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NASA CR-134893



**SINGLE STAGE, LOW NOISE,  
ADVANCED TECHNOLOGY FAN**

**VOLUME IV FAN AERODYNAMICS**

Section 2: Overall and Blade Element Performance Data Tabulations

BY: T.J. SULLIVAN

**ADVANCED ENGINEERING AND TECHNOLOGY  
PROGRAMS DEPARTMENT  
GENERAL ELECTRIC COMPANY  
CINCINNATI, OHIO**

PREPARED FOR

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

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16. Abstract Aerodynamic test data for a scale-model fan vehicle, applicable on an advanced transport aircraft, are presented. The single-stage advanced technology fan was designed to a 1.8 pressure ratio at 503 m/sec (1650 ft/sec) tip speed.  Fan components were designed and fabricated in a scale-model flow size to fit existing facility and vehicle hardware. Design-corrected flow per unit fan face annulus area was 215 kg/sec m <sup>2</sup> (44.0 lbm/sec ft <sup>2</sup> ) with a hub-tip ratio of 0.38 at the rotor leading edge. This results in an inlet corrected airflow of 117.9 kg/sec (259.9 lbm/sec) for the selected rotor tip diameter of 90.37 cm (35.58 in.).  The fan was tested on a ground static facility in a rear-shaft drive mode for fan and inlet performance and front-quadrant noise. A front-shaft drive mode was tested for fan bypass duct aerodynamic performance and aft-propagating noise. Three inlet configurations were tested to fully determine the aerodynamic and acoustic performance of the fan, the "hybrid" acoustic inlet, and the acoustically designed bypass duct.  Test results at design speed show fan total pressure ratio, weight flow, and adiabatic efficiency to be 2.2, 2.9, and 1.8% lower than design goal values. The "hybrid" acoustic inlet (which utilizes a high throat Mach number and acoustic wall treatment for noise suppression) demonstrated total pressure recoveries of 98.9 and 98.2% at takeoff and approach. Exhaust duct pressure losses differed between the hardwall duct and treated duct with splitter by about 0.6% to 2.0% in terms of fan exit average total pressure (depending on operating condition). When the measured results were used to estimate pressure losses, a cruise sfc penalty of 0.68%, due to the acoustically treated duct, was projected.  This along with "Section 1 - Results and Analysis," (bound in separate cover) is one of two final analysis reports. The other is "Volume V - Fan Acoustics". Three design reports precede this series. They are: "Volume I - Aerodynamic Design," "Volume II - Structural Design" and "Volume III - Acoustic Design".					
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## SECTION I

### SUMMARY

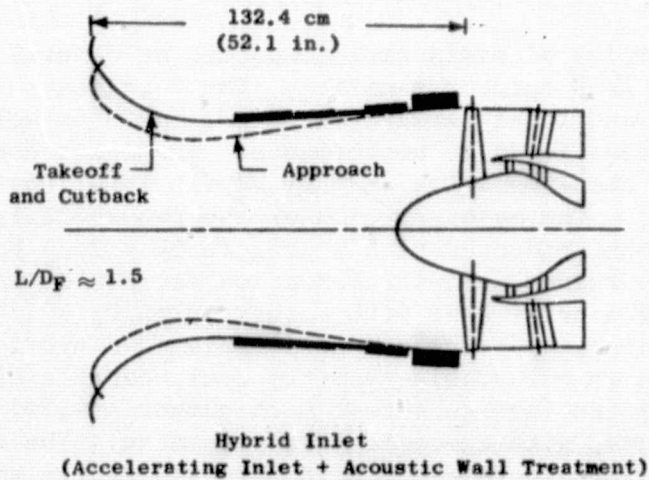
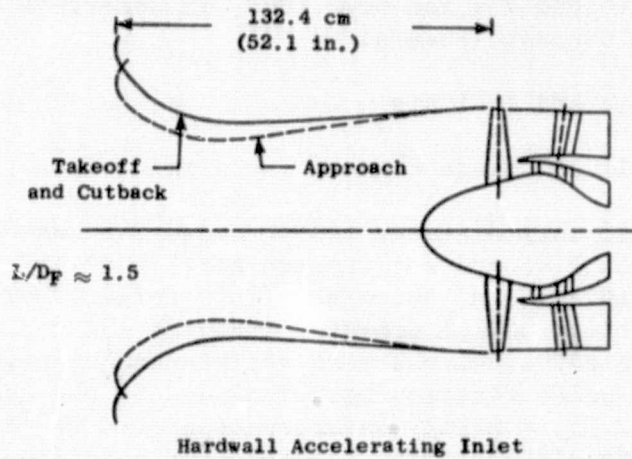
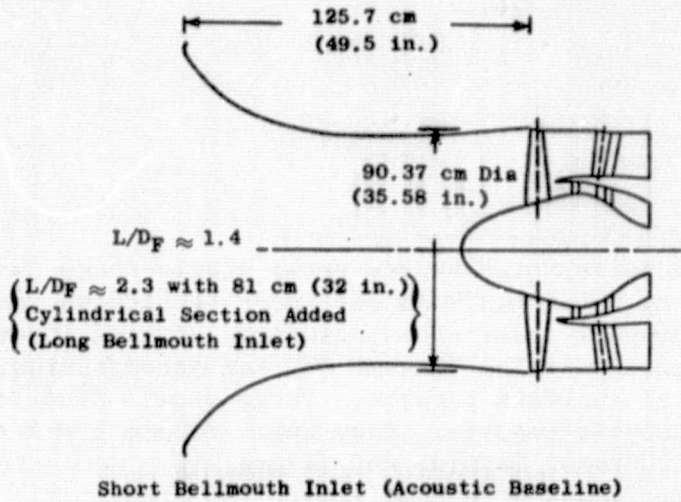
A high speed, low noise, high bypass ratio single-stage research fan with a variable-geometry inlet has been designed, fabricated, and tested by the General Electric Company under the sponsorship of NASA (Contract No. NAS3-16813). This report entitled "Volume IV, Fan Aerodynamics," is one of two in a series of final analysis reports. Three design reports precede the series of final analysis reports. They are: Volume I - Aerodynamic Design, Volume II - Structural Design, and Volume III - Acoustic Design, which are References 1, 2, and 3 respectively. The other final analysis report in the series, Volume V - Fan Acoustics, is Reference 4. The present volume is bound in two separate covers:

Section 1: Results and Analysis

Section 2: Overall and Blade Element Performance Data Tabulations

The 90.37 cm (35.58 in.) diameter tip-shrouded fan was designed to a bypass pressure ratio of 1.8, and a corrected airflow of 117.9 kg/sec (259.9 lbm/sec) at a tip speed of 503 m/sec (1650 ft/sec). The fan was designed to a stall margin goal at constant speed of 13% and an objective adiabatic efficiency of 84.0%, with a peak efficiency objective of 85%. Several low fan-source-noise features were included in the design, such as a vane/blade ratio of 2.05, a rotor/stator spacing of 2.06 (rotor tip chords), and a fan blade airfoil shape designed for a swallowed shock at takeoff.

Two separate series of tests were conducted at General Electric's Peebles, Ohio, Site IV-B outdoor facility. The rear-shaft drive test series provided fan and inlet aerodynamic performance as well as the evaluation of front-quadrant acoustic performance. The inlet configurations tested are shown in the schematics on page 2, Fan Inlet Configurations for Rear-Drive Tests. The major portion of the fan and inlet aerodynamic performance tests were conducted with a long ( $L/D_F = 2.3$ ) bellmouth inlet (not shown) which contained an instrumentation section ahead of the fan. This was followed by a brief test with a shorter ( $L/D_F = 1.4$ ) bellmouth inlet. The inlet noise suppression system employed a hybrid inlet ( $L/D_F = 1.5$ ), which combined an adjustable-geometry cowl, capable of generating high throat Mach numbers (design throat Mach number = 0.79) at all critical noise operating points, with acoustic wall treatment. The acoustically treated wall panels were replaceable with hardwall panels so that the effects of the treatment on inlet aerodynamic performance and noise suppression could be isolated.



Fan Inlet Configurations for Rear-Drive Tests.

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The second series of tests involved driving the fan vehicle from a front shaft for the evaluation of bypass duct aerodynamic performance and aft-propagating fan noise. The configurations tested included a hardwall bypass duct without splitter and a fully treated duct with a midstream acoustic splitter. They are shown schematically on page 4, Fan Duct Configurations for Front-Drive Tests.

A. Fan Aerodynamic Performance

A summary of fan performance results, including comparisons with design values, is given in Table I.

Table I. Fan Aerodynamic Performance Summary.				
(100% Speed - Operating Line)				
Parameter	Design Objective	Long Inlet	Short Inlet	Hybrid Inlet*
Bypass Pressure Ratio	1.80	1.74	1.76	1.67
Corrected Flow (kg/sec)	117.9	113.8	114.5	114.1
Adiabatic Efficiency, %	84.0	80.6	82.2	80.1
Stall Margin, %	13.0	7.8	10.8	9.3

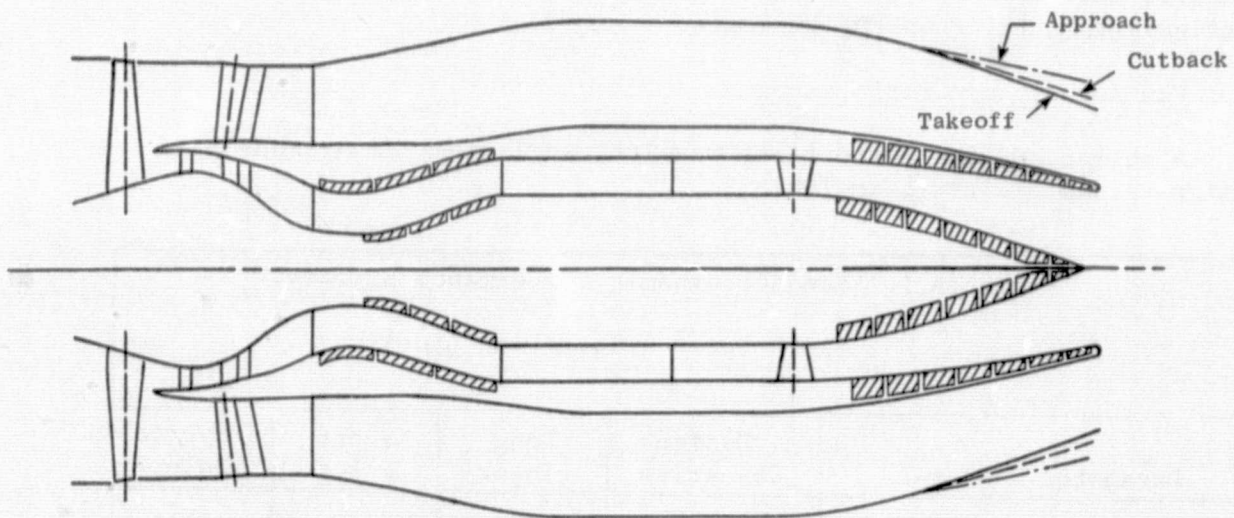
\* Data point is below operating line.

The measured flow at design speed with the long bellmouth inlet was 3.5% lower than the design intent. Experimental evidence indicates that the flow was limited by inadequate rotor design incidence angle rather than inadequate rotor throat area. The large throat-to-capture area ratio that resulted is believed to have been a contributing factor to the larger than design-intended rotor total pressure loss coefficients.

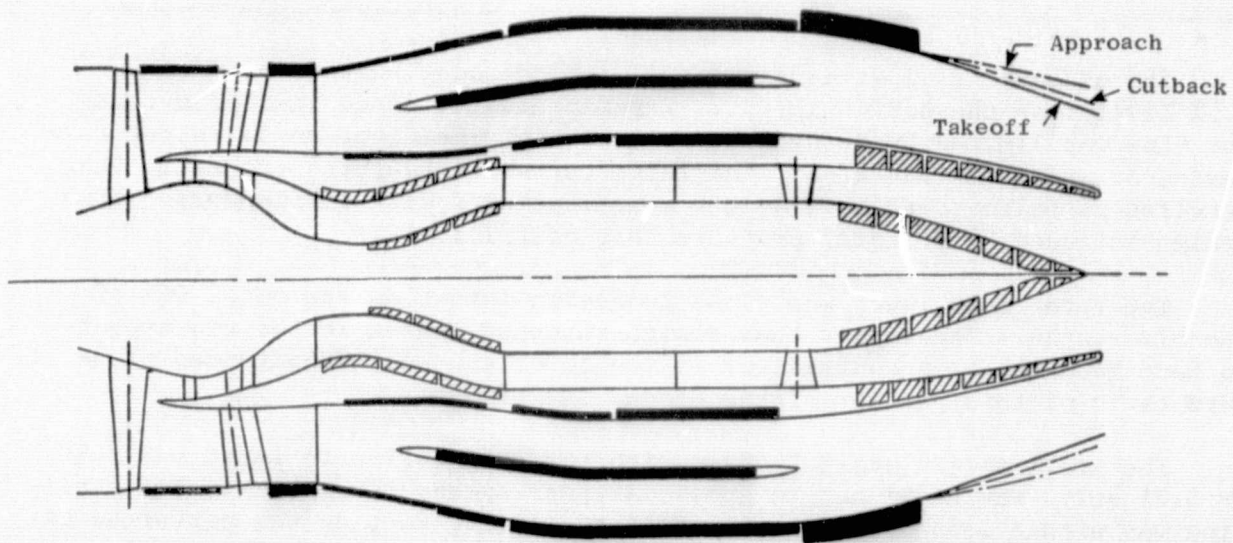
The rotor work input was close to design intent in the outer 65% of the blade span. The larger than design-intended losses in the tip appear to have been the main contributor to the lower than design-intended pressure ratio of this portion of the blade.

The stall margin at 100% speed with the long bellmouth inlet was 7.8%, or 5.2% below the stall margin goal. At part speed, the demonstrated stall line was within 1.5% of the goal. Some additional testing was performed to investigate the effects of off-design bypass ratios with the long bellmouth inlet installed. Overall performance comparisons showed a distinct difference in the speed line shape, but no significant performance penalties were associated with the off-design bypass ratios.





• Hardwall Duct without Splitter



• Acoustically Treated Duct with Splitter

Fan Duct Configurations for Front-Drive Tests

Testing with the short bellmouth inlet showed a distinct improvement in the fan performance. The measured airflow at design speed was slightly larger (0.6%) with the short bellmouth inlet and the efficiency increased 1.6% to a level of 82.2%. Three intentional stalls were made at 100% speed. The initial stall showed a 3% improvement in stall pressure ratio, and the subsequent stalls showed somewhat lesser stall pressure ratios, but still greater than the stall pressure ratio measured with the long bellmouth inlet. It should be noted that prior to the short bellmouth inlet test, the tip-shroud seal teeth clearances were set smaller than they had been during the long bellmouth inlet test. The intent was to set the clearances such that operation at 100% speed would produce zero clearance. During the initial stall at 100% speed, a rub was encountered and the clearances grew with each additional stall, leading to a deterioration in the stall pressure ratio limit.

With the hybrid inlet installed in its takeoff position, the stall line depression from that measured with the long bellmouth inlet was minimal, about 2 to 3%. The measured flow at any given speed line along a constant throttle area (operating line) showed little or no loss, and the adiabatic efficiency was down approximately 0.5%. With the hybrid inlet at its approach setting, the stall margin losses were greater, ranging from 3.6% at 50% speed to 6.5% at 70% speed. This was attributed to the more severe diffusion that had to take place in the inlet (see Fan Inlet Configurations schematic on page 2) which degraded the boundary layer characteristics of the inlet in the approach mode. Even with the additional stall margin loss, the margin remaining above the low operating line approach point was sizeable (approximately 35%). Again, the measured flow at any given speed and throttle setting showed no appreciable difference from the long bellmouth inlet test. Overall, the hybrid inlet was verified as a viable fan noise suppression device from a fan aerodynamic performance standpoint, at least under static conditions.

#### B. Inlet Aerodynamic Performance

The hybrid inlet used as the suppression device for forward-quadrant noise demonstrated the ability to operate at the design throat Mach number of 0.79 at takeoff and approach conditions. The hybrid inlet tended to retard separation relative to the hardwall accelerating inlet, which was attributed to the greater surface roughness of the acoustic treatment, producing greater shear stresses at the wall.

Inlet total pressure recoveries were 98.9% at takeoff and 98.2% at approach for the hybrid inlet at the design points. In view of the long inlet length, high area ratios, high throat Mach number, and the amount of acoustic treatment material in the inlet, these were encouragingly high levels. The acoustic treatment of the wall of the hybrid inlet resulted in only a 0.3% loss in total pressure recovery at the 0.79 design throat Mach number point, for both takeoff and approach inlet configurations. The hybrid inlet in either configuration gave less than 10% distortion over the entire operating range for static conditions. Even with throat Mach numbers

of 0.81 at approach and 0.84 at takeoff, this level of distortion was not exceeded.

C. Bypass Duct Aerodynamic Performance

Exhaust duct aerodynamic performance data were taken during the fan acoustic tests on the two configurations shown in the schematics on page 4. Measured fan duct Mach numbers were slightly higher than originally predicted, due principally to differences in fan duct entrance conditions. Total pressure losses of the acoustically treated splitter duct were in general agreement with the original predictions. A comparison of these losses with those of the hardwall duct is provided in Table II.

Table II. Duct Pressure Losses.

	Takeoff	Cutback	Approach	Cruise*
Treated Duct with Splitter ( $\Delta P_T/P_T$ ), %	1.35	3.24	2.05	1.41
Hardwall Duct ( $\Delta P_T/P_T$ ), %	0.79	1.28	0	0.79
$\Delta(\Delta P_T/P_T)$ , %	0.56	1.96	2.05	0.62
* Estimated, based on measured results				

In high bypass ratio engines, the change in specific fuel consumption (sfc) associated with a change in duct pressure loss can be translated through an influence coefficient of about 1.1 at cruise conditions. Thus, the acoustically treated duct results in a penalty of about 0.68% in cruise sfc.

## SECTION II

### INTRODUCTION

Low noise and exhaust emissions and economical operation are the primary requirements for advanced transport aircraft. The successful development and acceptance of a subsonic, long-range transport for the next generation are greatly dependent upon technological improvements in the areas of fan aerodynamics and acoustic suppression. To help provide this fan technology, the General Electric Company was contracted to design, build, and test a high-speed, low-noise, single-stage research fan (hereafter referred to as an advanced technology fan), a variable geometry inlet with high throat Mach number capability and an acoustically treated fan exit duct, all applicable for an advanced high-bypass, low-noise engine. To utilize existing hardware and facilities, the subject fan was designed to be half-scale.

Under a separate and earlier contract with NASA (Contract NAS3-15544, References 5 and 6), parametric studies were performed to optimize the engine cycle for a typical advanced transport aircraft. Based on these studies, plus the current contract Statement of Work, an engine cycle was selected for an advanced transport designed to cruise between 0.85 and 0.90 Mach number. A fan pressure ratio of 1.8 to 1.9 and a bypass ratio of approximately 6:1 are desirable. Furthermore, it is desirable to raise the pressure ratio of the flow entering the core compressor to about 2.5 to 3.0 by the addition of booster stages. This then provides an overall cycle pressure ratio of 30:1 or greater and still uses only a single-stage turbine to drive the high pressure compressor. Fan tip speeds of 488 to 518 m/sec (1600 to 1700 ft/sec) are required to achieve the desired pressure ratio in a single, low radius-ratio stage with adequate stall margin. A high specific flow rate of 215 kg/sec m<sup>2</sup> (44.0 lbm/sec ft<sup>2</sup>) was chosen to maintain a high inlet Mach number just ahead of the fan to help reduce the inlet noise without suffering severe aerodynamic performance penalties.

The aerodynamic and acoustic performance of the fan vehicle was evaluated in two separate series of tests conducted at General Electric's Peebles, Ohio outdoor sound-field facility. In the first series of tests, the fan was driven by a rear shaft. Detailed fan and inlet aerodynamic performance information was obtained. A long bellmouth inlet ( $L/D_f = 2.3$ ) was used for the majority of the fan aerodynamic performance tests, because it contained an instrumentation section ahead of the fan. Unsuppressed and suppressed forward-propagating fan noise was evaluated with the shorter bellmouth inlet and with aft-propagating noise virtually eliminated from the system by a massive exhaust suppressor. In the second series of tests, the fan was shaft-driven from the front and the inlet system was enclosed in a large silencer box to eliminate forward-propagating fan noise. This test program was used to evaluate bypass duct aerodynamic performance and aft-

radiating fan noise, both suppressed and unsuppressed. An abbreviated description of the complete test program is provided in Table III.

The advanced technology fan, in combination with the inlet and bypass duct system, was designed to the very challenging noise goal of 20 EPNdB below FAR 36. As a result, the fan design incorporated many low noise features such as a vane/blade ratio of 2.05, a rotor/stator spacing of 2.06 (rotor tip chords) and a blade designed for a swallowed shock at takeoff. The inlet noise suppression system employed a "hybrid" inlet with an adjustable-geometry cowl (two position) capable of generating high throat Mach numbers (design  $M_{TH} = 0.79$ ) at all critical noise conditions [takeoff (sideline), cutback, and approach]. The high Mach number, variable-geometry inlet concept was designed to operate in conjunction with a variable-area fan exhaust nozzle, which was already determined to be necessary for reducing exhaust velocity at the cutback position. This combination reduces the range of area change required of the inlet. At takeoff the exhaust area was assumed to be at the nominal value (necessary to reach takeoff rated thrust), and the inlet throat was adjusted to obtain  $M_{TH} = 0.79$ . Throat area at cutback ( $0.457 \text{ m}^2$ ) was maintained at the takeoff setting for operational simplicity, and the cycle was matched to the proper weight flow by selecting the appropriate combination of throttle setting and exhaust nozzle area. The nozzle was opened during the cutback setting tests 25% above nominal, compared to pretest design estimates of 15%. The difference was due to variation in vehicle performance relative to design. At approach the exhaust nozzle was opened to an area 35% greater than nominal (design estimate was 40%) and the inlet throat was reduced to  $0.339 \text{ m}^2$  in order to achieve  $M_{TH} = 0.79$  at the low thrust level required at approach. During rear-drive tests, these nozzle positions were simulated with core and bypass stream discharge valves; during the front-drive tests, three separate nozzles were employed and trimmed to duplicate the appropriate operating lines.

Four segments of acoustic-treatment panels, which were tuned to the predicted dominant noise frequencies, were combined with airflow acceleration to form the hybrid inlet. The acoustic-treatment panels were replaceable with hardwall panels so that suppression due to flow acceleration and suppression due to treatment could be isolated, and the effect of acoustic treatment on inlet aerodynamic performance could be evaluated. The exhaust duct suppression system consisted of a full complement of acoustic treatment of walls and a mid-duct splitter. The hardwall duct without splitter served as the acoustic baseline and as the reference in determining the aerodynamic performance penalty associated with the suppressed configuration.

Section I of this volume (under separate cover) first describes the test vehicle design and the test specifications and procedures, followed by aerodynamic performance results and discussion for the fan, inlet, and exhaust duct, respectively. For convenient reference, the overall fan-stage performance map from Section I is presented in Figure 1, and the aerodynamic design parameters from Reference 1 are summarized in Table IV.

Table III. Advanced Technology Fan Test Program Outline.

Rear-Drive Tests	Front-Drive Tests
<p><u>Fan Aerodynamic Performance Tests</u></p> <p>Long Bellmouth Inlet</p> <ul style="list-style-type: none"> <li>● Inlet L/D<sub>f</sub> = 2.3</li> <li>● Full instrumentation</li> <li>● Bypass Ratio Migration</li> </ul> <p>Short Bellmouth Inlet</p> <ul style="list-style-type: none"> <li>● Inlet L/D<sub>f</sub> = 1.4</li> <li>● Tip Clearance Tightened Initially</li> <li>● Limited Aerodynamic Instrumentation</li> </ul> <p>Hybrid Inlet</p> <ul style="list-style-type: none"> <li>● Inlet L/D<sub>f</sub> = 1.5</li> <li>● Limited Aerodynamic Instrumentation</li> <li>● Takeoff/Cutback and Approach Configurations</li> </ul>	<p><u>Bypass Duct Aerodynamic Performance Tests</u></p> <p>Fully Treated Duct with Splitter</p> <ul style="list-style-type: none"> <li>● Takeoff, Cutback, and Approach Nozzles</li> </ul> <p>Hardwall Duct without Splitter</p> <ul style="list-style-type: none"> <li>● Takeoff, Cutback, and Approach Nozzles</li> </ul>
<p><u>Inlet Aerodynamic Performance Tests</u></p> <p>Hybrid Inlet</p> <ul style="list-style-type: none"> <li>● Inlet L/D<sub>f</sub> = 1.5</li> <li>● Takeoff/Cutback and Approach Configurations</li> </ul> <p>Accelerating Inlet</p> <ul style="list-style-type: none"> <li>● Inlet L/D<sub>f</sub> = 1.5%</li> <li>● Hybrid Inlet without Wall Treatment</li> <li>● Takeoff/Cutback and Approach Configurations</li> </ul>	<p><u>Aft-Noise Acoustic Tests</u></p> <p>Fully Treated Duct with Splitter</p> <ul style="list-style-type: none"> <li>● Takeoff, Cutback, and Approach Nozzles</li> </ul> <p>Hardwall Duct without Splitter (Baseline)</p> <ul style="list-style-type: none"> <li>● Takeoff, Cutback, and Approach Nozzles</li> </ul>
<p><u>Inlet Acoustics Tests</u></p> <p>Short Bellmouth Inlet (Baseline)</p> <ul style="list-style-type: none"> <li>● Takeoff, Cutback, and Approach Operating Lines</li> </ul> <p>Hybrid Inlet</p> <ul style="list-style-type: none"> <li>● Takeoff, Cutback, and Approach Operating Lines</li> </ul> <p>Accelerating Inlet</p> <ul style="list-style-type: none"> <li>● Takeoff, Cutback, and Approach Operating Lines</li> </ul>	

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Table IV. Aerodynamic Design Parameters.

Corrected Tip Speed	503 m/sec (1650 ft/sec)
Corrected Airflow	117.9 kg/sec (259.9 lbm/sec)
Inlet Specific Flow Rate	215 kg/sec m <sup>2</sup> (44.0 lbm/sec ft <sup>2</sup> )
Predicted Stall Margin (Constant Speed)	13%
Objective Adiabatic Efficiency (Bypass)	84%
Bypass Pressure Ratio	1.80
Core Pressure Ratio	1.69
Bypass Ratio	6.0
Inlet Hub/Tip Ratio	0.38
Tip Diameter	90.37 cm 35.58 in.
Rotor Aspect Ratio	3.34
OGV Aspect Ratio	3.94
Rotor Tip/Hub Solidity	1.50/2.74
OGV Tip/Hip Solidity	1.37/2.05

The present report (Volume IV, Section 2) contains fan overall and blade element aerodynamic performance data tabulations in Appendices B and D, respectively. Other reports of work performed under this contract include: Volume I - Aerodynamic Design, Volume II - Structural Design, Volume III - Acoustic Design, and Volume V - Fan Acoustics, which are References 1, 2, 3, and 4, respectively.

A visual representation of the overall program and report organization is shown on Figure 2.



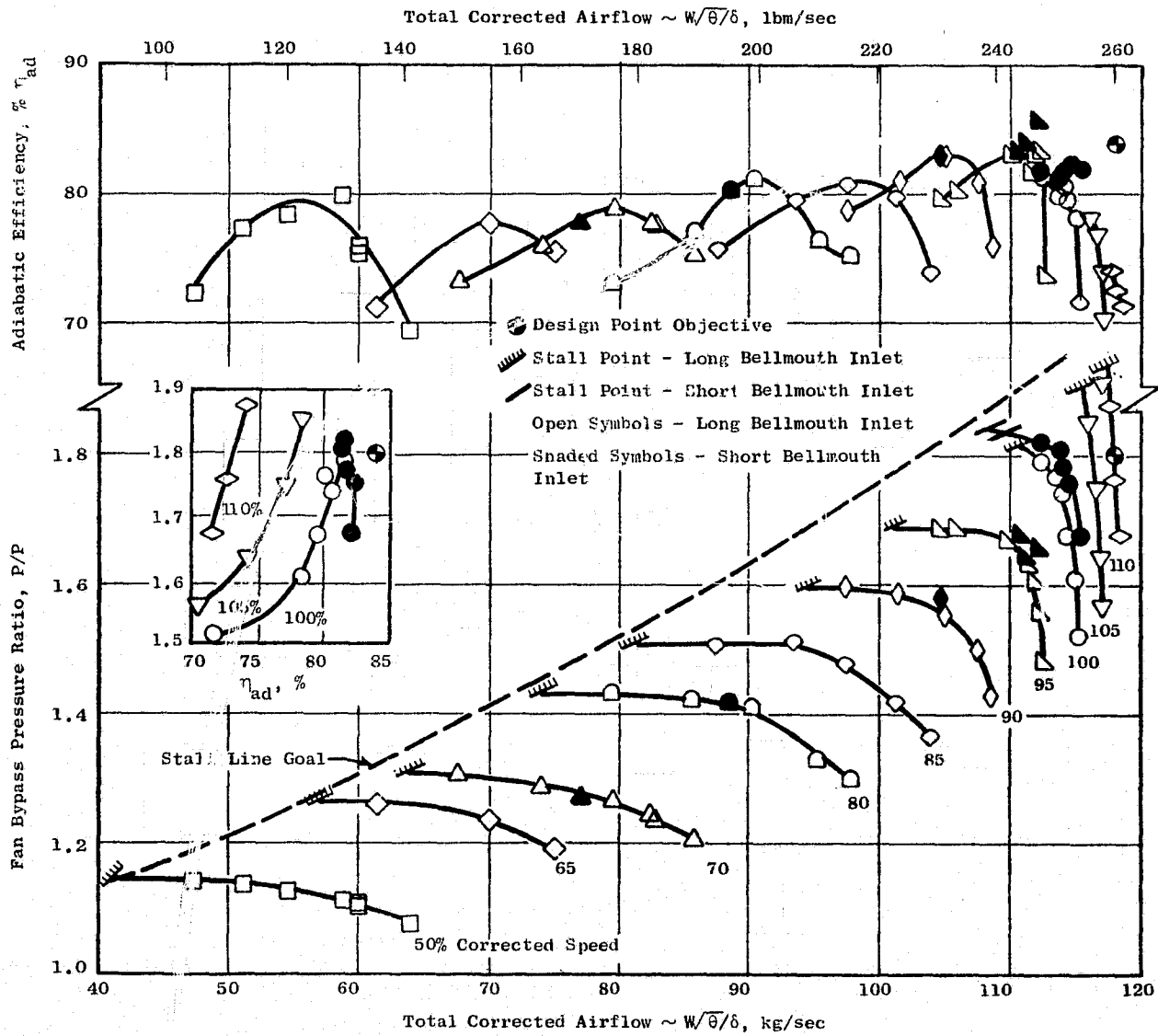


Figure 1. Overall Fan-Stage Performance Map.

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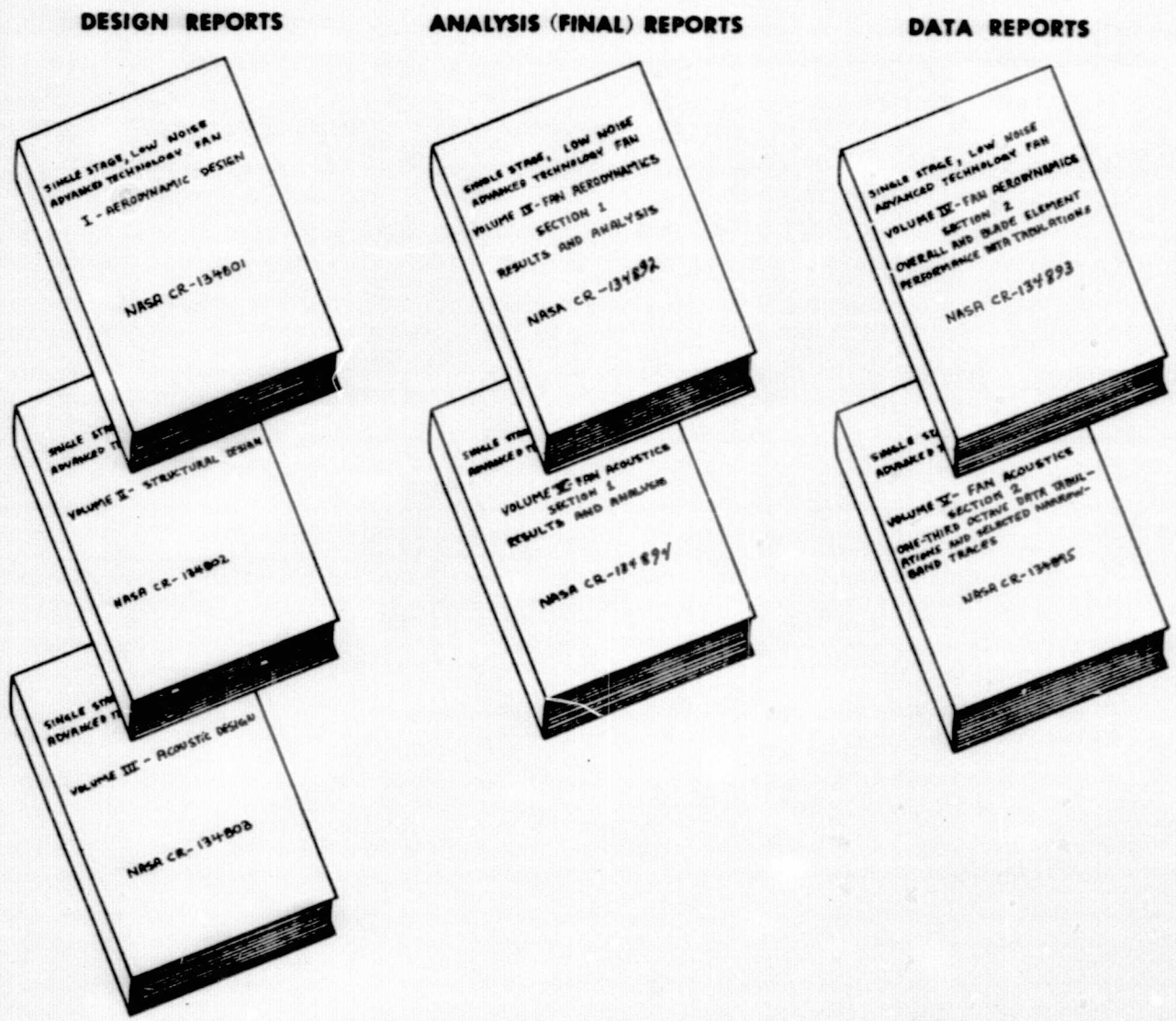


Figure 2. Description of Advanced Technology Fan Reports.

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APPENDIX A  
Symbols

<u>Symbol</u>	<u>Description</u>	<u>Units</u>
Acc	Accumulative	-----
$C_p$	Specific heat at constant pressure	Gram-calorie/gram-° K
D	Diffusion Factor	
	$D_{rotor} = 1 - \frac{v_2'}{v_1'} + \frac{r_2 v_{\theta 2} - r_1 v_{\theta 1}}{2 \bar{r} \sigma v_1'}$	-----
	$D_{stator} = 1 - \frac{v_2}{v_1} + \frac{r_1 v_{\theta 1} - r_2 v_{\theta 2}}{2 \bar{r} \sigma v_1}$	-----
i	Incidence angle, difference between flow angle and camber line angle at leading edge in cascade projection	Degrees
$i_{ss}$	Suction Surface incidence angle, difference between flow angle and leading edge suction surface	Degrees
M	Mach Number	-----
ML	Mean camber line of airfoil section	-----
N	Rotational Speed	RPM
P	Total Pressure	N/m <sup>2</sup>
p	Static Pressure	N/m <sup>2</sup>
P/P	Total or Stagnation Pressure Ratio	-----
r	Radius	Centimeters
$\bar{r}$	Mean Radius, average of streamline leading-trailing edge radii	Centimeters
T/T	Total or Stagnation Temperature Ratio	-----
t	Static Temperature	° K
U	Rotor Speed	Meters/sec
V	Air Velocity	Meters/sec
W	Weight Flow	Kilograms/sec
$\beta$	Flow Angle, angle whose tangent is the ratio of tangential to axial velocity	Degrees
$\Delta\beta$	Air turning angle, $\Delta\beta = \beta_1 - \beta_2$	Degrees

APPENDIX A (Concluded).

<u>Symbol</u>	<u>Description</u>	<u>Units</u>
CH'	Static Pressure-Rise Coefficient: $CH' = \left[ 2 C_p t_1 \left[ (P_1/P_2)^{\frac{\gamma-1}{\gamma}} - 1 \right] - U_2^2 + U_1^2 \right] \div W_1^2$	-----
$\delta$	Deviation Angle, difference between flow angle and camber line angle at trailing edge in cascade projection	Degrees
$\delta$	Pressure correction: $\frac{P_{actual}}{986 \text{ N/m}^2}$	-----
$\phi$	Slope of meridional streamline	Degrees
$\theta$	Temperature correction: $\frac{T_{actual}}{288.4^\circ \text{ K}}$	-----
$\eta$	Efficiency	-----
$\sigma$	Solidity, ratio of chord to spacing	-----
$\Psi$	Stream Function, percent flow from O. D.	-----
$\bar{w}$	Total Pressure Loss Coefficient: Rotor $\bar{w} = \frac{P_2' id - P_2'}{P_1' - P_1}$ Stator $\bar{w} = \frac{P_1 - P_2}{P_1 - P_T}$	-----
$\frac{\bar{w} \cos \beta_2}{2\sigma}$	Total Pressure Loss Parameter	-----

Subscripts

ad	Adiabatic
id	Ideal
poly	Polytropic
m	Meridional Direction
ss	Suction Surface
Z	Axial Direction
$\theta$	Tangential Direction
1	Leading edge
2	Trailing edge
Sta	Blade Row Exit Station
12.0	Fan Rotor Inlet Station
12.5	Fan Rotor Bypass Exit Station
13.0	Fan Bypass OGV Exit Station
2.1	Fan Core OGV Exit Station
s	Shock
P	Profile

Superscripts

v Relative to rotor

**APPENDIX B**

**LISTING OF OVERALL PERFORMANCE DATA**

**(from Phase III Data Reduction Program described  
in Section 1 of this Volume)**

## SINGLE STAGE FAN

OVERALL PERFORMANCE DATA  
(With Long Bellmouth Inlet Unless Noted)

(a) Shakedown Test with Uniform Inlet Flow

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
17	50.2	52	52	5.43	58.71	129.42	1.117	.817	1.164	.960	1.131	.888	
18	50.2	55	52	5.74	59.98	132.23	1.106	.770	1.160	.876	1.121	.837	
19	50.2	55	52	5.52	59.93	132.13	1.107	.780	1.161	.883	1.122	.849	
20	50.1	38	30	5.75	47.36	104.40	1.143	.735	1.157	.825	1.151	.780	
21	50.1	56	50	5.81	59.11	130.31	1.103	.748	1.153	.887	1.119	.827	
22	65.3	56	40	6.51	74.97	165.28	1.193	.769	1.268	.912	1.218	.845	
23	65.2	38	30	5.98	61.37	135.31	1.262	.721	1.264	.807	1.274	.762	
24	70.3	54	50	5.88	82.70	182.32	1.240	.789	1.316	.890	1.268	.855	
25	80.0	56	50	6.20	95.32	210.14	1.329	.775	1.410	.909	1.363	.844	
26	84.9	54	52	6.05	101.25	223.21	1.419	.804	1.469	.904	1.452	.862	
27	90.1	54	54	5.96	107.53	237.07	1.499	.816	1.511	.860	1.529	.862	
28	94.6	54	56	5.92	112.09	247.11	1.559	.837	1.556	.853	1.589	.879	
29	100.1	54	52	5.99	114.90	253.31	1.609	.787	1.609	.812	1.643	.828	
30	100.1	48	43	6.34	113.46	250.15	1.764	.804	1.625	.813	1.777	.834	

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(a) Shakedown Test with Uniform Inlet Flow (Concluded)

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
36	90.1	45	40	6.18	97.48	214.91	1.597	.795	1.528	.846	1.610	.827	
37	95.1	46	40	6.29	104.54	230.47	1.682	.803	1.574	.834	1.694	.833	
38	100.1	47	42	6.33	112.25	247.47	1.790	.820	1.630	.818	1.798	.847	
39	100.1	51	48	6.11	114.22	251.81	1.673	.800	1.607	.814	1.691	.829	
44	70.2	45	36	6.23	74.01	163.17	1.290	.768	1.314	.864	1.307	.815	
45	70.2	40	30	6.28	67.53	148.87	1.310	.740	1.302	.819	1.321	.777	
46	70.2	54	50	6.03	82.49	181.86	1.244	.790	1.318	.922	1.270	.855	
47	80.1	41	35	5.95	79.38	175.01	1.432	.738	1.404	.823	1.446	.776	
48	85.0	43	35	6.22	87.41	192.71	1.509	.765	1.453	.831	1.521	.800	
49	95.0	47	40	6.22	105.82	233.29	1.687	.809	1.569	.828	1.699	.840	
50	95.1	60	60	5.84	112.42	247.84	1.481	.744	1.557	.847	1.547	.831	
51	95.1	52	52	6.10	111.70	246.25	1.604	.836	1.558	.847	1.622	.867	
52	95.0	49	47	6.00	109.72	241.89	1.668	.835	1.573	.853	1.679	.864	
53	95.1	50.5	50	6.19	111.27	245.30	1.631	.823	1.570	.847	1.647	.853	
54	89.7	60	60	5.88	108.52	239.25	1.427	.770	1.501	.862	1.487	.860	

## (b) Uniform Inlet Flow Test

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
55	89.9	50	50	6.05	105.16	231.84	1.553	.837	1.522	.875	1.569	.869	
56	89.9	47	45	6.12	101.40	223.55	1.587	.816	1.587	.870	1.601	.849	
57	50.0	70	70	5.17	63.83	140.73	1.079	.721	1.144	.916	1.101	.862	
58	50.1	45	45	5.64	54.46	120.06	1.127	.796	1.158	.899	1.138	.848	
59	50.1	41	40	5.74	51.16	112.79	1.138	.787	1.161	.907	1.148	.837	
60	65.2	45	40	6.02	69.97	154.25	1.239	.789	1.276	.894	1.254	.835	
61	85.3	60	60	5.86	103.85	228.96	1.367	.745	1.468	.895	1.424	.845	
62	85.2	49	45	5.71	97.55	215.07	1.477	.812	1.470	.882	1.494	.848	
63	85.2	45	43	5.95	93.41	205.94	1.512	.800	1.477	.862	1.525	.833	
64	80.1	60	60	5.85	97.77	215.55	1.302	.765	1.408	.904	1.351	.862	
65	80.1	47	45	6.02	90.21	198.88	1.409	.819	1.421	.883	1.425	.853	
66	80.0	44	40	5.92	85.60	188.71	1.422	.778	1.415	.850	1.437	.813	
67	70.0	60	60	5.67	85.84	189.24	1.208	.768	1.308	.922	1.245	.867	
68	70.1	49	45	6.04	79.62	175.52	1.268	.799	1.268	.799	1.289	.851	
69	93.1	50	50	5.98	108.85	239.98	1.609	.834	1.553	.866	1.623	.864	
70	97.1	50	50	6.02	112.51	248.04	1.669	.829	1.588	.843	1.681	.856	



## (b) Uniform Inlet Flow Test (Concluded)

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
72	99.9	49	47	6.00	113.84	250.97	1.742	.809	1.621	.828	1.753	.837	
73	99.9	60	60	5.79	115.20	253.98	1.521	.722	1.609	.833	1.593	.809	
74	104.9	55	50	5.99	116.84	257.59	1.639	.747	1.674	.816	1.685	.796	
75	105.0	48	40	6.41	115.86	255.43	1.851	.786	1.670	.777	1.862	.814	
76	105.0	51	45	6.20	116.51	256.87	1.748	.775	1.650	.782	1.766	.804	
77	105.0	60	55	5.64	117.08	258.11	1.569	.711	1.677	.838	1.646	.795	
78	110.1	55	50	5.86	118.36	260.94	1.674	.721	1.718	.779	1.720	.765	
87	109.7	48	40	6.27	117.49	259.02	1.875	.745	1.731	.773	1.895	.776	
88	109.9	51	50	5.92	117.82	259.74	1.760	.729	1.731	.789	1.795	.768	
107	95.3	65	65	5.70	112.47	247.95	1.451	.716	1.559	.857	1.530	.822	
117	100.0	49	47	6.34	112.93	248.96	1.753	.823	1.627	.794	1.770	.851	
118	100.1	50	50	6.08	113.40	250.00	1.718	.806	1.626	.818	1.737	.838	
121	95.1	50	48	6.30	109.38	241.14	1.647	.814	1.561	.843	1.662	.847	
124	95.1	52	52	5.88	110.83	244.35	1.602	.833	1.567	.815	1.621	.858	
127	90.0	50	50	5.94	102.83	226.71	1.557	.812	1.522	.867	1.572	.845	

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## (c) Uniform Inlet Flow Test

## ● By-Pass Migration Points (79-96)

## (d) Uniform Inlet Flow Test

## ● Traverse Test Points (102-116)

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
79	80.0	47	22	9.06	83.00	182.90	1.396	.767	1.363	.768	*	*	* Blade element data not calculated for By-Pass migration points.
80	80.0	47	98	5.10	92.76	204.51	1.408	.818	1.402	.870	1.424	.858	
81	80.1	47	60	5.29	91.81	202.40	1.409	.816	1.431	.905	1.428	.857	
82	80.1	47	35	6.40	87.06	191.93	1.405	.783	1.403	.846	1.420	.818	
83	80.3	44	15	10.94	78.10	172.10	1.403	.727	1.364	.734	*	*	
84	80.2	44	98	4.87	90.79	200.15	1.431	.814	1.411	.861	1.444	.850	
85	80.2	44	50	5.47	87.97	193.93	1.430	.805	1.438	.880	1.446	.841	
86	80.1	44	25	7.66	81.16	178.94	1.411	.747	1.369	.767	1.422	.775	
89	95.0	50	15	11.94	100.90	222.20	1.622	.756	1.522	.717	*	*	
90	94.9	50	98	5.77	111.50	245.80	1.616	.835	1.166	.830	*	*	
91	95.0	50	60	5.57	111.30	245.30	1.625	.830	1.580	.862	*	*	
92	94.8	50	30	7.60	106.40	234.50	1.646	.806	1.522	.769	*	*	
93	94.9	48	20	10.24	100.00	220.40	1.642	.759	1.541	.747	*	*	
94	95.0	48	99	5.63	110.96	244.62	1.662	.841	1.601	.862	1.680	.872	
95	94.9	48	60	5.42	110.51	243.63	1.663	.828	1.603	.874	1.677	.859	
96	95.0	48	35	6.87	104.86	231.17	1.665	.793	1.540	.782	1.676	.820	
102	100.2	54	100	5.85	114.36	252.12	1.569	.776	1.601	.834	1.606	.822	
105	100.2	47	100	5.97	113.71	250.69	1.721	.799	1.654	.844	1.742	.833	
106	100.3	50	100	6.75	114.29	251.97	1.642	.790	1.621	.832	1.665	.822	
113	100.0	54	70	5.56	114.65	252.76	1.598	.787	1.614	.879	1.636	.834	
114	100.1	50	70	5.43	114.06	251.46	1.694	.804	1.648	.835	1.717	.838	
116	100.1	47	70	6.07	112.68	248.42	1.763	.814	1.641	.829	1.779	.846	

