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PERFORMANCE OF A TRANSONIC COMPRESSOR ROTOR WITH AN ASPECT RATIO OF 6.5

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16. Abstract

This report presents the overall and blade-element performances and the aerodynamic design parameters of a transonic rotor with an aspect ratio of 6.5, designed to investigate the effects of aspect ratio on range and performance. The rotor was designed for a total-pressure ratio of 1.53, an efficiency of 0.898, and a weight flow of 67.76 pounds per second.

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SUMMARY

The overall and blade-element performances are presented for a transonic compressor rotor designed to determine the feasibility of obtaining good aerodynamic performance with a high aspect ratio blade. The rotor was designed for a tip speed of 1151 feet per second, an aspect ratio (ratio of average blade height to radial projected chord) of 6.5 and an inlet hub-tip ratio of 0.40. Data were obtained for a range of speeds which varied from 50 to 100 percent of design speed.

Data from the original rotor configuration revealed extremely high losses in the region of the blade dampers which caused substantial flow redistribution through the blade row. In an effort to make some evaluation of the high aspect ratio blade concept in terms of performance characteristics, it was necessary to reduce the influence of the blade dampers on performance. The original rotor was modified by reducing the size of the blade dampers and the hub wall curvature through the rotor. The original rotor is designated herein as rotor 2 - mod 1.

At design speed the modified rotor configuration achieved a peak efficiency of 0.877 at a pressure ratio of 1.5 and weight flow of 70.77 pounds per second. The design values of efficiency, pressure ratio, and weight flow were 0.898, 1.53, and 67.76 pounds per second respectively. Results from this investigation indicate that high aspect ratio rotor blading has the potential of producing good aerodynamic performance.

INTRODUCTION

The Lewis Research Center is engaged in a research program on axial flow fans and compressors for advanced air breathing engines. The program is directed primarily toward providing new technology to permit reducing the size and weight of these components while maintaining a high level of performance. One method for reducing the

axial length and therefore the size and weight of a compressor is the use of high aspect ratio blading.

To obtain a high level of performance from the compressor, it is necessary to control the blade loading for a given rotative speed and pressure ratio. This generally requires that the meridional velocity ratio across the blade row be held close to unity, and is accomplished by annulus contraction across the blade row. The combination of high aspect ratio (short chord) and annulus contraction results in large wall curvature and high axial pressure gradients.

A comparison of the performances of two aerodynamically similar rotors with different aspect ratio was made in reference 1. The comparison showed that an increase in aspect ratio resulted in a decrease in the operating range between the stall and maximum flow conditions, but no loss in rotor peak efficiency. The aspect ratios for the two rotors were 2.1 and 0.84. These two rotors are of the type used for rear stages of a multistage compressor and consequently have small wall curvature.

An analytical study of aspect ratio and wall curvature variation for axial flow compressor inlet stages was made in reference 2. The study showed that for a high aspect ratio and large wall curvatures, large radial gradients of velocities exist at both rotor inlet and exit. However, the study did not indicate any basic limit of aspect ratio for acceptable design performance.

The purpose of this investigation is to evaluate the feasibility of obtaining good aerodynamic performance for a transonic compressor rotor using high aspect ratio blading. The rotor was designed for an aspect ratio of 6.5, an inlet hub-tip ratio of 0.4 and a design tip speed of 1151 feet per second. The design pressure ratio is 1.53, and the efficiency is 0.898.

Initial testing of the original rotor configuration revealed extremely high losses in the region of the blade dampers, which resulted in substantial flow redistribution through the blade row. In an effort to make an evaluation of the high-aspect-ratio blade concept in terms of performance characteristics, it was necessary to reduce the influence of the blade dampers on performance. The original rotor was modified by thinning the blade dampers and reducing the hub wall curvature through the rotor. The original rotor configuration is designated rotor 2 and the modified configuration is designated rotor 2 - mod 1.

Both overall and blade-element performance are presented over the stable operating flow range at rotative speeds that varied from 50 to 100 percent of design speed for rotor 2 and from 90 to 100 percent of design speed for rotor 2 - mod 1. Testing of rotor 2 - mod 1 was terminated because of a blade failure.

AERODYNAMIC DESIGN

Original Design

The flow path for rotor 2 is shown in figure 1. The rotor top diameter is 20 inches, and the design tip speed is 1151 feet per second. The rotor was designed for a pressure ratio of 1.53, an efficiency of 0.898, and a weight flow of 67.76 pounds per second (39.37(lb/sec)/ft^2 of annulus area). The aspect ratio (ratio of average blade height to radial projected chord) is 6.5. The design parameters for rotor 2 are presented in tables I to III. The velocity diagrams were calculated based on the equations of motion, energy, and continuity. The effects of streamline curvature, entropy, and enthalpy gradients were included in the calculation of the velocity diagrams.

The rotor inlet and exit blade angles (table III) were obtained in the following manner: Velocity diagram calculations were made at two axial stations approximating the rotor blade leading- and trailing-edge locations. The streamline curvatures at the hub and tip for each of the two calculation stations were determined from the flow path wall and assumed to vary linearly with radius. These velocity diagrams and the double circular-arc airfoil geometry were used to determine incidence and deviation angles based on a correlation of low-speed, two-dimensional cascade data from reference 3.

After the completion of the original design, another flow field calculation program became available, and the velocity diagram calculations were repeated using 10 calculation stations and 10 equal-flow streamtubes. The streamline curvature boundary conditions were specified four blade-chord lengths (4-in.) upstream of the rotor leading edge and four chord lengths downstream of the rotor trailing edge. The walls of the flow path are straight at the axial locations where the streamline curvature boundary conditions are specified (fig. 1). The streamline curvature at all other axial stations, including those stations that approximate the rotor leading- and trailing-edge locations, was calculated based on a spline fit through the r-z coordinate at each calculation station for an equal weight flow increment. The calculated streamline curvatures using this technique (10 calculation stations) were considered to be a better representation of the actual flow streamlines than those obtained by the previous method (two calculation stations). Therefore, the rotor inlet and exit velocity diagrams obtained by the technique which uses 10 calculation stations are referred to as the "design velocity diagram" (table II) even though they were not used to determine the blade shape. The incidence and deviation angles listed as design values (table III) were obtained based on fluid angles from the "design velocity diagrams" and existing blade angles.

Modification

Test data from the original rotor configuration (rotor 2) presented herein, revealed that the performance for this configuration was deficient over most of the blade span. One of the major factors that contributed to this deficiency was the large loss in total pressure in the region of the blade damper and the resulting redistribution of flow through the blade row. In order to make an evaluation of the high-aspect-ratio-blade concept in terms of performance characteristics it was desirable to reduce the influence of the blade dampers on the performance of the blade row.

The design of rotor 2 was modified by decreasing the size of the blade dampers and decreasing the hub wall curvature through the blade row. The reduction in damper size was intended to reduce the losses associated with the damper. The decrease in hub wall curvature was intended to reduce the radial component of velocity and therefore the radial extent of the damper effects. The newly acquired flow field calculation program was used to determine the coordinates for the modified hub contour. The modified configuration is defined herein as rotor 2 - mod 1.

APPARATUS AND PROCEDURE

Test Facility

A schematic of the test facility is shown in figure 2. Air enters the test facility at an inlet located on the roof of the building. The air passes through a flow measuring station consisting of a thin-plate orifice, through an inlet throttle valve, and then into a plenum chamber. The air then passes through the test section and into a collector and is exhausted to the atmosphere. A 15 000-horsepower synchronous motor and gearbox are used to drive the research compressor rotor.

Test Rotor

A photograph of rotor 2 is shown in figure 3(a). Vibration dampers were located at 35-percent span from the rotor tip. A schematic showing the flow paths for the two configurations and indicating the change in the damper size is presented in figure 3(b).

Instrumentation

The axial locations of survey instrumentation are shown in figure 1, and the circumferential locations are shown in figure 4. In the plenum chamber two pressure taps and two thermocouples were installed to measure plenum pressure and temperature. At the rotor inlet (station 1), a wedge probe (fig. 5) was used to measure static pressure. At the rotor outlet (station 2) two cobra probes (fig. 6) were used to measure total pressure, total temperature, and flow angle. Static pressure at station 2 was measured by two wedge probes. One inner wall and one outer wall static-pressure tap were provided at each of the survey planes. A hot film probe was located at the inlet survey plane for use in determining stall.

Strain-gage transducers were used in measuring pressures. Iron-constantan thermocouples were used in conjunction with a constant temperature (610° R) oven to determine temperature. Flow through the compressor was determined from a thin-plate orifice measurement.

Compressor speed was indicated with the use of a magnetic pickup in conjunction with a gear mounted on the drive-motor shaft. All data were measured by an automatic digital potentiometer and recorded on paper tape. The overall accuracy of the measurements is estimated to be

Inlet pressure, psi	±0.05
Outlet pressure, psi	±0.10
Temperature, °R	±1.0
Weight flow, lb/sec	±1.0
Speed, rpm	±50
Flow angle, deg	±2

An indication of the consistency of the data can be observed by comparing the integrated weight flow at each measuring station to the orifice weight flow in tables IV and V.

Test Procedure

Compressor test data were taken over a range of weight flows from maximum flow to stall conditions. For each weight flow measurements were recorded at 11 radial positions. Data were obtained at 50 to 100 percent of design speed.

All probes were inserted into the flow stream simultaneously. The stall points were established by increasing the back pressure on the compressor until a rapid fluctuation was noted in the signal from a hot-film gage located at the rotor inlet. Also, fluctuations in compressor discharge pressure and blade stress were observed when stall was en-

countered. The flow at which this condition occurred was indicated on an X-Y plotter, which recorded the compressor discharge pressure as a function of weight flow. When the stalled conditions were noted, the discharge throttle was immediately opened. The weight flow was then set to within 1 pound of the weight flow at which stall occurred to obtain the blade-element performance near stall.

Calculation Procedure

Measured outlet total temperature and total pressures were corrected for Mach number and streamline slope. The stream static pressure was corrected for Mach number and streamline slope based on an average calibration of the probes used. The corrected static pressure in the hub region at the rotor exit differed significantly from the measured inner wall static pressure. This difference is attributed to the combination of high streamline slopes and high Mach numbers in the hub region. Consequently, the outlet static pressures in the hub region used for data calculations were obtained from fairing between the corrected static pressure at 70 percent of span and the measured inner wall static pressure.

Overall total-pressure and total-temperature ratios were obtained from a mass average of the survey data at the rotor exit and the pressure and temperature measured in the inlet plenum.

The overall performance and the blade-element performance were calculated in accordance with the performance equations as defined in appendix A. The blade-element data are based on the calculated flow parameters at planes approximating the blade leading and trailing edges.

The translation of flow parameters from the measuring stations to the blade leading- and trailing-edge planes were made using the following assumptions: The actual radii and slopes of the streamlines were assumed to correspond to those of the design streamlines in table II. The total pressure, total temperature, and angular momentum of flow along any given streamline were assumed to be constant between the measuring station and the blade edge. The ratio of the weight flow per unit area (static density times axial velocity) at the measuring station to the weight flow per unit area at the blade edge along any given streamline was assumed to equal the value calculated from the flow parameters in design. The calculation of the flow parameters at the blade edges permits more accurate calculation of incidence angles, deviation angles, and such parameters as diffusion factor.

RESULTS AND DISCUSSION

The results of this investigation are presented in the forms of overall performance and radial distributions of performance parameters. A comparison of the performances for rotor 2 and rotor 2 - mod 1 is made to evaluate the change in performance characteristics resulting from the use of smaller blade dampers and a less severe hub contour.

All plotted data and some additional performance parameters are presented in tabular form. The overall performance data are presented in tables IV and V and the blade-element data are presented in tables VI and VII.

Overall Performance

The overall performance for rotor 2 is presented in figure 7. Total-pressure ratio, total-temperature ratio, and temperature-rise efficiency are plotted as functions of equivalent weight flow. Data are presented for 50, 70, 80, 90, and 100 percent of design speed. The design point is shown as a solid symbol. The peak efficiency for the rotor at design speed was 0.835. Peak efficiency at design speed occurred at an equivalent weight flow of 71.4 pounds per second (the design weight flow was 67.76 lb/sec). Total-pressure ratio and temperature ratio at the peak efficiency weight flow were 1.431 and 1.129, respectively, as compared with design values of 1.53 and 1.44. Stall margin at design speed was calculated to be 21.7 percent based on the weight flows and pressure ratios at peak efficiency and the near stall condition.

Radial Distributions

The radial distributions of several performance parameters are presented in figure 8 for three weight flows at design speed. The design distributions are represented by solid symbols. The performance parameters presented as a function of percent span at the rotor exit are temperature-rise efficiency, temperature ratio, pressure ratio, suction-surface incidence angle, meridional velocity ratio, deviation angle, total loss coefficient, total loss parameter, and diffusion factor.

At the weight flow corresponding to peak efficiency (71.4 lb/sec), the total-pressure ratio and efficiency were less than design over the entire blade span. The energy addition, which was indicated by the temperature ratio, was less than design in the region of the damper and was close to design in the hub and tip region. The rotor diffusion factor was generally less than design except at 30 and 90 percent span. Total loss coefficient and consequently the total loss parameter was greater than design over the entire span.

Deviation angle was less than design in the tip region and larger than design in the damper and hub region of the blade. The meridional velocity ratio was larger than design over the entire span except at the 90 percent span location and the damper region. The lower than design deviation angles in the tip region did not result in a higher than design temperature ratio because of the higher than design meridional velocity ratio in this region of the blade. The large total-pressure wake in the region of the dampers was due to high losses and lower energy addition in this region of the blade.

At the near stall weight flow (59.6 lb/sec) values of total loss coefficient in the region of the blade dampers are substantially larger than those for peak efficiency weight flow (71.4 lb/sec) and those high values extend over a much larger portion of the blade span. The large region of high losses associated with the blade dampers results a substantial redistribution of flow through the blade row, wherein more flow is passing through the tip region and consequently the diffusion factor (blade loading) in this region is less at the near-stall weight flow than at the peak efficiency weight flow. This indicates that stall is probably initiated by the flow conditions in the region of the blade dampers.

Comparison of Performance for Rotor 2 and Rotor 2 - Mod 1

The overall performance for rotor 2 and rotor 2 - mod 1 are compared in figure 9 for 90 and 100 percent of design speed. The data for rotor 2 - mod 1 shows a significant improvement in performance as compared to rotor 2 at both speeds. At design speed, the peak efficiency increased about 4 percentage points (0.835 to 0.877). The pressure ratio at peak efficiency increased from 1.431 to 1.495. The weight flow at which peak efficiency occurred was approximately the same (71 lb/sec) for both rotor configurations.

Radial distributions of total-pressure ratio, total-temperature ratio, adiabatic efficiency, diffusion factor, total-loss coefficient, meridional velocity ratio, rotor inlet meridional velocity, and suction-surface incidence angles are presented in figure 10 for peak efficiency conditions at design speed for both rotor configurations. Significant increases in the pressure ratio, efficiency and temperature ratio for rotor 2 - mod 1 over rotor 2 are shown. The increase in pressure ratio is substantial in the tip and damper region but relatively small in the hub region. The increase in efficiency was large in the damper region (0.50 to 0.76) and hub region (0.89 to 0.97) with little increase in the tip region. Both the pressure ratio and total-temperature ratio are increased in the tip region. The increase in total-temperature ratio is caused by a lower meridional velocity ratio resulting from more flow passing through the hub and damper region. The increase in efficiency in the hub region is attributed to a more favorable hub incidence angle as a result of more flow passing through the hub region.

Radial distributions of total-pressure ratio, total-temperature ratio, adiabatic efficiency, diffusion factor, and total loss coefficient for the two rotor configurations are presented in figure 11 for the near-stall conditions at design speed. The near-stall weight flow is 59.6 pounds per second for rotor 2 and 65 pounds per second for rotor 2 - mod 1. Although rotor 2 - mod 1 has a higher near-stall weight flow, the temperature ratio distributions are nearly the same over the entire span for the two rotor configurations.

The total pressure ratio for rotor 2 is less than that for rotor 2 - mod 1 over the entire span, and the largest difference occurred in the region of the dampers. The diffusion factor in the region of the dampers reaches a maximum value of 0.72 for rotor 2 and 0.61 for rotor 2 - mod 1. In the tip region the diffusion factors are 0.35 and 0.51 for rotor 2 and rotor 2 - mod 1, respectively. The lower tip diffusion factor for rotor 2 is the result of a flow redistribution wherein more flow migrates to the rotor tip region because of the extremely high losses in the damper region. This prevents the rotor tip meridional velocity ratio from decreasing as the weight flow is decreased and consequently results in lower tip diffusion factors. For rotor 2 - mod 1 the losses in the region of the dampers is not as severe and consequently the flow redistribution is not as extreme. Thus the blade loading (diffusion factor) in the tip region increases in the normal manner as the overall weight flow is decreased and as a result rotor 2 - mod 1 stalls at a higher weight flow than rotor 2.

Blade-Element Data

Blade-element data for both rotor configurations are presented in tabular form in tables VI and VII for the purpose of documentation. Because of the strong influence of the blade dampers on the performance characteristics of rotor 2, no comparison of performance parameters as a function of incidence angles are made for the two configurations.

SUMMARY OF RESULTS

The overall and blade-element performances of a high aspect ratio axial flow compressor rotor have been presented. The rotor was designed for a tip speed of 1151 feet per second, an inlet hub-tip ratio of 0.4, and a pressure ratio of 1.53. The original rotor configuration (rotor 2) had large hub wall curvature and relatively large blade dampers. The modified rotor configuration (rotor 2 - mod 1) had smaller hub wall curvature and blade dampers. Radial surveys of the flow conditions at the rotor inlet and exit were made over the rotor stable operating flow range from 50 to 100 percent of design speed.

Flow and performance parameters were calculated across a number of selected blade elements. The following principal results were obtained:

1. At design speed the peak efficiency for rotor 2 - mod 1 was 0.877 and occurred at a pressure ratio of 1.495 and weight flow of 70.77 pounds per second. The design values of pressure ratio, weight flow, and efficiency were 1.53, 67.76 pounds per second and 0.898 respectively;

2. The losses for rotor 2 was extremely large in the region of the blade dampers, resulting in large flow redistributions through the blade row. The decrease in blade damper size and hub wall curvature through the blade row resulted in a substantial increase in overall pressure ratio and efficiency;

3. The investigation indicate that high aspect ratio compressor blades have potential for producing good aerodynamic performance.

Lewis Research Center,
National Aeronautics and Space Adminstration,
Cleveland, Ohio, February 22, 1974,
501-24.

APPENDIX A

SYMBOLS

A_{an}	annulus area at rotor inlet, 1.833 ft^2
A_{fr}	frontal area at rotor inlet, 2.182 ft^2
C_p	specific heat at constant pressure, 0.24 Btu/(lb)(^oR)
D	diffusion factor
g	acceleration of gravity, 32.18 ft/sec^2
i_{mc}	incidence angle, angle between inlet air direction and line tangent to blade mean camber line at leading edge, deg
i_{ss}	incidence angle, angle between inlet air direction and line tangent to blade suction surface at leading edge, deg
J	mechanical equivalent of heat, 778.16 ft-lb/Btu
N	rotor speed, rpm
P	total pressure, psia
p	static pressure, psia
R	gas constant, 53.35 ft-lb/(lb)(^oR)
r	radius, in.
SM	stall margin
T	total temperature, ^oR
U	rotor speed, ft/sec
V	air velocity, ft/sec
W	weight flow, lb/sec
X-factor	ratio of suction-surface camber ahead of assumed shock location of multiple-circular-arc blade section to that of a double-circular-arc blade section
Z	displacement along compressor axis, in.
α_c	cone angle, deg
α_s	streamline slope, deg
β	air angle, angle between air direction and meridional plane, deg

β'_c	relative meridional air angle based on cone angle, arctan (tan β'_m cos α_c/cos α_s), deg
γ	ratio of specific heats, 1.40 Btu/(lb)($^{\circ}$R)
γ_b	blade setting angle, deg
δ	ratio of plenum total pressure to standard pressure of 14.69 psia
δ°	deviation angle, angle between exit air direction and tangent to blade mean camber line at trailing edge, $(\beta'_c)_{TE} - (\kappa_{mc})_{LE}$, deg
η	efficiency
θ	ratio of plenum total temperature to standard temperature (518.7° R)
κ_{mc}	angle between blade mean camber line at leading or trailing edge and meridional plane, deg
κ_{ss}	angle between blade suction-surface camber line at leading edge and meridional plane, deg
σ	solidity, ratio of chord to spacing
$\overline{\omega}$	total loss coefficient
$\overline{\omega}_p$	profile loss coefficient
$\overline{\omega}_s$	shock loss coefficient

Subscripts:

ad	adiabatic (temperature rise)
id	ideal
LE	leading edge
m	meridional direction
mom	momentum rise
TE	blade trailing edge
θ	tangential direction

Superscript:

'	relative to rotor

APPENDIX B

PERFORMANCE PARAMETER

The performance parameters referred to in the main text are defined as follows:

Incidence angle based on suction-surface blade angle -

$$i_{ss} = (\beta'_c)_{LE} - (\kappa_{ss})_{LE} \tag{B1}$$

Incidence angle based on mean blade angle -

$$i_{mc} = (\beta'_c)_{LE} - (\kappa_{mc})_{LE} \tag{B2}$$

Deviation -

$$\delta^o = (\beta'_c)_{TE} - (\kappa_{mc})_{TE} \tag{B3}$$

Diffusion factor -

$$D = 1 - \frac{V'_{TE}}{V'_{LE}} + \left| \frac{(rV_\theta)_{TE} - (rV_\theta)_{LE}}{(r_{LE} + r_{TE})\sigma V'_{LE}} \right| \tag{B4}$$

Total loss coefficient -

$$\overline{\omega} = \frac{(P'_{id})_{TE} - p'_{TE}}{P'_{LE} - p_{LE}} \tag{B5}$$

Profile loss coefficient -

$$\overline{\omega}_p = \overline{\omega} - \overline{\omega}_s \tag{B6}$$

Total loss parameter -

$$\frac{\overline{\omega} \cos (\beta'_m)_{TE}}{2\sigma} \tag{B7}$$

Profile loss parameter -

$$\frac{(\omega - \omega_s) \cos (\beta'_m)_{TE}}{2\sigma} \tag{B8}$$

Adiabatic efficiency -

$$\eta_{ad} = \frac{\left(\frac{P_{TE}}{P_{LE}}\right)^{(\gamma-1)/\gamma} - 1}{\frac{T_{TE}}{T_{LE}} - 1} \tag{B9}$$

Stall margin -

$$SM = \left[\frac{\left(\frac{P_{TE}}{P_{LE}}\right)_{STALL}}{\left(\frac{P_{TE}}{P_{LE}}\right)_{REF}} \times \frac{\left(\frac{W\sqrt{\theta}}{\delta}\right)_{REF}}{\left(\frac{W\sqrt{\theta}}{\delta}\right)_{STALL}} - 1 \right] \times 100 \tag{B10}$$

Momentum rise efficiency -

$$\eta_{mom} = \frac{\left(\frac{P_{TE}}{P_{LE}}\right)^{(\gamma-1)/\gamma} - 1}{\frac{(UV_\theta)_{TE} - (UV_\theta)_{LE}}{T_{LE} g J C_p}} \tag{B11}$$

Equivalent weight flow -

$$\frac{W\sqrt{\theta}}{\delta} \tag{B12}$$

Equivalent rotative speed -

$$\frac{N}{\sqrt{\theta}} \tag{B13}$$

Equivalent weight flow per unit annulus area -

$$\frac{W\sqrt{\theta}}{A_{an}\delta} \tag{B14}$$

Equivalent weight flow per unit frontal area -

$$\frac{W\sqrt{\theta}}{A_{fr}\delta} \tag{B15}$$

APPENDIX C

DEFINITIONS AND UNITS USED IN TABLES

ABS	absolute
AERO CHORD	aerodynamic chord, in.
AREA RATIO	ratio of actual flow area to critical area (where local Mach number is 1)
BETAM	meridional air angle, deg
CONE ANGLE	angle between axial direction and conical surface representing blade element, deg
DELTA INC	difference between mean camber blade angle and suction-surface blade angle, deg
DEV	deviation angle (defined by eq. (B3)), deg
D-FACT	diffusion factor (defined by eq. (B4))
EFF	adiabatic efficiency (defined by eq. (B9))
IN	inlet (leading edge of blade)
INCIDENCE	incidence angle (suction surface defined by eq. (B1) and mean defined by eq. (B2))
KIC	angle between blade mean camber line and meridional plane at leading edge, deg
KOC	angle between blade mean camber line and meridional plane at trailing edge, deg
KTC	angle between blade mean camber line and meridional plane at transition point, deg
LOSS COEFF	loss coefficient (total defined by eq. (B5) and profile defined by eq. (B6))
LOSS PARAM	loss parameter (total defined by eq. (B7) and profile defined by eq. (B8))
MERID	meridional
MERID VEL R	meridional velocity ratio
OUT	outlet (trailing edge of blade)
PERCENT SPAN	percent of blade span from tip at rotor outlet

PHISS	suction-surface camber ahead of assumed shock location, deg
PRESS	pressure, psia
PROF	profile
RADII	radius, in.
REL	relative to blade
RI	inlet radius (leading edge plane), in.
RO	outlet radius (trailing edge plane), in.
RP	radial position
RPM	equivalent rotative speed, rpm
SETTING ANGLE	angle between aerodynamic chord and meridional plane, deg
SOLIDITY	ratio of aerodynamic chord to blade spacing
SPEED	speed, ft/sec
SS	suction surface
STREAMLINE SLOPE	slope of streamline, deg
TANG	tangential
TEMP	temperature, ^{o}R
TI	thickness of blade at leading edge, in.
TM	thickness of blade at maximum thickness, in.
TO	thickness of blade at trailing edge, in.
TOT	total
TOTAL CAMBER	difference between inlet and outlet blade mean camber line, deg
VEL	velocity, ft/sec
WT FLOW	equivalent weight flow, lbm/sec
X FACTOR	ratio of suction-surface camber ahead of assumed shock location of multiple-circular-arc blade section to that of double-circular-arc blade section
ZMC	axial distance to blade maximum thickness point from inlet, in.
ZOC	axial distance to blade trailing edge from inlet, in.
ZTC	axial distance to transition point from inlet, in.

