58.8	143.7
OASPL	106.1	109.1	109.6	108.8	110.4	114.0	114.4	116.3	117.4	122.4	125.9	126.8	122.1	161.9
PNL	117.8	120.7	121.2	120.1	121.9	125.8	126.1	128.8	129.7	133.9	136.2	136.2	132.4	
PNLT	118.8	121.3	121.2	120.6	122.6	125.8	127.2	128.8	129.7	133.9	136.8	136.2	132.4	
DBA	105.1	107.6	107.9	106.9	108.6	112.2	112.5	115.5	116.7	121.2	124.2	125.0	121.4	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH218	TEST DATE = 04-18-83	LOCAT = C41 ANECH CH	CONFIG = 19	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 36.25	PAMB HG = 29.16	RELHUM = 44.0 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT = LBS	XNL = RPM	XNH = RPM	V8 = 1310.2 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2161.7 FPS	AE18 = 19.9 SQ IN	
RUNPT = 83F-ZER-1907	TAPE = X1907C	TEST PT NO = 1907	NC = AE089	CORR FAN SPEED = RPM	

P1165-03

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

IDENTIFICATION - 83F-2ER-1907 X1907F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.4	88.7	88.9	84.0	82.1	84.7	86.8	89.5	88.7	86.5	92.6	93.1	89.2	130.4
63	90.3	94.5	98.1	93.1	90.2	93.8	97.0	97.9	94.6	95.9	96.0	97.7	98.6	137.7
80	91.5	95.6	92.1	91.4	91.5	96.8	94.5	95.4	95.1	96.2	100.0	99.2	84.9	137.4
100	90.0	96.7	92.8	93.0	94.1	98.0	95.9	99.3	96.3	101.1	100.7	104.1	89.3	139.9
125	87.1	91.2	93.7	94.0	95.8	98.4	96.1	97.2	96.4	100.5	107.1	108.6	94.2	142.3
160	85.7	87.2	91.2	88.3	89.6	94.0	98.6	96.0	96.7	101.6	106.4	108.9	99.0	142.0
200	89.0	87.6	90.6	89.1	91.2	95.6	96.5	96.9	101.1	103.6	109.3	112.0	102.1	144.6
250	88.0	90.8	91.6	91.4	92.7	95.8	96.7	99.1	101.6	108.4	113.0	115.0	105.6	147.8
315	88.6	91.1	90.6	90.4	92.8	97.6	100.5	99.9	103.4	110.0	114.6	115.8	107.4	149.1
400	90.3	91.8	92.4	91.4	93.0	96.9	106.0	100.7	103.4	111.7	116.6	116.8	109.2	150.7
500	90.6	93.1	94.4	92.7	94.8	98.4	98.5	101.7	104.1	112.7	117.3	117.8	110.7	151.5
630	91.0	93.3	94.1	93.1	95.7	98.8	99.2	102.4	103.8	112.9	116.5	117.5	112.6	151.2
800	94.1	94.4	94.7	94.2	96.5	99.4	100.0	103.7	105.9	112.0	116.1	117.5	113.9	151.2
1000	97.5	98.8	97.6	96.4	97.2	100.6	100.2	103.9	105.8	111.4	114.3	117.0	113.6	150.5
1250	94.9	98.7	98.5	97.1	98.4	101.5	100.6	104.0	106.3	110.3	113.5	114.9	112.8	149.4
1600	95.4	95.5	96.7	95.6	97.8	101.2	101.8	105.1	106.2	108.8	112.4	113.8	111.2	148.5
2000	95.1	96.9	96.6	95.2	96.8	100.7	100.9	104.7	106.3	109.9	111.9	111.9	109.7	148.0
2500	93.3	95.6	96.2	95.4	96.8	100.9	100.8	104.2	104.8	109.4	110.9	110.7	108.2	147.1
3150	92.7	95.6	95.8	94.6	96.4	101.0	101.1	103.8	104.9	108.8	110.0	108.7	106.3	146.4
4000	90.7	94.1	95.3	94.4	96.8	100.8	100.4	104.2	104.4	107.2	108.6	106.8	104.4	145.3
5000	90.0	93.9	95.2	94.1	96.1	100.1	100.2	103.8	103.8	107.3	107.5	105.5	102.7	144.9
6300	89.7	95.2	95.8	94.8	96.9	100.8	100.4	103.8	104.1	106.1	107.3	104.7	102.0	144.9
8000	89.3	95.3	96.1	96.0	97.4	100.7	99.9	102.5	102.0	104.2	105.6	103.2	100.1	144.0
10000	90.8	96.7	97.2	97.0	98.4	101.4	100.6	103.1	102.1	102.8	104.1	101.7	99.5	144.4
12500	89.8	94.0	96.8	97.0	99.3	102.6	100.9	101.1	100.2	101.0	101.6	101.1	97.8	144.3
16000	88.8	94.3	95.7	96.6	98.4	101.4	100.2	100.3	99.4	98.7	99.6	98.7	95.4	144.5
20000	86.5	92.2	93.6	94.2	96.0	98.6	98.1	98.0	96.0	95.5	96.7	94.8	92.5	143.6
25000	84.0	89.3	90.9	92.6	93.3	98.0	96.6	95.8	93.4	92.0	91.7	90.7	87.7	143.8
31500	81.2	85.7	88.2	89.9	90.1	94.3	92.9	92.9	89.9	89.0	88.3	86.4	83.0	143.6
40000	76.6	82.0	83.5	85.7	85.7	91.1	88.6	89.0	87.6	85.7	85.0	82.0	78.0	143.9
50000	70.5	76.3	78.6	79.9	80.3	85.9	83.7	83.6	81.7	80.3	79.1	77.4	72.2	142.9
63000	64.9	70.5	73.2	75.4	76.1	81.2	77.2	78.6	77.4	75.4	73.9	72.1	65.3	143.2
80000	59.2	63.8	66.8	67.8	68.5	75.1	71.5	72.6	70.3	68.8	67.5	66.6	58.8	143.7
OASPL	106.1	109.1	109.6	108.8	110.4	114.0	114.4	116.3	117.4	122.4	125.9	126.8	122.1	161.9
PNL	117.8	120.7	121.2	120.1	121.9	125.8	126.1	128.8	129.7	133.9	136.2	136.2	132.4	
PNLT	118.8	121.3	121.2	120.6	122.6	125.8	127.2	128.8	129.7	133.9	136.8	136.2	132.4	
DBA	181.2	186.2	189.0	190.4	191.0	197.1	193.5	194.6	192.6	191.0	189.7	188.4	181.3	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH218 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.25 PAMB HG = 29.16 RELHUM = 44.0 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 = 1310.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2161.7 FPS AE18 = 19.9 SQ IN

NPT 3F-2 1907 PE = 7F PT 19 C AE JRR SPE RPI

P1165-03

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

IDENTIFICATION - 83F-ZER-1907 X19071

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.4	68.5	69.1	69.6	72.3	77.3	80.1	79.1	81.8	87.3	90.4	89.4	77.7	164.4
63	66.1	69.2	70.8	70.5	72.5	76.5	85.5	79.8	81.8	89.0	92.4	90.3	79.4	166.0
80	66.3	70.4	72.8	71.8	74.3	78.0	78.0	80.8	82.5	90.0	93.1	91.3	80.8	166.7
100	66.7	70.6	72.4	72.2	75.2	78.4	78.7	81.4	82.2	90.1	92.2	90.9	82.6	166.5
125	69.6	71.5	72.9	73.2	75.9	78.9	79.4	82.7	84.1	89.1	91.7	90.8	83.7	166.5
160	72.9	75.8	75.7	75.2	76.5	80.0	79.5	82.7	83.9	88.4	89.6	90.0	83.0	165.8
200	70.0	75.5	76.4	75.8	77.5	80.7	79.7	82.7	84.2	87.1	88.6	87.6	81.7	164.7
250	70.2	72.0	74.4	74.0	76.7	80.2	80.7	83.5	83.9	85.3	87.2	86.1	79.5	163.8
315	69.4	73.0	73.9	73.4	75.4	79.4	79.5	82.9	83.7	86.0	86.2	83.6	77.1	163.2
400	67.1	71.3	73.2	73.2	75.1	79.3	79.1	82.0	81.8	85.1	84.7	81.7	74.6	162.4
500	66.0	70.8	72.4	72.1	74.4	79.1	79.1	81.3	81.5	84.1	83.3	79.0	71.7	161.6
630	63.5	69.0	71.5	71.5	74.5	78.6	78.1	81.4	80.6	82.0	81.3	76.4	68.7	160.6
800	62.2	68.2	71.1	70.9	73.4	77.5	77.5	80.6	79.7	81.6	79.7	74.3	65.7	160.1
1000	61.3	69.1	71.2	71.3	73.9	78.0	77.4	80.3	79.6	80.0	78.9	72.7	63.7	160.1
1250	60.2	68.7	71.1	72.1	74.1	77.6	76.6	78.6	77.1	77.6	76.5	70.3	60.2	159.3
1600	60.6	69.2	71.6	72.5	74.5	77.7	76.8	78.6	76.4	75.3	73.9	67.1	57.0	159.6
2000	58.0	65.4	70.3	71.8	74.8	78.3	76.3	75.9	73.6	72.4	69.9	64.3	51.8	159.6
2500	54.9	64.1	67.9	70.2	72.9	76.2	74.7	74.0	71.5	68.5	65.7	58.7	44.0	159.8
3150	48.6	59.0	63.3	65.7	68.6	71.4	70.7	69.5	65.7	62.3	58.8	49.2	32.2	158.9
4000	39.1	50.6	55.9	60.1	62.1	67.1	65.4	63.2	58.4	53.3	46.8	35.4	12.0	159.1
5000	25.7	38.5	46.2	51.1	53.0	57.7	55.9	54.1	48.0	41.8	32.7	16.6		158.9
6300	2.9	20.2	29.1	35.7	38.1	44.4	41.1	39.0	33.1	23.9	11.3			159.2
8000			1.9	9.7	13.6	20.4	17.1	13.4	5.0					158.2
10000														158.5
12500														158.9
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	79.6	83.7	85.2	85.2	87.5	91.2	92.0	93.6	94.2	98.6	100.6	99.2	90.9	176.7
PNL	83.4	89.8	92.5	93.7	96.2	99.9	99.2	100.1	99.2	101.5	101.8	99.4	91.5	
PNLT	84.5	89.8	93.1	94.3	96.7	100.5	99.7	100.7	99.9	101.5	101.8	99.4	91.5	
DBA	72.4	78.4	80.9	81.5	84.0	87.7	86.9	89.0	88.2	89.8	89.5	86.4	79.2	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH218 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.25 PAMB HG = 29.16 RELHUM = 44.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1310.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2161.7 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1907 TAPE = X19071 TEST PT NO = 1907 NC = AE089 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 83F-400-1908 X1908C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.4	89.2	88.2	83.0	83.3	84.9	86.3	89.2	87.7	90.5	93.4	93.6	90.2	130.9
63	91.5	94.5	96.6	90.1	88.7	91.3	93.7	96.4	93.3	94.2	95.0	98.2	95.6	136.2
80	91.5	95.6	91.6	91.6	91.2	95.6	93.5	94.4	94.8	96.3	97.8	98.2	90.6	136.6
100	89.2	94.2	91.3	90.3	91.4	95.5	94.1	97.3	94.8	96.6	98.5	103.1	92.8	137.8
125	87.6	89.4	92.2	92.0	93.6	96.4	94.6	94.7	93.7	98.7	103.6	106.8	95.2	140.0
160	84.9	83.7	88.7	85.5	87.1	90.5	96.1	91.8	94.5	99.2	103.9	106.9	97.8	139.7
200	85.0	85.3	86.6	84.9	87.2	91.1	92.7	94.1	98.6	101.6	104.5	109.0	99.9	141.3
250	83.0	86.1	87.1	86.4	88.2	91.1	92.5	94.6	99.1	103.9	108.8	111.7	102.4	144.1
315	83.8	86.4	86.6	86.2	87.8	92.1	95.5	94.7	98.9	104.6	110.3	112.0	103.2	144.9
400	85.1	86.1	87.6	86.2	88.7	91.9	101.5	95.7	98.4	105.0	111.6	112.5	102.4	145.7
500	85.1	86.6	88.6	87.2	89.5	93.4	93.5	96.7	98.9	105.6	112.3	112.5	100.4	145.9
630	86.0	87.1	88.1	87.6	89.7	93.6	94.0	97.4	99.1	105.4	111.8	110.0	97.9	144.9
800	87.1	86.9	88.4	88.2	91.0	94.1	95.0	98.4	101.2	105.8	110.4	107.5	96.4	143.9
1000	88.8	89.1	89.8	88.6	91.2	95.3	95.2	98.9	101.1	104.6	108.0	103.7	94.4	142.2
1250	87.4	89.7	90.3	89.4	91.1	94.5	95.6	98.8	102.0	104.1	106.2	99.1	92.8	141.2
1600	87.9	87.8	90.2	89.6	92.1	96.2	96.3	100.6	102.0	103.7	105.4	96.8	91.7	141.0
2000	88.4	88.2	89.6	89.2	91.5	95.9	96.1	100.5	101.8	103.0	104.1	94.9	90.4	140.5
2500	87.8	88.6	89.2	89.7	92.5	96.1	95.8	100.0	101.1	101.7	102.4	94.4	90.4	139.6
3150	88.5	89.6	90.6	89.6	92.2	96.7	96.4	99.8	101.2	101.2	101.3	92.7	88.3	139.5
4000	88.7	89.6	91.0	89.9	92.6	96.5	96.7	100.2	100.9	100.5	100.1	91.8	87.9	139.3
5000	90.3	90.1	92.2	90.8	92.3	96.1	96.4	99.8	100.1	99.9	99.7	92.7	87.2	139.1
6300	91.7	92.4	93.8	92.6	93.6	97.6	97.1	100.3	100.9	100.5	100.0	93.5	88.5	140.1
8000	92.6	93.3	94.3	93.5	94.4	97.9	96.6	99.2	99.5	99.6	99.6	93.5	89.5	140.0
10000	94.1	94.7	96.7	95.5	95.6	99.4	97.9	100.1	99.6	99.5	99.4	93.5	88.8	141.4
12500	92.8	93.8	96.8	96.5	97.0	100.3	99.1	98.6	97.9	97.1	96.4	92.8	87.6	141.8
16000	92.1	94.3	95.7	95.8	97.1	100.4	98.4	98.3	97.4	95.9	94.4	90.9	85.7	142.7
20000	89.8	92.2	93.4	94.0	95.5	97.3	97.6	96.2	94.3	92.5	90.7	87.8	83.3	142.2
25000	87.2	89.6	91.1	92.1	92.6	97.2	96.1	94.5	93.1	90.4	87.7	86.0	79.4	143.0
31500	83.5	85.9	88.4	89.9	89.1	93.5	92.4	92.4	90.2	87.5	84.8	81.9	75.5	143.0
40000	79.1	81.8	84.0	85.6	84.4	90.1	88.1	88.5	87.8	84.9	82.0	78.0	71.0	143.3
50000	73.0	75.8	78.3	79.1	79.8	85.6	83.0	83.3	82.0	79.3	76.6	73.2	66.0	142.4
63000	68.1	70.5	73.2	74.1	74.3	80.4	76.7	78.6	77.1	74.5	71.9	67.8	60.0	142.6
80000	62.0	63.3	66.3	66.3	67.0	74.1	70.5	71.6	69.3	67.0	64.8	61.3	52.3	142.5
OASPL	103.9	105.5	106.6	105.8	107.0	110.6	110.8	112.5	113.6	116.3	120.4	120.4	110.7	157.2
PNL	114.8	115.7	116.9	115.8	117.7	121.6	121.9	124.8	126.0	127.5	129.4	127.3	118.9	
PNLT	114.8	115.7	116.9	116.5	118.4	122.2	123.1	124.8	126.0	127.5	129.4	127.3	118.9	
DBA	100.9	101.6	103.0	102.1	103.9	107.8	108.0	111.2	112.6	114.7	118.0	115.8	106.1	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VERTCL = ADH225 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 35.88 PAMB HG = 29.08 RELHUM = 44.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1320.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2160.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1908 TAPE = X1908C TEST PT NO = 1908 NC = AE089 CORR FAN SPEED = RPM