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(d) Uniform Inlet Flow Test (Concluded)

• Traverse Points (111-133)

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
111	79.3	47	30	7.51	81.86	180.47	1.388	.766	1.373	.789	1.404	.799	
119	100.1	52	50	6.24	114.00	251.32	1.674	.794	1.619	.817	1.697	.827	
122	95.0	49	48	5.92	108.28	238.72	1.658	.819	1.592	.884	1.676	.857	
125	95.4	52	52	5.78	110.93	244.55	1.625	.835	1.576	.866	1.645	.870	
129	89.8	52	50	6.62	104.17	229.67	1.530	.835	1.513	.888	1.549	.871	
133	95.1	49	30	7.82	102.12	225.13	1.665	.787	1.521	.727	1.673	.807	

## (e) Uniform Inlet Flow Test

● Short Bellmouth Inlet

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
140	69.8	49	45	5.94	76.98	169.72	1.276	.788	1.321	.899	1.293	.832	
141	70.0	49	45	5.91	77.05	169.86	1.278	.795	1.321	.872	1.296	.836	
142	79.8	48	45	6.05	88.55	195.21	1.420	.810	1.427	.897	1.435	.847	
143	89.7	51	50	6.06	104.82	231.09	1.581	.836	1.542	.883	1.596	.867	
144	90.3	51	50	5.95	104.81	231.07	1.577	.833	1.547	.873	1.593	.864	
145	94.6	52	52	6.04	110.87	244.43	1.645	.846	1.580	.864	1.663	.878	
146	95.1	51	52	5.89	110.66	243.97	1.677	.836	1.591	.870	1.691	.869	
147	95.1	53	53	6.11	112.04	247.00	1.657	.865	1.591	.870	1.672	.893	
149	100.0	51	48	5.88	114.55	252.53	1.757	.829	1.642	.826	1.770	.857	
150	99.9	50	48	5.93	114.03	251.40	1.780	.824	1.643	.827	1.790	.851	
152	99.9	49	47	6.49	113.79	250.85	1.809	.820	1.633	.845	1.818	.852	
154	99.9	48	45	5.80	112.23	247.43	1.819	.823	1.644	.828	1.821	.848	
155	99.9	54	52	6.07	115.34	254.29	1.676	.826	1.628	.828	1.693	.851	

## (f) Hybrid Inlet Aerodynamic Performance Test

• Takeoff Mode

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
170	69.9	53	53	5.94	82.91	182.79	1.260	.771	1.321	.910	1.284	.834	
171	80.0	53	53	5.92	93.64	206.45	1.383	.790	1.435	.948	1.410	.847	
172	90.0	53	53	6.28	105.62	232.85	1.553	.811	1.545	.884	1.579	.854	
173	93.0	53	53	6.98	109.00	240.31	1.609	.853	1.577	.924	1.634	.897	
174	94.9	53	53	6.27	110.83	244.35	1.616	.824	1.569	.870	1.639	.863	
176	69.9	51	49	5.99	79.24	174.69	1.276	.783	1.325	.932	1.297	.839	
177	69.9	42	30	6.41	67.37	148.52	1.310	.747	1.300	.852	1.322	.790	
178	80.0	51	49	6.47	88.86	195.90	1.401	.803	1.429	.921	1.421	.847	
179	80.0	46	40	6.22	80.92	178.39	1.437	.787	1.414	.849	1.452	.824	
181	90.0	51	49	6.36	103.62	228.44	1.562	.816	1.542	.919	1.585	.860	
182	90.1	60	60	6.02	107.81	237.68	1.463	.785	1.510	.887	1.507	.853	

## (f) Hybrid Inlet Aerodynamic Performance Test (Concluded)

## • Takeoff Mode

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
183	90.1	48	40	7.06	99.41	219.17	1.587	.786	1.526	.840	1.605	.822	
184	95.0	51	49	6.15	109.33	241.03	1.667	.831	1.597	.897	1.685	.869	
185	95.0	51	40	6.83	108.69	239.62	1.679	.818	1.579	.845	1.693	.849	
191	100.1	97	97	5.92	114.69	252.85	1.467	.674	1.567	.810	1.553	.782	
192	100.1	53	53	6.38	114.08	251.49	1.666	.807	1.624	.866	1.691	.845	
194	100.5	51	49	6.58	113.18	249.51	1.719	.776	1.632	.811	1.744	.814	
195	100.5	51	45	6.50	112.93	248.96	1.753	.795	1.652	.840	1.781	.837	
196	93.1	52	49	6.35	108.20	238.55	1.623	.821	1.580	.891	1.644	.860	
197	91.2	70	70	5.75	111.33	245.44	1.428	.719	1.533	.898	1.506	.837	
198	90.2	60	60	6.03	108.67	239.57	1.476	.766	1.518	.860	1.518	.829	
199	89.0	65	65	5.90	108.14	238.40	1.417	.724	1.502	.864	1.472	.809	

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(g) Hybrid Inlet Aerodynamic Performance Test

• Approach Mode

Rdg	Pct. Design Speed	Throttle Setting		Bypass Ratio	Inlet Corr. Weight Flow		Bypass Stage		Core Stage		Rotor		Comments
		Bypass	Core		kg/sec	lbm/sec	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	P/P	$\eta_{ad}$	
202	65.0	54	50	5.90	74.61	164.48	1.215	.805	1.276	.959	1.236	.873	
203	50.0	54	50	5.18	56.91	125.35	1.114	.871	1.157	1.021	1.127	.945	
204	66.6	56	50	5.41	77.47	170.80	1.217	.775	1.287	.934	1.243	.852	
206	50.0	100	100	4.88	64.40	141.99	1.075	.753	1.139	.983	1.099	.934	
207	49.9	43	30	5.99	48.86	107.72	1.139	.801	1.151	.957	1.147	.855	
208	62.6	100	100	5.13	79.17	174.54	1.121	.717	1.220	.945	1.162	.900	
210	64.7	70	70	5.39	79.64	175.58	1.154	.707	1.252	.919	1.191	.838	
211	64.7	76	70	5.49	80.21	176.83	1.143	.705	1.249	.926	1.181	.846	
212	64.7	45	30	6.33	65.20	143.72	1.243	.797	1.254	.907	1.257	.847	
213	66.5	50	40	6.46	72.66	160.19	1.239	.833	1.280	.964	1.258	.893	
214	70.0	50	40	6.57	76.44	168.51	1.273	.803	1.313	.945	1.293	.861	
215	69.9	52	50	5.84	79.23	174.66	1.262	.792	1.320	.960	1.285	.857	
216	69.9	47	30	6.71	72.26	159.31	1.288	.780	1.293	.842	1.302	.820	
217	62.6	100	100	5.18	79.13	174.44	1.123	.651	1.218	.858	1.162	.807	

APPENDIX C

SYMBOLIC LISTING OF BLADE ELEMENT DATA

<u>Rotor Blade Row</u>			<u>Percent Corrected Speed</u>				<u>Reading Number</u>			
<u>Pct Imm</u>	<u>Radius</u>		<u>Merid. Angle</u>		<u>Stream Funct.</u>		<u>Abs. Angle</u>		<u>Rel. Angle</u>	
	<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>
% Imm	$r_1$	$r_2$	$\phi_1$	$\phi_2$	$\psi_1$	$\psi_2$	$\beta_1$	$\beta_2$	$\beta_1$	$\beta_2$
<u>Pct Imm</u>	<u>Abs. Vel.</u>		<u>Rel. Vel.</u>		<u>Merid. Vel.</u>		<u>Tang. Vel.</u>		<u>Blade Speed</u>	
	<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>
% Imm	$v_1$	$v_2$	$v'_1$	$v'_2$	$v_{m1}$	$v_{m2}$	$v_{\theta 1}$	$v_{\theta 2}$	$U_1$	$U_2$
<u>Pct Imm</u>	<u>Abs. Mach No.</u>	<u>Rel. Mach No.</u>	<u>Axial CH'</u>		<u>Acc PT Ratio</u>	<u>Acc TT Ratio</u>	<u>Efficiency</u>			
	<u>In</u>	<u>Out</u>	<u>In</u>	<u>Out</u>	<u>Vel. R</u>		<u>Adia</u>	<u>Poly</u>		
% Imm	$M_1$	$M_2$	$M'_1$	$M'_2$	$v_{z2}/v_{z1}$	$\frac{P_{Sta}}{P_{12.0}}$	$\frac{T_{Sta}}{T_{12.0}}$	$\eta_{ad}$	$\eta_{poly}$	
<u>Pct Imm</u>	<u>Incidence</u>		<u>Dev</u>	<u>Turn</u>	<u>D-Fact</u>	<u>Loss Coefficient</u>			<u>Loss Param</u>	
	<u>ML</u>	<u>SS</u>				<u>TOT</u>	<u>SHOCK</u>	<u>PROF</u>	<u>TOT</u>	<u>PROF</u>
% Imm	$i$	$i_{ss}$	$\delta$	$\Delta\beta$	$D$	$\bar{w}$	$\bar{w}_s$	$\bar{w}_p$	$\frac{\bar{w} \cos \beta_2'}{2\sigma}$	$\frac{\bar{w} \cos \beta_2'}{2\sigma}$
	<u>Inlet Corr WT Flow</u>		<u>Press Ratio</u>	<u>Temp Ratio</u>	<u>Adia Eff</u>	<u>Inlet Corr RPM</u>				
	$w\sqrt{\theta/\delta}$		$\frac{P_{Sta}}{P_{12.0}}$	$\frac{T_{Sta}}{T_{12.0}}$	$\eta_{ad}$	$N/\sqrt{\theta}_{12}$				



APPENDIX D

BLADE ELEMENT DATA

(a) Shakedown Test with Uniform Inlet Flow

ATT FAN VEHICLE

(METRIC)

ROTOR 50 PERCENT SPEED RDG 17

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.7	-5.9	0.059	0.060	0.	31.3	71.5	65.4
10	42.367	41.961	-4.7	-4.9	0.121	0.119	0.	27.9	69.9	63.2
15	40.996	40.742	-3.5	-3.9	0.184	0.180	0.	27.2	68.6	62.0
30	36.881	37.059	-0.3	-0.8	0.370	0.359	0.	28.4	65.0	57.5
50	31.394	32.131	4.4	3.8	0.598	0.582	0.	30.6	60.5	49.0
70	26.010	27.229	9.8	11.5	0.786	0.781	0.	36.6	55.9	35.8
85	21.717	23.647	16.3	12.2	0.907	0.905	0.	45.9	52.6	17.2
90	20.295	22.581	18.5	12.9	0.940	0.938	0.	44.8	51.8	10.7
95	18.796	21.463	20.2	15.1	0.971	0.972	0.	46.9	51.1	2.4

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	82.3	101.5	257.7	207.8	82.3	86.9	0.	52.5	244.2	241.2
10	86.7	105.9	252.1	207.5	86.7	93.7	0.	49.3	236.7	234.4
15	90.0	107.2	246.1	202.5	90.0	95.4	0.	49.0	229.0	227.6
30	96.1	111.5	227.3	182.7	96.1	98.1	0.	53.0	206.1	207.0
50	99.6	119.9	201.7	157.2	99.6	103.2	0.	61.0	175.4	179.5
70	100.0	131.1	176.4	129.8	100.0	105.9	0.	77.2	145.3	152.1
85	96.8	142.9	155.2	105.1	96.8	100.6	0.	101.5	121.3	132.1
90	94.2	152.9	147.4	111.7	94.2	110.0	0.	106.2	113.4	126.2
95	90.3	160.7	138.5	111.9	90.3	111.8	0.	115.4	105.0	119.9

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.243	0.295	0.762	0.603	1.054	0.204	1.0968	1.0438	0.611	0.616
10	0.256	0.308	0.746	0.604	1.081	0.229	1.1069	1.0399	0.737	0.741
15	0.266	0.312	0.728	0.590	1.061	0.251	1.1112	1.0385	0.794	0.797
30	0.285	0.325	0.673	0.532	1.023	0.309	1.1205	1.0379	0.872	0.874
50	0.295	0.350	0.598	0.459	1.039	0.380	1.1318	1.0379	0.950	0.951
70	0.296	0.383	0.523	0.379	1.053	0.467	1.1499	1.0406	1.002	1.002
85	0.287	0.418	0.460	0.307	1.056	0.501	1.1646	1.0464	0.959	0.960
90	0.279	0.448	0.436	0.327	1.204	0.455	1.1765	1.0463	1.027	1.027
95	0.267	0.471	0.410	0.328	1.277	0.365	1.1802	1.0477	1.016	1.016

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	TOT	PROF	
5	8.2	6.4	3.3	6.0	0.261	0.174	0.	0.174	0.024	0.024
10	8.1	6.4	2.9	6.7	0.242	0.112	0.	0.112	0.017	0.017
15	8.2	6.6	3.3	6.7	0.245	0.088	0.	0.088	0.014	0.014
30	9.3	7.3	3.9	7.8	0.277	0.062	0.	0.062	0.011	0.011
50	10.5	7.9	4.6	12.0	0.319	0.030	0.	0.030	0.006	0.006
70	10.6	7.2	8.6	20.4	0.382	-0.002	0.	-0.002	-0.000	-0.000
85	10.1	6.2	12.4	35.6	0.475	0.048	0.	0.048	0.010	0.010
90	10.0	6.0	14.3	41.4	0.397	-0.038	0.	-0.038	-0.008	-0.008
95	10.1	5.9	14.4	48.5	0.363	-0.023	0.	-0.023	-0.005	-0.005

INLET CORR WFLOW 58.71 PRESS RATIO 1.1309 TEMP RATIO 1.0403 ADIA EFF 0.888 INLET CORR RPM 5335.1

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-0GV

50 PERCENT SPEED

RDG 17

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
10	42.418	42.316	-1.2	-0.4	0.080	0.082	29.7	0.		
15	41.605	41.554	-0.7	-0.0	0.121	0.123	26.7	0.		
30	39.192	39.218	-0.2	0.3	0.251	0.249	25.1	0.		
50	35.763	35.852	0.3	0.6	0.434	0.431	25.3	0.		
70	32.487	32.639	0.8	0.7	0.604	0.599	26.2	0.		
85	30.124	30.302	1.8	1.2	0.723	0.719	27.9	0.		
90	29.312	29.489	2.3	1.5	0.762	0.761	28.6	0.		

PCT IMM	ABS VEL		REL VEL IN	MERID VEL OUT	TANG VEL IN	VEL OUT	BLADE SPEED	
	IN	OUT					IN	OUT
10	104.9	97.7		91.1	97.7	51.7	0.	
15	110.8	102.2		99.0	102.2	49.6	0.	
30	118.4	109.0		107.2	109.0	50.3	0.	
50	128.4	117.2		116.1	117.2	54.8	0.	
70	137.4	124.3		123.3	124.3	60.6	0.	
85	145.7	133.4		128.8	133.4	68.1	0.	
90	148.9	137.9		130.8	137.9	71.2	0.	

PCT IMM	ABS MACH NO		REL MACH NO IN	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT						ADIA	POLY
10	0.305	0.284		1.071	0.051	1.0946	1.0423	0.619	0.624
15	0.323	0.297		1.032	0.068	1.1005	1.0398	0.696	0.700
30	0.346	0.316		1.018	0.090	1.1084	1.0381	0.784	0.787
50	0.376	0.342		1.011	0.102	1.1173	1.0378	0.851	0.854
70	0.403	0.363		1.010	0.115	1.1245	1.0380	0.897	0.899
85	0.427	0.390		1.038	0.101	1.1338	1.0396	0.923	0.924
90	0.437	0.404		1.056	0.083	1.1382	1.0402	0.936	0.937

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-14.0	-22.1	10.9	29.6	0.245	0.089	0.	0.089	0.031	0.031
15	-15.5	-23.8	10.4	26.7	0.234	0.086	0.	0.086	0.030	0.030
30	-14.9	-22.8	9.4	25.2	0.217	0.065	0.	0.065	0.021	0.021
50	-13.8	-20.9	8.6	25.3	0.213	0.066	0.	0.066	0.020	0.020
70	-13.4	-19.8	8.3	26.1	0.214	0.067	0.	0.067	0.018	0.018
85	-13.1	-18.8	8.4	27.9	0.203	0.062	0.	0.062	0.016	0.016
90	-13.0	-18.7	8.4	28.6	0.194	0.063	0.	0.063	0.016	0.016

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RFD
49.75	1.1168	1.0392	0.817	5335.1

ATT FAN VEHICLE

(METRIC)

CORE=OGV 50 PERCENT SPEED RDG 17

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-3.0	-6.1	0.870	0.870	41.5	19.5		
30	24.689	24.460	-1.9	-4.9	0.893	0.895	43.3	18.9		
50	23.673	23.597	0.2	-3.0	0.926	0.926	43.2	18.0		
70	22.682	22.784	2.3	-1.3	0.959	0.956	42.8	17.2		
85	21.971	22.174	3.8	0.3	0.981	0.978	46.7	16.6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	132.1	120.4			98.9	113.6	87.5	40.0		
30	139.1	121.0			101.3	114.6	95.3	39.0		
50	148.7	125.2			108.5	119.1	101.6	38.5		
70	157.2	130.8			115.3	124.9	106.9	38.6		
85	158.0	131.3			108.5	125.9	114.8	37.4		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.386	0.351			1.143	0.117	1.1570	1.0429	0.991	0.991
30	0.406	0.352			1.128	0.223	1.1614	1.0455	0.960	0.961
50	0.435	0.364			1.097	0.268	1.1677	1.0465	0.975	0.975
70	0.461	0.381			1.082	0.256	1.1719	1.0467	0.992	0.992
85	0.463	0.382			1.157	0.235	1.1654	1.0486	0.920	0.922

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-7.9	-11.8	8.6	22.0	0.214	0.055	0.	0.055	0.018	0.018
30	-4.3	-7.8	8.1	24.5	0.268	0.023	0.	0.023	0.007	0.007
50	-3.3	-6.3	7.7	25.2	0.296	0.025	0.	0.025	0.008	0.008
70	-4.3	-6.7	8.0	25.6	0.301	0.054	0.	0.054	0.016	0.016
85	-2.3	-3.9	9.8	29.9	0.315	0.082	0.	0.082	0.024	0.024

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
8.95	1.1635	1.0461	0.960	5335.1
8.95	1.1635	1.0461	0.960	5335.1

ATT FAN VEHICLE

(METRIC)

ROTOR 50 PERCENT SPEED RDG 19

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE		REL ANGLE	
	IN	OUT			IN	OUT		OUT	IN	OUT	
5	43,713	43,180	-5,8	-6,0	0,059	0,060	0,	29,0	71,0	65,1	
10	42,367	41,961	-4,7	-5,0	0,121	0,120	0,	25,3	69,4	62,8	
15	40,996	40,742	-3,5	-3,9	0,185	0,181	0,	24,2	68,1	61,7	
30	36,881	37,059	-0,1	-0,7	0,371	0,360	0,	25,4	64,4	57,4	
50	31,394	32,131	4,6	4,0	0,599	0,584	0,	29,8	59,9	48,2	
70	26,010	27,229	10,0	11,7	0,787	0,783	0,	36,8	55,3	33,9	
85	21,717	23,647	16,6	12,5	0,907	0,906	0,	46,2	52,1	13,3	
90	20,295	22,581	18,7	13,1	0,940	0,939	0,	46,2	51,3	6,4	
95	18,796	21,463	20,3	15,2	0,971	0,973	0,	49,4	50,7	-2,7	

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	84,5	102,4	258,4	211,6	84,5	89,7	0,	49,5	244,2	241,2
10	89,0	107,6	252,8	212,2	89,0	97,3	0,	45,8	236,6	234,4
15	92,4	108,5	246,9	208,1	92,4	98,9	0,	44,4	229,0	227,6
30	98,5	112,5	228,3	188,6	98,5	101,7	0,	48,2	206,0	207,0
50	101,9	122,5	202,8	159,4	101,9	106,4	0,	60,7	175,3	179,5
70	102,0	135,6	177,5	130,9	102,0	109,3	0,	80,2	145,3	152,1
85	98,6	150,8	156,3	108,4	98,6	105,7	0,	107,6	121,3	132,1
90	95,7	160,0	148,4	112,9	95,7	112,3	0,	114,1	113,4	126,1
95	91,7	167,0	139,4	111,0	91,7	110,8	0,	124,9	105,0	119,9

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,250	0,298	0,764	0,615	1,060	0,175	1,0837	1,0412	0,563	0,568
10	0,263	0,314	0,748	0,618	1,093	0,201	1,0954	1,0371	0,711	0,715
15	0,274	0,316	0,731	0,607	1,072	0,223	1,0995	1,0349	0,787	0,790
30	0,292	0,329	0,677	0,551	1,034	0,278	1,1093	1,0345	0,872	0,873
50	0,302	0,358	0,601	0,466	1,046	0,341	1,1233	1,0378	0,894	0,895
70	0,303	0,396	0,526	0,383	1,065	0,412	1,1447	1,0422	0,933	0,935
85	0,292	0,441	0,463	0,317	1,091	0,420	1,1656	1,0491	0,911	0,913
90	0,284	0,469	0,440	0,331	1,207	0,357	1,1750	1,0497	0,948	0,949
95	0,271	0,490	0,413	0,326	1,250	0,242	1,1763	1,0516	0,920	0,922

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TGT	SHOCK	PROF	TOT	PROF
5	7,8	5,9	3,0	5,9	0,244	0,183	0,	0,183	0,026	0,026
10	7,6	5,9	2,5	6,7	0,221	0,114	0,	0,114	0,017	0,017
15	7,7	6,1	3,0	6,4	0,218	0,083	0,	0,083	0,013	0,013
30	8,8	6,7	3,7	7,4	0,248	0,056	0,	0,056	0,010	0,010
50	10,0	7,3	3,8	12,2	0,312	0,062	0,	0,062	0,012	0,012
70	10,1	6,6	6,7	21,8	0,383	0,055	0,	0,055	0,012	0,012
85	9,6	5,7	8,5	38,9	0,465	0,108	0,	0,108	0,023	0,023
90	9,6	5,5	10,0	45,1	0,407	0,068	0,	0,068	0,014	0,014
95	9,7	5,5	9,3	53,0	0,387	0,128	0,	0,128	0,025	0,025

INLET CORR WTFLOW 59,93 PRESS RATIO 1,1221 TEMP RATIO 1,0394 ADIA EFF 0,849 INLET CORR RPM 5333,6

ATT FAN VEHICLE

(METRIC)

BP-OGV

50 PERCENT SPEED

RDG 19

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,1	-0,4	0,080	0,082	27,4	0,		
15	41,605	41,554	-0,7	-0,1	0,122	0,123	24,3	0,		
30	39,192	39,218	-0,5	0,1	0,252	0,249	22,1	0,		
50	35,763	35,852	-0,1	0,1	0,435	0,430	23,2	0,		
70	32,487	32,639	0,3	0,1	0,606	0,599	25,5	0,		
85	30,124	30,302	1,5	0,8	0,725	0,720	27,7	0,		
90	29,312	29,489	2,1	1,2	0,764	0,762	28,5	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	106,1	101,2			94,3	101,2	48,5	0,		
15	112,5	105,5			102,6	105,5	46,1	0,		
30	119,3	112,2			110,5	112,2	45,0	0,		
50	150,2	120,5			119,7	120,5	51,3	0,		
70	141,2	129,0			127,5	129,0	60,7	0,		
85	151,0	139,3			133,7	139,3	70,1	0,		
90	154,6	144,2			136,0	144,2	73,7	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,309	0,294			1,072	0,003	1,0814	1,0396	0,571	0,575
15	0,328	0,307			1,028	0,021	1,0872	1,0370	0,654	0,658
30	0,349	0,328			1,016	0,041	1,0953	1,0340	0,774	0,777
50	0,381	0,352			1,008	0,065	1,1052	1,0353	0,820	0,822
70	0,414	0,377			1,016	0,099	1,1162	1,0380	0,840	0,843
85	0,443	0,408			1,045	0,099	1,1290	1,0407	0,867	0,870
90	0,454	0,423			1,063	0,084	1,1343	1,0416	0,881	0,883

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-16,3	-24,4	10,9	27,5	0,211	0,096	0,	0,096	0,034	0,034
15	-17,9	-26,2	10,4	24,2	0,205	0,106	0,	0,106	0,037	0,037
30	-17,9	-25,8	9,4	22,1	0,181	0,077	0,	0,077	0,025	0,025
50	-15,8	-23,0	8,6	23,2	0,190	0,080	0,	0,080	0,024	0,024
70	-14,1	-20,5	8,3	25,4	0,200	0,063	0,	0,063	0,017	0,017
85	-13,3	-19,0	8,4	27,6	0,194	0,048	0,	0,048	0,012	0,012
90	-13,1	-18,8	8,4	28,4	0,186	0,047	0,	0,047	0,012	0,012

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
50,92	1,1066	1,0377	0,780	5333,6

ATT FAN VEHICLE

(METRIC)

CORE-OGV 50 PERCENT SPEED RDG 19

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-3,0	-6,1	0,872	0,872	43,0	19,5		
30	24,689	24,460	-1,9	-4,9	0,895	0,896	44,1	18,9		
50	23,673	23,597	-0,1	-3,3	0,928	0,928	44,0	17,9		
70	22,682	22,784	2,0	-1,5	0,960	0,957	45,1	17,2		
85	21,971	22,174	3,7	0,2	0,982	0,974	49,0	16,6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	137,0	121,9			100,3	114,9	93,4	40,5		
30	146,6	124,2			105,3	117,6	102,0	40,1		
50	156,1	127,9			112,5	121,7	108,3	39,4		
70	163,6	132,1			115,4	126,2	115,9	39,0		
85	164,2	131,7			107,8	126,3	123,8	37,5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT ACC TT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
15	0,400	0,355			1,141	0,164	1,1534	1,0458	0,909	0,911
30	0,428	0,361			1,112	0,255	1,1608	1,0486	0,895	0,897
50	0,457	0,372			1,081	0,302	1,1667	1,0495	0,910	0,912
70	0,480	0,384			1,091	0,299	1,1686	1,0506	0,899	0,901
85	0,481	0,383			1,167	0,285	1,1606	1,0524	0,830	0,834

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-6,4	-10,3	8,6	23,5	0,245	0,048	0,	0,048	0,016	0,016
30	-3,5	-7,0	8,1	25,2	0,296	0,031	0,	0,031	0,010	0,010
50	-2,5	-5,5	7,7	26,0	0,323	0,028	0,	0,028	0,009	0,009
70	-2,0	-4,4	8,0	27,8	0,337	0,052	0,	0,052	0,015	0,015
85	0,0	-1,6	9,8	32,2	0,355	0,078	0,	0,078	0,023	0,023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
9,02	1,1608	1,0493	0,883	5333,6

ATT FAN VEHICLE

(METRIC)

		ROTOR				50 PERCENT SPEED				ROG 20			
PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE				
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	
5	43,713	43,180	-5.7	-5.8	0.060	0.061	0.	49.4	74.9	66.8			
10	42,367	41,961	-4.6	-4.8	0.122	0.121	0.	44.7	73.5	65.0			
15	40,996	40,742	-3.3	-3.6	0.186	0.183	0.	42.2	72.3	63.5			
30	36,881	37,059	0.9	0.3	0.376	0.369	0.	40.5	69.3	59.2			
50	31,394	32,131	6.1	5.2	0.605	0.596	0.	44.2	65.9	51.2			
70	26,010	27,229	10.6	12.3	0.791	0.788	0.	50.5	62.2	35.4			
85	21,717	23,647	17.1	12.9	0.909	0.909	0.	51.8	58.9	13.6			
90	20,295	22,581	19.6	13.7	0.942	0.945	0.	51.6	58.4	7.1			
95	18,796	21,463	21.3	15.8	0.972	0.979	0.	57.5	58.0	-5.1			

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	66.3	105.9	252.6	174.8	66.3	69.1	0.	80.2	243.8	240.8
10	70.1	105.5	246.4	176.7	70.1	75.0	0.	74.0	236.2	234.0
15	73.1	105.4	240.0	174.8	73.1	78.1	0.	70.8	228.6	227.2
30	77.9	107.2	219.9	159.4	77.9	81.5	0.	69.7	205.7	206.6
50	78.7	113.3	191.9	129.1	78.7	81.5	0.	78.9	175.1	179.2
70	77.9	125.1	164.6	98.3	77.9	80.6	0.	95.7	145.0	151.8
85	76.4	142.2	143.2	91.8	76.4	89.3	0.	110.7	121.1	131.9
90	73.9	148.1	135.2	94.3	73.9	93.7	0.	114.8	113.2	125.9
95	70.2	152.2	126.1	84.2	70.2	83.9	0.	126.9	104.8	119.7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.196	0.304	0.745	0.502	1.040	0.281	1.1468	1.0668	0.597	0.605
10	0.207	0.304	0.727	0.509	1.070	0.302	1.1476	1.0598	0.671	0.677
15	0.216	0.304	0.709	0.505	1.069	0.321	1.1480	1.0555	0.725	0.730
30	0.230	0.311	0.650	0.462	1.048	0.368	1.1480	1.0497	0.809	0.813
50	0.233	0.329	0.567	0.374	1.037	0.415	1.1459	1.0489	0.812	0.816
70	0.230	0.364	0.486	0.286	1.028	0.463	1.1526	1.0502	0.825	0.828
85	0.226	0.415	0.423	0.268	1.192	0.467	1.1703	1.0504	0.911	0.913
90	0.218	0.433	0.399	0.275	1.310	0.405	1.1721	1.0499	0.930	0.932
95	0.207	0.444	0.372	0.246	1.292	0.284	1.1683	1.0520	0.874	0.877

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHUCK	PROF		
5	11.6	9.8	4.8	8.0	0.414	0.275	0.	0.275	0.036	0.036
10	11.7	10.0	4.7	8.6	0.383	0.212	0.	0.212	0.030	0.030
15	11.9	10.3	4.8	8.8	0.370	0.173	0.	0.173	0.026	0.026
30	13.6	11.6	5.6	10.2	0.381	0.126	0.	0.126	0.021	0.021
50	16.0	13.3	6.8	15.1	0.454	0.154	0.	0.154	0.028	0.028
70	16.9	13.5	8.2	26.9	0.556	0.196	0.	0.196	0.041	0.041
85	16.4	12.5	8.8	45.3	0.536	0.131	0.	0.131	0.028	0.028
90	16.7	12.6	10.7	50.8	0.486	0.112	0.	0.112	0.023	0.023
95	17.0	12.8	6.9	60.6	0.513	0.246	0.	0.246	0.049	0.049

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
47.36	1.1512	1.0526	0.780	5324.9



ATT FAN VEHICLE

(METRIC)

BP=OGV

50 PERCENT SPEED

RDG 20

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42.418	42.316	-0.0	1.1	0.081	0.090	46.8	0.		
15	41.605	41.554	0.8	1.9	0.124	0.133	42.5	0.		
30	39.192	39.218	1.6	2.7	0.260	0.268	37.5	0.		
50	35.763	35.852	1.6	2.6	0.451	0.454	37.2	0.		
70	32.487	32.679	1.6	2.2	0.620	0.620	39.3	0.		
85	30.124	30.202	2.2	2.1	0.734	0.734	40.8	0.		
90	29.312	29.489	2.6	2.1	0.772	0.772	41.6	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	108.2	83.0			74.0	83.0	78.6	0.		
15	110.2	86.0			81.2	86.0	74.3	0.		
30	113.9	90.3			90.3	90.3	69.4	0.		
50	117.9	92.0			93.9	92.0	71.3	0.		
70	122.9	93.8			95.1	93.8	77.8	0.		
85	129.5	97.7			98.0	97.7	84.7	0.		
90	132.9	100.1			99.3	100.1	88.2	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.311	0.238			1.110	0.333	1.1406	1.0638	0.600	0.608
15	0.318	0.247			1.047	0.344	1.1433	1.0591	0.660	0.666
30	0.330	0.260			0.997	0.339	1.1453	1.0523	0.756	0.761
50	0.342	0.266			0.979	0.338	1.1425	1.0491	0.790	0.794
70	0.357	0.271			0.986	0.364	1.1406	1.0488	0.785	0.789
85	0.377	0.283			0.998	0.363	1.1408	1.0491	0.781	0.785
90	0.387	0.290			1.008	0.353	1.1415	1.0498	0.774	0.778

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	3.1	-5.0	10.9	46.3	0.492	0.088	0.	0.088	0.031	0.031
15	0.3	-8.0	10.4	42.1	0.455	0.056	0.	0.056	0.020	0.020
30	-2.5	-10.4	9.4	37.5	0.405	0.035	0.	0.035	0.011	0.011
50	-1.8	-9.0	8.6	37.2	0.400	0.056	0.	0.056	0.017	0.017
70	-0.3	-6.7	8.3	39.3	0.410	0.056	0.	0.056	0.015	0.015
85	-0.1	-5.9	8.4	40.8	0.414	0.070	0.	0.070	0.018	0.018
90	0.1	-5.7	8.4	41.6	0.415	0.084	0.	0.084	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
40.43	1.1426	1.0528	0.735	5324.9

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE-OGV 50 PERCENT SPEED RDG 20

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,3	-5,4	0,875	0,877	55,1	19,5		
30	24,689	24,460	-1,0	-4,3	0,898	0,902	50,5	18,8		
50	23,673	23,597	-0,1	-3,5	0,934	0,933	49,7	17,9		
70	22,682	22,784	0,5	-2,8	0,967	0,962	52,1	17,1		
85	21,971	22,174	2,0	-1,3	0,987	0,982	59,5	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	131,9	97,7			75,6	92,1	108,2	32,4		
30	138,7	99,0			88,2	93,7	107,1	31,8		
50	143,2	95,8			92,7	91,2	109,2	29,3		
70	148,2	95,6			91,0	91,4	117,4	28,0		
85	147,2	92,6			74,8	88,8	126,0	26,3		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,383	0,282			1,206	0,390	1,1611	1,0529	0,824	0,828
30	0,404	0,286			1,062	0,428	1,1644	1,0508	0,874	0,877
50	0,418	0,277			0,982	0,457	1,1578	1,0498	0,858	0,861
70	0,433	0,276			0,966	0,478	1,1553	1,0510	0,825	0,828
85	0,429	0,267			1,177	0,524	1,1492	1,0531	0,763	0,768

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	HL	SS					SHOCK	PROF	TOT	PROF
15	5,6	1,8	8,5	35,5	0,460	0,069	0,	0,069	0,022	0,022
30	3,0	-0,6	8,0	31,7	0,466	0,063	0,	0,063	0,020	0,020
50	3,2	0,2	7,6	31,8	0,511	0,100	0,	0,100	0,031	0,031
70	5,0	2,6	7,9	34,5	0,541	0,113	0,	0,113	0,033	0,033
85	10,5	8,9	9,8	41,9	0,581	0,095	0,	0,095	0,027	0,027

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
6,92	1,1569	1,0515	0,825	5324,9

ATT FAN VEHICLE

(METRIC)

ROTOR 65 PERCENT SPEED RDG 22

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.0	-6.2	0.060	0.059	0.	31.3	71.3	66.1
10	42.367	41.961	-5.0	-5.2	0.122	0.119	0.	28.2	69.7	63.7
15	40.996	40.742	-3.8	-4.2	0.186	0.180	0.	27.2	68.2	62.2
30	36.881	37.059	0.1	-0.4	0.374	0.364	0.	28.3	64.4	57.5
50	31.394	32.131	5.7	5.2	0.603	0.593	0.	32.3	60.2	48.7
70	26.010	27.229	10.9	15.0	0.789	0.792	0.	38.6	56.2	36.6
85	21.717	23.647	16.3	16.7	0.908	0.910	0.	45.7	52.4	20.4
90	20.295	22.581	18.7	15.7	0.940	0.943	0.	44.7	51.7	14.3
95	18.796	21.463	20.5	16.7	0.971	0.976	0.	49.5	51.2	3.4

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	108.3	128.8	335.7	270.6	108.3	110.2	0.	66.7	317.7	313.9
10	114.5	135.7	328.6	269.4	114.5	119.7	0.	63.7	308.0	305.0
15	119.4	138.6	321.0	263.6	119.4	123.3	0.	63.2	298.0	296.1
30	128.3	145.0	297.2	237.9	128.3	127.7	0.	68.7	268.1	269.4
50	131.6	156.7	263.4	200.1	131.6	132.6	0.	83.6	228.2	233.6
70	129.0	168.0	228.9	163.9	129.0	133.2	0.	102.5	189.1	197.9
85	126.6	180.1	202.4	136.5	126.6	128.6	0.	126.1	157.9	171.9
90	122.9	189.7	192.0	141.4	122.9	137.5	0.	130.9	147.5	164.1
95	117.5	198.8	180.2	132.5	117.5	132.2	0.	148.4	136.6	156.0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
5	0.321	0.371	0.997	0.778	1.018	0.198	1.1541	1.0723	0.578	0.587
10	0.340	0.392	0.977	0.778	1.048	0.225	1.1748	1.0671	0.702	0.709
15	0.355	0.401	0.955	0.763	1.035	0.249	1.1858	1.0646	0.772	0.777
30	0.382	0.420	0.886	0.690	0.998	0.310	1.2059	1.0640	0.859	0.863
50	0.393	0.455	0.786	0.581	1.009	0.367	1.2240	1.0675	0.881	0.884
70	0.385	0.489	0.683	0.477	1.015	0.432	1.2468	1.0700	0.929	0.931
85	0.377	0.524	0.603	0.397	1.016	0.515	1.2799	1.0750	0.974	0.975
90	0.366	0.554	0.572	0.413	1.135	0.481	1.2907	1.0742	1.020	1.019
95	0.349	0.581	0.536	0.387	1.175	0.397	1.2961	1.0791	0.972	0.973

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	8.1	6.2	4.0	5.2	0.260	0.202	0.004	0.198	0.027	0.027
10	7.9	6.2	3.4	6.1	0.245	0.138	0.003	0.135	0.020	0.020
15	7.8	6.2	3.5	6.1	0.246	0.106	0.002	0.104	0.017	0.016
30	8.8	6.7	3.9	7.2	0.279	0.073	0.001	0.073	0.013	0.013
50	10.2	7.6	4.3	11.8	0.340	0.079	0.	0.079	0.015	0.015
70	10.9	7.5	9.4	19.4	0.398	0.061	0.	0.061	0.012	0.012
85	9.9	6.0	15.6	31.8	0.465	0.030	0.	0.030	0.006	0.006
90	10.0	5.9	17.9	37.0	0.413	-0.028	0.	-0.028	-0.006	-0.006
95	10.2	6.0	15.4	46.4	0.419	0.044	0.	0.044	0.009	0.009

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
74.97	1.2179	1.0686	0.845	6941.2

ATT FAN VEHICLE

(METRIC)

BP=OGV

65 PERCENT SPEED

RDG 22

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.2	-0.4	0.080	0.082	29.6	0.		
15	41.605	41.554	-0.8	-0.1	0.122	0.123	26.7	0.		
30	39.192	39.218	-0.4	0.1	0.255	0.253	24.5	0.		
50	35.763	35.852	-0.1	0.2	0.445	0.440	25.2	0.		
70	32.487	32.639	0.6	0.4	0.622	0.615	27.1	0.		
85	30.124	30.302	1.7	1.1	0.742	0.738	28.6	0.		
90	29.312	29.489	2.3	1.4	0.782	0.780	29.2	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	134.5	125.8			117.0	125.8	66.1	0.		
15	143.3	132.9			128.1	132.9	64.1	0.		
30	155.9	143.2			141.9	143.2	64.7	0.		
50	170.4	154.7			154.2	154.7	72.5	0.		
70	181.9	163.9			161.9	163.9	82.9	0.		
85	190.5	172.9			167.4	172.9	91.1	0.		
90	194.7	178.1			170.0	178.1	94.8	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.388	0.362			1.073	0.025	1.1490	1.0703	0.576	0.584
15	0.415	0.384			1.037	0.045	1.1617	1.0669	0.654	0.661
30	0.453	0.415			1.010	0.067	1.1784	1.0637	0.754	0.759
50	0.497	0.449			1.005	0.093	1.1973	1.0650	0.812	0.816
70	0.532	0.477			1.014	0.127	1.2110	1.0677	0.831	0.836
85	0.558	0.504			1.035	0.118	1.2211	1.0688	0.853	0.857
90	0.571	0.519			1.049	0.099	1.2269	1.0698	0.862	0.866

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-14.1	-22.2	10.9	29.5	0.242	0.112	0.	0.112	0.039	0.039
15	-15.6	-23.8	10.4	26.6	0.229	0.104	0.	0.104	0.036	0.036
30	-15.5	-23.4	9.4	24.5	0.216	0.096	0.	0.096	0.031	0.031
50	-13.8	-21.0	8.6	25.1	0.217	0.086	0.	0.086	0.026	0.026
70	-12.5	-18.9	8.3	27.1	0.222	0.065	0.	0.065	0.018	0.018
85	-12.4	-18.1	8.4	28.5	0.214	0.063	0.	0.063	0.016	0.016
90	-12.4	-18.1	8.4	29.2	0.208	0.071	0.	0.071	0.018	0.018

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
64.98	1.1930	1.0673	0.769	6941.2

ATT FAN VEHICLE

(METRIC)

CORE=OGV 65 PERCENT SPEED RDG 22

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.6	-5.9	0.886	0.887	49.3	19.5		
30	24,689	24,460	-1.5	-4.7	0.906	0.908	46.2	18.9		
50	23,673	23,597	-0.2	-3.5	0.937	0.937	44.6	17.9		
70	22,682	22,784	1.2	-2.3	0.967	0.963	46.5	17.1		
85	21,971	22,174	2.7	-0.7	0.986	0.982	53.6	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	158.4	128.5			103.3	121.2	120.1	42.7		
30	168.1	132.9			116.4	125.8	121.2	42.8		
50	177.4	134.6			126.4	128.1	124.5	41.3		
70	187.9	139.6			129.2	133.4	136.6	41.1		
85	187.0	136.3			111.2	130.7	149.9	38.8		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.458	0.369			1.164	0.273	1.2601	1.0766	0.892	0.895
30	0.488	0.382			1.076	0.337	1.2727	1.0751	0.950	0.952
50	0.516	0.387			1.013	0.370	1.2742	1.0740	0.968	0.969
70	0.547	0.402			1.015	0.371	1.2786	1.0773	0.941	0.943
85	0.544	0.391			1.157	0.396	1.2651	1.0823	0.845	0.850

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-0.1	-4.0	8.6	29.8	0.360	0.076	0.	0.076	0.025	0.025
30	-1.4	-4.9	8.1	27.2	0.366	0.041	0.	0.041	0.013	0.013
50	-1.8	-4.9	7.7	26.7	0.392	0.058	0.	0.058	0.018	0.018
70	-0.6	-3.0	7.9	28.9	0.412	0.084	0.	0.084	0.025	0.025
85	4.6	3.0	9.8	36.3	0.453	0.089	0.	0.089	0.026	0.026

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
9.99	1.2679	1.0770	0.912	6941.2

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 65 PERCENT SPEED RDG 23

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE		REL IN	ANGLE OUT
	IN	OUT			IN	OUT		IN	OUT		
5	43.713	43.180	-5.9	-6.1	0.059	0.059	0.	53.4	74.9	67.2	
10	42.367	41.961	-5.1	-5.3	0.120	0.117	0.	49.2	73.5	64.9	
15	40.996	40.742	-3.9	-4.2	0.184	0.179	0.	46.7	72.2	63.2	
30	36.881	37.059	0.2	-0.3	0.373	0.364	0.	44.5	69.0	58.7	
50	31.394	32.131	5.7	5.0	0.604	0.593	0.	45.8	65.3	50.5	
70	26.010	27.229	11.0	12.2	0.791	0.790	0.	49.2	61.5	36.9	
85	21.717	23.647	17.9	13.2	0.910	0.914	0.	52.1	58.7	14.5	
90	20.295	22.581	20.1	14.2	0.942	0.949	0.	54.4	58.3	7.9	
95	18.796	21.463	21.4	16.0	0.972	0.979	0.	60.4	57.8	-3.0	

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	86.1	141.4	328.7	217.2	86.1	84.6	0.	113.3	317.2	313.3
10	91.4	142.0	320.7	218.0	91.4	92.8	0.	107.2	307.4	304.5
15	95.7	142.0	312.5	215.8	95.7	97.6	0.	103.2	297.5	295.6
30	103.0	143.6	286.7	197.0	103.0	102.5	0.	100.6	267.6	268.9
50	105.2	149.6	250.9	163.7	105.2	104.5	0.	107.0	227.8	233.1
70	104.3	159.8	215.6	131.4	104.3	105.8	0.	119.8	188.7	197.6
85	100.5	183.0	186.9	117.7	100.5	114.2	0.	143.0	157.6	171.6
90	96.9	185.2	176.3	111.1	96.9	110.1	0.	149.0	147.3	163.8
95	92.1	186.5	164.5	95.1	92.1	95.0	0.	160.5	136.4	155.7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.255	0.398	0.972	0.612	0.983	0.298	1.2734	1.1227	0.583	0.597
10	0.270	0.402	0.949	0.617	1.019	0.319	1.2764	1.1126	0.641	0.654
15	0.283	0.403	0.926	0.613	1.023	0.338	1.2773	1.1051	0.689	0.699
30	0.305	0.410	0.850	0.563	0.996	0.388	1.2749	1.0933	0.770	0.778
50	0.312	0.429	0.744	0.470	0.995	0.440	1.2670	1.0860	0.813	0.819
70	0.309	0.461	0.640	0.379	1.010	0.491	1.2677	1.0818	0.858	0.862
85	0.298	0.531	0.554	0.341	1.164	0.479	1.2973	1.0849	0.909	0.913
90	0.287	0.538	0.522	0.322	1.193	0.413	1.2853	1.0843	0.882	0.887
95	0.273	0.541	0.487	0.276	1.108	0.306	1.2663	1.0860	0.812	0.818