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TABLE I. - DESIGN OVERALL PARAMETERS

FOR ROTOR 2

TOTAL PRESSURE RATIO.....	1.530
TOTAL TEMPERATURE RATIO	1.144
EFFICIENCY.....	0.898
WT FLOW PER UNIT FRONTAL AREA	31.060
WT FLOW PER UNIT ANNULUS AREA.....	36.976
WT FLOW	67.762
RPM.....	13190.000
TIP SPEED	1151.045

TABLE II. - DESIGN BLADE-ELEMENT PARAMETERS FOR ROTOR 2

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	RATIO	IN	RATIO
TIP	10.000	9.900	0.	34.7	62.4	51.4	518.7	1.149	14.69	1.530
1	9.760	9.647	0.	36.0	61.0	50.7	518.7	1.148	14.69	1.530
2	9.475	9.395	0.	37.2	59.5	49.7	518.7	1.148	14.69	1.530
3	8.912	8.889	-0.	39.5	57.1	46.8	518.7	1.147	14.69	1.530
4	8.348	8.384	-0.	41.5	55.3	42.6	518.7	1.147	14.69	1.530
5	8.207	8.258	-0.	42.0	54.9	41.4	518.7	1.147	14.69	1.530
6	8.064	8.131	-0.	42.5	54.5	40.2	518.7	1.147	14.69	1.530
7	7.922	8.005	-0.	43.0	54.2	38.8	518.7	1.146	14.69	1.530
8	7.781	7.879	-0.	43.5	53.8	37.4	518.7	1.146	14.69	1.530
9	7.207	7.373	-0.	45.6	52.4	31.0	518.7	1.146	14.69	1.530
10	6.615	6.868	-0.	47.4	50.9	23.0	518.7	1.144	14.69	1.530
11	4.724	5.352	-0.	47.5	47.1	-6.2	518.7	1.134	14.69	1.530
HUB	4.000	4.847	-0.	46.1	46.3	-14.7	518.7	1.131	14.69	1.530

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
TIP	602.3	712.0	1299.1	938.9	602.3	585.3	0.	405.4	1151.0	1139.5
1	622.6	704.6	1284.4	899.9	622.6	570.1	0.	414.1	1123.4	1110.5
2	641.5	700.6	1265.3	862.2	641.5	557.8	0.	423.9	1090.6	1081.4
3	662.5	702.1	1221.1	791.4	662.5	541.9	-0.	446.5	1025.8	1023.2
4	664.5	714.2	1168.3	727.2	664.5	535.3	-0.	472.9	960.9	965.0
5	663.0	717.5	1154.1	711.4	663.0	533.4	-0.	479.9	944.7	950.5
6	660.9	721.1	1139.5	695.9	660.9	531.8	-0.	487.0	928.2	936.0
7	658.3	724.9	1124.6	680.8	658.3	530.2	-0.	494.4	911.9	921.4
8	654.7	729.2	1109.4	666.2	654.7	529.0	-0.	501.9	895.6	906.9
9	639.0	747.6	1047.1	610.0	639.0	522.8	-0.	534.5	829.6	848.7
10	618.2	772.4	980.8	568.4	618.2	523.1	-0.	568.3	761.4	790.6
11	504.7	928.4	741.9	631.4	504.7	627.8	-0.	684.0	543.8	616.1
HUB	439.9	1035.0	636.8	741.6	439.9	717.4	-0.	746.0	460.4	557.9

	ABS MACH NO		REL MACH NO		MERID MACH NO		STREAMLINE SLOPE		MERID PEAK SS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO
TIP	0.556	0.617	1.199	0.814	0.556	0.507	-4.60	-4.80	0.972	1.518
1	0.576	0.611	1.188	0.780	0.576	0.494	-3.60	-3.50	0.916	1.482
2	0.595	0.607	1.173	0.747	0.595	0.483	-2.50	-2.45	0.870	1.454
3	0.615	0.609	1.134	0.686	0.615	0.470	0.25	0.50	0.818	1.425
4	0.617	0.620	1.086	0.631	0.617	0.465	3.80	3.40	0.806	1.431
5	0.616	0.623	1.072	0.618	0.616	0.463	4.30	4.20	0.805	1.435
6	0.614	0.626	1.058	0.605	0.614	0.462	5.20	5.00	0.805	1.441
7	0.611	0.630	1.044	0.592	0.611	0.461	6.30	5.80	0.805	1.449
8	0.608	0.634	1.030	0.579	0.608	0.460	7.30	6.80	0.808	1.459
9	0.592	0.652	0.970	0.532	0.592	0.456	11.00	10.70	0.818	1.387
10	0.572	0.676	0.907	0.497	0.572	0.458	15.50	15.60	0.846	1.351
11	0.462	0.833	0.679	0.567	0.462	0.564	32.00	37.20	1.244	1.036
HUB	0.400	0.946	0.579	0.678	0.400	0.656	38.60	46.40	1.631	0.837

	PERCENT	INCIDENCE		DEV	D-FACT	EFF	LOSS COEFF		LOSS PARAM	
RP	SPAN	MEAN	SS				TOT	PROF	TOT	PROF
TIP	0.	2.0	-0.1	1.3	0.390	0.868	0.099	0.044	0.022	0.010
1	5.00	1.9	-0.2	1.2	0.413	0.872	0.097	0.050	0.022	0.011
2	10.00	2.1	-0.0	1.4	0.434	0.875	0.096	0.055	0.021	0.012
3	20.00	2.6	0.3	2.1	0.471	0.879	0.096	0.065	0.022	0.015
4	30.00	3.3	0.8	3.0	0.502	0.881	0.100	0.073	0.023	0.017
5	32.50	3.5	1.0	3.3	0.510	0.881	0.102	0.075	0.023	0.017
6	35.00	3.7	1.2	3.5	0.517	0.882	0.103	0.077	0.023	0.018
7	37.50	4.0	1.3	3.8	0.524	0.883	0.104	0.079	0.024	0.018
8	40.00	4.2	1.5	4.1	0.531	0.883	0.106	0.081	0.024	0.018
9	50.00	5.2	2.2	5.4	0.555	0.887	0.111	0.099	0.025	0.023
10	60.00	6.4	2.9	6.6	0.564	0.897	0.111	0.106	0.025	0.024
11	90.00	10.6	3.4	7.9	0.311	0.965	0.056	0.056	0.009	0.009
HUB	100.00	11.9	1.7	7.9	0.011	0.984	0.034	0.034	0.004	0.004

TABLE III. - BLADE GEOMETRY FOR ROTOR 2

RP	PERCENT SPAN	RADII RI	RO	BLADE ANGLES KIC	KTC	KOC	DELTA INC
TIP	0.	10.000	9.900	60.31	55.15	50.05	2.07
1	5.	9.734	9.647	58.77	54.04	49.32	2.10
2	10.	9.451	9.395	57.23	52.71	48.19	2.15
3	20.	8.880	8.889	54.39	49.55	44.70	2.30
4	30.	8.308	8.384	51.87	45.75	39.65	2.50
5	33.	8.168	8.258	51.28	44.73	38.20	2.54
6	35.	8.030	8.131	50.71	43.68	36.67	2.59
7	38.	7.892	8.005	50.15	42.60	35.06	2.63
8	40.	7.755	7.879	49.61	41.49	33.36	2.67
9	50.	7.193	7.373	47.16	36.38	25.59	3.00
10	60.	6.622	6.868	44.49	30.45	16.41	3.50
11	90.	4.708	5.352	35.36	10.55	-14.26	7.27
HUB	100.	4.000	4.847	32.21	4.44	-23.34	10.23

RP	BLADE THICKNESSES TI	TM	TO	AXIAL DIMENSIONS ZMC	ZTC	ZOC	CONE ANGLE
TIP	0.020	0.037	0.020	0.248	0.248	0.530	-6.411
1	0.020	0.037	0.020	0.257	0.257	0.545	-5.531
2	0.020	0.038	0.020	0.266	0.266	0.562	-3.612
3	0.020	0.039	0.020	0.286	0.286	0.602	0.599
4	0.020	0.041	0.020	0.306	0.306	0.647	4.884
5	0.020	0.041	0.020	0.310	0.310	0.658	5.733
6	0.020	0.041	0.020	0.315	0.315	0.668	6.522
7	0.020	0.042	0.020	0.319	0.319	0.679	7.252
8	0.020	0.042	0.020	0.323	0.323	0.690	7.923
9	0.020	0.045	0.020	0.344	0.344	0.739	11.459
10	0.020	0.049	0.020	0.366	0.366	0.789	15.435
11	0.020	0.083	0.020	0.402	0.402	0.838	35.893
HUB	0.020	0.111	0.020	0.392	0.392	0.799	43.582

RP	AERO CHORD	SETTING ANGLE	TOTAL CAMBER	SOLIDITY	X FACTOR	PHISS
TIP	0.954	55.17	10.26	1.374	1.000	8.98
1	0.953	54.04	9.46	1.408	1.000	8.21
2	0.949	52.71	9.04	1.443	1.000	7.66
3	0.947	49.55	9.69	1.527	1.000	7.37
4	0.950	45.75	12.22	1.631	1.000	8.03
5	0.950	44.73	13.08	1.657	1.000	8.24
6	0.950	43.68	14.04	1.684	1.000	8.47
7	0.950	42.60	15.09	1.712	1.000	8.75
8	0.949	41.49	16.25	1.740	1.000	9.02
9	0.956	36.38	21.57	1.881	1.000	10.10
10	0.969	30.45	28.07	2.058	1.000	11.11
11	1.072	10.55	49.62	3.052	1.000	11.68
HUB	1.126	4.43	55.55	3.647	1.000	11.03

TABLE IV. - OVERALL PERFORMANCE FOR ROTOR 2

(a) 100 Percent of design speed

Performance parameter	Reading				
	308	309	310	344	345
TOTAL PRESSURE RATIO	1.347	1.431	1.269	1.462	1.453
TOTAL TEMPERATURE RATIO	1.112	1.129	1.097	1.143	1.152
TEMP RISE EFFICIENCY	0.794	0.835	0.727	0.803	0.741
MOMENTUM RISE EFFICIENCY	0.784	0.832	0.717	0.904	0.814
WT FLOW PER UNIT FRONTAL AREA	33.844	32.963	34.045	31.588	27.493
WT FLOW PER UNIT ANNULUS AREA	40.757	39.696	40.999	38.040	33.109
WT FLOW AT ORIFICE	73.320	71.412	73.755	68.433	59.562
WT FLOW AT INLET	72.263	70.936	72.867	68.630	59.258
WT FLOW AT OUTLET	69.996	69.091	70.147	70.664	61.959
RPM	13129.490	13139.921	13130.389	13166.670	13167.872
PERCENT OF DESIGN SPEED	99.541	99.620	99.548	99.823	99.832

(b) 90 Percent of design speed

Performance parameter	Reading				
	272	277	278	361	354
TOTAL PRESSURE RATIO	1.313	1.363	1.273	1.183	1.364
TOTAL TEMPERATURE RATIO	1.096	1.112	1.088	1.071	1.126
TEMP RISE EFFICIENCY	0.846	0.828	0.810	0.696	0.737
MOMENTUM RISE EFFICIENCY	0.918	0.878	0.906	0.908	0.805
WT FLOW PER UNIT FRONTAL AREA	31.723	28.608	32.188	32.698	23.994
WT FLOW PER UNIT ANNULUS AREA	38.203	34.452	38.763	39.376	28.895
WT FLOW AT ORIFICE	68.725	61.978	69.733	70.836	51.982
WT FLOW AT INLET	68.115	62.106	69.408	70.481	51.606
WT FLOW AT OUTLET	68.379	63.208	68.738	69.195	54.494
RPM	11895.347	11888.411	11895.000	11854.065	11860.111
PERCENT OF DESIGN SPEED	90.185	90.132	90.182	89.872	89.917

(c) 80 Percent of design speed

Performance parameter	Reading				
	239	255	258	329	330
TOTAL PRESSURE RATIO	1.120	1.260	1.227	1.288	1.286
TOTAL TEMPERATURE RATIO	1.045	1.080	1.073	1.095	1.091
TEMP RISE EFFICIENCY	0.724	0.855	0.829	0.786	0.820
MOMENTUM RISE EFFICIENCY	0.846	0.929	1.009	0.837	0.888
WT FLOW PER UNIT FRONTAL AREA	31.785	27.823	29.703	22.286	24.407
WT FLOW PER UNIT ANNULUS AREA	38.278	33.507	35.770	26.838	29.393
WT FLOW AT ORIFICE	68.860	60.277	64.349	48.280	52.876
WT FLOW AT INLET	66.305	59.808	63.551	47.335	52.251
WT FLOW AT OUTLET	66.414	59.838	63.496	50.101	54.266
RPM	10637.096	10577.217	10590.646	10552.820	10562.001
PERCENT OF DESIGN SPEED	80.645	80.191	80.293	80.006	80.076

TABLE IV. - Concluded. OVERALL PERFORMANCE FOR ROTOR 2

(d) 70 Percent of design speed

Performance parameter	Reading				
	321	323	325	328	352
TOTAL PRESSURE RATIO	1.108	1.154	1.192	1.205	1.216
TOTAL TEMPERATURE RATIO	1.041	1.051	1.061	1.064	1.076
TEMP RISE EFFICIENCY	0.729	0.825	0.846	0.856	0.753
MOMENTUM RISE EFFICIENCY	1.000	1.024	1.003	0.973	0.819
WT FLOW PER UNIT FRONTAL AREA	28.932	27.287	24.829	23.401	18.607
WT FLOW PER UNIT ANNULUS AREA	34.842	32.861	29.901	28.180	22.408
WT FLOW AT ORIFICE	62.679	59.115	53.791	50.695	40.312
WT FLOW AT INLET	61.620	58.329	53.005	49.865	40.100
WT FLOW AT OUTLET	60.627	58.254	54.056	51.639	42.306
RPM	9251.683	9251.152	9230.818	9245.819	9220.589
PERCENT OF DESIGN SPEED	70.142	70.138	69.983	70.097	69.906

(e) 50 Percent of design speed

Performance parameter	Reading				
	190	192	194	315	317
TOTAL PRESSURE RATIO	1.071	1.089	1.103	1.055	1.114
TOTAL TEMPERATURE RATIO	1.023	1.027	1.032	1.020	1.040
TEMP RISE EFFICIENCY	0.877	0.908	0.900	0.755	0.790
MOMENTUM RISE EFFICIENCY	1.025	0.979	0.931	1.120	0.834
WT FLOW PER UNIT FRONTAL AREA	21.734	19.616	17.353	23.099	13.080
WT FLOW PER UNIT ANNULUS AREA	26.174	23.623	20.898	27.817	15.752
WT FLOW AT ORIFICE	47.086	42.496	37.595	50.043	28.338
WT FLOW AT INLET	44.969	41.735	37.822	48.816	25.650
WT FLOW AT OUTLET	44.520	40.670	36.630	48.156	29.522
RPM	6619.224	6619.059	6610.776	6682.738	6690.735
PERCENT OF DESIGN SPEED	50.184	50.182	50.120	50.665	50.726

TABLE V. - OVERALL PERFORMANCE ROTOR 2 - MOD 1

(a) 100 Percent of design speed

Performance parameter	Reading				
	1055	1057	1058	1059	1060
TOTAL PRESSURE RATIO	1.329	1.442	1.495	1.510	1.515
TOTAL TEMPERATURE RATIO	1.117	1.133	1.139	1.147	1.148
TEMP RISE EFFICIENCY	0.725	0.830	0.877	0.853	0.852
MOMENTUM RISE EFFICIENCY	0.783	0.832	0.857	0.825	0.815
WT FLOW PER UNIT FRONTAL AREA	33.727	33.431	32.668	31.146	30.243
WT FLOW PER UNIT ANNULUS AREA	42.860	42.484	41.514	39.579	38.433
WT FLOW AT ORIFICE	73.067	72.426	70.772	67.474	65.520
WT FLOW AT INLET	72.931	72.289	70.535	67.169	64.834
WT FLOW AT OUTLET	70.564	71.399	71.359	67.172	65.985
RPM	13168.386	13199.023	13132.878	13160.468	13157.465
PERCENT OF DESIGN SPEED	99.836	100.068	99.567	99.776	99.753

(b) 90 Percent of design speed

Performance parameter	Reading				
	1046	1047	1048	1050	1052
TOTAL PRESSURE RATIO	1.174	1.263	1.321	1.397	1.391
TOTAL TEMPERATURE RATIO	1.076	1.090	1.098	1.111	1.117
TEMP RISE EFFICIENCY	0.614	0.771	0.842	0.900	0.847
MOMENTUM RISE EFFICIENCY	0.826	0.858	0.872	0.880	0.820
WT FLOW PER UNIT FRONTAL AREA	32.537	32.449	32.170	30.079	27.430
WT FLOW PER UNIT ANNULUS AREA	41.347	41.235	40.881	38.224	34.858
WT FLOW AT ORIFICE	70.488	70.297	69.693	65.163	59.426
WT FLOW AT INLET	70.554	70.326	69.452	64.777	58.626
WT FLOW AT OUTLET	67.892	68.755	68.355	65.513	59.225
RPM	11872.717	11865.097	11867.864	11885.541	11872.889
PERCENT OF DESIGN SPEED	90.013	89.955	89.976	90.110	90.014

TABLE VI. - BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(a) 100 Percent of design speed; reading 308

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	25.2	61.3	50.2	518.7	575.5	14.69	18.96
2	9.475	9.395	0.	25.1	60.2	48.7	518.7	574.3	14.69	19.09
3	8.912	8.889	0.	24.0	57.2	47.7	518.7	568.0	14.69	18.93
4	8.348	8.384	0.	34.6	54.9	51.2	518.7	563.5	14.69	17.21
5	8.207	8.258	0.	48.4	53.9	64.4	518.7	560.7	14.69	15.15
6	8.064	8.131	0.	37.8	53.2	57.4	518.7	564.8	14.69	15.60
7	7.922	8.005	0.	28.0	52.5	42.9	518.7	569.9	14.69	18.11
8	7.781	7.879	0.	27.8	51.7	38.3	518.7	569.5	14.69	19.19
9	7.207	7.373	0.	33.5	49.2	30.0	518.7	582.5	14.69	20.39
10	6.615	6.868	0.	36.8	46.9	21.5	518.7	586.1	14.69	21.54
11	4.724	5.352	0.	45.1	46.2	1.2	518.7	582.7	14.69	21.20

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	612.1	732.7	1276.4	1035.4	612.1	663.1	0.	311.9	1120.1	1107.1
2	620.6	738.4	1249.8	1014.2	620.6	668.7	0.	313.2	1084.9	1075.7
3	657.2	722.0	1214.1	980.1	657.2	659.7	0.	293.4	1020.9	1018.2
4	672.7	604.7	1170.1	793.4	672.7	497.6	0.	343.6	957.4	961.5
5	685.4	443.8	1163.4	681.3	685.4	294.9	0.	331.7	940.0	945.9
6	690.3	504.1	1153.5	739.4	690.3	398.4	0.	308.9	924.2	931.8
7	697.3	712.3	1145.3	858.3	697.3	629.1	0.	334.1	908.5	918.0
8	703.0	774.9	1135.0	872.6	703.0	685.2	0.	361.9	891.1	902.3
9	712.4	817.5	1090.7	787.4	712.4	681.8	0.	450.9	825.8	844.8
10	709.4	859.6	1037.5	739.8	709.4	688.3	0.	514.9	757.1	786.0
11	517.9	846.9	748.8	597.6	517.9	597.5	0.	600.3	540.8	612.7

	ABS MACH NO		REL MACH NO		MERID MACH NO			MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT		VEL R	MACH NO	
1	0.566	0.649	1.179	0.917	0.566	0.587		1.083	1.487	0.690
2	0.574	0.655	1.156	0.900	0.574	0.593		1.077	1.464	0.725
3	0.610	0.643	1.127	0.873	0.610	0.588		1.004	1.422	0.789
4	0.626	0.534	1.088	0.701	0.626	0.440		0.740	1.418	0.535
5	0.638	0.388	1.084	0.596	0.638	0.258		0.430	1.406	0.109
6	0.643	0.441	1.075	0.647	0.643	0.349		0.577	1.405	0.194
7	0.651	0.633	1.068	0.762	0.651	0.559		0.902	1.403	0.623
8	0.656	0.694	1.060	0.781	0.656	0.613		0.975	1.400	0.808
9	0.666	0.727	1.019	0.700	0.666	0.606		0.957	1.408	0.798
10	0.663	0.766	0.969	0.659	0.663	0.613		0.970	1.390	0.888
11	0.474	0.755	0.686	0.533	0.474	0.533		1.154	1.082	0.894

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	2.3	0.2	0.7	0.275	0.176	0.130	0.040	0.029
2	8.75	9.99	2.8	0.6	0.5	0.275	0.158	0.119	0.036	0.027
3	18.13	20.01	2.7	0.4	3.0	0.272	0.114	0.084	0.025	0.018
4	27.53	30.00	2.9	0.4	11.5	0.412	0.236	0.211	0.045	0.041
5	29.88	32.50	2.5	-0.0	26.2	0.501	0.413	0.390	0.054	0.051
6	32.27	35.01	2.4	-0.2	20.8	0.439	0.412	0.390	0.066	0.063
7	34.63	37.50	2.3	-0.4	7.8	0.337	0.223	0.202	0.048	0.043
8	36.98	40.00	2.1	-0.6	4.9	0.324	0.117	0.096	0.026	0.022
9	46.55	50.01	2.0	-1.0	4.5	0.389	0.158	0.140	0.037	0.032
10	56.42	60.00	2.3	-1.2	5.1	0.409	0.101	0.089	0.023	0.020
11	87.93	90.01	9.7	2.5	15.5	0.343	0.156	0.156	0.026	0.026

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(b) 100 Percent of design speed; reading 309

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	32.7	61.4	47.7	518.7	593.9	14.69	21.29
2	9.475	9.395	0.	33.1	60.5	47.3	518.7	590.5	14.69	21.23
3	8.912	8.889	0.	31.7	57.5	46.3	518.7	581.7	14.69	20.83
4	8.348	8.384	0.	46.1	55.2	51.4	518.7	577.8	14.69	18.79
5	8.207	8.258	0.	47.2	54.8	58.0	518.7	574.3	14.69	17.63
6	8.064	8.131	0.	39.8	54.1	51.5	518.7	577.7	14.69	18.29
7	7.922	8.005	0.	34.5	53.4	43.2	518.7	578.1	14.69	19.80
8	7.781	7.879	0.	34.5	52.8	39.6	518.7	579.5	14.69	20.46
9	7.207	7.373	0.	37.5	50.3	29.9	518.7	588.1	14.69	21.36
10	6.615	6.868	0.	39.6	48.2	21.7	518.7	588.3	14.69	22.00
11	4.724	5.352	0.	47.2	47.6	-0.0	518.7	584.8	14.69	21.38

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	609.9	754.5	1274.9	943.7	609.9	634.6	0.	408.0	1119.5	1106.6
2	616.0	740.8	1249.4	915.3	616.0	620.4	0.	404.8	1087.0	1077.8
3	650.9	721.0	1212.4	887.9	650.9	613.6	0.	378.5	1022.9	1020.3
4	666.7	605.4	1166.9	672.3	666.7	419.6	0.	436.4	957.6	961.8
5	664.6	519.9	1152.2	667.3	664.6	353.5	0.	381.1	941.2	947.0
6	670.6	581.4	1143.0	716.9	670.6	446.5	0.	372.4	925.6	933.3
7	674.3	685.7	1131.7	774.3	674.3	564.9	0.	388.8	908.9	918.4
8	678.0	725.2	1121.2	775.2	678.0	597.7	0.	410.6	893.0	904.3
9	684.9	793.6	1072.8	725.6	684.9	629.3	0.	483.5	825.7	844.7
10	676.4	831.9	1015.0	689.7	676.4	640.7	0.	530.6	756.7	785.7
11	494.0	835.5	732.5	567.6	494.0	567.6	0.	613.2	540.9	612.8

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.563	0.658	1.178	0.824	0.563	0.554	1.040	1.489	0.771
2	0.569	0.647	1.155	0.800	0.569	0.542	1.007	1.471	0.801
3	0.604	0.634	1.125	0.781	0.604	0.539	0.943	1.431	0.863
4	0.620	0.528	1.085	0.586	0.620	0.366	0.629	1.424	0.640
5	0.618	0.452	1.071	0.580	0.618	0.307	0.532	1.429	0.498
6	0.624	0.506	1.063	0.624	0.624	0.389	0.666	1.427	0.567
7	0.627	0.603	1.053	0.680	0.627	0.496	0.838	1.427	0.776
8	0.631	0.639	1.044	0.683	0.631	0.527	0.882	1.429	0.847
9	0.638	0.700	0.999	0.640	0.638	0.555	0.919	1.441	0.844
10	0.629	0.737	0.945	0.611	0.629	0.567	0.947	1.398	0.910
11	0.451	0.743	0.669	0.505	0.451	0.505	1.149	1.087	0.887

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	2.4	0.3	-1.7	0.372	0.167	0.121	0.040	0.029
2	8.75	9.99	3.0	0.9	-0.9	0.379	0.145	0.104	0.034	0.024
3	18.13	20.01	3.0	0.7	1.6	0.370	0.093	0.062	0.021	0.014
4	27.53	30.00	3.1	0.6	11.8	0.539	0.236	0.210	0.045	0.040
5	29.88	32.50	3.4	0.8	19.9	0.521	0.313	0.288	0.050	0.046
6	32.27	35.01	3.3	0.7	14.8	0.470	0.289	0.265	0.054	0.049
7	34.63	37.50	3.2	0.6	8.1	0.417	0.157	0.133	0.033	0.029
8	36.98	40.00	3.1	0.5	6.2	0.415	0.112	0.089	0.025	0.020
9	46.55	50.01	3.1	0.1	4.3	0.445	0.136	0.116	0.031	0.027
10	56.42	60.00	3.7	0.2	5.3	0.450	0.086	0.075	0.019	0.017
11	87.93	90.01	11.1	3.9	14.2	0.372	0.177	0.177	0.029	0.029

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(c) 100 Percent of design speed; reading 310

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	18.2	61.1	50.7	518.7	560.3	14.69	17.14
2	9.475	9.395	0.	17.3	59.7	49.7	518.7	558.6	14.69	17.37
3	8.912	8.889	0.	16.4	56.6	48.9	518.7	554.3	14.69	17.13
4	8.348	8.384	0.	24.8	54.3	49.6	518.7	554.5	14.69	15.80
5	8.207	8.258	0.	36.5	53.6	59.8	518.7	548.2	14.69	13.79
6	8.064	8.131	0.	31.1	52.9	55.3	518.7	553.4	14.69	14.16
7	7.922	8.005	0.	22.2	52.2	46.8	518.7	558.6	14.69	15.70
8	7.781	7.879	0.	21.7	51.5	39.9	518.7	561.7	14.69	17.88
9	7.207	7.373	0.	29.6	49.0	30.8	518.7	575.8	14.69	19.50
10	6.615	6.868	0.	35.4	46.6	21.4	518.7	584.7	14.69	20.95
11	4.724	5.352	0.	44.6	46.0	1.0	518.7	582.9	14.69	21.07

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	619.5	751.7	1280.8	1128.1	619.5	714.1	0.	234.7	1121.1	1108.1
2	634.1	756.6	1257.5	1116.6	634.1	722.3	0.	225.2	1085.9	1076.7
3	672.9	737.5	1222.6	1075.1	672.9	707.4	0.	208.5	1020.7	1018.1
4	686.8	646.7	1177.4	904.9	686.8	586.9	0.	271.6	956.3	960.5
5	693.8	479.6	1168.8	765.3	693.8	385.5	0.	285.3	940.6	946.4
6	698.5	532.4	1158.9	799.7	698.5	455.7	0.	275.3	924.8	932.5
7	705.9	673.1	1151.3	911.1	705.9	623.2	0.	254.4	909.5	919.0
8	708.0	786.0	1138.0	952.4	708.0	730.3	0.	290.9	890.9	902.2
9	717.4	833.7	1093.6	844.5	717.4	725.1	0.	411.5	825.4	844.4
10	716.7	874.7	1042.3	765.5	716.7	712.9	0.	506.8	756.8	785.7
11	522.2	856.7	751.3	610.1	522.2	610.0	0.	601.6	540.2	612.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.573	0.677	1.184	1.016	0.573	0.643	1.153	1.482	0.562
2	0.587	0.683	1.165	1.008	0.587	0.652	1.139	1.453	0.636
3	0.626	0.667	1.137	0.972	0.626	0.640	1.051	1.408	0.654
4	0.640	0.579	1.097	0.810	0.640	0.525	0.855	1.403	0.303
5	0.647	0.425	1.090	0.679	0.647	0.342	0.556	1.399	-0.318
6	0.652	0.472	1.081	0.709	0.652	0.404	0.652	1.398	-0.157
7	0.659	0.602	1.075	0.814	0.659	0.557	0.883	1.396	0.248
8	0.661	0.710	1.063	0.860	0.661	0.660	1.031	1.395	0.695
9	0.671	0.747	1.023	0.757	0.671	0.650	1.011	1.402	0.764
10	0.670	0.782	0.975	0.684	0.670	0.637	0.995	1.387	0.837
11	0.478	0.765	0.688	0.545	0.478	0.545	1.168	1.080	0.876