P1185-02

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

IDENTIFICATION - 83F-400-1908 X1908F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.9	92.5	92.0	89.7	89.8	91.1	90.6	91.0	96.6	101.8	107.4	109.8	103.0	142.5
315	90.9	92.5	92.0	89.7	89.6	92.3	94.6	92.7	96.2	102.4	108.9	111.0	103.7	143.7
400	91.5	92.8	91.6	89.6	90.6	92.1	100.6	93.7	96.9	103.2	110.0	111.8	103.3	144.7
500	92.7	92.5	92.6	89.6	91.4	93.7	92.6	94.7	97.2	103.2	109.9	110.2	102.9	143.9
630	92.8	93.0	93.6	90.6	91.7	94.0	93.1	95.3	99.8	104.2	109.3	109.3	104.3	143.7
800	93.7	93.5	93.1	91.1	93.1	94.7	94.2	96.5	100.3	103.7	107.9	107.0	105.0	142.8
1000	94.8	93.3	93.5	91.8	93.4	96.0	94.6	97.2	101.1	103.0	105.9	102.3	103.4	141.4
1250	96.4	95.5	94.9	92.3	93.4	95.3	95.1	97.0	101.2	102.7	105.1	100.0	102.4	141.0
1600	95.1	96.2	95.4	93.1	94.5	97.2	95.9	99.0	101.2	102.1	103.9	98.2	101.3	140.9
2000	95.5	94.3	95.5	93.5	94.2	97.2	96.0	99.0	101.4	101.9	103.3	98.9	102.4	140.9
2500	96.0	94.7	94.9	93.2	96.0	97.8	96.6	99.4	101.9	101.7	102.5	97.4	100.8	140.8
3150	98.2	97.5	96.3	95.0	96.0	98.8	97.5	99.7	102.6	101.9	102.1	97.3	101.1	141.5
4000	98.8	98.5	97.9	95.1	96.8	99.1	98.6	101.0	101.9	101.4	101.8	98.3	100.5	141.8
5000	99.1	98.6	98.5	95.7	96.4	99.1	98.6	100.7	103.0	102.4	102.6	99.6	102.1	142.5
6300	97.7	96.8	98.0	95.7	97.7	100.6	99.4	101.5	102.5	102.4	103.1	100.3	103.5	143.1
8000	99.0	99.0	99.4	97.3	98.4	100.9	99.0	100.9	102.9	102.7	103.3	100.7	103.3	143.8
10000	99.7	99.6	99.8	98.0	99.7	102.4	100.3	101.8	100.8	99.9	99.5	98.9	100.5	144.0
12500	100.9	100.8	102.0	99.8	101.1	103.3	101.0	99.5	100.3	98.8	97.8	97.3	98.9	145.1
16000	99.1	99.4	101.5	100.2	101.2	103.4	100.1	98.9	96.6	94.3	92.9	92.9	95.4	145.5
20000	98.0	99.5	100.0	99.1	99.6	100.3	99.1	96.2	96.0	92.8	90.5	91.7	92.1	145.7
25000	95.1	96.8	97.1	96.7	97.2	100.2	97.5	94.5	94.4	91.6	89.5	89.9	90.4	146.2
31500	94.5	95.7	95.7	95.2	93.7	96.5	94.0	92.6	94.2	91.6	89.8	89.6	90.2	147.3
40000	90.0	91.1	92.2	92.1	89.0	93.1	90.1	89.7	88.1	85.6	84.0	84.0	84.0	147.2
50000	85.2	86.6	87.4	87.5	84.4	88.6	84.6	83.9	84.8	82.5	81.0	80.7	80.5	147.0
63000	78.1	79.7	80.8	80.0	78.9	83.4	78.6	79.7	77.5	75.4	74.2	74.3	72.4	146.1
80000	71.8	72.9	74.2	73.5	71.6	77.1	72.1	72.1	67.7	65.6	64.4	64.5	62.6	146.0
OASPL	110.3	110.4	110.8	109.0	110.0	112.4	111.1	111.9	113.7	115.0	118.6	118.6	115.3	158.5
PNL	121.4	121.1	120.8	118.4	119.9	122.3	121.7	123.7	125.8	126.3	128.0	126.3	126.3	
PNLT	121.4	121.1	120.8	118.4	119.9	122.3	122.9	123.7	125.8	126.3	128.0	126.3	126.3	
DBA	194.2	195.4	196.6	196.0	194.2	199.2	194.4	194.6	191.9	189.7	188.4	188.4	187.0	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH225 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 35.88 PAMB HG = 29.08 RELHUM = 44.5 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1320.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2160.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1908 TAPE = XT908F TEST PT NO = 1908 NC = AE089 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 - 83F-400-1908 X19081

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.8	69.9	70.4	68.8	69.1	72.0	74.1	71.9	74.7	79.7	84.8	84.6	74.0	159.0
63	67.3	70.1	70.0	68.7	70.1	71.8	80.1	72.8	75.3	80.5	85.8	85.4	73.6	160.0
80	68.5	69.8	71.0	68.7	70.9	73.4	72.1	73.7	75.6	80.5	85.6	83.7	73.0	159.2
100	68.4	70.3	71.9	69.7	71.1	73.6	72.5	74.3	78.1	81.4	85.0	82.7	74.3	159.0
125	69.3	70.6	71.3	70.1	72.5	74.2	73.6	75.5	78.6	80.8	83.5	80.3	74.7	158.1
160	70.1	70.3	71.6	70.6	72.6	75.4	73.9	76.0	79.2	80.0	81.2	75.3	72.8	156.7
200	71.5	72.3	72.8	70.9	72.5	74.5	74.2	75.7	79.1	79.4	80.2	72.7	71.3	156.3
250	69.9	72.7	73.1	71.6	73.4	76.2	74.8	77.4	78.9	78.6	78.7	70.4	69.5	156.2
315	69.9	70.4	72.8	71.6	72.8	76.0	74.6	77.2	78.8	78.1	77.7	70.6	69.8	156.2
400	69.8	70.4	71.9	71.0	74.3	76.2	74.8	77.2	78.9	77.4	76.3	68.4	67.2	156.1
500	71.5	72.8	72.9	72.4	74.0	76.9	75.5	77.2	79.2	77.1	75.4	67.6	66.5	156.8
630	71.6	73.3	74.1	72.3	74.5	76.9	76.2	78.2	78.1	76.2	74.6	67.9	64.7	157.1
800	71.2	73.0	74.3	72.5	73.7	76.5	76.0	77.5	78.9	76.7	74.8	68.3	65.1	157.8
1000	69.3	70.7	73.5	72.1	74.7	77.8	76.4	77.9	78.0	76.4	74.7	68.3	65.3	158.3
1250	69.9	72.4	74.5	73.4	75.1	77.8	75.7	77.0	77.9	76.1	74.2	67.8	63.4	159.1
1600	69.5	72.2	74.2	73.5	75.8	78.7	76.5	77.3	75.2	72.5	69.3	64.3	58.0	159.2
2000	69.2	72.2	75.4	74.5	76.6	79.0	76.4	74.3	73.8	70.2	66.1	60.5	52.8	160.4
2500	65.2	69.1	73.7	73.9	75.7	78.1	74.6	72.6	68.8	64.1	59.0	53.0	44.0	160.8
3150	60.1	66.2	69.7	70.6	72.1	73.2	71.6	67.7	65.7	59.6	52.6	46.1	31.8	161.0
4000	50.2	58.1	62.1	64.1	65.9	69.4	66.3	62.0	59.5	52.8	44.6	34.6	14.7	161.5
5000	39.0	48.5	53.8	56.4	56.6	60.0	56.9	53.8	52.2	44.4	34.3	19.8		162.6
6300	16.3	29.4	37.8	42.2	41.5	46.4	42.6	39.7	33.6	23.8	10.3			162.5
8000			10.7	17.3	17.7	23.2	18.0	13.7	8.1					162.3
10000														161.4
12500														161.2
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	82.3	84.1	85.7	84.6	86.5	89.0	88.2	88.8	90.2	90.9	93.3	91.1	83.0	173.6
PNL	90.2	93.0	95.8	95.4	97.3	99.8	97.5	97.1	97.0	95.1	94.7	90.3	84.0	
PNLT	91.5	94.1	96.4	96.0	97.3	100.4	98.1	97.7	98.2	96.5	96.3	90.3	84.0	
DBA	79.2	81.5	83.9	83.1	85.1	87.7	85.6	86.2	86.4	84.5	83.0	76.8	73.4	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH225	TEST DATE = 04-18-83	LOCAT = C41 ANECH CH	CONFIG = 19	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 35.88	PAMB HG = 29.08	RELHUM = 44.5 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 = 1320.4 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2160.8 FPS	AE18 = 19.9 SQ IN