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	11.7	9.8	5.1	7.7	0.454	0.327	0.011	0.316	0.042	0.041
10	11.7	10.0	4.6	8.7	0.431	0.272	0.010	0.262	0.039	0.037
15	11.8	10.2	4.5	9.1	0.420	0.232	0.009	0.223	0.035	0.034
30	13.3	11.3	5.0	10.5	0.431	0.177	0.002	0.175	0.030	0.030
50	15.4	12.7	6.1	15.1	0.479	0.166	0.	0.166	0.031	0.031
70	16.3	12.8	9.7	24.7	0.536	0.157	0.	0.157	0.032	0.032
85	16.3	12.3	9.7	43.8	0.543	0.135	0.	0.135	0.029	0.029
90	16.6	12.5	11.5	49.3	0.544	0.194	0.	0.194	0.040	0.040
95	16.8	12.6	9.0	58.7	0.603	0.361	0.	0.361	0.071	0.071

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
61.37	1.2738	1.0939	0.762	6929.1

ATT FAN VEHICLE

(METRIC)

BP-0GV

65 PERCENT SPEED

RDG 23

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	0.3	1.6	0.079	0.089	50.8	0.		
15	41.605	41.554	1.3	2.5	0.120	0.132	46.7	0.		
30	39.192	39.218	2.5	3.8	0.256	0.268	41.3	0.		
50	35.763	35.852	2.8	4.0	0.448	0.457	39.9	0.		
70	32.487	32.639	2.7	3.5	0.620	0.624	40.6	0.		
85	30.124	30.302	3.0	3.1	0.736	0.738	41.2	0.		
90	29.312	29.489	3.2	2.8	0.774	0.777	41.3	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	145.0	103.2			91.6	103.2	112.2	0.		
15	148.4	108.0			101.7	108.0	107.7	0.		
30	153.3	114.1			115.3	114.1	101.0	0.		
50	157.4	115.9			120.8	115.9	100.9	0.		
70	161.2	118.4			122.5	118.4	104.8	0.		
85	166.2	120.8			125.2	120.8	109.2	0.		
90	169.2	122.1			127.2	122.1	111.5	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.410	0.289			1.109	0.411	1.2614	1.1185	0.579	0.592
15	0.421	0.304			1.044	0.419	1.2674	1.1115	0.628	0.640
30	0.438	0.323			0.986	0.415	1.2712	1.0989	0.718	0.727
50	0.452	0.330			0.957	0.406	1.2636	1.0903	0.766	0.773
70	0.464	0.338			0.965	0.421	1.2582	1.0853	0.795	0.801
85	0.480	0.345			0.964	0.415	1.2523	1.0825	0.805	0.811
90	0.489	0.349			0.959	0.402	1.2500	1.0819	0.804	0.810

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	7.1	-1.0	10.9	50.3	0.566	0.096	0.	0.096	0.034	0.034
15	4.5	-3.8	10.4	46.2	0.527	0.064	0.	0.064	0.022	0.022
30	1.2	-6.6	9.4	41.1	0.470	0.035	0.	0.035	0.011	0.011
50	0.9	-6.3	8.6	39.9	0.455	0.057	0.	0.057	0.017	0.017
70	1.0	-5.4	8.3	40.6	0.444	0.044	0.	0.044	0.012	0.012
85	0.2	-5.5	8.4	41.2	0.443	0.062	0.	0.062	0.016	0.016
90	-0.3	-6.0	8.4	41.3	0.445	0.084	0.	0.084	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
52.54	1.2620	1.0953	0.721	6929.1

ATT FAN VEHICLE

(METRIC)

CORE-DGV 65 PERCENT SPEED ROG 23

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.5	-5.6	0.879	0.880	53.5	19.4		
30	24.689	24.460	-1.2	-4.5	0.903	0.906	50.6	18.7		
50	23.673	23.597	0.0	-3.5	0.938	0.938	51.3	17.8		
70	22.682	22.784	1.2	-2.3	0.969	0.965	55.8	17.0		
85	21.971	22.174	2.7	-0.7	0.987	0.983	61.4	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	170.4	126.4			101.4	119.2	136.9	41.9		
30	178.5	127.4			113.4	120.7	137.9	40.7		
50	181.8	117.3			113.8	111.8	141.9	35.7		
70	181.7	108.7			102.1	104.0	150.4	31.8		
85	180.1	104.0			86.3	99.7	157.8	29.5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.492	0.361			1.166	0.388	1.2802	1.0872	0.839	0.844
30	0.517	0.364			1.061	0.435	1.2853	1.0853	0.872	0.876
50	0.527	0.335			0.978	0.482	1.2641	1.0842	0.822	0.828
70	0.527	0.310			0.993	0.532	1.2453	1.0853	0.758	0.765
85	0.521	0.296			1.143	0.575	1.2348	1.0868	0.715	0.724

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
15	4.1	0.2	8.5	34.0	0.453	0.070	0.	0.070	0.023	0.023	
30	3.0	-0.5	7.9	31.8	0.468	0.061	0.	0.061	0.019	0.019	
50	4.8	1.8	7.5	33.5	0.543	0.109	0.	0.109	0.033	0.033	
70	8.7	6.3	7.8	38.4	0.606	0.124	0.	0.124	0.037	0.037	
85	12.4	10.8	9.7	44.4	0.639	0.104	0.	0.104	0.030	0.030	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
8.84	1.2638	1.0857	0.807	6929.1



ATT FAN VEHICLE

(METRIC)

ROTOR 80 PERCENT SPEED RDG 25

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.9	-6.2	0.061	0.060	0.	32.9	69.6	64.7
10	42.367	41.961	-4.9	-5.2	0.124	0.121	0.	29.7	67.8	62.2
15	40.996	40.742	-3.6	-4.0	0.188	0.183	0.	29.2	66.3	61.0
30	36.881	37.059	0.3	-0.2	0.377	0.367	0.	30.7	62.2	56.6
50	31.394	32.131	6.0	5.6	0.605	0.596	0.	34.1	57.7	46.8
70	26.010	27.229	11.2	14.3	0.790	0.793	0.	39.1	53.7	37.4
85	21.717	23.647	16.5	14.9	0.907	0.909	0.	44.9	50.0	20.4
90	20.295	22.581	18.6	14.7	0.940	0.942	0.	43.7	49.3	14.4
95	18.796	21.463	20.3	16.2	0.971	0.975	0.	47.4	48.6	4.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	145.7	166.5	415.7	326.2	145.7	140.1	0.	89.9	389.3	384.6
10	154.2	175.0	407.6	325.4	154.2	152.3	0.	86.2	377.3	373.7
15	160.8	176.5	399.0	316.8	160.8	154.2	0.	86.0	365.1	362.9
30	172.8	182.0	371.2	284.2	172.8	156.6	0.	92.9	328.5	330.1
50	177.7	199.1	331.3	240.4	177.7	165.1	0.	111.4	279.6	286.2
70	173.5	202.1	289.4	197.4	173.5	158.7	0.	125.1	231.6	242.5
85	169.0	221.0	256.9	169.1	169.0	159.1	0.	153.4	193.4	210.6
90	164.2	233.9	244.2	177.0	164.2	172.0	0.	158.7	180.7	201.1
95	157.3	244.8	229.7	169.8	157.3	169.1	0.	177.0	167.4	191.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.436	0.473	1.245	0.926	0.962	0.233	1.2760	1.1195	0.604	0.617
10	0.463	0.500	1.223	0.929	0.989	0.263	1.3129	1.1112	0.727	0.738
15	0.483	0.505	1.200	0.907	0.960	0.290	1.3261	1.1078	0.779	0.788
30	0.522	0.522	1.120	0.815	0.907	0.357	1.3526	1.1060	0.850	0.856
50	0.537	0.573	1.001	0.692	0.930	0.421	1.3876	1.1101	0.891	0.896
70	0.524	0.584	0.873	0.570	0.905	0.475	1.3788	1.1048	0.917	0.920
85	0.510	0.641	0.774	0.490	0.949	0.528	1.4271	1.1116	0.958	0.960
90	0.494	0.682	0.735	0.516	1.069	0.490	1.4499	1.1103	1.015	1.015
95	0.472	0.715	0.690	0.496	1.113	0.409	1.4548	1.1160	0.974	0.976

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	6.4	4.5	2.6	4.9	0.287	0.225	0.034	0.192	0.032	0.027
10	6.0	4.3	1.9	5.7	0.272	0.151	0.028	0.123	0.023	0.019
15	5.9	4.3	2.3	5.4	0.279	0.123	0.023	0.101	0.020	0.016
30	6.6	4.5	2.9	5.9	0.320	0.090	0.013	0.078	0.016	0.014
50	7.8	5.1	2.4	11.2	0.378	0.079	0.010	0.070	0.016	0.014
70	8.4	5.0	10.2	16.2	0.428	0.072	0.002	0.071	0.015	0.014
85	7.5	3.6	15.6	29.5	0.478	0.047	0.	0.047	0.010	0.010
90	7.5	3.5	18.0	34.6	0.417	-0.021	0.	-0.021	-0.004	-0.004
95	7.6	3.4	16.9	42.8	0.412	0.038	0.	0.038	0.007	0.007

INLET CORR WTFLOW 95.32 PRESS RATIO 1.3634 TEMP RATIO 1.1097 ADIA EFF 0.844 INLET CORR RPM 8504.8

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-0GV

80 PERCENT SPEED

RDG 25

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42.418	42.316	-1.3	-0.5	0.082	0.083	30.8	0.		
15	41.605	41.554	-1.0	-0.3	0.125	0.125	27.9	0.		
30	39.192	39.218	-0.6	-0.0	0.259	0.256	26.4	0.		
50	35.763	35.852	0.0	0.3	0.450	0.445	26.8	0.		
70	32.487	32.639	0.9	0.7	0.626	0.621	28.3	0.		
85	30.124	30.302	2.0	1.4	0.743	0.741	29.2	0.		
90	29.312	29.489	2.5	1.6	0.781	0.780	29.8	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	174.8	159.1			150.2	159.1	89.1	0.		
15	185.9	167.4			164.4	167.4	86.7	0.		
30	198.7	178.8			178.1	178.8	88.2	0.		
50	217.1	192.5			193.8	192.5	97.8	0.		
70	231.4	203.2			203.8	203.2	109.6	0.		
85	234.5	207.4			204.7	207.4	114.5	0.		
90	235.0	209.1			204.1	209.1	116.5	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.498	0.452			1.059	0.075	1.2682	1.1162	0.604	0.617
15	0.533	0.477			1.019	0.091	1.2886	1.1110	0.677	0.688
30	0.573	0.513			1.006	0.124	1.3150	1.1064	0.765	0.774
50	0.630	0.554			0.995	0.152	1.3454	1.1075	0.823	0.831
70	0.674	0.586			0.998	0.169	1.3624	1.1097	0.843	0.850
85	0.685	0.600			1.014	0.154	1.3539	1.1062	0.852	0.858
90	0.687	0.606			1.025	0.136	1.3477	1.1051	0.846	0.853

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-12.8	-21.0	10.9	30.8	0.272	0.110	0.	0.110	0.039	0.039
15	-14.4	-22.6	10.4	27.9	0.261	0.109	0.	0.109	0.038	0.038
30	-13.7	-21.5	9.4	26.4	0.243	0.072	0.	0.072	0.024	0.024
50	-12.2	-19.4	8.6	26.7	0.245	0.067	0.	0.067	0.020	0.020
70	-11.3	-17.7	8.3	28.3	0.251	0.069	0.	0.069	0.019	0.019
85	-11.7	-17.5	8.4	29.2	0.241	0.076	0.	0.076	0.019	0.019
90	-11.8	-17.5	8.4	29.8	0.235	0.085	0.	0.085	0.022	0.022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
82.07	1.3285	1.1091	0.775	8504.8

ATT FAN VEHICLE

(METRIC)

CORE-OGV 80 PERCENT SPEED RDG 25

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.9	0.881	0.881	46.8	19.5		
30	24.689	24.460	-1.5	-4.6	0.902	0.904	44.8	18.9		
50	23.673	23.597	0.1	-3.1	0.933	0.934	43.0	17.9		
70	22.682	22.784	1.9	-1.6	0.964	0.961	44.3	17.1		
85	21.971	22.174	3.4	-0.1	0.984	0.981	49.9	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	195.9	163.8			134.1	154.5	142.8	54.5		
30	209.3	170.6			148.5	161.5	147.4	55.0		
50	221.8	174.0			162.3	165.6	151.3	53.5		
70	233.2	179.5			166.9	171.5	163.0	52.9		
85	232.8	176.7			150.1	169.4	177.6	50.3		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.563	0.466			1.145	0.234	1.3917	1.1116	0.887	0.892
30	0.604	0.487			1.081	0.307	1.4176	1.1120	0.936	0.939
50	0.644	0.497			1.018	0.342	1.4244	1.1102	0.965	0.967
70	0.679	0.513			1.021	0.337	1.4279	1.1134	0.945	0.948
85	0.675	0.503			1.119	0.341	1.4046	1.1197	0.852	0.859

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-2.6	-6.5	8.6	27.3	0.321	0.076	0.	0.076	0.025	0.025
30	-2.8	-6.3	8.1	25.8	0.334	0.035	0.	0.035	0.011	0.011
50	-3.4	-6.5	7.7	25.1	0.358	0.049	0.	0.049	0.015	0.015
70	-2.8	-5.2	7.9	26.9	0.375	0.081	0.	0.081	0.024	0.024
85	0.9	-0.7	9.8	32.9	0.406	0.100	0.	0.100	0.029	0.029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
13.25	1.4096	1.1133	0.909	8504.8

ATT FAN VEHICLE

(METRIC)

ROTOR

85 PERCENT SPEED

RDG 26

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.0	-6.3	0.061	0.060	0.	35.7	69.2	65.0
10	42.367	41.961	-5.0	-5.3	0.124	0.121	0.	31.6	67.4	62.5
15	40.996	40.742	-3.6	-4.2	0.189	0.183	0.	31.6	65.7	61.3
30	36.881	37.059	0.3	-0.3	0.378	0.368	0.	33.4	61.5	56.4
50	31.394	32.131	6.4	5.8	0.607	0.599	0.	36.4	56.9	46.7
70	26.010	27.229	11.7	13.4	0.791	0.795	0.	41.4	53.0	36.6
85	21.717	23.647	16.9	13.6	0.908	0.910	0.	45.3	49.7	21.0
90	20.295	22.581	18.9	14.1	0.940	0.942	0.	43.7	48.9	15.0
95	18.796	21.463	20.4	15.9	0.971	0.975	0.	47.7	48.2	4.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	158.2	176.4	442.4	337.7	158.2	143.6	0.	102.4	413.1	408.1
10	167.6	184.1	434.1	339.2	167.6	157.0	0.	96.0	400.4	396.6
15	175.0	185.5	425.2	328.5	175.0	158.1	0.	97.0	387.5	385.1
30	189.1	193.9	396.5	292.5	189.1	161.9	0.	106.7	348.6	350.2
50	194.4	210.5	354.7	246.9	194.4	169.9	0.	124.4	296.7	303.7
70	189.2	214.5	310.2	200.9	189.2	162.8	0.	139.7	245.8	257.3
85	182.2	231.0	274.5	175.8	182.2	164.7	0.	162.0	205.2	223.5
90	176.9	245.7	260.9	186.2	176.9	180.4	0.	167.0	191.8	213.4
95	169.5	259.4	245.5	178.7	169.5	178.0	0.	188.6	177.6	202.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.475	0.496	1.329	0.950	0.909	0.272	1.3638	1.1443	0.642	0.658
10	0.505	0.522	1.308	0.962	0.939	0.304	1.4035	1.1313	0.775	0.785
15	0.528	0.527	1.284	0.933	0.905	0.333	1.4179	1.1291	0.813	0.822
30	0.574	0.552	1.203	0.833	0.858	0.406	1.4548	1.1292	0.875	0.882
50	0.591	0.603	1.078	0.707	0.875	0.473	1.4842	1.1305	0.915	0.920
70	0.574	0.617	0.941	0.578	0.856	0.520	1.4592	1.1242	0.918	0.922
85	0.552	0.668	0.831	0.508	0.919	0.537	1.4775	1.1253	0.942	0.945
90	0.534	0.716	0.788	0.542	1.045	0.497	1.5046	1.1231	1.006	1.006
95	0.511	0.756	0.740	0.521	1.090	0.415	1.5169	1.1311	0.965	0.967

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.9	4.1	2.9	4.2	0.313	0.224	0.055	0.169	0.032	0.024
10	5.6	3.9	2.2	4.9	0.292	0.134	0.047	0.088	0.021	0.013
15	5.3	3.7	2.6	4.5	0.306	0.114	0.040	0.075	0.018	0.012
30	5.9	3.8	2.7	5.4	0.353	0.082	0.024	0.058	0.015	0.010
50	7.0	4.3	2.3	10.4	0.411	0.066	0.014	0.052	0.013	0.010
70	7.7	4.3	9.4	16.2	0.467	0.075	0.014	0.061	0.015	0.012
85	7.2	3.3	16.2	28.5	0.494	0.065	0.	0.065	0.013	0.013
90	7.1	3.1	18.6	33.6	0.426	-0.010	0.	-0.010	-0.002	-0.002
95	7.2	3.0	16.7	42.5	0.422	0.051	0.	0.051	0.010	0.010

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
101.25	1.4520	1.1304	0.862	9025.0

ATT FAN VEHICLE

(METRIC)

BP-0GV

85 PERCENT SPEED

RDG 26

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.3	-0.5	0.081	0.082	33.5	0.		
15	41.605	41.554	-1.0	-0.2	0.123	0.124	29.9	0.		
30	39.192	39.218	-0.6	0.1	0.258	0.256	29.0	0.		
50	35.763	35.852	0.1	0.5	0.450	0.446	28.8	0.		
70	32.487	32.639	1.1	1.1	0.627	0.623	30.3	0.		
85	30.124	30.302	2.2	1.7	0.743	0.742	31.6	0.		
90	29.312	29.489	2.6	1.9	0.781	0.781	32.2	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	183.4	160.3			153.0	160.3	100.6	0.		
15	194.4	169.4			168.6	169.4	96.5	0.		
30	209.3	182.3			183.1	182.3	101.3	0.		
50	230.6	198.0			202.0	198.0	111.2	0.		
70	242.6	206.3			209.5	206.3	122.4	0.		
85	244.2	206.8			208.1	206.8	127.7	0.		
90	244.2	206.7			206.6	206.7	130.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
10	0.518	0.451			1.048	0.143	1.3541	1.1392	0.650	0.664
15	0.553	0.479			1.006	0.154	1.3779	1.1311	0.731	0.743
30	0.599	0.517			0.997	0.185	1.4097	1.1297	0.795	0.805
50	0.665	0.565			0.981	0.208	1.4481	1.1298	0.860	0.867
70	0.703	0.590			0.985	0.224	1.4570	1.1299	0.874	0.881
85	0.710	0.593			0.994	0.212	1.4324	1.1257	0.861	0.867
90	0.710	0.593			1.001	0.198	1.4190	1.1246	0.844	0.852

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-10.2	-18.3	10.9	33.4	0.322	0.106	0.	0.106	0.037	0.037
15	-12.3	-20.6	10.4	29.9	0.301	0.099	0.	0.099	0.034	0.034
30	-11.1	-18.9	9.4	29.0	0.285	0.062	0.	0.062	0.020	0.020
50	-10.2	-17.4	8.6	28.8	0.284	0.062	0.	0.062	0.018	0.018
70	-9.3	-15.7	8.3	30.3	0.287	0.062	0.	0.062	0.017	0.017
85	-9.4	-15.1	8.4	31.6	0.288	0.084	0.	0.084	0.022	0.022
90	-9.3	-15.1	8.4	32.2	0.288	0.101	0.	0.101	0.026	0.026

INLET CORR  
WTFLOW  
86.89

PRESS  
RATIO  
1.4189

TEMP  
RATIO  
1.1307

ADIA  
EFF  
0.804

INLET CORR  
RPM  
9025.0

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE-OGV

85 PERCENT SPEED

RUG 26

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.8	0.879	0.880	46.9	19.5		
30	24.689	24.460	-1.4	-4.5	0.900	0.903	44.5	18.8		
50	23.673	23.597	0.1	-3.1	0.932	0.932	42.5	17.9		
70	22.682	22.784	1.8	-1.6	0.963	0.960	43.7	17.1		
85	21.971	22.174	3.3	-0.1	0.984	0.981	49.2	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	215.0	180.1			147.1	169.8	156.8	59.8		
30	224.5	179.5			160.2	169.9	157.3	57.8		
50	235.4	182.7			173.8	173.8	158.9	56.1		
70	249.6	191.6			180.4	183.1	172.6	56.5		
85	250.5	190.7			163.8	182.9	189.3	54.3		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.617	0.511			1.148	0.242	1.4606	1.1300	0.879	0.886
30	0.647	0.510			1.058	0.324	1.4688	1.1266	0.917	0.922
50	0.683	0.520			0.999	0.365	1.4761	1.1228	0.958	0.960
70	0.726	0.546			1.010	0.355	1.4911	1.1272	0.950	0.953
85	0.726	0.541			1.107	0.355	1.4696	1.1353	0.860	0.867

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
15	-2.6	-6.4	8.6	27.3	0.320	0.066	0.	0.066	0.021	0.021	
30	-3.1	-6.6	8.0	25.5	0.348	0.041	0.	0.041	0.013	0.013	
50	-4.0	-7.0	7.7	24.5	0.365	0.040	0.	0.040	0.012	0.012	
70	-3.4	-5.8	7.9	26.3	0.373	0.064	0.	0.064	0.019	0.019	
85	0.2	-1.4	9.8	32.3	0.401	0.081	0.	0.081	0.023	0.023	

INLET CORR WTFLOW 14.36	PRESS RATIO 1.4691	TEMP RATIO 1.1284	ADIA EFF 0.904	INLET CORR RPM 9025.0
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ATT FAN VEHICLE

(METRIC)

ROTOR 90 PERCENT SPEED RDG 27

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.2	-6.6	0.061	0.059	0.	37.3	68.7	65.4
10	42.367	41.961	-5.2	-5.7	0.125	0.120	0.	33.0	66.8	63.1
15	40.996	40.742	-3.9	-4.6	0.190	0.183	0.	32.5	65.0	61.6
30	36.881	37.059	0.3	-0.4	0.379	0.369	0.	35.3	60.6	56.2
50	31.394	32.131	6.5	5.8	0.608	0.601	0.	37.3	55.9	47.2
70	26.010	27.229	12.2	12.3	0.793	0.796	0.	40.5	51.9	38.0
85	21.717	23.647	17.8	12.6	0.909	0.914	0.	46.3	49.2	19.1
90	20.295	22.581	19.5	13.7	0.941	0.945	0.	45.9	48.6	13.7
95	18.796	21.463	20.6	15.8	0.971	0.976	0.	48.4	47.8	5.6

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	172.3	186.0	471.3	353.6	172.3	148.3	0.	112.3	438.7	433.3
10	183.1	192.2	462.9	355.8	183.1	161.4	0.	104.1	425.2	421.1
15	191.9	195.7	454.0	346.0	191.9	165.3	0.	104.8	411.4	408.9
30	208.4	206.7	424.8	303.5	208.4	168.6	0.	119.5	370.1	371.9
50	214.9	221.1	381.4	258.2	214.9	176.2	0.	133.6	315.1	322.4
70	209.5	222.7	334.7	215.0	209.5	170.9	0.	142.8	261.0	273.3
85	197.3	249.6	294.0	184.5	197.3	174.8	0.	178.2	217.9	237.3
90	190.7	259.2	279.0	188.1	190.7	183.1	0.	183.4	203.7	226.6
95	182.5	269.7	262.4	183.9	182.5	183.0	0.	198.1	188.6	215.4

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.520	0.519	1.422	0.987	0.862	0.292	1.4363	1.1679	0.649	0.666
10	0.554	0.542	1.402	1.002	0.885	0.326	1.4775	1.1510	0.781	0.793
15	0.583	0.553	1.379	0.978	0.863	0.358	1.5023	1.1481	0.833	0.842
30	0.637	0.584	1.298	0.858	0.810	0.435	1.5501	1.1536	0.869	0.876
50	0.658	0.630	1.168	0.735	0.820	0.505	1.5692	1.1487	0.924	0.929
70	0.641	0.639	1.023	0.617	0.816	0.549	1.5220	1.1349	0.945	0.948
85	0.600	0.720	0.895	0.532	0.912	0.516	1.5452	1.1463	0.905	0.911
90	0.579	0.751	0.847	0.545	0.989	0.462	1.5403	1.1437	0.914	0.919
95	0.552	0.784	0.794	0.535	1.041	0.374	1.5355	1.1467	0.889	0.895

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.5	3.6	3.3	3.4	0.329	0.233	0.083	0.150	0.032	0.021
10	5.0	3.3	2.8	3.8	0.307	0.137	0.073	0.064	0.021	0.010
15	4.6	3.0	2.9	3.6	0.317	0.107	0.064	0.043	0.017	0.007
30	5.0	2.9	2.6	4.7	0.381	0.094	0.043	0.051	0.017	0.009
50	5.9	3.3	2.8	8.9	0.430	0.061	0.025	0.035	0.012	0.007
70	6.6	3.2	10.8	13.7	0.466	0.049	0.017	0.031	0.010	0.006
85	6.8	2.8	14.3	29.7	0.507	0.109	0.004	0.105	0.023	0.022
90	6.8	2.8	17.3	34.3	0.469	0.105	0.	0.105	0.021	0.021
95	6.8	2.6	17.6	41.2	0.448	0.155	0.	0.155	0.030	0.030

INLET CORR WFLOW 107.53 PRESS RATIO 1.5289 TEMP RATIO 1.1496 ADIA EFF 0.862 INLET CORR RPM 9583.1

ATT FAN VEHICLE

(METRIC)

BP-0GV

90 PERCENT SPEED

RDG 27

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.4	-0.5	0.079	0.080	35.4	0.		
15	41.605	41.554	-1.1	-0.2	0.121	0.121	31.4	0.		
30	39.192	39.218	-0.7	0.1	0.257	0.254	29.7	0.		
50	35.763	35.852	0.2	0.6	0.451	0.447	30.5	0.		
70	32.487	32.639	1.4	1.4	0.628	0.625	31.0	0.		
85	30.124	30.302	2.4	1.9	0.743	0.743	31.8	0.		
90	29.312	29.489	2.8	2.1	0.780	0.781	32.3	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	191.2	162.3			155.9	162.3	110.1	0.		
15	202.2	172.3			172.6	172.3	104.9	0.		
30	222.9	190.8			193.7	190.8	110.5	0.		
50	245.0	205.9			211.0	205.9	124.5	0.		
70	253.9	212.1			217.6	212.1	130.7	0.		
85	252.0	209.3			214.1	209.3	132.8	0.		
90	251.0	207.9			212.3	207.9	133.8	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.536	0.452			1.040	0.182	1.4211	1.1618	0.653	0.670
15	0.572	0.483			1.000	0.191	1.4493	1.1513	0.739	0.752
30	0.635	0.538			0.987	0.214	1.5002	1.1500	0.819	0.829
50	0.702	0.582			0.977	0.243	1.5397	1.1543	0.850	0.859
70	0.733	0.602			0.974	0.258	1.5398	1.1474	0.891	0.897
85	0.730	0.597			0.978	0.243	1.4995	1.1388	0.884	0.891
90	0.728	0.593			0.980	0.229	1.4802	1.1360	0.872	0.879

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-8.3	-16.4	10.9	35.3	0.357	0.112	0.	0.112	0.040	0.040
15	-10.8	-19.1	10.4	31.4	0.328	0.094	0.	0.094	0.032	0.032
30	-10.4	-18.2	9.4	29.7	0.304	0.059	0.	0.059	0.019	0.019
50	-8.5	-15.7	8.6	30.5	0.310	0.058	0.	0.058	0.017	0.017
70	-8.6	-15.0	8.3	31.0	0.306	0.054	0.	0.054	0.015	0.015
85	-9.1	-14.9	8.4	31.8	0.305	0.080	0.	0.080	0.020	0.020
90	-9.3	-15.0	8.4	32.3	0.306	0.101	0.	0.101	0.026	0.026

INLET CORR WIFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
92.06	1.4988	1.1503	0.816	9583.1



ATT FAN VEHICLE

(METRIC)

CORE-OGV 90 PERCENT SPEED RDG 27

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.9	-6.0	0.878	0.879	44.2	19.5		
30	24.689	24.460	-1.8	-4.8	0.901	0.903	43.4	18.8		
50	23.673	23.597	-0.0	-3.2	0.934	0.934	43.2	17.9		
70	22.682	22.784	2.0	-1.4	0.964	0.962	44.3	17.1		
85	21.971	22.174	3.6	0.1	0.984	0.982	48.2	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	235.1	201.3			168.6	189.9	163.8	66.8		
30	249.5	202.9			181.5	192.1	171.3	65.2		
50	256.5	198.8			187.0	189.2	175.6	60.9		
70	264.2	201.2			189.3	192.3	184.6	59.1		
85	263.4	199.1			175.6	190.9	196.0	56.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.675	0.571			1.121	0.212	1.5174	1.1443	0.877	0.884
30	0.719	0.575			1.057	0.303	1.5377	1.1466	0.892	0.899
50	0.743	0.563			1.010	0.370	1.5223	1.1442	0.885	0.891
70	0.767	0.570			1.013	0.375	1.5142	1.1449	0.868	0.876
85	0.763	0.563			1.081	0.370	1.4853	1.1490	0.803	0.814

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-5.2	-9.1	8.5	24.7	0.288	0.065	0.	0.065	0.021	0.021
30	-4.2	-7.7	8.0	24.6	0.329	0.041	0.	0.041	0.013	0.013
50	-3.3	-6.3	7.6	25.3	0.369	0.035	0.	0.035	0.011	0.011
70	-2.8	-5.2	7.9	27.1	0.384	0.054	0.	0.054	0.016	0.016
85	-0.7	-2.4	9.8	31.4	0.405	0.075	0.	0.075	0.022	0.022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.47	1.5114	1.1457	0.860	9583.1

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 28

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE		REL IN	ANGLE OUT
	IN	OUT			IN	OUT		IN	OUT		
5	43.713	43.180	-6.5	-7.1	0.062	0.058	0.	38.1	68.4	66.5	66.5
10	42.367	41.961	-5.7	-6.3	0.125	0.117	0.	33.7	66.5	63.7	63.7
15	40.996	40.742	-4.3	-5.2	0.190	0.180	0.	32.8	64.6	62.1	62.1
30	36.881	37.059	0.3	-0.6	0.380	0.369	0.	34.6	59.8	57.3	57.3
50	31.394	32.131	6.8	6.1	0.609	0.604	0.	37.8	55.1	48.4	48.4
70	26.010	27.229	12.5	12.1	0.793	0.798	0.	40.5	51.3	40.0	40.0
85	21.717	23.647	18.0	12.3	0.909	0.915	0.	45.2	48.8	20.6	20.6
90	20.295	22.581	19.6	13.6	0.941	0.946	0.	46.8	48.1	14.5	14.5
95	18.796	21.463	20.6	15.8	0.971	0.976	0.	48.8	47.4	6.5	6.5

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	183.0	187.9	495.3	370.3	183.0	148.4	0.	115.3	460.3	454.7
10	195.4	198.2	487.0	371.5	195.4	165.2	0.	109.2	446.1	441.8
15	205.9	201.9	478.3	362.2	205.9	169.9	0.	109.1	431.7	429.0
30	225.8	210.8	449.2	321.4	225.8	173.5	0.	119.7	388.3	390.2
50	232.1	226.1	403.9	268.4	232.1	179.0	0.	138.2	330.6	338.3
70	224.9	225.8	354.4	224.2	224.9	173.4	0.	144.6	273.9	286.7
85	210.6	258.4	310.9	196.2	210.6	184.2	0.	181.2	228.7	249.0
90	203.2	265.9	294.8	190.4	203.2	184.7	0.	191.3	213.7	237.8
95	194.3	277.8	277.3	187.9	194.3	186.8	0.	205.7	197.9	226.0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.554	0.522	1.500	1.028	0.813	0.304	1.4815	1.1809	0.657	0.676
10	0.594	0.556	1.481	1.041	0.851	0.340	1.5411	1.1660	0.792	0.805
15	0.629	0.568	1.460	1.019	0.828	0.374	1.5697	1.1616	0.851	0.860
30	0.695	0.595	1.382	0.907	0.770	0.458	1.6207	1.1614	0.917	0.922
50	0.716	0.641	1.246	0.761	0.771	0.528	1.6366	1.1613	0.937	0.941
70	0.692	0.646	1.090	0.641	0.773	0.569	1.5681	1.1435	0.956	0.958
85	0.644	0.744	0.951	0.565	0.906	0.529	1.6026	1.1558	0.926	0.931
90	0.619	0.768	0.899	0.550	0.940	0.474	1.5802	1.1570	0.890	0.897
95	0.591	0.805	0.843	0.545	0.995	0.392	1.5774	1.1601	0.869	0.877

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
5	5.2	3.3	4.5	2.0	0.330	0.230	0.111	0.119	0.031	0.016	0.016
10	4.6	3.0	3.4	3.0	0.312	0.134	0.100	0.034	0.020	0.005	0.005
15	4.2	2.6	3.4	2.6	0.322	0.097	0.090	0.008	0.015	0.001	0.001
30	4.2	2.1	3.7	2.8	0.375	0.059	0.064	-0.005	0.010	-0.001	-0.001
50	5.2	2.5	4.0	6.9	0.439	0.051	0.039	0.012	0.010	0.002	0.002
70	6.0	2.6	12.8	11.1	0.471	0.038	0.025	0.013	0.007	0.003	0.003
85	6.3	2.4	15.8	27.7	0.495	0.084	0.014	0.070	0.017	0.014	0.014
90	6.4	2.3	18.1	32.9	0.493	0.135	0.002	0.133	0.027	0.027	0.027
95	6.4	2.2	18.5	40.0	0.472	0.180	0.	0.180	0.035	0.035	0.035

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
112.09	1.5889	1.1609	0.879	10054.7

ATT FAN VEHICLE

(METRIC)

BP=OGV

95 PERCENT SPEED

RDG 28

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT			IN	OUT				
10	42.418	42.316	-1.3	-0.4	0.076	0.078	36.4	0.		
15	41.605	41.554	-1.0	-0.1	0.118	0.118	32.2	0.		
30	39.192	39.218	-0.6	0.2	0.254	0.252	29.5	0.		
50	35.763	35.852	0.2	0.7	0.452	0.448	29.8	0.		
70	32.487	32.639	1.3	1.4	0.630	0.627	31.4	0.		
85	30.124	30.302	2.4	2.0	0.744	0.744	32.2	0.		
90	29.312	29.489	2.8	2.1	0.781	0.781	32.5	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	193.7	162.4			156.0	162.4	114.2	0.		
15	207.9	175.6			176.0	175.6	110.2	0.		
30	229.2	195.9			199.5	195.9	112.9	0.		
50	251.6	211.6			218.2	211.6	125.1	0.		
70	259.7	216.0			221.6	216.0	135.3	0.		
85	255.3	210.4			216.1	210.4	136.0	0.		
90	253.6	207.9			213.9	207.9	136.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.540	0.449			1.039	0.199	1.4686	1.1761	0.659	0.677
15	0.585	0.489			0.998	0.200	1.5062	1.1667	0.745	0.759
30	0.651	0.550			0.983	0.218	1.5654	1.1610	0.849	0.858
50	0.720	0.597			0.971	0.241	1.6095	1.1627	0.895	0.902
70	0.747	0.611			0.974	0.262	1.6019	1.1600	0.901	0.907
85	0.737	0.597			0.974	0.256	1.5501	1.1492	0.894	0.901
90	0.733	0.590			0.972	0.244	1.5265	1.1451	0.885	0.892

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-7.3	-15.4	10.9	36.3	0.374	0.115	0.	0.115	0.041	0.041
15	-10.0	-18.3	10.4	32.2	0.341	0.100	0.	0.100	0.035	0.035
30	-10.5	-18.4	9.4	29.5	0.304	0.058	0.	0.058	0.019	0.019
50	-9.2	-16.4	8.6	29.8	0.306	0.059	0.	0.059	0.018	0.018
70	-8.2	-14.6	8.3	31.4	0.311	0.056	0.	0.056	0.016	0.016
85	-8.8	-14.5	8.4	32.2	0.313	0.079	0.	0.079	0.020	0.020
90	-9.1	-14.8	8.4	32.5	0.316	0.100	0.	0.100	0.025	0.025

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
95.89	1.5587	1.1615	0.837	10054.7

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE-OGV

95 PERCENT SPEED

RDG 28

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.9	-5.9	0.878	0.878	44.6	19.5		
30	24.689	24.460	-1.8	-4.8	0.901	0.903	41.6	18.8		
50	23.673	23.597	-0.1	-3.3	0.934	0.934	43.2	17.9		
70	22.682	22.784	2.0	-1.4	0.964	0.962	44.9	17.1		
85	21.971	22.174	3.7	0.2	0.984	0.982	48.0	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	243.1	209.1			173.1	197.3	170.8	69.4		
30	261.1	213.1			195.2	201.8	173.4	68.4		
50	265.4	205.1			193.5	195.3	181.7	62.8		
70	272.8	206.4			193.3	197.3	192.7	60.6		
85	273.0	206.2			183.0	197.7	202.3	58.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.695	0.591			1.133	0.210	1.5627	1.1578	0.862	0.871
30	0.753	0.603			1.033	0.293	1.5952	1.1557	0.916	0.922
50	0.767	0.579			1.007	0.372	1.5643	1.1565	0.872	0.879
70	0.790	0.582			1.019	0.382	1.5518	1.1588	0.842	0.852
85	0.789	0.581			1.076	0.372	1.5272	1.1616	0.796	0.808

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-4.8	-8.7	8.5	25.1	0.286	0.061	0.	0.061	0.020	0.020
30	-5.9	-9.5	8.0	22.9	0.318	0.047	0.	0.047	0.015	0.015
50	-3.3	-6.3	7.6	25.3	0.371	0.036	0.	0.036	0.011	0.011
70	-2.2	-4.6	7.9	27.7	0.391	0.053	0.	0.053	0.016	0.016
85	-1.0	-2.6	9.8	31.2	0.404	0.074	0.	0.074	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16.20	1.5562	1.1579	0.853	10054.7

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 29

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.6	-7.1	0.062	0.058	0.	39.5	68.6	67.0
10	42.367	41.961	-5.7	-6.4	0.126	0.118	0.	35.2	66.5	64.0
15	40.996	40.742	-4.1	-5.0	0.192	0.183	0.	33.9	64.6	62.2
30	36.881	37.059	0.9	0.1	0.382	0.375	0.	36.1	60.0	57.9
50	31.394	32.131	7.4	6.8	0.610	0.608	0.	39.0	55.5	48.8
70	26.010	27.229	12.7	12.8	0.794	0.800	0.	43.3	51.9	41.0
85	21.717	23.647	17.8	12.8	0.909	0.914	0.	45.2	49.1	19.9
90	20.295	22.581	19.6	14.1	0.941	0.947	0.	45.5	48.5	14.7
95	18.796	21.463	20.8	16.2	0.971	0.978	0.	49.9	47.9	4.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	192.5	196.7	523.7	387.6	192.5	152.3	0.	124.5	487.0	481.0
10	206.3	208.9	515.1	387.7	206.3	171.0	0.	119.7	472.0	467.4
15	217.8	213.7	506.0	379.2	217.8	177.6	0.	118.8	456.7	453.9
30	237.6	220.1	474.6	334.2	237.6	177.8	0.	129.8	410.9	412.8
50	242.2	236.8	425.4	279.5	242.2	184.6	0.	148.3	349.7	357.9
70	233.2	233.3	372.0	225.1	233.2	171.8	0.	157.8	289.7	303.3
85	220.3	276.4	327.2	209.0	220.3	197.1	0.	193.8	241.9	265.4
90	212.3	284.9	310.2	209.4	212.3	202.9	0.	200.0	226.1	251.5
95	202.5	296.5	291.3	196.1	202.5	195.4	0.	223.0	209.4	239.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.585	0.541	1.591	1.067	0.794	0.300	1.5324	1.2067	0.628	0.649
10	0.630	0.581	1.573	1.078	0.836	0.337	1.6044	1.1924	0.751	0.767
15	0.668	0.597	1.552	1.059	0.818	0.371	1.6405	1.1860	0.817	0.829
30	0.735	0.616	1.468	0.936	0.749	0.447	1.6778	1.1851	0.861	0.871
50	0.751	0.668	1.319	0.788	0.764	0.506	1.6879	1.1833	0.880	0.888
70	0.720	0.662	1.148	0.639	0.740	0.534	1.5896	1.1658	0.854	0.863
85	0.676	0.795	1.004	0.601	0.921	0.502	1.6782	1.1770	0.901	0.908
90	0.650	0.823	0.949	0.605	0.988	0.442	1.6577	1.1735	0.895	0.902
95	0.617	0.857	0.888	0.567	1.015	0.345	1.6446	1.1822	0.838	0.849

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.3	3.5	5.0	1.7	0.340	0.263	0.150	0.112	0.034	0.015
10	4.7	3.0	3.7	2.9	0.325	0.171	0.138	0.033	0.025	0.005
15	4.2	2.6	3.5	2.6	0.331	0.127	0.126	0.001	0.020	0.000
30	4.3	2.3	4.2	2.3	0.388	0.104	0.095	0.009	0.018	0.002
50	5.6	2.9	4.4	6.8	0.447	0.100	0.063	0.037	0.019	0.007
70	6.6	3.2	13.8	10.7	0.501	0.133	0.040	0.093	0.025	0.018
85	6.6	2.7	15.1	28.8	0.493	0.116	0.019	0.097	0.024	0.020
90	6.8	2.7	18.3	32.9	0.462	0.130	0.015	0.115	0.026	0.023
95	6.9	2.7	16.9	41.2	0.468	0.232	0.003	0.229	0.045	0.045

INLET CORR WTFLOW 114.90 PRESS RATIO 1.6427 TEMP RATIO 1.1841 ADIA EFF 0.828 INLET CORR RPM 10637.9

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP=QGV

100 PERCENT SPEED

RDG 29

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42.418	42.316	-1.4	-0.4	0.077	0.078	37.7	0.		
15	41.605	41.554	-1.0	-0.1	0.119	0.119	33.4	0.		
30	39.192	39.218	-0.7	0.2	0.259	0.256	30.1	0.		
50	35.763	35.852	0.1	0.7	0.458	0.455	31.3	0.		
70	32.487	32.639	1.3	1.5	0.635	0.633	32.5	0.		
85	30.124	30.302	2.3	2.0	0.748	0.748	33.9	0.		
90	29.312	29.489	2.7	2.1	0.784	0.784	34.6	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	204.0	166.5			161.6	166.5	124.0	0.		
15	220.0	181.7			183.7	181.7	120.6	0.		
30	243.1	204.6			210.3	204.6	121.9	0.		
50	260.6	213.4			222.7	213.4	135.5	0.		
70	270.6	218.5			228.2	218.5	145.4	0.		
85	265.2	210.1			220.3	210.1	147.6	0.		
90	261.4	204.7			215.4	204.7	148.2	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.564	0.456			1.029	0.234	1.5189	1.2023	0.627	0.648
15	0.614	0.501			0.990	0.230	1.5638	1.1932	0.705	0.723
30	0.687	0.570			0.974	0.245	1.6365	1.1839	0.822	0.834
50	0.741	0.596			0.959	0.279	1.6555	1.1864	0.831	0.843
70	0.774	0.612			0.958	0.299	1.6501	1.1819	0.846	0.856
85	0.761	0.590			0.954	0.310	1.5881	1.1713	0.825	0.836
90	0.750	0.575			0.951	0.310	1.5544	1.1672	0.803	0.815

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-6.0	-14.1	10.9	37.6	0.402	0.117	0.	0.117	0.041	0.041
15	-8.8	-17.1	10.4	33.4	0.366	0.103	0.	0.103	0.035	0.035
30	-10.0	-17.8	9.4	30.1	0.320	0.052	0.	0.052	0.017	0.017
50	-7.7	-14.9	8.6	31.3	0.335	0.059	0.	0.059	0.018	0.018
70	-7.1	-13.5	8.3	32.5	0.339	0.059	0.	0.059	0.016	0.016
85	-7.1	-12.8	8.4	33.9	0.352	0.076	0.	0.076	0.020	0.020
90	-7.0	-12.7	8.4	34.6	0.360	0.092	0.	0.092	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
98.43	1.6093	1.1849	0.787	10637.9

ATT FAN VEHICLE

(METRIC)

CORE-OGV

100 PERCENT SPEED

RDG 29

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.8	-5.9	0.878	0.879	46.5	19.5		
30	24.689	24.460	-1.7	-4.8	0.902	0.904	42.9	18.8		
50	23.673	23.597	-0.3	-3.5	0.936	0.935	42.5	17.8		
70	22.682	22.784	1.3	-2.1	0.967	0.963	44.9	17.1		
85	21.971	22.174	2.9	-0.4	0.986	0.983	50.8	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	254.1	207.5			175.1	193.7	184.2	68.9		
30	276.8	218.7			202.9	207.1	188.4	70.2		
50	281.8	208.5			208.0	198.5	190.4	63.8		
70	290.3	208.6			205.6	199.4	205.5	61.1		
85	287.2	204.1			181.9	195.7	221.3	57.9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.722	0.580			1.111	0.276	1.6055	1.1801	0.804	0.817
30	0.795	0.614			1.019	0.334	1.6662	1.1788	0.878	0.887
50	0.814	0.585			0.953	0.403	1.6241	1.1735	0.857	0.866
70	0.839	0.584			0.960	0.419	1.6075	1.1786	0.813	0.825
85	0.826	0.568			1.062	0.443	1.5694	1.1866	0.737	0.753

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-2.9	-6.8	8.5	27.0	0.342	0.071	0.	0.071	0.023	0.023
30	-4.7	-8.2	8.0	24.0	0.352	0.048	0.	0.048	0.015	0.015
50	-4.0	-7.0	7.6	24.6	0.405	0.060	0.	0.060	0.018	0.018
70	-2.2	-4.6	7.8	27.6	0.433	0.078	0.	0.078	0.023	0.023
85	1.8	0.2	9.7	33.7	0.466	0.077	0.	0.077	0.022	0.022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16.47	1.6086	1.1791	0.812	10637.9