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	2.0	-0.1	1.3	0.184	0.186	0.140	0.042	0.031
2	8.75	9.99	2.3	0.1	1.4	0.174	0.153	0.114	0.034	0.026
3	18.13	20.01	2.1	-0.2	4.1	0.176	0.136	0.107	0.029	0.023
4	27.53	30.00	2.3	-0.2	9.9	0.302	0.282	0.257	0.056	0.051
5	29.88	32.50	2.2	-0.4	21.6	0.419	0.434	0.411	0.066	0.063
6	32.27	35.01	2.1	-0.5	18.6	0.381	0.448	0.426	0.076	0.072
7	34.63	37.50	1.9	-0.7	11.8	0.274	0.343	0.322	0.069	0.064
8	36.98	40.00	1.9	-0.8	6.6	0.237	0.157	0.137	0.035	0.030
9	46.55	50.01	1.8	-1.2	5.3	0.329	0.166	0.149	0.038	0.034
10	56.42	60.00	2.0	-1.5	4.9	0.386	0.141	0.129	0.032	0.029
11	87.93	90.01	9.5	2.2	15.3	0.329	0.181	0.181	0.030	0.030

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(d) 100 Percent of design speed; reading 344

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	31.6	62.3	47.0	518.7	602.7	14.69	22.38
2	9.475	9.395	0.	32.6	61.3	47.2	518.7	602.3	14.69	22.13
3	8.912	8.889	0.	31.9	58.6	45.7	518.7	592.7	14.69	21.71
4	8.348	8.384	0.	46.4	56.7	54.1	518.7	583.6	14.69	19.10
5	8.207	8.258	0.	43.2	56.2	50.2	518.7	585.7	14.69	19.34
6	8.064	8.131	0.	38.3	55.6	45.7	518.7	586.8	14.69	20.04
7	7.922	8.005	0.	36.1	55.0	42.1	518.7	586.0	14.69	20.61
8	7.781	7.879	0.	35.4	54.4	40.2	518.7	587.6	14.69	20.88
9	7.207	7.373	0.	36.9	52.2	31.2	518.7	591.6	14.69	21.76
10	6.615	6.868	0.	38.2	50.1	25.0	518.7	592.3	14.69	21.92
11	4.724	5.352	0.	44.9	48.8	5.5	518.7	588.9	14.69	21.18

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	588.4	769.6	1265.8	961.6	588.4	655.3	0.	404.0	1120.7	1107.7
2	596.6	745.7	1241.8	924.4	596.6	628.2	0.	401.8	1089.1	1079.9
3	624.3	729.7	1198.3	887.1	624.3	619.7	0.	385.4	1022.8	1020.1
4	629.8	574.7	1147.1	675.3	629.8	396.4	0.	416.1	958.7	962.9
5	632.0	609.0	1135.6	693.3	632.0	444.0	0.	416.8	943.4	949.3
6	633.7	656.3	1122.7	737.4	633.7	515.1	0.	406.8	926.8	934.5
7	636.5	697.8	1110.7	759.4	636.5	563.9	0.	411.1	910.2	919.8
8	641.8	715.0	1101.2	762.3	641.8	582.6	0.	414.5	894.8	906.1
9	642.8	780.9	1048.5	729.9	642.8	624.3	0.	469.2	828.3	847.4
10	635.2	801.2	990.7	695.1	635.2	629.8	0.	495.2	760.3	789.4
11	474.7	794.8	721.0	565.8	474.7	563.2	0.	560.9	542.7	614.8

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.542	0.667	1.167	0.834	0.542	0.568	1.114	1.510	0.789
2	0.550	0.645	1.146	0.800	0.550	0.544	1.053	1.492	0.771
3	0.578	0.636	1.109	0.773	0.578	0.540	0.993	1.456	0.826
4	0.583	0.497	1.062	0.584	0.583	0.343	0.629	1.464	0.622
5	0.585	0.528	1.051	0.601	0.585	0.385	0.703	1.467	0.632
6	0.587	0.570	1.040	0.641	0.587	0.448	0.813	1.469	0.706
7	0.590	0.610	1.029	0.663	0.590	0.493	0.886	1.472	0.781
8	0.595	0.625	1.021	0.666	0.595	0.509	0.908	1.474	0.795
9	0.596	0.685	0.972	0.640	0.596	0.548	0.971	1.464	0.844
10	0.588	0.704	0.918	0.611	0.588	0.553	0.992	1.418	0.853
11	0.433	0.700	0.658	0.498	0.433	0.496	1.186	1.096	0.814

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	3.3	1.2	-2.5	0.352	0.172	0.123	0.041	0.030
2	8.75	9.99	3.9	1.7	-1.1	0.367	0.190	0.147	0.045	0.035
3	18.13	20.01	4.0	1.8	1.0	0.365	0.137	0.104	0.031	0.024
4	27.53	30.00	4.7	2.2	14.4	0.523	0.275	0.246	0.050	0.044
5	29.88	32.50	4.8	2.2	12.0	0.501	0.279	0.251	0.054	0.049
6	32.27	35.01	4.8	2.2	9.0	0.452	0.233	0.205	0.048	0.043
7	34.63	37.50	4.8	2.2	7.0	0.425	0.176	0.149	0.038	0.032
8	36.98	40.00	4.7	2.0	6.8	0.417	0.170	0.145	0.038	0.032
9	46.55	50.01	5.0	2.0	5.6	0.424	0.147	0.127	0.034	0.029
10	56.42	60.00	5.6	2.1	8.6	0.422	0.152	0.142	0.033	0.031
11	87.93	90.01	12.3	5.1	19.9	0.352	0.313	0.313	0.052	0.052

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(e) 100 Percent of design speed; reading 345

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	33.3	65.9	45.8	518.7	609.5	14.69	22.85
2	9.475	9.395	0.	34.2	65.1	46.3	518.7	604.1	14.69	22.48
3	8.912	8.889	0.	34.5	63.3	44.9	518.7	595.9	14.69	21.84
4	8.348	8.384	0.	52.4	62.8	52.8	518.7	601.3	14.69	18.93
5	8.207	8.258	0.	68.5	62.8	61.8	518.7	599.0	14.69	18.73
6	8.064	8.131	0.	63.9	61.9	55.5	518.7	600.2	14.69	18.96
7	7.922	8.005	0.	60.2	62.1	48.5	518.7	601.4	14.69	19.25
8	7.781	7.879	0.	56.8	61.5	43.9	518.7	602.2	14.69	19.49
9	7.207	7.373	0.	45.7	58.6	34.0	518.7	596.1	14.69	20.39
10	6.615	6.868	0.	41.6	55.5	25.3	518.7	591.8	14.69	21.47
11	4.724	5.352	0.	47.4	52.1	3.1	518.7	590.4	14.69	21.32

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	502.9	788.3	1230.0	944.2	502.9	658.9	0.	433.1	1122.5	1109.5
2	506.6	757.0	1201.1	905.2	506.6	625.8	0.	425.9	1089.0	1079.8
3	516.0	736.1	1146.4	855.5	516.0	606.3	0.	417.5	1023.8	1021.1
4	492.4	603.2	1078.5	609.6	492.4	368.2	0.	477.9	959.6	963.7
5	485.9	589.0	1061.8	456.3	485.9	215.9	0.	548.0	944.1	950.0
6	494.9	606.7	1049.7	471.6	494.9	267.1	0.	544.8	925.7	933.4
7	482.2	643.6	1030.2	482.4	482.2	319.6	0.	558.6	910.4	919.9
8	486.0	663.7	1017.5	504.0	486.0	363.1	0.	555.6	893.9	905.2
9	504.6	713.9	969.8	600.9	504.6	498.3	0.	511.3	828.2	847.3
10	522.3	776.9	922.9	642.8	522.3	581.3	0.	515.4	760.9	790.0
11	421.1	794.5	686.2	538.3	421.1	537.6	0.	585.1	541.8	613.8

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.460	0.681	1.125	0.816	0.460	0.569	1.310	1.599	0.769
2	0.463	0.655	1.099	0.783	0.463	0.541	1.235	1.587	0.784
3	0.472	0.640	1.050	0.744	0.472	0.527	1.175	1.580	0.806
4	0.450	0.515	0.986	0.520	0.450	0.314	0.748	1.625	0.471
5	0.444	0.503	0.970	0.390	0.444	0.185	0.444	1.622	0.464
6	0.452	0.519	0.959	0.403	0.452	0.228	0.540	1.601	0.481
7	0.440	0.551	0.941	0.413	0.440	0.274	0.663	1.602	0.503
8	0.444	0.569	0.929	0.432	0.444	0.311	0.747	1.589	0.522
9	0.462	0.619	0.887	0.521	0.462	0.432	0.988	1.530	0.658
10	0.478	0.681	0.845	0.564	0.478	0.510	1.113	1.462	0.812
11	0.383	0.699	0.624	0.474	0.383	0.473	1.276	1.110	0.812

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	6.8	4.7	-3.8	0.356	0.209	0.148	0.052	0.037
2	8.75	9.99	7.6	5.5	-2.0	0.368	0.192	0.138	0.046	0.033
3	18.13	20.01	8.7	6.4	0.2	0.373	0.170	0.123	0.039	0.029
4	27.53	30.00	10.8	8.3	13.2	0.571	0.503	0.456	0.093	0.085
5	29.88	32.50	11.4	8.8	23.6	0.727	0.510	0.466	0.073	0.067
6	32.27	35.01	11.1	8.5	18.9	0.706	0.509	0.471	0.086	0.079
7	34.63	37.50	11.9	9.2	13.5	0.691	0.509	0.472	0.099	0.092
8	36.98	40.00	11.8	9.1	10.6	0.663	0.505	0.471	0.105	0.098
9	46.55	50.01	11.5	8.5	8.4	0.522	0.373	0.353	0.083	0.078
10	56.42	60.00	11.0	7.5	8.8	0.441	0.216	0.207	0.047	0.045
11	87.93	90.01	15.7	8.4	17.4	0.365	0.351	0.351	0.058	0.058

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(f) 90 Percent of design speed; reading 272

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	23.0	60.6	48.2	518.7	570.8	14.69	19.11
2	9.475	9.395	0.	23.3	59.4	48.0	518.7	568.1	14.69	19.05
3	8.912	8.889	0.	22.3	56.4	47.0	518.7	562.6	14.69	18.73
4	8.348	8.384	0.	33.7	54.1	55.6	518.7	557.8	14.69	16.50
5	8.207	8.258	0.	39.6	53.4	56.7	518.7	557.3	14.69	16.11
6	8.064	8.131	0.	32.7	52.7	48.6	518.7	559.7	14.69	17.05
7	7.922	8.005	0.	26.4	52.1	41.7	518.7	561.3	14.69	18.50
8	7.781	7.879	0.	26.4	51.4	39.2	518.7	563.0	14.69	18.93
9	7.207	7.373	0.	30.1	49.0	29.9	518.7	572.3	14.69	19.99
10	6.615	6.868	0.	33.1	47.1	23.0	518.7	573.1	14.69	20.43
11	4.724	5.352	0.	41.7	47.1	4.7	518.7	572.5	14.69	19.93

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	570.8	706.2	1163.4	974.2	570.8	650.0	0.	276.3	1013.8	1002.0
2	582.4	688.3	1143.0	946.0	582.4	632.4	0.	271.7	983.5	975.2
3	613.0	670.3	1107.6	910.2	613.0	620.3	0.	254.1	922.5	920.2
4	626.2	491.1	1068.0	722.9	626.2	408.5	0.	272.5	865.1	868.9
5	634.4	473.8	1062.8	665.3	634.4	365.1	0.	301.9	852.7	858.0
6	637.7	565.0	1052.2	718.6	637.7	475.5	0.	305.1	837.0	843.9
7	641.4	669.7	1043.6	803.7	641.4	600.1	0.	297.3	823.3	831.9
8	645.4	697.0	1034.3	804.9	645.4	624.2	0.	310.2	808.3	818.5
9	650.4	765.4	991.5	764.1	650.4	662.2	0.	384.3	748.4	765.6
10	637.7	790.9	937.0	719.5	637.7	662.5	0.	432.0	686.5	712.8
11	456.9	765.9	670.7	573.5	456.9	571.6	0.	509.8	491.0	556.3

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.525	0.626	1.071	0.864	0.525	0.576	1.139	1.385	0.777
2	0.537	0.611	1.053	0.839	0.537	0.561	1.086	1.366	0.808
3	0.566	0.597	1.024	0.810	0.566	0.552	1.012	1.333	0.848
4	0.579	0.432	0.988	0.636	0.579	0.359	0.652	1.335	0.447
5	0.588	0.417	0.984	0.585	0.588	0.321	0.576	1.330	0.359
6	0.591	0.499	0.975	0.635	0.591	0.420	0.746	1.321	0.549
7	0.595	0.597	0.967	0.716	0.595	0.535	0.936	1.318	0.829
8	0.599	0.622	0.959	0.718	0.599	0.557	0.967	1.311	0.878
9	0.603	0.682	0.920	0.681	0.603	0.590	1.018	1.285	0.889
10	0.591	0.707	0.868	0.643	0.591	0.592	1.039	1.253	0.940
11	0.416	0.683	0.611	0.511	0.416	0.510	1.251	0.981	0.878

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	1.6	-0.5	-1.4	0.246	0.134	0.114	0.032	0.027
2	8.75	9.99	1.9	-0.2	-0.2	0.254	0.112	0.096	0.026	0.022
3	18.13	20.01	1.8	-0.4	2.3	0.253	0.084	0.073	0.019	0.016
4	27.53	30.00	2.1	-0.4	16.0	0.402	0.279	0.271	0.048	0.047
5	29.88	32.50	1.9	-0.6	18.5	0.460	0.320	0.312	0.053	0.052
6	32.27	35.01	1.9	-0.7	11.9	0.404	0.245	0.238	0.048	0.047
7	34.63	37.50	1.9	-0.8	6.7	0.314	0.100	0.093	0.022	0.020
8	36.98	40.00	1.7	-0.9	5.8	0.309	0.075	0.069	0.017	0.015
9	46.55	50.01	1.8	-1.2	4.3	0.334	0.087	0.084	0.020	0.019
10	56.42	60.00	2.6	-0.9	6.5	0.346	0.052	0.051	0.012	0.011
11	87.93	90.01	10.6	3.3	19.0	0.278	0.184	0.184	0.030	0.030

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(g) 90 Percent of design speed; reading 277

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	31.2	62.8	46.7	518.7	585.0	14.69	20.70
2	9.475	9.395	0.	31.3	61.7	46.7	518.7	580.6	14.69	20.51
3	8.912	8.889	0.	31.5	59.3	45.7	518.7	575.2	14.69	20.15
4	8.348	8.384	0.	44.1	57.7	51.0	518.7	572.0	14.69	18.36
5	8.207	8.258	0.	48.9	57.3	52.2	518.7	572.2	14.69	18.07
6	8.064	8.131	0.	45.1	56.7	47.5	518.7	573.7	14.69	18.50
7	7.922	8.005	0.	38.8	56.0	41.4	518.7	574.5	14.69	19.25
8	7.781	7.879	0.	37.8	55.4	39.1	518.7	574.5	14.69	19.52
9	7.207	7.373	0.	37.2	53.1	31.0	518.7	576.8	14.69	20.19
10	6.615	6.868	0.	39.4	51.2	23.6	518.7	576.8	14.69	20.38
11	4.724	5.352	0.	45.7	50.2	3.0	518.7	573.7	14.69	20.02

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	520.9	702.0	1139.5	875.6	520.9	600.2	0.	364.2	1013.5	1001.8
2	528.8	682.6	1115.5	851.0	528.8	583.4	0.	354.4	982.2	973.9
3	548.1	661.1	1074.8	806.6	548.1	563.8	0.	345.3	924.6	922.2
4	546.4	548.0	1022.7	626.3	546.4	393.8	0.	381.1	864.5	868.2
5	547.6	536.2	1013.4	574.6	547.6	352.3	0.	404.1	852.8	858.1
6	550.1	571.8	1002.7	597.7	550.1	403.9	0.	404.8	838.4	845.4
7	554.3	631.8	991.6	656.7	554.3	492.2	0.	396.1	822.2	830.8
8	556.0	650.9	979.9	662.3	556.0	514.0	0.	399.4	806.9	817.1
9	561.1	704.9	934.3	655.0	561.1	561.2	0.	426.6	747.0	764.2
10	551.1	732.0	879.7	617.5	551.1	565.8	0.	464.5	685.6	711.9
11	408.1	738.2	637.7	516.1	408.1	515.4	0.	528.5	490.1	555.2

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.477	0.614	1.044	0.766	0.477	0.525	1.152	1.446	0.805
2	0.485	0.598	1.023	0.746	0.485	0.511	1.103	1.434	0.837
3	0.503	0.581	0.987	0.709	0.503	0.496	1.029	1.412	0.867
4	0.502	0.478	0.939	0.546	0.502	0.344	0.721	1.386	0.639
5	0.503	0.467	0.931	0.501	0.503	0.307	0.643	1.384	0.590
6	0.505	0.499	0.921	0.522	0.505	0.353	0.734	1.377	0.641
7	0.509	0.554	0.911	0.576	0.509	0.432	0.888	1.364	0.745
8	0.511	0.572	0.900	0.582	0.511	0.452	0.924	1.356	0.786
9	0.516	0.622	0.859	0.577	0.516	0.495	1.000	1.320	0.849
10	0.506	0.647	0.808	0.546	0.506	0.500	1.027	1.278	0.875
11	0.371	0.655	0.579	0.458	0.371	0.457	1.263	0.992	0.872

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	3.8	1.7	-2.8	0.344	0.150	0.125	0.036	0.030
2	8.75	9.99	4.3	2.1	-1.6	0.346	0.122	0.101	0.029	0.024
3	18.13	20.01	4.8	2.5	0.9	0.355	0.097	0.081	0.022	0.019
4	27.53	30.00	5.7	3.2	11.4	0.502	0.261	0.252	0.050	0.049
5	29.88	32.50	5.9	3.4	14.0	0.554	0.300	0.292	0.056	0.054
6	32.27	35.01	5.9	3.3	10.8	0.525	0.274	0.267	0.055	0.054
7	34.63	37.50	5.8	3.2	6.4	0.455	0.204	0.198	0.045	0.043
8	36.98	40.00	5.8	3.1	5.8	0.442	0.174	0.169	0.039	0.038
9	46.55	50.01	5.9	2.9	5.4	0.422	0.138	0.136	0.032	0.031
10	56.42	60.00	6.7	3.2	7.2	0.428	0.126	0.126	0.028	0.028
11	87.93	90.01	13.7	6.5	17.3	0.336	0.215	0.215	0.036	0.036

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(h) 90 Percent of design speed; reading 278

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	17.8	60.1	49.7	518.7	561.7	14.69	17.83
2	9.475	9.395	0.	18.3	58.8	48.8	518.7	558.9	14.69	17.94
3	8.912	8.889	0.	17.2	55.9	47.7	518.7	555.9	14.69	17.84
4	8.348	8.384	0.	28.7	53.5	56.6	518.7	552.9	14.69	15.34
5	8.207	8.258	0.	38.8	52.8	61.0	518.7	551.2	14.69	14.89
6	8.064	8.131	0.	30.9	52.1	51.8	518.7	553.4	14.69	15.83
7	7.922	8.005	0.	22.9	51.5	42.1	518.7	557.2	14.69	17.82
8	7.781	7.879	0.	22.0	50.7	39.6	518.7	558.9	14.69	18.33
9	7.207	7.373	0.	27.7	48.2	30.1	518.7	569.2	14.69	19.60
10	6.615	6.868	0.	31.1	46.1	23.1	518.7	573.4	14.69	20.26
11	4.724	5.352	0.	40.4	46.0	5.0	518.7	572.3	14.69	19.86

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	584.7	703.4	1171.8	1034.9	584.7	669.8	0.	214.9	1015.5	1003.8
2	594.8	697.7	1149.7	1006.0	594.8	662.6	0.	218.7	983.9	975.6
3	627.0	686.0	1117.2	973.0	627.0	655.2	0.	203.0	924.6	922.2
4	642.4	481.6	1079.8	767.5	642.4	422.6	0.	231.0	867.9	871.7
5	646.7	422.3	1069.7	678.1	646.7	329.2	0.	264.5	852.1	857.4
6	651.3	526.1	1060.7	729.9	651.3	451.3	0.	270.4	837.2	844.1
7	655.3	680.1	1051.6	844.8	655.3	626.6	0.	264.4	822.4	831.0
8	660.9	715.1	1042.9	860.6	660.9	662.9	0.	268.0	806.7	816.9
9	668.5	782.8	1002.9	800.7	668.5	693.0	0.	364.0	747.7	764.9
10	661.0	808.1	952.8	752.5	661.0	692.1	0.	417.1	686.3	712.5
11	472.7	776.5	680.4	594.0	472.7	591.8	0.	502.9	489.5	554.5

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.539	0.629	1.080	0.925	0.539	0.599	1.146	1.371	0.687
2	0.549	0.625	1.060	0.901	0.549	0.594	1.114	1.351	0.758
3	0.580	0.616	1.034	0.873	0.580	0.588	1.045	1.317	0.795
4	0.596	0.425	1.001	0.678	0.596	0.373	0.658	1.329	0.189
5	0.600	0.372	0.992	0.597	0.600	0.290	0.509	1.321	0.060
6	0.604	0.466	0.984	0.647	0.604	0.400	0.693	1.314	0.322
7	0.608	0.609	0.976	0.757	0.608	0.561	0.956	1.308	0.763
8	0.614	0.642	0.969	0.773	0.614	0.595	1.003	1.300	0.841
9	0.621	0.702	0.932	0.718	0.621	0.621	1.037	1.276	0.882
10	0.614	0.724	0.885	0.674	0.614	0.620	1.047	1.245	0.911
11	0.431	0.693	0.621	0.530	0.431	0.528	1.252	0.975	0.870

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	1.0	-1.1	0.2	0.181	0.155	0.136	0.035	0.031
2	8.75	9.99	1.4	-0.7	0.5	0.190	0.117	0.101	0.027	0.023
3	18.13	20.01	1.3	-1.0	3.0	0.188	0.095	0.085	0.021	0.019
4	27.53	30.00	1.5	-1.0	17.0	0.355	0.350	0.341	0.059	0.058
5	29.88	32.50	1.4	-1.1	22.8	0.441	0.389	0.381	0.057	0.056
6	32.27	35.01	1.3	-1.3	15.2	0.388	0.307	0.300	0.057	0.055
7	34.63	37.50	1.2	-1.4	7.1	0.271	0.124	0.118	0.027	0.026
8	36.98	40.00	1.0	-1.6	6.3	0.249	0.088	0.082	0.020	0.018
9	46.55	50.01	1.0	-2.0	4.5	0.300	0.085	0.082	0.020	0.019
10	56.42	60.00	1.6	-1.9	6.7	0.318	0.075	0.074	0.017	0.016
11	87.93	90.01	9.5	2.3	19.4	0.257	0.189	0.189	0.031	0.031

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(i) 90 Percent of design speed; reading 361

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	6.7	59.9	50.6	518.7	542.8	14.69	15.78
2	9.475	9.395	0.	6.7	58.7	50.0	518.7	543.0	14.69	15.97
3	8.912	8.889	0.	5.2	55.6	50.2	518.7	539.8	14.69	15.62
4	8.348	8.384	0.	14.5	53.1	56.3	518.7	537.8	14.69	13.30
5	8.207	8.258	0.	23.7	52.5	62.4	518.7	537.4	14.69	12.49
6	8.064	8.131	0.	17.8	51.7	51.3	518.7	545.0	14.69	13.78
7	7.922	8.005	0.	12.6	51.0	44.1	518.7	549.3	14.69	15.80
8	7.781	7.879	0.	11.6	50.2	41.9	518.7	547.8	14.69	16.75
9	7.207	7.373	0.	19.1	47.6	33.7	518.7	560.6	14.69	18.31
10	6.615	6.868	0.	26.3	45.1	24.9	518.7	569.3	14.69	19.67
11	4.724	5.352	0.	37.8	43.9	6.8	518.7	573.9	14.69	19.64

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	585.1	752.5	1166.8	1177.4	585.1	747.3	0.	88.0	1009.5	997.8
2	595.9	749.2	1147.6	1156.6	595.9	744.1	0.	87.0	980.8	972.5
3	631.3	714.8	1116.7	1111.4	631.3	711.8	0.	65.2	921.2	918.8
4	646.2	507.7	1076.9	886.6	646.2	491.5	0.	127.3	861.5	865.2
5	651.7	396.2	1070.5	784.3	651.7	362.8	0.	159.2	849.3	854.6
6	659.6	562.4	1063.2	856.7	659.6	535.4	0.	172.1	833.9	840.8
7	664.1	710.7	1054.9	966.8	664.1	693.7	0.	154.8	819.6	828.2
8	671.0	754.8	1047.6	993.2	671.0	739.5	0.	151.6	804.5	814.6
9	681.9	797.0	1011.3	905.9	681.9	753.2	0.	260.8	746.8	764.0
10	681.9	828.8	966.8	818.6	681.9	742.8	0.	367.5	685.4	711.6
11	507.7	781.8	704.6	621.7	507.7	617.3	0.	479.7	488.6	553.5

	ABS MACH NO		REL MACH NO		MERID MACH NO			MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT		VEL R	MACH NO	
1	0.539	0.690	1.075	1.079	0.539	0.685		1.277	1.362	0.444
2	0.550	0.686	1.059	1.059	0.550	0.681		1.249	1.346	0.512
3	0.584	0.654	1.034	1.017	0.584	0.651		1.128	1.307	0.433
4	0.599	0.456	0.999	0.796	0.599	0.441		0.761	1.314	-0.762
5	0.605	0.353	0.993	0.699	0.605	0.323		0.557	1.312	-1.258
6	0.613	0.504	0.988	0.767	0.613	0.480		0.812	1.302	-0.357
7	0.617	0.644	0.980	0.876	0.617	0.628		1.045	1.297	0.354
8	0.624	0.688	0.974	0.906	0.624	0.674		1.102	1.289	0.679
9	0.635	0.722	0.942	0.820	0.635	0.682		1.105	1.269	0.803
10	0.635	0.747	0.900	0.738	0.635	0.670		1.089	1.237	0.891
11	0.465	0.697	0.645	0.555	0.465	0.551		1.216	0.966	0.812

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	0.9	-1.2	1.1	0.017	0.160	0.143	0.036	0.032
2	8.75	9.99	1.3	-0.9	1.7	0.018	0.146	0.131	0.032	0.029
3	18.13	20.01	1.0	-1.3	5.4	0.024	0.153	0.144	0.032	0.030
4	27.53	30.00	1.1	-1.4	16.7	0.213	0.430	0.422	0.073	0.072
5	29.88	32.50	1.1	-1.4	24.3	0.312	0.535	0.528	0.075	0.074
6	32.27	35.01	0.8	-1.7	14.7	0.243	0.458	0.451	0.085	0.084
7	34.63	37.50	0.8	-1.9	9.1	0.127	0.264	0.258	0.056	0.054
8	36.98	40.00	0.5	-2.1	8.5	0.094	0.129	0.124	0.028	0.027
9	46.55	50.01	0.4	-2.6	8.1	0.174	0.118	0.115	0.026	0.026
10	56.42	60.00	0.6	-2.9	8.4	0.247	0.083	0.083	0.018	0.018
11	87.93	90.01	7.4	0.2	21.2	0.237	0.263	0.263	0.043	0.043

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(j) 90 Percent of design speed; reading 354

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	34.9	67.3	46.3	518.7	593.8	14.69	21.11
2	9.475	9.395	0.	35.1	66.5	47.0	518.7	589.1	14.69	20.84
3	8.912	8.889	0.	35.9	64.8	44.8	518.7	583.5	14.69	20.49
4	8.348	8.384	0.	52.1	64.5	49.6	518.7	587.1	14.69	18.59
5	8.207	8.258	0.	69.4	64.4	60.2	518.7	587.0	14.69	18.33
6	8.064	8.131	0.	68.3	64.1	57.3	518.7	587.8	14.69	18.38
7	7.922	8.005	0.	63.1	63.8	48.2	518.7	588.5	14.69	18.65
8	7.781	7.879	0.	58.5	63.2	42.7	518.7	588.5	14.69	18.86
9	7.207	7.373	0.	46.9	59.7	33.1	518.7	581.7	14.69	19.36
10	6.615	6.868	0.	43.5	56.9	24.6	518.7	579.8	14.69	20.07
11	4.724	5.352	0.	47.1	53.7	4.3	518.7	577.2	14.69	19.93