PT F-4(308 E = X T TI PT N 190 AE0 RR F SPEE RPM

480

P1185-03

DATPROC - FLTRAN 07/07/83 19.636 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 83F-ZER-1909 X1909C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.6	89.4	88.9	86.0	85.1	87.4	88.3	90.7	91.7	87.2	96.6	97.6	89.0	132.9
63	93.0	94.3	99.1	93.1	92.7	95.8	96.7	94.4	98.8	91.9	102.5	104.2	95.4	139.6
80	93.3	97.8	93.8	93.9	94.5	98.8	96.7	96.9	98.1	97.4	101.8	101.5	87.1	139.5
100	92.2	99.0	95.3	95.0	96.1	99.8	98.4	101.5	98.8	103.1	102.7	106.6	91.8	142.1
125	88.9	92.9	95.7	95.7	97.3	99.7	97.8	98.7	98.7	103.0	109.4	111.1	97.2	144.5
160	87.4	88.5	93.7	90.3	91.4	96.2	100.1	97.8	99.5	104.3	109.2	111.4	102.0	144.5
200	91.5	89.6	92.6	91.4	93.5	98.1	99.5	99.4	104.3	106.1	112.3	115.0	105.1	147.5
250	89.8	92.3	94.3	93.6	95.0	97.8	98.2	101.4	104.3	111.6	116.5	118.2	108.6	151.1
315	91.6	93.1	92.1	92.4	94.5	99.1	102.8	102.2	106.1	113.0	117.8	118.8	110.2	152.1
400	92.6	94.1	94.9	93.4	95.7	99.1	107.5	102.9	107.1	115.2	119.8	119.5	111.9	153.7
500	93.1	94.9	95.9	94.9	96.5	100.9	100.5	104.4	107.6	116.7	120.8	120.3	112.9	154.6
630	94.0	95.6	96.6	95.1	97.5	100.3	101.2	105.1	107.6	116.9	121.1	120.7	115.4	155.0
800	97.1	96.9	97.2	96.4	99.0	101.9	102.0	106.4	109.7	116.2	121.9	121.5	116.7	155.7
1000	101.5	103.3	101.1	99.4	99.7	103.3	102.7	106.6	109.8	114.9	120.5	121.5	116.6	155.1
1250	99.0	102.7	103.0	101.6	102.1	104.0	103.1	107.0	110.3	113.6	120.7	119.9	115.8	154.6
1600	98.4	98.8	99.7	99.4	100.8	104.2	104.0	107.9	110.7	112.8	119.7	118.8	114.0	153.7
2000	98.4	100.2	99.9	98.0	99.8	103.2	103.7	108.0	110.4	113.2	118.9	116.5	112.0	152.7
2500	96.3	98.7	99.2	98.2	99.8	102.9	103.6	107.2	109.6	113.7	117.7	114.7	111.2	151.9
3150	95.8	98.6	98.9	97.1	99.2	103.3	103.4	107.1	110.0	112.4	115.3	113.2	108.6	150.5
4000	94.0	97.2	98.6	97.2	99.4	102.8	103.0	107.5	109.0	111.0	114.4	109.9	106.7	149.4
5000	93.1	95.9	98.0	97.1	98.9	102.1	103.0	106.8	108.1	111.1	113.3	109.0	105.5	148.9
6300	93.0	97.5	98.3	97.6	99.4	103.1	103.1	107.1	107.9	109.9	111.8	107.5	104.2	148.4
8000	90.8	95.5	97.3	97.5	99.3	102.6	102.3	105.5	107.0	107.7	110.0	106.7	103.3	147.4
10000	91.0	95.3	97.1	97.7	99.5	102.8	102.5	105.3	106.0	106.2	109.0	105.6	102.7	147.2
12500	90.1	93.6	96.4	97.1	99.4	102.4	102.5	102.9	104.3	104.1	106.2	104.4	101.5	146.5
16000	89.6	94.8	96.0	96.8	98.4	101.7	101.0	102.1	102.6	102.5	104.2	101.7	98.2	146.4
20000	88.0	93.0	94.1	95.5	96.8	99.3	99.4	99.7	99.0	98.7	101.7	99.5	96.3	145.7
25000	85.4	90.5	92.0	93.3	94.6	98.2	97.6	96.5	96.5	94.4	95.9	95.9	90.6	145.2
31500	82.4	87.3	89.3	90.8	91.0	94.7	93.1	93.3	92.6	91.3	93.4	91.3	86.2	144.9
40000	77.8	83.2	84.6	86.3	86.1	90.8	89.1	89.4	89.4	88.1	89.4	86.2	81.5	144.9
50000	72.4	77.1	79.0	81.0	81.2	86.3	84.1	84.2	83.9	82.4	84.0	82.6	75.1	144.2
63000	66.8	72.1	75.1	76.0	77.0	81.8	77.8	80.0	80.0	77.2	79.3	76.0	69.7	144.8
80000	59.4	65.2	68.4	68.7	69.4	76.5	72.4	74.0	73.1	71.8	73.9	70.0	62.7	145.6
OASPL	109.0	111.5	111.9	111.0	112.5	115.8	116.4	119.0	121.4	126.0	130.9	130.5	124.8	165.6
PNL	120.7	123.3	123.9	122.6	124.4	128.0	128.4	131.8	134.1	137.5	141.8	140.1	135.2	
PNLT	121.9	124.5	123.9	123.1	125.0	128.0	129.7	132.4	134.1	137.5	142.4	140.1	135.2	
DBA	108.4	110.7	110.9	109.8	111.3	114.6	114.9	118.5	120.9	125.0	130.0	129.1	124.2	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH219 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.34 PAMB HG = 29.19 RELHUM = 39.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1509.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2333.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1909 TAPE = X1909C TEST PT NO = 1909 NC = AE089 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1909 X1909F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.6	89.4	88.9	86.0	85.1	87.4	88.3	90.7	91.7	87.2	96.6	97.6	89.0	132.9
63	93.0	94.3	99.1	93.1	92.7	95.8	96.7	94.4	98.8	91.9	102.5	104.2	95.4	139.6
80	93.3	97.8	93.8	93.9	94.5	98.8	96.7	96.9	98.1	97.4	101.8	101.5	87.1	139.5
100	92.2	99.0	95.3	95.0	96.1	99.8	98.4	101.5	98.8	103.1	102.7	106.6	91.8	142.1
125	88.9	92.9	95.7	95.7	97.3	99.7	97.8	98.7	98.7	103.0	109.4	111.1	97.2	144.5
160	87.4	88.5	93.7	90.3	91.4	96.2	100.1	97.8	99.5	104.3	109.2	111.4	102.0	144.5
200	91.5	89.6	92.6	91.4	93.5	98.1	99.5	99.4	104.3	106.1	112.3	115.0	105.1	147.5
250	89.8	92.3	94.3	93.6	95.0	97.8	98.2	101.4	104.3	111.6	116.5	118.2	108.6	151.1
315	91.6	93.1	92.1	92.4	94.5	99.1	102.8	102.2	106.1	113.0	117.8	118.8	110.2	152.1
400	92.6	94.1	94.9	93.4	95.7	99.1	107.5	102.9	107.1	115.2	119.8	119.5	111.9	153.7
500	93.1	94.9	95.9	94.9	96.5	100.9	100.5	104.4	107.6	116.7	120.8	120.3	112.9	154.6
630	94.0	95.6	96.6	95.1	97.5	100.3	101.2	105.1	107.6	116.9	121.1	120.7	115.4	155.0
800	97.1	96.9	97.2	96.4	99.0	101.9	102.0	106.4	109.7	116.2	121.9	121.5	116.7	155.7
1000	101.5	103.3	101.1	99.4	99.7	103.3	102.7	106.6	109.8	114.9	120.5	121.5	116.6	155.1
1250	99.0	102.7	103.0	101.6	102.1	104.0	103.1	107.0	110.3	113.6	120.7	119.9	115.8	154.6
1600	98.4	98.8	99.7	99.4	100.8	104.2	104.0	107.9	110.7	112.8	119.7	118.8	114.0	153.7
2000	98.4	100.2	99.9	98.0	99.8	103.2	103.7	108.0	110.4	113.2	118.9	116.5	112.0	152.7
2500	96.3	98.7	99.2	98.2	99.8	102.9	103.6	107.2	109.6	113.7	117.7	114.7	111.2	151.9
3150	95.8	98.6	98.9	97.1	99.2	103.3	103.4	107.1	110.0	112.4	115.3	113.2	108.6	150.5
4000	94.0	97.2	98.6	97.2	99.4	102.8	103.0	107.5	109.0	111.0	114.4	109.9	106.7	149.4
5000	93.1	95.9	98.0	97.1	98.9	102.1	103.0	106.8	108.1	111.1	113.3	109.0	105.5	148.9
6300	93.0	97.5	98.3	97.6	99.4	103.1	103.1	107.1	107.9	109.9	111.8	107.5	104.2	148.4
8000	90.8	95.5	97.3	97.5	99.3	102.6	102.3	105.5	107.0	107.7	110.0	106.7	103.3	147.4
10000	91.0	95.3	97.1	97.7	99.5	102.8	102.5	105.3	106.0	106.2	109.0	105.6	102.7	147.2
12500	90.1	93.6	96.4	97.1	99.4	102.4	102.5	102.9	104.3	104.1	106.2	104.4	101.5	146.5
16000	89.6	94.8	96.0	96.8	98.4	101.7	101.0	102.1	102.6	102.5	104.2	101.7	98.2	146.4
20000	88.0	93.0	94.1	95.5	96.8	99.3	99.4	99.7	99.0	98.7	101.7	99.5	96.3	145.7
25000	85.4	90.5	92.0	93.3	94.6	98.2	97.6	96.5	96.5	94.4	95.9	95.9	90.6	145.2
31500	82.4	87.3	89.3	90.8	91.0	94.7	93.1	93.3	92.6	91.3	93.4	91.3	86.2	144.9
40000	77.8	83.2	84.6	86.3	86.1	90.8	89.1	89.4	89.4	88.1	89.4	86.2	81.5	144.9
50000	72.4	77.1	79.0	81.0	81.2	86.3	84.1	84.2	83.9	82.4	84.0	82.6	75.1	144.2
63000	66.8	72.1	75.1	76.0	77.0	81.8	77.8	80.0	80.0	77.2	79.3	76.0	69.7	144.8
80000	59.4	65.2	68.4	68.7	69.4	76.5	72.4	74.0	73.1	71.8	73.9	70.0	62.7	145.6
OASPL	109.0	111.5	111.9	111.0	112.5	115.8	116.4	119.0	121.4	126.0	130.9	130.5	124.8	165.6
PNL	120.7	123.3	123.9	122.6	124.4	128.0	128.4	131.8	134.1	137.5	141.8	140.1	135.2	
PNLT	121.9	124.5	123.9	123.1	125.0	128.0	129.7	132.4	134.1	137.5	142.4	140.1	135.2	
DBA	182.0	187.5	190.5	191.2	191.9	198.2	194.3	195.9	195.3	193.6	195.7	192.1	185.2	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH219	TEST DATE = 04-18-83	LOCAT = C41 ANECH CH	CONFIG = 19	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 36.34	PAMB HG = 29.19	RELHUM = 39.0 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 = 1509.5 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2333.8 FPS	AE18 = 19.9 SQ IN

NPT 3F-Z 909 PE = 9F T PT 19 C AE RR SPE RPI

P1185-03

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

IDENTIFICATION - 83F-ZER-1909 X19091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.4	70.5	70.6	71.6	74.1	78.8	82.3	81.3	84.6	90.3	93.7	92.4	80.5	167.4
63	68.4	71.4	73.3	72.5	75.3	78.8	87.0	82.0	85.5	92.5	95.6	93.1	82.1	169.0
80	68.8	72.2	74.3	74.0	76.0	80.5	80.0	83.5	86.0	94.0	96.6	93.8	83.1	169.9
100	69.7	72.8	74.9	74.2	76.9	79.9	80.7	84.2	85.9	94.1	96.7	94.1	85.4	170.3
125	72.6	74.0	75.4	75.4	78.4	81.4	81.4	85.4	87.9	93.4	97.4	94.8	86.4	171.0
160	76.9	80.3	79.2	78.2	79.0	82.7	82.0	85.5	87.9	91.9	95.9	94.5	86.0	170.4
200	74.1	79.5	80.9	80.3	81.2	83.2	82.2	85.7	88.2	90.4	95.8	92.6	84.7	169.8
250	73.2	75.3	77.4	77.8	79.7	83.2	82.9	86.3	88.4	89.3	94.4	91.1	82.2	168.9
315	72.7	76.3	77.2	76.1	78.4	81.9	82.3	86.1	87.7	89.3	93.2	88.2	79.4	168.0
400	70.1	74.3	76.2	76.0	78.1	81.4	81.9	85.0	86.6	89.4	91.5	85.7	77.6	167.1
500	69.1	73.9	75.5	74.6	77.2	81.4	81.4	84.6	86.6	87.6	88.6	83.5	74.0	165.8
630	66.8	72.0	74.8	74.3	77.0	80.6	80.6	84.7	85.2	85.8	87.1	79.5	71.0	164.7
800	65.2	70.3	73.8	73.9	76.2	79.6	80.3	83.6	83.9	85.4	85.5	77.8	68.5	164.2
1000	64.6	71.4	73.7	74.0	76.4	80.3	80.1	83.5	83.3	83.8	83.4	75.5	66.0	163.6
1250	61.7	68.9	72.4	73.6	76.1	79.5	79.1	81.6	82.1	81.1	81.0	73.7	63.4	162.7
1600	60.8	67.9	71.5	73.2	75.7	79.2	78.7	80.8	80.3	78.7	78.8	71.0	60.2	162.5
2000	58.4	65.0	69.9	71.8	74.9	78.1	77.9	77.7	77.7	75.5	74.5	67.6	55.4	161.7
2500	55.7	64.6	68.2	70.5	72.9	76.4	75.5	75.8	74.8	72.2	70.2	61.7	46.8	161.7
3150	50.2	59.7	63.8	67.0	69.3	72.2	71.9	71.2	68.7	65.4	63.8	53.9	35.9	161.0
4000	40.5	51.8	57.1	60.8	63.3	67.4	66.3	64.0	61.6	55.6	51.0	40.6	15.0	160.5
5000	26.9	40.2	47.4	52.0	54.0	58.2	56.1	54.5	50.6	44.2	37.9	21.5		160.2
6300	4.1	21.4	30.2	36.3	38.6	44.0	41.5	39.4	35.0	26.3	15.7			160.2
8000			2.2	10.9	14.6	20.8	17.5	14.1	7.1					159.5
10000														160.0
12500														160.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	82.9	86.7	88.1	87.9	89.9	93.3	94.2	96.5	98.2	102.3	105.7	102.8	93.7	180.5
PNL	86.5	91.7	94.0	95.1	97.5	101.1	101.0	102.6	103.3	105.3	107.8	103.6	94.4	
PNLT	87.5	92.3	94.6	95.7	97.5	101.6	101.5	103.2	104.0	105.3	108.8	103.6	95.5	
DBA	75.2	80.3	82.8	83.4	85.8	89.3	89.1	91.8	92.5	93.5	95.5	90.6	81.9	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH219 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.34 PAMB HG = 29.19 RELHUM = 39.0 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1509.5 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2333.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1909 TAPE = X19091 TEST PT NO = 1909 NC = AE089 CORR FAN SPEED = RPM