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 30

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
5	43.713	43.180	-6.4	-6.9	0.063	0.059	0.	47.4	68.5	66.7
10	42.367	41.961	-5.4	-5.9	0.128	0.121	0.	41.3	66.4	63.4
15	40.996	40.742	-3.6	-4.3	0.195	0.188	0.	40.5	64.5	61.5
30	36.881	37.059	2.1	1.5	0.388	0.385	0.	42.2	60.0	56.5
50	31.394	32.131	9.6	9.2	0.617	0.625	0.	44.2	56.3	46.2
70	26.010	27.229	14.2	14.3	0.798	0.810	0.	50.4	53.4	41.7
85	21.717	23.647	18.4	13.6	0.911	0.919	0.	45.9	50.4	20.4
90	20.295	22.581	20.3	14.9	0.942	0.952	0.	47.3	49.8	15.0
95	18.796	21.463	21.4	16.8	0.972	0.982	0.	53.5	49.2	2.5

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	193.4	208.7	523.9	357.2	193.4	141.9	0.	153.1	486.8	480.9
10	207.0	217.4	515.3	363.9	207.0	163.7	0.	142.5	471.9	467.3
15	218.3	221.7	506.1	352.7	218.3	168.7	0.	143.9	456.6	453.8
30	236.9	230.7	474.2	309.3	236.9	171.0	0.	154.9	410.8	412.7
50	237.0	249.4	422.4	258.3	237.0	179.9	0.	172.8	349.6	357.9
70	221.7	229.6	364.8	196.9	221.7	148.9	0.	174.7	289.7	303.3
85	211.2	273.5	321.1	205.2	211.2	193.1	0.	193.7	241.9	263.4
90	203.6	278.7	304.2	198.9	203.6	192.6	0.	201.5	226.0	251.5
95	193.9	292.6	285.3	179.0	193.9	178.9	0.	231.4	209.3	239.0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.588	0.585	1.592	0.967	0.737	0.368	1.7288	1.2537	0.667	0.692
10	0.632	0.596	1.574	0.998	0.797	0.404	1.7911	1.2291	0.791	0.807
15	0.670	0.610	1.553	0.971	0.775	0.437	1.8225	1.2256	0.829	0.843
30	0.733	0.638	1.466	0.855	0.722	0.509	1.8534	1.2210	0.872	0.883
50	0.733	0.697	1.306	0.722	0.763	0.550	1.8363	1.2143	0.885	0.894
70	0.681	0.646	1.121	0.554	0.677	0.552	1.6195	1.1836	0.804	0.817
85	0.646	0.785	0.982	0.589	0.939	0.529	1.7120	1.1775	0.935	0.940
90	0.621	0.803	0.928	0.573	0.987	0.471	1.6753	1.1741	0.912	0.918
95	0.589	0.842	0.867	0.515	0.994	0.376	1.6676	1.1873	0.840	0.851

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.2	3.4	4.7	1.9	0.415	0.276	0.150	0.126	0.036	0.017
10	4.6	2.9	3.1	3.3	0.385	0.166	0.138	0.028	0.025	0.004
15	4.1	2.5	2.8	3.1	0.400	0.139	0.126	0.014	0.022	0.002
30	4.4	2.3	2.8	3.6	0.455	0.110	0.094	0.016	0.020	0.003
50	6.3	3.7	1.8	9.9	0.506	0.110	0.062	0.048	0.022	0.010
70	8.2	4.7	14.5	11.1	0.576	0.201	0.041	0.160	0.038	0.030
85	7.9	4.0	15.6	29.5	0.497	0.079	0.022	0.057	0.016	0.012
90	8.0	4.0	18.6	33.3	0.480	0.114	0.018	0.096	0.023	0.019
95	8.2	4.0	14.5	43.3	0.507	0.245	0.003	0.242	0.048	0.047

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
113.46	1.7768	1.2140	0.834	10635.3



ATT FAN VEHICLE

(METRIC)

BP-OGV

100 PERCENT SPEED

RDG 30

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.8	0.4	0.081	0.085	43.6	0.		
15	41.605	41.554	-0.4	0.8	0.125	0.129	38.3	0.		
30	39.192	39.218	0.3	1.6	0.273	0.276	36.2	0.		
50	35.763	35.852	1.4	2.6	0.480	0.484	36.7	0.		
70	32.487	32.639	2.8	3.9	0.660	0.665	38.2	0.		
85	30.124	30.302	3.5	3.8	0.766	0.771	41.4	0.		
90	29.312	29.489	3.6	3.4	0.798	0.802	43.0	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	218.8	162.2			158.3	162.2	150.1	0.		
15	231.8	175.6			181.9	175.6	143.1	0.		
30	252.6	195.6			203.8	195.6	149.3	0.		
50	268.3	200.2			215.2	200.2	160.3	0.		
70	270.4	199.6			212.4	199.6	167.4	0.		
85	249.9	165.8			187.8	165.8	164.6	0.		
90	240.6	149.8			176.2	149.8	163.7	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.597	0.436			1.016	0.381	1.7178	1.2441	0.685	0.708
15	0.639	0.476			0.959	0.366	1.7593	1.2285	0.767	0.784
30	0.703	0.534			0.959	0.368	1.8209	1.2252	0.829	0.843
50	0.753	0.548			0.929	0.389	1.8204	1.2205	0.847	0.859
70	0.764	0.549			0.943	0.419	1.7875	1.2090	0.864	0.875
85	0.706	0.456			0.887	0.506	1.6561	1.1905	0.814	0.826
90	0.679	0.411			0.859	0.543	1.5954	1.1843	0.775	0.789

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
10	-0.0	-8.2	10.9	43.3	0.507	0.089	0.	0.089	0.032	0.032	
15	-3.9	-12.2	10.4	38.1	0.460	0.078	0.	0.078	0.027	0.027	
30	-3.8	-11.7	9.4	36.2	0.418	0.040	0.	0.040	0.013	0.013	
50	-2.3	-9.5	8.6	36.7	0.432	0.066	0.	0.066	0.020	0.020	
70	-1.4	-7.8	8.3	38.3	0.428	0.040	0.	0.040	0.011	0.011	
85	0.4	-5.3	8.4	41.5	0.504	0.054	0.	0.054	0.014	0.014	
90	1.4	-4.3	8.4	43.1	0.545	0.071	0.	0.071	0.018	0.018	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
97.94	1.7640	1.2189	0.804	10635.3

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE=OGV 100 PERCENT SPEED RDG 30

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.5	-5.6	0.884	0.885	49.2	19.4		
30	24.689	24.460	-1.3	-4.5	0.907	0.910	44.2	18.7		
50	23.673	23.597	-0.2	-3.6	0.941	0.941	44.1	17.8		
70	22.682	22.784	0.6	-2.7	0.972	0.967	48.1	17.0		
85	21.971	22.174	2.2	-1.1	0.989	0.985	56.0	16.4		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	255.5	200.0			167.0	188.7	193.4	66.3		
30	271.3	205.8			194.5	195.0	189.1	65.8		
50	274.0	188.8			197.0	179.8	190.7	57.5		
70	283.5	184.1			189.3	176.1	212.0	53.7		
85	280.9	176.9			157.2	169.7	230.6	50.1		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.724	0.556			1.120	0.338	1.6569	1.1889	0.821	0.834
30	0.777	0.575			1.000	0.386	1.6929	1.1792	0.906	0.913
50	0.788	0.526			0.910	0.443	1.6245	1.1737	0.856	0.865
70	0.814	0.510			0.904	0.464	1.5948	1.1835	0.777	0.791
85	0.803	0.487			1.072	0.511	1.5591	1.1940	0.697	0.716

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-0.2	-4.1	8.5	29.6	0.392	0.062	0.	0.062	0.020	0.020
30	-3.4	-6.9	7.9	25.3	0.392	0.044	0.	0.044	0.014	0.014
50	-2.4	-5.4	7.5	26.3	0.468	0.098	0.	0.098	0.030	0.030
70	1.0	-1.4	7.8	30.5	0.519	0.134	0.	0.134	0.040	0.040
85	7.1	5.4	9.7	38.6	0.573	0.126	0.	0.126	0.036	0.036

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.52	1.6254	1.1832	0.813	10635.3

**APPENDIX D**

**BLADE ELEMENT DATA**

**(b) Uniform Inlet Flow Test**

ATT FAN VEHICLE

(METRIC)

ROTOR 90 PERCENT SPEED RDG 36

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.0	-6.3	0.061	0.060	0.	48.9	71.0	66.2
10	42.367	41.961	-5.0	-5.3	0.125	0.121	0.	44.7	69.3	63.4
15	40.996	40.742	-3.5	-4.0	0.190	0.185	0.	43.7	67.7	61.7
30	36.881	37.059	1.1	0.5	0.382	0.375	0.	43.2	63.8	56.9
50	31.394	32.131	7.8	7.0	0.612	0.611	0.	44.2	59.8	47.7
70	26.010	27.229	13.1	13.2	0.796	0.803	0.	48.4	56.5	40.3
85	21.717	23.647	18.0	12.9	0.910	0.915	0.	48.9	53.4	19.7
90	20.295	22.581	20.0	14.2	0.942	0.949	0.	48.2	52.8	12.9
95	18.796	21.463	21.3	16.2	0.972	0.981	0.	54.1	52.2	1.6

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	151.9	193.6	463.9	314.5	151.9	127.6	0.	145.6	438.4	433.0
10	161.3	198.9	454.5	315.2	161.3	141.7	0.	139.4	424.9	420.8
15	168.9	201.0	444.5	306.6	168.9	145.5	0.	138.7	411.1	408.6
30	182.3	206.2	412.3	275.3	182.3	150.4	0.	141.1	369.9	371.6
50	184.9	217.6	365.1	232.0	184.9	156.6	0.	151.2	314.8	322.2
70	177.5	210.8	315.5	184.2	177.5	142.0	0.	155.8	260.8	273.1
85	170.0	242.5	276.3	171.2	170.0	161.7	0.	180.7	217.8	237.1
90	164.6	255.9	261.8	177.5	164.6	173.4	0.	188.2	203.5	226.4
95	157.0	264.3	245.3	159.3	157.0	159.2	0.	210.9	188.5	215.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.455	0.530	1.391	0.861	0.841	0.348	1.5919	1.2177	0.653	0.675
10	0.485	0.549	1.367	0.870	0.881	0.377	1.6217	1.2023	0.732	0.750
15	0.509	0.557	1.340	0.849	0.863	0.403	1.6346	1.1956	0.771	0.786
30	0.552	0.576	1.248	0.769	0.826	0.468	1.6454	1.1809	0.845	0.856
50	0.560	0.614	1.106	0.654	0.849	0.525	1.6317	1.1683	0.892	0.900
70	0.536	0.599	0.953	0.523	0.805	0.556	1.5335	1.1475	0.881	0.888
85	0.513	0.696	0.833	0.492	0.974	0.548	1.5766	1.1484	0.936	0.940
90	0.496	0.739	0.788	0.513	1.089	0.498	1.5914	1.1469	0.966	0.969
95	0.471	0.763	0.737	0.460	1.098	0.403	1.5793	1.1546	0.902	0.908

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	7.8	5.9	4.1	4.9	0.426	0.288	0.088	0.200	0.039	0.027
10	7.5	5.8	3.1	6.0	0.409	0.217	0.078	0.139	0.032	0.021
15	7.3	5.7	3.0	6.1	0.416	0.187	0.068	0.119	0.030	0.019
30	8.1	6.1	3.2	7.0	0.446	0.131	0.046	0.085	0.023	0.015
50	9.9	7.2	3.3	12.1	0.488	0.100	0.030	0.071	0.020	0.014
70	11.2	7.8	13.1	15.9	0.539	0.125	0.030	0.095	0.024	0.018
85	10.9	7.0	14.9	33.3	0.529	0.083	0.	0.083	0.017	0.017
90	11.0	7.0	16.5	38.8	0.476	0.046	0.	0.046	0.009	0.009
95	11.2	7.0	13.6	47.8	0.495	0.163	0.	0.163	0.032	0.032

INLET CORR WTFLOW 97.48 PRESS RATIO 1.6095 TEMP RATIO 1.1760 ADIA EFF 0.827 INLET CORR RPM 9576.3

ATT FAN VEHICLE

(METRIC)

BP=OGV

90 PERCENT SPEED

RDG 36

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.7	0.6	0.082	0.087	46.1	0.		
15	41.605	41.554	-0.0	1.2	0.125	0.131	42.0	0.		
30	39.192	39.218	1.0	2.4	0.266	0.272	38.8	0.		
50	35.763	35.852	2.1	3.3	0.465	0.472	37.5	0.		
70	32.487	32.639	3.1	4.1	0.643	0.649	38.4	0.		
85	30.124	30.302	3.6	3.8	0.754	0.759	40.0	0.		
90	29.312	29.489	3.6	3.4	0.789	0.793	40.8	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	201.1	146.4			139.5	146.4	144.3	0.		
15	210.0	156.0			156.1	156.0	140.1	0.		
30	223.2	168.7			174.0	168.7	139.9	0.		
50	233.3	174.0			185.2	174.0	141.9	0.		
70	237.0	175.6			185.7	175.6	147.2	0.		
85	228.9	159.5			175.6	159.5	146.9	0.		
90	224.5	151.1			170.1	151.1	146.5	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT ACC TT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
10	0.553	0.397			1.040	0.399	1.5774	1.2115	0.658	0.679
15	0.582	0.426			0.990	0.395	1.6012	1.2014	0.715	0.733
30	0.624	0.464			0.967	0.403	1.6290	1.1897	0.789	0.803
50	0.659	0.482			0.937	0.410	1.6281	1.1757	0.851	0.860
70	0.674	0.489			0.947	0.421	1.6086	1.1655	0.879	0.887
85	0.653	0.445			0.911	0.451	1.5407	1.1531	0.859	0.867
90	0.640	0.422			0.893	0.466	1.5079	1.1486	0.838	0.847

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	TOT	PROF	
10	2.4	-5.7	10.9	45.8	0.531	0.088	0.	0.088	0.031	0.031
15	-0.3	-8.5	10.4	41.7	0.492	0.067	0.	0.067	0.023	0.023
30	-1.2	-9.1	9.4	38.8	0.449	0.032	0.	0.032	0.010	0.010
50	-1.5	-8.7	8.6	37.5	0.436	0.041	0.	0.041	0.012	0.012
70	-1.2	-7.6	8.3	38.5	0.427	0.033	0.	0.033	0.009	0.009
85	-1.0	-6.7	8.4	40.0	0.466	0.067	0.	0.067	0.017	0.017
90	-0.8	-6.5	8.4	40.9	0.489	0.087	0.	0.087	0.022	0.022

INLET CORR W/FLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
83.85	1.5967	1.1799	0.795	9576.3

ATT FAN VEHICLE

(METRIC)

CORE-OGV

90 PERCENT SPEED

RDG 36

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.5	-5.6	0.881	0.882	51.6	19.5		
30	24.689	24.460	-1.2	-4.4	0.903	0.906	47.3	18.8		
50	23.673	23.597	-0.1	-3.4	0.937	0.937	45.8	17.8		
70	22.682	22.784	0.7	-2.6	0.970	0.965	48.5	17.0		
85	21.971	22.174	2.2	-1.1	0.988	0.984	56.3	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	224.8	170.1			139.7	160.5	176.1	56.4		
30	238.4	175.0			161.8	165.7	175.1	56.1		
50	249.2	170.8			173.8	162.6	178.6	52.2		
70	258.4	169.6			171.4	162.1	194.3	49.6		
85	254.5	160.9			141.2	154.3	209.8	45.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.639	0.476			1.139	0.378	1.5362	1.1550	0.842	0.851
30	0.683	0.491			1.021	0.418	1.5587	1.1495	0.904	0.910
50	0.718	0.479			0.934	0.441	1.5392	1.1465	0.895	0.901
70	0.745	0.475			0.913	0.455	1.5239	1.1518	0.843	0.852
85	0.731	0.448			1.084	0.508	1.4897	1.1590	0.759	0.772

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	2.2	-1.7	8.5	32.0	0.429	0.059	0.	0.059	0.019	0.019
30	-0.3	-3.8	8.0	28.4	0.432	0.049	0.	0.049	0.015	0.015
50	-0.7	-3.7	7.6	28.0	0.478	0.104	0.	0.104	0.032	0.032
70	1.4	-1.0	7.8	30.9	0.516	0.135	0.	0.135	0.040	0.040
85	7.4	5.7	9.7	38.9	0.572	0.124	0.	0.124	0.036	0.036

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
13.63	1.5276	1.1521	0.846	9576.3

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 37

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.2	-6.6	0.062	0.059	0.	49.3	70.2	66.5
10	42.367	41.961	-5.3	-5.7	0.126	0.120	0.	44.5	68.4	63.5
15	40.996	40.742	-3.7	-4.3	0.191	0.185	0.	43.1	66.7	61.8
30	36.881	37.059	1.2	0.5	0.383	0.377	0.	43.4	62.5	57.2
50	31.394	32.131	8.1	7.5	0.613	0.614	0.	44.2	58.4	47.5
70	26.010	27.229	13.7	13.4	0.797	0.806	0.	48.5	55.2	40.7
85	21.717	23.647	18.5	13.1	0.911	0.918	0.	47.6	52.4	20.4
90	20.295	22.581	20.4	14.5	0.942	0.951	0.	48.6	51.8	14.3
95	18.796	21.463	21.5	16.5	0.972	0.982	0.	54.9	51.3	2.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	167.4	202.8	492.0	331.5	167.4	132.8	0.	153.2	462.6	457.0
10	178.4	209.1	482.5	333.6	178.4	149.5	0.	146.0	448.4	444.1
15	187.3	211.2	472.6	325.9	187.3	154.5	0.	144.1	433.8	431.2
30	203.0	216.1	439.9	289.9	203.0	157.0	0.	148.5	390.3	392.2
50	206.4	230.9	391.1	245.0	206.4	166.2	0.	160.3	332.2	340.0
70	196.8	221.0	338.4	194.1	196.8	148.7	0.	163.5	275.2	288.2
85	186.6	256.2	296.1	186.5	186.6	175.3	0.	186.7	229.8	250.3
90	180.1	263.8	280.3	182.9	180.1	177.6	0.	195.1	214.8	239.0
95	171.4	272.3	262.6	161.0	171.4	160.8	0.	219.5	198.9	227.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADJA	POLY
5	0.504	0.551	1.482	0.900	0.795	0.358	1.6712	1.2416	0.654	0.678
10	0.539	0.574	1.459	0.915	0.842	0.389	1.7115	1.2233	0.743	0.762
15	0.568	0.582	1.433	0.898	0.826	0.417	1.7278	1.2144	0.789	0.804
30	0.619	0.600	1.341	0.805	0.774	0.487	1.7402	1.2010	0.853	0.864
50	0.630	0.648	1.194	0.688	0.807	0.545	1.7333	1.1883	0.904	0.911
70	0.599	0.625	1.029	0.549	0.762	0.569	1.5997	1.1634	0.879	0.887
85	0.566	0.735	0.897	0.535	0.966	0.548	1.6485	1.1620	0.947	0.951
90	0.545	0.760	0.848	0.527	1.030	0.493	1.6327	1.1604	0.937	0.941
95	0.517	0.783	0.792	0.463	1.019	0.400	1.6106	1.1696	0.860	0.869

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	7.0	5.1	4.5	3.8	0.430	0.293	0.118	0.175	0.039	0.023
10	6.6	4.9	3.2	5.1	0.409	0.212	0.106	0.106	0.032	0.016
15	6.3	4.7	3.1	5.0	0.414	0.175	0.095	0.080	0.028	0.013
30	6.9	4.8	3.6	5.5	0.453	0.127	0.067	0.059	0.022	0.010
50	8.5	5.8	3.1	10.9	0.495	0.091	0.043	0.048	0.018	0.010
70	10.0	6.5	13.5	14.1	0.545	0.126	0.032	0.093	0.024	0.018
85	9.9	6.0	15.6	31.3	0.513	0.067	0.010	0.057	0.014	0.012
90	10.1	6.0	17.9	36.1	0.489	0.086	0.	0.086	0.017	0.017
95	10.3	6.1	14.7	45.4	0.525	0.225	0.	0.225	0.044	0.044

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
104.54	1.6938	1.1950	0.833	10105.6

ATT FAN VEHICLE

(METRIC)

BP-06V

95 PERCENT SPEED

RDG 37

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.6	0.6	0.080	0.086	46.3	0.		
15	41.605	41.554	-0.0	1.2	0.124	0.129	41.7	0.		
30	39.192	39.218	0.9	2.3	0.266	0.272	38.2	0.		
50	35.763	35.852	2.0	3.3	0.468	0.474	37.4	0.		
70	32.487	32.639	3.2	4.2	0.647	0.653	38.4	0.		
85	30.124	30.302	3.7	4.0	0.758	0.764	40.3	0.		
90	29.312	29.489	3.7	3.6	0.793	0.797	41.2	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	210.8	152.1			145.7	152.1	151.8	0.		
15	221.1	163.4			164.9	163.4	146.8	0.		
30	235.2	177.4			184.9	177.4	145.3	0.		
50	247.5	184.1			196.6	184.1	150.4	0.		
70	251.5	185.1			197.3	185.1	156.0	0.		
85	239.9	164.6			183.3	164.6	154.8	0.		
90	234.1	154.4			176.5	154.4	153.8	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.576	0.409			1.033	0.403	1.6545	1.2347	0.659	0.682
15	0.609	0.443			0.981	0.396	1.6849	1.2226	0.722	0.742
30	0.655	0.485			0.958	0.403	1.7205	1.2081	0.806	0.820
50	0.696	0.507			0.934	0.411	1.7237	1.1965	0.856	0.867
70	0.712	0.513			0.941	0.422	1.6996	1.1849	0.885	0.893
85	0.681	0.456			0.902	0.464	1.6117	1.1702	0.859	0.868
90	0.665	0.428			0.881	0.483	1.5712	1.1645	0.838	0.848

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROP		PROF	PROF
10	2.6	-5.5	10.9	46.0	0.539	0.095	0.	0.095	0.034	0.034	
15	-0.5	-8.8	10.4	41.5	0.495	0.075	0.	0.075	0.026	0.026	
30	-1.9	-9.7	9.4	38.1	0.447	0.033	0.	0.033	0.011	0.011	
50	-1.6	-8.8	8.6	37.4	0.438	0.044	0.	0.044	0.013	0.013	
70	-1.2	-7.6	8.3	38.4	0.431	0.040	0.	0.040	0.011	0.011	
85	-0.7	-6.4	8.4	40.3	0.477	0.069	0.	0.069	0.018	0.018	
90	-0.4	-6.1	8.4	41.2	0.503	0.087	0.	0.087	0.022	0.022	

INLET CORR WTFLOW 90.12	PRESS RATIO 1.6824	TEMP RATIO 1.1996	ADIA EFF 0.804	INLET CORR RPM 10105.6
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ATT FAN VEHICLE

(METRIC)

CORE-OGV

95 PERCENT SPEED

RDG 37

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.6	-5.7	0.883	0.884	50.3	19.5		
30	24.689	24.460	-1.3	-4.6	0.906	0.909	45.6	18.7		
50	23.673	23.597	-0.2	-3.6	0.940	0.940	45.4	17.8		
70	22.682	22.784	0.6	-2.7	0.971	0.966	49.2	17.0		
85	21.971	22.174	2.2	-1.1	0.989	0.984	57.0	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	235.3	181.0			150.5	170.7	180.8	60.0		
30	253.1	190.0			176.9	180.0	180.9	60.8		
50	259.7	178.4			182.6	169.9	184.9	54.4		
70	265.9	171.6			173.6	164.1	202.2	50.1		
85	262.4	162.7			143.1	156.0	218.1	46.1		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.668	0.505			1.125	0.361	1.5889	1.1679	0.842	0.852
30	0.725	0.532			1.013	0.397	1.6282	1.1631	0.916	0.922
50	0.747	0.499			0.928	0.441	1.5839	1.1600	0.877	0.885
70	0.764	0.477			0.913	0.470	1.5505	1.1667	0.801	0.813
85	0.750	0.450			1.082	0.521	1.5153	1.1744	0.723	0.739

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	0.8	-3.0	8.5	30.7	0.410	0.058	0.	0.058	0.019	0.019
30	-1.9	-5.5	7.9	26.8	0.408	0.047	0.	0.047	0.015	0.015
50	-1.1	-4.1	7.5	27.6	0.475	0.103	0.	0.103	0.031	0.031
70	2.1	-0.3	7.8	31.7	0.531	0.136	0.	0.136	0.040	0.040
85	8.0	6.4	9.7	39.6	0.586	0.125	0.	0.125	0.036	0.036

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14.41	1.5742	1.1659	0.834	10105.6

ATT FAN VEHICLE

(METRIC)

ROTOR

100 PERCENT SPEED

RDG 38

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE		REL IN	ANGLE OUT
	IN	OUT						IN	OUT		
5	43.713	43.180	-6.6	-7.2	0.062	0.058	0.	49.7	69.1	67.3	
10	42.367	41.961	-5.8	-6.4	0.127	0.118	0.	44.2	67.1	63.7	
15	40.996	40.742	-4.1	-4.9	0.193	0.184	0.	42.6	65.2	61.7	
30	36.881	37.059	1.4	0.7	0.385	0.379	0.	43.2	60.6	57.3	
50	31.394	32.131	8.9	8.4	0.615	0.620	0.	44.5	56.5	47.8	
70	26.010	27.229	14.3	13.4	0.798	0.810	0.	49.2	53.5	40.5	
85	21.717	23.647	19.1	13.0	0.911	0.921	0.	46.9	51.0	20.8	
90	20.295	22.581	20.8	14.6	0.942	0.954	0.	48.5	50.4	15.0	
95	18.796	21.463	21.7	16.7	0.972	0.983	0.	55.0	49.9	2.2	

PCT IMM	ABS IN	VEL OUT	REL IN	VEL OUT	MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE IN	SPEED OUT
10	200.5	218.5	512.9	353.0	200.5	157.0	0.	151.5	472.1	467.5
15	211.7	222.5	503.5	345.0	211.8	164.0	0.	150.3	456.8	454.0
30	231.6	227.2	471.7	306.0	231.6	165.6	0.	155.5	410.9	412.9
50	234.4	241.8	421.1	256.8	234.4	173.4	0.	168.6	349.8	358.0
70	221.6	233.3	364.8	201.4	221.6	154.8	0.	174.6	289.8	303.4
85	207.7	269.5	318.9	199.2	207.7	186.8	0.	194.3	242.0	263.5
90	199.7	276.1	301.7	192.4	199.7	186.4	0.	203.9	226.1	251.6
95	189.7	288.0	282.6	170.3	189.7	170.1	0.	232.0	209.4	239.1

PCT IMM	ABS IN	MACH OUT	REL IN	MACH OUT	AXIAL VEL	CHI R	ACC PT	ACC TT	EFFICIENCY	
									ADIA	POLY
5	0.567	0.564	1.582	0.942	0.729	0.376	1.7598	1.2640	0.664	0.689
10	0.611	0.596	1.562	0.962	0.791	0.411	1.8221	1.2436	0.768	0.786
15	0.648	0.609	1.541	0.945	0.777	0.443	1.8508	1.2355	0.817	0.832
30	0.714	0.627	1.455	0.845	0.716	0.519	1.8681	1.2218	0.882	0.891
50	0.724	0.675	1.301	0.717	0.742	0.574	1.8460	1.2088	0.917	0.924
70	0.681	0.657	1.121	0.567	0.706	0.589	1.6800	1.1835	0.871	0.880
85	0.634	0.772	0.974	0.571	0.931	0.548	1.7173	1.1780	0.939	0.943
90	0.608	0.793	0.919	0.553	0.978	0.487	1.6811	1.1757	0.911	0.917
95	0.576	0.827	0.858	0.489	0.983	0.390	1.6694	1.1881	0.838	0.850

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT		PARAM PROF
	ML	SS					SHOCK	PROF	PROF	PROF	
5	5.9	4.0	5.2	2.0	0.432	0.288	0.151	0.136	0.037	0.018	
10	5.3	3.6	3.4	3.7	0.410	0.194	0.139	0.055	0.029	0.008	
15	4.8	3.2	3.0	3.7	0.417	0.154	0.127	0.028	0.025	0.004	
30	5.0	2.9	3.6	3.5	0.460	0.103	0.094	0.009	0.018	0.002	
50	6.6	3.9	3.4	8.5	0.507	0.079	0.062	0.017	0.016	0.003	
70	8.2	4.8	13.3	12.3	0.564	0.134	0.041	0.093	0.026	0.018	
85	8.5	4.6	16.0	29.4	0.512	0.076	0.025	0.051	0.016	0.010	
90	8.7	4.6	18.6	33.7	0.498	0.120	0.003	0.117	0.024	0.023	
95	8.9	4.7	14.2	43.7	0.526	0.253	0.	0.253	0.050	0.050	

INLET CORR WFLOW 112.25 PRESS RATIO 1.7977 TEMP RATIO 1.2154 ADIA EFF 0.847 INLET CORR RPM 10640.0

ATT FAN VEHICLE

(METRIC)

BP-06V

100 PERCENT SPEED

RDG 38

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN		FUNCT OUT	ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT				IN	OUT
10	42.418	42.316	-0.7	0.6	0.078	0.083		46.8	0.		
15	41.605	41.554	-0.1	1.2	0.121	0.126		41.5	0.		
30	39.192	39.218	0.7	2.1	0.266	0.271		37.7	0.		
50	35.763	35.852	1.8	3.2	0.473	0.478		37.0	0.		
70	32.487	32.639	3.2	4.3	0.654	0.660		38.7	0.		
85	30.124	30.302	3.8	4.2	0.763	0.769		41.3	0.		
90	29.312	29.489	3.8	3.8	0.796	0.801		42.4	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	217.8	154.6			149.3	154.6	157.9	0.		
15	231.0	169.5			172.9	169.5	152.5	0.		
30	249.7	188.5			197.7	188.5	152.6	0.		
50	262.2	194.5			209.6	194.5	157.7	0.		
70	263.0	191.3			205.4	191.3	164.2	0.		
85	249.1	165.5			187.4	165.5	164.0	0.		
90	243.2	154.2			179.8	154.2	163.7	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.591	0.413			1.022	0.417	1.7433	1.2570	0.670	0.694
15	0.633	0.456			0.969	0.399	1.7866	1.2436	0.740	0.761
30	0.693	0.513			0.952	0.398	1.8432	1.2300	0.830	0.844
50	0.735	0.533			0.926	0.415	1.8467	1.2169	0.883	0.893
70	0.742	0.526			0.935	0.439	1.8044	1.2050	0.896	0.905
85	0.703	0.455			0.888	0.493	1.6926	1.1899	0.854	0.865
90	0.687	0.424			0.865	0.514	1.6459	1.1844	0.830	0.841

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	3.1	-5.0	10.9	46.4	0.554	0.101	0.	0.101	0.036	0.036
15	-0.7	-9.0	10.4	41.2	0.501	0.083	0.	0.083	0.029	0.029
30	-2.4	-10.2	9.4	37.6	0.444	0.039	0.	0.039	0.013	0.013
50	-2.0	-9.2	8.6	37.0	0.438	0.045	0.	0.045	0.013	0.013
70	-0.9	-7.3	8.3	38.7	0.440	0.033	0.	0.033	0.009	0.009
85	0.3	-5.4	8.4	41.4	0.502	0.069	0.	0.069	0.018	0.018
90	0.8	-4.9	8.4	42.5	0.532	0.089	0.	0.089	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
96.88	1.7895	1.2206	0.820	10640.0

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE-OGV 100 PERCENT SPEED RDG 38

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.6	-5.7	0.885	0.886	49.2	19.4		
30	24.689	24.460	-1.5	-4.7	0.908	0.910	44.5	18.7		
50	23.673	23.597	-0.5	-3.9	0.942	0.941	44.7	17.8		
70	22.682	22.784	0.3	-3.0	0.973	0.968	48.7	17.0		
85	21.971	22.174	2.0	-1.3	0.989	0.985	56.8	16.4		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	252.7	196.2			165.4	185.1	191.1	65.0		
30	269.7	203.2			192.3	192.6	189.1	65.0		
50	273.2	186.6			194.3	177.7	192.3	56.8		
70	282.2	181.4			186.3	173.5	213.1	52.8		
85	278.3	172.2			152.6	165.1	230.2	48.7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.716	0.545			1.110	0.344	1.6557	1.1868	0.830	0.841
30	0.772	0.567			0.998	0.391	1.6957	1.1795	0.908	0.914
50	0.785	0.519			0.911	0.451	1.6308	1.1752	0.856	0.866
70	0.810	0.502			0.900	0.476	1.6005	1.1846	0.779	0.793
85	0.794	0.474			1.077	0.532	1.5611	1.1938	0.700	0.718

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-0.3	-4.1	8.5	29.6	0.399	0.067	0.	0.067	0.022	0.022
30	-3.0	-6.6	7.9	25.7	0.400	0.049	0.	0.049	0.015	0.015
50	-1.8	-4.8	7.5	26.9	0.478	0.099	0.	0.099	0.030	0.030
70	1.6	-0.8	7.8	31.1	0.529	0.131	0.	0.131	0.039	0.039
85	7.9	6.2	9.7	39.4	0.589	0.119	0.	0.119	0.034	0.034

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.37	1.6300	1.1832	0.818	10640.0

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 39

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.3	-6.8	0.063	0.059	0.	42.4	68.6	66.7
10	42.367	41.961	-5.3	-5.9	0.127	0.121	0.	38.1	66.6	63.7
15	40.996	40.742	-3.7	-4.5	0.193	0.186	0.	37.1	64.7	62.1
30	36.881	37.059	1.2	0.4	0.384	0.377	0.	38.9	60.3	57.9
50	31.394	32.131	7.8	7.2	0.612	0.611	0.	41.0	55.8	48.1
70	26.010	27.229	13.3	12.9	0.795	0.803	0.	45.1	52.3	40.5
85	21.717	23.647	18.3	12.8	0.910	0.917	0.	44.7	49.6	21.3
90	20.295	22.581	20.0	14.3	0.941	0.950	0.	45.7	49.1	16.3
95	18.796	21.463	21.2	16.3	0.971	0.980	0.	51.1	48.5	5.0

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	192.6	202.5	523.9	376.6	192.6	150.1	0.	135.9	487.2	481.3
10	205.6	212.7	515.0	376.5	205.6	167.7	0.	130.7	472.2	467.7
15	216.2	215.5	505.5	367.2	216.2	172.2	0.	129.7	456.9	454.1
30	234.9	221.3	473.4	323.5	234.9	172.1	0.	139.1	411.1	413.0
50	240.2	240.0	424.4	271.2	240.2	181.6	0.	156.9	349.9	358.1
70	230.4	234.6	370.3	218.3	230.4	167.8	0.	163.9	289.9	303.5
85	216.7	272.2	324.9	209.7	216.7	196.0	0.	188.9	242.0	263.6
90	208.6	277.9	307.7	204.9	208.6	197.2	0.	195.8	226.2	251.7
95	198.4	292.0	288.5	188.7	198.4	188.1	0.	223.3	209.5	239.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.585	0.554	1.591	1.030	0.782	0.328	1.6149	1.2256	0.651	0.673
10	0.627	0.587	1.572	1.039	0.820	0.362	1.6781	1.2106	0.757	0.774
15	0.663	0.598	1.550	1.018	0.798	0.394	1.7039	1.2033	0.809	0.823
30	0.726	0.616	1.463	0.901	0.733	0.468	1.7308	1.1984	0.855	0.866
50	0.744	0.674	1.314	0.762	0.757	0.529	1.7444	1.1940	0.888	0.896
70	0.710	0.664	1.142	0.618	0.733	0.551	1.6220	1.1723	0.860	0.869
85	0.664	0.783	0.996	0.603	0.933	0.511	1.6793	1.1731	0.922	0.928
90	0.637	0.802	0.940	0.591	0.984	0.451	1.6427	1.1696	0.898	0.905
95	0.604	0.842	0.878	0.545	1.007	0.354	1.6369	1.1815	0.833	0.844

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.3	3.5	4.6	2.0	0.368	0.265	0.150	0.114	0.035	0.015
10	4.8	3.1	3.4	3.1	0.354	0.180	0.138	0.042	0.027	0.006
15	4.3	2.7	3.4	2.7	0.361	0.142	0.126	0.016	0.022	0.003
30	4.6	2.6	4.2	2.6	0.415	0.115	0.095	0.020	0.020	0.003
50	5.8	3.2	3.7	7.7	0.471	0.098	0.063	0.036	0.019	0.007
70	7.0	3.6	13.3	11.4	0.520	0.133	0.040	0.093	0.026	0.018
85	7.1	3.2	16.5	27.9	0.485	0.091	0.021	0.070	0.018	0.014
90	7.4	3.3	19.9	31.6	0.465	0.126	0.017	0.110	0.025	0.022
95	7.5	3.3	17.0	41.0	0.481	0.243	0.003	0.240	0.047	0.047

INLET CORR WTFLOW 114.22 PRESS RATIO 1.6907 TEMP RATIO 1.1952 ADIA EFF 0.829 INLET CORR RPM 10643.0

ATT FAN VEHICLE

(METRIC)

BP=0GV

100 PERCENT SPEED

RDG 39

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.4	-0.3	0.079	0.080	40.4	0.		
15	41.605	41.554	-1.0	0.0	0.122	0.122	36.2	0.		
30	39.192	39.218	-0.5	0.5	0.263	0.261	33.1	0.		
50	35.763	35.852	0.4	1.2	0.462	0.460	33.5	0.		
70	32.487	32.639	1.8	2.3	0.640	0.640	34.7	0.		
85	30.124	30.302	2.8	2.7	0.752	0.754	36.3	0.		
90	29.312	29.489	3.1	2.6	0.788	0.790	37.0	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	209.6	163.2			159.7	163.2	135.3	0.		
15	223.8	178.0			180.6	178.0	131.8	0.		
30	242.7	194.5			203.4	194.5	132.4	0.		
50	260.2	204.5			216.9	204.5	143.7	0.		
70	270.4	210.7			222.3	210.7	153.9	0.		
85	262.3	195.8			211.6	195.8	155.0	0.		
90	257.0	187.3			205.5	187.3	154.3	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.576	0.443			1.019	0.310	1.6027	1.2208	0.653	0.676
15	0.620	0.487			0.985	0.303	1.6472	1.2111	0.726	0.745
30	0.680	0.536			0.957	0.321	1.6976	1.1999	0.817	0.830
50	0.735	0.566			0.943	0.352	1.7222	1.1979	0.849	0.860
70	0.770	0.586			0.948	0.365	1.7183	1.1925	0.869	0.879
85	0.748	0.545			0.926	0.384	1.6337	1.1799	0.837	0.848
90	0.734	0.522			0.913	0.392	1.5903	1.1741	0.814	0.826

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-3.2	-11.4	10.9	40.3	0.454	0.100	0.	0.100	0.035	0.035
15	-6.0	-14.3	10.4	36.2	0.410	0.076	0.	0.076	0.026	0.026
30	-7.0	-14.8	9.4	33.1	0.375	0.042	0.	0.042	0.014	0.014
50	-5.5	-12.7	8.6	33.5	0.378	0.035	0.	0.035	0.010	0.010
70	-4.9	-11.3	8.3	34.7	0.376	0.033	0.	0.033	0.009	0.009
85	-4.7	-10.4	8.4	36.3	0.406	0.068	0.	0.068	0.018	0.018
90	-4.6	-10.3	8.4	37.0	0.422	0.089	0.	0.089	0.022	0.022

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
98.10	1.6733	1.1980	0.800	10643.0

ATT FAN VEHICLE

(METRIC)

CORE=OGV

100 PERCENT SPEED

RDG 39

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.6	-5.7	0.880	0.881	47.7	19.5		
30	24.689	24.460	-1.4	-4.6	0.904	0.906	42.5	18.7		
50	23.673	23.597	-0.2	-3.5	0.938	0.938	42.3	17.8		
70	22.682	22.784	1.0	-2.3	0.969	0.965	45.5	17.0		
85	21.971	22.174	2.6	-0.7	0.987	0.984	52.5	16.5		
PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	255.2	207.6			171.9	195.8	188.6	68.8		
30	273.9	214.3			202.0	203.0	185.0	68.7		
50	275.8	201.3			204.3	191.7	185.6	61.5		
70	284.9	199.1			199.4	190.4	204.3	58.2		
85	282.3	193.5			172.3	185.5	222.1	54.8		
PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.724	0.579			1.130	0.297	1.6253	1.1844	0.807	0.820
30	0.787	0.602			1.003	0.350	1.6680	1.1755	0.897	0.904
50	0.796	0.564			0.936	0.417	1.6137	1.1692	0.866	0.875
70	0.822	0.556			0.939	0.434	1.5897	1.1773	0.799	0.812
85	0.810	0.537			1.065	0.466	1.5520	1.1872	0.715	0.732
PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-1.7	-5.6	8.5	28.1	0.351	0.053	0.	0.053	0.017	0.017
30	-5.1	-8.6	7.9	23.6	0.358	0.043	0.	0.043	0.014	0.014
50	-4.2	-7.2	7.5	24.4	0.416	0.061	0.	0.061	0.019	0.019
70	-1.6	-4.0	7.8	28.2	0.456	0.091	0.	0.091	0.027	0.027
85	3.5	1.9	9.7	35.3	0.501	0.094	0.	0.094	0.027	0.027
	INLET CORR WTFLOW		PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORP RPM				
	16.12		1.6070	1.1783	0.814	10643.0				

ATT FAN VEHICLE

(METRIC)

ROTOR 70 PERCENT SPEED RDG 44

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS ANGLE		REL ANGLE	
	IN	OUT					IN	OUT	IN	OUT
5	43.713	43.180	-5.6	-5.8	0.060	0.061	0.	42.1	72.6	66.3
10	42.367	41.961	-4.5	-4.7	0.123	0.122	0.	39.4	71.1	63.8
15	40.996	40.742	-3.2	-3.5	0.187	0.185	0.	38.9	69.8	62.3
30	36.881	37.059	0.6	0.1	0.376	0.368	0.	39.4	66.4	58.0
50	31.394	32.131	5.7	5.1	0.605	0.594	0.	40.7	62.3	49.1
70	26.010	27.229	11.4	13.2	0.792	0.793	0.	43.7	58.2	36.2
85	21.717	23.647	17.6	14.1	0.909	0.914	0.	48.8	55.2	18.4
90	20.295	22.581	19.8	14.8	0.942	0.948	0.	48.1	54.7	11.9
95	18.796	21.463	21.3	16.5	0.972	0.980	0.	55.7	54.3	-1.4

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	107.9	143.7	358.4	264.0	107.9	106.8	0.	96.1	341.7	337.6
10	113.8	148.9	350.2	260.6	113.8	115.1	0.	94.3	331.2	328.0
15	118.4	150.9	341.7	252.7	118.4	117.5	0.	94.8	320.5	318.5
30	126.2	155.0	314.7	225.8	126.2	119.8	0.	98.3	288.3	289.7
50	129.7	165.0	277.6	190.4	129.7	125.2	0.	107.4	245.4	251.2
70	128.4	176.8	240.5	159.2	128.4	129.5	0.	120.4	203.3	212.9
85	123.6	192.8	210.0	135.8	123.6	129.3	0.	143.1	169.8	184.9
90	119.5	202.9	198.6	140.9	119.5	138.2	0.	148.7	158.7	176.5
95	113.6	209.5	185.7	121.5	113.6	121.5	0.	170.6	146.9	167.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.320	0.407	1.064	0.748	0.988	0.280	1.2739	1.1122	0.638	0.651
10	0.338	0.423	1.041	0.741	1.011	0.304	1.2903	1.1069	0.707	0.717
15	0.352	0.430	1.016	0.720	0.993	0.325	1.2972	1.1042	0.740	0.750
30	0.376	0.443	0.938	0.645	0.951	0.380	1.3030	1.0983	0.799	0.807
50	0.387	0.474	0.828	0.547	0.966	0.441	1.3083	1.0931	0.857	0.863
70	0.383	0.511	0.717	0.460	1.002	0.504	1.3199	1.0885	0.933	0.935
85	0.368	0.559	0.625	0.394	1.065	0.521	1.3386	1.0916	0.949	0.951
90	0.355	0.591	0.591	0.410	1.193	0.469	1.3466	1.0904	0.981	0.982
95	0.337	0.609	0.552	0.353	1.164	0.367	1.3403	1.0970	0.900	0.904

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	9.3	7.5	4.2	6.3	0.352	0.236	0.012	0.223	0.032	0.030
10	9.3	7.6	3.5	7.2	0.346	0.190	0.010	0.180	0.028	0.026
15	9.4	7.8	3.6	7.5	0.354	0.171	0.008	0.163	0.027	0.025
30	10.7	8.7	4.3	8.6	0.387	0.141	0.008	0.133	0.024	0.023
50	12.3	9.7	4.7	13.5	0.434	0.117	0.	0.117	0.023	0.023
70	13.0	9.5	9.0	21.9	0.466	0.067	0.	0.067	0.014	0.014
85	12.7	8.8	13.6	36.4	0.508	0.067	0.	0.067	0.014	0.014
90	12.9	8.9	15.5	41.8	0.450	0.024	0.	0.024	0.005	0.005
95	13.3	9.1	10.6	52.4	0.498	0.176	0.	0.176	0.035	0.035

INLET CORR WFLOW 74.01 PRESS RATIO 1.3070 TEMP RATIO 1.0976 ADIA EFF 0.815 INLET CORR RPM 7465.1



ATT FAN VEHICLE

(METRIC)

HP-0GV

70 PERCENT SPEED

RDG 44

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNC		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42.418	42.316	-0.9	0.2	0.083	0.086	40.4	0.		
15	41.605	41.554	-0.3	0.7	0.125	0.129	37.5	0.		
30	39.192	39.218	0.4	1.4	0.260	0.263	35.4	0.		
50	35.763	35.852	1.2	1.9	0.450	0.451	34.7	0.		
70	32.487	32.639	2.0	2.3	0.623	0.623	35.0	0.		
85	30.124	30.302	2.7	2.4	0.740	0.741	35.3	0.		
90	29.312	29.489	3.0	2.4	0.779	0.781	35.5	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	148.9	121.5			113.5	121.5	96.2	0.		
15	156.2	127.4			124.0	127.4	95.0	0.		
30	166.2	135.0			135.4	135.0	96.3	0.		
50	175.5	141.9			144.4	141.9	99.8	0.		
70	183.4	147.8			150.2	147.8	105.1	0.		
85	189.3	152.0			154.6	152.0	109.3	0.		
90	193.0	154.9			157.2	154.9	111.9	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH <sup>2</sup>	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.423	0.343			1.065	0.277	1.2704	1.1100	0.643	0.655
15	0.445	0.360			1.023	0.280	1.2805	1.1066	0.687	0.697
30	0.476	0.384			0.996	0.294	1.2910	1.1019	0.743	0.752
50	0.505	0.405			0.982	0.307	1.2967	1.0964	0.799	0.807
70	0.530	0.423			0.983	0.309	1.2976	1.0923	0.837	0.843
85	0.549	0.436			0.983	0.286	1.2922	1.0889	0.855	0.860
90	0.560	0.445			0.985	0.265	1.2913	1.0885	0.856	0.861