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	420.8	696.1	1092.4	826.6	420.8	570.7	0.	398.6	1008.1	996.5
2	427.4	670.7	1071.1	803.9	427.4	548.4	0.	386.0	982.1	973.9
3	432.6	660.1	1017.6	754.0	432.6	534.7	0.	387.1	921.1	918.7
4	411.8	573.1	956.1	544.0	411.8	352.2	0.	452.1	862.9	866.6
5	406.3	551.7	941.9	390.0	406.3	193.7	0.	516.6	849.7	855.0
6	404.4	559.2	927.2	382.2	404.4	206.5	0.	519.7	834.4	841.3
7	404.2	593.5	915.0	403.0	404.2	268.7	0.	529.2	820.9	829.5
8	407.2	611.2	902.3	434.0	407.2	319.1	0.	521.3	805.2	815.4
9	436.4	649.2	864.7	529.6	436.4	443.5	0.	474.2	746.5	763.7
10	446.6	697.3	817.7	556.3	446.6	505.9	0.	479.8	685.0	711.2
11	358.9	707.8	606.8	483.6	358.9	482.2	0.	518.1	489.3	554.3

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.382	0.604	0.993	0.717	0.382	0.495	1.356	1.576	0.753
2	0.389	0.583	0.974	0.698	0.389	0.476	1.283	1.550	0.773
3	0.393	0.576	0.926	0.658	0.393	0.466	1.236	1.497	0.798
4	0.374	0.494	0.868	0.469	0.374	0.304	0.855	1.481	0.527
5	0.369	0.475	0.855	0.336	0.369	0.167	0.477	1.479	0.495
6	0.367	0.481	0.842	0.329	0.367	0.178	0.511	1.470	0.496
7	0.367	0.512	0.831	0.348	0.367	0.232	0.665	1.462	0.523
8	0.370	0.528	0.819	0.375	0.370	0.276	0.784	1.449	0.549
9	0.397	0.567	0.787	0.462	0.397	0.387	1.016	1.385	0.674
10	0.407	0.613	0.745	0.489	0.407	0.444	1.133	1.322	0.791
11	0.325	0.624	0.549	0.426	0.325	0.425	1.344	1.008	0.806

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	8.3	6.2	-3.2	0.372	0.222	0.184	0.054	0.045
2	8.75	9.99	9.1	6.9	-1.3	0.373	0.200	0.168	0.047	0.040
3	18.13	20.01	10.3	8.0	0.1	0.383	0.179	0.160	0.042	0.037
4	27.53	30.00	12.5	10.0	10.0	0.577	0.465	0.452	0.092	0.090
5	29.88	32.50	13.0	10.5	22.0	0.752	0.505	0.493	0.076	0.074
6	32.27	35.01	13.3	10.7	20.7	0.755	0.522	0.512	0.084	0.082
7	34.63	37.50	13.5	10.9	13.1	0.730	0.510	0.501	0.100	0.098
8	36.98	40.00	13.5	10.9	9.3	0.687	0.495	0.488	0.105	0.103
9	46.55	50.01	12.5	9.5	7.6	0.535	0.357	0.355	0.080	0.079
10	56.42	60.00	12.4	8.9	8.1	0.465	0.249	0.248	0.055	0.055
11	87.93	90.01	17.3	10.1	18.7	0.353	0.376	0.376	0.062	0.062

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(k) 80 Percent of design speed; reading 239

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	2.1	59.1	50.2	518.7	526.0	14.69	14.64
2	9.475	9.395	0.	2.5	58.2	49.3	518.7	527.5	14.69	14.82
3	8.912	8.889	0.	0.9	55.0	49.7	518.7	524.6	14.69	14.60
4	8.348	8.384	0.	6.4	52.5	55.2	518.7	527.2	14.69	12.73
5	8.207	8.258	0.	14.2	51.7	63.5	518.7	523.4	14.69	11.66
6	8.064	8.131	0.	14.2	50.9	52.4	518.7	528.1	14.69	12.63
7	7.922	8.005	0.	8.7	50.2	41.7	518.7	534.5	14.69	15.37
8	7.781	7.879	0.	8.8	49.3	39.9	518.7	534.5	14.69	15.85
9	7.207	7.373	0.	17.3	46.8	31.4	518.7	547.2	14.69	17.24
10	6.615	6.868	0.	24.8	44.4	21.6	518.7	557.0	14.69	18.66
11	4.724	5.352	0.	35.8	44.3	5.3	518.7	564.3	14.69	18.92

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	542.1	723.9	1055.1	1130.5	542.1	723.4	0.	26.0	905.2	894.7
2	546.4	724.7	1035.8	1109.9	546.4	724.0	0.	31.3	879.9	872.5
3	580.3	692.4	1011.4	1070.0	580.3	692.3	0.	10.5	828.4	826.3
4	595.9	505.3	977.8	879.7	595.9	502.2	0.	56.2	775.2	778.6
5	601.3	349.6	970.4	760.0	601.3	338.8	0.	86.0	761.6	766.3
6	607.3	502.2	963.9	797.7	607.3	486.9	0.	122.9	748.5	754.7
7	613.1	719.8	958.1	953.5	613.1	711.5	0.	109.4	736.3	744.1
8	619.1	744.3	950.0	959.4	619.1	735.6	0.	113.7	720.6	729.7
9	628.0	777.9	917.4	869.8	628.0	742.7	0.	231.5	668.8	684.2
10	625.7	818.1	876.4	798.4	625.7	742.4	0.	343.6	613.7	637.2
11	450.5	753.1	628.9	613.5	450.5	610.9	0.	440.5	438.9	497.3

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.498	0.672	0.968	1.050	0.498	0.672	1.334	1.260	-0.072
2	0.502	0.672	0.951	1.029	0.502	0.672	1.325	1.239	0.143
3	0.534	0.642	0.932	0.992	0.534	0.642	1.193	1.188	-0.166
4	0.550	0.458	0.902	0.798	0.550	0.455	0.843	1.165	-2.446
5	0.555	0.315	0.896	0.685	0.555	0.305	0.563	1.157	-7.077
6	0.561	0.455	0.890	0.723	0.561	0.441	0.802	1.150	-2.326
7	0.567	0.663	0.885	0.878	0.567	0.655	1.161	1.147	0.422
8	0.573	0.687	0.879	0.886	0.573	0.679	1.188	1.136	0.714
9	0.581	0.712	0.849	0.796	0.581	0.680	1.183	1.120	0.851
10	0.579	0.745	0.811	0.727	0.579	0.676	1.187	1.095	0.957
11	0.410	0.676	0.573	0.550	0.410	0.548	1.356	0.865	0.851

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	0.0	-2.1	0.7	-0.063	0.112	0.109	0.025	0.025
2	8.75	9.99	0.7	-1.4	1.0	-0.061	0.111	0.109	0.025	0.025
3	18.13	20.01	0.4	-1.8	5.0	-0.054	0.105	0.104	0.022	0.022
4	27.53	30.00	0.4	-2.0	15.6	0.118	0.445	0.445	0.078	0.078
5	29.88	32.50	0.3	-2.2	25.3	0.244	0.572	0.572	0.077	0.077
6	32.27	35.01	0.1	-2.4	15.7	0.211	0.482	0.482	0.088	0.088
7	34.63	37.50	-0.0	-2.6	6.7	0.039	0.147	0.147	0.032	0.032
8	36.98	40.00	-0.3	-3.0	6.6	0.025	0.075	0.075	0.017	0.017
9	46.55	50.01	-0.4	-3.4	5.8	0.120	0.072	0.072	0.016	0.016
10	56.42	60.00	-0.1	-3.6	5.1	0.186	0.030	0.030	0.007	0.007
11	87.93	90.01	7.8	0.5	19.7	0.148	0.214	0.214	0.035	0.035

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(*l*) 80 Percent of design speed; reading 255

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	25.9	61.4	48.0	518.7	562.2	14.69	18.60
2	9.475	9.395	0.	25.1	60.3	48.1	518.7	560.7	14.69	18.51
3	8.912	8.889	0.	26.6	57.9	46.9	518.7	556.0	14.69	18.27
4	8.348	8.384	0.	38.4	55.8	51.2	518.7	557.2	14.69	17.03
5	8.207	8.258	0.	39.6	55.2	52.8	518.7	554.5	14.69	16.73
6	8.064	8.131	0.	35.5	54.7	47.7	518.7	555.8	14.69	17.23
7	7.922	8.005	0.	30.8	54.0	41.6	518.7	557.5	14.69	18.05
8	7.781	7.879	0.	30.6	53.4	39.7	518.7	557.0	14.69	18.22
9	7.207	7.373	0.	32.5	51.1	30.7	518.7	561.5	14.69	18.95
10	6.615	6.868	0.	34.7	49.2	24.3	518.7	562.1	14.69	19.09
11	4.724	5.352	0.	40.5	48.3	7.1	518.7	562.6	14.69	18.77

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	490.9	618.9	1024.6	832.4	490.9	556.9	0.	270.2	899.4	889.0
2	499.3	605.0	1007.4	820.6	499.3	547.9	0.	256.7	875.0	867.6
3	515.2	585.0	970.6	764.9	515.2	523.0	0.	262.2	822.5	820.4
4	523.6	484.2	931.0	605.6	523.6	379.3	0.	300.9	769.8	773.1
5	524.9	460.1	920.3	586.6	524.9	354.6	0.	293.2	755.9	760.5
6	527.5	508.3	912.5	615.0	527.5	413.6	0.	295.6	744.6	750.8
7	532.2	579.7	904.6	666.4	532.2	498.2	0.	296.4	731.5	739.1
8	533.5	594.1	894.5	665.0	533.5	511.6	0.	302.1	717.9	727.0
9	537.7	657.2	856.3	644.3	537.7	554.2	0.	353.3	666.5	681.8
10	529.0	675.1	809.0	609.1	529.0	554.9	0.	384.4	612.0	635.5
11	388.1	664.3	583.7	509.3	388.1	505.4	0.	431.2	436.0	494.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.448	0.548	0.936	0.738	0.448	0.493	1.134	1.295	0.830
2	0.457	0.536	0.921	0.727	0.457	0.485	1.097	1.271	0.841
3	0.472	0.520	0.889	0.680	0.472	0.465	1.015	1.228	0.893
4	0.480	0.426	0.853	0.533	0.480	0.334	0.724	1.202	0.580
5	0.481	0.405	0.843	0.517	0.481	0.312	0.675	1.194	0.547
6	0.483	0.449	0.836	0.543	0.483	0.365	0.784	1.192	0.649
7	0.488	0.514	0.829	0.591	0.488	0.442	0.936	1.184	0.809
8	0.489	0.528	0.820	0.591	0.489	0.454	0.959	1.178	0.858
9	0.493	0.585	0.786	0.573	0.493	0.493	1.031	1.154	0.913
10	0.485	0.602	0.742	0.543	0.485	0.494	1.049	1.122	0.927
11	0.352	0.591	0.529	0.453	0.352	0.450	1.302	0.873	0.855

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	2.3	0.2	-1.5	0.280	0.104	0.100	0.025	0.024
2	8.75	9.99	2.9	0.7	-0.2	0.273	0.096	0.094	0.022	0.022
3	18.13	20.01	3.4	1.1	2.2	0.300	0.062	0.061	0.014	0.014
4	27.53	30.00	3.8	1.3	11.6	0.449	0.260	0.260	0.050	0.050
5	29.88	32.50	3.8	1.3	14.6	0.459	0.266	0.266	0.049	0.049
6	32.27	35.01	3.9	1.3	11.1	0.423	0.218	0.218	0.044	0.044
7	34.63	37.50	3.7	1.1	6.6	0.360	0.127	0.127	0.028	0.028
8	36.98	40.00	3.7	1.1	6.4	0.354	0.095	0.095	0.021	0.021
9	46.55	50.01	3.9	0.9	5.1	0.359	0.070	0.070	0.016	0.016
10	56.42	60.00	4.7	1.2	7.9	0.364	0.065	0.065	0.014	0.014
11	87.93	90.01	11.8	4.6	21.5	0.257	0.231	0.231	0.038	0.038

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(m) 80 Percent of design speed; reading 258

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	19.2	59.5	48.5	518.7	555.7	14.69	17.71
2	9.475	9.395	0.	19.3	58.8	48.7	518.7	552.6	14.69	17.71
3	8.912	8.889	0.	19.0	56.0	47.7	518.7	549.9	14.69	17.51
4	8.348	8.384	0.	32.1	53.8	54.7	518.7	548.7	14.69	15.84
5	8.207	8.258	0.	33.1	53.2	55.6	518.7	547.2	14.69	15.65
6	8.064	8.131	0.	29.5	52.4	48.7	518.7	549.8	14.69	16.30
7	7.922	8.005	0.	23.6	51.7	42.1	518.7	551.3	14.69	17.47
8	7.781	7.879	0.	23.4	51.1	40.0	518.7	550.9	14.69	17.74
9	7.207	7.373	0.	25.2	48.7	32.1	518.7	557.6	14.69	18.63
10	6.615	6.868	0.	27.3	46.7	26.5	518.7	562.3	14.69	18.99
11	4.724	5.352	0.	32.7	46.0	14.2	518.7	563.6	14.69	18.56

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	529.0	637.0	1043.7	907.5	529.0	601.5	0.	209.7	899.7	889.3
2	530.9	619.0	1024.8	884.7	530.9	584.1	0.	204.8	876.6	869.2
3	555.0	601.6	992.8	844.9	555.0	568.7	0.	196.2	823.2	821.1
4	564.6	448.3	956.5	657.6	564.6	379.6	0.	238.5	772.1	775.4
5	566.9	432.2	947.5	640.3	566.9	362.2	0.	235.9	759.2	763.9
6	572.1	505.5	938.6	666.8	572.1	439.9	0.	249.2	744.1	750.3
7	577.8	602.0	932.9	744.0	577.8	551.7	0.	240.9	732.4	740.0
8	579.2	624.0	923.1	747.3	579.2	572.7	0.	247.7	718.8	727.8
9	585.9	685.0	887.0	731.8	585.9	619.7	0.	292.0	665.9	681.3
10	576.0	704.8	840.4	700.0	576.0	626.4	0.	322.9	612.0	635.4
11	422.3	657.5	607.9	570.4	422.3	553.0	0.	355.7	437.3	495.4

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.485	0.569	0.957	0.811	0.485	0.537	1.137	1.261	0.768
2	0.487	0.553	0.940	0.791	0.487	0.522	1.100	1.246	0.839
3	0.510	0.538	0.912	0.756	0.510	0.509	1.025	1.198	0.855
4	0.519	0.397	0.880	0.582	0.519	0.336	0.672	1.180	0.375
5	0.522	0.382	0.872	0.567	0.522	0.320	0.639	1.174	0.331
6	0.527	0.449	0.864	0.592	0.527	0.390	0.769	1.163	0.501
7	0.532	0.538	0.859	0.665	0.532	0.493	0.955	1.159	0.808
8	0.533	0.559	0.850	0.670	0.533	0.513	0.989	1.154	0.892
9	0.540	0.614	0.817	0.656	0.540	0.555	1.058	1.132	0.934
10	0.530	0.630	0.774	0.626	0.530	0.560	1.088	1.107	0.903
11	0.384	0.584	0.553	0.507	0.384	0.491	1.310	0.867	0.796

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	0.5	-1.6	-1.0	0.201	0.118	0.115	0.028	0.027
2	8.75	9.99	1.4	-0.8	0.4	0.205	0.078	0.076	0.018	0.017
3	18.13	20.01	1.5	-0.8	3.0	0.213	0.068	0.068	0.015	0.015
4	27.53	30.00	1.8	-0.7	15.1	0.389	0.290	0.290	0.051	0.051
5	29.88	32.50	1.8	-0.7	17.4	0.400	0.300	0.300	0.051	0.051
6	32.27	35.01	1.6	-0.9	12.1	0.369	0.248	0.248	0.049	0.049
7	34.63	37.50	1.5	-1.1	7.1	0.279	0.103	0.103	0.022	0.022
8	36.98	40.00	1.5	-1.2	6.6	0.268	0.059	0.059	0.013	0.013
9	46.55	50.01	1.5	-1.5	6.6	0.264	0.045	0.045	0.010	0.010
10	56.42	60.00	2.2	-1.3	10.1	0.262	0.081	0.081	0.018	0.018
11	87.93	90.01	9.5	2.3	28.8	0.165	0.306	0.306	0.049	0.049

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(n) 80 Percent of design speed; reading 329

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	34.3	67.2	47.3	518.7	575.7	14.69	19.60
2	9.475	9.395	0.	34.5	66.3	48.0	518.7	570.5	14.69	19.40
3	8.912	8.889	0.	35.2	64.2	46.2	518.7	568.3	14.69	19.17
4	8.348	8.384	0.	51.8	63.7	50.5	518.7	569.1	14.69	17.93
5	8.207	8.258	0.	61.7	63.4	54.9	518.7	568.7	14.69	17.73
6	8.064	8.131	0.	59.6	63.0	50.6	518.7	570.2	14.69	17.88
7	7.922	8.005	0.	54.1	62.6	43.8	518.7	571.5	14.69	18.14
8	7.781	7.879	0.	50.9	61.8	40.3	518.7	570.0	14.69	18.34
9	7.207	7.373	0.	44.8	59.3	31.9	518.7	567.4	14.69	18.76
10	6.615	6.868	0.	43.6	57.0	23.9	518.7	566.4	14.69	19.05
11	4.724	5.352	0.	47.1	53.6	4.0	518.7	562.0	14.69	18.74

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	378.5	609.6	976.0	742.1	378.5	503.3	0.	343.9	899.7	889.3
2	383.5	584.4	953.4	719.7	383.5	481.7	0.	330.8	872.9	865.5
3	396.2	573.6	911.6	677.0	396.2	468.8	0.	330.5	821.0	818.8
4	379.7	503.7	858.4	489.1	379.7	311.3	0.	396.0	769.9	773.2
5	377.9	488.7	844.3	403.1	377.9	232.0	0.	430.1	755.0	759.7
6	377.8	505.2	831.5	403.0	377.8	255.9	0.	435.6	740.7	746.9
7	377.2	536.6	821.0	436.1	377.2	314.5	0.	434.8	729.2	736.8
8	383.4	552.6	811.7	456.8	383.4	348.3	0.	429.0	715.5	724.5
9	394.4	593.1	772.7	495.2	394.4	420.5	0.	418.3	664.5	679.8
10	395.8	626.5	727.1	496.2	395.8	453.6	0.	432.1	609.9	633.2
11	320.4	631.8	540.3	430.8	320.4	429.7	0.	463.2	435.1	492.9

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.343	0.533	0.885	0.649	0.343	0.440	1.330	1.399	0.781
2	0.348	0.512	0.864	0.631	0.348	0.422	1.256	1.369	0.826
3	0.360	0.503	0.827	0.594	0.360	0.411	1.183	1.321	0.826
4	0.344	0.439	0.778	0.426	0.344	0.271	0.820	1.307	0.602
5	0.342	0.426	0.765	0.351	0.342	0.202	0.614	1.297	0.572
6	0.342	0.440	0.754	0.351	0.342	0.223	0.677	1.286	0.581
7	0.342	0.468	0.744	0.380	0.342	0.274	0.834	1.281	0.609
8	0.348	0.483	0.736	0.399	0.348	0.305	0.908	1.268	0.660
9	0.358	0.522	0.701	0.436	0.358	0.370	1.066	1.225	0.769
10	0.359	0.553	0.660	0.458	0.359	0.401	1.146	1.174	0.836
11	0.289	0.561	0.488	0.382	0.289	0.381	1.341	0.894	0.862

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	8.2	6.1	-2.2	0.364	0.183	0.176	0.044	0.042
2	8.75	9.99	8.9	6.7	-0.3	0.365	0.140	0.135	0.032	0.031
3	18.13	20.01	9.7	7.4	1.5	0.376	0.144	0.142	0.033	0.032
4	27.53	30.00	11.7	9.2	10.8	0.572	0.359	0.359	0.070	0.070
5	29.88	32.50	12.0	9.5	16.7	0.677	0.393	0.393	0.068	0.068
6	32.27	35.01	12.2	9.6	13.9	0.672	0.405	0.405	0.077	0.077
7	34.63	37.50	12.4	9.8	8.8	0.625	0.395	0.395	0.084	0.084
8	36.98	40.00	12.2	9.5	7.0	0.591	0.343	0.343	0.075	0.075
9	46.55	50.01	12.1	9.1	6.3	0.505	0.244	0.244	0.055	0.055
10	56.42	60.00	12.5	9.0	7.5	0.464	0.191	0.191	0.042	0.042
11	87.93	90.01	17.2	10.0	18.3	0.353	0.251	0.251	0.041	0.041

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(o) 80 Percent of design speed; reading 330

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	31.1	64.7	47.5	518.7	572.6	14.69	19.51
2	9.475	9.395	0.	31.2	63.8	47.9	518.7	567.8	14.69	19.33
3	8.912	8.889	0.	32.6	61.6	46.3	518.7	565.4	14.69	19.06
4	8.348	8.384	0.	47.1	60.5	50.6	518.7	565.9	14.69	17.84
5	8.207	8.258	0.	49.3	60.0	50.3	518.7	564.2	14.69	17.74
6	8.064	8.131	0.	46.4	59.4	46.9	518.7	564.9	14.69	17.98
7	7.922	8.005	0.	41.8	58.8	42.5	518.7	565.3	14.69	18.33
8	7.781	7.879	0.	40.1	58.5	40.2	518.7	564.7	14.69	18.47
9	7.207	7.373	0.	39.6	56.3	31.8	518.7	565.7	14.69	18.91
10	6.615	6.868	0.	40.8	54.1	24.6	518.7	565.0	14.69	19.05
11	4.724	5.352	0.	46.1	51.7	4.0	518.7	562.1	14.69	18.74

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	426.8	614.7	997.4	778.0	426.8	526.1	0.	317.9	901.5	891.1
2	429.4	592.0	973.2	754.9	429.4	506.5	0.	306.3	873.4	866.0
3	444.1	576.2	933.4	702.6	444.1	485.2	0.	310.8	821.0	818.9
4	434.9	494.2	883.1	530.4	434.9	336.5	0.	361.9	768.5	771.9
5	436.4	493.1	872.9	503.5	436.4	321.9	0.	373.6	756.0	760.7
6	439.3	513.8	864.0	518.5	439.3	354.6	0.	371.8	744.0	750.1
7	442.3	546.5	852.9	552.0	442.3	407.3	0.	364.4	729.3	736.9
8	439.1	562.3	840.5	563.5	439.1	430.4	0.	361.9	716.7	725.7
9	443.0	609.8	798.5	552.8	443.0	470.0	0.	388.6	664.4	679.7
10	441.0	633.3	752.5	527.4	441.0	479.6	0.	413.6	609.7	633.0
11	344.2	642.1	555.3	446.1	344.2	445.0	0.	462.9	435.8	493.8

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.388	0.539	0.907	0.682	0.388	0.461	1.233	1.357	0.811
2	0.390	0.520	0.885	0.664	0.390	0.445	1.180	1.328	0.860
3	0.404	0.507	0.850	0.618	0.404	0.427	1.093	1.281	0.857
4	0.396	0.432	0.803	0.463	0.396	0.294	0.774	1.261	0.627
5	0.397	0.431	0.794	0.440	0.397	0.282	0.738	1.254	0.630
6	0.400	0.450	0.786	0.454	0.400	0.310	0.807	1.247	0.667
7	0.403	0.480	0.776	0.484	0.403	0.357	0.921	1.235	0.725
8	0.400	0.494	0.765	0.495	0.400	0.378	0.980	1.231	0.762
9	0.403	0.538	0.727	0.488	0.403	0.415	1.061	1.196	0.826
10	0.401	0.560	0.685	0.467	0.401	0.424	1.087	1.151	0.863
11	0.311	0.570	0.502	0.396	0.311	0.395	1.293	0.886	0.860

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	5.6	3.5	-2.0	0.332	0.146	0.140	0.035	0.033
2	8.75	9.99	6.4	4.2	-0.4	0.333	0.104	0.101	0.024	0.023
3	18.13	20.01	7.0	4.8	1.6	0.356	0.108	0.107	0.024	0.024
4	27.53	30.00	8.5	6.0	11.0	0.525	0.304	0.304	0.059	0.059
5	29.88	32.50	8.6	6.1	12.1	0.553	0.297	0.297	0.057	0.057
6	32.27	35.01	8.6	6.1	10.2	0.528	0.276	0.276	0.056	0.056
7	34.63	37.50	8.5	5.9	7.4	0.479	0.236	0.236	0.051	0.051
8	36.98	40.00	8.8	6.2	6.9	0.454	0.208	0.208	0.046	0.046
9	46.55	50.01	9.1	6.1	6.2	0.439	0.170	0.170	0.038	0.038
10	56.42	60.00	9.6	6.1	8.1	0.435	0.146	0.146	0.032	0.032
11	87.93	90.01	15.2	8.0	18.3	0.343	0.243	0.243	0.040	0.040

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(p) 70 Percent of design speed; reading 321

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	4.3	58.3	50.4	518.7	531.5	14.69	15.32
2	9.475	9.395	0.	4.7	57.1	49.8	518.7	530.8	14.69	15.36
3	8.912	8.889	0.	3.4	54.0	49.0	518.7	529.2	14.69	15.39
4	8.348	8.384	0.	11.8	51.5	57.6	518.7	528.3	14.69	13.51
5	8.207	8.258	0.	17.6	51.0	59.6	518.7	527.2	14.69	13.25
6	8.064	8.131	0.	14.4	50.0	51.4	518.7	530.4	14.69	13.98
7	7.922	8.005	0.	10.1	49.3	43.0	518.7	533.7	14.69	15.44
8	7.781	7.879	0.	9.2	48.5	41.1	518.7	534.2	14.69	15.84
9	7.207	7.373	0.	16.3	45.8	31.8	518.7	543.6	14.69	16.92
10	6.615	6.868	0.	22.2	43.5	23.8	518.7	549.6	14.69	17.59
11	4.724	5.352	0.	34.0	42.0	6.0	518.7	553.1	14.69	17.69

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	487.3	608.7	927.2	952.7	487.3	607.1	0.	45.4	788.8	779.7
2	494.7	602.0	911.4	929.6	494.7	600.0	0.	49.0	765.4	759.0
3	523.7	595.5	890.3	905.7	523.7	594.5	0.	34.9	720.0	718.1
4	535.5	386.6	860.5	707.0	535.5	378.4	0.	79.2	673.6	676.5
5	536.9	346.0	852.8	651.9	536.9	329.8	0.	104.4	662.6	666.7
6	547.5	449.0	851.4	697.7	547.5	434.8	0.	111.8	652.0	657.5
7	549.9	591.1	842.9	795.3	549.9	582.0	0.	103.4	638.8	645.4
8	554.9	621.4	837.2	813.9	554.9	613.4	0.	99.8	626.9	634.8
9	566.0	680.1	811.9	767.8	566.0	652.7	0.	191.2	582.1	595.5
10	563.6	705.4	776.5	714.2	563.6	653.3	0.	265.9	534.1	554.6
11	422.8	668.6	569.3	557.5	422.8	554.5	0.	373.6	381.3	432.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.445	0.555	0.847	0.869	0.445	0.554	1.246	1.077	0.488
2	0.452	0.549	0.833	0.848	0.452	0.547	1.213	1.054	0.545
3	0.480	0.544	0.816	0.827	0.480	0.543	1.135	1.009	0.656
4	0.491	0.347	0.789	0.635	0.491	0.340	0.707	0.992	-1.280
5	0.492	0.310	0.782	0.585	0.492	0.296	0.614	0.990	-1.777
6	0.503	0.404	0.782	0.628	0.503	0.391	0.794	0.982	-0.629
7	0.505	0.537	0.774	0.722	0.505	0.529	1.058	0.976	0.493
8	0.510	0.566	0.769	0.741	0.510	0.559	1.105	0.970	0.725
9	0.521	0.617	0.747	0.697	0.521	0.592	1.153	0.958	0.856
10	0.518	0.638	0.714	0.646	0.518	0.591	1.159	0.939	0.885
11	0.384	0.601	0.517	0.501	0.384	0.498	1.312	0.743	0.821