C-6

83F

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DATPROC - FLTRAN 07/07/83 19.636 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 83F-400-1910 X1910C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.9	91.4	89.7	86.5	84.8	86.9	87.8	90.7	90.2	92.5	94.9	96.3	90.5	132.9
63	93.0	95.5	99.6	94.1	90.7	94.1	95.5	96.9	94.6	95.7	96.8	98.2	95.9	137.8
80	93.0	97.8	93.6	94.6	95.0	98.6	96.2	96.6	96.8	98.6	100.3	100.2	89.4	139.1
100	91.5	97.0	93.3	92.5	93.9	98.0	96.9	99.8	97.0	98.6	100.2	105.6	92.6	140.2
125	89.6	91.7	94.4	95.0	96.8	98.7	97.1	97.0	96.2	101.3	106.4	109.6	96.7	142.7
160	87.2	84.7	90.7	88.0	89.9	93.5	97.9	94.5	96.7	101.7	106.7	109.4	100.5	142.2
200	87.0	87.8	89.1	87.1	89.5	93.3	96.0	95.9	100.8	104.2	107.5	112.0	103.1	144.1
250	86.0	88.8	89.6	89.1	91.0	94.1	95.5	97.6	100.8	106.6	112.3	115.5	105.4	147.5
315	85.8	88.6	89.6	88.7	90.8	94.9	98.5	98.2	101.6	107.4	113.1	115.8	106.9	148.1
400	87.3	88.6	90.6	88.7	92.0	94.6	104.0	98.4	101.1	108.3	115.6	116.0	106.4	149.3
500	87.3	89.6	91.1	89.9	91.8	95.9	96.0	99.7	102.1	109.4	116.6	116.3	104.4	149.9
630	88.3	89.8	91.6	90.1	92.5	96.1	96.5	100.4	102.1	109.2	116.3	115.0	102.6	149.3
800	89.8	90.1	90.9	90.7	93.8	96.9	97.3	101.7	104.4	110.1	115.9	113.3	100.9	148.9
1000	91.5	92.3	93.3	92.1	94.0	97.8	98.2	101.9	104.1	108.9	113.8	110.7	98.9	147.2
1250	90.2	94.5	93.8	92.6	94.6	98.0	97.9	102.3	105.3	108.5	111.7	106.1	96.8	145.8
1600	91.1	92.3	93.5	92.8	94.8	98.7	99.5	103.3	105.2	107.9	110.7	103.8	95.0	145.2
2000	91.1	91.7	92.6	92.0	94.6	98.7	98.9	103.7	104.8	106.9	108.9	101.0	94.5	144.2
2500	90.5	91.9	92.7	91.9	95.0	98.9	99.1	103.0	104.6	106.4	108.1	100.4	94.9	143.8
3150	91.2	92.6	93.1	91.6	94.7	99.2	99.4	103.6	104.7	105.9	107.0	99.4	93.8	143.6
4000	91.8	92.9	93.8	91.9	95.3	98.5	98.9	103.5	104.7	105.4	106.1	99.4	93.9	143.3
5000	93.0	93.9	95.0	92.6	95.1	98.1	99.0	103.1	104.1	104.9	105.8	99.2	93.0	143.1
6300	93.7	96.0	96.3	94.1	96.4	99.3	99.4	103.3	104.4	105.0	105.5	98.5	93.2	143.7
8000	92.8	95.2	96.1	95.0	97.1	99.4	98.9	101.5	103.8	103.9	104.1	98.2	92.8	143.2
10000	93.0	94.9	96.7	95.7	97.8	100.3	99.6	102.1	103.0	103.4	103.8	97.2	92.5	143.8
12500	92.7	94.2	96.0	95.9	98.5	100.8	100.1	100.3	100.9	101.0	101.1	96.3	91.5	143.4
16000	92.5	95.5	96.1	95.7	97.8	100.0	99.4	100.0	100.3	99.7	99.1	95.1	89.6	144.1
20000	90.9	93.4	94.3	94.6	96.2	98.7	98.1	98.1	97.4	96.3	95.1	92.4	88.0	143.8
25000	88.4	92.0	92.2	92.8	94.0	97.9	96.2	95.9	94.2	92.9	91.6	89.9	83.6	144.1
31500	84.6	87.8	89.6	90.1	90.7	94.6	92.6	92.8	90.6	89.1	87.6	85.3	79.1	143.9
40000	79.8	83.6	85.4	86.0	86.1	91.3	88.5	89.4	87.7	86.1	84.6	81.2	74.9	144.2
50000	74.6	77.9	79.2	80.5	80.6	86.3	83.3	84.2	81.9	80.6	79.3	75.8	69.1	143.2
63000	69.0	72.6	74.8	75.0	76.2	81.8	77.3	79.5	78.3	75.9	73.5	70.0	62.4	143.8
80000	62.3	64 9	67.7	67.4	68.6	75.3	71.1	72.5	70.9	69.2	67.4	63.5	54.9	143.7
OASPL	105.5	107.8	108.5	107.3	109.3	112.4	113.0	115.2	116.8	120.1	124.9	124.4	114.3	160.3
PNL	117.0	118.8	119.5	117.8	120.4	124.0	124.5	127.9	129.3	131.6	134.3	131.8	122.8	
PNLT	117.0	118.8	119.5	118.6	121.2	124.0	125.7	127.9	129.3	131.6	134.3	131.8	122.8	
OBA	103.1	104.7	105.5	104.2	106.7	110.1	110.7	114.3	116.0	118.9	123.0	120.6	110.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHTCL = ADH223 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 35.66 PAMB HG = 29.07 RELHUM = 43.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1503.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2335.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1910 TAPE = X1910C TEST PT NO = 1910 NC = AE089 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1910 X1910F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	93.9	95.3	94.5	92.4	92.6	94.1	93.6	94.0	99.6	104.8	110.3	113.6	106.8	145.9
315	93.9	95.3	94.5	92.4	92.6	95.1	97.7	96.4	99.0	105.7	112.9	114.5	107.7	147.3
400	93.5	95.0	94.6	92.1	93.8	94.9	103.1	96.4	100.1	106.9	114.2	115.5	107.3	148.5
500	95.0	95.0	95.6	92.1	93.7	96.2	95.1	97.6	100.4	107.1	114.5	115.3	107.7	148.5
630	95.0	96.0	96.1	93.4	94.4	96.5	95.6	98.4	103.1	108.6	114.8	115.1	108.9	148.8
800	96.0	96.2	96.6	93.6	95.8	97.4	96.5	99.8	103.4	108.2	113.7	114.1	109.5	148.1
1000	97.5	96.6	96.0	94.3	96.1	98.5	97.6	100.2	104.4	107.4	111.4	109.3	107.4	146.1
1250	99.2	98.8	98.4	95.8	96.9	98.8	97.3	100.5	104.4	106.9	110.3	106.9	105.6	145.3
1600	97.9	101.0	98.9	96.4	97.3	99.7	99.1	101.7	104.3	106.1	108.8	104.4	105.4	144.8
2000	98.8	98.8	98.7	96.7	97.2	100.0	98.8	102.4	104.6	106.3	108.8	104.6	106.6	145.0
2500	98.8	98.2	97.9	96.0	98.0	100.5	99.4	102.1	105.1	106.1	108.1	104.0	106.0	144.8
3150	98.2	98.5	98.1	96.1	98.5	101.3	100.1	103.1	106.0	106.5	107.8	104.5	106.6	145.3
4000	101.6	101.5	100.4	97.1	99.0	101.1	100.5	103.8	105.4	105.9	107.4	104.3	105.5	145.4
5000	99.3	99.6	99.5	96.6	99.1	101.1	100.7	103.5	105.9	106.3	107.5	103.9	106.1	145.5
6300	100.5	100.6	100.8	97.4	100.4	102.3	101.4	103.9	105.8	105.7	106.6	104.2	106.1	145.9
8000	101.0	102.5	102.0	98.8	101.2	102.4	101.0	102.4	105.5	105.7	106.8	103.6	106.2	146.4
10000	99.9	101.6	101.6	99.5	101.9	103.3	101.9	103.2	104.6	104.5	105.1	103.3	105.6	146.6
12500	99.9	101.0	101.9	100.0	103.1	103.8	102.5	102.1	104.7	104.0	104.0	103.2	104.7	147.3
16000	101.8	102.1	102.4	100.8	101.9	103.0	101.8	101.8	100.1	98.5	97.7	98.0	100.4	147.2
20000	98.5	100.7	100.4	99.0	100.2	101.7	99.6	98.3	97.2	95.4	94.4	95.6	96.3	146.7
25000	96.3	98.0	98.0	97.3	98.6	100.9	97.7	95.9	94.3	92.3	91.2	91.9	92.6	147.1
31500	95.7	98.1	96.9	95.8	95.3	97.6	94.0	92.7	93.6	92.2	91.4	91.0	91.7	148.3
40000	91.1	93.0	93.4	92.3	90.7	94.3	90.3	90.2	87.8	86.5	85.9	85.5	85.7	148.2
50000	85.9	88.5	88.8	87.9	85.2	89.3	85.0	84.7	86.0	84.1	82.9	83.1	82.9	148.0
63000	79.7	81.8	81.7	81.4	80.8	84.8	79.3	80.6	80.1	78.7	78.2	77.9	76.7	147.8
80000	72.7	75.0	75.8	74.4	73.2	78.3	73.0	73.6	70.2	68.9	68.4	68.1	66.9	147.4
OASPL	112.0	112.8	112.6	110.3	112.1	113.9	113.1	114.5	116.9	119.0	123.4	123.4	119.5	161.1
PNL	123.7	124.0	123.4	120.5	122.4	124.5	123.9	126.5	129.0	130.5	133.1	131.1	130.7	
PNLT	123.7	124.0	123.4	120.5	122.4	124.5	125.0	126.5	129.0	130.5	133.1	131.1	130.7	
DBA	195.3	197.5	198.0	197.0	195.8	200.4	195.2	195.8	194.1	192.6	192.0	191.8	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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH223 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 35.66 PAMB HG = 29.07 RELHUM = 49.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1503.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2335.4 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1910 TAPE = X1910F TEST PT NO = 1910 NC = AE089 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1910 X19101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.8	72.6	72.9	71.6	72.1	74.8	77.2	75.5	77.4	83.1	88.8	88.1	78.0	162.6
63	69.3	72.3	73.0	71.2	73.4	74.5	82.6	75.5	78.5	84.2	90.0	89.1	77.5	163.8
80	70.7	72.3	74.0	71.2	73.2	75.9	74.6	76.7	78.7	84.4	90.3	88.8	77.8	163.7
100	70.7	73.3	74.4	72.4	73.9	76.1	75.1	77.4	81.4	85.8	90.5	88.5	78.8	164.1
125	71.5	73.4	74.8	72.6	75.2	76.9	75.9	78.7	81.6	85.3	89.3	87.3	79.3	163.4
160	72.9	73.5	74.1	73.1	75.4	77.9	76.9	79.0	82.5	84.4	86.7	82.3	76.8	161.3
200	74.3	75.5	76.3	74.4	76.0	78.0	76.4	79.2	82.3	83.6	85.4	79.6	74.5	160.6
250	72.6	77.5	76.6	74.8	76.2	78.8	78.0	80.1	82.0	82.6	83.6	76.6	73.7	160.1
315	73.1	74.9	76.1	74.9	75.8	78.7	77.4	80.5	82.0	82.4	83.1	76.3	74.1	160.3
400	72.6	73.9	74.9	73.8	76.3	79.0	77.7	79.9	82.1	81.8	81.9	75.0	72.4	160.1
500	71.5	73.8	74.7	73.6	76.5	79.4	78.0	80.6	82.6	81.7	81.1	74.8	71.9	160.5
630	74.4	76.3	76.6	74.3	76.7	78.9	78.1	81.0	81.6	80.7	80.1	73.9	69.8	160.7
800	71.5	74.0	75.3	73.4	76.5	78.6	78.1	80.2	81.8	80.6	79.6	72.7	69.1	160.8
1000	72.1	74.5	76.3	73.9	77.4	79.5	78.4	80.4	81.3	79.7	78.2	72.1	67.8	161.2
1250	71.9	75.9	77.0	74.9	77.9	79.3	77.7	78.5	80.6	79.1	77.7	70.6	66.4	161.7
1600	69.7	74.2	75.9	75.0	78.0	79.7	78.0	78.7	79.0	77.1	74.9	68.7	63.1	161.9
2000	68.2	72.5	75.4	74.7	78.6	79.5	78.0	76.9	78.2	75.4	72.3	66.4	58.7	162.6
2500	67.9	71.9	74.6	74.5	76.4	77.8	76.3	75.5	72.3	68.3	63.8	58.0	49.0	162.4
3150	60.6	67.4	70.1	70.6	72.8	74.6	72.1	69.8	66.9	62.1	56.5	50.1	35.9	162.0
4000	51.4	59.2	63.0	64.8	67.4	70.0	66.4	63.4	59.4	53.6	46.3	36.6	17.0	162.3
5000	40.2	50.9	54.9	57.0	58.3	61.1	56.9	53.9	51.6	45.0	35.9	21.2		163.6
6300	17.4	31.3	38.9	42.3	43.1	47.5	42.7	40.2	33.3	24.7	12.2			163.4
8000		0.9	12.0	17.7	18.6	23.8	18.4	14.6	9.3					163.3
10000														163.0
12500														162.7
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	84.3	86.9	88.0	86.4	88.9	90.9	90.5	91.5	93.4	95.0	98.3	96.0	87.2	176.2
PNL	91.6	95.3	97.3	96.6	99.0	100.8	99.4	99.6	100.4	99.5	100.0	95.9	88.7	
PNLT	92.9	96.5	97.9	97.2	99.5	101.3	100.0	100.2	101.6	100.8	101.4	95.9	88.7	
DBA	80.7	83.9	85.5	84.2	87.1	88.9	87.5	88.6	89.7	88.5	88.0	82.1	77.6	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH223 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 35.66 PAMB HG = 29.07 RELHUM = 43.4 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1503.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2335.4 FPS AE18 = 19.9 SQ IN