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-3.3	-11.4	10.9	40.2	0.416	0.069	0.	0.069	0.024	0.024
15	-4.7	-13.0	10.4	37.4	0.398	0.065	0.	0.065	0.023	0.023
30	-4.6	-12.5	9.4	35.4	0.376	0.050	0.	0.050	0.016	0.016
50	-4.3	-11.5	8.6	34.7	0.361	0.044	0.	0.044	0.013	0.013
70	-4.6	-11.0	8.3	35.0	0.351	0.045	0.	0.045	0.013	0.013
85	-5.7	-11.4	8.4	35.3	0.346	0.078	0.	0.078	0.020	0.020
90	-6.1	-11.8	8.4	35.5	0.344	0.102	0.	0.102	0.026	0.026

INLET CORR WTFLOW 63.76	PRESS RATIO 1.2897	TEMP RATIO 1.0982	ADIA EFF 0.768	INLET CORR RPM 7465.1
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ATT FAN VEHICLE

(METRIC)

CORE-OGV 70 PERCENT SPEED RDG 40

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.9	0.882	0.883	51.6	19.5		
30	24.689	24.460	-1.6	-4.9	0.904	0.906	47.9	18.8		
50	23.673	23.597	-0.8	-4.1	0.938	0.936	46.3	17.9		
70	22.682	22.784	-0.2	-3.2	0.970	0.964	49.9	17.1		
85	21.971	22.174	1.6	-1.6	0.988	0.983	58.4	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	174.5	133.6			108.5	126.0	136.7	44.3		
30	186.2	138.2			124.9	130.8	138.0	44.4		
50	195.1	135.8			134.9	129.3	141.1	41.6		
70	202.9	135.7			130.7	129.7	155.8	39.8		
85	202.3	130.8			106.1	125.4	171.1	37.2		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.502	0.381			1.153	0.356	1.3135	1.0937	0.864	0.870
30	0.539	0.395			1.044	0.399	1.3271	1.0920	0.916	0.919
50	0.566	0.388			0.958	0.430	1.3198	1.0902	0.914	0.918
70	0.589	0.387			0.948	0.458	1.3154	1.0944	0.863	0.868
85	0.586	0.372			1.168	0.507	1.3012	1.1007	0.776	0.784

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
15	2.1	-1.7	8.5	32.0	0.419	0.065	0.	0.065	0.021	0.021	
30	0.3	-3.2	8.0	29.0	0.426	0.055	0.	0.055	0.017	0.017	
50	-0.2	-3.2	7.6	28.5	0.468	0.092	0.	0.092	0.028	0.028	
70	2.8	0.4	7.9	32.0	0.507	0.108	0.	0.108	0.032	0.032	
85	9.4	7.8	9.8	40.6	0.558	0.095	0.	0.095	0.027	0.027	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
10.26	1.3142	1.0940	0.864	7465.1

ATT FAN VEHICLE

(METRIC)

ROTOR 70 PERCENT SPEED RDG 45

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.5	-5.5	0.060	0.062	0.	49.6	74.3	66.9
10	42.367	41.961	-4.6	-4.7	0.122	0.121	0.	48.1	72.9	65.1
15	40.996	40.742	-3.5	-3.8	0.186	0.182	0.	46.6	71.7	63.5
30	36.881	37.059	0.3	-0.2	0.375	0.366	0.	44.1	68.3	58.5
50	31.394	32.131	5.9	5.2	0.606	0.596	0.	45.2	64.5	50.3
70	26.010	27.229	11.7	12.8	0.793	0.795	0.	48.0	60.8	37.6
85	21.717	23.647	18.6	14.3	0.911	0.920	0.	50.4	58.2	16.6
90	20.295	22.581	20.9	15.4	0.943	0.955	0.	53.2	57.9	11.4
95	18.796	21.463	21.9	17.0	0.972	0.982	0.	62.9	57.5	1.4

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	96.8	148.2	355.1	244.5	96.8	96.2	0.	112.7	341.7	337.5
10	102.0	150.4	346.5	238.4	102.0	100.5	0.	111.8	331.1	328.0
15	106.4	151.5	337.6	233.1	106.4	104.2	0.	109.9	320.4	318.4
30	114.6	155.2	310.2	213.1	114.6	111.4	0.	108.0	288.3	289.7
50	117.5	161.7	272.1	178.0	117.5	114.2	0.	114.4	245.4	251.1
70	116.1	171.0	234.1	145.2	116.1	116.0	0.	125.6	203.3	212.8
85	111.0	194.9	202.8	131.8	111.0	126.6	0.	148.2	169.7	184.8
90	106.5	194.4	191.1	121.4	106.5	119.3	0.	153.4	158.6	176.5
95	100.8	187.7	178.1	88.6	100.8	88.4	0.	165.6	146.9	167.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.287	0.416	1.052	0.687	0.992	0.302	1.3147	1.1314	0.619	0.633
10	0.303	0.424	1.028	0.672	0.985	0.323	1.3213	1.1267	0.654	0.667
15	0.316	0.428	1.002	0.659	0.981	0.343	1.3241	1.1208	0.691	0.703
30	0.341	0.442	0.922	0.606	0.975	0.396	1.3265	1.1079	0.780	0.788
50	0.349	0.463	0.809	0.510	0.974	0.452	1.3185	1.0991	0.829	0.836
70	0.345	0.492	0.696	0.418	0.995	0.505	1.3155	1.0924	0.882	0.887
85	0.330	0.565	0.602	0.382	1.166	0.492	1.3470	1.0950	0.936	0.938
90	0.316	0.563	0.567	0.352	1.213	0.423	1.3302	1.0935	0.909	0.912
95	0.299	0.542	0.528	0.256	0.991	0.321	1.2828	1.0952	0.775	0.783

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	11.0	9.2	4.9	7.3	0.416	0.288	0.017	0.271	0.038	0.035
10	11.1	9.4	4.8	7.8	0.420	0.262	0.014	0.248	0.037	0.035
15	11.3	9.7	4.8	8.2	0.419	0.233	0.013	0.220	0.035	0.033
30	12.7	10.6	4.8	10.1	0.430	0.172	0.003	0.169	0.029	0.029
50	14.6	11.9	5.9	14.5	0.475	0.152	0.	0.152	0.029	0.029
70	15.5	12.1	10.4	23.1	0.518	0.127	0.	0.127	0.025	0.025
85	15.7	11.8	11.8	40.7	0.516	0.093	0.	0.093	0.019	0.019
90	16.1	12.1	15.0	45.2	0.507	0.146	0.	0.146	0.030	0.030
95	16.5	12.3	13.4	52.7	0.650	0.415	0.	0.415	0.081	0.081

INLET CORR W/FLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
67.53	1.3212	1.1066	0.777	7463.7

ATT FAN VEHICLE

(METRIC)

BP-OGV

70 PERCENT SPEED

RDG 45

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.3	0.9	0.083	0.090	48.0	0.		
15	41.605	41.554	0.5	1.8	0.125	0.133	45.7	0.		
30	39.192	39.218	1.9	3.2	0.259	0.269	41.1	0.		
50	35.763	35.852	2.5	3.7	0.452	0.459	39.2	0.		
70	32.487	32.639	3.0	3.7	0.626	0.630	39.6	0.		
85	30.124	30.302	3.3	3.3	0.742	0.746	39.9	0.		
90	29.312	29.489	3.4	3.0	0.780	0.784	40.1	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	152.6	112.0			102.1	112.0	113.4	0.		
15	157.4	116.4			110.0	116.4	112.5	0.		
30	164.8	123.1			124.3	123.1	108.3	0.		
50	171.5	128.0			133.0	128.0	108.3	0.		
70	175.2	130.5			135.0	130.5	111.7	0.		
85	179.2	131.1			137.5	131.1	114.9	0.		
90	181.7	131.9			139.0	131.9	117.0	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.430	0.313			1.088	0.399	1.3061	1.1296	0.612	0.626
15	0.444	0.326			1.048	0.407	1.3124	1.1261	0.641	0.654
30	0.469	0.347			0.985	0.410	1.3183	1.1143	0.719	0.730
50	0.491	0.363			0.960	0.402	1.3164	1.1044	0.783	0.791
70	0.504	0.371			0.966	0.412	1.3093	1.0979	0.817	0.824
85	0.517	0.373			0.953	0.398	1.2969	1.0934	0.826	0.832
90	0.525	0.376			0.949	0.384	1.2926	1.0926	0.822	0.828

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	4.4	-3.8	10.9	47.9	0.532	0.074	0.	0.074	0.026	0.026
15	3.4	-4.8	10.4	45.5	0.511	0.057	0.	0.057	0.020	0.020
30	1.0	-6.8	9.4	41.0	0.468	0.039	0.	0.039	0.013	0.013
50	0.1	-7.0	8.6	39.2	0.442	0.046	0.	0.046	0.014	0.014
70	0.0	-6.4	8.3	39.6	0.429	0.037	0.	0.037	0.010	0.010
85	-1.0	-6.8	8.4	39.9	0.434	0.074	0.	0.074	0.019	0.019
90	-1.4	-7.2	8.4	40.2	0.437	0.098	0.	0.098	0.025	0.025

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
58.22	1.3098	1.1084	0.740	7463.7

ATT FAN VEHICLE

(METRIC)

CORE-OGV 70 PERCENT SPEED RDG 45

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.9	0.885	0.886	52.2	19.4		
30	24.689	24.460	-1.7	-5.0	0.909	0.911	49.1	18.7		
50	23.673	23.597	-0.9	-4.3	0.945	0.943	49.5	17.7		
70	22.682	22.784	0.2	-3.3	0.974	0.969	57.6	16.9		
85	21.971	22.174	2.1	-1.3	0.989	0.985	64.7	16.4		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	180.0	134.5			110.4	126.9	142.2	44.5		
30	189.2	136.8			123.9	129.7	143.0	43.6		
50	192.3	126.4			125.0	120.4	146.3	38.3		
70	183.7	108.5			98.6	103.8	154.8	31.6		
85	181.1	97.5			77.2	93.6	163.9	27.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.518	0.383			1.141	0.365	1.3211	1.0975	0.850	0.855
30	0.547	0.390			1.041	0.415	1.3297	1.0952	0.891	0.895
50	0.557	0.360			0.952	0.472	1.3061	1.0935	0.848	0.853
70	0.530	0.308			0.992	0.584	1.2709	1.0945	0.750	0.758
85	0.522	0.276			1.184	0.649	1.2533	1.0969	0.688	0.698

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	2.8	-1.1	8.5	32.7	0.442	0.086	0.	0.086	0.028	0.028
30	1.5	-2.0	7.9	30.4	0.454	0.069	0.	0.069	0.022	0.022
50	3.0	-0.0	7.4	31.7	0.526	0.108	0.	0.108	0.033	0.033
70	10.5	8.1	7.7	39.7	0.632	0.092	0.	0.092	0.027	0.027
85	15.7	14.1	9.7	47.5	0.691	0.073	0.	0.073	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
9.31	1.3017	1.0956	0.819	7463.7

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 70 PERCENT SPEED RDG 46

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	REL ANGLE OUT	IN	OUT
	IN	OUT			IN	OUT				
5	43.713	43.180	-5.7	-5.8	0.060	0.061	0.	30.6	70.5	65.2
10	42.367	41.961	-4.6	-4.8	0.123	0.122	0.	28.7	68.9	63.1
15	40.996	40.742	-3.4	-3.8	0.186	0.183	0.	28.9	67.5	61.9
30	36.881	37.059	-0.1	-0.5	0.374	0.363	0.	30.5	63.6	56.8
50	31.394	32.131	5.4	4.9	0.602	0.591	0.	33.2	59.1	47.6
70	26.010	27.229	10.7	13.4	0.789	0.789	0.	38.9	54.9	36.0
85	21.717	23.647	16.5	14.3	0.907	0.909	0.	45.7	51.4	19.2
90	20.295	22.581	18.7	14.2	0.940	0.941	0.	44.6	50.7	13.5
95	18.796	21.463	20.3	15.9	0.971	0.974	0.	47.9	50.0	4.1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	121.6	142.8	362.7	292.2	121.6	123.0	0.	72.5	341.7	337.6
10	128.0	148.9	355.1	288.2	128.0	130.7	0.	71.2	331.2	328.0
15	132.9	150.4	347.0	278.9	132.9	131.7	0.	72.6	320.5	318.5
30	142.8	158.7	321.7	249.8	142.8	136.7	0.	80.6	288.3	289.7
50	147.6	172.1	286.4	213.2	147.6	144.2	0.	93.9	245.4	251.2
70	145.5	181.2	250.0	174.8	145.5	142.6	0.	111.8	203.3	212.9
85	141.4	195.7	221.0	146.5	141.4	138.9	0.	137.9	169.8	184.9
90	137.3	205.7	209.8	152.6	137.3	148.7	0.	142.2	158.6	176.5
95	131.5	216.0	197.2	148.2	131.5	147.7	0.	157.5	146.9	167.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC FT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.362	0.410	1.080	0.838	1.011	0.221	1.2022	1.0846	0.639	0.648
10	0.382	0.428	1.058	0.829	1.021	0.247	1.2235	1.0807	0.735	0.742
15	0.397	0.433	1.036	0.803	0.992	0.271	1.2323	1.0799	0.770	0.777
30	0.427	0.458	0.963	0.721	0.960	0.336	1.2586	1.0807	0.841	0.846
50	0.442	0.498	0.858	0.617	0.978	0.402	1.2826	1.0815	0.904	0.907
70	0.436	0.526	0.749	0.507	0.970	0.467	1.2973	1.0822	0.940	0.942
85	0.423	0.569	0.661	0.426	0.993	0.513	1.3262	1.0881	0.953	0.955
90	0.410	0.600	0.627	0.445	1.109	0.472	1.3382	1.0867	1.001	1.001
95	0.392	0.631	0.588	0.433	1.161	0.389	1.3444	1.0908	0.971	0.972

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	7.3	5.4	3.2	5.3	0.261	0.181	0.008	0.172	0.025	0.024
10	7.1	5.4	2.8	5.8	0.255	0.131	0.006	0.125	0.020	0.019
15	7.1	5.5	3.2	5.7	0.268	0.117	0.005	0.112	0.019	0.018
30	8.0	5.9	3.2	7.1	0.309	0.090	0.004	0.087	0.016	0.015
50	9.1	6.5	3.2	11.8	0.358	0.066	0.	0.066	0.013	0.013
70	9.6	6.2	8.8	18.8	0.416	0.052	0.	0.052	0.011	0.011
85	8.9	5.0	14.4	32.1	0.479	0.054	0.	0.054	0.011	0.011
90	8.9	4.9	17.1	37.0	0.421	-0.004	0.	-0.004	-0.001	-0.001
95	9.0	4.8	16.1	45.2	0.409	0.043	0.	0.043	0.008	0.008

INLET CORR WFLOW 82.49 PRESS RATIO 1.2699 TEMP RATIO 1.0826 ADIA EFF 0.855 INLET CORR RPM 7464.9

ATT FAN VEHICLE

(METRIC)

BP-0GV

70 PERCENT SPEED

RDG 46

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.4	-0.6	0.083	0.083	29.4	0.		
15	41.605	41.554	-1.1	-0.3	0.125	0.124	27.3	0.		
30	39.192	39.218	-0.6	0.0	0.255	0.253	26.7	0.		
50	35.763	35.852	0.1	0.4	0.443	0.439	26.7	0.		
70	32.487	32.639	0.8	0.7	0.618	0.613	27.8	0.		
85	30.124	30.302	1.9	1.3	0.736	0.733	29.1	0.		
90	29.312	29.489	2.4	1.5	0.775	0.774	29.8	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	148.3	137.0			129.3	137.0	72.5	0.		
15	156.8	142.7			139.3	142.7	71.7	0.		
30	168.7	152.8			150.8	152.8	75.7	0.		
50	187.2	167.1			167.2	167.1	84.2	0.		
70	198.6	175.8			175.7	175.8	92.6	0.		
85	204.9	182.8			179.0	182.8	99.7	0.		
90	208.1	187.3			180.6	187.3	103.4	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.426	0.393			1.060	0.066	1.1979	1.0830	0.638	0.647
15	0.452	0.410			1.025	0.086	1.2094	1.0806	0.692	0.701
30	0.488	0.440			1.015	0.120	1.2282	1.0801	0.755	0.762
50	0.545	0.483			1.001	0.139	1.2546	1.0813	0.823	0.829
70	0.580	0.510			1.002	0.157	1.2662	1.0814	0.857	0.862
85	0.600	0.531			1.022	0.143	1.2696	1.0811	0.870	0.875
90	0.610	0.545			1.038	0.125	1.2732	1.0818	0.873	0.877

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-14.3	-22.4	10.9	29.3	0.250	0.088	0.	0.088	0.031	0.031
15	-14.9	-23.2	10.4	27.3	0.248	0.092	0.	0.092	0.032	0.032
30	-13.4	-21.2	9.4	26.7	0.239	0.063	0.	0.063	0.020	0.020
50	-12.3	-19.5	8.6	26.7	0.240	0.069	0.	0.069	0.020	0.020
70	-11.8	-18.2	8.3	27.8	0.241	0.064	0.	0.064	0.018	0.018
85	-11.8	-17.6	8.4	29.1	0.232	0.068	0.	0.068	0.018	0.018
90	-11.8	-17.5	8.4	29.8	0.225	0.075	0.	0.075	0.019	0.019

INLET CORR  
WTFLOW  
70.77

PRESS  
RATIO  
1.2443

TEMP  
RATIO  
1.0816

ADIA  
EFF  
0.790

INLET CORR  
RPM  
7464.9

ATT FAN VEHICLE

(METRIC)

CORE-OGV

70 PERCENT SPEED

RDG 46

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.8	-5.9	0.879	0.879	45.9	19.5		
30	24.689	24.460	-1.7	-4.7	0.900	0.902	45.1	18.9		
50	23.673	23.597	0.1	-3.2	0.932	0.932	43.6	17.9		
70	22.682	22.784	2.0	-1.5	0.963	0.960	44.6	17.1		
85	21.971	22.174	3.6	0.1	0.983	0.981	49.4	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	177.6	151.1			123.7	142.5	127.4	50.2		
30	187.8	152.7			132.7	144.5	132.9	49.2		
50	196.7	156.5			142.5	148.9	135.6	48.1		
70	207.0	162.8			147.4	155.5	145.4	48.0		
85	207.8	161.2			135.4	154.6	157.4	45.9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.513	0.434			1.146	0.215	1.3085	1.0874	0.913	0.917
30	0.545	0.438			1.085	0.298	1.3181	1.0886	0.927	0.930
50	0.572	0.450			1.044	0.346	1.3261	1.0867	0.969	0.970
70	0.604	0.468			1.051	0.339	1.3321	1.0888	0.962	0.963
85	0.605	0.463			1.134	0.332	1.3158	1.0932	0.875	0.880

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	HL	SS					SHOCK	PROF		
15	-3.5	-7.4	8.6	26.4	0.301	0.068	0.	0.068	0.022	0.022
30	-2.5	-6.0	8.1	26.2	0.337	0.047	0.	0.047	0.015	0.015
50	-2.8	-5.9	7.7	25.7	0.348	0.023	0.	0.023	0.007	0.007
70	-2.5	-4.4	7.9	27.3	0.357	0.046	0.	0.046	0.014	0.014
85	0.4	-1.2	9.8	32.5	0.386	0.078	0.	0.078	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
11.72	1.3175	1.0889	0.922	7464.9



ATT FAN VEHICLE

(METRIC)

ROTOR 80 PERCENT SPEED RDG 47

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.2	-5.3	0.062	0.065	0.	48.8	73.1	65.9
10	42.367	41.961	-3.8	-4.0	0.125	0.128	0.	46.5	71.7	63.8
15	40.996	40.742	-2.3	-2.7	0.190	0.192	0.	46.6	70.5	62.6
30	36.881	37.059	1.3	0.8	0.380	0.375	0.	47.0	67.4	58.4
50	31.394	32.131	6.4	5.7	0.608	0.601	0.	46.6	63.5	49.2
70	26.010	27.229	11.6	12.0	0.793	0.794	0.	49.3	59.6	38.3
85	21.717	23.647	18.2	12.8	0.910	0.916	0.	50.2	56.8	17.5
90	20.295	22.581	20.3	14.1	0.942	0.950	0.	51.8	56.4	11.3
95	18.796	21.463	21.5	16.1	0.972	0.980	0.	59.3	55.9	0.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	119.1	173.1	407.4	279.4	119.1	114.4	0.	129.9	389.6	384.8
10	125.3	176.1	397.8	274.8	125.3	121.5	0.	127.5	377.6	374.0
15	129.7	177.2	387.7	264.3	129.7	121.9	0.	128.6	365.4	363.1
30	137.1	179.6	356.1	233.4	137.1	122.4	0.	131.5	328.7	330.4
50	140.2	188.7	313.0	198.1	140.2	130.0	0.	136.8	279.8	286.4
70	138.6	192.5	270.1	160.5	138.6	127.1	0.	144.6	231.8	242.7
85	133.2	219.7	234.9	149.3	133.2	142.7	0.	167.0	193.6	210.8
90	128.3	224.0	221.7	143.8	128.3	141.2	0.	173.9	180.9	201.2
95	121.9	223.3	207.2	117.3	121.9	117.3	0.	190.0	167.5	191.3

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.354	0.481	1.212	0.776	0.957	0.328	1.4532	1.1730	0.652	0.669
10	0.373	0.491	1.185	0.766	0.967	0.349	1.4649	1.1650	0.699	0.714
15	0.387	0.495	1.156	0.738	0.939	0.367	1.4666	1.1613	0.717	0.731
30	0.410	0.505	1.064	0.656	0.893	0.415	1.4567	1.1499	0.757	0.770
50	0.419	0.535	0.936	0.562	0.928	0.469	1.4450	1.1351	0.821	0.830
70	0.414	0.550	0.807	0.459	0.916	0.518	1.4143	1.1212	0.859	0.866
85	0.397	0.634	0.701	0.431	1.100	0.500	1.4511	1.1218	0.922	0.926
90	0.382	0.647	0.661	0.416	1.160	0.436	1.4376	1.1207	0.906	0.910
95	0.363	0.644	0.617	0.338	1.045	0.336	1.3976	1.1245	0.806	0.815

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	9.8	8.0	3.9	7.1	0.420	0.279	0.043	0.236	0.038	0.032
10	9.9	8.2	3.5	7.8	0.416	0.241	0.037	0.204	0.035	0.030
15	10.1	8.5	3.9	7.9	0.429	0.231	0.032	0.199	0.036	0.031
30	11.7	9.7	4.8	9.1	0.466	0.209	0.023	0.186	0.036	0.032
50	13.6	10.9	4.8	14.5	0.500	0.170	0.012	0.158	0.033	0.031
70	14.4	10.9	11.1	21.3	0.544	0.155	0.	0.155	0.031	0.031
85	14.3	10.4	12.7	38.8	0.526	0.110	0.	0.110	0.023	0.023
90	14.6	10.6	14.9	43.9	0.510	0.146	0.	0.146	0.030	0.030
95	14.9	10.7	12.7	52.7	0.595	0.348	0.	0.348	0.068	0.068

INLET CORR WFLOW 79.38 PRESS RATIO 1.4463 TEMP RATIO 1.1433 ADIA EFF 0.776 INLET CORR RPM 8510.8

ATT FAN VEHICLE

(METRIC)

BP-OGV

80 PERCENT SPEED

RDG 47

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.6	0.7	0.088	0.094	46.4	0.		
15	41.605	41.554	0.1	1.5	0.133	0.139	43.8	0.		
30	39.192	39.218	1.6	3.0	0.271	0.280	42.6	0.		
50	35.763	35.852	2.8	4.0	0.461	0.470	41.6	0.		
70	32.487	32.639	3.2	4.1	0.630	0.636	41.3	0.		
85	30.124	30.302	3.4	3.6	0.742	0.746	41.7	0.		
90	29.312	29.489	3.5	3.2	0.778	0.782	41.9	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	179.6	132.0			123.8	132.0	129.9	0.		
15	185.4	137.0			133.9	137.0	128.2	0.		
30	192.3	140.9			141.7	140.9	130.1	0.		
50	197.9	141.0			148.0	141.0	131.4	0.		
70	201.7	143.2			151.7	143.2	132.9	0.		
85	201.8	140.0			150.9	140.0	134.1	0.		
90	202.8	138.8			151.1	138.8	135.3	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.500	0.364			1.060	0.394	1.4412	1.1693	0.650	0.668
15	0.518	0.379			1.016	0.402	1.4509	1.1639	0.684	0.701
30	0.541	0.391			0.993	0.428	1.4526	1.1567	0.718	0.733
50	0.560	0.393			0.949	0.438	1.4371	1.1444	0.756	0.768
70	0.575	0.402			0.943	0.450	1.4251	1.1328	0.802	0.812
85	0.578	0.394			0.928	0.460	1.4013	1.1242	0.815	0.823
90	0.581	0.391			0.919	0.457	1.3916	1.1220	0.812	0.820

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	2.8	-5.4	10.9	46.2	0.523	0.078	0.	0.078	0.027	0.027
15	1.6	-6.7	10.4	43.6	0.503	0.062	0.	0.062	0.022	0.022
30	2.5	-5.3	9.4	42.5	0.487	0.039	0.	0.039	0.013	0.013
50	2.6	-4.6	8.6	41.6	0.486	0.063	0.	0.063	0.019	0.019
70	1.7	-4.7	8.3	41.3	0.470	0.051	0.	0.051	0.014	0.014
85	0.7	-5.0	8.4	41.7	0.477	0.065	0.	0.065	0.017	0.017
90	0.3	-5.4	8.4	41.9	0.484	0.083	0.	0.083	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
67.93	1.4324	1.1466	0.738	8510.8

ATT FAN VEHICLE

(METRIC)

CORE-OGV

80 PERCENT SPEED

RDG 47

PCT IMH	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.6	-5.7	0.879	0.880	51.1	19.4		
30	24.689	24.460	-1.4	-4.7	0.903	0.906	48.6	18.7		
50	23.673	23.597	-0.4	-3.7	0.938	0.938	48.4	17.8		
70	22.682	22.784	0.9	-2.5	0.969	0.965	53.7	17.0		
85	21.971	22.174	2.6	-0.7	0.987	0.983	60.1	16.5		

PCT IMH	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	206.3	156.3			129.6	147.5	160.5	51.8		
30	214.8	156.0			142.0	147.9	161.1	49.9		
50	221.1	148.1			147.0	141.1	165.4	45.1		
70	219.1	136.6			129.7	130.6	176.5	39.9		
85	217.3	128.4			108.1	123.1	188.2	36.4		

PCT IMH	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.591	0.441			1.130	0.364	1.4276	1.1255	0.853	0.860
30	0.618	0.441			1.036	0.423	1.4327	1.1224	0.884	0.890
50	0.638	0.418			0.954	0.467	1.4096	1.1206	0.855	0.861
70	0.631	0.384			0.977	0.529	1.3765	1.1229	0.778	0.788
85	0.624	0.360			1.123	0.574	1.3549	1.1269	0.714	0.726

PCT IMH	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	1.7	-2.2	8.5	31.6	0.426	0.071	0.	0.071	0.023	0.023
30	1.1	-2.5	7.9	29.8	0.448	0.056	0.	0.056	0.018	0.018
50	1.9	-1.1	7.5	30.6	0.506	0.096	0.	0.096	0.029	0.029
70	6.6	4.2	7.8	36.2	0.575	0.101	0.	0.101	0.030	0.030
85	11.2	9.5	9.7	43.1	0.621	0.090	0.	0.090	0.026	0.026

INLET CORR W/FLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
11.46	1.4036	1.1237	0.823	8510.8

ATT FAN VEHICLE

(METRIC)

ROTOR

85 PERCENT SPEED

RDG 48

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	REL ANGLE IN	REL ANGLE OUT	
	IN	OUT			IN	OUT			IN	OUT
5	43.713	43.180	-5.5	-5.7	0.062	0.063	0.	48.8	72.1	66.1
10	42.367	41.961	-4.3	-4.5	0.126	0.126	0.	45.6	70.6	63.5
15	40.996	40.742	-2.8	-3.1	0.191	0.190	0.	45.5	69.2	62.0
30	36.881	37.059	1.6	1.1	0.383	0.378	0.	45.1	65.8	57.5
50	31.394	32.131	7.5	6.8	0.612	0.610	0.	45.8	62.2	49.2
70	26.010	27.229	12.5	12.9	0.796	0.800	0.	48.7	58.5	39.7
85	21.717	23.647	18.6	13.5	0.911	0.919	0.	49.0	55.7	18.8
90	20.295	22.581	20.6	14.8	0.943	0.953	0.	51.5	55.2	13.4
95	18.796	21.463	21.6	16.5	0.972	0.981	0.	59.1	54.7	4.1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	133.9	183.1	434.7	296.7	133.9	120.8	0.	137.6	413.6	408.5
10	141.4	187.8	425.0	294.1	141.4	131.5	0.	134.0	400.8	397.0
15	147.2	189.9	414.8	283.2	147.2	133.1	0.	135.4	387.8	385.4
30	156.8	193.3	382.5	253.4	156.8	136.3	0.	137.0	348.9	350.6
50	158.3	200.1	336.6	213.1	158.3	139.9	0.	143.1	297.0	304.0
70	154.3	200.6	290.5	172.7	154.3	134.2	0.	149.0	246.1	257.6
85	148.0	231.6	253.2	162.5	148.0	154.3	0.	172.8	205.5	223.7
90	142.5	232.6	239.1	151.5	142.5	147.7	0.	179.8	192.0	213.6
95	135.4	229.5	223.5	122.0	135.4	121.7	0.	194.6	177.8	203.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.400	0.505	1.298	0.818	0.901	0.341	1.5246	1.1943	0.659	0.679
10	0.423	0.521	1.271	0.816	0.929	0.365	1.5454	1.1838	0.721	0.737
15	0.441	0.528	1.243	0.787	0.905	0.387	1.5529	1.1803	0.743	0.759
30	0.471	0.541	1.149	0.710	0.870	0.442	1.5489	1.1658	0.803	0.815
50	0.476	0.566	1.011	0.602	0.885	0.492	1.5224	1.1502	0.849	0.858
70	0.463	0.572	0.872	0.492	0.870	0.536	1.4691	1.1328	0.875	0.881
85	0.443	0.667	0.759	0.468	1.071	0.522	1.5176	1.1339	0.945	0.948
90	0.426	0.671	0.715	0.437	1.102	0.461	1.4902	1.1325	0.911	0.916
95	0.404	0.660	0.667	0.351	0.982	0.370	1.4351	1.1355	0.803	0.813

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROP		
5	8.9	7.0	4.0	6.0	0.422	0.278	0.063	0.215	0.038	0.029
10	8.8	7.1	3.2	7.1	0.413	0.226	0.055	0.172	0.034	0.026
15	8.8	7.2	3.3	7.3	0.427	0.212	0.048	0.165	0.033	0.026
30	10.2	8.1	3.8	8.4	0.455	0.169	0.032	0.137	0.029	0.024
50	12.2	9.6	4.8	13.0	0.494	0.143	0.029	0.114	0.028	0.022
70	13.3	9.8	12.5	18.6	0.536	0.134	0.002	0.132	0.026	0.026
85	13.2	9.3	14.0	36.1	0.512	0.075	0.	0.075	0.015	0.015
90	13.5	9.4	17.0	40.6	0.511	0.133	0.	0.133	0.027	0.027
95	13.7	9.5	16.1	48.1	0.602	0.337	0.	0.337	0.066	0.066

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
87.41	1.5214	1.1592	0.800	9034.3

## ATT FAN VEHICLE

(METRIC)

BP-0GV

85 PERCENT SPEED

RDG 48

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT			IN	OUT				
10	42.418	42.316	-0.5	0.8	0.087	0.093	45.8	0.		
15	41.605	41.554	0.3	1.5	0.132	0.139	42.5	0.		
30	39.192	39.218	1.7	3.0	0.274	0.283	40.9	0.		
50	35.763	35.852	2.9	4.1	0.450	0.480	39.6	0.		
70	32.487	32.639	3.3	4.3	0.642	0.649	40.5	0.		
85	30.124	30.302	3.6	3.8	0.752	0.757	41.3	0.		
90	29.312	29.489	3.6	3.4	0.787	0.791	41.6	0.		

PCT IMM	ABS VEL		REL IN	VEL OUT	MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE IN	SPEED OUT
	IN	OUT								
10	191.6	141.9			133.7	141.9	136.9	0.		
15	199.2	148.4			146.8	148.4	134.5	0.		
30	209.1	156.5			158.1	156.5	136.7	0.		
50	214.6	156.3			165.5	156.3	136.6	0.		
70	213.6	153.7			162.5	153.7	138.7	0.		
85	210.4	145.8			158.1	145.8	138.8	0.		
90	210.3	142.5			157.4	142.5	139.5	0.		

PCT IMM	ABS MACH NO		REL IN	MACH NO OUT	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT							ADIA	POLY
10	0.531	0.388			1.053	0.396	1.5155	1.1894	0.666	0.685
15	0.555	0.408			1.001	0.396	1.5299	1.1825	0.708	0.725
30	0.586	0.432			0.987	0.409	1.5419	1.1748	0.753	0.768
50	0.607	0.435			0.943	0.412	1.5230	1.1594	0.801	0.813
70	0.607	0.429			0.947	0.439	1.4957	1.1470	0.829	0.839
85	0.600	0.409			0.924	0.458	1.4578	1.1364	0.833	0.842
90	0.601	0.399			0.907	0.458	1.4417	1.1335	0.825	0.834

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	2.1	-6.0	10.9	45.5	0.516	0.070	0.	0.070	0.025	0.025
15	0.3	-8.0	10.4	42.3	0.492	0.062	0.	0.062	0.021	0.021
30	0.8	-7.0	9.4	40.8	0.464	0.036	0.	0.036	0.012	0.012
50	0.5	-6.6	8.6	39.6	0.461	0.065	0.	0.065	0.019	0.019
70	0.9	-5.5	8.3	40.6	0.457	0.048	0.	0.048	0.013	0.013
85	0.4	-5.4	8.4	41.4	0.475	0.066	0.	0.066	0.017	0.017
90	0.0	-5.7	8.4	41.6	0.489	0.092	0.	0.092	0.023	0.023

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
75.27	1.5086	1.1630	0.765	9034.3

ATT FAN VEHICLE

(METRIC)

CORE=OGV 85 PERCENT SPEED RDG 48

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.6	-5.7	0.883	0.884	50.7	19.4		
30	24.689	24.460	-1.5	-4.7	0.907	0.910	47.4	18.7		
50	23.673	23.597	-0.4	-3.8	0.942	0.941	47.9	17.7		
70	22.682	22.784	0.9	-2.6	0.971	0.967	53.9	17.0		
85	21.971	22.174	2.6	-0.8	0.988	0.985	60.3	16.4		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	215.5	164.9			136.6	155.6	166.7	54.6		
30	226.8	167.3			153.6	158.5	166.8	53.4		
50	230.4	155.2			154.5	147.8	171.2	47.2		
70	225.0	140.0			132.8	133.9	181.7	40.8		
85	221.6	129.7			109.6	124.4	192.4	36.7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.616	0.464			1.131	0.351	1.4817	1.1384	0.859	0.867
30	0.652	0.472			1.027	0.403	1.4950	1.1345	0.905	0.910
50	0.664	0.437			0.951	0.461	1.4587	1.1325	0.860	0.867
70	0.646	0.392			0.975	0.537	1.4141	1.1344	0.775	0.785
85	0.635	0.362			1.118	0.590	1.3873	1.1378	0.712	0.725

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	1.3	-2.6	8.5	31.2	0.416	0.075	0.	0.075	0.024	0.024
30	-0.2	-3.7	7.9	28.6	0.431	0.062	0.	0.062	0.019	0.019
50	1.4	-1.6	7.5	30.1	0.501	0.099	0.	0.099	0.030	0.030
70	6.8	4.4	7.8	36.3	0.579	0.096	0.	0.096	0.029	0.029
85	11.4	9.7	9.7	43.3	0.629	0.082	0.	0.082	0.024	0.024

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
12.15	1.4528	1.1355	0.831	9034.3

ATT FAN VEHICLE

(METRIC)

ROTOR 95 PERCENT SPEED RDG 49

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.186	-6.3	-6.7	0.062	0.059	0.	48.4	69.9	66.7
10	42.367	41.961	-5.4	-5.9	0.126	0.120	0.	44.1	68.1	63.7
15	40.996	40.742	-3.9	-4.6	0.191	0.184	0.	42.7	66.3	61.8
30	36.881	37.059	1.1	0.4	0.383	0.376	0.	42.5	61.9	56.7
50	31.394	32.131	8.2	7.5	0.614	0.615	0.	44.6	57.9	46.8
70	26.010	27.229	13.8	12.8	0.797	0.806	0.	48.6	54.6	39.5
85	21.717	23.647	19.0	12.9	0.911	0.921	0.	46.6	52.0	20.0
90	20.295	22.581	20.8	14.4	0.942	0.953	0.	49.0	51.5	14.4
95	18.796	21.463	21.7	16.5	0.972	0.982	0.	56.0	51.0	2.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	170.0	200.2	492.6	335.0	170.0	133.4	0.	149.3	462.3	456.6
10	181.2	207.2	483.3	335.3	181.2	149.1	0.	143.6	448.0	443.7
15	190.7	210.4	473.7	327.4	190.7	154.9	0.	142.4	433.5	430.9
30	207.9	217.9	442.0	292.8	207.9	160.7	0.	147.1	390.0	391.9
50	210.8	233.8	393.3	243.0	210.8	167.2	0.	163.5	332.0	339.8
70	201.4	224.8	340.9	193.4	201.4	150.7	0.	166.8	275.1	288.0
85	189.8	259.2	297.9	191.6	189.8	180.6	0.	185.9	229.7	250.1
90	182.5	262.7	281.7	180.8	182.5	175.6	0.	195.6	214.6	238.8
95	173.3	268.9	263.7	155.1	173.3	154.8	0.	219.7	198.8	227.0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT ACC TT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
5	0.513	0.545	1.485	0.912	0.786	0.361	1.6637	1.2354	0.665	0.688
10	0.548	0.569	1.462	0.920	0.827	0.393	1.7060	1.2194	0.751	0.769
15	0.579	0.580	1.438	0.903	0.815	0.423	1.7279	1.2117	0.799	0.814
30	0.635	0.606	1.350	0.814	0.774	0.496	1.7548	1.1991	0.876	0.885
50	0.645	0.656	1.203	0.682	0.795	0.552	1.7470	1.1921	0.900	0.907
70	0.614	0.636	1.039	0.547	0.755	0.574	1.6088	1.1663	0.875	0.883
85	0.576	0.745	0.904	0.551	0.986	0.533	1.6482	1.1613	0.951	0.955
90	0.552	0.756	0.853	0.520	1.017	0.468	1.6088	1.1602	0.908	0.914
95	0.523	0.772	0.796	0.445	0.973	0.372	1.5720	1.1696	0.813	0.825

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6.7	4.8	4.6	3.3	0.421	0.278	0.117	0.162	0.037	0.021
10	6.3	4.6	3.4	4.6	0.405	0.202	0.105	0.097	0.030	0.014
15	5.9	4.3	3.1	4.6	0.411	0.164	0.094	0.070	0.026	0.011
30	6.3	4.2	3.1	5.4	0.448	0.106	0.066	0.039	0.019	0.007
50	7.9	5.3	2.4	11.0	0.505	0.095	0.042	0.053	0.019	0.011
70	9.3	5.9	12.3	14.6	0.554	0.130	0.031	0.099	0.025	0.019
85	9.5	5.6	15.2	31.2	0.495	0.061	0.007	0.053	0.013	0.011
90	9.8	5.7	18.0	35.5	0.493	0.125	0.	0.125	0.025	0.025
95	10.0	5.8	14.7	45.0	0.550	0.296	0.	0.296	0.058	0.058

INLET CORR WTFLOW 105.82 PRESS RATIO 1.6993 TEMP RATIO 1.1947 ADIA EFF 0.840 INLET CORR RPM 10098.7

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-OGV

95 PERCENT SPEED

RDG 49

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
10	42.418	42.316	-0.6	0.6	0.080	0.085	45.8	0.		
15	41.605	41.554	0.0	1.2	0.122	0.128	41.5	0.		
30	39.192	39.218	0.9	2.2	0.264	0.270	37.6	0.		
50	35.763	35.852	1.8	3.0	0.467	0.472	37.2	0.		
70	32.487	32.639	2.9	3.9	0.646	0.652	38.6	0.		
85	30.124	30.302	3.6	3.9	0.757	0.762	40.4	0.		
90	29.312	29.489	3.7	3.6	0.791	0.796	41.3	0.		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE SPEED	
	IN	OUT	IN	OUT					IN	OUT
10	208.0	151.7			145.1	151.7	148.5	0.		
15	218.7	162.4			163.8	162.4	144.4	0.		
30	235.6	179.2			186.6	179.2	143.8	0.		
50	250.8	186.7			199.9	186.7	151.5	0.		
70	254.5	188.1			199.0	188.1	158.6	0.		
85	242.9	167.7			185.3	167.7	157.0	0.		
90	237.7	157.2			178.7	157.2	156.7	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.569	0.409			1.035	0.407	1.6535	1.2294	0.674	0.696
15	0.603	0.441			0.981	0.396	1.6819	1.2189	0.731	0.750
30	0.657	0.491			0.958	0.390	1.7247	1.2058	0.819	0.832
50	0.706	0.514			0.932	0.390	1.7304	1.1979	0.857	0.868
70	0.721	0.521			0.947	0.416	1.7086	1.1880	0.880	0.888
85	0.690	0.465			0.909	0.460	1.6206	1.1724	0.858	0.867
90	0.675	0.436			0.885	0.475	1.5777	1.1675	0.831	0.841

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	2.1	-6.0	10.9	45.5	0.528	0.078	0.	0.078	0.028	0.028
15	-0.7	-9.0	10.4	41.2	0.491	0.068	0.	0.068	0.024	0.024
30	-2.4	-10.3	9.4	37.6	0.439	0.039	0.	0.039	0.013	0.013
50	-1.8	-9.0	8.6	37.2	0.436	0.067	0.	0.067	0.020	0.020
70	-1.0	-7.4	8.3	38.6	0.429	0.043	0.	0.043	0.012	0.012
85	-0.6	-6.3	8.4	40.4	0.473	0.067	0.	0.067	0.017	0.017
90	-0.3	-6.0	8.4	41.4	0.502	0.093	0.	0.093	0.024	0.024

INLET CORR W/FLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
91.11	1.6873	1.1994	0.809	10098.7



ATT FAN VEHICLE

(METRIC)

CORE=OGV

95 PERCENT SPEED

RDG 49

PCT	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.8	0.883	0.884	48.4	19.4		
30	24.689	24.460	-1.6	-4.9	0.907	0.909	44.3	18.7		
50	23.673	23.597	-0.6	-3.9	0.941	0.940	44.9	17.8		
70	22.682	22.784	0.5	-2.8	0.971	0.967	49.8	17.0		
85	21.971	22.174	2.2	-1.0	0.988	0.984	57.0	16.5		

PCT	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	242.6	191.7			161.2	180.9	181.3	63.5		
30	258.1	196.9			184.7	186.5	180.3	62.9		
50	261.3	181.7			185.1	173.0	184.7	55.3		
70	264.0	172.0			170.3	164.5	202.2	50.2		
85	261.5	164.4			142.6	157.7	218.0	46.6		

PCT	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.690	0.536			1.114	0.321	1.5964	1.1682	0.850	0.860
30	0.741	0.553			1.006	0.375	1.6268	1.1624	0.918	0.924
50	0.752	0.508			0.929	0.442	1.5717	1.1597	0.864	0.872
70	0.758	0.479			0.938	0.489	1.5315	1.1665	0.778	0.791
85	0.747	0.455			1.093	0.536	1.5004	1.1743	0.705	0.722

PCT	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-1.0	-4.9	8.5	28.9	0.380	0.068	0.	0.068	0.022	0.022
30	-3.3	-6.8	7.9	25.5	0.389	0.051	0.	0.051	0.016	0.016
50	-1.5	-4.6	7.5	27.1	0.466	0.090	0.	0.090	0.027	0.027
70	2.7	0.3	7.8	32.2	0.527	0.105	0.	0.105	0.031	0.031
85	8.0	6.4	9.7	39.7	0.574	0.092	0.	0.092	0.026	0.026

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14.71	1.5687	1.1658	0.828	10098.7

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 50

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.0	-6.4	0.062	0.061	0.	33.8	68.3	65.8
10	42.367	41.961	-5.1	-5.5	0.126	0.121	0.	31.3	66.4	63.5
15	40.996	40.742	-3.7	-4.4	0.191	0.184	0.	31.5	64.7	61.8
30	36.881	37.059	0.3	-0.4	0.379	0.369	0.	34.2	60.2	56.9
50	31.394	32.131	6.3	5.8	0.607	0.600	0.	36.6	55.3	47.8
70	26.010	27.229	11.8	12.4	0.792	0.794	0.	40.1	51.2	39.0
85	21.717	23.647	17.3	12.6	0.908	0.911	0.	45.1	48.4	20.2
90	20.295	22.581	19.0	13.7	0.940	0.943	0.	44.6	47.7	15.2
95	18.796	21.463	20.3	15.8	0.971	0.975	0.	47.1	47.0	6.4