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	-0.8	-2.9	0.9	-0.010	0.112	0.112	0.025	0.025
2	8.75	9.99	-0.3	-2.5	1.5	-0.001	0.097	0.097	0.022	0.022
3	18.13	20.01	-0.6	-2.9	4.3	-0.004	0.067	0.067	0.014	0.014
4	27.53	30.00	-0.5	-3.0	18.0	0.207	0.411	0.411	0.067	0.067
5	29.88	32.50	-0.4	-3.0	21.5	0.273	0.446	0.446	0.068	0.068
6	32.27	35.01	-0.8	-3.4	14.8	0.220	0.364	0.364	0.067	0.067
7	34.63	37.50	-0.9	-3.6	7.9	0.093	0.150	0.150	0.032	0.032
8	36.98	40.00	-1.2	-3.8	7.8	0.062	0.086	0.086	0.019	0.019
9	46.55	50.01	-1.4	-4.4	6.2	0.118	0.074	0.074	0.017	0.017
10	56.42	60.00	-1.0	-4.5	7.4	0.165	0.079	0.079	0.017	0.017
11	87.93	90.01	5.6	-1.7	20.4	0.136	0.236	0.236	0.039	0.039

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(q) 70 Percent of design speed; reading 323

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	13.3	59.6	49.4	518.7	542.0	14.69	16.54
2	9.475	9.395	0.	12.7	58.2	49.1	518.7	539.5	14.69	16.52
3	8.912	8.889	0.	12.8	55.7	48.2	518.7	538.2	14.69	16.41
4	8.348	8.384	0.	23.7	53.3	53.4	518.7	538.5	14.69	15.18
5	8.207	8.258	0.	25.9	52.5	54.6	518.7	537.6	14.69	15.01
6	8.064	8.131	0.	22.8	52.0	48.6	518.7	539.4	14.69	15.62
7	7.922	8.005	0.	18.3	51.1	42.7	518.7	541.5	14.69	16.45
8	7.781	7.879	0.	17.3	50.4	41.2	518.7	541.0	14.69	16.66
9	7.207	7.373	0.	22.7	48.0	31.7	518.7	547.8	14.69	17.49
10	6.615	6.868	0.	26.9	45.8	24.3	518.7	551.6	14.69	17.83
11	4.724	5.352	0.	36.4	44.6	6.7	518.7	552.1	14.69	17.72

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	463.1	570.8	914.5	853.7	463.1	555.5	0.	131.2	788.5	779.4
2	472.1	560.5	895.9	835.9	472.1	546.8	0.	122.8	761.4	755.0
3	489.5	546.5	869.5	799.4	489.5	532.9	0.	120.9	718.6	716.7
4	503.6	414.3	841.8	636.2	503.6	379.3	0.	166.6	674.5	677.4
5	508.6	391.1	834.7	607.7	508.6	352.0	0.	170.6	661.9	666.0
6	509.4	459.0	827.2	639.8	509.4	423.3	0.	177.5	651.8	657.2
7	516.8	542.9	822.6	701.8	516.8	515.5	0.	170.5	640.0	646.7
8	519.0	561.5	814.7	711.9	519.0	536.0	0.	167.3	628.0	635.9
9	524.9	624.1	784.4	676.9	524.9	575.9	0.	240.6	583.0	596.4
10	519.4	649.0	745.2	635.0	519.4	578.8	0.	293.6	534.4	554.8
11	387.0	628.9	543.6	509.9	387.0	506.5	0.	372.9	381.7	432.5

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.422	0.513	0.834	0.768	0.422	0.499	1.199	1.100	0.766
2	0.431	0.505	0.817	0.753	0.431	0.492	1.158	1.067	0.848
3	0.447	0.492	0.794	0.720	0.447	0.480	1.089	1.035	0.853
4	0.461	0.369	0.770	0.567	0.461	0.338	0.753	1.017	0.243
5	0.465	0.348	0.764	0.541	0.465	0.313	0.692	1.008	0.165
6	0.466	0.410	0.757	0.571	0.466	0.378	0.831	1.007	0.441
7	0.473	0.487	0.753	0.630	0.473	0.463	0.998	0.999	0.745
8	0.475	0.505	0.746	0.640	0.475	0.482	1.033	0.995	0.849
9	0.481	0.561	0.719	0.608	0.481	0.518	1.097	0.979	0.909
10	0.476	0.583	0.683	0.570	0.476	0.520	1.114	0.954	0.897
11	0.351	0.563	0.493	0.457	0.351	0.453	1.309	0.751	0.852

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	0.5	-1.6	-0.1	0.117	0.094	0.094	0.022	0.022
2	8.75	9.99	0.8	-1.4	0.9	0.114	0.057	0.057	0.013	0.013
3	18.13	20.01	1.2	-1.1	3.5	0.126	0.054	0.054	0.012	0.012
4	27.53	30.00	1.2	-1.2	13.8	0.305	0.290	0.290	0.053	0.053
5	29.88	32.50	1.1	-1.5	16.4	0.334	0.310	0.310	0.054	0.054
6	32.27	35.01	1.2	-1.4	11.9	0.291	0.233	0.233	0.046	0.046
7	34.63	37.50	0.9	-1.8	7.7	0.208	0.119	0.119	0.026	0.026
8	36.98	40.00	0.8	-1.9	7.8	0.186	0.070	0.070	0.015	0.015
9	46.55	50.01	0.8	-2.2	6.1	0.220	0.058	0.058	0.013	0.013
10	56.42	60.00	1.3	-2.2	7.9	0.245	0.080	0.080	0.018	0.018
11	87.93	90.01	8.1	0.9	21.1	0.182	0.208	0.208	0.034	0.034

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(r) 70 Percent of design speed; reading 325

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	21.5	61.8	48.7	518.7	551.0	14.69	17.55
2	9.475	9.395	0.	22.1	61.0	48.5	518.7	548.5	14.69	17.49
3	8.912	8.889	0.	23.2	58.2	47.4	518.7	547.2	14.69	17.33
4	8.348	8.384	0.	34.2	56.1	50.7	518.7	547.3	14.69	16.39
5	8.207	8.258	0.	33.6	55.6	51.1	518.7	546.0	14.69	16.33
6	8.064	8.131	0.	30.2	55.1	46.7	518.7	546.5	14.69	16.70
7	7.922	8.005	0.	27.2	54.3	42.7	518.7	547.3	14.69	17.15
8	7.781	7.879	0.	26.3	53.8	40.8	518.7	546.9	14.69	17.30
9	7.207	7.373	0.	29.1	51.0	31.7	518.7	551.5	14.69	17.80
10	6.615	6.868	0.	32.0	49.4	25.1	518.7	553.8	14.69	18.00
11	4.724	5.352	0.	40.7	48.4	6.3	518.7	552.3	14.69	17.71

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	420.8	543.1	890.1	766.1	420.8	505.2	0.	199.3	784.3	775.2
2	423.6	532.3	874.1	744.4	423.6	493.1	0.	200.4	764.6	758.1
3	444.5	512.8	843.8	697.1	444.5	471.5	0.	201.9	717.2	715.4
4	451.2	429.1	809.4	560.6	451.2	355.0	0.	240.9	671.9	674.8
5	452.5	419.6	801.1	556.6	452.5	349.6	0.	232.1	661.0	665.1
6	452.9	461.9	792.5	581.7	452.9	399.1	0.	232.4	650.3	655.7
7	458.9	505.3	786.3	611.2	458.9	449.5	0.	231.0	638.5	645.1
8	459.2	522.4	777.5	618.1	459.2	468.2	0.	231.8	627.4	635.3
9	469.4	579.0	746.7	594.6	469.4	506.0	0.	281.6	580.6	594.0
10	456.2	596.9	701.5	559.1	456.2	506.3	0.	316.2	532.9	553.3
11	337.6	586.4	508.7	447.2	337.6	444.6	0.	382.4	380.5	431.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.382	0.483	0.809	0.681	0.382	0.449	1.201	1.130	0.836
2	0.385	0.474	0.795	0.663	0.385	0.439	1.164	1.116	0.886
3	0.405	0.457	0.768	0.621	0.405	0.420	1.061	1.069	0.877
4	0.411	0.380	0.737	0.496	0.411	0.314	0.787	1.048	0.574
5	0.412	0.371	0.730	0.493	0.412	0.309	0.773	1.043	0.581
6	0.413	0.410	0.722	0.516	0.413	0.354	0.881	1.040	0.694
7	0.418	0.450	0.717	0.544	0.418	0.400	0.979	1.031	0.817
8	0.419	0.466	0.709	0.551	0.419	0.417	1.019	1.028	0.878
9	0.428	0.516	0.681	0.530	0.428	0.451	1.078	0.999	0.889
10	0.416	0.532	0.639	0.498	0.416	0.451	1.110	0.973	0.881
11	0.305	0.523	0.460	0.399	0.305	0.396	1.317	0.760	0.845

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	2.7	0.6	-0.8	0.218	0.094	0.094	0.022	0.022
2	8.75	9.99	3.6	1.4	0.2	0.227	0.063	0.063	0.014	0.014
3	18.13	20.01	3.7	1.4	2.7	0.252	0.069	0.069	0.015	0.015
4	27.53	30.00	4.1	1.6	11.1	0.399	0.251	0.251	0.049	0.049
5	29.88	32.50	4.2	1.7	12.9	0.393	0.240	0.240	0.046	0.046
6	32.27	35.01	4.3	1.8	10.0	0.354	0.183	0.183	0.037	0.037
7	34.63	37.50	4.1	1.4	7.6	0.309	0.115	0.115	0.025	0.025
8	36.98	40.00	4.1	1.5	7.4	0.292	0.077	0.077	0.017	0.017
9	46.55	50.01	3.9	0.9	6.1	0.305	0.086	0.086	0.020	0.020
10	56.42	60.00	4.9	1.4	8.7	0.314	0.110	0.110	0.024	0.024
11	87.93	90.01	11.9	4.7	20.7	0.253	0.247	0.247	0.041	0.041

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(s) 70 Percent of design speed; reading 328

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	25.6	63.4	48.5	518.7	553.5	14.69	17.93
2	9.475	9.395	0.	26.5	62.4	48.5	518.7	551.9	14.69	17.84
3	8.912	8.889	0.	27.2	60.1	47.2	518.7	550.3	14.69	17.68
4	8.348	8.384	0.	38.7	58.4	49.7	518.7	551.5	14.69	16.83
5	8.207	8.258	0.	38.3	57.9	49.7	518.7	549.4	14.69	16.78
6	8.064	8.131	0.	34.9	56.9	45.8	518.7	550.2	14.69	17.07
7	7.922	8.005	0.	31.8	56.2	42.7	518.7	550.3	14.69	17.38
8	7.781	7.879	0.	31.6	56.1	40.5	518.7	550.0	14.69	17.51
9	7.207	7.373	0.	33.0	53.4	32.2	518.7	552.3	14.69	17.91
10	6.615	6.868	0.	35.0	51.3	25.5	518.7	553.9	14.69	18.01
11	4.724	5.352	0.	42.7	50.5	5.8	518.7	551.7	14.69	17.72

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	394.5	536.3	880.6	729.9	394.5	483.7	0.	231.6	787.3	778.2
2	399.7	520.0	861.9	701.9	399.7	465.5	0.	231.8	763.6	757.2
3	414.4	507.1	830.9	663.5	414.4	451.1	0.	231.7	720.2	718.3
4	413.4	437.1	789.4	527.0	413.4	340.9	0.	273.6	672.5	675.4
5	414.8	429.6	779.6	521.4	414.8	336.9	0.	266.3	660.1	664.2
6	425.1	464.6	778.3	546.2	425.1	381.0	0.	265.9	651.9	657.4
7	428.2	493.8	770.5	570.6	428.2	419.6	0.	260.5	640.5	647.2
8	422.1	508.5	756.5	569.4	422.1	433.3	0.	266.2	627.8	635.7
9	431.9	554.1	724.6	549.2	431.9	464.5	0.	302.2	581.8	595.2
10	427.6	574.9	684.1	521.6	427.6	470.8	0.	329.9	534.0	554.4
11	314.2	573.6	493.8	423.7	314.2	421.5	0.	389.1	381.0	431.7

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.358	0.475	0.799	0.647	0.358	0.429	1.226	1.161	0.871
2	0.363	0.461	0.782	0.622	0.363	0.413	1.165	1.135	0.891
3	0.376	0.450	0.755	0.589	0.376	0.400	1.088	1.099	0.890
4	0.375	0.385	0.717	0.465	0.375	0.301	0.825	1.076	0.627
5	0.377	0.379	0.708	0.460	0.377	0.297	0.812	1.067	0.655
6	0.386	0.411	0.708	0.483	0.386	0.337	0.896	1.062	0.721
7	0.389	0.438	0.701	0.506	0.389	0.372	0.980	1.055	0.807
8	0.384	0.451	0.688	0.505	0.384	0.385	1.026	1.050	0.853
9	0.393	0.493	0.659	0.488	0.393	0.413	1.075	1.020	0.897
10	0.389	0.511	0.622	0.464	0.389	0.419	1.101	0.986	0.883
11	0.284	0.511	0.446	0.378	0.284	0.376	1.342	0.768	0.863

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	4.3	2.2	-1.0	0.264	0.082	0.082	0.019	0.019
2	8.75	9.99	4.9	2.8	0.2	0.278	0.068	0.068	0.016	0.016
3	18.13	20.01	5.5	3.2	2.5	0.293	0.069	0.069	0.015	0.015
4	27.53	30.00	6.4	3.9	10.1	0.439	0.261	0.261	0.052	0.052
5	29.88	32.50	6.4	3.9	11.6	0.435	0.233	0.233	0.046	0.046
6	32.27	35.01	6.1	3.5	9.1	0.400	0.194	0.194	0.040	0.040
7	34.63	37.50	6.0	3.4	7.6	0.359	0.138	0.138	0.030	0.030
8	36.98	40.00	6.4	3.8	7.1	0.349	0.108	0.108	0.024	0.024
9	46.55	50.01	6.2	3.2	6.7	0.355	0.087	0.087	0.020	0.020
10	56.42	60.00	6.8	3.3	9.1	0.357	0.114	0.114	0.025	0.025
11	87.93	90.01	14.0	6.8	20.2	0.280	0.227	0.227	0.037	0.037

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(t) 70 Percent of design speed; reading 352

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	37.5	68.4	47.8	518.7	566.5	14.69	18.31
2	9.475	9.395	0.	35.2	67.4	48.2	518.7	560.1	14.69	18.20
3	8.912	8.889	0.	36.5	65.5	46.3	518.7	556.9	14.69	18.05
4	8.348	8.384	0.	51.4	64.7	49.1	518.7	558.7	14.69	17.29
5	8.207	8.258	0.	63.7	64.3	54.9	518.7	558.6	14.69	17.09
6	8.064	8.131	0.	62.5	64.2	50.8	518.7	559.6	14.69	17.16
7	7.922	8.005	0.	57.2	63.7	43.8	518.7	560.3	14.69	17.33
8	7.781	7.879	0.	54.0	63.3	40.1	518.7	560.6	14.69	17.45
9	7.207	7.373	0.	47.2	60.6	31.8	518.7	557.1	14.69	17.69
10	6.615	6.868	0.	44.3	57.9	23.6	518.7	557.1	14.69	17.95
11	4.724	5.352	0.	47.4	54.9	3.7	518.7	553.6	14.69	17.74

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	311.8	523.9	845.7	618.7	311.8	415.7	0.	318.9	786.1	777.0
2	316.3	506.3	824.8	621.7	316.3	414.0	0.	291.5	761.7	755.3
3	327.2	498.7	789.3	580.9	327.2	401.1	0.	296.3	718.3	716.4
4	317.4	449.4	743.1	428.1	317.4	280.3	0.	351.2	671.9	674.8
5	317.1	435.1	732.0	334.7	317.1	192.6	0.	390.2	659.8	663.9
6	313.3	449.8	720.2	329.1	313.3	208.0	0.	398.8	648.5	653.9
7	316.1	474.2	712.1	355.6	316.1	256.7	0.	398.7	638.1	644.8
8	315.1	486.1	700.6	373.3	315.1	285.7	0.	393.3	625.7	633.6
9	325.3	511.8	663.4	408.9	325.3	347.4	0.	375.8	578.2	591.5
10	333.7	546.2	628.0	426.6	333.7	390.9	0.	381.5	532.0	552.3
11	268.3	554.2	466.0	376.1	268.3	375.3	0.	407.7	381.0	431.7

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.282	0.458	0.764	0.541	0.282	0.364	1.333	1.239	0.704
2	0.286	0.445	0.745	0.546	0.286	0.364	1.309	1.210	0.789
3	0.296	0.439	0.713	0.512	0.296	0.353	1.226	1.170	0.822
4	0.287	0.394	0.671	0.375	0.287	0.246	0.883	1.150	0.616
5	0.286	0.381	0.661	0.293	0.286	0.169	0.607	1.141	0.572
6	0.283	0.394	0.650	0.288	0.283	0.182	0.664	1.137	0.575
7	0.285	0.416	0.643	0.312	0.285	0.225	0.812	1.130	0.601
8	0.285	0.426	0.633	0.327	0.285	0.251	0.907	1.121	0.622
9	0.294	0.451	0.599	0.361	0.294	0.306	1.068	1.075	0.735
10	0.302	0.483	0.568	0.377	0.302	0.346	1.171	1.028	0.796
11	0.242	0.492	0.420	0.334	0.242	0.333	1.399	0.787	0.820

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	9.3	7.2	-1.7	0.401	0.263	0.263	0.062	0.062
2	8.75	9.99	10.0	7.9	-0.0	0.368	0.173	0.173	0.040	0.040
3	18.13	20.01	11.0	8.7	1.6	0.387	0.146	0.146	0.033	0.033
4	27.53	30.00	12.7	10.2	9.5	0.569	0.358	0.358	0.072	0.072
5	29.88	32.50	12.9	10.4	16.7	0.704	0.407	0.407	0.071	0.071
6	32.27	35.01	13.4	10.8	14.2	0.709	0.424	0.424	0.080	0.080
7	34.63	37.50	13.4	10.8	8.8	0.666	0.413	0.413	0.087	0.087
8	36.98	40.00	13.6	11.0	6.7	0.630	0.406	0.406	0.090	0.090
9	46.55	50.01	13.5	10.5	6.2	0.536	0.292	0.292	0.066	0.066
10	56.42	60.00	13.4	9.9	7.2	0.471	0.249	0.249	0.055	0.055
11	87.93	90.01	18.4	11.2	18.0	0.347	0.351	0.351	0.058	0.058

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(u) 50 Percent of design speed; reading 190

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	10.3	59.1	50.1	518.7	527.6	14.69	15.39
2	9.475	9.395	0.	10.3	57.6	49.7	518.7	526.9	14.69	15.39
3	8.912	8.889	0.	9.9	54.7	48.7	518.7	526.6	14.69	15.38
4	8.348	8.384	0.	20.0	53.1	51.6	518.7	528.1	14.69	14.86
5	8.207	8.258	0.	21.8	52.3	52.9	518.7	527.1	14.69	14.75
6	8.064	8.131	0.	19.3	50.7	47.3	518.7	528.6	14.69	15.05
7	7.922	8.005	0.	14.9	50.3	42.2	518.7	529.3	14.69	15.53
8	7.781	7.879	0.	15.6	49.5	39.9	518.7	529.4	14.69	15.62
9	7.207	7.373	0.	20.4	47.1	31.5	518.7	531.6	14.69	16.01
10	6.615	6.868	0.	24.1	45.1	24.3	518.7	533.4	14.69	16.22
11	4.724	5.352	0.	35.2	43.0	4.2	518.7	535.0	14.69	16.28

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	335.8	409.5	653.7	627.5	335.8	402.9	0.	73.3	560.9	554.4
2	346.8	404.8	648.0	616.3	346.8	398.3	0.	72.4	547.4	542.8
3	364.3	397.3	630.6	592.7	364.3	391.4	0.	68.3	514.7	513.4
4	362.8	317.2	603.6	479.9	362.8	298.1	0.	108.4	482.4	484.4
5	367.5	299.5	600.7	460.6	367.5	278.1	0.	111.0	475.2	478.2
6	382.3	348.1	603.5	484.4	382.3	328.6	0.	114.9	466.9	470.8
7	381.9	410.5	597.9	535.1	381.9	396.6	0.	105.6	460.0	464.8
8	382.4	421.7	589.0	529.8	382.4	406.1	0.	113.4	448.0	453.6
9	386.3	461.7	568.0	507.4	386.3	432.7	0.	161.0	416.3	425.9
10	380.1	481.9	538.2	482.5	380.1	439.8	0.	197.1	381.1	395.7
11	293.0	486.7	400.4	398.9	293.0	397.8	0.	280.3	273.0	309.3

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.304	0.369	0.591	0.565	0.304	0.363	1.200	0.769	0.775
2	0.314	0.365	0.586	0.555	0.314	0.359	1.148	0.753	0.845
3	0.330	0.358	0.571	0.534	0.330	0.352	1.074	0.723	0.863
4	0.328	0.284	0.547	0.430	0.328	0.267	0.822	0.718	0.171
5	0.333	0.268	0.544	0.412	0.333	0.249	0.757	0.714	0.072
6	0.347	0.312	0.547	0.434	0.347	0.294	0.859	0.702	0.362
7	0.346	0.369	0.542	0.481	0.346	0.356	1.039	0.704	0.778
8	0.347	0.379	0.534	0.476	0.347	0.365	1.062	0.694	0.854
9	0.350	0.416	0.515	0.457	0.350	0.389	1.120	0.686	0.998
10	0.344	0.434	0.488	0.434	0.344	0.396	1.157	0.670	1.005
11	0.264	0.437	0.361	0.359	0.264	0.358	1.358	0.530	0.945

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	0.0	-2.1	0.6	0.080	0.063	0.063	0.014	0.014
2	8.75	9.99	0.2	-1.9	1.5	0.087	0.040	0.040	0.009	0.009
3	18.13	20.01	0.2	-2.1	4.0	0.095	0.036	0.036	0.008	0.008
4	27.53	30.00	1.1	-1.4	12.0	0.260	0.277	0.277	0.053	0.053
5	29.88	32.50	0.9	-1.7	14.7	0.289	0.280	0.280	0.051	0.051
6	32.27	35.01	-0.1	-2.7	10.6	0.254	0.224	0.224	0.045	0.045
7	34.63	37.50	0.1	-2.6	7.2	0.157	0.086	0.086	0.019	0.019
8	36.98	40.00	-0.1	-2.8	6.6	0.156	0.059	0.059	0.013	0.013
9	46.55	50.01	-0.0	-3.0	5.9	0.183	0.001	0.001	0.000	0.000
10	56.42	60.00	0.6	-2.9	7.9	0.194	-0.003	-0.003	-0.001	-0.001
11	87.93	90.01	6.5	-0.7	18.5	0.127	0.069	0.069	0.011	0.011

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(v) 50 Percent of design speed; reading 192

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	19.1	59.5	48.9	518.7	532.4	14.69	15.86
2	9.475	9.395	0.	18.6	58.1	49.1	518.7	530.9	14.69	15.83
3	8.912	8.889	0.	18.9	55.9	47.6	518.7	530.7	14.69	15.81
4	8.348	8.384	0.	30.5	55.0	50.3	518.7	531.2	14.69	15.38
5	8.207	8.258	0.	31.6	54.0	50.0	518.7	530.7	14.69	15.35
6	8.064	8.131	0.	27.7	53.7	45.8	518.7	531.3	14.69	15.54
7	7.922	8.005	0.	24.1	53.5	41.4	518.7	531.0	14.69	15.84
8	7.781	7.879	0.	23.7	52.9	39.4	518.7	531.7	14.69	15.92
9	7.207	7.373	0.	26.9	50.6	31.4	518.7	533.6	14.69	16.17
10	6.615	6.868	0.	31.4	48.3	23.2	518.7	534.8	14.69	16.32
11	4.724	5.352	0.	38.7	46.2	4.6	518.7	534.5	14.69	16.27

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	330.6	393.5	651.9	565.6	330.6	371.7	0.	129.0	561.9	555.4
2	340.8	383.4	644.1	555.0	340.8	363.4	0.	122.4	546.5	541.9
3	347.5	377.2	620.6	529.1	347.5	356.8	0.	122.2	514.2	512.8
4	339.1	314.2	590.8	424.0	339.1	270.7	0.	159.5	483.7	485.8
5	344.4	310.2	586.1	411.0	344.4	264.3	0.	162.5	474.3	477.3
6	341.6	341.1	577.4	433.6	341.6	302.1	0.	158.4	465.5	469.4
7	340.1	382.0	571.4	465.2	340.1	348.7	0.	156.1	459.2	464.0
8	340.0	394.0	563.1	466.9	340.0	360.8	0.	158.2	448.8	454.5
9	342.8	428.3	540.1	447.2	342.8	381.8	0.	194.1	417.4	427.0
10	339.9	447.5	511.2	415.6	339.9	382.1	0.	232.9	381.8	396.4
11	261.3	448.7	377.6	351.5	261.3	350.4	0.	280.3	272.6	308.8

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.299	0.352	0.589	0.506	0.299	0.333	1.124	0.776	0.835
2	0.308	0.343	0.582	0.497	0.308	0.326	1.066	0.757	0.914
3	0.314	0.338	0.561	0.474	0.314	0.320	1.027	0.736	0.914
4	0.307	0.280	0.534	0.378	0.307	0.242	0.798	0.738	0.542
5	0.311	0.277	0.530	0.367	0.311	0.236	0.768	0.729	0.541
6	0.309	0.305	0.522	0.387	0.309	0.270	0.884	0.727	0.667
7	0.308	0.342	0.517	0.417	0.308	0.312	1.025	0.729	0.918
8	0.307	0.353	0.509	0.418	0.307	0.323	1.061	0.722	0.928
9	0.310	0.384	0.488	0.401	0.310	0.342	1.114	0.709	0.966
10	0.307	0.401	0.462	0.373	0.307	0.342	1.124	0.686	0.977
11	0.235	0.402	0.340	0.315	0.235	0.314	1.341	0.536	0.965

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	0.5	-1.6	-0.6	0.202	0.070	0.070	0.016	0.016
2	8.75	9.99	0.6	-1.5	0.8	0.204	0.033	0.033	0.008	0.008
3	18.13	20.01	1.4	-0.9	2.9	0.212	0.035	0.035	0.008	0.008
4	27.53	30.00	3.0	0.5	10.7	0.365	0.211	0.211	0.041	0.041
5	29.88	32.50	2.6	0.1	11.8	0.383	0.207	0.207	0.040	0.040
6	32.27	35.01	2.9	0.3	9.2	0.331	0.161	0.161	0.033	0.033
7	34.63	37.50	3.3	0.7	6.4	0.266	0.040	0.040	0.009	0.009
8	36.98	40.00	3.2	0.5	6.1	0.252	0.038	0.038	0.008	0.008
9	46.55	50.01	3.4	0.4	5.8	0.269	0.022	0.022	0.005	0.005
10	56.42	60.00	3.8	0.3	6.7	0.299	0.018	0.018	0.004	0.004
11	87.93	90.01	9.7	2.5	19.0	0.199	0.048	0.048	0.008	0.008