IPT F-4 9TO PE = X IT T PT 19 AEO RR I SPEE RPM

P1185-03

DATPROC - FLTRAN

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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 83F-ZER-1911 X1911C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	90.9	91.4	90.9	86.7	86.8	89.4	92.8	92.0	93.2	90.5	97.4	97.6	93.2	134.4
63	95.0	96.3	99.6	94.6	95.2	98.8	100.0	95.9	98.8	97.1	102.8	101.2	96.6	140.4
80	95.8	100.6	96.1	96.4	97.0	101.1	99.0	98.9	99.6	99.9	104.3	103.7	92.6	141.8
100	94.5	102.0	97.8	97.8	98.4	102.5	100.6	103.5	101.0	105.1	105.5	109.4	96.1	144.6
125	92.4	94.9	98.7	98.2	100.1	102.4	101.8	101.7	101.7	105.5	111.9	114.1	100.7	147.3
160	89.2	91.0	95.7	92.0	93.4	98.2	105.9	100.8	103.2	107.3	112.2	114.4	105.3	147.7
200	93.8	91.8	94.8	93.9	96.0	100.1	103.5	101.6	106.6	108.9	114.0	117.2	107.9	149.7
250	92.3	94.6	96.1	95.9	97.2	99.8	100.7	103.4	106.6	114.4	118.5	120.2	111.1	153.2
315	93.3	94.9	94.9	94.4	96.5	101.4	105.3	104.7	108.9	116.7	120.3	120.8	112.7	154.7
400	95.1	96.3	96.6	95.4	97.5	101.4	110.0	105.2	109.4	118.4	122.1	121.3	114.2	156.0
500	96.1	97.1	98.1	96.7	98.3	103.4	103.0	106.4	110.1	120.0	123.6	122.8	115.9	157.4
630	97.0	97.8	98.6	97.4	99.5	103.1	103.7	106.9	110.3	120.4	124.3	122.7	117.6	157.9
800	100.1	99.4	99.4	98.4	101.0	104.1	104.5	108.7	112.4	119.7	125.9	123.3	118.4	158.8
1000	102.0	104.1	102.3	100.9	101.7	105.6	104.7	109.1	112.6	118.9	125.8	122.7	118.1	158.6
1250	100.9	105.2	104.5	102.9	103.9	106.2	105.6	109.5	113.5	118.1	125.0	120.6	116.3	157.7
1600	101.6	102.3	103.2	101.6	102.8	106.7	106.5	110.6	113.7	117.3	124.7	118.6	114.2	157.1
2000	102.4	103.2	102.9	101.5	102.6	106.4	106.4	110.7	113.4	118.1	122.9	116.2	113.2	156.0
2500	99.8	102.4	102.5	101.7	102.8	106.4	106.4	110.2	112.6	118.2	121.1	115.2	111.9	155.0
3150	98.7	101.6	102.4	100.6	102.7	107.3	106.4	110.4	113.0	117.6	119.3	113.2	109.3	154.0
4000	97.0	100.2	101.5	99.9	102.6	106.3	105.9	110.5	112.2	115.7	117.9	111.4	108.2	152.8
5000	95.6	98.9	101.0	100.4	102.1	105.8	105.7	109.8	111.4	115.8	117.0	110.8	106.7	152.5
6300	94.7	99.5	101.0	100.1	102.1	106.3	106.1	110.1	111.6	114.4	115.3	109.5	106.0	151.9
8000	94.1	98.5	100.3	100.2	101.9	105.7	105.4	108.5	110.0	112.4	113.8	107.7	105.8	150.8
10000	94.3	98.2	100.2	100.5	102.1	106.1	105.1	109.1	109.5	111.0	113.1	107.2	105.5	150.8
12500	92.7	96.5	98.5	99.4	101.5	105.8	104.6	106.0	107.6	109.2	110.3	106.0	104 0	149.8
16000	91.8	96.7	98.1	98.5	100.3	104.3	103.4	104.5	106.5	107.4	108.5	103.8	100.6	149.6
20000	89.9	94.6	96.0	97.4	98.9	102.0	101.8	102.1	102.9	104.6	105.6	101.2	97.7	148.8
25000	87.3	92.0	93.5	95.0	95.5	100.6	99.5	98.4	99.5	99.4	98.8	97.1	92.0	147.6
31500	83.9	88.3	90.5	92.3	92.2	96.4	95.6	95.5	95.5	96.6	96.1	93.5	87.4	147.3
40000	79.5	84.4	86.6	87.8	87.8	93.3	90.8	91.6	92.4	94.0	93.1	89.1	83.6	147.7
50000	74.3	78.9	80.7	82.7	82.4	88.5	85.6	86.2	86.8	88.9	88.0	84.5	78.1	146.9
63000	68.0	73.5	76.3	77.2	78.4	84.3	79.8	81.5	83.0	83.3	83.0	79.4	72.4	147.4
80000	60.8	66.9	70.2	70.1	71.6	79.0	74.3	75.5	76.9	78.4	76.9	73.4	66.4	148.5
OASPL	111.5	114.0	114.3	113.4	114.9	118.7	119.2	121.8	124.3	130.0	134.6	132.0	126.5	168.6
PNL	123.7	126.1	126.8	125.5	127.2	131.3	131.3	134.6	137.1	141.9	145.3	141.1	136.5	
PNLT	124.2	126.8	126.8	126.0	127.9	131.3	132.6	135.1	137.1	141.9	145.8	141.1	136.5	
DBA	111.0	113.3	113.5	112.3	113.9	117.6	117.6	121.3	124.0	129.3	134.1	130.3	125.6	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH220 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.84 PAMB HG = 29.14 RELHUM = 40.7 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1517.9 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2489.6 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1911 TAPE = X1911C TEST PT NO = 1911 NC = AE089 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1911 X1911F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	90.9	91.4	90.9	86.7	86.8	89.4	92.8	92.0	93.2	90.5	97.4	97.6	93.2	134.4
63	95.0	96.3	99.6	94.6	95.2	98.8	100.0	95.9	98.8	97.1	102.8	101.2	96.6	140.4
80	95.8	100.6	96.1	96.4	97.0	101.1	99.0	98.9	99.6	99.9	104.3	103.7	92.6	141.8
100	94.5	102.0	97.8	97.8	98.4	102.5	100.6	103.5	101.0	105.1	105.5	109.4	96.1	144.6
125	92.4	94.9	98.7	98.2	100.1	102.4	101.8	101.7	101.7	105.5	111.9	114.1	100.7	147.3
160	89.2	91.0	95.7	92.0	93.4	98.2	105.9	100.8	103.2	107.3	112.2	114.4	105.3	147.7
200	93.8	91.8	94.8	93.9	96.0	100.1	103.5	101.6	106.6	108.9	114.0	117.2	107.9	149.7
250	92.3	94.6	96.1	95.9	97.2	99.8	100.7	103.4	106.6	114.4	118.5	120.2	111.1	153.2
315	93.3	94.9	94.9	94.4	96.5	101.4	105.3	104.7	108.9	116.7	120.3	120.8	112.7	154.7
400	95.1	96.3	96.6	95.4	97.5	101.4	110.0	105.2	109.4	118.4	122.1	121.3	114.2	156.0
500	96.1	97.1	98.1	96.7	98.3	103.4	103.0	106.4	110.1	120.0	123.6	122.8	115.9	157.4
630	97.0	97.8	98.6	97.4	99.5	103.1	103.7	106.9	110.3	120.4	124.3	122.7	117.6	157.9
800	100.1	99.4	99.4	98.4	101.0	104.1	104.5	108.7	112.4	119.7	125.9	123.3	118.4	158.8
1000	102.0	104.1	102.3	100.9	101.7	105.6	104.7	109.1	112.6	118.9	125.8	122.7	118.1	158.6
1250	100.9	105.2	104.5	102.9	103.9	106.2	105.6	109.5	113.5	118.1	125.0	120.6	116.3	157.7
1600	101.6	102.3	103.2	101.6	102.8	106.7	106.5	110.6	113.7	117.3	124.7	118.6	114.2	157.1
2000	102.4	103.2	102.9	101.5	102.6	106.4	106.4	110.7	113.4	118.1	122.9	116.2	113.2	156.0
2500	99.8	102.4	102.5	101.7	102.8	106.4	106.4	110.2	112.6	118.2	121.1	115.2	111.9	155.0
3150	98.7	101.6	102.4	100.6	102.7	107.3	106.4	110.4	113.0	117.6	119.3	113.2	109.3	154.0
4000	97.0	100.2	101.5	99.9	102.6	106.3	105.9	110.5	112.2	115.7	117.9	111.4	108.2	152.8
5000	95.6	98.9	101.0	100.4	102.1	105.8	105.7	109.8	111.4	115.8	117.0	110.8	106.7	152.5
6300	94.7	99.5	101.0	100.1	102.1	106.3	106.1	110.1	111.6	114.4	115.3	109.5	106.0	151.9
8000	94.1	98.5	100.3	100.2	101.9	105.7	105.4	108.5	110.0	112.4	113.8	107.7	105.8	150.8
10000	94.3	98.2	100.2	100.5	102.1	106.1	105.1	109.1	109.5	111.0	113.1	107.2	105.5	150.8
12500	92.7	96.5	98.5	99.4	101.5	105.8	104.6	106.0	107.6	109.2	110.3	106.0	104.0	149.8
16000	91.8	96.7	98.1	98.5	100.3	104.3	103.4	104.5	106.5	107.4	108.5	103.8	100.6	149.6
20000	89.9	94.6	96.0	97.4	98.9	102.0	101.8	102.1	102.9	104.6	105.6	101.2	97.7	148.8
25000	87.3	92.0	93.5	95.0	95.5	100.6	99.5	98.4	99.5	99.4	98.8	97.1	92.0	147.6
31500	83.9	88.3	90.5	92.3	92.2	96.4	95.6	95.5	95.5	96.6	96.1	93.5	87.4	147.3
40000	79.5	84.4	86.6	87.8	87.8	93.3	90.8	91.6	92.4	94.0	93.1	89.1	83.6	147.7
50000	74.3	78.9	80.7	82.7	82.4	88.5	85.6	86.2	86.8	88.9	88.0	84.5	78.1	146.9
63000	68.0	73.5	76.3	77.2	78.4	84.3	79.8	81.5	83.0	83.3	83.0	79.4	72.4	147.4
80000	60.8	66.9	70.2	70.1	71.6	79.0	74.3	75.5	76.9	78.4	76.9	73.4	66.4	148.5
OASPL	111.5	114.0	114.3	113.4	114.9	118.7	119.2	121.8	124.3	130.0	134.6	132.0	126.5	168.6
PNL	123.7	126.1	126.8	125.5	127.2	131.3	131.3	134.6	137.1	141.9	145.3	141.1	136.5	
PNLT	124.2	126.8	126.8	126.0	127.9	131.3	132.6	135.1	137.1	141.9	145.8	141.1	136.5	
DBA	183.5	189.2	192.1	192.6	193.8	200.6	196.2	197.4	198.8	200.0	198.9	195.4	188.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH220	TEST DATE = 04-18-83	LOCAT = C41 ANECH CH	CONFIG = 19	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 36.84	PAMB HG = 29.14	RELHUM = 40.7 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1517.9 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2489.6 FPS	AE18 = 19.9 SQ IN

PT F-Z 311 E = X F TI T 191 AEO RR F SPEE RPM

P1185-03

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

IDENTIFICATION - 83F-ZER-1911 X19111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.2	72.2	73.3	73.6	76.1	81.1	84.8	83.8	87.3	94.1	96.2	94.4	83.0	169.9
63	70.9	73.7	75.0	74.5	77.0	81.0	89.5	84.3	87.8	95.8	97.9	94.8	84.4	171.3
80	71.8	74.4	76.5	75.8	77.8	83.0	82.5	85.5	88.5	97.3	99.3	96.3	86.1	172.7
100	72.7	75.1	76.9	76.4	78.9	82.7	83.2	85.9	88.7	97.6	100.0	96.1	87.6	173.2
125	75.6	76.5	77.6	77.4	80.4	83.7	83.9	87.7	90.6	96.9	101.4	96.5	88.2	174.1
160	77.4	81.0	80.4	79.7	81.0	85.0	84.0	88.0	90.7	95.9	101.1	95.7	87.5	173.8
200	76.0	82.0	82.4	81.6	83.0	85.5	84.7	88.2	91.4	94.9	100.1	93.3	85.2	172.9
250	76.4	78.8	80.9	80.0	81.7	85.7	85.4	89.0	91.4	93.8	99.4	90.8	82.5	172.4
315	76.7	79.3	80.2	79.6	81.2	85.2	85.0	88.9	90.7	94.3	97.2	87.9	80.6	171.3
400	73.6	78.1	79.4	79.5	81.1	84.9	84.6	88.0	89.6	93.9	95.0	86.2	78.3	170.3
500	72.0	76.9	79.0	78.1	80.7	85.4	84.4	87.8	89.6	92.9	92.6	83.5	74.7	169.3
630	69.8	75.0	77.8	77.1	80.2	84.1	83.6	87.7	88.4	90.5	90.6	81.0	72.5	168.1
800	67.7	73.2	76.8	77.2	79.4	83.3	83.0	86.6	87.2	90.2	89.2	79.6	69.8	167.7
1000	66.3	73.4	76.5	76.5	79.2	83.5	83.2	86.5	87.1	88.3	86.9	77.5	67.7	167.1
1250	65.0	71.9	75.4	76.4	78.6	82.6	82.1	84.6	85.1	85.9	84.7	74.7	65.9	166.1
1600	64.1	70.7	74.5	76.0	78.3	82.5	81.3	84.6	83.9	83.5	82.9	72.6	63.0	166.1
2000	61.0	67.9	72.0	74.2	77.0	81.5	80.0	80.8	81.1	80.6	78.6	69.2	58.0	165.1
2500	57.8	66.5	70.3	72.1	74.8	79.1	77.9	78.1	78.7	77.2	74.6	63.9	49.2	164.9
3150	52.0	61.4	65.7	68.9	71.5	74.8	74.3	73.6	72.6	71.4	67.7	55.6	37.3	164.1
4000	42.4	53.2	58.6	62.5	64.2	69.8	68.2	65.9	64.6	60.6	53.9	41.8	16.4	162.8
5000	28.3	41.1	48.6	53.5	55.1	59.9	58.5	56.7	53.6	49.4	40.6	23.7		162.5
6300	5.8	22.6	32.1	37.8	40.3	46.5	43.2	41.6	37.9	32.3	19.4			163.0
8000			3.9	12.6	15.8	23.0	19.0	16.0	10.1	1.4				162.2
10000														162.7
12500														163.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.4	89.1	90.5	90.2	92.3	96.2	96.8	99.2	101.2	106.3	109.4	104.4	95.4	183.6
PNL	89.5	94.3	96.5	97.4	99.8	104.1	103.4	105.7	106.5	109.8	111.8	104.7	95.7	
PNLT	89.5	94.3	97.1	97.9	100.3	104.6	103.4	106.3	107.1	110.5	111.8	104.7	96.7	
DBA	78.0	83.1	85.7	86.1	88.4	92.5	91.8	94.9	95.8	98.2	99.5	91.4	83.0	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH220 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.84 PAMB HG = 29.14 RELHUM = 40.7 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 = 1517.9 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2489.6 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1911 TAPE = X19111 TEST PT NO = 1911 NC = AE089 CORR FAN SPEED = RPM