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	185.1	190.7	498.3	385.7	185.1	158.9	0.	105.5	462.7	457.0
10	196.4	199.7	489.5	381.4	196.4	170.9	0.	103.2	448.4	444.1
15	205.8	204.5	480.2	368.6	205.8	174.5	0.	106.6	433.9	431.2
30	223.7	214.2	449.9	324.4	223.7	177.1	0.	120.4	390.3	392.2
50	231.3	230.6	404.9	275.1	231.3	185.6	0.	136.9	332.3	340.1
70	225.8	231.2	356.0	227.8	225.8	178.6	0.	146.8	275.3	288.2
85	213.7	261.6	313.9	198.5	213.7	186.9	0.	183.0	229.8	250.3
90	206.7	270.9	298.1	202.4	206.7	195.8	0.	187.3	214.8	239.0
95	198.0	285.8	280.6	199.7	198.0	198.4	0.	205.7	198.9	227.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.561	0.533	1.510	1.079	0.859	0.272	1.4304	1.1665	0.647	0.664
10	0.597	0.562	1.489	1.074	0.872	0.305	1.4820	1.1582	0.752	0.765
15	0.628	0.577	1.466	1.039	0.850	0.336	1.5126	1.1589	0.790	0.802
30	0.688	0.604	1.383	0.916	0.793	0.413	1.5608	1.1632	0.831	0.841
50	0.714	0.656	1.249	0.782	0.803	0.482	1.5913	1.1607	0.883	0.891
70	0.695	0.662	1.096	0.652	0.790	0.526	1.5400	1.1462	0.898	0.904
85	0.654	0.754	0.961	0.572	0.896	0.501	1.5844	1.1586	0.886	0.893
90	0.631	0.785	0.910	0.587	0.973	0.449	1.5791	1.1547	0.901	0.907
95	0.602	0.831	0.854	0.581	1.034	0.365	1.5914	1.1606	0.884	0.891

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	5.1	3.2	3.8	2.5	0.296	0.221	0.114	0.107	0.030	0.015
10	4.6	2.9	3.2	3.1	0.292	0.153	0.103	0.050	0.023	0.008
15	4.3	2.7	3.1	3.0	0.309	0.134	0.092	0.041	0.021	0.007
30	4.5	2.5	3.3	3.5	0.370	0.118	0.066	0.052	0.021	0.009
50	5.4	2.7	3.4	7.8	0.424	0.092	0.042	0.050	0.018	0.010
70	6.0	2.5	11.8	12.1	0.465	0.088	0.026	0.062	0.017	0.012
85	5.9	2.0	15.4	28.0	0.499	0.127	0.014	0.114	0.026	0.023
90	6.0	1.9	18.8	32.1	0.458	0.116	0.002	0.114	0.023	0.023
95	6.0	1.8	18.4	39.8	0.436	0.157	0.	0.157	0.030	0.030

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR PPM
112.42	1.5467	1.1597	0.831	10106.7

ATT FAN VEHICLE

(METRIC)

BP-DGV 95 PERCENT SPEED RDG 50

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.9	-0.2	0.082	0.085	32.0	0.		
15	41.605	41.554	-0.5	0.1	0.125	0.127	29.5	0.		
30	39.192	39.218	-0.7	0.0	0.260	0.257	28.9	0.		
50	35.763	35.852	-0.0	0.3	0.452	0.447	29.4	0.		
70	32.487	32.639	1.0	0.9	0.627	0.623	30.2	0.		
85	30.124	30.302	2.0	1.4	0.741	0.739	31.0	0.		
90	29.312	29.489	2.5	1.7	0.778	0.777	31.4	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	199.3	181.9			169.1	181.9	105.1	0.		
15	211.8	186.7			184.4	186.7	103.9	0.		
30	233.3	205.7			204.3	205.7	112.6	0.		
50	254.8	222.1			221.9	222.1	125.2	0.		
70	266.9	229.3			230.7	229.3	134.2	0.		
85	265.4	228.2			227.6	228.2	136.6	0.		
90	264.3	229.5			225.7	229.5	137.5	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.560	0.508			1.075	0.036	1.4064	1.1629	0.628	0.646
15	0.599	0.524			1.012	0.050	1.4195	1.1580	0.666	0.682
30	0.664	0.579			1.008	0.081	1.4713	1.1613	0.723	0.738
50	0.730	0.629			1.003	0.135	1.5198	1.1637	0.776	0.789
70	0.770	0.652			0.993	0.159	1.5232	1.1595	0.801	0.812
85	0.769	0.651			1.003	0.148	1.4881	1.1506	0.799	0.810
90	0.766	0.656			1.018	0.136	1.4782	1.1475	0.801	0.812

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-11.7	-19.8	10.9	31.9	0.275	0.150	0.	0.150	0.053	0.053
15	-12.8	-21.0	10.4	29.4	0.289	0.197	0.	0.197	0.068	0.068
30	-11.2	-19.0	9.4	28.9	0.274	0.162	0.	0.162	0.052	0.052
50	-9.6	-16.8	8.6	29.4	0.273	0.122	0.	0.122	0.036	0.036
70	-9.4	-15.8	8.3	30.2	0.279	0.126	0.	0.126	0.034	0.034
85	-10.0	-15.7	8.4	31.0	0.273	0.137	0.	0.137	0.036	0.036
90	-10.2	-15.0	8.4	31.4	0.263	0.134	0.	0.134	0.034	0.034

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
96.02	1.4814	1.1597	0.744	10106.7

C-2

ATT FAN VEHICLE

(METRIC)

CORE-OGV 95 PERCENT SPEED RDG 50

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.8	-5.9	0.876	0.877	44.6	19.5		
30	24.689	24.460	-1.7	-4.7	0.899	0.901	42.9	18.8		
50	23.673	23.597	0.1	-3.0	0.932	0.932	42.2	17.9		
70	22.682	22.784	2.2	-1.2	0.962	0.960	43.3	17.1		
85	21.971	22.174	3.8	0.4	0.983	0.981	46.9	16.5		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
15	246.0	210.6			175.3	198.7	172.5	69.9		
30	261.2	211.8			191.4	200.5	177.7	68.1		
50	266.9	208.2			197.9	198.2	179.1	63.9		
70	277.3	214.0			202.0	204.6	190.1	63.0		
85	280.5	215.8			191.8	206.8	204.5	61.4		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.703	0.595			1.127	0.214	1.5564	1.1602	0.841	0.850
30	0.752	0.598			1.046	0.303	1.5776	1.1603	0.868	0.876
50	0.772	0.589			1.000	0.373	1.5643	1.1551	0.879	0.887
70	0.805	0.606			1.013	0.371	1.5676	1.1574	0.871	0.879
85	0.813	0.609			1.076	0.350	1.5463	1.1640	0.809	0.820

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-4.9	-8.7	8.5	25.1	0.289	0.063	0.	0.063	0.021	0.021
30	-4.7	-8.2	8.0	24.0	0.328	0.045	0.	0.045	0.014	0.014
50	-4.3	-7.3	7.6	24.3	0.359	0.022	0.	0.022	0.007	0.007
70	-3.8	-6.2	7.9	26.1	0.368	0.038	0.	0.038	0.011	0.011
85	-2.1	-3.7	9.8	30.2	0.384	0.074	0.	0.074	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16.39	1.5572	1.1593	0.847	10106.7

ATT FAN VEHICLE

(METRIC)

ROTOR 95 PERCENT SPEED RDG 51

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
5	43.713	43.180	-6.1	-6.5	0.062	0.060	0.	38.9	68.3	66.1
10	42.367	41.961	-5.1	-5.7	0.126	0.122	0.	35.6	66.5	63.8
15	40.996	40.742	-3.8	-4.5	0.191	0.185	0.	35.3	64.7	62.4
30	36.881	37.059	0.6	-0.1	0.382	0.373	0.	37.1	60.1	56.8
50	31.394	32.131	7.5	6.8	0.611	0.609	0.	39.5	55.5	47.5
70	26.010	27.229	13.0	12.9	0.795	0.802	0.	43.3	51.9	39.1
85	21.717	23.647	18.1	12.8	0.909	0.915	0.	45.1	49.2	21.6
90	20.295	22.581	19.7	14.0	0.941	0.947	0.	45.8	48.6	16.5
95	18.796	21.463	20.8	16.0	0.971	0.977	0.	50.2	47.9	5.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	184.7	192.1	498.0	368.7	184.7	150.0	0.	120.1	462.5	456.9
10	196.1	199.6	489.3	366.3	196.1	162.5	0.	115.7	448.3	444.0
15	205.7	202.1	480.1	355.3	205.7	165.2	0.	116.4	433.8	431.1
30	224.8	215.1	450.4	313.4	224.8	171.4	0.	129.9	390.2	392.1
50	230.5	230.9	404.3	263.6	230.5	178.8	0.	146.1	332.2	340.0
70	221.2	228.7	353.1	214.7	221.2	168.4	0.	154.8	275.2	288.1
85	208.4	256.6	310.2	196.5	208.4	183.4	0.	179.5	229.8	250.2
90	201.1	263.0	294.2	193.7	201.1	186.3	0.	185.6	214.7	238.9
95	192.2	276.7	276.5	182.2	192.2	181.2	0.	209.1	198.9	227.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
5	0.560	0.532	1.509	1.021	0.813	0.323	1.5367	1.1894	0.690	0.708
10	0.596	0.557	1.488	1.022	0.831	0.357	1.5831	1.1772	0.791	0.804
15	0.628	0.565	1.465	0.994	0.805	0.388	1.6052	1.1734	0.835	0.846
30	0.692	0.604	1.385	0.880	0.764	0.470	1.6651	1.1760	0.891	0.899
50	0.711	0.653	1.247	0.746	0.776	0.535	1.6756	1.1716	0.926	0.931
70	0.679	0.652	1.084	0.612	0.764	0.564	1.5840	1.1545	0.909	0.915
85	0.637	0.739	0.948	0.566	0.907	0.534	1.6067	1.1558	0.931	0.936
90	0.613	0.760	0.896	0.560	0.959	0.482	1.5815	1.1529	0.915	0.920
95	0.584	0.801	0.840	0.527	0.984	0.399	1.5819	1.1623	0.863	0.871

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	5.1	3.2	4.1	2.3	0.340	0.217	0.114	0.103	0.029	0.014
10	4.6	3.0	3.5	2.8	0.331	0.142	0.103	0.040	0.021	0.006
15	4.3	2.7	3.7	2.4	0.343	0.114	0.092	0.022	0.018	0.003
30	4.4	2.4	3.2	3.5	0.402	0.082	0.066	0.016	0.015	0.003
50	5.5	2.9	3.1	8.0	0.456	0.062	0.041	0.021	0.012	0.004
70	6.7	3.2	11.9	12.6	0.501	0.084	0.027	0.058	0.017	0.011
85	6.7	2.8	16.8	27.3	0.495	0.078	0.015	0.063	0.016	0.013
90	6.9	2.8	20.1	31.3	0.475	0.102	0.003	0.100	0.020	0.020
95	6.9	2.7	17.9	40.4	0.486	0.192	0.	0.192	0.037	0.037

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
111.70	1.6219	1.1710	0.867	10104.0

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-0GV

95 PERCENT SPEED

RDG 51

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.4	-0.4	0.080	0.082	37.3	0.		
15	41.605	41.554	-1.1	-0.1	0.123	0.123	33.9	0.		
30	39.192	39.218	-0.8	0.2	0.259	0.256	31.8	0.		
50	35.763	35.852	0.1	0.8	0.457	0.453	31.9	0.		
70	32.487	32.639	1.5	1.8	0.637	0.635	33.1	0.		
85	30.124	30.302	2.6	2.3	0.750	0.751	34.5	0.		
90	29.312	29.489	2.9	2.4	0.786	0.788	35.1	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	197.8	161.6			157.3	161.6	119.4	0.		
15	209.5	171.1			173.9	171.1	116.7	0.		
30	229.5	188.5			195.1	188.5	121.0	0.		
50	256.0	208.2			217.3	208.2	135.4	0.		
70	262.0	210.2			219.5	210.2	143.0	0.		
85	255.6	199.4			210.7	199.4	144.8	0.		
90	253.1	195.1			207.1	195.1	145.4	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.550	0.445			1.027	0.262	1.5284	1.1851	0.696	0.714
15	0.587	0.474			0.985	0.263	1.5555	1.1774	0.758	0.773
30	0.648	0.525			0.968	0.283	1.6061	1.1732	0.837	0.847
50	0.729	0.583			0.959	0.303	1.6656	1.1770	0.887	0.895
70	0.751	0.591			0.957	0.330	1.6488	1.1698	0.904	0.911
85	0.734	0.561			0.947	0.336	1.5782	1.1594	0.873	0.881
90	0.727	0.549			0.943	0.331	1.5494	1.1557	0.856	0.865

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
10	-6.3	-14.5	10.9	37.2	0.398	0.082	0.	0.082	0.029	0.029	
15	-8.3	-16.6	10.4	33.9	0.377	0.081	0.	0.081	0.028	0.028	
30	-8.2	-16.1	9.4	31.8	0.348	0.046	0.	0.046	0.015	0.015	
50	-7.1	-14.3	8.6	31.9	0.343	0.040	0.	0.040	0.012	0.012	
70	-6.5	-12.9	8.3	33.1	0.347	0.033	0.	0.033	0.009	0.009	
85	-6.4	-12.2	8.4	34.5	0.366	0.066	0.	0.066	0.017	0.017	
90	-6.5	-12.2	8.4	35.1	0.374	0.087	0.	0.087	0.022	0.022	

INLET CORR  
WTFLOW  
95.94

PRESS  
RATIO  
1.6042

TEMP  
RATIO  
1.1729

ADIA  
EFF  
0.836

INLET CORR  
RPM  
10104.0

ATT FAN VEHICLE

(METRIC)

CORE-OGV 95 PERCENT SPEED RDG 51

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.7	0.880	0.881	46.4	19.5		
30	24.689	24.460	-1.5	-4.6	0.903	0.905	42.8	18.8		
50	23.673	23.597	-0.1	-3.3	0.936	0.936	42.7	17.9		
70	22.682	22.784	1.7	-1.7	0.966	0.963	45.5	17.1		
85	21.971	22.174	3.3	-0.1	0.985	0.982	50.5	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	240.4	201.1			165.9	189.7	174.0	66.7		
30	257.3	205.5			188.8	194.6	174.8	66.0		
50	260.2	196.6			191.5	187.2	176.4	60.2		
70	268.5	196.7			188.2	188.0	191.6	57.7		
85	271.0	196.8			172.6	188.6	208.5	55.9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.685	0.566			1.136	0.254	1.5665	1.1615	0.847	0.857
30	0.740	0.580			1.029	0.322	1.5970	1.1575	0.909	0.914
50	0.751	0.555			0.976	0.392	1.5626	1.1527	0.891	0.898
70	0.776	0.553			0.994	0.405	1.5479	1.1582	0.841	0.850
85	0.781	0.551			1.085	0.403	1.5275	1.1670	0.771	0.784

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-3.0	-6.9	8.5	26.9	0.319	0.057	0.	0.057	0.018	0.018
30	-4.8	-8.3	8.0	24.0	0.341	0.045	0.	0.045	0.014	0.014
50	-3.8	-6.8	7.6	24.8	0.388	0.044	0.	0.044	0.013	0.013
70	-1.6	-4.0	7.9	28.2	0.419	0.067	0.	0.067	0.020	0.020
85	1.5	-0.1	9.8	33.6	0.444	0.088	0.	0.088	0.025	0.025

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.76	1.5576	1.1593	0.847	10104.0

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 52

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.2	-6.6	0.062	0.060	0.	44.7	68.8	66.2
10	42.367	41.961	-5.2	-5.8	0.126	0.121	0.	40.0	66.9	63.6
15	40.996	40.742	-3.8	-4.5	0.192	0.185	0.	39.2	65.1	61.9
30	36.881	37.059	1.1	0.4	0.383	0.376	0.	40.2	60.7	56.6
50	31.394	32.131	7.8	7.1	0.612	0.611	0.	42.7	56.4	47.4
70	26.010	27.229	13.3	12.1	0.796	0.803	0.	45.5	52.8	39.4
85	21.717	23.647	18.6	12.0	0.910	0.917	0.	45.1	50.2	21.0
90	20.295	22.581	20.3	13.8	0.942	0.950	0.	46.2	49.7	15.2
95	18.796	21.463	21.4	16.0	0.972	0.980	0.	52.3	49.1	3.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	180.1	197.7	496.4	348.1	180.1	141.0	0.	138.6	462.5	456.9
10	191.8	204.2	487.6	350.5	191.8	156.8	0.	130.5	448.3	444.0
15	201.6	207.6	478.4	340.5	201.6	161.0	0.	131.0	433.8	431.1
30	218.9	217.6	447.4	301.6	218.9	166.3	0.	140.4	390.2	392.1
50	222.7	231.2	399.9	250.7	222.7	170.5	0.	156.2	332.2	340.0
70	214.7	225.9	349.0	205.4	214.7	160.0	0.	159.4	275.2	288.1
85	201.7	258.5	305.8	197.1	201.7	184.6	0.	181.0	229.8	250.2
90	194.2	266.3	289.5	193.7	194.2	187.2	0.	189.5	214.7	238.9
95	184.7	276.8	271.4	174.0	184.7	173.6	0.	215.5	198.9	227.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.545	0.542	1.501	0.953	0.785	0.355	1.6267	1.2184	0.683	0.704
10	0.582	0.565	1.481	0.970	0.821	0.389	1.6711	1.1996	0.792	0.806
15	0.614	0.576	1.458	0.945	0.801	0.420	1.6956	1.1951	0.835	0.847
30	0.672	0.607	1.373	0.842	0.760	0.496	1.7345	1.1902	0.896	0.903
50	0.684	0.650	1.229	0.705	0.767	0.556	1.7216	1.1835	0.915	0.921
70	0.658	0.642	1.069	0.583	0.751	0.588	1.6073	1.1587	0.915	0.920
85	0.615	0.744	0.932	0.568	0.948	0.544	1.6355	1.1571	0.961	0.963
90	0.590	0.770	0.880	0.560	1.008	0.483	1.6130	1.1556	0.941	0.944
95	0.560	0.799	0.822	0.502	1.009	0.387	1.5962	1.1664	0.859	0.868

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.6	3.7	4.2	2.7	0.391	0.248	0.115	0.133	0.033	0.018
10	5.1	3.4	3.3	3.6	0.370	0.157	0.104	0.053	0.023	0.008
15	4.7	3.1	3.2	3.4	0.382	0.126	0.093	0.034	0.020	0.005
30	5.1	3.0	2.9	4.3	0.430	0.084	0.066	0.018	0.015	0.003
50	6.5	3.8	3.0	9.0	0.489	0.076	0.041	0.034	0.015	0.007
70	7.5	4.1	12.2	12.9	0.525	0.082	0.028	0.054	0.016	0.011
85	7.8	3.8	16.2	28.8	0.488	0.046	0.018	0.028	0.009	0.006
90	8.0	3.9	18.8	33.2	0.466	0.075	0.002	0.073	0.015	0.015
95	8.1	3.9	15.9	42.6	0.495	0.210	0.	0.210	0.041	0.041

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
109.72	1.6786	1.1846	0.864	10103.7



ATT FAN VEHICLE

(METRIC)

BP=OGV

95 PERCENT SPEED

RDG 52

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCY		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42.418	42.316	-0.9	0.2	0.080	0.083	42.3	0.		
15	41.605	41.554	-0.5	0.6	0.122	0.126	37.8	0.		
30	39.192	39.218	-0.0	1.2	0.263	0.264	35.2	0.		
50	35.763	35.852	1.1	2.0	0.463	0.465	35.2	0.		
70	32.487	32.639	2.5	3.2	0.640	0.643	36.4	0.		
85	30.124	30.302	3.3	3.3	0.752	0.755	37.4	0.		
90	29.312	29.489	3.4	3.1	0.786	0.790	38.2	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	204.2	155.6			151.0	155.6	136.7	0.		
15	215.0	165.6			169.8	165.6	131.5	0.		
30	234.6	184.7			191.8	184.7	135.1	0.		
50	252.8	195.5			206.6	195.5	145.6	0.		
70	255.4	194.6			205.8	194.6	151.3	0.		
85	246.1	179.3			195.6	179.3	149.3	0.		
90	242.2	172.1			190.5	172.1	149.5	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.562	0.423			1.025	0.355	1.6169	1.2115	0.696	0.716
15	0.597	0.454			0.971	0.348	1.6450	1.1996	0.766	0.781
30	0.658	0.509			0.962	0.350	1.6982	1.1936	0.844	0.855
50	0.715	0.542			0.946	0.366	1.7217	1.1903	0.882	0.891
70	0.727	0.542			0.947	0.390	1.6917	1.1796	0.902	0.909
85	0.703	0.500			0.918	0.409	1.6120	1.1641	0.890	0.898
90	0.692	0.480			0.907	0.413	1.5763	1.1600	0.868	0.876

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-1.4	-9.5	10.9	42.1	0.478	0.079	0.	0.079	0.028	0.028
15	-4.4	-12.7	10.4	37.7	0.444	0.073	0.	0.073	0.025	0.025
30	-4.9	-12.7	9.4	35.2	0.400	0.036	0.	0.036	0.012	0.012
50	-3.8	-11.0	8.6	35.2	0.398	0.043	0.	0.043	0.013	0.013
70	-3.3	-9.6	8.3	36.4	0.399	0.034	0.	0.034	0.009	0.009
85	-3.6	-9.3	8.4	37.4	0.426	0.067	0.	0.067	0.017	0.017
90	-3.4	-9.1	8.4	38.2	0.444	0.091	0.	0.091	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
94.01	1.6677	1.1884	0.835	10103.7

ATT FAN VEHICLE

(METRIC)

CORE=OGV 95 PERCENT SPEED RDG 52

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.8	0.879	0.880	46.8	19.5		
30	24.689	24.460	-1.6	-4.8	0.903	0.905	42.4	18.8		
50	23.673	23.597	-0.5	-3.7	0.937	0.936	42.2	17.8		
70	22.682	22.784	0.9	-2.4	0.968	0.964	45.8	17.0		
85	21.971	22.174	2.5	-0.8	0.987	0.983	52.8	16.5		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
15	243.9	201.6			167.0	190.2	177.7	66.9		
30	261.7	207.6			193.2	196.6	176.5	66.5		
50	266.3	197.3			197.4	187.8	179.0	60.2		
70	273.7	194.7			190.7	186.2	197.0	57.0		
85	270.6	188.6			163.9	180.9	213.9	53.5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.695	0.566			1.131	0.270	1.5867	1.1649	0.855	0.864
30	0.754	0.586			1.015	0.331	1.6237	1.1591	0.934	0.938
50	0.770	0.556			0.949	0.396	1.5826	1.1549	0.904	0.910
70	0.791	0.547			0.959	0.421	1.5600	1.1622	0.835	0.845
85	0.778	0.526			1.089	0.456	1.5234	1.1711	0.747	0.761

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-2.6	-6.5	8.5	27.3	0.332	0.058	0.	0.058	0.019	0.019
30	-5.1	-8.7	8.0	23.6	0.346	0.046	0.	0.046	0.015	0.015
50	-4.2	-7.3	7.6	24.4	0.403	0.067	0.	0.067	0.020	0.020
70	-1.3	-3.7	7.8	28.3	0.444	0.086	0.	0.086	0.025	0.025
85	3.8	2.2	9.7	35.5	0.489	0.084	0.	0.084	0.024	0.024

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.71	1.5733	1.1621	0.853	10103.7

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 53

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.0	-6.4	0.062	0.061	0.	40.8	68.4	65.8
10	42.367	41.961	-5.0	-5.5	0.126	0.122	0.	37.6	66.6	63.6
15	40.996	40.742	-3.7	-4.3	0.192	0.185	0.	37.2	64.8	62.0
30	36.881	37.059	0.9	0.2	0.382	0.374	0.	39.0	60.3	55.9
50	31.394	32.131	7.5	6.9	0.611	0.609	0.	41.0	55.7	46.7
70	26.010	27.229	13.2	13.4	0.794	0.803	0.	44.1	52.2	39.2
85	21.717	23.647	17.8	13.1	0.909	0.915	0.	46.1	49.4	21.1
90	20.295	22.581	19.5	14.1	0.941	0.946	0.	46.5	48.7	15.9
95	18.796	21.463	20.6	16.0	0.971	0.976	0.	50.4	48.0	5.2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	184.0	196.4	497.9	361.3	184.0	149.1	0.	127.9	462.7	457.1
10	195.2	202.1	489.1	359.2	195.2	160.4	0.	122.8	448.4	444.1
15	204.8	205.6	479.9	348.1	204.8	163.9	0.	124.0	433.9	431.2
30	223.0	220.4	449.6	306.2	223.0	171.4	0.	130.6	390.4	392.3
50	228.4	234.9	403.2	257.6	228.4	177.7	0.	153.5	332.3	340.1
70	219.2	228.3	351.9	211.8	219.2	166.1	0.	156.7	275.3	288.2
85	206.9	256.4	309.3	192.6	206.9	180.3	0.	182.4	229.9	250.3
90	200.1	263.4	293.6	191.0	200.1	184.2	0.	188.3	214.8	239.0
95	191.6	278.5	276.2	182.3	191.6	181.4	0.	211.2	199.0	227.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.557	0.542	1.508	0.996	0.811	0.333	1.5730	1.2018	0.685	0.704
10	0.594	0.562	1.487	0.998	0.824	0.367	1.6131	1.1882	0.778	0.792
15	0.625	0.573	1.464	0.970	0.802	0.398	1.6384	1.1848	0.820	0.832
30	0.685	0.617	1.382	0.856	0.770	0.476	1.7000	1.1880	0.871	0.880
50	0.704	0.662	1.242	0.727	0.779	0.538	1.6985	1.1806	0.905	0.912
70	0.673	0.650	1.080	0.603	0.763	0.566	1.5912	1.1560	0.910	0.915
85	0.632	0.737	0.944	0.554	0.895	0.545	1.6164	1.1584	0.928	0.933
90	0.609	0.761	0.894	0.551	0.950	0.498	1.5963	1.1553	0.921	0.926
95	0.582	0.806	0.839	0.527	0.983	0.421	1.6053	1.1642	0.882	0.889

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.2	3.3	3.7	2.7	0.360	0.231	0.114	0.118	0.032	0.016
10	4.7	3.1	3.3	3.1	0.350	0.159	0.103	0.056	0.024	0.008
15	4.4	2.8	3.3	2.9	0.363	0.131	0.093	0.038	0.021	0.006
30	4.6	2.6	2.3	4.6	0.422	0.103	0.066	0.037	0.019	0.007
50	5.8	3.1	2.3	9.1	0.474	0.081	0.041	0.039	0.016	0.008
70	7.0	3.5	12.0	12.7	0.506	0.086	0.027	0.059	0.017	0.012
85	6.9	3.0	16.3	27.9	0.510	0.083	0.016	0.067	0.017	0.014
90	7.0	2.9	19.5	32.1	0.487	0.097	0.003	0.094	0.019	0.019
95	7.0	2.8	17.2	41.3	0.490	0.168	0.	0.168	0.033	0.033

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
111.27	1.6474	1.1796	0.853	10107.7

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP=OGV

95 PERCENT SPEED

RDG 53

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42.418	42.316	-1.4	-0.3	0.081	0.083	39.1	0.		
15	41.605	41.554	-1.0	-0.0	0.124	0.124	35.7	0.		
30	39.192	39.218	-0.7	0.4	0.262	0.259	33.4	0.		
50	35.763	35.852	0.5	1.2	0.460	0.458	34.1	0.		
70	32.487	32.639	2.1	2.5	0.639	0.640	33.9	0.		
85	30.124	30.302	3.0	2.8	0.753	0.755	34.5	0.		
90	29.312	29.489	3.1	2.7	0.788	0.791	35.6	0.		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
10	202.1	160.2			156.9	160.2	127.0	0.		
15	212.8	169.1			172.9	169.1	123.7	0.		
30	234.9	188.5			196.2	188.5	129.3	0.		
50	260.8	206.0			215.9	206.0	146.3	0.		
70	263.7	206.0			218.8	206.0	147.1	0.		
85	254.1	192.7			209.6	192.7	143.5	0.		
90	250.8	187.4			204.0	187.4	145.8	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.560	0.439			1.020	0.302	1.5617	1.1968	0.690	0.709
15	0.594	0.466			0.978	0.304	1.5876	1.1882	0.750	0.766
30	0.661	0.523			0.963	0.319	1.6447	1.1852	0.825	0.837
50	0.740	0.573			0.955	0.341	1.6956	1.1912	0.852	0.862
70	0.754	0.577			0.942	0.363	1.6691	1.1750	0.901	0.908
85	0.730	0.541			0.920	0.369	1.5897	1.1578	0.897	0.904
90	0.720	0.526			0.921	0.367	1.5572	1.1562	0.864	0.872

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-4.6	-12.7	10.9	39.0	0.432	0.081	0.	0.081	0.029	0.029
15	-6.6	-14.8	10.4	35.6	0.407	0.074	0.	0.074	0.025	0.025
30	-6.7	-14.5	9.4	33.4	0.375	0.041	0.	0.041	0.013	0.013
50	-4.9	-12.1	8.6	34.1	0.376	0.041	0.	0.041	0.012	0.012
70	-5.7	-12.1	8.3	33.9	0.371	0.031	0.	0.031	0.009	0.009
85	-6.5	-12.2	8.4	34.5	0.387	0.065	0.	0.065	0.017	0.017
90	-6.0	-11.7	8.4	35.7	0.399	0.086	0.	0.086	0.022	0.022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
95.78	1.6313	1.1824	0.823	10107.7

ATT FAN VEHICLE

(METRIC)

CORE-OGV 95 PERCENT SPEED RDG 53

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.6	-5.6	0.881	0.882	48.8	19.5		
30	24.689	24.460	-1.3	-4.4	0.903	0.906	44.3	18.8		
50	23.673	23.597	0.2	-3.0	0.936	0.936	44.0	17.9		
70	22.682	22.784	2.0	-1.4	0.965	0.963	46.5	17.1		
85	21.971	22.174	3.5	0.1	0.984	0.982	51.0	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	239.0	192.1			157.6	181.2	179.7	63.8		
30	254.5	197.7			182.1	187.2	177.8	63.5		
50	257.8	189.8			185.7	180.7	179.1	58.2		
70	267.1	190.2			183.8	181.8	193.9	55.9		
85	271.8	192.2			171.2	184.2	210.9	54.7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.680	0.537			1.141	0.300	1.5737	1.1669	0.829	0.839
30	0.730	0.556			1.027	0.358	1.6063	1.1602	0.905	0.911
50	0.743	0.534			0.972	0.419	1.5745	1.1550	0.893	0.900
70	0.771	0.534			0.987	0.422	1.5601	1.1603	0.845	0.855
85	0.783	0.537			1.072	0.412	1.5462	1.1690	0.784	0.797

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-0.7	-4.5	8.5	29.2	0.366	0.065	0.	0.065	0.021	0.021
30	-3.2	-6.8	8.0	25.4	0.372	0.042	0.	0.042	0.013	0.013
50	-2.5	-5.5	7.6	26.1	0.415	0.046	0.	0.046	0.014	0.014
70	-0.6	-3.0	7.9	29.2	0.445	0.081	0.	0.081	0.024	0.024
85	2.0	0.4	9.8	34.2	0.465	0.107	0.	0.107	0.031	0.031

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.49	1.5697	1.1623	0.847	10107.7

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

90 PERCENT SPEED

RDG 54

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.9	-6.2	0.062	0.061	0.	32.4	68.3	65.1
10	42.367	41.961	-5.0	-5.5	0.125	0.121	0.	30.1	66.5	63.2
15	40.996	40.742	-3.8	-4.4	0.189	0.183	0.	29.8	64.7	61.5
30	36.881	37.059	0.2	-0.5	0.378	0.368	0.	32.3	60.3	56.4
50	31.394	32.131	6.1	5.5	0.606	0.598	0.	35.3	55.4	47.4
70	26.010	27.229	11.7	12.3	0.792	0.793	0.	38.7	51.2	37.3
85	21.717	23.647	17.4	12.7	0.908	0.912	0.	44.5	48.4	19.6
90	20.295	22.581	19.1	13.8	0.940	0.944	0.	44.8	47.7	14.6
95	18.796	21.463	20.3	15.8	0.971	0.975	0.	47.2	47.0	6.0

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	174.6	183.6	470.2	367.8	174.6	155.3	0.	97.9	436.6	431.3
10	184.9	189.8	461.8	363.6	184.9	164.4	0.	94.8	423.2	419.1
15	193.6	194.9	453.0	353.4	193.6	169.2	0.	96.7	409.5	406.9
30	210.3	204.9	424.1	312.9	210.3	173.2	0.	109.4	368.4	370.1
50	217.2	219.7	381.4	264.6	217.2	179.6	0.	126.5	313.6	320.9
70	213.3	226.4	336.1	222.2	213.3	178.3	0.	139.5	259.8	272.0
85	201.7	250.8	296.2	191.7	201.7	181.2	0.	173.4	216.9	236.2
90	194.9	257.4	281.2	190.9	194.9	185.2	0.	178.8	202.7	225.5
95	186.6	270.7	264.7	188.6	186.6	187.5	0.	195.2	187.7	214.4

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT ACC TT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
5	0.527	0.517	1.420	1.036	0.890	0.264	1.3767	1.1458	0.656	0.671
10	0.560	0.538	1.399	1.031	0.891	0.298	1.4155	1.1371	0.761	0.773
15	0.588	0.554	1.376	1.004	0.876	0.329	1.4460	1.1361	0.817	0.826
30	0.643	0.583	1.297	0.890	0.825	0.407	1.4945	1.1400	0.869	0.876
50	0.666	0.628	1.170	0.756	0.827	0.478	1.5227	1.1402	0.911	0.916
70	0.653	0.652	1.029	0.639	0.835	0.531	1.5078	1.1311	0.950	0.952
85	0.615	0.725	0.903	0.554	0.922	0.506	1.5335	1.1417	0.917	0.922
90	0.593	0.747	0.855	0.554	0.978	0.453	1.5176	1.1393	0.908	0.914
95	0.566	0.789	0.802	0.549	1.036	0.368	1.5245	1.1440	0.889	0.896

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	5.1	3.2	3.1	3.2	0.287	0.204	0.079	0.125	0.029	0.018
10	4.7	3.0	2.9	3.4	0.282	0.138	0.070	0.068	0.021	0.010
15	4.3	2.7	2.8	3.4	0.293	0.109	0.061	0.047	0.017	0.008
30	4.6	2.6	2.8	4.2	0.351	0.087	0.041	0.046	0.016	0.008
50	5.5	2.8	3.0	8.3	0.409	0.068	0.024	0.044	0.014	0.009
70	6.0	2.5	10.1	13.9	0.446	0.043	0.016	0.027	0.009	0.005
85	5.9	2.0	14.8	28.6	0.484	0.092	0.004	0.088	0.019	0.018
90	6.0	1.9	18.2	32.8	0.459	0.108	0.	0.108	0.022	0.022
95	6.0	1.8	18.0	40.2	0.437	0.149	0.	0.149	0.029	0.029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
108.52	1.4866	1.1394	0.860	9538.0

ATT FAN VEHICLE

(METRIC)

BP-0GV

90 PERCENT SPEED

RDG 54

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT			IN	OUT				
10	42.418	42.316	-0.9	-0.2	0.083	0.086	30.7	0.		
15	41.605	41.554	-0.5	0.1	0.125	0.127	28.3	0.		
30	39.192	39.218	-0.5	0.1	0.259	0.256	27.1	0.		
50	35.763	35.852	-0.0	0.2	0.450	0.445	28.0	0.		
70	32.487	32.639	0.9	0.7	0.624	0.620	29.2	0.		
85	30.124	30.302	2.0	1.3	0.740	0.737	30.1	0.		
90	29.312	29.489	2.5	1.6	0.777	0.776	30.3	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	191.2	178.3			164.5	178.3	97.2	0.		
15	201.6	182.1			177.6	182.1	95.3	0.		
30	223.3	200.2			198.7	200.2	101.7	0.		
50	243.2	216.9			214.6	216.9	114.3	0.		
70	255.4	223.8			222.8	223.8	124.6	0.		
85	257.8	227.4			223.0	227.4	129.4	0.		
90	258.8	231.1			223.4	231.1	130.6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
10	0.541	0.503			1.083	0.009	1.3554	1.1421	0.639	0.654
15	0.574	0.515			1.025	0.026	1.3655	1.1368	0.681	0.694
30	0.640	0.569			1.009	0.052	1.4123	1.1375	0.754	0.765
50	0.701	0.619			1.013	0.100	1.4579	1.1410	0.807	0.817
70	0.740	0.641			1.004	0.126	1.4619	1.1398	0.820	0.829
85	0.750	0.653			1.020	0.112	1.4466	1.1347	0.826	0.835
90	0.754	0.666			1.035	0.095	1.4461	1.1322	0.841	0.849

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TCT	SHOCK	PROF	TOT	PROF
10	-13.0	-21.1	10.9	30.5	0.248	0.138	0.	0.138	0.048	0.048
15	-14.0	-22.2	10.4	28.2	0.261	0.180	0.	0.180	0.062	0.062
30	-12.9	-20.8	9.4	27.1	0.250	0.164	0.	0.164	0.053	0.053
50	-11.0	-18.2	8.6	28.0	0.246	0.120	0.	0.120	0.036	0.036
70	-10.4	-16.8	8.3	29.2	0.257	0.128	0.	0.128	0.035	0.035
85	-10.8	-16.6	8.4	30.1	0.247	0.134	0.	0.134	0.035	0.035
90	-11.2	-17.0	8.4	30.3	0.235	0.131	0.	0.131	0.033	0.033

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
92.77	1.4271	1.1389	0.770	9538.0

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE-OGV

90 PERCENT SPEED

RDG 54

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.8	-5.9	0.877	0.878	43.8	19.5		
30	24,689	24,460	-1.7	-4.7	0.900	0.902	42.1	18.8		
50	23,473	23,597	0.0	-3.1	0.933	0.933	42.2	17.9		
70	22,682	22,784	2.2	-1.2	0.963	0.960	43.6	17.1		
85	21,971	22,174	3.8	0.4	0.983	0.981	46.8	16.5		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
15	235.5	207.4			169.9	195.7	163.0	68.8		
30	249.8	207.4			185.5	196.4	167.3	66.6		
50	254.4	202.5			188.6	192.7	170.8	62.1		
70	262.5	206.0			190.0	196.9	181.1	60.6		
85	266.0	208.7			182.2	200.1	193.8	59.4		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
15	0.676	0.590			1.145	0.171	1.5069	1.1429	0.870	0.877
30	0.722	0.590			1.057	0.265	1.5222	1.1425	0.895	0.901
50	0.737	0.576			1.021	0.340	1.5043	1.1396	0.887	0.893
70	0.763	0.586			1.036	0.345	1.5003	1.1415	0.869	0.876
85	0.772	0.593			1.097	0.321	1.4853	1.1467	0.816	0.826

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROP	TOT	PROP
15	-5.6	-9.5	8.5	24.3	0.259	0.064	0.	0.064	0.021	0.021
30	-5.5	-9.0	8.0	23.2	0.304	0.052	0.	0.052	0.016	0.016
50	-4.3	-7.3	7.6	24.3	0.342	0.031	0.	0.031	0.009	0.009
70	-3.5	-5.9	7.9	26.4	0.355	0.044	0.	0.044	0.013	0.013
85	-2.1	-3.8	9.8	30.1	0.366	0.078	0.	0.078	0.022	0.022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.75	1.5007	1.1426	0.862	9538.0



ATT FAN VEHICLE

(METRIC)

ROTOR 90 PERCENT SPEED RDG 55

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.9	-6.3	0.062	0.061	0.	40.8	69.0	65.4
10	42.367	41.961	-5.0	-5.4	0.125	0.122	0.	37.8	67.2	63.0
15	40.996	40.742	-3.6	-4.2	0.191	0.185	0.	36.8	65.5	61.5
30	36.881	37.059	0.9	0.2	0.381	0.373	0.	37.2	61.2	56.4
50	31.394	32.131	7.3	6.6	0.610	0.607	0.	39.8	56.9	47.0
70	26.010	27.229	12.6	13.0	0.794	0.800	0.	44.5	53.3	38.8
85	21.717	23.647	17.7	12.9	0.909	0.913	0.	47.1	50.3	20.6
90	20.295	22.581	19.4	13.8	0.941	0.945	0.	46.7	49.5	14.4
95	18.796	21.463	20.6	15.8	0.971	0.976	0.	50.1	48.8	4.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	168.5	188.2	468.7	340.9	168.5	142.8	0.	122.6	437.4	432.1
10	178.6	194.5	460.0	338.1	178.6	153.9	0.	118.8	423.9	419.9
15	187.1	196.8	450.9	330.2	187.1	157.8	0.	117.6	410.2	407.7
30	202.7	205.6	421.0	296.0	202.7	163.8	0.	124.3	369.0	370.8
50	206.5	220.6	375.9	248.1	206.5	169.9	0.	140.7	314.1	321.5
70	199.2	216.7	327.7	198.6	199.2	156.4	0.	150.0	260.3	272.5
85	189.7	242.2	288.5	177.9	189.7	167.1	0.	175.3	217.3	236.6
90	183.8	253.5	273.9	181.8	183.8	176.5	0.	182.0	203.1	225.9
95	176.2	266.2	257.7	175.2	176.2	174.6	0.	200.9	188.1	214.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.508	0.522	1.412	0.946	0.848	0.325	1.5066	1.1828	0.679	0.697
10	0.540	0.543	1.391	0.944	0.863	0.357	1.5436	1.1721	0.767	0.781
15	0.567	0.552	1.367	0.926	0.845	0.388	1.5624	1.1654	0.822	0.833
30	0.618	0.580	1.284	0.835	0.809	0.462	1.5996	1.1592	0.902	0.908
50	0.631	0.626	1.148	0.704	0.824	0.525	1.6070	1.1563	0.928	0.933
70	0.606	0.618	0.998	0.567	0.788	0.561	1.5258	1.1413	0.908	0.913
85	0.576	0.697	0.875	0.512	0.904	0.551	1.5503	1.1435	0.930	0.934
90	0.597	0.734	0.830	0.526	0.988	0.506	1.5557	1.1420	0.948	0.951
95	0.532	0.772	0.779	0.508	1.030	0.428	1.5610	1.1481	0.916	0.921

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.8	3.9	3.3	3.7	0.360	0.230	0.082	0.149	0.032	0.021
10	5.4	3.7	2.7	4.3	0.351	0.164	0.072	0.092	0.025	0.014
15	5.1	3.5	2.8	4.1	0.356	0.125	0.063	0.062	0.020	0.010
30	5.6	3.5	2.7	5.0	0.396	0.073	0.042	0.031	0.013	0.006
50	7.0	4.3	2.6	10.0	0.452	0.059	0.025	0.034	0.012	0.007
70	8.0	4.6	11.6	14.2	0.508	0.087	0.020	0.068	0.017	0.013
85	7.8	3.9	15.8	29.3	0.520	0.082	0.	0.082	0.017	0.017
90	7.8	3.7	18.0	34.5	0.481	0.065	0.	0.065	0.013	0.013
95	7.8	3.6	16.7	42.9	0.473	0.122	0.	0.122	0.024	0.024

INLET CORR WFLOW 105.16 PRESS RATIO 1.5690 TEMP RATIO 1.1580 ADIA EFF 0.869 INLET CORR RPM 9555.2

ATT FAN VEHICLE

(METRIC)

BP=OGV

90 PERCENT SPEED

RDG 55

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.2	-0.2	0.081	0.084	39.1	0.		
15	41.605	41.554	-0.8	0.2	0.124	0.125	35.8	0.		
30	39.192	39.218	-0.3	0.7	0.261	0.261	32.5	0.		
50	35.763	35.852	0.5	1.2	0.459	0.457	32.6	0.		
70	32.487	32.639	1.8	2.1	0.636	0.635	33.6	0.		
85	30.124	30.302	2.7	2.5	0.749	0.750	34.9	0.		
90	29.312	29.489	3.0	2.5	0.785	0.787	35.9	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	194.5	156.5			151.0	156.5	122.2	0.		
15	204.9	165.4			166.2	165.4	119.7	0.		
30	221.7	180.9			187.1	180.9	119.0	0.		
50	240.7	194.0			202.8	194.0	129.7	0.		
70	248.0	198.2			206.7	198.2	137.1	0.		
85	242.4	188.1			198.8	188.1	138.5	0.		
90	239.3	183.0			194.0	183.0	140.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.542	0.431			1.033	0.290	1.4993	1.1790	0.685	0.703
15	0.574	0.458			0.994	0.291	1.5230	1.1720	0.743	0.757
30	0.628	0.506			0.967	0.303	1.5643	1.1613	0.846	0.855
50	0.687	0.545			0.957	0.319	1.5952	1.1603	0.891	0.898
70	0.712	0.559			0.959	0.337	1.5873	1.1541	0.916	0.921
85	0.697	0.531			0.947	0.344	1.5271	1.1442	0.892	0.898
90	0.689	0.517			0.945	0.343	1.4982	1.1419	0.863	0.870

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-4.6	-12.7	10.9	39.0	0.420	0.075	0.	0.075	0.026	0.026
15	-6.4	-14.7	10.4	35.8	0.397	0.068	0.	0.068	0.023	0.023
30	-7.6	-15.4	9.4	32.5	0.358	0.035	0.	0.035	0.011	0.011
50	-6.4	-13.6	8.6	32.6	0.354	0.036	0.	0.036	0.011	0.011
70	-6.1	-12.4	8.3	33.6	0.352	0.029	0.	0.029	0.008	0.008
85	-6.0	-11.8	8.4	34.9	0.371	0.062	0.	0.062	0.016	0.016
90	-5.7	-11.4	8.4	35.9	0.383	0.083	0.	0.083	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
90.26	1.5531	1.1601	0.837	9555.2

ATT FAN VEHICLE

(METRIC)

CORE-OGV 90 PERCENT SPEED RDG 55

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.8	-5.9	0.880	0.880	46.7	19.5		
30	24,689	24,460	-1.7	-4.7	0.902	0.904	44.9	18.8		
50	23,673	23,597	0.0	-3.2	0.934	0.934	44.4	17.9		
70	22,682	22,784	1.9	-1.5	0.964	0.961	45.9	17.1		
85	21,971	22,174	3.4	0.0	0.984	0.981	50.4	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	228.3	186.9			156.8	176.3	165.9	62.1		
30	239.9	189.4			170.1	179.3	169.2	60.9		
50	247.8	186.1			177.2	177.2	173.3	57.1		
70	258.3	188.9			179.7	180.6	185.7	55.6		
85	259.8	188.6			165.9	180.8	199.8	53.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.653	0.527			1.119	0.260	1.5228	1.1457	0.876	0.883
30	0.690	0.535			1.052	0.342	1.5432	1.1443	0.914	0.919
50	0.716	0.526			0.998	0.398	1.5304	1.1419	0.911	0.916
70	0.748	0.533			1.001	0.397	1.5251	1.1452	0.883	0.890
85	0.751	0.531			1.084	0.394	1.5051	1.1514	0.819	0.829

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-2.8	-6.6	8.5	27.1	0.340	0.081	0.	0.081	0.026	0.026
30	-2.7	-6.2	8.0	26.0	0.361	0.039	0.	0.039	0.012	0.012
50	-2.1	-5.1	7.6	26.5	0.400	0.045	0.	0.045	0.014	0.014
70	-1.2	-3.6	7.9	28.7	0.422	0.079	0.	0.079	0.023	0.023
85	1.4	-0.2	9.8	33.5	0.443	0.097	0.	0.097	0.028	0.028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14.91	1.5220	1.1457	0.875	9555.2