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(w) 50 Percent of design speed; reading 194

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	27.4	62.4	48.2	518.7	536.6	14.69	16.25
2	9.475	9.395	0.	28.1	61.3	48.4	518.7	534.7	14.69	16.19
3	8.912	8.889	0.	28.6	58.5	46.7	518.7	534.1	14.69	16.13
4	8.348	8.384	0.	40.0	57.2	47.7	518.7	534.8	14.69	15.84
5	8.207	8.258	0.	40.6	56.6	47.6	518.7	534.2	14.69	15.79
6	8.064	8.131	0.	37.8	56.2	44.3	518.7	534.6	14.69	15.91
7	7.922	8.005	0.	33.2	55.7	40.2	518.7	533.9	14.69	16.11
8	7.781	7.879	0.	32.3	55.3	38.8	518.7	533.9	14.69	16.15
9	7.207	7.373	0.	34.5	53.1	30.4	518.7	535.5	14.69	16.32
10	6.615	6.868	0.	37.1	51.3	23.5	518.7	535.8	14.69	16.38
11	4.724	5.352	0.	43.8	50.1	2.8	518.7	535.1	14.69	16.28

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	294.8	383.2	635.3	510.1	294.8	340.2	0.	176.3	562.8	556.3
2	299.7	370.5	623.6	491.8	299.7	326.7	0.	174.7	546.9	542.3
3	314.9	363.5	602.2	465.1	314.9	319.3	0.	173.7	513.3	511.9
4	310.6	325.8	573.3	371.0	310.6	249.5	0.	209.5	481.9	484.0
5	312.3	321.5	567.5	362.5	312.3	244.3	0.	209.1	473.9	476.9
6	311.6	339.5	560.4	374.4	311.6	268.1	0.	208.3	465.8	469.6
7	312.0	367.4	553.0	402.6	312.0	307.4	0.	201.3	456.6	461.4
8	310.9	374.7	546.6	406.6	310.9	316.7	0.	200.3	449.6	455.2
9	311.6	404.2	518.8	386.1	311.6	333.1	0.	229.0	414.8	424.3
10	306.1	417.9	489.9	363.4	306.1	333.2	0.	252.2	382.5	397.1
11	227.4	424.2	354.6	306.7	227.4	306.3	0.	293.4	272.1	308.2

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.266	0.341	0.573	0.454	0.266	0.303	1.154	0.812	0.843
2	0.270	0.330	0.563	0.439	0.270	0.291	1.090	0.796	0.908
3	0.284	0.324	0.544	0.415	0.284	0.285	1.014	0.761	0.908
4	0.280	0.290	0.518	0.330	0.280	0.222	0.803	0.755	0.699
5	0.282	0.286	0.512	0.323	0.282	0.217	0.782	0.751	0.694
6	0.281	0.302	0.506	0.333	0.281	0.239	0.860	0.748	0.752
7	0.282	0.328	0.499	0.359	0.282	0.274	0.985	0.742	0.905
8	0.281	0.335	0.494	0.363	0.281	0.283	1.018	0.742	0.929
9	0.281	0.361	0.468	0.345	0.281	0.297	1.069	0.720	0.941
10	0.276	0.373	0.442	0.325	0.276	0.298	1.089	0.702	0.952
11	0.205	0.379	0.319	0.274	0.205	0.274	1.347	0.545	0.940

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	3.3	1.2	-1.3	0.295	0.091	0.091	0.022	0.022
2	8.75	9.99	3.8	1.7	0.1	0.308	0.049	0.049	0.011	0.011
3	18.13	20.01	3.9	1.6	2.0	0.322	0.051	0.051	0.011	0.011
4	27.53	30.00	5.2	2.7	8.1	0.465	0.188	0.188	0.039	0.039
5	29.88	32.50	5.2	2.7	9.5	0.473	0.187	0.187	0.038	0.038
6	32.27	35.01	5.4	2.8	7.6	0.443	0.160	0.160	0.034	0.034
7	34.63	37.50	5.4	2.8	5.2	0.379	0.061	0.061	0.014	0.014
8	36.98	40.00	5.7	3.0	5.5	0.363	0.046	0.046	0.010	0.010
9	46.55	50.01	5.9	2.9	4.8	0.375	0.047	0.047	0.011	0.011
10	56.42	60.00	6.8	3.3	7.1	0.385	0.043	0.043	0.010	0.010
11	87.93	90.01	13.6	6.4	17.1	0.281	0.095	0.095	0.016	0.016

TABLE VI. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(x) 50 Percent of design speed; reading 315

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	2.2	57.1	50.9	518.7	524.3	14.69	14.99
2	9.475	9.395	0.	2.1	55.6	50.5	518.7	523.3	14.69	15.00
3	8.912	8.889	0.	2.0	52.8	49.1	518.7	523.7	14.69	15.03
4	8.348	8.384	0.	8.5	50.3	52.3	518.7	524.4	14.69	14.42
5	8.207	8.258	0.	10.7	49.7	54.9	518.7	523.9	14.69	14.22
6	8.064	8.131	0.	9.7	48.9	48.6	518.7	525.2	14.69	14.61
7	7.922	8.005	0.	8.2	48.2	43.8	518.7	526.4	14.69	15.09
8	7.781	7.879	0.	7.4	47.4	42.1	518.7	526.4	14.69	15.28
9	7.207	7.373	0.	13.9	44.6	32.4	518.7	530.7	14.69	15.81
10	6.615	6.868	0.	19.9	42.4	24.0	518.7	534.1	14.69	16.14
11	4.724	5.352	0.	31.8	40.7	5.4	518.7	537.7	14.69	16.26

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	369.1	443.9	678.7	703.3	369.1	443.6	0.	17.2	569.5	562.9
2	376.9	438.0	667.8	688.0	376.9	437.7	0.	15.9	551.3	546.7
3	394.2	435.0	651.8	664.3	394.2	434.8	0.	15.4	519.0	517.7
4	403.0	342.0	631.3	552.7	403.0	338.2	0.	50.8	485.9	488.0
5	407.4	304.8	629.8	521.2	407.4	299.5	0.	56.6	480.2	483.2
6	410.8	368.2	624.6	549.1	410.8	362.9	0.	62.2	470.4	474.3
7	413.4	428.2	620.1	587.1	413.4	423.9	0.	60.8	462.2	467.0
8	417.7	448.7	616.6	599.3	417.7	445.0	0.	57.8	453.6	459.3
9	425.4	501.8	597.9	576.7	425.4	487.0	0.	120.9	420.1	429.7
10	422.1	527.2	571.8	542.7	422.1	495.7	0.	179.6	385.7	400.5
11	321.0	515.8	423.4	440.4	321.0	438.5	0.	271.6	276.1	312.8

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.334	0.402	0.615	0.637	0.334	0.402	1.202	0.753	0.527
2	0.342	0.397	0.605	0.623	0.342	0.397	1.162	0.731	0.663
3	0.358	0.394	0.591	0.601	0.358	0.394	1.103	0.703	0.687
4	0.366	0.308	0.573	0.497	0.366	0.304	0.839	0.694	-0.484
5	0.370	0.274	0.572	0.468	0.370	0.269	0.735	0.695	-0.937
6	0.373	0.331	0.567	0.494	0.373	0.327	0.883	0.688	-0.127
7	0.376	0.386	0.563	0.530	0.376	0.383	1.025	0.686	0.517
8	0.380	0.406	0.560	0.542	0.380	0.402	1.065	0.682	0.748
9	0.387	0.453	0.544	0.521	0.387	0.440	1.145	0.673	0.908
10	0.384	0.476	0.520	0.490	0.384	0.447	1.174	0.664	0.912
11	0.290	0.463	0.382	0.396	0.290	0.394	1.366	0.531	0.800

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	-2.0	-4.1	1.4	-0.027	0.077	0.077	0.017	0.017
2	8.75	9.99	-1.8	-3.9	2.2	-0.022	0.047	0.047	0.010	0.010
3	18.13	20.01	-1.8	-4.1	4.4	-0.012	0.049	0.049	0.010	0.010
4	27.53	30.00	-1.7	-4.2	12.6	0.149	0.278	0.278	0.052	0.052
5	29.88	32.50	-1.7	-4.2	16.8	0.200	0.332	0.332	0.058	0.058
6	32.27	35.01	-1.9	-4.5	12.0	0.151	0.245	0.245	0.048	0.048
7	34.63	37.50	-2.0	-4.7	8.7	0.082	0.128	0.128	0.027	0.027
8	36.98	40.00	-2.3	-5.0	8.7	0.055	0.067	0.067	0.014	0.014
9	46.55	50.01	-2.5	-5.5	6.8	0.090	0.040	0.040	0.009	0.009
10	56.42	60.00	-2.1	-5.6	7.6	0.129	0.053	0.053	0.012	0.012
11	87.93	90.01	4.2	-3.0	19.8	0.072	0.258	0.258	0.043	0.043

TABLE VI. - Concluded. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2

(y) 50 Percent of design speed; reading 317

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.760	9.647	0.	40.9	71.1	48.2	518.7	544.4	14.69	16.60
2	9.475	9.395	0.	37.4	70.3	48.9	518.7	540.2	14.69	16.53
3	8.912	8.889	0.	38.5	68.7	46.6	518.7	539.2	14.69	16.47
4	8.348	8.384	0.	51.5	68.2	48.4	518.7	539.8	14.69	16.13
5	8.207	8.258	0.	66.4	68.1	55.6	518.7	540.2	14.69	16.05
6	8.064	8.131	0.	66.0	67.7	52.7	518.7	540.7	14.69	16.08
7	7.922	8.005	0.	61.5	67.3	44.7	518.7	541.3	14.69	16.14
8	7.781	7.879	0.	58.5	66.8	40.0	518.7	541.4	14.69	16.21
9	7.207	7.373	0.	49.1	63.7	30.4	518.7	539.8	14.69	16.33
10	6.615	6.868	0.	44.1	61.0	24.5	518.7	538.2	14.69	16.40
11	4.724	5.352	0.	47.8	59.8	3.9	518.7	535.8	14.69	16.29

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	196.0	376.5	603.7	426.7	196.0	284.6	0.	246.5	571.0	564.4
2	197.7	361.7	587.9	437.3	197.7	287.5	0.	219.5	553.6	548.9
3	203.3	357.9	558.5	407.9	203.3	280.3	0.	222.6	520.2	518.9
4	195.1	330.2	525.2	309.6	195.1	205.7	0.	258.3	487.6	489.7
5	192.5	321.2	516.2	227.7	192.5	128.8	0.	294.2	479.0	482.0
6	193.4	328.2	509.0	220.1	193.4	133.5	0.	299.8	470.8	474.7
7	193.2	345.0	500.2	231.6	193.2	164.5	0.	303.2	461.4	466.2
8	194.9	356.4	494.5	243.3	194.9	186.3	0.	303.8	454.5	460.2
9	207.9	377.2	468.7	286.5	207.9	247.2	0.	284.9	420.0	429.7
10	214.0	391.9	441.7	309.6	214.0	281.6	0.	272.5	386.3	401.1
11	160.6	397.4	319.5	267.5	160.6	266.8	0.	294.5	276.2	312.9

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.176	0.333	0.543	0.377	0.176	0.252	1.452	0.930	0.713
2	0.178	0.321	0.528	0.388	0.178	0.255	1.454	0.910	0.828
3	0.185	0.318	0.502	0.362	0.183	0.249	1.379	0.877	0.837
4	0.175	0.292	0.472	0.274	0.175	0.182	1.054	0.865	0.665
5	0.173	0.284	0.464	0.201	0.173	0.114	0.669	0.861	0.618
6	0.174	0.290	0.457	0.195	0.174	0.118	0.690	0.854	0.614
7	0.174	0.305	0.449	0.205	0.174	0.146	0.852	0.846	0.626
8	0.175	0.316	0.444	0.215	0.175	0.165	0.956	0.842	0.647
9	0.187	0.335	0.421	0.254	0.187	0.219	1.189	0.800	0.752
10	0.192	0.349	0.397	0.276	0.192	0.251	1.316	0.762	0.848
11	0.144	0.355	0.287	0.239	0.144	0.238	1.661	0.590	0.902

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.00	5.01	12.0	9.9	-1.3	0.437	0.257	0.257	0.061	0.061
2	8.75	9.99	12.9	10.8	0.6	0.385	0.137	0.137	0.031	0.031
3	18.13	20.01	14.1	11.8	1.9	0.400	0.136	0.136	0.031	0.031
4	27.53	30.00	16.2	13.7	8.7	0.562	0.319	0.319	0.065	0.065
5	29.88	32.50	16.7	14.2	17.4	0.732	0.381	0.381	0.065	0.065
6	32.27	35.01	16.8	14.3	16.0	0.744	0.404	0.404	0.073	0.073
7	34.63	37.50	17.0	14.4	9.7	0.716	0.414	0.414	0.086	0.086
8	36.98	40.00	17.1	14.5	6.7	0.686	0.403	0.403	0.089	0.089
9	46.55	50.01	16.5	13.5	4.8	0.553	0.292	0.292	0.067	0.067
10	56.42	60.00	16.5	13.0	8.1	0.451	0.186	0.186	0.041	0.041
11	87.93	90.01	23.4	16.2	18.3	0.325	0.198	0.198	0.033	0.033

TABLE VII. - BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

(a) 100 Percent of design speed; reading 1055

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	26.6	59.1	51.6	518.7	579.2	14.69	19.13
2	9.464	9.420	0.0	25.9	57.7	50.5	518.7	579.1	14.69	19.18
3	8.935	8.925	0.0	24.0	55.1	48.6	518.7	572.0	14.69	19.33
4	8.499	8.518	0.0	29.9	53.6	45.4	518.7	574.1	14.69	19.10
5	8.406	8.430	0.0	32.9	53.3	47.0	518.7	572.7	14.69	18.24
6	8.237	8.270	0.0	33.0	52.6	51.3	518.7	573.3	14.69	17.24
7	8.147	8.186	0.0	31.4	52.4	52.7	518.7	574.5	14.69	16.97
8	7.319	7.416	0.0	31.5	49.3	36.7	518.7	580.6	14.69	19.17
9	6.219	6.412	0.0	36.7	45.3	18.8	518.7	585.9	14.69	20.73
10	5.125	5.418	0.0	38.9	44.4	3.7	518.7	581.9	14.69	21.21
11	4.880	5.193	0.0	39.9	45.1	1.0	518.7	580.5	14.69	20.94

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	669.3	705.4	1304.8	1016.8	669.3	630.9	0.0	315.4	1120.1	1112.8
2	690.1	710.7	1290.1	1004.1	690.1	639.2	0.0	310.6	1090.1	1085.0
3	716.1	711.5	1251.9	982.2	716.1	650.0	0.0	289.4	1026.8	1025.7
4	720.3	710.4	1213.2	876.6	720.3	615.7	0.0	354.4	976.2	978.4
5	717.4	669.2	1201.2	823.5	717.4	561.6	0.0	363.9	963.4	966.2
6	722.4	596.7	1190.5	801.2	722.4	500.7	0.0	324.5	946.3	950.1
7	721.8	574.2	1183.1	808.2	721.8	490.1	0.0	299.2	937.4	941.9
8	725.6	737.5	1111.8	783.5	725.6	628.6	0.0	385.8	842.3	853.5
9	705.8	844.7	1003.4	715.2	705.8	677.1	0.0	504.9	713.1	735.3
10	600.3	917.8	840.9	715.9	600.3	714.4	0.0	576.3	588.8	622.5
11	557.5	909.5	790.0	697.8	557.5	697.7	0.0	583.4	559.8	595.7

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.622	0.621	1.213	0.895	0.622	0.555	0.943	1.439	0.671
2	0.643	0.626	1.203	0.884	0.643	0.563	0.926	1.419	0.679
3	0.670	0.631	1.171	0.871	0.670	0.576	0.908	1.385	0.794
4	0.674	0.628	1.135	0.775	0.674	0.545	0.855	1.378	0.729
5	0.671	0.590	1.123	0.726	0.671	0.495	0.783	1.379	0.612
6	0.676	0.522	1.114	0.701	0.676	0.438	0.693	1.383	0.444
7	0.675	0.501	1.107	0.705	0.675	0.427	0.679	1.388	0.391
8	0.679	0.650	1.041	0.691	0.679	0.554	0.866	1.403	0.661
9	0.659	0.751	0.937	0.636	0.659	0.602	0.959	1.325	0.797
10	0.554	0.828	0.776	0.646	0.554	0.644	1.190	1.099	0.907
11	0.512	0.820	0.726	0.629	0.512	0.629	1.251	1.031	0.895

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	0.0	-2.1	2.1	0.306	0.192	0.149	0.042	0.033
2	9.28	10.18	0.3	-1.9	1.9	0.305	0.190	0.152	0.042	0.033
3	18.99	20.06	0.6	-1.8	3.4	0.291	0.115	0.085	0.025	0.019
4	26.99	28.18	0.9	-1.5	4.2	0.369	0.161	0.136	0.035	0.030
5	28.70	29.94	1.1	-1.4	6.8	0.408	0.225	0.201	0.048	0.042
6	31.80	33.13	1.2	-1.4	12.7	0.410	0.323	0.299	0.061	0.057
7	33.45	34.81	1.3	-1.3	15.2	0.393	0.360	0.337	0.066	0.061
8	48.64	50.18	1.6	-1.4	10.1	0.390	0.246	0.227	0.054	0.049
9	68.83	70.22	1.7	-2.4	11.8	0.405	0.186	0.181	0.041	0.040
10	88.90	90.06	3.8	-2.5	17.8	0.286	0.108	0.108	0.021	0.021
11	93.39	94.55	4.8	-2.4	20.3	0.260	0.134	0.134	0.025	0.025

TABLE VII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

(b) 100 Percent of design speed; reading 1057

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	35.2	59.6	49.2	518.7	594.1	14.69	21.28
2	9.464	9.420	0.0	35.3	57.9	48.4	518.7	593.6	14.69	21.23
3	8.935	8.925	0.0	34.1	55.6	47.1	518.7	585.7	14.69	21.08
4	8.499	8.518	0.0	38.2	54.1	44.6	518.7	588.2	14.69	20.64
5	8.406	8.430	0.0	40.1	53.5	46.1	518.7	587.2	14.69	20.15
6	8.237	8.270	0.0	40.4	53.1	46.0	518.7	586.6	14.69	19.83
7	8.147	8.186	0.0	39.3	52.8	44.5	518.7	586.2	14.69	20.04
8	7.319	7.416	0.0	38.3	49.5	31.8	518.7	588.6	14.69	21.29
9	6.219	6.412	0.0	40.8	46.0	16.3	518.7	587.2	14.69	21.90
10	5.125	5.418	0.0	41.6	45.2	3.0	518.7	580.8	14.69	21.60
11	4.880	5.193	0.0	42.4	45.7	0.5	518.7	581.8	14.69	21.22

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	657.5	729.9	1297.8	913.4	657.5	596.8	0.0	420.2	1118.9	1111.7
2	682.7	724.3	1285.6	890.8	682.7	591.4	0.0	418.2	1089.4	1084.4
3	704.4	708.3	1247.1	861.2	704.4	586.4	0.0	397.2	1029.1	1028.0
4	709.4	703.7	1208.5	776.4	709.4	552.8	0.0	435.4	978.4	980.6
5	716.9	676.1	1206.2	746.3	716.9	517.5	0.0	435.1	970.1	972.9
6	713.3	662.7	1187.2	726.5	713.3	504.4	0.0	429.9	949.0	952.8
7	713.4	676.6	1179.2	734.8	713.4	523.9	0.0	428.1	938.9	943.4
8	719.7	772.9	1108.7	713.6	719.7	606.7	0.0	478.8	843.3	854.5
9	691.5	843.5	995.3	665.1	691.5	638.4	0.0	551.3	715.9	738.1
10	585.0	888.0	830.8	665.2	585.0	664.3	0.0	589.2	589.9	623.6
11	549.0	878.6	785.9	648.7	549.0	648.6	0.0	592.6	562.3	598.4

	ABS MACH NO		REL MACH NO		MERID MACH NO			MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT		VEL R	MACH NO	
1	0.611	0.635	1.205	0.795	0.611	0.519		0.908	1.446	0.768
2	0.636	0.630	1.197	0.775	0.636	0.514		0.866	1.424	0.768
3	0.658	0.620	1.164	0.753	0.658	0.513		0.832	1.397	0.841
4	0.663	0.614	1.129	0.677	0.663	0.482		0.779	1.391	0.761
5	0.670	0.589	1.128	0.650	0.670	0.451		0.722	1.390	0.715
6	0.667	0.577	1.110	0.632	0.667	0.439		0.707	1.394	0.683
7	0.667	0.590	1.102	0.640	0.667	0.457		0.734	1.397	0.713
8	0.673	0.679	1.037	0.627	0.673	0.533		0.843	1.410	0.830
9	0.645	0.749	0.928	0.591	0.645	0.567		0.923	1.335	0.915
10	0.539	0.798	0.765	0.598	0.539	0.597		1.136	1.104	0.971
11	0.504	0.788	0.722	0.582	0.504	0.582		1.181	1.039	0.911

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	0.5	-1.7	-0.4	0.411	0.167	0.124	0.039	0.029
2	9.28	10.18	0.6	-1.6	-0.2	0.420	0.167	0.129	0.039	0.030
3	18.99	20.06	1.1	-1.3	1.9	0.414	0.109	0.079	0.024	0.018
4	26.99	28.18	1.4	-1.0	3.5	0.471	0.174	0.148	0.039	0.033
5	28.70	29.94	1.3	-1.2	5.9	0.493	0.204	0.179	0.044	0.038
6	31.80	33.13	1.6	-1.0	7.5	0.498	0.229	0.204	0.048	0.043
7	33.45	34.81	1.7	-0.9	7.0	0.486	0.210	0.185	0.045	0.040
8	48.64	50.18	1.9	-1.1	5.2	0.475	0.141	0.121	0.033	0.028
9	68.83	70.22	2.4	-1.7	9.3	0.462	0.082	0.077	0.018	0.017
10	88.90	90.06	4.6	-1.7	17.0	0.342	0.034	0.034	0.007	0.007
11	93.39	94.55	5.4	-1.8	19.8	0.321	0.117	0.117	0.022	0.022

TABLE VII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

(c) 100 Percent of design speed; reading 1058

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	39.7	60.3	48.1	518.7	600.5	14.69	22.25
2	9.464	9.420	0.0	39.6	58.7	47.2	518.7	599.1	14.69	22.20
3	8.935	8.925	0.0	38.4	56.5	45.8	518.7	591.4	14.69	21.96
4	8.499	8.518	0.0	40.1	55.0	42.5	518.7	593.2	14.69	21.81
5	8.406	8.430	0.0	42.4	54.6	43.9	518.7	592.4	14.69	21.25
6	8.237	8.270	0.0	43.4	53.9	43.1	518.7	591.8	14.69	21.00
7	8.147	8.186	0.0	42.1	53.6	41.5	518.7	591.1	14.69	21.21
8	7.319	7.416	0.0	41.5	50.6	29.2	518.7	590.8	14.69	22.16
9	6.219	6.412	0.0	41.9	47.2	15.4	518.7	587.3	14.69	22.46
10	5.125	5.418	0.0	43.6	46.5	1.5	518.7	581.7	14.69	21.75
11	4.880	5.193	0.0	43.6	46.7	0.8	518.7	578.4	14.69	21.10

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	635.4	739.2	1282.3	851.5	635.4	568.4	0.0	472.6	1113.8	1106.6
2	658.7	732.4	1266.8	830.9	658.7	564.2	0.0	467.0	1082.1	1077.1
3	677.8	715.8	1227.3	804.9	677.8	560.9	0.0	444.8	1023.2	1022.0
4	683.5	726.3	1191.2	753.7	683.5	555.3	0.0	468.1	975.6	977.8
5	685.8	698.2	1182.6	714.7	685.8	515.4	0.0	471.0	963.4	966.2
6	687.2	693.2	1167.3	689.9	687.2	503.9	0.0	476.1	943.5	947.3
7	687.7	706.7	1159.2	700.5	687.7	524.6	0.0	473.5	933.2	937.7
8	688.7	786.1	1085.8	674.7	688.7	588.8	0.0	520.9	839.4	850.5
9	661.3	843.6	973.3	651.2	661.3	627.9	0.0	563.4	714.1	736.3
10	558.6	876.5	811.1	634.9	558.6	634.6	0.0	604.6	588.1	621.7
11	526.8	850.5	768.0	616.3	526.8	616.2	0.0	586.2	558.8	594.6

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.589	0.640	1.188	0.737	0.589	0.492	0.895	1.457	0.798
2	0.612	0.635	1.176	0.720	0.612	0.489	0.857	1.432	0.808
3	0.631	0.623	1.142	0.701	0.631	0.488	0.828	1.410	0.868
4	0.637	0.632	1.109	0.656	0.637	0.483	0.812	1.409	0.832
5	0.639	0.606	1.102	0.621	0.639	0.448	0.752	1.406	0.782
6	0.640	0.602	1.088	0.599	0.640	0.438	0.733	1.410	0.762
7	0.641	0.615	1.080	0.610	0.641	0.457	0.763	1.412	0.792
8	0.642	0.691	1.012	0.593	0.642	0.517	0.855	1.440	0.897
9	0.614	0.749	0.904	0.578	0.614	0.557	0.949	1.338	0.974
10	0.513	0.786	0.745	0.569	0.513	0.569	1.136	1.107	0.977
11	0.483	0.762	0.704	0.552	0.483	0.552	1.170	1.037	0.947

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	1.2	-0.9	-1.5	0.466	0.159	0.116	0.038	0.028
2	9.28	10.18	1.3	-0.9	-1.3	0.472	0.151	0.114	0.036	0.027
3	18.99	20.06	1.9	-0.4	0.6	0.463	0.100	0.070	0.023	0.016
4	26.99	28.18	2.3	-0.1	1.4	0.491	0.135	0.108	0.031	0.025
5	28.70	29.94	2.3	-0.2	3.6	0.519	0.172	0.147	0.039	0.033
6	31.80	33.13	2.4	-0.1	4.5	0.533	0.189	0.165	0.042	0.037
7	33.45	34.81	2.5	-0.1	4.0	0.519	0.167	0.143	0.038	0.032
8	48.64	50.18	3.0	0.0	2.7	0.510	0.092	0.071	0.022	0.017
9	68.83	70.22	3.6	-0.5	8.4	0.467	0.026	0.022	0.006	0.005
10	88.90	90.06	5.9	-0.5	15.6	0.367	0.029	0.029	0.006	0.006
11	93.39	94.55	6.4	-0.8	20.1	0.346	0.070	0.070	0.013	0.013

TABLE VII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

(d) 100 Percent of design speed; reading 1059

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	44.8	62.0	47.2	518.7	609.1	14.69	23.09
2	9.464	9.420	0.0	43.8	60.6	46.2	518.7	606.9	14.69	23.08
3	8.935	8.925	0.0	42.5	58.5	44.8	518.7	597.5	14.69	22.80
4	8.499	8.518	0.0	45.4	57.0	41.7	518.7	597.5	14.69	22.46
5	8.406	8.430	0.0	46.6	56.7	42.4	518.7	597.1	14.69	22.08
6	8.237	8.270	0.0	47.9	56.1	41.8	518.7	597.0	14.69	21.76
7	8.147	8.186	0.0	47.0	55.5	48.3	518.7	597.0	14.69	18.28
8	7.319	7.416	0.0	44.2	53.0	28.9	518.7	593.8	14.69	22.48
9	6.219	6.412	0.0	44.8	49.5	14.1	518.7	589.0	14.69	22.57
10	5.125	5.418	0.0	45.0	48.3	1.5	518.7	581.6	14.69	21.75
11	4.880	5.193	0.0	45.3	48.7	1.1	518.7	578.5	14.69	20.92