DATPROC - FLTRAN 07/07/83 19.636 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 83F-400-1912 X1912C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	93.9	93.2	89.7	87.0	86.6	88.4	87.8	92.5	92.2	92.0	99.1	98.6	90.5	134.9
63	95.3	96.8	98.1	92.9	92.7	95.3	96.0	99.4	96.6	93.6	102.8	99.5	93.9	139.2
80	95.8	100.3	96.1	96.9	97.0	100.8	98.7	98.6	98.3	97.9	103.0	102.5	91.4	141.1
100	94.5	99.5	95.5	94.8	96.9	100.8	99.4	102.0	98.8	101.6	102.5	107.6	94.8	142.5
125	92.9	94.2	96.9	97.2	99.3	101.2	99.3	99.7	98.4	101.8	108.4	112.1	99.2	144.9
160	90.2	86.7	93.2	90.0	92.1	95.7	99.6	96.8	98.7	103.3	108.4	111.6	103.3	144.3
200	89.8	90.1	90.8	89.1	91.7	95.6	98.2	98.4	103.1	103.1	110.3	114.7	105.6	146.5
250	88.0	90.3	91.6	91.4	93.0	95.6	97.2	99.9	102.8	109.1	114.5	117.2	108.6	149.5
315	89.1	90.4	90.4	90.2	92.0	96.6	100.0	99.9	104.1	111.2	116.1	118.3	109.7	150.9
400	90.1	91.3	92.6	90.9	93.2	96.1	105.2	100.2	104.6	112.9	118.3	118.8	109.9	152.3
500	89.8	91.6	93.6	91.9	94.3	97.4	98.0	101.7	105.1	114.7	119.8	119.0	108.4	153.2
630	91.0	91.8	93.8	92.4	94.5	97.6	98.7	102.4	105.6	114.7	120.0	118.0	107.4	153.0
800	92.8	92.9	93.7	93.2	96.0	98.4	99.3	103.7	107.4	114.0	120.1	116.5	105.7	152.7
1000	94.8	95.8	96.3	95.1	96.2	99.8	100.2	104.4	106.8	113.9	118.3	114.5	103.4	151.4
1250	93.9	97.0	96.8	95.6	97.1	100.2	100.4	104.5	108.8	113.1	116.7	110.1	101.3	150.1
1600	96.1	95.8	97.2	95.8	97.8	101.2	101.8	106.1	108.7	112.5	115.7	108.1	99.7	149.5
2000	96.6	96.4	97.1	96.5	97.3	100.7	101.7	106.2	108.6	113.4	114.4	106.0	99.2	149.2
2500	96.3	97.6	97.2	96.7	98.5	101.7	101.6	106.0	107.9	113.4	113.4	106.2	99.4	148.8
3150	95.5	97.6	97.9	97.6	97.9	102.2	101.6	106.6	108.5	112.6	113.0	104.9	98.3	148.6
4000	95.3	96.7	97.8	96.7	98.6	102.0	102.2	106.5	108.7	111.4	111.4	103.6	97.7	147.9
5000	95.3	96.4	98.2	97.1	98.6	102.1	102.2	106.3	107.8	112.3	110.5	103.5	96.7	148.0
6300	96.7	98.5	99.3	98.1	99.4	102.8	102.9	106.3	108.6	111.4	109.0	102.0	97.0	147.9
8000	96.3	98.2	99.3	97.7	99.4	102.4	102.1	105.5	107.3	109.7	108.3	101.2	96.0	147.2
10000	96.5	97.7	99.4	98.5	99.6	103.3	102.6	106.1	107.3	108.5	107.3	101.0	95.8	147.6
12500	95.5	96.2	99.0	98.4	99.5	103.0	102.0	103.8	105.6	106.9	105.3	101.0	95.8	147.1
16000	95.3	97.2	98.6	98.0	99.1	102.3	100.9	102.5	104.8	104.9	103.3	99.6	92.8	147.2
20000	92.4	95.4	96.0	96.9	97.9	100.7	99.8	100.1	101.1	101.6	99.6	96.2	91.2	146.5
25000	90.1	93.0	93.7	94.8	95.2	100.1	98.0	97.4	98.5	96.6	95.8	94.1	87.3	146.4
31500	86.1	88.8	90.8	92.3	92.0	96.1	94.1	94.5	94.5	92.6	92.4	89.3	82.9	146.0
40000	81.5	84.9	86.9	87.5	87.3	92.5	90.0	90.4	91.4	89.3	88.6	84.9	78.1	146.1
50000	76.1	79.1	80.4	82.2	81.9	87.5	85.1	85.9	85.6	83.7	83.2	80.0	72.3	145.2
63000	69.8	74.3	76.3	76.7	77.7	82.8	78.3	81.2	81.2	78.3	77.5	73.7	66.1	145.5
80000	62.3	66.2	69.2	69.7	69.8	77.2	73.3	74.0	74.4	72.9	71.4	66.9	58.4	146.0
OASPL	108.8	110.5	111.1	110.2	111.6	114.9	115.2	118.0	120.3	125.2	128.7	127.2	117.8	163.7
PNL	120.6	122.1	122.7	121.9	123.3	126.7	127.1	130.7	132.9	137.3	139.0	135.0	126.5	
PNLT	120.6	122.1	122.7	122.7	124.1	126.7	128.2	130.7	132.9	137.3	139.0	135.0	126.5	
DBA	107.0	108.2	109.0	108.0	109.5	112.9	113.3	117.2	119.6	124.5	127.3	123.8	114.3	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH224 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX ' FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.25 PAMB HG = 29.06 RELHUM = 41.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1526.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2474.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1912 TAPE = X1912C TEST PT NO = 1912 NC = AE089 CORR FAN SPEED = RPM

490

P1185-03

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

IDENTIFICATION - 83F-400-1912 X1912F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	95.9	96.8	96.5	94.7	94.6	95.6	95.3	96.3	102.0	108.5	113.2	116.1	109.6	148.6
315	95.9	96.8	96.5	94.7	93.8	96.8	99.1	98.0	102.5	110.3	115.7	117.2	111.2	150.3
400	96.8	96.8	95.3	93.6	95.0	96.4	104.3	98.2	103.0	112.1	117.4	118.2	111.3	151.6
500	97.1	97.3	97.3	94.2	96.2	97.7	97.0	99.6	103.8	112.5	118.2	118.3	112.4	152.0
630	97.5	98.0	98.6	95.4	96.4	98.0	97.8	100.3	106.1	112.4	119.1	118.3	113.6	152.6
800	98.7	98.3	98.9	95.9	98.1	98.9	98.5	101.8	106.1	113.1	118.2	117.8	114.0	152.2
1000	100.5	99.3	98.7	96.8	98.2	100.5	99.6	102.7	107.8	112.0	116.3	113.2	111.9	150.3
1250	101.1	101.3	100.8	98.4	99.3	101.1	99.8	102.8	107.9	111.5	115.3	111.2	110.4	149.5
1600	100.8	103.0	101.6	99.2	100.2	102.2	101.4	104.5	108.0	112.5	114.1	109.1	110.0	149.4
2000	103.4	102.1	102.3	99.6	99.8	102.0	101.5	104.8	107.7	113.1	113.8	110.1	110.9	149.6
2500	103.0	102.2	101.9	100.1	101.5	103.3	101.8	105.0	108.7	112.6	113.8	109.1	110.1	149.6
3150	103.9	104.2	102.6	100.8	101.2	104.3	102.3	106.0	109.6	112.0	112.5	108.1	109.7	149.4
4000	103.1	104.2	103.4	102.0	102.3	104.6	103.4	106.5	108.7	112.7	111.4	107.6	108.3	149.4
5000	102.8	103.4	103.5	101.3	102.7	105.1	103.7	106.4	109.7	112.0	110.2	106.5	108.9	149.3
6300	102.7	103.1	104.1	102.0	103.4	105.8	104.4	106.5	108.6	110.7	109.9	106.2	108.5	149.2
8000	104.0	105.0	105.0	102.8	103.4	105.4	103.8	105.8	109.3	110.2	109.7	106.8	109.1	149.7
10000	103.4	104.6	104.8	102.3	103.6	106.3	104.7	106.8	108.7	109.8	108.8	107.8	109.9	150.3
12500	103.4	103.8	104.7	102.7	103.5	106.0	104.4	105.1	108.2	108.0	107.1	106.9	107.5	150.2
16000	101.8	101.8	103.7	102.2	103.1	105.3	103.1	103.7	105.9	106.2	104.7	104.4	106.4	150.0
20000	101.2	102.4	102.9	101.3	102.0	103.7	102.2	101.9	103.4	101.4	100.9	102.1	102.1	149.9
25000	97.8	100.0	99.7	99.6	99.8	103.1	100.0	98.7	100.6	98.7	99.0	98.9	99.3	150.0
31500	97.4	99.0	98.4	97.8	96.6	99.1	96.3	96.1	98.7	96.7	96.8	96.5	97.0	150.7
40000	92.6	94.0	94.6	94.5	91.9	95.5	92.5	92.3	93.4	91.6	92.0	92.1	91.5	150.4
50000	87.6	89.7	90.3	89.3	86.5	90.5	87.6	87.9	89.6	86.8	87.0	86.7	86.6	150.1
63000	81.2	83.0	82.9	83.1	82.3	85.8	80.7	83.0	83.8	82.4	81.9	81.0	80.1	149.7
80000	73.4	76.7	77.3	76.1	74.4	80.2	75.6	75.5	74.0	72.6	72.0	71.2	70.3	149.4
OASPL	114.8	115.3	115.3	113.4	114.2	116.5	115.4	117.2	120.5	124.3	127.4	126.6	123.5	164.4
PNL	126.6	126.9	126.4	124.6	125.2	127.5	126.5	129.2	132.5	136.3	137.5	134.5	134.3	
PNLT	126.6	126.9	126.4	124.6	125.2	127.5	127.6	129.2	132.5	136.3	137.5	134.5	134.3	
DBA	196.4	199.0	199.4	198.7	197.1	202.0	197.5	198.0	197.9	196.3	195.9	195.2	194.4	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH224 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.25 PAMB HG = 29.06 RELHUM = 41.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1526.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2474.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1912 TAPE = X1912F TEST PT NO = 1912 NC = AE089 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1912 X19121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.8	74.1	74.9	73.8	73.4	76.5	78.7	77.2	80.9	87.7	91.5	90.9	81.5	165.5
63	72.6	74.1	73.7	72.7	74.6	76.0	83.9	77.3	81.4	89.5	93.2	91.8	81.5	166.9
80	72.8	74.6	75.7	73.3	75.7	77.4	76.6	78.6	82.2	89.8	93.9	91.8	82.5	167.3
100	73.2	75.3	76.9	74.4	75.9	77.6	77.3	79.4	84.4	89.7	94.7	91.7	83.6	167.9
125	74.3	75.4	77.1	74.9	77.5	78.4	77.9	80.7	84.3	90.2	93.7	91.0	83.7	167.5
160	75.8	76.3	76.8	75.6	77.4	79.9	78.9	81.5	85.9	89.0	91.7	86.2	81.2	165.6
200	76.2	78.1	78.7	77.0	78.4	80.3	78.9	81.4	85.8	88.3	90.4	83.9	79.3	164.8
250	75.6	79.5	79.3	77.6	79.1	81.3	80.3	82.9	85.6	89.0	88.9	81.4	78.2	164.6
315	77.7	78.2	79.6	77.8	78.4	80.7	80.1	82.9	85.1	89.2	88.1	81.8	78.3	164.9
400	76.9	77.9	78.9	77.9	79.8	81.7	80.1	82.8	85.7	88.3	87.6	80.1	76.5	164.9
500	77.2	79.5	79.2	78.3	79.2	82.4	80.2	83.5	86.2	87.3	85.8	78.4	75.1	164.7
630	75.8	79.1	79.7	79.1	79.9	82.4	81.0	83.6	84.9	87.5	84.2	77.2	72.5	164.7
800	75.0	77.7	79.4	78.1	80.0	82.6	81.0	83.2	85.5	86.4	82.4	75.3	72.0	164.6
1000	74.3	77.0	79.5	78.4	80.4	83.0	81.4	82.9	84.1	84.6	81.5	74.2	70.3	164.5
1250	74.9	78.4	80.0	78.9	80.1	82.3	80.5	81.9	84.4	83.6	80.6	73.8	69.2	165.0
1600	73.2	77.2	79.2	77.8	79.8	82.7	80.9	82.4	83.0	82.3	78.6	73.2	67.4	165.5
2000	71.7	75.2	78.1	77.5	79.0	81.7	79.8	79.9	81.6	79.4	75.4	70.1	61.5	165.4
2500	67.9	71.6	75.9	75.8	77.6	80.1	77.7	77.4	78.1	76.0	70.8	64.4	55.0	165.3
3150	63.3	69.1	72.6	72.8	74.5	76.6	74.8	73.5	73.0	68.1	63.1	56.5	41.7	165.1
4000	52.8	61.2	64.8	67.0	68.6	72.3	68.8	66.2	65.7	59.9	54.1	43.6	23.7	165.2
5000	41.9	51.9	56.4	59.0	59.5	62.6	59.2	57.3	56.7	49.5	41.3	26.7		166.0
6300	18.9	32.2	40.1	44.5	44.4	48.7	44.9	42.3	38.9	29.8	18.3			165.7
8000		2.2	13.5	19.2	19.9	25.0	20.9	17.8	12.9					165.3
10000														165.0
12500														164.7
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	87.4	89.7	90.9	89.7	91.2	93.6	92.7	94.2	96.9	100.2	102.3	99.2	91.5	179.5
PNL	94.2	97.5	99.7	99.1	100.7	103.2	101.5	102.4	104.2	104.9	104.3	99.7	93.0	
PNLT	95.6	98.6	100.3	99.7	101.2	103.8	102.0	102.9	104.2	106.0	105.5	99.7	93.0	
DBA	83.7	86.7	88.5	87.6	89.2	91.8	90.0	91.5	93.3	94.1	92.1	85.8	81.2	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH224 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.25 PAMB HG = 29.06 RELHUM = 41.8 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1526.2 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2474.5 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1912 TAPE = X19121 TEST PT NO = 1912 [illegible] RPM