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 90 PERCENT SPEED RDG 56

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.8	-6.1	0.062	0.062	0.	44.4	69.9	65.7
10	42.367	41.961	-4.7	-5.1	0.126	0.123	0.	41.7	68.2	63.1
15	40.996	40.742	-3.3	-3.8	0.191	0.187	0.	41.3	66.6	61.5
30	36.881	37.059	1.1	0.4	0.382	0.375	0.	41.4	62.6	56.5
50	31.394	32.131	7.5	6.8	0.611	0.608	0.	42.9	58.4	47.0
70	26.010	27.229	12.8	13.1	0.795	0.801	0.	46.1	54.8	38.9
85	21.717	23.647	17.8	12.8	0.910	0.914	0.	48.0	51.8	20.3
90	20.295	22.581	19.6	13.9	0.941	0.946	0.	47.5	51.1	13.5
95	18.796	21.463	20.9	16.0	0.971	0.978	0.	52.8	50.4	2.1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	160.7	190.0	466.1	329.1	160.7	136.0	0.	132.6	437.5	432.2
10	170.2	197.0	456.9	324.7	170.2	147.4	0.	130.7	424.0	420.0
15	177.8	200.0	447.2	314.3	177.8	150.4	0.	131.8	410.3	407.8
30	191.7	206.8	415.9	280.7	191.7	155.1	0.	136.9	369.1	370.9
50	195.2	220.2	369.9	236.5	195.2	161.9	0.	149.2	314.2	321.6
70	188.4	215.5	321.3	192.8	188.4	151.5	0.	153.3	260.3	272.5
85	179.9	241.6	282.1	174.0	179.9	163.7	0.	177.7	217.4	236.7
90	174.3	255.1	267.7	179.7	174.3	175.2	0.	185.5	203.1	226.0
95	166.7	266.2	251.4	165.1	166.7	165.0	0.	208.9	188.1	214.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.483	0.524	1.401	0.907	0.846	0.345	1.5627	1.1979	0.687	0.706
10	0.513	0.546	1.378	0.901	0.867	0.375	1.5985	1.1895	0.757	0.772
15	0.537	0.556	1.352	0.874	0.847	0.402	1.6148	1.1856	0.791	0.804
30	0.582	0.579	1.263	0.786	0.810	0.471	1.6345	1.1753	0.860	0.869
50	0.594	0.622	1.125	0.668	0.831	0.531	1.6309	1.1657	0.905	0.911
70	0.571	0.614	0.975	0.549	0.807	0.568	1.5441	1.1448	0.913	0.918
85	0.544	0.695	0.853	0.500	0.933	0.562	1.5691	1.1456	0.944	0.947
90	0.526	0.738	0.808	0.520	1.037	0.516	1.5839	1.1446	0.971	0.973
95	0.502	0.770	0.757	0.478	1.046	0.432	1.5810	1.1533	0.912	0.918

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	6.7	4.8	3.6	4.2	0.388	0.241	0.084	0.158	0.033	0.022
10	6.4	4.7	2.8	5.2	0.385	0.187	0.074	0.113	0.028	0.017
15	6.2	4.6	2.8	5.2	0.397	0.164	0.065	0.099	0.026	0.016
30	6.9	4.9	2.8	6.3	0.434	0.115	0.044	0.071	0.021	0.013
50	8.4	5.8	2.6	11.4	0.481	0.086	0.027	0.059	0.017	0.012
70	9.5	6.1	11.7	15.6	0.520	0.087	0.024	0.063	0.017	0.012
85	9.3	5.4	15.5	31.1	0.526	0.069	0.	0.069	0.014	0.014
90	9.3	5.3	17.1	36.7	0.478	0.037	0.	0.037	0.008	0.008
95	9.4	5.2	14.1	46.3	0.497	0.138	0.	0.138	0.027	0.027

INLET CORR WTFLOW 101.40 PRESS RATIO 1.6012 TEMP RATIO 1.1696 ADIA EFF 0.849 INLET CORR RPM 9557.6

ATT FAN VEHICLE

(METRIC)

BP=OGV

90 PERCENT SPEED

RDG 56

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.1	0.1	0.083	0.086	42.4	0.		
15	41.605	41.554	-0.5	0.6	0.126	0.129	39.3	0.		
30	39.192	39.218	0.4	1.6	0.265	0.268	36.9	0.		
50	35.763	35.852	1.4	2.4	0.462	0.465	36.0	0.		
70	32.487	32.639	2.5	3.2	0.639	0.642	36.8	0.		
85	30.124	30.302	3.3	3.3	0.751	0.755	37.8	0.		
90	29.312	29.489	3.4	3.1	0.787	0.790	38.3	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	197.5	151.3			145.9	151.3	132.8	0.		
15	207.9	160.5			160.8	160.5	131.6	0.		
30	223.4	173.6			178.7	173.6	134.1	0.		
50	237.4	181.6			192.0	181.6	139.5	0.		
70	242.2	184.9			194.0	184.9	145.0	0.		
85	235.6	173.0			186.4	173.0	144.1	0.		
90	232.5	166.2			182.6	166.2	144.0	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.547	0.414			1.033	0.358	1.5570	1.1947	0.693	0.711
15	0.579	0.441			0.994	0.355	1.5807	1.1891	0.739	0.755
30	0.627	0.480			0.970	0.366	1.6115	1.1816	0.804	0.817
50	0.673	0.505			0.944	0.375	1.6208	1.1725	0.858	0.867
70	0.691	0.517			0.954	0.392	1.6081	1.1628	0.893	0.900
85	0.674	0.485			0.930	0.408	1.5468	1.1500	0.885	0.892
90	0.666	0.466			0.914	0.410	1.5156	1.1458	0.865	0.873

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-1.2	-9.4	10.9	42.3	0.475	0.068	0.	0.068	0.024	0.024
15	-2.9	-11.2	10.4	39.2	0.449	0.060	0.	0.060	0.021	0.021
30	-3.2	-11.0	9.4	36.9	0.418	0.036	0.	0.036	0.012	0.012
50	-3.0	-10.2	8.6	36.0	0.410	0.048	0.	0.048	0.014	0.014
70	-2.8	-9.2	8.3	36.8	0.399	0.029	0.	0.029	0.008	0.008
85	-3.2	-8.9	8.4	37.8	0.422	0.058	0.	0.058	0.015	0.015
90	-3.2	-9.0	8.4	38.4	0.440	0.086	0.	0.086	0.022	0.022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
87.13	1.5872	1.1730	0.816	9557.6

ATT FAN VEHICLE

(METRIC)

CORE=OGV

90 PERCENT SPEED

RDG 56

PCT	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.8	0.880	0.881	49.7	19.5		
30	24.689	24.460	-1.5	-4.6	0.902	0.905	46.3	18.8		
50	23.673	23.597	-0.1	-3.4	0.935	0.935	45.1	17.9		
70	22.682	22.784	1.3	-2.1	0.966	0.962	47.6	17.1		
85	21.971	22.174	2.9	-0.5	0.986	0.982	53.8	16.5		

PCT	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	223.5	173.4			144.5	163.6	170.5	57.6		
30	238.1	179.5			164.6	170.0	172.0	57.7		
50	248.2	177.2			175.3	168.7	175.9	54.3		
70	259.1	179.6			174.6	171.7	191.7	52.7		
85	258.7	175.4			152.8	168.2	208.1	49.8		

PCT	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.637	0.486			1.124	0.341	1.5286	1.1497	0.861	0.869
30	0.683	0.505			1.030	0.393	1.5568	1.1467	0.919	0.924
50	0.716	0.499			0.961	0.431	1.5459	1.1440	0.920	0.925
70	0.749	0.505			0.970	0.437	1.5409	1.1496	0.879	0.886
85	0.744	0.491			1.087	0.460	1.5134	1.1575	0.798	0.809

PCT	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	0.3	-3.6	8.5	30.2	0.400	0.067	0.	0.067	0.022	0.022
30	-1.3	-4.8	8.0	27.4	0.406	0.043	0.	0.043	0.014	0.014
50	-1.3	-4.4	7.6	27.2	0.444	0.069	0.	0.069	0.021	0.021
70	0.5	-1.9	7.9	30.2	0.471	0.096	0.	0.096	0.028	0.028
85	4.9	3.2	9.8	36.7	0.509	0.102	0.	0.102	0.029	0.029

INLET CORR	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14.27	1.5335	1.1493	0.870	9557.6

ATT FAN VEHICLE

(METRIC)

ROTOR 50 PERCENT SPEED RDG 57

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.7	-5.9	0.059	0.060	0.	20.7	69.9	64.7
10	42.367	41.961	-4.7	-5.0	0.120	0.118	0.	17.8	68.3	62.9
15	40.996	40.742	-3.8	-4.2	0.183	0.178	0.	17.7	66.9	61.8
30	36.881	37.059	-1.0	-1.4	0.367	0.353	0.	19.7	63.0	57.0
50	31.394	32.131	3.7	3.3	0.594	0.576	0.	23.8	58.0	48.1
70	26.010	27.229	9.0	10.4	0.784	0.774	0.	31.3	53.0	35.3
85	21.717	23.647	15.9	11.2	0.906	0.900	0.	39.2	49.5	17.6
90	20.295	22.581	18.1	12.4	0.939	0.935	0.	39.6	48.7	11.5
95	18.796	21.463	19.9	15.0	0.970	0.970	0.	40.9	48.1	6.1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	89.5	103.7	259.3	225.8	89.5	97.0	0.	36.5	243.4	240.4
10	94.0	108.3	253.9	225.7	94.0	103.2	0.	32.9	235.9	233.6
15	97.4	109.2	248.2	219.9	97.4	104.1	0.	33.1	228.2	226.8
30	104.6	115.4	230.4	199.7	104.6	108.7	0.	38.9	205.3	206.3
50	109.3	125.8	206.1	172.3	109.3	115.2	0.	50.7	174.8	178.9
70	110.4	136.3	182.1	142.6	110.4	116.9	0.	70.0	144.8	151.6
85	107.3	151.4	161.6	123.8	107.3	118.1	0.	94.7	120.9	131.7
90	104.3	160.6	153.8	127.4	104.3	125.0	0.	100.9	113.0	125.7
95	99.9	165.8	144.7	127.8	99.9	127.2	0.	106.4	104.6	119.5

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.265	0.303	0.767	0.660	1.083	0.109	1.0524	1.0303	0.485	0.489
10	0.278	0.317	0.752	0.661	1.098	0.135	1.0641	1.0266	0.674	0.677
15	0.289	0.320	0.735	0.645	1.070	0.157	1.0690	1.0259	0.742	0.745
30	0.310	0.338	0.684	0.585	1.043	0.217	1.0856	1.0278	0.854	0.856
50	0.325	0.369	0.612	0.505	1.056	0.285	1.1052	1.0315	0.919	0.920
70	0.328	0.400	0.541	0.418	1.054	0.368	1.1282	1.0368	0.952	0.953
85	0.318	0.444	0.480	0.363	1.121	0.381	1.1530	1.0434	0.957	0.958
90	0.309	0.472	0.456	0.374	1.233	0.321	1.1630	1.0438	1.007	1.006
95	0.296	0.488	0.429	0.376	1.308	0.214	1.1614	1.0439	0.995	0.995

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	6.7	4.8	2.6	5.2	0.176	0.160	0.	0.160	0.023	0.023
10	6.5	4.8	2.6	5.5	0.155	0.092	0.	0.092	0.014	0.014
15	6.5	4.9	3.1	5.2	0.160	0.075	0.	0.075	0.012	0.012
30	7.4	5.3	3.4	6.4	0.194	0.051	0.	0.051	0.009	0.009
50	8.1	5.4	3.7	10.6	0.248	0.039	0.	0.039	0.008	0.008
70	7.8	4.3	8.1	18.3	0.324	0.033	0.	0.033	0.007	0.007
85	7.0	3.1	12.8	32.6	0.374	0.043	0.	0.043	0.009	0.009
90	7.0	2.9	15.1	37.6	0.315	-0.009	0.	-0.009	-0.002	-0.002
95	7.1	2.9	18.1	42.0	0.270	0.007	0.	0.007	-0.001	0.001

INLET CORR PRESS TEMP ADIA INLET CORR  
 WFLOW RATIO RATIO EFF RPM  
 63.83 1.1010 1.0323 0.862 5316.3

ATT FAN VEHICLE

(METRIC)

BP-0GV

50 PERCENT SPEED

RDG 57

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.2	-0.6	0.080	0.082	19.4	0.		
15	41.605	41.554	-0.6	-0.4	0.121	0.121	17.1	0.		
30	39.192	39.218	-0.7	-0.4	0.246	0.242	16.9	0.		
50	35.763	35.852	-0.3	-0.3	0.426	0.420	17.9	0.		
70	32.487	32.639	0.3	-0.1	0.597	0.589	20.2	0.		
85	30.124	30.302	1.4	0.6	0.715	0.710	22.7	0.		
90	29.312	29.489	2.1	1.1	0.754	0.752	23.7	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	107.1	108.5			101.0	108.5	35.3	0.		
15	113.1	110.3			108.1	110.3	33.1	0.		
30	120.9	119.0			115.7	119.0	35.1	0.		
50	136.0	132.0			129.4	132.0	41.8	0.		
70	147.3	141.7			138.3	141.7	50.9	0.		
85	156.0	152.3			143.9	152.3	60.2	0.		
90	159.4	157.9			146.0	157.9	64.0	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.313	0.317			1.075	-0.184	1.0453	1.0288	0.443	0.447
15	0.332	0.323			1.022	-0.153	1.0479	1.0265	0.509	0.512
30	0.355	0.349			1.031	-0.116	1.0598	1.0264	0.633	0.636
50	0.400	0.388			1.024	-0.062	1.0789	1.0287	0.764	0.766
70	0.434	0.417			1.028	-0.021	1.0929	1.0317	0.811	0.813
85	0.460	0.449			1.062	-0.020	1.1075	1.0348	0.850	0.853
90	0.470	0.466			1.084	-0.037	1.1147	1.0360	0.875	0.877

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-24.3	-32.4	10.9	19.3	0.103	0.165	0.	0.163	0.057	0.057
15	-25.1	-33.4	10.4	17.1	0.125	0.208	0.	0.208	0.072	0.072
30	-23.2	-31.0	9.4	16.9	0.107	0.149	0.	0.149	0.048	0.048
50	-21.1	-28.3	8.6	17.9	0.117	0.121	0.	0.121	0.036	0.036
70	-19.4	-25.8	8.3	20.1	0.129	0.096	0.	0.096	0.026	0.026
85	-18.2	-24.0	8.4	22.7	0.120	0.066	0.	0.066	0.017	0.017
90	-17.9	-23.6	8.4	23.6	0.109	0.057	0.	0.057	0.014	0.014

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
53.56	1.0786	1.0303	0.721	5316.3



ATT FAN VEHICLE

(METRIC)

CORE-0GV 50 PERCENT SPEED RDG 57

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.8	-5.8	0.863	0.863	35.6	19.5		
30	24.689	24.460	-1.6	-4.5	0.887	0.889	35.9	18.9		
50	23.673	23.597	0.4	-2.8	0.922	0.923	37.1	17.9		
70	22.682	22.784	2.6	-0.9	0.956	0.954	37.2	17.2		
85	21.971	22.174	4.1	0.6	0.980	0.978	39.7	16.6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	141.0	146.2			114.7	137.9	82.1	48.6		
30	148.6	144.3			120.3	136.6	87.2	46.5		
50	160.0	151.2			127.7	143.9	96.5	46.5		
70	165.6	155.6			131.9	148.6	100.2	45.9		
85	164.3	154.9			126.5	148.5	104.7	44.1		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.413	0.429			1.197	-0.134	1.1396	1.0401	0.948	0.949
30	0.436	0.423			1.129	0.000	1.1397	1.0415	0.917	0.919
50	0.470	0.443			1.125	0.070	1.1524	1.0439	0.941	0.943
70	0.488	0.457			1.127	0.061	1.1529	1.0437	0.950	0.951
85	0.483	0.455			1.173	0.012	1.1402	1.0442	0.864	0.867

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-13.8	-17.7	8.6	16.1	0.047	0.066	0.	0.066	0.021	0.021
30	-11.6	-15.2	8.1	17.1	0.125	0.068	0.	0.068	0.021	0.021
50	-9.4	-12.4	7.7	19.1	0.157	0.042	0.	0.042	0.013	0.013
70	-9.9	-12.3	7.9	20.1	0.161	0.062	0.	0.062	0.018	0.018
85	-9.3	-10.9	9.8	23.0	0.167	0.110	0.	0.110	0.032	0.032

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
10.27	1.1439	1.0428	0.916	5316.3

ATT FAN VEHICLE

(METRIC)

ROTOR 50 PERCENT SPEED RDG 58

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	REL ANGLE OUT		
	IN	OUT			IN	OUT				
5	43.713	43.180	-5.8	-6.0	0.059	0.060	0.	37.7	72.8	66.3
10	42.367	41.961	-4.7	-5.0	0.121	0.119	0.	33.2	71.3	64.1
15	40.996	40.742	-3.6	-4.0	0.184	0.180	0.	32.4	70.0	62.9
30	36.881	37.059	-0.2	-0.8	0.371	0.360	0.	33.0	66.5	58.2
50	31.394	32.131	5.0	4.3	0.600	0.587	0.	35.4	62.3	49.2
70	26.010	27.229	10.4	11.6	0.788	0.785	0.	40.5	58.1	36.5
85	21.717	23.647	16.5	11.9	0.907	0.905	0.	48.8	54.9	16.7
90	20.295	22.581	18.6	12.7	0.940	0.938	0.	47.3	54.1	10.3
95	18.796	21.463	20.3	15.0	0.971	0.972	0.	49.5	53.4	1.8

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	76.0	100.1	255.3	196.4	76.0	79.4	0.	61.0	243.7	240.7
10	80.1	103.4	249.4	197.6	80.1	86.6	0.	56.3	236.2	233.9
15	83.3	104.1	243.2	192.7	83.3	87.9	0.	55.7	228.5	227.1
30	89.3	108.9	224.1	173.4	89.3	91.4	0.	59.3	205.6	206.6
50	92.2	117.9	197.8	146.7	92.2	96.2	0.	68.2	175.0	179.1
70	91.6	126.7	171.5	120.2	91.6	97.2	0.	81.3	145.0	151.8
85	88.7	140.0	150.1	97.3	88.7	93.4	0.	104.4	121.1	131.8
90	86.4	148.8	142.3	103.8	86.4	102.3	0.	108.0	113.1	125.9
95	82.9	155.4	133.6	103.0	82.9	102.9	0.	116.4	104.8	119.6

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.224	0.289	0.754	0.568	1.043	0.236	1.1130	1.0508	0.612	0.618
10	0.237	0.300	0.737	0.573	1.081	0.259	1.1205	1.0455	0.727	0.731
15	0.246	0.302	0.719	0.559	1.057	0.280	1.1232	1.0436	0.773	0.777
30	0.264	0.317	0.663	0.504	1.027	0.338	1.1317	1.0423	0.850	0.853
50	0.273	0.343	0.586	0.427	1.044	0.403	1.1399	1.0422	0.904	0.905
70	0.271	0.370	0.508	0.351	1.057	0.471	1.1488	1.0426	0.949	0.950
85	0.262	0.409	0.444	0.284	1.073	0.489	1.1618	1.0475	0.921	0.923
90	0.256	0.435	0.421	0.304	1.223	0.443	1.1709	1.0470	0.982	0.982
95	0.245	0.455	0.395	0.302	1.284	0.352	1.1723	1.0480	0.967	0.968

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	TOT	PROF	
5	9.5	7.7	4.2	6.5	0.310	0.203	0.	0.203	0.027	0.027
10	9.5	7.8	3.8	7.3	0.283	0.134	0.	0.134	0.019	0.019
15	9.6	8.0	4.2	7.2	0.286	0.112	0.	0.112	0.017	0.017
30	10.9	8.8	4.5	8.7	0.317	0.082	0.	0.082	0.014	0.014
50	12.4	9.7	4.8	13.5	0.368	0.066	0.	0.066	0.013	0.013
70	12.9	9.4	9.3	21.9	0.424	0.045	0.	0.045	0.009	0.009
85	12.4	8.5	11.9	38.5	0.512	0.100	0.	0.100	0.021	0.021
90	12.4	8.3	13.9	44.1	0.435	0.023	0.	0.023	0.005	0.005
95	12.4	8.2	13.8	51.4	0.408	0.054	0.	0.054	0.011	0.011

INLET CORR WTFLOW 54.46 PRESS RATIO 1.1377 TEMP RATIO 1.0443 ADIA EFF 0.848 INLET CORR RPM 5323.0

ATT FAN VEHICLE

(METRIC)

BP-0GV

50 PERCENT SPEED

RDG 58

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN		FUNCT OUT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT			IN	OUT
10	42.418	42.316	-0.8	0.1	0.079	0.083			35.7	0.		
15	41.605	41.554	-0.3	0.5	0.121	0.124			31.9	0.		
30	39.192	39.218	0.1	0.9	0.251	0.251			30.0	0.		
50	35.763	35.852	0.7	1.2	0.436	0.435			29.3	0.		
70	32.487	32.639	1.2	1.2	0.610	0.606			30.6	0.		
85	30.124	30.302	2.1	1.6	0.728	0.726			31.8	0.		
90	29.312	29.489	2.5	1.8	0.767	0.766			32.3	0.		

PCT IMM	ABS VEL		REL VEL IN	VEL OUT	MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT					IN	OUT	IN	OUT
10	102.8	90.2			83.5	90.2	59.7	0.		
15	107.7	94.1			91.5	94.1	56.7	0.		
30	114.2	100.7			98.9	100.7	57.0	0.		
50	125.1	109.0			109.0	109.0	61.2	0.		
70	132.3	114.7			114.0	114.7	67.3	0.		
85	137.5	119.4			116.9	119.4	72.4	0.		
90	140.5	122.4			118.8	122.4	75.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO IN	MACH NO OUT	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT							ADIA	POLY
10	0.298	0.261			1.076	0.168	1.1111	1.0487	0.628	0.633
15	0.313	0.272			1.025	0.176	1.1156	1.0453	0.701	0.705
30	0.332	0.292			1.017	0.187	1.1222	1.0430	0.778	0.781
50	0.365	0.317			1.000	0.185	1.1302	1.0422	0.844	0.847
70	0.387	0.334			1.007	0.197	1.1341	1.0421	0.869	0.871
85	0.402	0.348			1.023	0.187	1.1355	1.0420	0.881	0.883
90	0.411	0.357			1.031	0.171	1.1370	1.0424	0.882	0.884

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PARAM
10	-7.9	-16.1	10.9	35.5	0.332	0.072	0.	0.072	0.025	0.025
15	-10.4	-18.6	10.4	31.7	0.311	0.069	0.	0.069	0.024	0.024
30	-10.1	-17.9	9.4	30.0	0.281	0.038	0.	0.038	0.012	0.012
50	-9.7	-16.9	8.6	29.3	0.273	0.056	0.	0.056	0.017	0.017
70	-9.0	-15.4	8.3	30.6	0.272	0.053	0.	0.053	0.015	0.015
85	-9.2	-14.9	8.4	31.8	0.266	0.060	0.	0.060	0.016	0.016
90	-9.3	-15.0	8.4	32.3	0.264	0.075	0.	0.075	0.019	0.019

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
46.27	1.1271	1.0437	0.796	5323.0

ATT FAN VEHICLE

(METRIC)

CORE-OGV 50 PERCENT SPEED RDG 58

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.8	-5.9	0.871	0.872	48.0	19.5		
30	24.689	24.460	-1.5	-4.6	0.893	0.896	46.8	18.9		
50	23.673	23.597	0.4	-2.9	0.926	0.927	45.7	18.0		
70	22.682	22.784	2.4	-1.1	0.959	0.957	45.4	17.2		
85	21.971	22.174	3.9	0.3	0.982	0.979	49.3	16.6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	129.3	107.8			86.6	101.6	96.0	35.8		
30	136.8	111.0			93.6	105.1	99.7	35.8		
50	144.8	115.7			101.3	110.0	103.4	35.6		
70	152.3	120.5			107.0	115.1	108.4	35.6		
85	152.3	119.0			99.4	114.1	115.4	33.9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.377	0.312			1.167	0.232	1.1502	1.0470	0.868	0.871
30	0.399	0.322			1.114	0.308	1.1574	1.0474	0.899	0.901
50	0.423	0.336			1.084	0.343	1.1636	1.0472	0.938	0.939
70	0.446	0.350			1.074	0.327	1.1662	1.0473	0.949	0.950
85	0.446	0.346			1.143	0.314	1.1574	1.0487	0.875	0.878

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-1.4	-5.3	8.6	28.5	0.329	0.079	0.	0.079	0.025	0.025
30	-0.7	-4.3	8.1	27.9	0.348	0.040	0.	0.040	0.013	0.013
50	-0.8	-3.8	7.7	27.7	0.354	0.023	0.	0.023	0.007	0.007
70	-1.7	-4.1	8.0	28.1	0.356	0.049	0.	0.049	0.015	0.015
85	0.4	-1.3	9.8	32.5	0.379	0.084	0.	0.084	0.024	0.024

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
8.19	1.1578	1.0472	0.899	5323.0

ATT FAN VEHICLE

(METRIC)

ROTOR

50 PERCENT SPEED

RDG 59

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.7	-5.8	0.059	0.060	0.	43.3	73.8	66.6
10	42.367	41.961	-4.7	-4.9	0.121	0.120	0.	39.3	72.4	64.9
15	40.996	40.742	-3.6	-3.9	0.184	0.180	0.	37.5	71.1	63.5
30	36.881	37.059	-0.0	-0.5	0.372	0.361	0.	36.9	67.8	58.8
50	31.394	32.131	5.3	4.6	0.601	0.589	0.	40.0	63.9	49.7
70	26.010	27.229	10.4	12.0	0.788	0.785	0.	43.8	59.9	37.4
85	21.717	23.647	16.4	12.3	0.907	0.905	0.	50.6	56.6	17.7
90	20.295	22.581	18.6	12.8	0.940	0.938	0.	48.6	55.9	11.2
95	18.796	21.463	20.3	15.1	0.971	0.973	0.	51.6	55.2	1.2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	71.2	101.8	253.9	186.5	71.2	74.3	0.	69.6	243.7	240.7
10	75.1	102.8	247.8	186.8	75.1	79.6	0.	64.9	236.2	233.9
15	78.2	103.4	241.5	183.7	78.2	82.1	0.	62.8	228.5	227.1
30	83.8	107.6	222.0	166.0	83.8	86.0	0.	64.6	205.6	206.6
50	86.0	116.3	195.0	137.3	86.0	89.3	0.	74.5	175.0	179.1
70	85.3	123.5	168.2	112.6	85.3	90.1	0.	84.4	145.0	151.8
85	83.1	136.3	146.8	91.8	83.1	87.6	0.	104.5	121.1	131.8
90	80.9	144.9	139.1	99.0	80.9	97.3	0.	107.4	113.1	125.9
95	77.5	152.1	130.3	96.6	77.5	96.5	0.	117.5	104.8	119.6

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.210	0.293	0.749	0.538	1.042	0.267	1.1320	1.0579	0.623	0.629
10	0.222	0.297	0.732	0.540	1.060	0.289	1.1356	1.0525	0.705	0.710
15	0.231	0.299	0.714	0.532	1.053	0.310	1.1376	1.0492	0.762	0.767
30	0.248	0.312	0.656	0.482	1.029	0.367	1.1433	1.0461	0.846	0.849
50	0.254	0.338	0.577	0.399	1.038	0.428	1.1483	1.0461	0.875	0.877
70	0.252	0.360	0.497	0.328	1.050	0.497	1.1523	1.0443	0.934	0.935
85	0.246	0.398	0.434	0.268	1.074	0.531	1.1644	1.0475	0.935	0.936
90	0.239	0.424	0.411	0.269	1.241	0.492	1.1733	1.0467	1.000	1.000
95	0.229	0.445	0.385	0.283	1.289	0.409	1.1758	1.0484	0.978	0.978

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	10.6	8.7	4.6	7.1	0.356	0.225	0.	0.225	0.030	0.030
10	10.6	8.9	4.6	7.6	0.334	0.167	0.	0.167	0.024	0.024
15	10.7	9.1	4.8	7.7	0.327	0.132	0.	0.132	0.020	0.020
30	12.2	10.1	5.1	9.3	0.352	0.093	0.	0.093	0.016	0.016
50	14.0	11.3	5.3	14.6	0.416	0.096	0.	0.096	0.018	0.018
70	14.7	11.2	10.2	22.8	0.463	0.063	0.	0.063	0.013	0.013
85	14.2	10.2	12.9	39.2	0.539	0.086	0.	0.086	0.018	0.018
90	14.1	10.1	14.8	45.0	0.456	-0.003	0.	-0.003	-0.000	-0.000
95	14.2	10.0	13.2	53.6	0.443	0.039	0.	0.039	0.008	0.008

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
51.16	1.1475	1.0479	0.837	5323.1

ATT FAN VEHICLE

(METRIC)

BP-OGV

50 PERCENT SPEED

RDG 59

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS ANGLE		REL ANGLE	
	IN	OUT					IN	OUT	IN	OUT
10	42.418	42.316	-0.5	0.5	0.080	0.085	41.3	0.		
15	41.605	41.554	0.1	1.1	0.121	0.127	37.6	0.		
30	39.192	39.218	0.8	1.7	0.253	0.256	33.6	0.		
50	35.763	35.852	1.2	1.9	0.441	0.442	33.4	0.		
70	32.487	32.639	1.6	1.9	0.613	0.612	34.8	0.		
85	30.124	30.302	2.4	2.0	0.730	0.730	35.5	0.		
90	29.312	29.489	2.7	2.1	0.769	0.769	35.6	0.		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE SPEED	
	IN	OUT	IN	OUT					IN	OUT
10	104.0	85.8			78.1	85.8	68.5	0.		
15	107.3	89.0			84.9	89.0	65.4	0.		
30	113.1	94.7			94.2	94.7	62.6	0.		
50	122.0	101.6			101.9	101.6	67.1	0.		
70	128.3	105.5			105.4	105.5	73.3	0.		
85	132.2	108.5			107.8	108.5	76.7	0.		
90	135.0	111.0			109.8	111.0	78.5	0.		

PCT IMM	ABS MACH NO		REL MACH NO	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT						IN	OUT
10	0.300	0.247		1.093	0.258	1.1287	1.0557	0.631	0.638
15	0.310	0.257		1.041	0.267	1.1319	1.0522	0.691	0.696
30	0.328	0.274		1.003	0.266	1.1365	1.0472	0.789	0.792
50	0.355	0.294		0.996	0.257	1.1414	1.0462	0.833	0.836
70	0.374	0.306		1.001	0.270	1.1420	1.0459	0.843	0.846
85	0.386	0.315		1.008	0.264	1.1405	1.0445	0.861	0.863
90	0.394	0.323		1.011	0.248	1.1412	1.0443	0.868	0.871

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-2.3	-10.5	10.9	41.1	0.410	0.070	0.	0.070	0.025	0.025
15	-4.6	-12.9	10.4	37.4	0.384	0.053	0.	0.053	0.018	0.018
30	-6.5	-14.3	9.4	33.6	0.344	0.037	0.	0.037	0.012	0.012
50	-5.6	-12.8	8.6	33.4	0.331	0.052	0.	0.052	0.016	0.016
70	-4.8	-11.2	8.3	34.8	0.334	0.057	0.	0.057	0.016	0.016
85	-5.5	-11.2	8.4	35.5	0.329	0.066	0.	0.066	0.017	0.017
90	-6.0	-11.7	8.4	35.6	0.325	0.080	0.	0.080	0.020	0.020

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
43.56	1.1383	1.0479	0.787	5323.1

ATT FAN VEHICLE

(METRIC)

CORE=OGV

50 PERCENT SPEED

RDG 59

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.8	0.872	0.873	51.3	19.5		
30	24.689	24.460	-1.3	-4.4	0.894	0.897	49.5	18.9		
50	23.673	23.597	0.5	-2.8	0.927	0.928	47.5	18.0		
70	22.682	22.784	2.3	-1.3	0.960	0.957	47.4	17.2		
85	21.971	22.174	3.6	0.1	0.982	0.979	52.1	16.6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	126.6	99.6			79.2	94.0	98.8	33.1		
30	132.2	101.6			85.9	96.2	100.5	32.8		
50	139.7	105.6			94.4	100.5	102.9	32.5		
70	147.6	110.3			99.9	105.4	108.6	32.6		
85	148.5	109.5			91.2	104.9	117.1	31.2		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.368	0.288			1.179	0.306	1.1558	1.0483	0.874	0.877
30	0.385	0.294			1.112	0.373	1.1603	1.0477	0.909	0.911
50	0.408	0.306			1.061	0.397	1.1646	1.0469	0.948	0.949
70	0.432	0.320			1.050	0.379	1.1674	1.0474	0.955	0.956
85	0.434	0.317			1.143	0.374	1.1611	1.0494	0.882	0.885

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	1.9	-2.0	8.6	31.7	0.393	0.080	0.	0.080	0.026	0.026
30	1.9	-1.6	8.1	30.5	0.405	0.042	0.	0.042	0.013	0.013
50	1.1	-2.0	7.7	29.5	0.408	0.036	0.	0.036	0.011	0.011
70	0.3	-2.1	8.0	30.1	0.410	0.065	0.	0.065	0.019	0.019
85	3.2	1.5	9.8	35.3	0.436	0.089	0.	0.089	0.026	0.026

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
7.60	1.1609	1.0480	0.907	5323.1

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 65 PERCENT SPEED RDG 60

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.7	-5.9	0.060	0.060	0.	40.7	72.5	66.1
10	42.367	41.961	-4.7	-4.9	0.122	0.121	0.	37.0	71.0	64.0
15	40.996	40.742	-3.4	-3.8	0.186	0.182	0.	36.0	69.7	62.6
30	36.881	37.059	0.2	-0.3	0.374	0.364	0.	36.4	66.2	58.1
50	31.394	32.131	5.5	4.9	0.603	0.592	0.	38.1	62.0	49.2
70	26.010	27.229	11.0	12.9	0.790	0.790	0.	43.3	58.0	36.2
85	21.717	23.647	16.9	13.5	0.908	0.910	0.	48.9	54.8	18.4
90	20.295	22.581	19.1	13.9	0.941	0.943	0.	48.0	54.1	11.3
95	18.796	21.463	20.7	15.8	0.971	0.976	0.	52.4	53.5	0.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	100.5	132.9	332.5	248.1	100.5	100.9	0.	86.4	317.0	313.1
10	106.1	136.4	325.0	247.9	106.1	109.1	0.	81.8	307.2	304.3
15	110.4	137.6	317.1	241.8	110.4	111.4	0.	80.8	297.3	295.4
30	118.1	142.4	292.4	216.9	118.1	114.6	0.	84.5	267.4	268.7
50	121.6	152.8	258.1	183.8	121.6	120.5	0.	94.0	227.7	233.0
70	120.1	164.2	223.6	148.8	120.1	121.0	0.	111.0	188.6	197.4
85	116.3	178.6	195.8	125.2	116.3	119.2	0.	132.9	157.5	171.5
90	112.8	189.7	185.4	131.4	112.8	129.1	0.	139.0	147.2	163.7
95	107.8	196.8	173.8	123.0	107.8	122.9	0.	153.6	136.3	155.6

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.298	0.379	0.986	0.707	1.003	0.265	1.2199	1.0935	0.625	0.635
10	0.315	0.391	0.965	0.710	1.028	0.289	1.2320	1.0859	0.715	0.723
15	0.328	0.395	0.942	0.694	1.011	0.311	1.2372	1.0824	0.761	0.768
30	0.351	0.410	0.870	0.624	0.972	0.369	1.2473	1.0784	0.831	0.836
50	0.362	0.441	0.768	0.531	0.992	0.434	1.2569	1.0756	0.893	0.896
70	0.357	0.476	0.665	0.431	1.000	0.498	1.2685	1.0757	0.929	0.932
85	0.346	0.519	0.582	0.364	1.042	0.527	1.2856	1.0788	0.944	0.946
90	0.335	0.553	0.551	0.383	1.175	0.482	1.2992	1.0786	0.988	0.988
95	0.320	0.574	0.516	0.359	1.195	0.393	1.2978	1.0821	0.942	0.944

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	9.3	7.4	4.1	6.3	0.340	0.230	0.006	0.225	0.031	0.030
10	9.2	7.5	3.7	7.1	0.321	0.168	0.005	0.164	0.025	0.024
15	9.3	7.7	3.9	7.1	0.324	0.142	0.004	0.137	0.022	0.021
30	10.5	8.5	4.5	8.3	0.356	0.108	0.001	0.107	0.019	0.019
50	12.1	9.4	4.8	13.1	0.402	0.082	0.	0.082	0.016	0.016
70	12.7	9.3	9.0	21.7	0.463	0.068	0.	0.068	0.014	0.014
85	12.3	8.4	13.6	36.3	0.515	0.071	0.	0.071	0.015	0.015
90	12.3	8.3	14.9	42.4	0.455	0.015	0.	0.015	0.003	0.003
95	12.5	8.3	12.9	51.4	0.463	0.098	0.	0.098	0.019	0.019

INLET CORR HTFLOW 69.97 PRESS RATIO 1.2542 TEMP RATIO 1.0800 ADIA EFF 0.835 INLET CORR RPM 6924.6



ATT FAN VEHICLE

(METRIC)

BP=OGV 65 PERCENT SPEED RDG 60

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42.418	42.316	-0.9	0.1	0.081	0.085	38.8	0.		
15	41.605	41.554	-0.3	0.6	0.123	0.126	35.3	0.		
30	39.192	39.218	0.3	1.2	0.256	0.257	32.7	0.		
50	35.763	35.852	0.9	1.5	0.444	0.444	32.1	0.		
70	32.487	32.639	1.4	1.6	0.618	0.616	32.7	0.		
85	30.124	30.302	2.2	1.8	0.736	0.735	34.0	0.		
90	29.312	29.489	2.6	2.0	0.775	0.775	34.5	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	136.8	114.6			106.7	114.6	85.4	0.		
15	142.8	119.9			116.6	119.9	82.3	0.		
30	151.6	127.9			127.6	127.9	81.9	0.		
50	162.8	136.3			137.9	136.3	86.5	0.		
70	171.4	142.4			144.2	142.4	92.6	0.		
85	178.0	147.3			147.6	147.3	99.4	0.		
90	181.5	150.6			149.6	150.6	102.8	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.391	0.326			1.070	0.241	1.2165	1.0905	0.636	0.646
15	0.410	0.342			1.024	0.247	1.2249	1.0856	0.697	0.706
30	0.437	0.366			1.002	0.258	1.2355	1.0804	0.774	0.781
50	0.471	0.392			0.988	0.259	1.2444	1.0775	0.832	0.837
70	0.498	0.410			0.988	0.265	1.2476	1.0754	0.865	0.869
85	0.518	0.425			0.999	0.252	1.2466	1.0750	0.867	0.871
90	0.528	0.435			1.007	0.235	1.2476	1.0754	0.865	0.869

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-4.9	-13.0	10.9	38.6	0.386	0.067	0.	0.067	0.024	0.024
15	-6.9	-15.2	10.4	35.1	0.363	0.057	0.	0.057	0.020	0.020
30	-7.3	-15.2	9.4	32.7	0.332	0.034	0.	0.034	0.011	0.011
50	-6.9	-14.1	8.6	32.1	0.321	0.044	0.	0.044	0.013	0.013
70	-6.9	-13.3	8.3	32.7	0.317	0.048	0.	0.048	0.013	0.013
85	-7.0	-12.7	8.4	34.0	0.316	0.069	0.	0.069	0.018	0.018
90	-7.1	-12.8	8.4	34.5	0.313	0.084	0.	0.084	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
60.00	1.2388	1.0799	0.789	6924.6

ATT FAN VEHICLE

(METRIC)

CORE-OGV

65 PERCENT SPEED

RDG 60

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.8	0.878	0.879	50.7	19.5		
30	24.689	24.460	-1.5	-4.7	0.900	0.902	47.9	18.8		
50	23.673	23.597	-0.1	-3.4	0.933	0.932	46.7	17.9		
70	22.682	22.784	1.4	-2.0	0.964	0.960	48.1	17.1		
85	21.971	22.174	3.0	-0.5	0.985	0.981	53.8	16.5		

PCT IMM	ABS VEL		REL VEL IN	MERID VEL IN	TANG VEL IN	BLADE SPEED	
	IN	OUT				OUT	OUT
15	164.9	129.2		104.6	121.9	127.5	42.9
30	172.5	131.4		115.8	124.4	127.8	42.3
50	181.8	133.1		124.9	126.6	132.2	40.9
70	190.8	137.7		127.5	131.6	142.1	40.6
85	189.8	135.2		112.0	129.6	152.9	38.5

PCT IMM	ABS MACH NO		REL MACH NO IN	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT						ADIA	POLY
15	0.477	0.370		1.158	0.315	1.2712	1.0811	0.875	0.879
30	0.500	0.377		1.071	0.382	1.2795	1.0790	0.923	0.926
50	0.529	0.382		1.013	0.412	1.2810	1.0784	0.935	0.937
70	0.556	0.395		1.020	0.413	1.2844	1.0805	0.921	0.924
85	0.552	0.387		1.141	0.435	1.2722	1.0839	0.849	0.854

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	1.2	-2.6	8.6	31.1	0.395	0.078	0.	0.078	0.025	0.025
30	0.3	-3.2	8.0	28.9	0.404	0.041	0.	0.041	0.013	0.013
50	0.2	-2.8	7.7	28.8	0.430	0.056	0.	0.056	0.017	0.017
70	1.0	-1.4	7.9	30.6	0.442	0.072	0.	0.072	0.021	0.021
85	4.9	3.2	9.8	36.8	0.471	0.071	0.	0.071	0.020	0.020

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
9.97	1.2757	1.0806	0.894	6924.6

ATT FAN VEHICLE

(METRIC)

ROTOR 85 PERCENT SPEED RDG 61

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.8	-6.1	0.061	0.061	0.	31.8	68.7	64.2
10	42.367	41.961	-4.8	-5.2	0.124	0.121	0.	29.3	66.9	62.5
15	40.996	40.742	-3.7	-4.2	0.188	0.183	0.	29.6	65.3	60.9
30	36.881	37.059	-0.0	-0.6	0.376	0.365	0.	31.3	60.9	55.6
50	31.394	32.131	5.5	5.1	0.604	0.593	0.	34.1	56.1	45.9
70	26.010	27.229	11.0	12.7	0.790	0.790	0.	38.1	51.6	36.3
85	21.717	23.647	16.8	13.3	0.907	0.909	0.	44.8	48.5	18.7
90	20.295	22.581	18.7	13.9	0.940	0.942	0.	43.6	47.8	13.8
95	18.796	21.463	20.2	15.8	0.971	0.974	0.	46.4	47.1	5.8

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	163.0	180.3	445.9	350.8	163.0	153.5	0.	94.6	415.0	410.0
10	172.1	184.8	437.5	347.8	172.1	161.2	0.	90.2	402.2	398.4
15	179.7	188.6	428.7	336.4	179.7	164.0	0.	93.1	389.2	386.8
30	194.8	198.9	400.7	301.0	194.8	170.0	0.	103.4	350.2	351.8
50	201.6	211.6	359.8	256.2	201.6	175.5	0.	118.3	298.1	305.1
70	199.1	219.8	317.2	214.8	199.1	174.6	0.	133.5	246.9	258.5
85	190.6	240.8	280.8	182.4	190.6	173.2	0.	167.3	206.2	224.5
90	184.7	251.4	266.9	189.8	184.7	184.8	0.	170.5	192.7	214.4
95	177.0	261.3	251.3	184.7	177.0	183.7	0.	185.7	178.5	203.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.490	0.510	1.341	0.993	0.942	0.240	1.3211	1.1339	0.618	0.633
10	0.519	0.526	1.320	0.990	0.938	0.271	1.3515	1.1241	0.724	0.736
15	0.544	0.538	1.297	0.959	0.914	0.300	1.3744	1.1245	0.764	0.774
30	0.592	0.568	1.218	0.860	0.875	0.375	1.4215	1.1257	0.841	0.849
50	0.614	0.608	1.097	0.736	0.871	0.447	1.4488	1.1246	0.897	0.902
70	0.606	0.635	0.966	0.620	0.872	0.510	1.4558	1.1192	0.950	0.953
85	0.579	0.697	0.852	0.528	0.924	0.516	1.4899	1.1299	0.929	0.933
90	0.560	0.733	0.809	0.553	1.026	0.468	1.5002	1.1264	0.972	0.974
95	0.535	0.763	0.759	0.539	1.071	0.385	1.4967	1.1302	0.938	0.941

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.4	3.6	2.1	4.5	0.284	0.222	0.055	0.167	0.032	0.024
10	5.1	3.4	2.2	4.5	0.274	0.155	0.048	0.107	0.024	0.017
15	4.9	3.3	2.2	4.5	0.290	0.137	0.041	0.096	0.022	0.016
30	5.3	3.2	2.0	5.6	0.337	0.101	0.025	0.076	0.018	0.014
50	6.1	3.5	2.5	9.5	0.390	0.075	0.014	0.061	0.015	0.012
70	6.4	2.9	9.1	15.4	0.432	0.042	0.012	0.031	0.009	0.006
85	6.0	2.1	13.9	29.6	0.487	0.078	0.	0.078	0.016	0.016
90	6.0	2.0	17.4	33.8	0.428	0.031	0.	0.031	0.006	0.006
95	6.1	1.9	17.8	40.7	0.414	0.084	0.	0.084	0.016	0.016

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
103.85	1.4243	1.1259	0.845	9066.3

ATT FAN VEHICLE

(METRIC)

BP-06V

85 PERCENT SPEED

RDG 61

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
10	42,418	42,316	-1,1	-0,4	0,083	0,086	29,9	0,		
15	41,605	41,554	-0,7	-0,1	0,126	0,127	27,5	0,		
30	39,192	39,218	-0,5	0,1	0,258	0,256	27,1	0,		
50	35,763	35,852	0,2	0,4	0,447	0,443	26,9	0,		
70	32,487	32,639	1,0	0,8	0,621	0,616	28,1	0,		
85	30,124	30,302	2,0	1,3	0,737	0,735	28,9	0,		
90	29,312	29,489	2,5	1,6	0,775	0,774	29,3	0,		