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	594.1	754.4	1264.3	787.4	594.1	535.5	0.0	531.4	1116.0	1108.7
2	613.3	749.4	1248.6	781.3	613.3	540.8	0.0	518.7	1087.7	1082.6
3	630.7	728.3	1205.5	756.8	630.7	536.6	0.0	492.4	1027.3	1026.2
4	635.7	732.3	1165.9	689.2	635.7	514.6	0.0	521.0	977.3	979.5
5	634.6	715.4	1155.9	665.8	634.6	491.5	0.0	519.8	966.1	968.9
6	634.4	706.9	1137.9	635.5	634.4	473.7	0.0	524.8	944.6	948.4
7	643.6	628.5	1136.1	644.3	643.6	428.6	0.0	459.7	936.3	940.8
8	633.3	780.0	1052.7	638.5	633.3	559.1	0.0	543.9	841.0	852.1
9	609.3	833.1	938.2	609.6	609.3	591.2	0.0	587.0	713.4	735.5
10	523.7	856.5	787.6	605.4	523.7	605.2	0.0	606.1	588.2	621.8
11	491.6	822.1	745.1	578.5	491.6	578.4	0.0	584.2	559.8	595.7

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.548	0.649	1.166	0.678	0.548	0.461	0.901	1.496	0.791
2	0.567	0.646	1.154	0.674	0.567	0.466	0.882	1.480	0.810
3	0.584	0.632	1.116	0.656	0.584	0.465	0.851	1.459	0.880
4	0.589	0.635	1.080	0.598	0.589	0.446	0.809	1.458	0.849
5	0.588	0.620	1.071	0.577	0.588	0.426	0.775	1.461	0.816
6	0.588	0.612	1.054	0.550	0.588	0.410	0.747	1.465	0.787
7	0.597	0.540	1.053	0.553	0.597	0.368	0.666	1.462	0.427
8	0.586	0.683	0.975	0.559	0.586	0.489	0.883	1.481	0.893
9	0.563	0.737	0.867	0.540	0.563	0.523	0.970	1.350	0.962
10	0.480	0.766	0.722	0.541	0.480	0.541	1.156	1.117	0.978
11	0.449	0.734	0.681	0.516	0.449	0.516	1.176	1.050	0.922

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	2.9	0.7	-2.4	0.526	0.182	0.136	0.044	0.033
2	9.28	10.18	3.2	1.1	-2.4	0.518	0.165	0.123	0.040	0.030
3	18.99	20.06	3.9	1.6	-0.4	0.506	0.100	0.066	0.023	0.015
4	26.99	28.18	4.3	1.9	0.6	0.549	0.131	0.101	0.031	0.024
5	28.70	29.94	4.5	2.0	2.2	0.564	0.159	0.130	0.036	0.030
6	31.80	33.13	4.6	2.1	3.2	0.582	0.188	0.160	0.043	0.036
7	33.45	34.81	4.4	1.8	10.8	0.555	0.477	0.449	0.096	0.090
8	48.64	50.18	5.4	2.4	2.3	0.535	0.103	0.081	0.025	0.019
9	68.83	70.22	5.9	1.8	7.1	0.497	0.041	0.038	0.009	0.009
10	88.90	90.06	7.7	1.3	15.6	0.386	0.029	0.029	0.006	0.006
11	93.39	94.55	8.4	1.2	20.5	0.376	0.107	0.107	0.020	0.020

TABLE VII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

(e) 100 Percent of design speed; reading 1060

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	44.5	63.1	46.6	518.7	611.4	14.69	23.19
2	9.464	9.420	0.0	43.9	61.7	46.0	518.7	606.6	14.69	23.13
3	8.935	8.925	0.0	42.7	59.6	44.9	518.7	597.5	14.69	22.74
4	8.499	8.518	0.0	46.7	58.4	42.5	518.7	598.5	14.69	22.17
5	8.406	8.430	0.0	48.8	58.4	43.2	518.7	598.2	14.69	21.80
6	8.237	8.270	0.0	51.7	57.8	43.5	518.7	599.4	14.69	21.43
7	8.147	8.186	0.0	51.3	57.8	42.5	518.7	598.7	14.69	21.39
8	7.319	7.416	0.0	45.8	54.7	30.4	518.7	593.6	14.69	22.07
9	6.219	6.412	0.0	45.7	50.5	14.5	518.7	589.1	14.69	22.37
10	5.125	5.418	0.0	45.9	49.1	1.0	518.7	581.7	14.69	21.70
11	4.880	5.193	0.0	46.8	49.6	0.0	518.7	579.2	14.69	20.84

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	566.4	762.9	1251.9	791.3	566.4	544.2	0.0	534.7	1116.5	1109.2
2	584.9	750.7	1233.3	779.1	584.9	541.2	0.0	520.3	1085.8	1080.8
3	601.4	726.7	1190.1	754.9	601.4	534.3	0.0	492.5	1027.0	1025.8
4	600.1	721.1	1145.2	670.7	600.1	494.7	0.0	524.6	975.4	977.6
5	593.3	705.7	1132.5	637.8	593.3	465.0	0.0	530.8	964.6	967.4
6	594.5	691.5	1116.6	590.9	594.5	428.9	0.0	542.4	945.1	948.9
7	590.4	695.4	1107.0	589.6	590.4	434.8	0.0	542.7	936.4	940.9
8	595.6	755.9	1029.6	611.0	595.6	527.0	0.0	541.9	839.9	851.0
9	588.1	820.3	924.6	591.3	588.1	572.5	0.0	587.5	713.5	735.6
10	510.1	851.6	779.1	592.6	510.1	592.5	0.0	611.7	588.8	622.5
11	478.2	818.2	737.1	559.8	478.2	559.8	0.0	596.8	561.0	597.0

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.521	0.656	1.151	0.680	0.521	0.468	0.961	1.524	0.779
2	0.539	0.647	1.136	0.672	0.539	0.467	0.925	1.505	0.817
3	0.555	0.630	1.098	0.655	0.555	0.463	0.888	1.488	0.875
4	0.554	0.624	1.057	0.581	0.554	0.428	0.824	1.494	0.810
5	0.547	0.610	1.044	0.551	0.547	0.402	0.784	1.505	0.778
6	0.548	0.596	1.030	0.510	0.548	0.370	0.721	1.513	0.732
7	0.544	0.600	1.021	0.509	0.544	0.375	0.736	1.526	0.735
8	0.549	0.660	0.950	0.533	0.549	0.460	0.885	1.496	0.853
9	0.542	0.725	0.852	0.523	0.542	0.506	0.973	1.356	0.940
10	0.467	0.761	0.713	0.529	0.467	0.529	1.161	1.122	0.970
11	0.436	0.730	0.673	0.499	0.436	0.499	1.171	1.057	0.931

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	4.0	1.9	-3.0	0.519	0.199	0.150	0.049	0.037
2	9.28	10.18	4.3	2.2	-2.6	0.514	0.162	0.118	0.039	0.028
3	18.99	20.06	5.1	2.8	-0.3	0.502	0.106	0.070	0.025	0.016
4	26.99	28.18	5.8	3.3	1.3	0.558	0.170	0.137	0.039	0.032
5	28.70	29.94	6.2	3.7	3.0	0.582	0.200	0.167	0.045	0.038
6	31.80	33.13	6.3	3.8	4.9	0.619	0.247	0.214	0.055	0.047
7	33.45	34.81	6.7	4.1	5.0	0.615	0.246	0.213	0.055	0.047
8	48.64	50.18	7.0	4.0	3.8	0.551	0.145	0.124	0.034	0.029
9	68.83	70.22	6.9	2.8	7.5	0.509	0.067	0.064	0.015	0.014
10	88.90	90.06	8.5	2.1	15.1	0.397	0.040	0.040	0.008	0.008
11	93.39	94.55	9.3	2.1	19.3	0.398	0.139	0.139	0.026	0.026

TABLE VII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

(f) 90 Percent of design speed; reading 1046

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	7.9	58.2	54.2	518.7	550.3	14.69	16.06
2	9.464	9.420	0.0	8.1	56.6	52.9	518.7	549.5	14.69	16.18
3	8.935	8.925	0.0	7.7	54.2	51.2	518.7	545.3	14.69	16.33
4	8.499	8.518	0.0	11.5	52.6	49.7	518.7	549.2	14.69	16.01
5	8.406	8.430	0.0	12.2	52.1	50.6	518.7	546.4	14.69	15.56
6	8.237	8.270	0.0	11.6	51.4	54.9	518.7	547.6	14.69	14.58
7	8.147	8.186	0.0	12.0	51.1	55.1	518.7	549.4	14.69	14.45
8	7.319	7.416	0.0	19.7	47.8	39.1	518.7	558.8	14.69	16.93
9	6.219	6.412	0.0	30.9	43.8	18.3	518.7	571.8	14.69	19.13
10	5.125	5.418	0.0	36.0	42.3	1.9	518.7	572.8	14.69	19.95
11	4.880	5.193	0.0	37.1	42.8	-0.0	518.7	568.8	14.69	19.64

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	624.3	663.6	1186.2	1123.7	624.3	657.3	0.0	90.7	1008.6	1002.1
2	644.7	671.2	1171.7	1102.3	644.7	664.6	0.0	94.4	978.4	973.8
3	668.9	675.9	1142.4	1069.6	668.9	669.8	0.0	91.1	926.1	925.1
4	674.5	653.7	1110.6	989.6	674.5	640.6	0.0	130.0	882.3	884.3
5	678.3	623.2	1103.5	959.6	678.3	609.2	0.0	131.4	870.4	872.9
6	679.8	537.3	1090.8	915.0	679.8	526.3	0.0	108.0	853.0	856.4
7	682.4	528.5	1086.8	902.9	682.4	516.9	0.0	109.7	845.9	849.9
8	688.9	698.6	1026.2	847.8	688.9	657.6	0.0	235.7	760.6	770.7
9	672.3	832.7	931.3	752.8	672.3	714.6	0.0	427.5	644.4	664.4
10	582.1	909.3	786.7	735.6	582.1	735.2	0.0	535.0	529.2	559.5
11	544.0	889.7	741.9	709.4	544.0	709.4	0.0	537.0	504.5	536.8

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.578	0.597	1.097	1.012	0.578	0.592	1.053	1.316	0.422
2	0.598	0.605	1.086	0.994	0.598	0.599	1.031	1.292	0.471
3	0.622	0.612	1.062	0.969	0.622	0.607	1.001	1.272	0.595
4	0.628	0.588	1.033	0.891	0.628	0.577	0.950	1.279	0.422
5	0.631	0.561	1.027	0.864	0.631	0.548	0.898	1.276	0.308
6	0.633	0.479	1.015	0.816	0.633	0.469	0.774	1.285	-0.040
7	0.636	0.470	1.012	0.803	0.636	0.460	0.757	1.291	-0.081
8	0.642	0.626	0.956	0.760	0.642	0.589	0.955	1.282	0.534
9	0.625	0.749	0.866	0.677	0.625	0.643	1.063	1.180	0.765
10	0.536	0.826	0.725	0.669	0.536	0.668	1.263	0.971	0.876
11	0.499	0.809	0.681	0.645	0.499	0.645	1.304	0.912	0.894

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	-0.9	-3.0	4.6	0.080	0.209	0.194	0.043	0.040
2	9.28	10.18	-0.7	-2.9	4.4	0.087	0.190	0.178	0.040	0.037
3	18.99	20.06	-0.4	-2.7	6.0	0.090	0.132	0.124	0.027	0.025
4	26.99	28.18	-0.0	-2.5	8.5	0.146	0.219	0.212	0.044	0.043
5	28.70	29.94	-0.2	-2.7	10.4	0.167	0.241	0.234	0.047	0.046
6	31.80	33.13	-0.0	-2.6	16.3	0.191	0.374	0.367	0.065	0.064
7	33.45	34.81	0.0	-2.6	17.6	0.200	0.410	0.403	0.071	0.070
8	48.64	50.18	0.2	-2.8	12.5	0.237	0.255	0.251	0.054	0.053
9	68.83	70.22	0.2	-3.9	11.3	0.299	0.195	0.195	0.043	0.043
10	88.90	90.06	1.7	-4.7	16.0	0.201	0.139	0.139	0.027	0.027
11	93.39	94.55	2.5	-4.6	19.3	0.184	0.124	0.124	0.023	0.023

TABLE VII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

(g) 90 Percent of design speed; reading 1047

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	20.0	58.5	51.5	518.7	562.7	14.69	17.82
2	9.464	9.420	0.0	20.5	56.7	50.6	518.7	561.8	14.69	17.86
3	8.935	8.925	0.0	18.2	54.3	48.9	518.7	556.2	14.69	18.02
4	8.499	8.518	0.0	24.7	52.5	45.7	518.7	560.1	14.69	17.77
5	8.406	8.430	0.0	26.7	52.2	47.3	518.7	558.8	14.69	17.13
6	8.237	8.270	0.0	27.7	51.6	50.5	518.7	559.5	14.69	16.40
7	8.147	8.186	0.0	25.1	51.0	50.0	518.7	561.2	14.69	16.45
8	7.319	7.416	0.0	27.8	47.8	35.0	518.7	566.7	14.69	18.53
9	6.219	6.412	0.0	34.5	43.9	17.0	518.7	573.5	14.69	19.99
10	5.125	5.418	0.0	37.7	42.9	2.6	518.7	570.1	14.69	20.27
11	4.880	5.193	0.0	39.3	43.2	-0.2	518.7	567.6	14.69	19.95

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	616.7	655.8	1180.8	991.0	616.7	616.2	0.0	224.4	1007.0	1000.4
2	645.4	655.7	1175.0	967.9	645.4	614.3	0.0	229.4	981.9	977.4
3	664.1	660.4	1139.2	953.3	664.1	627.2	0.0	206.7	925.7	924.6
4	674.4	654.0	1108.1	849.7	674.4	594.0	0.0	273.6	879.3	881.2
5	675.4	615.5	1101.2	811.1	675.4	550.1	0.0	276.1	869.7	872.2
6	675.7	555.9	1087.7	774.0	675.7	492.2	0.0	258.4	852.3	855.7
7	682.7	563.3	1084.9	793.8	682.7	510.0	0.0	239.0	843.2	847.2
8	689.0	707.7	1024.8	764.5	689.0	626.1	0.0	330.0	758.6	768.7
9	667.8	811.6	927.5	699.3	667.8	668.9	0.0	459.8	643.7	663.7
10	570.7	866.6	779.1	686.7	570.7	686.0	0.0	529.6	530.4	560.7
11	538.1	852.5	738.0	659.6	538.1	659.6	0.0	540.1	505.1	537.5

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.570	0.583	1.092	0.881	0.570	0.548	0.999	1.322	0.667
2	0.598	0.583	1.090	0.861	0.598	0.546	0.952	1.297	0.691
3	0.617	0.591	1.059	0.853	0.617	0.561	0.944	1.277	0.831
4	0.627	0.583	1.031	0.757	0.627	0.529	0.881	1.275	0.699
5	0.628	0.547	1.025	0.721	0.628	0.489	0.814	1.279	0.580
6	0.629	0.491	1.012	0.683	0.629	0.435	0.728	1.289	0.405
7	0.636	0.497	1.010	0.700	0.636	0.450	0.747	1.287	0.401
8	0.642	0.630	0.955	0.681	0.642	0.557	0.909	1.277	0.741
9	0.621	0.727	0.862	0.626	0.621	0.599	1.002	1.179	0.869
10	0.525	0.785	0.717	0.622	0.525	0.621	1.202	0.976	0.971
11	0.494	0.772	0.677	0.598	0.494	0.598	1.226	0.916	0.968

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	-0.6	-2.7	2.0	0.228	0.166	0.151	0.037	0.033
2	9.28	10.18	-0.7	-2.8	2.0	0.244	0.152	0.140	0.034	0.031
3	18.99	20.06	-0.2	-2.5	3.7	0.223	0.077	0.068	0.017	0.015
4	26.99	28.18	-0.1	-2.6	4.5	0.311	0.155	0.148	0.034	0.032
5	28.70	29.94	-0.1	-2.6	7.1	0.341	0.209	0.202	0.044	0.042
6	31.80	33.13	0.1	-2.4	11.9	0.361	0.301	0.294	0.058	0.057
7	33.45	34.81	-0.1	-2.7	12.5	0.335	0.315	0.308	0.061	0.060
8	48.64	50.18	0.1	-2.9	8.4	0.342	0.170	0.166	0.038	0.037
9	68.83	70.22	0.3	-3.7	9.9	0.362	0.113	0.113	0.025	0.025
10	88.90	90.06	2.3	-4.1	16.7	0.255	0.032	0.032	0.006	0.006
11	93.39	94.55	2.9	-4.3	19.1	0.248	0.037	0.037	0.007	0.007

TABLE VII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

(h) 90 Percent of design speed; reading 1048

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	27.3	58.8	49.7	518.7	571.6	14.69	19.02
2	9.464	9.420	0.0	28.0	57.3	49.1	518.7	570.7	14.69	19.05
3	8.935	8.925	0.0	27.0	54.7	47.5	518.7	564.8	14.69	18.99
4	8.499	8.518	0.0	30.2	53.0	45.0	518.7	566.7	14.69	18.78
5	8.406	8.430	0.0	32.7	52.5	45.4	518.7	566.7	14.69	18.39
6	8.237	8.270	0.0	33.5	52.0	46.8	518.7	567.1	14.69	17.98
7	8.147	8.186	0.0	32.4	51.5	45.4	518.7	568.0	14.69	18.07
8	7.319	7.416	0.0	32.9	48.4	32.7	518.7	570.6	14.69	19.48
9	6.219	6.412	0.0	37.2	44.7	16.0	518.7	573.0	14.69	20.41
10	5.125	5.418	0.0	39.2	43.4	2.2	518.7	570.3	14.69	20.50
11	4.880	5.193	0.0	41.0	43.9	-0.7	518.7	568.4	14.69	20.05

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	608.2	661.6	1174.2	910.1	608.2	588.0	0.0	303.3	1004.4	997.9
2	630.8	657.6	1167.6	885.5	630.8	580.3	0.0	309.2	982.6	978.0
3	656.9	648.8	1135.7	855.8	656.9	578.1	0.0	294.4	926.5	925.4
4	663.6	645.9	1103.5	789.4	663.6	558.0	0.0	325.2	881.6	883.6
5	666.2	625.7	1095.3	750.3	666.2	526.8	0.0	337.6	869.4	871.9
6	667.7	595.7	1084.3	725.6	667.7	496.7	0.0	328.8	854.4	857.8
7	670.8	609.1	1078.3	732.5	670.8	514.2	0.0	326.5	844.2	848.2
8	674.5	711.6	1015.6	710.0	674.5	597.8	0.0	386.1	759.2	769.3
9	649.7	795.7	914.2	659.4	649.7	633.8	0.0	481.1	643.2	663.2
10	560.2	846.5	771.3	656.2	560.2	655.8	0.0	535.3	530.1	560.4
11	524.6	828.5	727.7	625.1	524.6	625.1	0.0	543.8	504.2	536.6

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.562	0.584	1.084	0.803	0.562	0.519	0.967	1.327	0.751
2	0.584	0.580	1.081	0.781	0.584	0.512	0.920	1.314	0.768
3	0.610	0.575	1.055	0.759	0.610	0.512	0.880	1.286	0.855
4	0.617	0.571	1.025	0.698	0.617	0.494	0.841	1.292	0.784
5	0.619	0.552	1.018	0.662	0.619	0.465	0.791	1.290	0.715
6	0.621	0.524	1.008	0.638	0.621	0.437	0.744	1.303	0.637
7	0.624	0.536	1.003	0.645	0.624	0.453	0.766	1.305	0.641
8	0.628	0.632	0.945	0.630	0.628	0.530	0.886	1.285	0.837
9	0.603	0.712	0.848	0.590	0.603	0.567	0.975	1.182	0.940
10	0.515	0.764	0.709	0.592	0.515	0.592	1.171	0.978	1.004
11	0.481	0.748	0.667	0.564	0.481	0.564	1.192	0.917	0.969

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	-0.3	-2.4	0.2	0.316	0.149	0.134	0.034	0.031
2	9.28	10.18	-0.1	-2.2	0.5	0.333	0.138	0.125	0.031	0.028
3	18.99	20.06	0.1	-2.2	2.3	0.332	0.081	0.072	0.018	0.016
4	26.99	28.18	0.4	-2.1	3.9	0.377	0.129	0.121	0.029	0.027
5	28.70	29.94	0.3	-2.2	5.2	0.411	0.170	0.163	0.037	0.035
6	31.80	33.13	0.5	-2.0	8.2	0.423	0.220	0.212	0.046	0.044
7	33.45	34.81	0.4	-2.1	7.9	0.412	0.222	0.215	0.047	0.045
8	48.64	50.18	0.7	-2.2	6.1	0.405	0.117	0.114	0.027	0.026
9	68.83	70.22	1.1	-3.0	9.0	0.402	0.054	0.054	0.012	0.012
10	88.90	90.06	2.8	-3.6	16.3	0.288	-0.004	-0.004	-0.001	-0.001
11	93.39	94.55	3.6	-3.6	18.6	0.286	0.038	0.038	0.007	0.007

TABLE VII. - Continued. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

(i) 90 Percent of design speed; reading 1050

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	38.4	61.0	47.9	518.7	585.0	14.69	20.78
2	9.464	9.420	0.0	37.8	59.5	47.2	518.7	581.2	14.69	20.71
3	8.935	8.925	0.0	37.1	57.1	45.5	518.7	576.9	14.69	20.57
4	8.499	8.518	0.0	39.3	55.6	42.5	518.7	577.6	14.69	20.38
5	8.406	8.430	0.0	41.0	55.3	42.5	518.7	577.9	14.69	20.16
6	8.237	8.270	0.0	41.0	54.6	42.6	518.7	578.0	14.69	19.88
7	8.147	8.186	0.0	40.4	54.4	41.5	518.7	576.1	14.69	19.95
8	7.319	7.416	0.0	39.7	51.5	30.1	518.7	575.8	14.69	20.60
9	6.219	6.412	0.0	41.7	48.1	15.3	518.7	575.2	14.69	20.86
10	5.125	5.418	0.0	42.7	46.7	2.2	518.7	569.5	14.69	20.47
11	4.880	5.193	0.0	43.7	47.0	0.6	518.7	568.1	14.69	19.88

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	559.8	673.4	1153.3	786.5	559.8	527.6	0.0	418.5	1008.3	1001.7
2	577.1	665.5	1138.2	774.9	577.1	526.1	0.0	407.6	981.1	976.5
3	599.9	653.3	1103.5	744.2	599.9	521.2	0.0	394.0	926.2	925.2
4	602.7	657.9	1068.2	691.3	602.7	509.4	0.0	416.4	881.9	883.8
5	604.5	649.1	1061.5	664.4	604.5	489.7	0.0	426.0	872.5	875.0
6	606.2	635.7	1047.3	650.8	606.2	479.5	0.0	417.3	854.0	857.5
7	606.2	642.9	1040.8	653.4	606.2	489.3	0.0	417.0	846.0	850.0
8	605.2	709.6	971.7	631.2	605.2	545.9	0.0	453.5	760.2	770.3
9	578.4	765.7	866.6	592.8	578.4	571.8	0.0	509.1	645.3	665.3
10	499.9	795.7	729.2	585.5	499.9	585.1	0.0	539.2	530.9	561.3
11	471.2	769.4	691.0	555.8	471.2	555.8	0.0	532.1	505.5	537.9

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.515	0.587	1.060	0.686	0.515	0.460	0.942	1.389	0.814
2	0.531	0.582	1.048	0.678	0.531	0.460	0.912	1.375	0.855
3	0.554	0.573	1.018	0.652	0.554	0.457	0.869	1.357	0.899
4	0.556	0.577	0.986	0.606	0.556	0.447	0.845	1.360	0.863
5	0.558	0.568	0.980	0.582	0.558	0.429	0.810	1.357	0.829
6	0.560	0.556	0.967	0.569	0.560	0.419	0.791	1.350	0.790
7	0.560	0.564	0.961	0.573	0.560	0.429	0.807	1.350	0.825
8	0.559	0.627	0.897	0.557	0.559	0.482	0.902	1.316	0.920
9	0.533	0.681	0.798	0.527	0.533	0.508	0.989	1.206	0.966
10	0.457	0.714	0.667	0.525	0.457	0.525	1.170	0.996	1.015
11	0.430	0.689	0.630	0.498	0.430	0.498	1.180	0.936	0.946

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	1.9	-0.3	-1.7	0.447	0.141	0.121	0.033	0.029
2	9.28	10.18	2.2	0.0	-1.3	0.443	0.106	0.090	0.025	0.021
3	18.99	20.06	2.5	0.2	0.3	0.443	0.073	0.060	0.017	0.014
4	26.99	28.18	3.0	0.5	1.4	0.475	0.104	0.093	0.024	0.022
5	28.70	29.94	3.0	0.6	2.3	0.499	0.131	0.121	0.030	0.028
6	31.80	33.13	3.1	0.6	4.0	0.500	0.163	0.155	0.037	0.035
7	33.45	34.81	3.3	0.7	4.0	0.493	0.134	0.126	0.030	0.028
8	48.64	50.18	3.8	0.9	3.5	0.478	0.068	0.065	0.016	0.015
9	68.83	70.22	4.5	0.4	8.2	0.454	0.034	0.034	0.008	0.008
10	88.90	90.06	6.1	-0.3	16.2	0.346	-0.019	-0.019	-0.004	-0.004
11	93.39	94.55	6.7	-0.5	19.9	0.345	0.070	0.070	0.013	0.013

TABLE VII - Concluded. BLADE-ELEMENT DATA AT BLADE EDGES

FOR ROTOR 2 - MOD 1

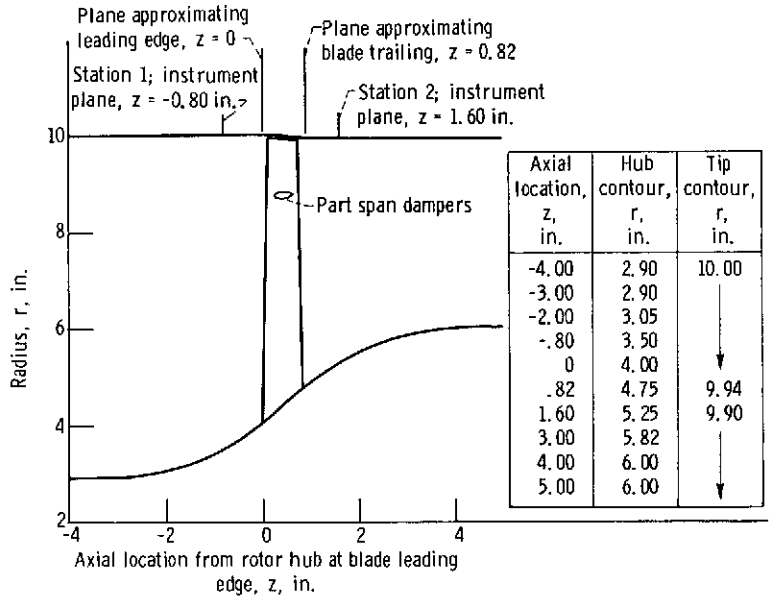
(j) 90 Percent of design speed; reading 1052

	RADII		ABS BETAM		REL BETAM		TOTAL TEMP		TOTAL PRESS	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	9.723	9.660	0.0	42.0	63.8	46.6	518.7	590.6	14.69	21.23
2	9.464	9.420	0.0	40.9	62.3	46.1	518.7	585.7	14.69	21.11
3	8.935	8.925	0.0	39.4	60.2	45.4	518.7	579.5	14.69	20.79
4	8.499	8.518	0.0	46.3	59.6	43.5	518.7	581.5	14.69	20.30
5	8.406	8.430	0.0	49.4	59.7	44.1	518.7	581.5	14.69	20.01
6	8.237	8.270	0.0	54.2	59.1	44.9	518.7	584.3	14.69	19.59
7	8.147	8.186	0.0	53.2	59.1	44.6	518.7	584.6	14.69	19.55
8	7.319	7.416	0.0	44.0	55.6	32.6	518.7	577.7	14.69	20.12
9	6.219	6.412	0.0	44.2	51.2	15.6	518.7	575.9	14.69	20.63
10	5.125	5.418	0.0	44.9	49.4	1.8	518.7	569.3	14.69	20.27
11	4.880	5.193	0.0	46.3	50.1	1.1	518.7	567.3	14.69	19.49