P1185-03

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 83F-ZER-1921 X1921C
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.6	90.7	89.4	85.5	85.6	88.4	88.3	90.5	91.9	88.5	96.9	96.3	91.5	133.1
63	94.0	96.5	99.8	94.4	93.7	96.8	94.5	97.1	97.8	96.1	102.5	100.7	97.6	139.6
80	94.3	98.1	93.8	94.9	95.2	99.6	96.7	97.1	98.1	97.7	102.3	102.0	89.1	139.9
100	92.7	100.0	96.0	95.8	97.1	100.5	98.9	102.3	99.8	104.1	103.5	107.9	93.8	143.1
125	90.6	93.2	96.4	96.7	98.6	101.2	98.8	99.7	99.9	104.0	110.6	112.1	98.2	145.6
160	88.2	89.7	94.2	91.0	92.1	96.5	102.4	98.5	101.2	105.6	110.4	112.9	103.8	145.9
200	92.0	90.1	93.3	91.9	94.2	98.1	101.0	99.9	105.1	107.4	113.3	116.2	106.1	148.6
250	91.0	92.8	94.6	94.1	95.7	98.1	99.0	102.4	105.3	112.4	117.3	118.7	109.4	151.7
315	91.8	93.6	93.4	92.7	95.0	99.6	103.0	102.7	106.9	115.5	118.8	120.0	111.2	153.4
400	93.6	94.6	95.4	93.7	95.7	99.6	109.5	103.9	107.6	117.4	121.6	120.8	112.7	155.4
500	94.3	95.9	97.1	95.4	97.0	101.6	101.8	105.2	108.1	119.0	122.8	121.5	113.7	156.4
630	94.8	96.3	97.3	95.6	97.7	101.8	102.0	105.9	108.6	119.9	123.5	121.2	115.9	157.0
800	98.1	98.1	97.6	97.2	99.8	102.6	103.3	107.2	110.9	119.5	124.8	122.5	117.2	157.9
1000	100.5	102.1	101.6	99.6	100.7	104.3	104.0	107.6	110.6	118.1	124.5	122.5	118.6	157.6
1250	99.2	103.7	102.5	100.9	101.9	105.0	103.9	107.8	111.8	116.8	123.7	120.1	115.5	156.5
1600	99.6	101.0	101.2	100.1	101.6	105.2	104.8	108.8	111.4	115.5	122.9	119.3	114.0	155.7
2000	101.3	101.9	101.1	99.5	100.3	104.7	104.4	108.7	111.6	115.6	121.9	116.9	112.9	154.8
2500	99.3	100.6	100.9	100.1	100.5	104.1	104.3	107.9	110.3	115.1	120.6	115.9	111.4	153.8
3150	96.7	99.6	100.3	98.6	101.2	104.7	104.1	108.6	110.2	114.3	118.5	113.6	108.8	152.4
4000	95.0	98.1	99.5	98.6	101.0	104.5	103.9	107.7	110.1	112.4	116.8	111.3	107.4	151.0
5000	94.0	97.1	99.7	98.6	99.8	103.5	103.7	107.5	108.8	112.5	116.0	110.5	105.7	150.5
6300	93.0	98.4	99.5	98.6	100.4	104.1	103.9	108.1	108.6	111.1	114.5	108.7	104.4	149.9
8000	91.8	97.0	98.8	98.5	100.4	103.4	102.9	106.3	107.0	109.0	113.3	107.5	103.3	148.9
10000	91.6	96.2	98.3	98.0	100.2	104.1	103.2	106.4	106.9	107.6	112.1	106.3	103.1	148.8
12500	90.6	94.8	97.2	97.8	100.1	103.9	103.2	103.9	104.5	105.8	109.4	105.6	102.1	147.9
16000	90.4	95.4	97.1	97.6	99.0	103.0	102.0	102.4	103.5	103.3	107.0	103.8	99.0	147.6
20000	88.6	93.9	95.5	95.8	97.4	100.4	100.2	100.1	99.9	100.6	103.8	100.4	96.1	146.8
25000	86.1	91.0	92.5	94.0	94.7	99.3	97.7	97.2	97.2	94.9	97.8	96.3	91.3	146.0
31500	83.4	88.1	89.8	91.3	91.7	95.4	94.1	94.3	93.1	92.2	94.7	91.8	86.1	145.7
40000	78.5	83.7	85.7	87.1	86.8	92.3	89.8	89.9	90.5	88.4	91.4	87.4	81.9	145.9
50000	72.6	77.7	80.3	81.5	81.7	87.8	84.4	85.0	84.2	82.8	86.5	83.1	75.1	145.1
63000	67.0	72.4	75.4	76.8	77.7	83.3	78.8	80.0	80.3	78.1	81.6	77.0	70.9	145.7
80000	60.3	65.7	69.0	69.7	70.6	77.5	73.1	74.5	73.9	72.7	75.2	71.5	63.4	146.5
OASPL	109.9	112.4	112.8	111.8	113.3	116.9	117.4	119.9	122.2	128.5	133.6	131.3	125.2	167.4
PNL	122.3	124.4	125.0	123.9	125.6	129.2	129.2	132.7	134.7	139.4	144.5	141.0	135.5	
PNLT	122.3	125.1	125.0	124.4	126.2	129.2	130.7	133.3	134.7	140.0	145.1	141.0	135.5	
DBA	109.5	111.7	111.8	110.6	112.1	115.7	115.8	119.3	121.8	127.5	133.0	129.9	124.5	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH221 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX1 FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.29 PAMB HG = 29.15 RELHUM = 46.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1916.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2347.8 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1921 TAPE = X1921C TEST PT NO = 1921 NC = AE089 CORR FAN SPEED = RPM

P1188-03

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

IDENTIFICATION - 83F-ZER-1921 X1921F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.6	90.7	89.4	85.5	85.6	88.4	88.3	90.5	91.9	88.5	96.9	96.3	91.5	133.1
63	94.0	96.5	99.8	94.4	93.7	96.8	94.5	97.1	97.8	96.1	102.5	100.7	97.6	139.6
80	94.3	98.1	93.8	94.9	95.2	99.6	96.7	97.1	98.1	97.7	102.3	102.0	89.1	139.9
100	92.7	100.0	96.0	95.8	97.1	100.5	98.9	102.3	99.8	104.1	103.5	107.9	93.8	143.1
125	90.6	93.2	96.4	96.7	98.6	101.2	98.8	99.7	99.9	104.0	110.6	112.1	98.2	145.6
160	88.2	89.7	94.2	91.0	92.1	96.5	102.4	98.5	101.2	105.6	110.4	112.9	103.8	145.9
200	92.0	90.1	93.3	91.9	94.2	98.1	101.0	99.9	105.1	107.4	113.3	116.2	106.1	148.6
250	91.0	92.8	94.6	94.1	95.7	98.1	99.0	102.4	105.3	112.4	117.3	118.7	109.4	151.7
315	91.8	93.6	93.4	92.7	95.0	99.6	103.0	102.7	106.9	115.5	118.8	120.0	111.2	153.4
400	93.6	94.6	95.4	93.7	95.7	99.6	109.5	103.9	107.6	117.4	121.6	120.8	112.7	155.4
500	94.3	95.9	97.1	95.4	97.0	101.6	101.8	105.2	108.1	119.0	122.8	121.5	113.7	156.4
630	94.8	96.3	97.3	95.6	97.7	101.8	102.0	105.9	108.6	119.9	123.5	121.2	115.9	157.0
800	98.1	98.1	97.6	97.2	99.8	102.6	103.3	107.2	110.9	119.5	124.8	122.5	117.2	157.9
1000	100.5	102.1	101.6	99.6	100.7	104.3	104.0	107.6	110.6	118.1	124.5	122.5	116.6	157.6
1250	99.2	103.7	102.5	100.9	101.9	105.0	103.9	107.8	111.8	116.8	123.7	120.1	115.5	156.5
1600	99.6	101.0	101.2	100.1	101.6	105.2	104.8	108.8	111.4	115.5	122.9	119.3	114.0	155.7
2000	101.3	101.9	101.1	99.5	100.3	104.7	104.4	108.7	111.6	115.6	121.9	116.9	112.9	154.8
2500	99.3	100.6	100.9	100.1	100.5	104.1	104.3	107.9	110.3	115.1	120.6	115.9	111.4	153.8
3150	96.7	99.6	100.3	98.6	101.2	104.7	104.1	108.6	110.2	114.3	118.5	113.6	108.8	152.4
4000	95.0	98.1	99.5	98.6	101.0	104.5	103.9	107.7	110.1	112.4	116.8	111.3	107.4	151.0
5000	94.0	97.1	99.7	98.6	99.8	103.5	103.7	107.5	108.8	112.5	116.0	110.5	105.7	150.5
6300	93.0	98.4	99.5	98.6	100.4	104.1	103.9	108.1	108.6	111.1	114.5	108.7	104.4	149.9
8000	91.8	97.0	98.8	98.5	100.4	103.4	102.9	106.3	107.0	109.0	113.3	107.5	103.3	148.9
10000	91.6	96.2	98.3	98.0	100.2	104.1	103.2	106.4	106.9	107.6	112.1	106.3	103.1	148.8
12500	90.6	94.8	97.2	97.8	100.1	103.9	103.2	103.9	104.5	105.8	109.4	105.6	102.1	147.9
16000	90.4	95.4	97.1	97.6	99.0	103.0	102.0	102.4	103.5	103.3	107.0	103.8	99.0	147.6
20000	88.6	93.9	95.5	95.8	97.4	100.4	100.2	100.1	99.9	100.6	103.8	100.4	96.1	146.8
25000	86.1	91.0	92.5	94.0	94.7	99.3	97.7	97.2	97.2	94.9	97.8	96.3	91.3	146.0
31500	83.4	88.1	89.8	91.3	91.7	95.4	94.1	94.3	93.1	92.2	94.7	91.8	86.1	145.7
40000	78.5	83.7	85.7	87.1	86.8	92.3	89.8	89.9	90.5	88.4	91.4	87.4	81.9	145.9
50000	72.6	77.7	80.3	81.5	81.7	87.8	84.4	85.0	84.2	82.8	86.5	83.1	76.1	145.1
63000	67.0	72.4	75.4	76.8	77.7	83.3	78.8	80.0	80.3	78.1	81.6	77.0	70.9	145.7
80000	60.3	65.7	69.0	69.7	70.6	77.5	73.1	74.5	73.9	72.7	75.2	71.5	63.4	146.5
OASPL	109.9	112.4	112.8	111.8	113.3	116.9	117.4	119.9	122.2	128.5	133.6	131.3	125.2	167.4
PNL	122.3	124.4	125.0	123.9	125.6	129.2	129.2	132.7	134.7	139.4	144.5	141.0	135.5	
PNLT	122.3	125.1	125.0	124.4	126.2	129.2	130.7	133.3	134.7	140.0	145.1	141.0	135.5	
DBA	182.7	188.0	191.1	192.1	192.9	199.4	195.1	196.3	196.0	194.5	197.3	193.4	186.1	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH221 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 0. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.29 PAMB HG = 29.15 RELHUM = 45.9 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1916.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2347.8 FPS AE18 = 19.9 SQ IN

JNPT 3F= T92 APE = 1F PT = TC NC AE CORR FAN SPEED = RP

P1185-03

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

IDENTIFICATION - 83F-ZER-1921 X19211

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.7	71.0	71.8	71.8	74.6	79.3	82.6	81.8	85.3	92.8	94.7	93.7	81.5	168.7
63	69.4	71.9	73.8	72.8	75.3	79.3	89.0	83.0	86.0	94.8	97.4	94.3	82.9	170.6
80	70.1	73.2	75.5	74.5	76.5	81.3	81.3	84.3	86.5	96.3	98.6	95.0	83.8	171.7
100	70.5	73.6	75.7	74.7	77.2	81.4	81.4	84.9	86.9	97.1	99.2	94.6	85.9	172.2
125	73.6	75.3	75.9	76.2	79.2	82.2	82.7	86.2	89.1	96.6	100.4	95.8	86.9	173.2
160	75.9	79.0	79.7	78.4	80.0	83.7	83.2	86.4	88.7	95.1	99.9	95.5	86.0	172.8
200	74.3	80.5	80.4	79.5	81.0	84.2	83.0	86.4	89.7	93.6	98.8	92.8	84.4	171.8
250	74.4	77.5	78.9	78.5	80.5	84.2	83.7	87.3	89.1	92.0	97.7	91.6	82.2	171.0
315	75.7	78.0	78.4	77.6	78.9	83.4	83.0	86.9	88.9	91.7	96.2	88.6	80.4	170.1
400	73.1	76.3	77.9	77.9	78.8	82.6	82.6	85.7	87.3	90.8	94.4	86.9	77.8	169.1
500	70.0	74.8	76.9	76.1	79.1	82.8	82.1	86.1	86.8	89.6	91.8	84.0	74.2	167.6
630	67.7	72.9	75.7	75.8	78.7	82.3	81.5	84.9	86.4	87.2	89.6	80.9	71.7	166.3
800	66.2	71.4	75.5	75.4	77.2	81.0	81.0	84.3	84.6	86.8	88.1	79.3	68.7	165.8
1000	64.6	72.4	75.0	75.0	77.4	81.3	80.9	84.5	84.1	85.0	86.1	76.7	66.2	165.2
1250	62.7	70.4	73.9	74.6	77.1	80.3	79.6	82.4	82.1	82.4	84.3	74.5	63.4	164.2
1600	61.4	68.8	72.6	73.6	76.3	80.5	79.3	81.9	81.2	80.1	81.9	71.6	60.6	164.1
2000	58.9	66.2	70.6	72.6	75.6	79.6	78.6	78.7	78.0	77.2	77.7	68.8	56.1	163.2
2500	56.5	65.2	69.2	71.3	73.5	77.7	76.5	76.1	75.6	73.1	73.1	63.8	47.6	162.9
3150	50.7	60.6	65.2	67.3	69.9	73.3	72.8	71.6	69.6	67.4	65.9	54.8	35.8	162.1
4000	41.2	52.2	57.6	61.5	63.5	68.5	66.5	64.6	62.3	56.2	52.9	41.0	15.6	161.2
5000	27.8	40.9	47.9	52.5	54.7	58.9	57.0	55.5	51.1	45.0	39.1	21.9		160.9
6300	4.8	21.9	31.2	37.1	39.3	45.5	42.2	39.9	36.0	26.6	17.7			161.2
8000			3.5	11.4	15.0	22.3	17.7	14.8	7.4					160.4
10000														161.0
12500														161.8
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	83.7	87.5	88.9	88.6	90.6	94.5	95.2	97.3	99.1	105.0	108.4	103.7	94.0	182.4
PNL	88.0	92.7	95.0	96.0	98.2	102.3	101.8	103.5	104.2	107.2	110.6	104.4	94.5	
PNLT	89.0	92.7	95.6	96.5	98.2	102.8	102.3	104.1	105.0	107.2	110.6	104.4	94.5	
DBA	76.4	81.5	84.0	84.4	86.7	90.5	89.9	92.7	93.2	95.3	98.5	91.4	82.2	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH221	TEST DATE = 04-18-83	LOCAT = C41 ANECH CH	CONFIG = 19	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 36.29	PAMB HG = 29.15	RELHUM = 45.9 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1916.4 FPS	AE8 = 4.0 SQ IN
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2347.8 FPS	AE18 = 19.9 SQ IN

RUNPT = 83F-ZER-1921	TAPE = X19211	TEST PT NO = 1921	NC = AE089	CORR FAN SPEED = RPM

P1185-03

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 83F-400-1922 X1922C
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	91.9	91.7	89.2	86.2	84.8	86.4	87.6	90.0	90.4	89.5	95.6	95.8	93.5	132.8
63	94.0	95.5	98.6	94.6	90.7	93.8	97.2	96.1	95.1	92.9	97.8	99.7	98.1	138.0
80	93.5	98.1	93.8	94.1	94.2	98.1	96.2	96.4	96.6	96.2	100.3	100.2	92.1	138.8
100	92.2	97.5	93.8	92.8	94.1	98.8	97.4	100.0	97.3	99.8	100.2	105.4	94.6	140.5
125	90.9	92.2	94.9	95.5	96.8	98.7	97.1	98.0	96.4	100.0	106.4	109.8	97.7	142.8
160	88.2	85.2	91.2	88.0	89.6	93.5	98.1	95.3	96.7	101.3	107.2	110.1	101.5	142.7
200	88.0	88.3	89.3	87.9	89.7	94.1	96.7	96.6	101.1	101.4	107.5	112.5	103.6	144.2
250	86.3	88.8	90.1	89.1	91.0	94.1	95.5	98.1	101.3	107.1	112.3	115.7	106.1	147.7
315	87.1	89.4	89.4	88.7	90.3	94.9	98.5	97.9	102.1	108.7	114.1	116.0	107.4	148.7
400	88.3	89.6	91.1	89.2	91.5	94.6	104.2	98.2	102.1	110.9	116.1	117.0	107.4	150.3
500	88.6	90.4	92.1	90.2	92.0	96.4	96.5	99.2	102.9	113.0	117.8	117.0	105.9	151.2
630	89.5	90.3	91.8	90.6	93.0	96.1	96.7	100.4	103.3	113.4	118.0	115.7	103.6	151.1
800	91.6	90.9	91.7	91.4	94.3	97.1	97.5	101.7	105.4	112.7	119.1	115.0	102.9	151.5
1000	94.0	94.8	94.8	93.6	94.7	97.8	98.0	102.6	105.3	112.2	117.5	113.0	101.6	150.2
1250	92.4	95.7	95.3	93.9	95.4	98.5	98.6	102.3	105.8	111.1	116.0	109.1	99.8	148.7
1600	94.6	94.1	95.0	94.1	95.8	99.5	100.0	103.3	106.2	110.3	114.2	107.1	98.2	147.7
2000	94.6	94.7	95.1	94.0	95.3	98.9	99.2	103.5	106.4	110.4	111.9	104.0	97.2	146.6
2500	92.6	93.1	94.7	94.7	96.3	99.2	99.4	103.0	105.1	110.2	110.2	103.5	96.5	145.8
3150	92.5	94.1	94.4	93.6	96.0	99.5	99.9	103.4	105.5	109.1	108.3	101.4	95.3	145.0
4000	93.0	94.2	94.5	93.2	95.6	99.6	99.0	103.5	104.9	108.0	107.4	100.4	95.0	144.4
5000	94.1	94.9	95.5	94.1	95.4	99.1	99.7	103.1	104.4	108.1	107.5	99.5	93.7	144.5
6300	94.2	96.7	96.3	95.1	96.1	99.8	99.4	103.3	104.6	106.6	105.8	99.3	94.0	144.2
8000	94.1	96.7	97.3	96.0	96.9	99.9	98.9	102.2	103.3	105.4	103.8	97.7	93.3	143.6
10000	94.2	95.9	97.1	97.2	97.6	101.0	99.8	102.5	103.2	104.2	103.3	96.9	92.2	144.1
12500	93.2	95.1	96.2	95.9	98.2	101.7	99.7	100.2	100.8	101.6	100.7	96.4	91.7	143.6
16000	93.9	95.8	96.5	96.4	97.5	101.0	99.3	99.6	100.2	99.2	98.7	94.8	89.5	144.2
20000	91.8	94.8	95.1	95.3	96.3	98.9	98.4	97.3	97.0	95.5	95.5	92.3	87.3	143.9
25000	89.0	92.3	92.6	93.6	93.6	98.0	96.4	95.0	93.6	92.0	90.7	89.0	83.4	144.0
31500	85.0	88.4	90.2	90.9	90.3	94.0	92.4	92.4	90.2	88.4	87.5	84.9	78.7	143.7
40000	80.9	84.5	85.7	86.9	86.2	91.1	88.6	89.0	87.5	84.4	84.0	80.5	74.8	144.1
50000	74.4	79.0	79.5	80.6	80.5	86.1	82.9	83.3	81.2	78.7	78.3	75.1	68.7	142.9
63000	68.6	72.9	75.1	75.6	76.6	81.2	76.9	78.1	76.8	73.8	73.1	69.8	62.8	143.2
80000	61.2	65.3	67.8	67.5	68.5	74.9	70.7	71.4	69.7	66.7	66.3	62.8	54.8	143.1
OASPL	106.9	108.7	109.1	108.2	109.4	112.9	113.2	115.3	117.4	122.7	126.9	125.2	115.4	161.5
PNL	116.4	119.8	120.2	119.1	120.9	124.4	124.9	127.9	130.0	134.3	136.1	132.9	124.1	
PNLT	118.4	119.8	120.2	120.0	121.7	124.4	126.0	127.9	130.0	134.3	136.1	132.9	124.1	
DBA	104.9	106.1	106.6	105.6	107.2	110.6	111.0	114.4	116.7	121.9	125.5	121.9	111.8	

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHTCL = ADH222 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX1 FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.57 PAMB HG = 29.04 RELHUM = 39.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1933.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2341.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1922 TAPE = X1922C TEST PT NO = 1922 NC = AE089 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1922 X1922F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	94.2	95.3	95.0	92.4	92.6	94.1	93.6	94.5	100.0	106.0	111.2	113.9	107.3	146.4
315	94.2	95.3	95.0	92.4	92.1	95.1	97.6	96.0	100.0	108.3	113.4	115.5	108.7	148.3
400	94.8	95.8	94.3	92.1	93.3	94.9	103.3	96.2	100.7	110.3	115.3	116.1	108.7	149.6
500	95.5	95.7	95.9	92.5	93.9	96.7	95.5	97.0	101.4	111.0	115.9	115.8	108.5	149.7
630	96.3	96.8	97.1	93.6	94.9	96.5	95.8	98.2	103.9	110.9	117.8	116.6	110.7	151.0
800	97.2	96.8	96.9	94.1	96.3	97.7	96.7	99.6	104.5	111.2	117.3	116.1	112.2	150.8
1000	99.3	97.3	96.7	95.0	96.5	98.5	97.3	100.8	104.8	110.0	115.6	112.2	110.4	149.0
1250	99.5	99.6	98.7	96.5	97.5	99.3	98.1	100.5	105.5	109.4	114.0	110.4	109.0	147.9
1600	98.9	101.4	99.9	97.3	98.2	100.5	99.7	101.8	105.8	109.7	111.9	107.4	108.2	147.1
2000	101.7	100.2	100.0	97.8	97.8	100.2	99.1	102.1	105.0	109.9	110.6	107.4	108.0	146.8
2500	101.1	100.5	99.9	97.7	99.2	100.8	99.6	102.0	105.8	109.3	109.2	105.9	107.4	146.3
3150	100.2	99.8	100.2	98.9	99.2	101.5	100.6	102.8	106.0	108.7	108.8	105.2	107.3	146.2
4000	100.1	100.8	100.0	98.0	99.3	102.1	100.2	103.6	105.3	108.6	108.6	103.9	105.6	146.1
5000	100.6	100.9	100.3	97.9	99.4	102.1	101.2	103.2	106.1	107.8	107.6	104.5	106.7	146.1
6300	101.5	101.6	101.3	99.0	100.2	102.8	101.2	103.8	105.3	107.2	106.3	103.6	106.6	146.2
8000	101.5	103.3	102.0	99.8	100.9	102.9	101.0	103.1	105.7	106.5	106.2	103.3	106.0	146.6
10000	101.2	103.1	102.8	100.5	101.6	104.0	102.1	103.7	104.6	105.2	104.7	103.4	105.6	147.0
12500	101.1	102.0	102.4	101.4	102.8	104.7	102.2	102.1	104.7	103.7	103.6	102.7	104.3	147.5
16000	102.3	103.0	102.6	100.7	101.5	104.0	101.7	101.6	99.8	97.9	98.2	97.9	99.9	147.3
20000	99.9	101.0	100.8	99.7	100.4	101.9	100.0	97.5	96.5	94.4	93.5	94.8	96.2	146.9
25000	97.2	99.3	98.8	98.0	98.2	101.0	97.8	95.0	93.9	91.6	91.0	91.5	92.3	147.3
31500	96.3	98.4	97.2	96.7	94.4	97.0	93.9	92.3	92.1	88.5	88.3	87.9	89.1	148.0
40000	88.7	91.3	92.2	92.0	90.8	94.1	90.1	89.0	86.1	83.2	83.1	83.0	83.5	147.3
50000	87.0	89.3	89.1	88.7	85.1	89.1	84.4	83.3	83.2	80.0	79.9	79.6	79.5	147.8
63000	79.6	82.9	82.0	81.5	81.2	84.2	78.4	78.3	77.1	73.6	73.5	73.0	72.0	147.1
80000	72.3	75.3	76.1	75.0	73.1	77.9	72.1	71.4	67.3	63.8	63.7	63.2	62.2	147.0
OASPL	113.0	113.6	113.2	111.3	112.2	114.4	113.2	114.4	117.3	121.6	125.5	124.6	120.9	162.0
PNL	123.9	124.3	123.8	121.9	122.7	125.1	124.1	126.4	129.3	132.9	134.5	132.2	131.8	
PNLT	123.9	124.3	123.8	121.9	122.7	125.1	125.2	126.4	129.3	132.9	134.5	132.2	131.8	
DBA	195.1	198.1	198.3	197.4	195.8	199.9	194.4	193.7	191.2	187.8	187.7	187.3	186.5	

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 DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH222 TEST DATE = 04-18-83 LOCAT = C41 ANECH CH CONFIG = 19 MODEL = AX FLTVEL = 400. FPS
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 36.57 PAMB HG = 29.04 RELHUM = 39.2 PCT
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1933.4 FPS AE8 = 4.0 SQ IN
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2341.9 FPS AE18 = 19.9 SQ IN

RUNPT = 83F-400-1922 TAPE = X1922F TEST PT NO = 1922 NC = AE089 CORR FAN SPEED = RPM

P1185-03

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

IDENTIFICATION - 83F-400-1922 X19221

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.0	72.6	73.4	71.6	71.6	74.8	77.2	75.2	78.4	85.7	89.2	89.1	79.0	163.5
63	70.6	73.1	72.7	71.2	72.8	74.5	82.9	75.3	79.1	87.7	91.1	89.7	79.0	164.9
80	71.2	73.0	74.2	71.5	73.4	76.4	75.0	76.1	79.7	88.3	91.7	89.3	78.6	165.0
100	71.9	74.0	75.5	72.7	74.4	76.1	75.2	77.2	82.2	88.2	93.5	90.0	80.7	166.3
125	72.8	73.9	75.1	73.1	75.7	77.2	76.1	78.6	82.7	88.3	92.8	89.4	81.9	166.1
160	74.6	74.3	74.8	73.9	75.7	77.9	76.6	79.7	82.9	87.0	90.9	85.2	79.7	164.3
200	74.6	76.3	76.6	75.1	76.6	78.5	77.2	79.2	83.4	86.1	89.1	83.0	77.9	163.2
250	73.7	77.9	77.6	75.8	77.1	79.5	78.6	80.2	83.5	86.2	86.6	79.6	76.5	162.4
315	76.0	76.3	77.3	76.0	76.4	79.0	77.7	80.3	82.4	86.0	84.9	79.1	75.4	162.0
400	74.9	76.1	76.9	75.5	77.5	79.2	77.9	79.8	82.8	85.0	83.0	76.9	73.8	161.6
500	73.5	75.0	76.8	76.3	77.2	79.7	78.5	80.3	82.6	84.0	82.1	75.5	72.6	161.5
630	72.8	75.6	76.2	75.2	76.9	79.9	77.8	80.7	81.5	83.4	81.4	73.5	69.9	161.4
800	72.7	75.3	76.1	74.6	76.7	79.6	78.5	80.0	81.9	82.1	79.8	73.3	69.7	161.4
1000	73.1	75.5	76.8	75.4	77.2	80.0	78.3	80.3	80.8	81.1	77.9	71.6	68.3	161.5
1250	72.5	76.7	77.0	75.9	77.6	79.8	77.7	79.2	80.8	79.9	77.1	70.3	66.2	161.9
1600	71.0	75.7	77.2	76.0	77.8	80.4	78.2	79.2	79.0	77.7	74.5	68.8	63.1	162.3
2000	69.4	73.4	75.8	76.2	78.3	80.4	77.7	76.8	78.2	75.1	71.9	65.9	58.2	162.8
2500	68.4	72.8	74.8	74.4	76.0	78.7	76.2	75.2	72.0	67.7	64.3	58.0	48.5	162.6
3150	62.0	67.8	70.5	71.2	72.9	74.7	72.5	69.0	66.2	61.2	55.6	49.2	35.8	162.2
4000	52.2	60.6	63.9	65.4	67.0	70.2	66.5	62.5	59.0	52.9	46.1	36.2	16.6	162.6
5000	40.8	51.2	55.2	57.9	57.3	60.5	56.8	53.5	50.1	41.3	32.8	18.1		163.3
6300	15.0	29.6	37.8	42.0	43.2	47.4	42.5	39.0	31.7	21.4	9.4			162.6
8000		1.8	12.4	18.5	18.5	23.6	17.8	13.1	6.5					163.1
10000														162.4
12500														162.2
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	85.4	87.7	88.7	87.4	89.1	91.4	90.6	91.5	94.0	97.8	100.5	97.3	89.1	177.1
PNL	92.5	96.2	97.8	97.2	98.9	101.4	99.5	99.4	100.6	101.4	102.0	97.4	90.5	
PNLT	94.1	97.6	97.8	97.2	99.5	102.0	100.0	100.0	101.7	101.4	103.1	97.4	90.5	
DBA	81.6	84.8	86.1	85.3	87.1	89.5	87.5	88.6	89.8	90.4	89.2	83.3	78.8	

MODEL AREA = 268.1 SQ CM (41.6 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 5.804 FREQ SHIFT = -8

NASA DUAL FLOW THERMAL SHIELD/DFTAS-19/NAS3-22137

VEHICL = ADH222	TEST DATE = 04-18-83	LOCAT = C41 ANECH CH	CONFIG = 19	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = N0	PWL AREA = FULL SPHERE	TAMB F = 36.57	PAMB HG = 29.04	RELHUM = 39.2 PCT
WIND DIR = DEG	WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 = LBS	XNL = RPM	XNH = RPM	V8 = 1933.4 FPS	AE8 = 4.0 SQ IN	
FNRAMB = LBS	XNLR = RPM	XNHR = RPM	V18 = 2341.9 FPS	AE18 = 19.9 SQ IN	