	ABS VEL		REL VEL		MERID VEL		TANG VEL		WHEEL SPEED	
RP	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	496.2	689.2	1124.7	745.5	496.2	512.3	0.0	461.1	1009.3	1002.7
2	514.3	677.4	1107.6	738.5	514.3	511.7	0.0	443.8	980.9	976.3
3	529.8	652.2	1066.3	716.9	529.8	503.8	0.0	414.2	925.3	924.3
4	516.6	639.7	1020.8	609.8	516.6	442.0	0.0	462.4	880.5	882.5
5	510.0	629.2	1010.4	570.4	510.0	409.5	0.0	477.7	872.2	874.7
6	510.0	614.7	994.0	507.8	510.0	359.8	0.0	498.3	853.2	856.6
7	506.7	610.0	985.4	513.3	506.7	365.2	0.0	488.5	845.1	849.2
8	518.8	665.1	918.0	567.4	518.8	478.3	0.0	462.1	757.4	767.4
9	518.1	739.5	826.4	550.8	518.1	530.4	0.0	515.3	643.8	663.8
10	454.7	769.6	698.7	545.1	454.7	544.8	0.0	543.6	530.5	560.9
11	423.1	730.9	658.9	505.4	423.1	505.3	0.0	528.1	505.1	537.5

	ABS MACH NO		REL MACH NO		MERID MACH NO		MERID	PEAK SS	EFF
RP	IN	OUT	IN	OUT	IN	OUT	VEL R	MACH NO	
1	0.454	0.599	1.028	0.648	0.454	0.445	1.032	1.473	0.800
2	0.471	0.591	1.014	0.644	0.471	0.446	0.995	1.458	0.844
3	0.486	0.570	0.977	0.627	0.486	0.441	0.951	1.429	0.889
4	0.473	0.558	0.935	0.532	0.473	0.385	0.856	1.416	0.799
5	0.467	0.548	0.925	0.497	0.467	0.357	0.803	1.419	0.761
6	0.467	0.533	0.910	0.441	0.467	0.312	0.706	1.409	0.678
7	0.464	0.529	0.901	0.445	0.464	0.317	0.721	1.410	0.669
8	0.475	0.583	0.841	0.498	0.475	0.420	0.922	1.350	0.826
9	0.474	0.655	0.757	0.488	0.474	0.470	1.024	1.222	0.923
10	0.414	0.689	0.637	0.488	0.414	0.487	1.198	1.008	0.987
11	0.385	0.652	0.599	0.451	0.385	0.451	1.194	0.951	0.895

	PERCENT SPAN		INCIDENCE		DEV	D-FACT	LOSS COEFF		LOSS PARAM	
RP	IN	OUT	MEAN	SS			TOT	PROF	TOT	PROF
1	4.53	5.39	4.7	2.6	-3.0	0.482	0.168	0.142	0.041	0.035
2	9.28	10.18	5.0	2.8	-2.4	0.472	0.127	0.104	0.030	0.025
3	18.99	20.06	5.7	3.3	0.2	0.455	0.088	0.071	0.020	0.016
4	26.99	28.18	7.0	4.5	2.4	0.545	0.172	0.160	0.039	0.036
5	28.70	29.94	7.4	5.0	3.9	0.582	0.206	0.195	0.046	0.043
6	31.80	33.13	7.6	5.1	6.3	0.642	0.293	0.283	0.063	0.061
7	33.45	34.81	8.0	5.4	7.2	0.629	0.305	0.296	0.065	0.064
8	48.64	50.18	7.9	5.0	6.0	0.520	0.165	0.163	0.038	0.037
9	68.83	70.22	7.6	3.5	8.6	0.480	0.085	0.085	0.019	0.019
10	88.90	90.06	8.8	2.4	15.9	0.376	0.018	0.018	0.003	0.003
11	93.39	94.55	9.8	2.6	20.4	0.389	0.147	0.147	0.028	0.028



Axial location, z, in.	Hub contour, r, in.	Tip contour, r, in.
-4.00	2.90	10.00
-3.00	2.90	↓
-2.00	3.05	↓
-.80	3.50	↓
0	4.00	↓
.82	4.75	9.94
1.60	5.25	9.90
3.00	5.82	↓
4.00	6.00	↓
5.00	6.00	↓

Figure 1. - Flow path for rotor 2.

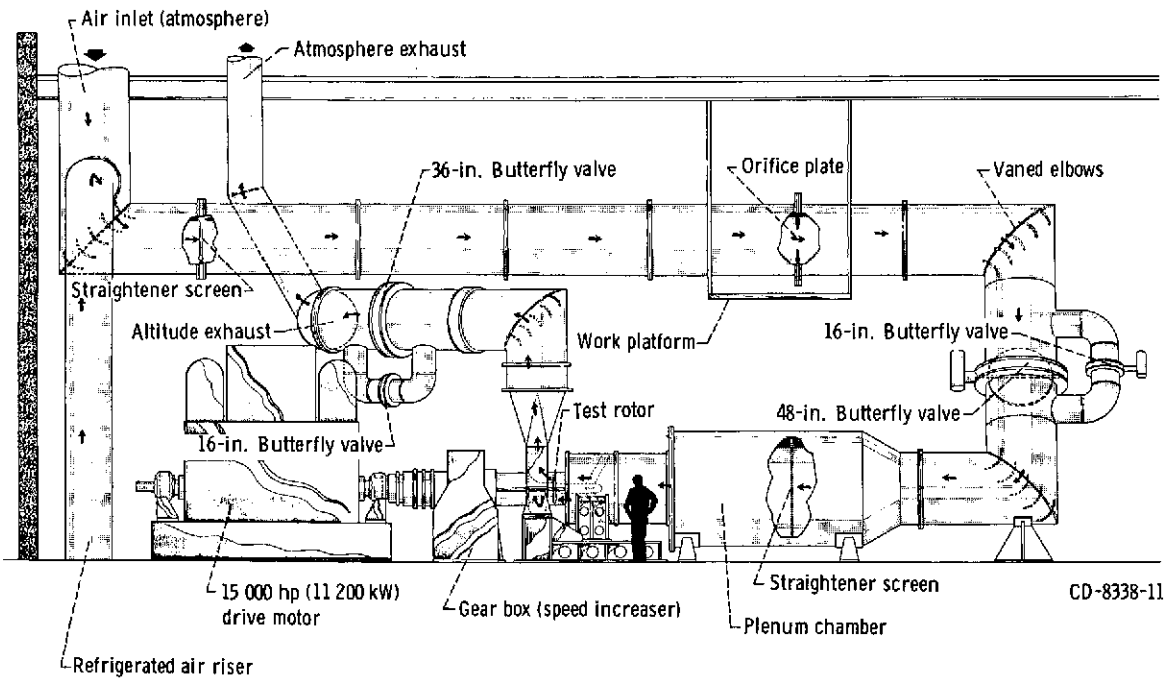
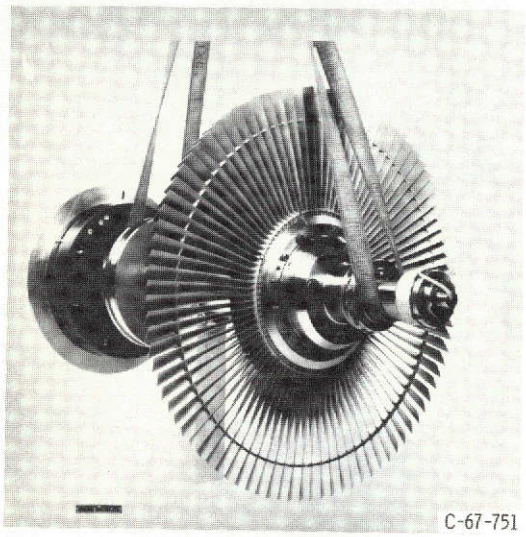
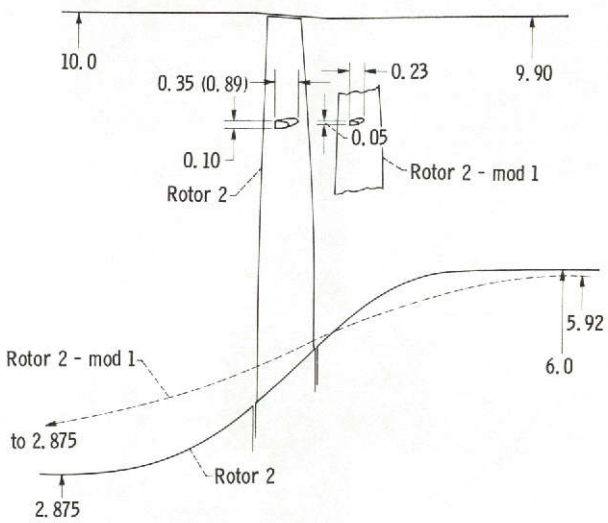


Figure 2. - Compressor test facility.



(a) Front-quarter view of rotor 2.



(b) Side-view schematic. (All dimensions are in inches.)

Figure 3. - Rotor 2 and rotor 2 - mod 1.

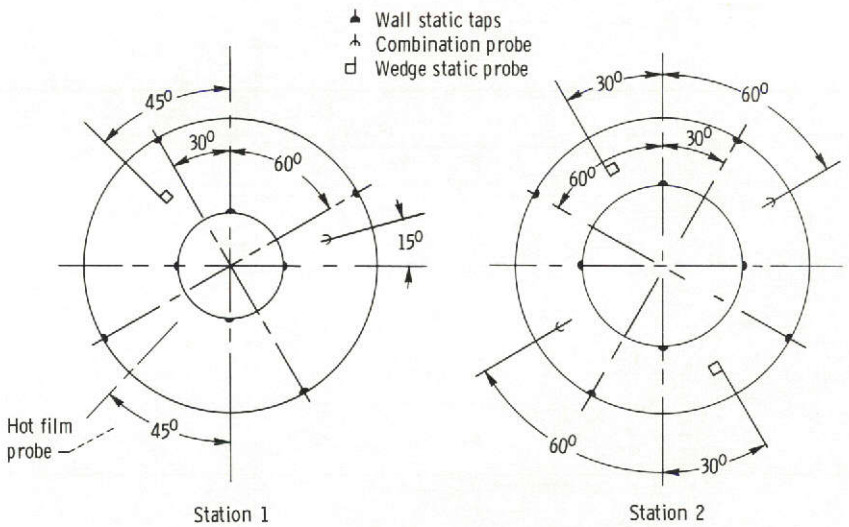


Figure 4. - Circumferential location (facing downstream) of measurements.

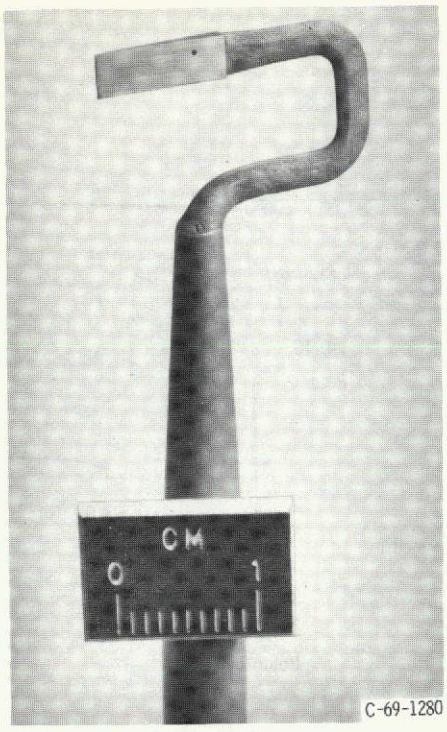


Figure 5. - Static pressure probe (C shaped; 7.5° wedge).

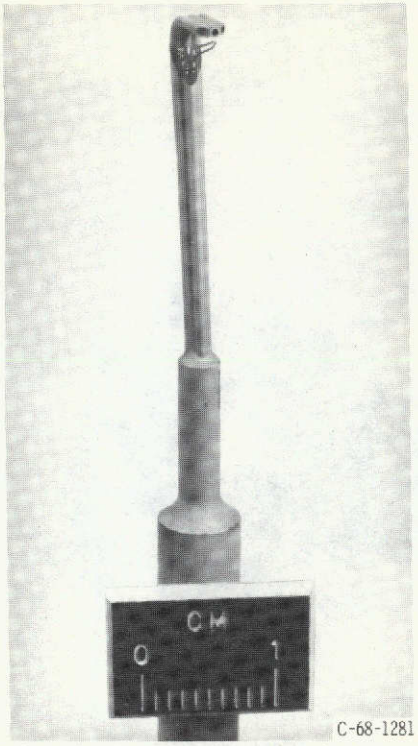


Figure 6. - Cobra-probe measures total pressure, total temperature, and flow angle.

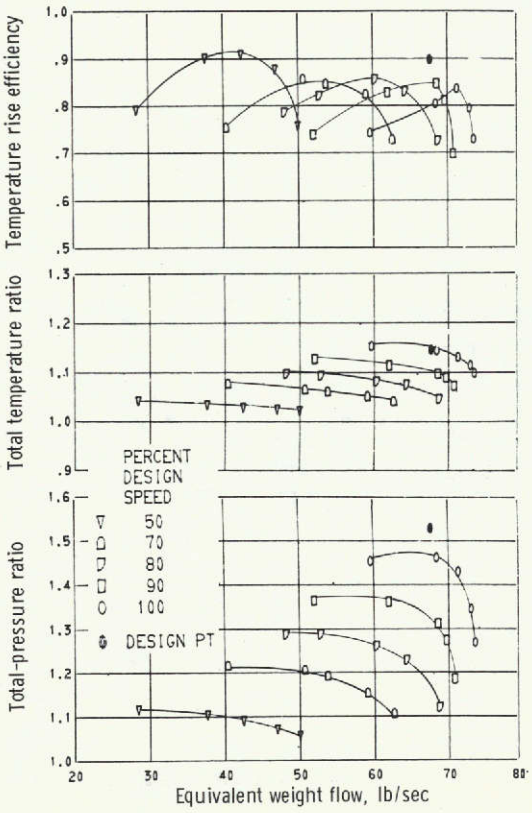


Figure 7. - Overall performance for rotor 2.

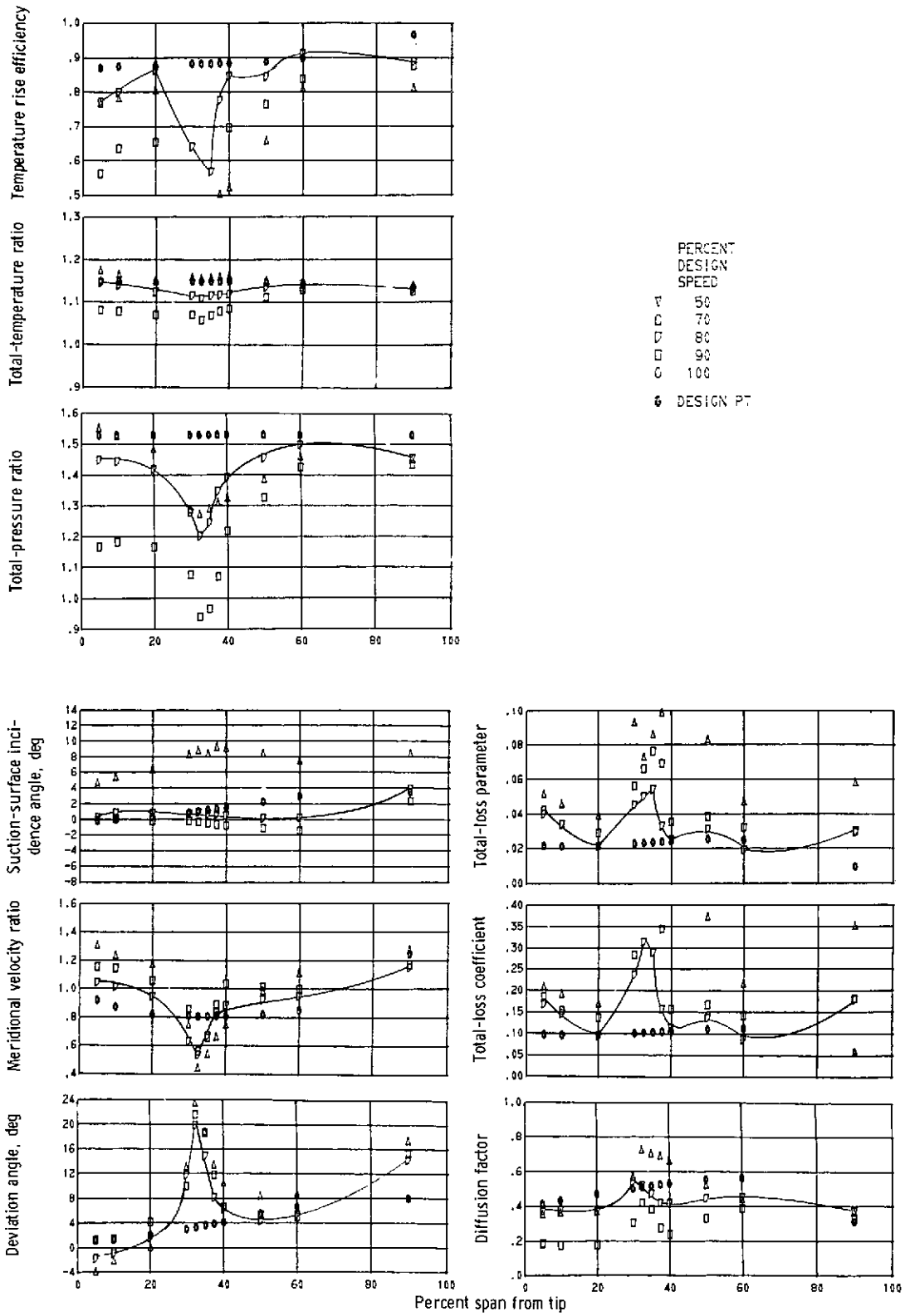


Figure 8. - Radial distribution of performance for rotor 2. 100 Percent of design speed.

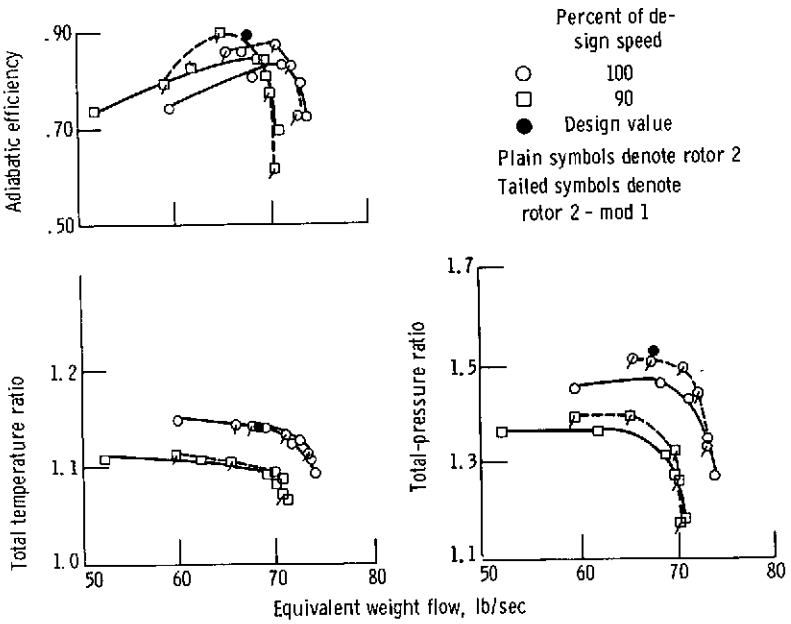


Figure 9. - Overall rotor performance.

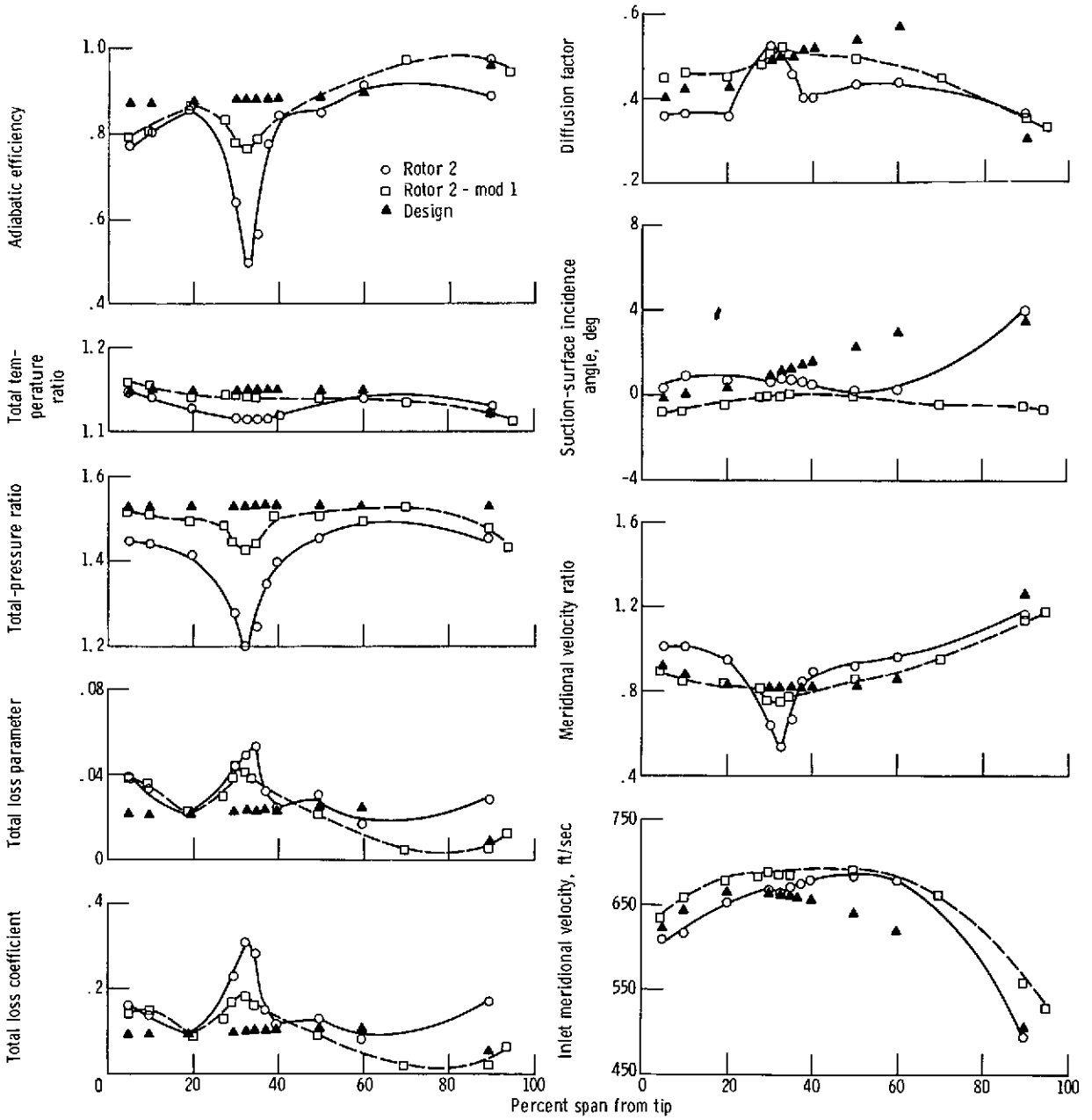


Figure 10. - Radial distribution of performance parameters for rotor 2 and rotor 2 - mod 1 at design speed and peak efficiency weight flow.

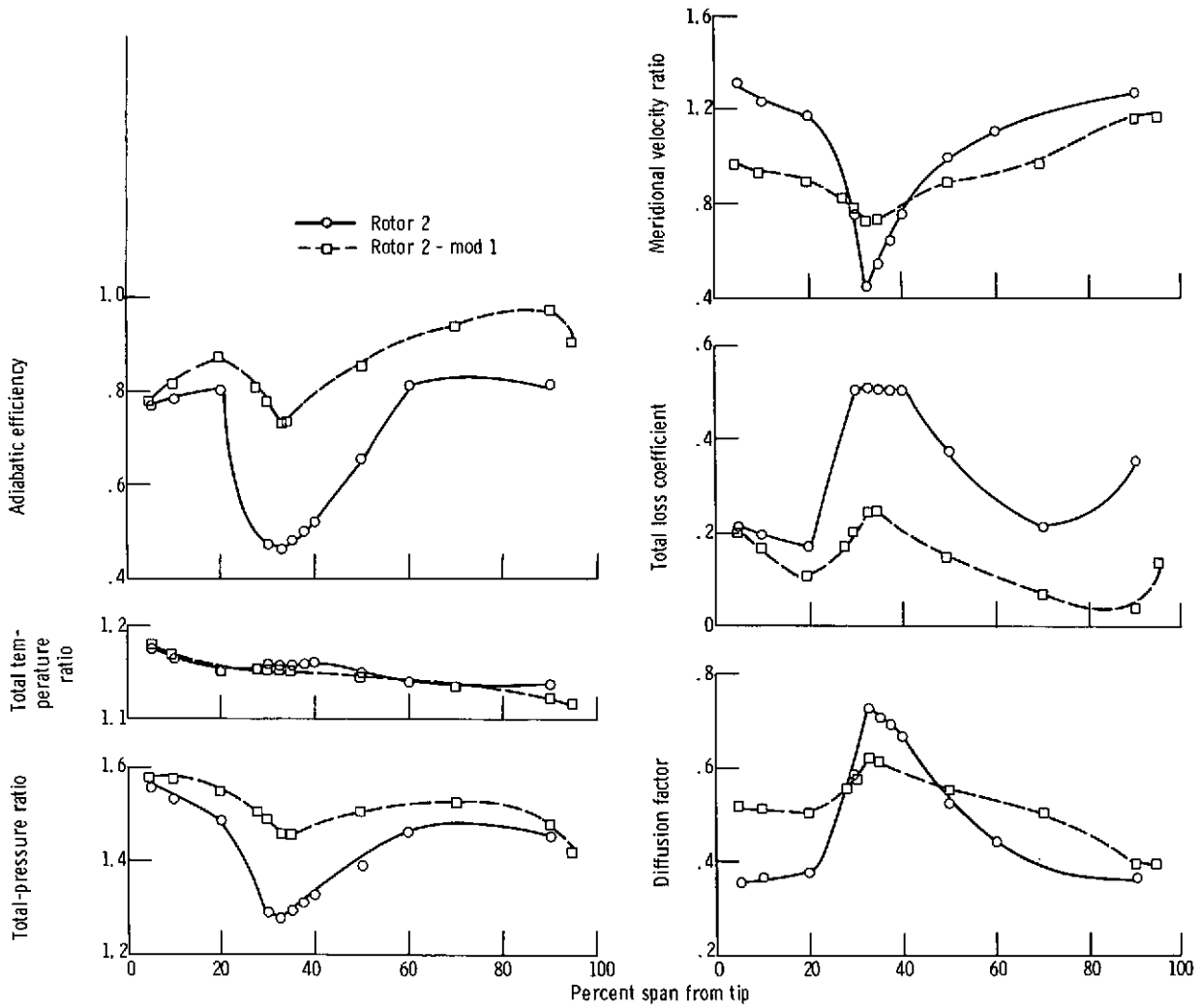


Figure 11. - Radial distribution of performance parameters for rotor 2 and rotor 2 - mod 1 at design speed and near-stall weight flow.