PCT IMM	ABS VEL		REL VEL IN	MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE IN	SPEED OUT
	IN	OUT							
10	187,8	175,5		162,9	175,5	93,2	0,		
15	196,8	179,4		174,6	179,4	90,7	0,		
30	216,2	195,7		192,5	195,7	98,4	0,		
50	235,6	212,1		210,1	212,1	106,7	0,		
70	247,3	219,7		218,3	219,7	116,3	0,		
85	252,4	226,9		221,1	226,9	121,8	0,		
90	254,2	231,4		221,7	231,4	124,3	0,		

PCT IMM	ABS MACH NO		REL MACH NO IN	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT						ADIA	POLY
10	0,534	0,497		1,078	0,004	1,2996	1,1295	0,600	0,615
15	0,563	0,510		1,027	0,025	1,3100	1,1237	0,649	0,662
30	0,621	0,558		1,018	0,056	1,3503	1,1265	0,708	0,720
50	0,683	0,609		1,011	0,092	1,3913	1,1251	0,791	0,801
70	0,720	0,633		1,007	0,106	1,3966	1,1241	0,807	0,816
85	0,738	0,656		1,027	0,083	1,3944	1,1204	0,827	0,835
90	0,744	0,671		1,045	0,063	1,3962	1,1195	0,837	0,844

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS TOT	PARAM PROF
	ML	SS				TOT	SHOCK	PROF		
10	-13,8	-21,9	10,9	29,8	0,242	0,138	0,	0,138	0,049	0,049
15	-14,7	-23,0	10,4	27,5	0,248	0,163	0,	0,163	0,056	0,056
30	-13,0	-20,8	9,4	27,1	0,242	0,140	0,	0,140	0,046	0,046
50	-12,1	-19,3	8,6	26,9	0,233	0,114	0,	0,114	0,034	0,034
70	-11,5	-17,9	8,3	28,1	0,240	0,125	0,	0,125	0,034	0,034
85	-12,1	-17,8	8,4	28,9	0,225	0,131	0,	0,131	0,034	0,034
90	-12,3	-18,0	8,4	29,3	0,213	0,131	0,	0,131	0,033	0,033

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
88,77	1,3668	1,1253	0,745	9066,3

ATT FAN VEHICLE

(METRIC)

CORE-OGV 85 PERCENT SPEED RDG 61

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.7	-5.8	0.877	0.877	44.0	19.5		
30	24,689	24,460	-1.5	-4.5	0.899	0.901	43.8	18.8		
50	23,673	23,597	0.3	-2.8	0.931	0.932	41.8	17.9		
70	22,682	22,784	2.3	-1.1	0.962	0.960	43.0	17.1		
85	21,971	22,174	3.9	0.4	0.983	0.981	47.0	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	223.2	196.3			160.5	185.1	155.1	65.2		
30	233.6	193.5			168.8	183.2	161.6	62.3		
50	245.1	197.3			182.7	187.8	163.5	60.6		
70	252.5	201.2			184.6	192.3	172.2	59.2		
85	253.1	199.8			172.9	191.6	184.8	56.9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT ACC TT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
15	0.642	0.559			1.148	0.180	1.4697	1.1292	0.900	0.905
30	0.674	0.551			1.080	0.276	1.4715	1.1307	0.893	0.898
50	0.712	0.563			1.025	0.324	1.4823	1.1269	0.938	0.941
70	0.735	0.575			1.040	0.323	1.4784	1.1279	0.924	0.928
85	0.736	0.569			1.106	0.305	1.4510	1.1329	0.844	0.852

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-5.4	-9.3	8.5	24.5	0.261	0.055	0.	0.055	0.018	0.018
30	-3.8	-7.3	8.0	24.8	0.316	0.047	0.	0.047	0.015	0.015
50	-4.6	-7.7	7.6	23.9	0.351	0.035	0.	0.035	0.011	0.011
70	-4.1	-6.5	7.9	25.8	0.340	0.049	0.	0.049	0.014	0.014
85	-2.0	-3.6	9.8	30.3	0.362	0.087	0.	0.087	0.025	0.025

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15,08	1,4681	1,1295	0,895	9066,3

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 85 PERCENT SPEED RDG 62

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6.0	-6.3	0.061	0.060	0.	41.9	70.1	65.3
10	42,367	41,961	-5.0	-5.4	0.124	0.121	0.	38.3	68.4	62.9
15	40,996	40,742	-3.7	-4.2	0.189	0.183	0.	37.7	66.7	61.1
30	36,881	37,059	0.6	-0.0	0.379	0.371	0.	37.5	62.6	56.1
50	31,394	32,131	7.0	6.3	0.609	0.604	0.	39.7	58.4	47.2
70	26,010	27,229	12.3	13.4	0.794	0.798	0.	43.4	54.7	38.5
85	21,717	23,647	17.5	13.5	0.909	0.913	0.	46.4	51.5	20.6
90	20,295	22,581	19.6	14.3	0.941	0.946	0.	46.1	50.8	13.8
95	18,796	21,463	20.9	16.1	0.971	0.978	0.	51.9	50.2	2.3

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	150.8	179.5	441.0	319.5	150.8	134.0	0.	119.4	414.4	409.4
10	159.9	185.7	432.3	318.6	159.9	145.9	0.	114.7	401.7	397.8
15	167.3	189.0	423.2	309.4	167.3	149.7	0.	115.5	388.7	386.3
30	181.1	196.7	393.8	279.3	181.1	156.0	0.	119.7	349.7	351.3
50	184.5	208.1	350.2	235.4	184.5	160.5	0.	132.5	297.6	304.6
70	178.9	207.0	304.7	192.8	178.9	152.4	0.	140.0	246.6	258.2
85	171.9	231.1	268.2	172.2	171.9	161.8	0.	165.0	205.9	224.2
90	166.5	244.1	254.4	176.7	166.5	172.0	0.	173.4	192.4	214.1
95	159.0	254.5	238.8	161.2	159.0	161.0	0.	197.1	178.2	203.5

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.452	0.500	1.322	0.890	0.889	0.307	1.4369	1.1687	0.647	0.664
10	0.481	0.521	1.299	0.893	0.915	0.337	1.4689	1.1574	0.738	0.752
15	0.504	0.532	1.275	0.870	0.896	0.365	1.4872	1.1540	0.780	0.792
30	0.548	0.556	1.191	0.790	0.863	0.435	1.5155	1.1452	0.869	0.876
50	0.559	0.593	1.061	0.671	0.871	0.495	1.5173	1.1393	0.908	0.914
70	0.541	0.593	0.921	0.553	0.851	0.538	1.4656	1.1252	0.922	0.926
85	0.519	0.667	0.809	0.497	0.962	0.548	1.5013	1.1280	0.962	0.964
90	0.501	0.709	0.766	0.513	1.063	0.501	1.5158	1.1279	0.987	0.987
95	0.478	0.738	0.718	0.467	1.072	0.413	1.5135	1.1368	0.919	0.924

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	HL	SS					SHOCK	PROF	TOT	PROF
5	6.9	5.0	3.3	4.8	0.366	0.252	0.058	0.194	0.035	0.027
10	6.6	4.9	2.6	5.6	0.352	0.183	0.050	0.133	0.028	0.020
15	6.3	4.7	2.4	5.7	0.362	0.156	0.043	0.113	0.025	0.018
30	7.0	4.9	2.4	6.8	0.392	0.097	0.027	0.070	0.018	0.013
50	8.5	5.8	2.8	11.4	0.442	0.077	0.017	0.061	0.015	0.012
70	9.4	6.0	11.3	15.9	0.483	0.074	0.018	0.056	0.015	0.011
85	9.0	5.1	15.8	30.6	0.496	0.045	0.	0.045	0.009	0.009
90	9.1	5.0	17.4	36.2	0.452	0.015	0.	0.015	0.003	0.003
95	9.2	5.0	14.3	45.9	0.475	0.126	0.	0.126	0.025	0.025

INLET CORR PRESS TEMP ADIA INLET CORR  
 WFLOW RATIO RATIO EFF RPM  
 97.55 1.4938 1.1433 0.848 9053.6

ATT FAN VEHICLE

(METRIC)

BP=OGV

85 PERCENT SPEED

RDG 62

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.2	-0.1	0.081	0.083	39.8	0.		
15	41.605	41.554	-0.7	0.3	0.123	0.125	36.3	0.		
30	39.192	39.218	0.0	1.0	0.260	0.260	33.7	0.		
50	35.763	35.852	0.9	1.6	0.456	0.456	32.2	0.		
70	32.487	32.639	1.9	2.2	0.634	0.634	33.8	0.		
85	30.124	30.302	2.8	2.6	0.748	0.750	34.8	0.		
90	29.312	29.489	3.1	2.5	0.785	0.787	35.0	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	185.8	148.6			142.8	148.6	118.5	0.		
15	195.7	158.0			157.8	158.0	115.4	0.		
30	212.8	173.5			177.0	173.5	118.1	0.		
50	227.2	184.1			192.2	184.1	121.2	0.		
70	234.0	188.2			194.6	188.2	130.0	0.		
85	231.5	182.3			190.3	182.3	131.8	0.		
90	229.5	178.8			188.0	178.8	131.6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.519	0.412			1.037	0.299	1.4307	1.1644	0.655	0.672
15	0.551	0.440			0.999	0.300	1.4538	1.1572	0.718	0.732
30	0.604	0.486			0.980	0.307	1.4902	1.1516	0.796	0.807
50	0.651	0.520			0.957	0.317	1.5096	1.1419	0.880	0.887
70	0.673	0.533			0.967	0.328	1.5018	1.1382	0.891	0.897
85	0.668	0.517			0.958	0.324	1.4592	1.1301	0.876	0.883
90	0.663	0.508			0.953	0.317	1.4377	1.1264	0.865	0.872

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF	
	ML	SS					SHOCK	PROF		TOT	PROF
10	-3.9	-12.0	10.9	39.7	0.429	0.074	0.	0.074	0.026	0.026	
15	-6.0	-14.2	10.4	36.2	0.399	0.058	0.	0.058	0.020	0.020	
30	-6.3	-14.2	9.4	33.7	0.365	0.032	0.	0.032	0.010	0.010	
50	-6.8	-14.0	8.6	32.2	0.349	0.031	0.	0.031	0.009	0.009	
70	-5.9	-12.2	8.3	33.8	0.347	0.029	0.	0.029	0.008	0.008	
85	-6.2	-11.9	8.4	34.8	0.359	0.065	0.	0.065	0.017	0.017	
90	-6.5	-12.3	8.4	35.1	0.365	0.086	0.	0.086	0.022	0.022	

INLET CORR WTFLOW 83.90	PRESS RATIO 1.4771	TEMP RATIO 1.1452	ADIA EFF 0.812	INLET CORR RPM 9053.6
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ATT FAN VEHICLE

(METRIC)

CORE-OGV 85 PERCENT SPEED RDG 62

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.8	-5.9	0.881	0.881	48.6	19.5		
30	24.689	24.460	-1.7	-4.9	0.903	0.904	44.7	18.8		
50	23.673	23.597	-0.5	-3.7	0.936	0.935	44.0	17.9		
70	22.682	22.784	1.0	-2.3	0.967	0.962	46.7	17.1		
85	21.971	22.174	2.6	-0.7	0.986	0.982	53.4	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	209.8	167.1			138.8	157.6	157.4	55.5		
30	226.2	177.1			160.7	167.7	159.1	57.0		
50	236.2	174.5			170.2	166.1	164.1	53.5		
70	247.3	177.4			169.6	169.6	180.4	52.1		
85	246.4	173.1			146.9	166.0	197.1	49.2		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.600	0.472			1.128	0.300	1.4557	1.1309	0.865	0.872
30	0.652	0.502			1.041	0.354	1.4940	1.1286	0.945	0.948
50	0.684	0.495			0.976	0.400	1.4842	1.1272	0.939	0.942
70	0.717	0.502			0.983	0.410	1.4823	1.1332	0.894	0.899
85	0.711	0.488			1.113	0.437	1.4563	1.1412	0.803	0.813

PCT IMM	INCIDENCE		DFV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-0.8	-4.7	8.6	29.1	0.373	0.077	0.	0.077	0.025	0.025
30	-2.8	-6.4	8.0	25.9	0.368	0.036	0.	0.036	0.011	0.011
50	-2.5	-5.5	7.6	26.1	0.411	0.061	0.	0.061	0.019	0.019
70	-0.4	-2.8	7.9	29.2	0.441	0.087	0.	0.087	0.026	0.026
85	4.5	2.8	9.8	36.2	0.482	0.092	0.	0.092	0.026	0.026

INLET CORR W/FLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
13.65	1.4703	1.1320	0.882	9053.6



ATT FAN VEHICLE

(METRIC)

ROTOR 85 PERCENT SPEED RDG 63

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.8	-6.0	0.061	0.061	0.	45.8	71.0	65.7
10	42.367	41.961	-4.7	-5.0	0.125	0.123	0.	42.5	69.3	63.1
15	40.996	40.742	-3.3	-3.8	0.190	0.186	0.	42.0	67.8	61.5
30	36.881	37.059	1.0	0.4	0.380	0.373	0.	41.7	64.0	56.7
50	31.394	32.131	7.2	6.4	0.610	0.606	0.	43.0	60.0	47.4
70	26.010	27.229	12.5	12.4	0.794	0.799	0.	46.6	56.3	39.3
85	21.717	23.647	17.8	12.2	0.910	0.913	0.	48.4	53.3	19.0
90	20.295	22.581	19.8	13.5	0.942	0.947	0.	47.5	52.6	12.1
95	18.796	21.463	21.2	15.7	0.972	0.979	0.	53.7	52.0	0.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	143.7	181.6	438.9	307.3	143.7	127.0	0.	129.8	414.7	409.6
10	152.1	187.6	429.7	305.2	152.1	138.6	0.	126.2	401.9	398.1
15	158.8	189.8	420.1	295.4	158.8	141.1	0.	127.0	388.9	386.5
30	170.6	195.4	389.3	265.5	170.6	146.0	0.	129.9	349.9	351.6
50	173.6	207.0	344.8	223.6	173.6	151.8	0.	140.7	297.8	304.8
70	168.4	202.8	298.7	180.5	168.4	141.0	0.	145.7	246.7	258.3
85	161.4	232.0	261.7	164.4	161.4	155.8	0.	171.9	206.0	224.3
90	156.4	246.3	246.0	172.6	156.4	169.0	0.	179.2	192.5	214.2
95	149.3	253.9	232.5	154.1	149.3	154.1	0.	201.8	178.3	203.6

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.430	0.503	1.313	0.851	0.883	0.334	1.4979	1.1837	0.666	0.685
10	0.456	0.522	1.289	0.850	0.912	0.362	1.5259	1.1735	0.740	0.755
15	0.477	0.530	1.262	0.825	0.890	0.387	1.5373	1.1695	0.771	0.785
30	0.515	0.550	1.174	0.747	0.857	0.451	1.5494	1.1577	0.845	0.855
50	0.524	0.587	1.041	0.634	0.876	0.509	1.5434	1.1480	0.892	0.898
70	0.507	0.579	0.900	0.515	0.841	0.549	1.4719	1.1303	0.896	0.902
85	0.485	0.668	0.787	0.474	0.991	0.537	1.5088	1.1333	0.935	0.939
90	0.470	0.714	0.745	0.500	1.118	0.484	1.5290	1.1324	0.974	0.976
95	0.447	0.735	0.697	0.446	1.106	0.387	1.5152	1.1402	0.899	0.905

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	TOT	PROF	
5	7.8	5.9	3.7	5.3	0.398	0.258	0.061	0.197	0.035	0.027
10	7.5	5.8	2.8	6.3	0.388	0.199	0.053	0.146	0.030	0.022
15	7.4	5.8	2.8	6.4	0.399	0.177	0.045	0.132	0.028	0.021
30	8.4	6.3	3.0	7.5	0.429	0.124	0.029	0.095	0.022	0.017
50	10.0	7.4	3.0	12.6	0.474	0.097	0.022	0.075	0.019	0.015
70	11.1	7.6	12.1	16.9	0.519	0.105	0.001	0.104	0.020	0.020
85	10.8	6.9	14.2	34.0	0.522	0.083	0.	0.083	0.017	0.017
90	10.9	6.8	15.7	39.7	0.460	0.034	0.	0.034	0.007	0.007
95	11.0	6.8	12.7	49.1	0.491	0.168	0.	0.168	0.033	0.033

INLET CORR W/FLOW 93.41 PRESS RATIO 1.5245 TEMP RATIO 1.1537 ADIA EFF 0.833 INLET CORR RPM 9059.2

ATT FAN VEHICLE

(METRIC)

BP-OGV

85 PERCENT SPEED

RDG 63

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.8	0.4	0.083	0.087	43.5	0.		
15	41.605	41.554	-0.2	0.9	0.126	0.130	40.1	0.		
30	39.192	39.218	0.7	1.9	0.264	0.269	37.7	0.		
50	35.763	35.852	1.7	2.8	0.460	0.465	36.4	0.		
70	32.487	32.639	2.7	3.4	0.636	0.639	37.2	0.		
85	30.124	30.302	3.2	3.3	0.748	0.751	38.2	0.		
90	29.312	29.489	3.4	3.0	0.783	0.786	38.9	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	188.6	143.5			136.9	143.5	129.4	0.		
15	197.6	151.7			151.2	151.7	127.0	0.		
30	210.5	163.0			166.5	163.0	128.7	0.		
50	221.8	169.9			178.5	169.9	131.7	0.		
70	226.2	171.8			180.2	171.8	136.7	0.		
85	220.8	161.6			173.6	161.6	136.3	0.		
90	218.1	156.1			169.8	156.1	136.8	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC P1 RATIO	ACC T1 RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.524	0.394			1.042	0.368	1.4921	1.1796	0.675	0.692
15	0.552	0.419			0.997	0.365	1.5110	1.1729	0.724	0.739
30	0.593	0.453			0.977	0.376	1.5340	1.1652	0.787	0.800
50	0.630	0.475			0.950	0.380	1.5384	1.1543	0.849	0.858
70	0.646	0.483			0.953	0.391	1.5227	1.1455	0.877	0.885
85	0.633	0.455			0.932	0.408	1.4736	1.1345	0.871	0.878
90	0.626	0.440			0.922	0.412	1.4499	1.1313	0.853	0.860

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PARAM
10	-0.2	-8.3	10.9	43.3	0.486	0.067	0.	0.067	0.023	0.023
15	-2.2	-10.4	10.4	39.9	0.458	0.058	0.	0.058	0.020	0.020
30	-2.3	-10.2	9.4	37.7	0.425	0.030	0.	0.030	0.010	0.010
50	-2.6	-9.8	8.6	36.4	0.411	0.040	0.	0.040	0.012	0.012
70	-2.4	-8.8	8.3	37.2	0.405	0.037	0.	0.037	0.010	0.010
85	-2.8	-8.5	8.4	38.2	0.426	0.062	0.	0.062	0.016	0.016
90	-2.7	-8.4	8.4	38.9	0.441	0.083	0.	0.083	0.021	0.021

INLET CORR NTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
79.96	1.5115	1.1566	0.800	9059.2

ATT FAN VEHICLE

(METRIC)

CORE-OGV

85 PERCENT SPEED

RDG 63

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,8	-5,8	0,877	0,878	49,9	19,5		
30	24,689	24,460	-1,6	-4,7	0,900	0,902	46,5	18,8		
50	23,673	23,597	-0,3	-3,6	0,934	0,933	44,9	17,9		
70	22,682	22,784	0,9	-2,4	0,966	0,962	47,5	17,1		
85	21,971	22,174	2,5	-0,8	0,986	0,982	54,5	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	215,1	166,3			138,5	156,9	164,5	55,2		
30	229,0	173,0			157,6	163,8	166,2	55,6		
50	240,8	171,9			170,7	163,6	170,1	52,7		
70	250,2	173,1			168,9	165,5	184,9	50,8		
85	247,9	167,5			144,0	160,6	200,9	47,6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH1	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,615	0,468			1,125	0,344	1,4701	1,1370	0,850	0,858
30	0,659	0,489			1,035	0,395	1,4972	1,1343	0,910	0,915
50	0,697	0,486			0,957	0,426	1,4904	1,1320	0,915	0,920
70	0,724	0,489			0,958	0,440	1,4837	1,1367	0,873	0,880
85	0,715	0,470			1,098	0,477	1,4563	1,1440	0,787	0,798

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	0,5	-3,4	8,6	30,4	0,404	0,067	0,	0,067	0,022	0,022
30	-1,1	-4,6	8,0	27,6	0,406	0,039	0,	0,039	0,012	0,012
50	-1,5	-4,6	7,6	27,1	0,443	0,075	0,	0,075	0,023	0,023
70	0,4	-2,0	7,9	30,0	0,473	0,097	0,	0,097	0,029	0,029
85	5,5	3,9	9,8	37,2	0,515	0,088	0,	0,088	0,025	0,025

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
13,46	1,4765	1,1366	0,862	9059,2

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

80 PERCENT SPEED

RDG 64

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5.9	-6.2	0.061	0.060	0.	29.0	69.1	64.8
10	42,367	41,961	-4.9	-5.2	0.123	0.120	0.	26.7	67.3	62.3
15	40,996	40,742	-3.7	-4.2	0.187	0.182	0.	26.9	65.7	61.0
30	36,881	37,059	-0.1	-0.6	0.375	0.364	0.	28.6	61.5	56.3
50	31,394	32,131	5.5	5.1	0.603	0.593	0.	32.0	56.7	47.3
70	26,010	27,229	10.9	12.8	0.789	0.789	0.	37.1	52.4	36.7
85	21,717	23,647	16.6	13.3	0.907	0.908	0.	44.5	49.1	19.5
90	20,295	22,581	18.5	13.7	0.940	0.940	0.	43.0	48.3	14.5
95	18,796	21,463	20.0	15.6	0.971	0.973	0.	45.2	47.5	5.6

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	149.8	164.9	417.3	337.8	149.8	144.5	0.	79.5	389.5	384.8
10	158.4	174.6	409.4	334.4	158.4	156.1	0.	78.2	377.5	373.9
15	165.2	176.6	400.9	324.1	165.2	157.5	0.	79.8	365.3	363.0
30	178.4	184.1	373.9	291.3	178.4	161.7	0.	88.0	328.6	330.2
50	184.4	198.5	335.0	247.4	184.4	168.5	0.	105.0	279.7	286.3
70	181.6	206.1	294.4	205.1	181.6	165.9	0.	122.2	231.8	242.6
85	175.0	223.8	260.9	171.0	175.0	161.7	0.	154.8	193.5	210.7
90	170.0	234.8	248.2	179.3	170.0	174.0	0.	157.7	180.8	201.2
95	163.2	250.0	233.9	180.4	163.2	179.5	0.	174.0	167.5	191.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC T1 RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.449	0.471	1.251	0.965	0.965	0.217	1.2484	1.1056	0.620	0.631
10	0.476	0.501	1.230	0.960	0.987	0.249	1.2883	1.1009	0.744	0.753
15	0.497	0.507	1.207	0.931	0.955	0.277	1.3036	1.1001	0.786	0.794
30	0.539	0.530	1.130	0.839	0.909	0.349	1.3403	1.1005	0.868	0.874
50	0.558	0.573	1.015	0.714	0.915	0.419	1.3729	1.1039	0.912	0.916
70	0.550	0.597	0.891	0.594	0.907	0.481	1.3820	1.1024	0.946	0.948
85	0.529	0.649	0.788	0.496	0.938	0.499	1.4121	1.1127	0.919	0.923
90	0.513	0.685	0.748	0.523	1.049	0.456	1.4275	1.1097	0.976	0.977
95	0.491	0.732	0.704	0.528	1.130	0.374	1.4491	1.1146	0.976	0.977

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.8	4.0	2.7	4.3	0.254	0.194	0.033	0.162	0.028	0.023
10	5.5	3.8	2.0	5.1	0.247	0.130	0.027	0.103	0.020	0.016
15	5.3	3.7	2.3	4.8	0.260	0.111	0.022	0.089	0.018	0.014
30	5.9	3.8	2.6	5.5	0.302	0.075	0.012	0.063	0.013	0.011
50	6.8	4.1	2.9	9.8	0.359	0.060	0.008	0.052	0.012	0.010
70	7.2	3.7	9.5	15.8	0.411	0.044	0.001	0.044	0.009	0.009
85	6.6	2.7	14.7	29.5	0.480	0.088	0.	0.088	0.018	0.018
90	6.5	2.5	18.1	33.8	0.416	0.026	0.	0.026	0.005	0.005
95	6.5	2.3	17.6	41.5	0.381	0.033	0.	0.033	0.006	0.006

INLET CORR WTFLOW 97.77	PRESS RATIO 1.3508	TEMP RATIO 1.1041	ADIA EFF 0.862	INLET CORR RPM 8509.0
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ATT FAN VEHICLE

(METRIC)

BP-0GV

80 PERCENT SPEED

RDG 64

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,1	-0,4	0,082	0,084	27,2	0,		
15	41,605	41,554	-0,8	-0,2	0,125	0,125	25,1	0,		
30	39,192	39,218	-0,6	-0,1	0,257	0,254	24,6	0,		
50	35,763	35,852	0,0	0,2	0,446	0,441	24,8	0,		
70	32,487	32,639	0,8	0,5	0,620	0,614	26,4	0,		
85	30,124	30,302	1,9	1,1	0,736	0,733	27,6	0,		
90	29,312	29,489	2,4	1,5	0,774	0,773	28,2	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	174,2	166,9			154,9	166,9	79,4	0,		
15	185,8	172,4			168,2	172,4	78,7	0,		
30	199,7	186,1			181,7	186,1	83,1	0,		
50	220,1	202,2			199,7	202,2	92,4	0,		
70	232,5	211,4			208,2	211,4	103,5	0,		
85	237,5	218,1			210,5	218,1	110,0	0,		
90	239,6	222,6			211,1	222,6	113,3	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,499	0,477			1,078	-0,037	1,2371	1,1036	0,605	0,617
15	0,535	0,495			1,025	-0,014	1,2505	1,1007	0,655	0,665
30	0,578	0,536			1,026	0,022	1,2624	1,1002	0,735	0,744
50	0,641	0,585			1,014	0,060	1,3211	1,1017	0,814	0,822
70	0,680	0,613			1,016	0,081	1,3339	1,1036	0,828	0,835
85	0,696	0,635			1,037	0,061	1,3332	1,1020	0,840	0,846
90	0,703	0,649			1,055	0,041	1,3356	1,1022	0,843	0,850

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHUCK	PROF	TOT	PROF
10	-16,4	-24,6	10,9	27,2	0,204	0,133	0,	0,133	0,047	0,047
15	-17,1	-25,4	10,4	25,1	0,219	0,170	0,	0,170	0,058	0,058
30	-15,5	-23,3	9,4	24,6	0,202	0,122	0,	0,122	0,040	0,040
50	-14,2	-21,4	8,6	24,8	0,204	0,108	0,	0,108	0,032	0,032
70	-13,2	-19,6	8,3	26,4	0,212	0,108	0,	0,108	0,029	0,029
85	-13,4	-19,1	8,4	27,6	0,200	0,112	0,	0,112	0,029	0,029
90	-13,3	-19,1	8,4	28,2	0,190	0,114	0,	0,114	0,029	0,029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
83,54	1,3022	1,1025	0,765	8509,0

ATT FAN VEHICLE

(METRIC)

CORE-OGV 80 PERCENT SPEED RDG 64

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.7	-5.8	0.876	0.877	44.0	19.5		
30	24,689	24,460	-1.4	-4.4	0.898	0.900	43.4	18.8		
50	23,673	23,597	0.5	-2.7	0.930	0.930	41.8	17.9		
70	22,682	22,784	2.5	-0.9	0.960	0.959	42.0	17.2		
85	21,971	22,174	4.0	0.6	0.982	0.980	45.7	16.6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	209.9	186.9			151.0	176.3	145.9	62.1		
30	218.0	183.0			158.3	173.3	149.9	58.9		
50	226.9	186.2			169.3	177.2	151.0	57.3		
70	239.4	195.5			177.8	186.8	160.3	57.7		
85	243.7	198.2			170.3	190.0	174.2	56.5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.606	0.535			1.162	0.157	1.4050	1.1141	0.894	0.899
30	0.631	0.523			1.092	0.257	1.4035	1.1138	0.894	0.899
50	0.660	0.534			1.044	0.308	1.4106	1.1101	0.936	0.941
70	0.699	0.562			1.052	0.290	1.4243	1.1117	0.952	0.954
85	0.711	0.569			1.115	0.257	1.4107	1.1176	0.878	0.884

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-5.4	-9.3	8.5	24.5	0.249	0.059	0.	0.059	0.019	0.019
30	-4.1	-7.7	8.0	24.5	0.300	0.042	0.	0.042	0.013	0.013
50	-4.7	-7.7	7.7	23.8	0.314	0.023	0.	0.023	0.007	0.007
70	-5.1	-7.5	7.9	24.8	0.313	0.047	0.	0.047	0.014	0.014
85	-3.3	-4.9	9.8	29.0	0.330	0.096	0.	0.096	0.028	0.028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14.23	1.4076	1.1135	0.904	8509.0

ATT FAN VEHICLE

(METRIC)

ROTOR 80 PERCENT SPEED RDG 65

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,8	-6,0	0,061	0,061	0,	40,6	70,7	65,5
10	42,367	41,961	-4,6	-5,0	0,124	0,123	0,	37,4	69,1	62,9
15	40,996	40,742	-3,3	-3,8	0,189	0,186	0,	37,2	67,6	61,5
30	36,881	37,059	0,8	0,2	0,379	0,371	0,	37,6	63,8	56,8
50	31,394	32,131	6,7	5,9	0,608	0,602	0,	39,2	59,6	48,1
70	26,010	27,229	12,0	12,8	0,793	0,796	0,	43,6	55,7	37,9
85	21,717	23,647	17,4	12,9	0,909	0,912	0,	48,0	52,6	18,9
90	20,295	22,581	19,4	13,7	0,941	0,945	0,	46,7	51,9	12,4
95	18,796	21,463	20,8	15,7	0,971	0,977	0,	52,0	51,2	1,2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	137,1	166,6	412,9	304,4	137,1	126,8	0,	108,0	389,5	384,7
10	144,9	173,4	404,4	302,3	144,9	137,9	0,	104,9	377,5	373,9
15	151,0	175,6	395,3	292,5	151,0	139,9	0,	106,1	365,3	363,0
30	162,0	181,6	366,4	262,3	162,0	143,8	0,	110,9	328,6	330,2
50	165,4	192,2	325,0	222,7	165,4	149,3	0,	121,0	279,7	286,3
70	161,3	196,2	282,4	180,6	161,3	143,9	0,	133,4	231,8	242,6
85	155,2	219,0	248,0	156,6	155,2	148,5	0,	160,9	193,5	210,7
90	150,6	232,4	235,3	165,3	150,6	161,8	0,	166,9	180,8	201,2
95	144,0	242,1	220,9	152,4	144,0	152,3	0,	188,1	167,5	191,2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,410	0,468	1,234	0,854	0,924	0,302	1,3781	1,1436	0,668	0,683
10	0,434	0,490	1,210	0,853	0,952	0,330	1,4065	1,1355	0,756	0,767
15	0,453	0,497	1,185	0,827	0,927	0,355	1,4178	1,1330	0,789	0,799
30	0,487	0,516	1,102	0,745	0,889	0,420	1,4348	1,1264	0,860	0,867
50	0,498	0,550	0,978	0,637	0,904	0,482	1,4376	1,1196	0,914	0,918
70	0,485	0,564	0,849	0,519	0,890	0,531	1,4120	1,1119	0,926	0,930
85	0,466	0,633	0,745	0,452	0,978	0,537	1,4412	1,1173	0,939	0,942
90	0,451	0,675	0,705	0,480	1,107	0,490	1,4603	1,1159	0,986	0,986
95	0,431	0,703	0,661	0,443	1,116	0,399	1,4583	1,1230	0,926	0,929

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	7,5	5,6	3,5	5,2	0,350	0,225	0,037	0,188	0,031	0,026
10	7,2	5,6	2,6	6,2	0,339	0,163	0,030	0,133	0,025	0,020
15	7,2	5,6	2,8	6,1	0,351	0,144	0,025	0,119	0,023	0,019
30	8,1	6,1	3,1	7,2	0,385	0,101	0,015	0,086	0,018	0,015
50	9,6	7,0	3,7	11,7	0,428	0,070	0,014	0,056	0,014	0,011
70	10,5	7,0	10,7	17,7	0,481	0,071	0,001	0,070	0,014	0,014
85	10,1	6,2	14,1	33,4	0,516	0,076	0,	0,076	0,016	0,016
90	10,1	6,1	16,0	38,9	0,452	0,017	0,	0,017	0,004	0,004
95	10,2	6,0	13,2	48,4	0,469	0,120	0,	0,120	0,023	0,023

INLET CORR WTFLOW 90,21 PRESS RATIO 1,4251 TEMP RATIO 1,1249 ADIA EFF 0,853 INLET CORR RPM 8508,7

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-0GV

80 PERCENT SPEED

RDG 65

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABB IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42,418	42,316	-1.2	-0.1	0.082	0.085	38.7	0.		
15	41,605	41,554	-0.7	0.3	0.125	0.127	35.5	0.		
30	39,192	39,218	-0.1	0.9	0.261	0.262	33.8	0.		
50	35,763	35,852	0.8	1.5	0.455	0.454	32.6	0.		
70	32,487	32,639	1.8	2.0	0.630	0.629	33.5	0.		
85	30,124	30,302	2.6	2.3	0.744	0.745	34.6	0.		
90	29,312	29,489	2.9	2.3	0.781	0.782	35.2	0.		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
10	172.8	141.2			134.9	141.2	107.7	0.		
15	182.4	149.5			148.5	149.5	105.7	0.		
30	195.5	160.6			162.5	160.6	108.6	0.		
50	208.7	170.7			175.8	170.7	112.5	0.		
70	215.0	174.1			179.4	174.1	118.5	0.		
85	215.5	171.7			177.4	171.7	122.4	0.		
90	215.9	170.8			176.4	170.8	124.4	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.487	0.395			1.044	0.275	1.3750	1.1404	0.678	0.692
15	0.516	0.420			1.005	0.277	1.3935	1.1353	0.735	0.747
30	0.557	0.453			0.988	0.296	1.4162	1.1311	0.798	0.807
50	0.599	0.484			0.970	0.310	1.4329	1.1238	0.874	0.881
70	0.620	0.496			0.971	0.320	1.4260	1.1186	0.900	0.905
85	0.623	0.489			0.968	0.313	1.3987	1.1135	0.886	0.892
90	0.625	0.487			0.969	0.302	1.3869	1.1122	0.873	0.879

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TGT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-5.0	-13.1	10.9	38.6	0.406	0.068	0.	0.068	0.024	0.024
15	-6.7	-15.0	10.4	35.4	0.382	0.059	0.	0.059	0.020	0.020
30	-6.3	-14.1	9.4	33.8	0.359	0.032	0.	0.032	0.010	0.010
50	-6.4	-13.6	8.6	32.6	0.343	0.025	0.	0.025	0.007	0.007
70	-6.1	-12.5	8.3	33.5	0.341	0.027	0.	0.027	0.008	0.008
85	-6.3	-12.1	8.4	34.6	0.350	0.060	0.	0.060	0.015	0.015
90	-6.3	-12.1	8.4	35.2	0.354	0.081	0.	0.081	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
77.36	1.4093	1.1258	0.819	8508.7



ATT FAN VEHICLE

(METRIC)

CORE-OGV 80 PERCENT SPEED R06 65

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.9	-6.0	0.878	0.879	49.0	19.5		
30	24,689	24,460	-1.7	-4.8	0.900	0.902	46.4	18.8		
50	23,673	23,597	-0.3	-3.5	0.933	0.933	44.8	17.9		
70	22,682	22,784	1.2	-2.1	0.965	0.961	46.7	17.1		
85	21,971	22,174	2.8	-0.5	0.985	0.981	53.0	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	201.5	158.7			132.4	149.7	151.9	52.7		
30	214.8	166.1			148.1	157.3	155.5	53.5		
50	225.3	165.8			160.0	157.8	158.7	50.9		
70	236.2	169.7			161.8	162.1	172.2	49.9		
85	235.8	166.8			141.9	159.9	187.9	47.5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.578	0.450			1.124	0.311	1.4080	1.1188	0.865	0.871
30	0.619	0.472			1.059	0.372	1.4354	1.1181	0.921	0.925
50	0.653	0.471			0.986	0.411	1.4326	1.1157	0.935	0.938
70	0.686	0.482			0.989	0.415	1.4336	1.1196	0.906	0.911
85	0.682	0.472			1.113	0.435	1.4139	1.1265	0.822	0.831

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-0.5	-4.3	8.6	29.4	0.384	0.078	0.	0.078	0.025	0.025
30	-1.1	-4.7	8.0	27.5	0.385	0.032	0.	0.032	0.010	0.010
50	-1.7	-4.7	7.7	26.9	0.418	0.053	0.	0.053	0.016	0.016
70	-0.4	-2.8	7.9	29.2	0.440	0.079	0.	0.079	0.024	0.024
85	4.1	2.4	9.8	35.9	0.473	0.080	0.	0.080	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
12.85	1.4213	1.1196	0.883	8508.7

ATT FAN VEHICLE

(METRIC)

ROTOR 80 PERCENT SPEED RDG 66

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,6	-5,7	0,061	0,063	0,	44,5	71,7	65,6
10	42,367	41,961	-4,3	-4,5	0,125	0,125	0,	41,5	70,1	63,0
15	40,996	40,742	-2,8	-3,2	0,190	0,189	0,	41,5	68,7	61,6
30	36,881	37,059	1,3	0,7	0,380	0,375	0,	41,7	65,3	57,0
50	31,394	32,131	6,5	5,8	0,608	0,601	0,	43,4	61,4	48,9
70	26,010	27,229	11,7	12,1	0,793	0,794	0,	45,6	57,3	37,2
85	21,717	23,647	17,7	12,4	0,910	0,913	0,	49,4	54,4	17,5
90	20,295	22,581	19,7	13,6	0,942	0,946	0,	49,4	53,7	10,5
95	18,796	21,463	21,1	15,7	0,972	0,978	0,	54,1	53,1	0,1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	129,6	169,7	410,3	292,4	129,6	121,3	0,	118,6	389,4	384,6
10	136,8	175,5	401,4	289,3	136,8	131,5	0,	116,1	377,4	373,7
15	142,2	177,5	391,9	278,9	142,2	133,0	0,	117,6	365,1	362,9
30	151,0	181,8	361,5	249,5	151,0	135,8	0,	120,8	328,5	330,1
50	153,4	188,9	318,9	208,4	153,4	137,6	0,	129,4	279,6	286,2
70	151,6	196,8	276,9	173,6	151,6	139,4	0,	139,0	231,7	242,5
85	145,5	220,5	242,1	152,0	145,5	145,3	0,	165,8	193,4	210,6
90	140,9	231,5	229,2	155,4	140,9	153,0	0,	173,7	180,8	201,1
95	134,5	239,0	214,7	143,6	134,5	143,6	0,	191,0	167,4	191,2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,386	0,474	1,224	0,816	0,934	0,317	1,4153	1,1577	0,662	0,678
10	0,409	0,492	1,199	0,812	0,961	0,342	1,4385	1,1499	0,730	0,744
15	0,425	0,499	1,172	0,784	0,935	0,364	1,4466	1,1474	0,755	0,767
30	0,453	0,514	1,084	0,705	0,900	0,419	1,4495	1,1377	0,813	0,822
50	0,460	0,538	0,957	0,593	0,898	0,474	1,4345	1,1278	0,849	0,857
70	0,455	0,565	0,830	0,498	0,918	0,529	1,4211	1,1165	0,907	0,911
85	0,436	0,636	0,725	0,439	1,025	0,519	1,4480	1,1206	0,925	0,929
90	0,421	0,671	0,685	0,450	1,123	0,464	1,4562	1,1206	0,940	0,943
95	0,401	0,693	0,641	0,416	1,133	0,366	1,4464	1,1251	0,889	0,894

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	8,5	6,6	3,5	6,0	0,383	0,249	0,039	0,210	0,034	0,029
10	8,3	6,6	2,7	7,1	0,375	0,198	0,033	0,165	0,030	0,025
15	8,3	6,7	2,9	7,2	0,389	0,184	0,028	0,156	0,029	0,025
30	9,7	7,6	3,4	8,4	0,420	0,147	0,018	0,129	0,026	0,023
50	11,5	8,8	4,5	12,7	0,470	0,133	0,019	0,114	0,026	0,022
70	12,1	8,6	10,0	20,1	0,502	0,095	0,001	0,094	0,019	0,019
85	11,9	8,0	12,7	36,5	0,526	0,099	0,	0,099	0,021	0,021
90	12,0	7,9	14,1	42,5	0,486	0,086	0,	0,086	0,018	0,018
95	12,1	7,9	12,1	51,2	0,497	0,189	0,	0,189	0,037	0,037

INLET CORR WTFLOW 85,60 PRESS RATIO 1,4371 TEMP RATIO 1,1342 ADIA EFF 0,813 INLET CORR RPM 8505,4

ATT FAN VEHICLE

(METRIC)

BP-OGV

80 PERCENT SPEED

RDG 66

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,0	0,2	0,085	0,089	42,3	0,		
15	41,605	41,554	-0,4	0,8	0,129	0,132	39,2	0,		
30	39,192	39,218	0,7	1,8	0,267	0,271	37,7	0,		
50	35,763	35,852	1,7	2,7	0,460	0,464	36,8	0,		
70	32,487	32,639	2,5	3,1	0,630	0,632	37,7	0,		
85	30,124	30,302	3,1	3,0	0,742	0,744	37,9	0,		
90	29,312	29,489	3,3	2,8	0,778	0,781	38,0	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	176,6	137,6			130,7	137,6	118,4	0,		
15	185,0	145,1			143,4	145,1	116,8	0,		
30	195,8	153,7			155,1	153,7	119,6	0,		
50	203,4	156,4			162,8	156,4	121,9	0,		
70	204,5	157,0			163,6	157,0	126,1	0,		
85	209,0	156,5			165,1	156,5	128,1	0,		
90	210,8	156,7			166,1	156,7	129,8	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,495	0,382			1,047	0,342	1,4114	1,1544	0,670	0,686
15	0,521	0,404			1,007	0,343	1,4274	1,1494	0,716	0,730
30	0,554	0,430			0,990	0,360	1,4421	1,1442	0,765	0,777
50	0,580	0,440			0,960	0,375	1,4361	1,1340	0,813	0,822
70	0,592	0,443			0,959	0,390	1,4203	1,1260	0,837	0,844
85	0,601	0,443			0,948	0,379	1,3998	1,1187	0,850	0,857
90	0,607	0,444			0,943	0,365	1,3916	1,1170	0,846	0,853

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
10	-1,4	-9,5	10,9	42,1	0,462	0,063	0,	0,063	0,022	0,022	
15	-3,0	-11,3	10,4	39,1	0,437	0,052	0,	0,052	0,018	0,018	
30	-2,4	-10,2	9,4	37,6	0,414	0,027	0,	0,027	0,009	0,009	
50	-2,2	-9,4	8,6	36,8	0,409	0,038	0,	0,038	0,011	0,011	
70	-1,9	-8,3	8,3	37,7	0,407	0,036	0,	0,036	0,010	0,010	
85	-3,1	-8,8	8,4	37,9	0,409	0,068	0,	0,068	0,017	0,017	
90	-3,5	-9,3	8,4	38,1	0,412	0,093	0,	0,093	0,023	0,023	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
73,21	1,4223	1,1362	0,778	8505,4

ATT FAN VEHICLE

(METRIC)

CORE-OGV 80 PERCENT SPEED RDG 66

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,7	-5,8	0,877	0,878	49,9	19,5		
30	24,689	24,460	-1,6	-4,7	0,900	0,902	47,0	18,8		
50	23,673	23,597	-0,2	-3,5	0,934	0,934	46,9	17,9		
70	22,682	22,784	1,1	-2,2	0,966	0,962	48,9	17,1		
85	21,971	22,174	2,7	-0,6	0,986	0,982	54,9	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	203,2	157,9			131,1	148,9	155,3	52,4		
30	216,8	163,7			147,9	155,0	158,5	52,6		
50	226,2	159,2			154,7	151,6	165,2	48,8		
70	234,0	159,1			153,7	152,1	176,8	46,7		
85	232,8	155,7			133,9	149,3	189,7	44,2		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,583	0,447			1,129	0,340	1,4153	1,1214	0,860	0,866
30	0,625	0,464			1,046	0,392	1,4375	1,1205	0,907	0,912
50	0,654	0,451			0,979	0,430	1,4222	1,1203	0,880	0,886
70	0,678	0,450			0,973	0,445	1,4134	1,1230	0,845	0,852
85	0,673	0,439			1,102	0,474	1,3950	1,1277	0,781	0,791

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
15	0,4	-3,4	8,5	30,3	0,399	0,065	0,	0,065	0,021	0,021	0,021
30	-0,6	-4,1	8,0	28,2	0,409	0,042	0,	0,042	0,013	0,013	0,013
50	0,4	-2,6	7,6	29,0	0,462	0,085	0,	0,085	0,026	0,026	0,026
70	1,8	-0,6	7,9	31,6	0,491	0,106	0,	0,106	0,032	0,032	0,032
85	5,9	4,3	9,6	37,7	0,522	0,098	0,	0,098	0,028	0,028	0,028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
12,39	1,4146	1,1225	0,850	6505,4

ATT FAN VEHICLE

(METRIC)

ROTOR 70 PERCENT SPEED RDG 67

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,9	-6,1	0,060	0,060	0,	26,4	69,8	64,9
10	42,367	41,961	-4,9	-5,2	0,122	0,119	0,	24,2	68,1	62,7
15	40,996	40,742	-3,8	-4,3	0,185	0,180	0,	24,2	66,6	61,4
30	36,881	37,059	-0,5	-1,0	0,372	0,359	0,	25,4	62,5	56,7
50	31,394	32,131	4,9	4,4	0,600	0,587	0,	29,4	57,7	47,6
70	26,010	27,229	10,2	12,3	0,787	0,784	0,	35,8	53,2	35,8
85	21,717	23,647	16,3	12,9	0,907	0,905	0,	42,7	49,7	18,8
90	20,295	22,581	18,4	13,5	0,940	0,938	0,	42,3	49,0	13,1
95	18,796	21,463	20,0	15,5	0,971	0,972	0,	44,8	48,3	5,1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	126,2	143,4	363,3	301,8	126,2	128,5	0,	63,5	340,7	336,6
10	133,1	150,9	356,0	299,2	133,1	137,7	0,	61,5	330,2	327,1
15	138,5	152,7	348,3	290,7	138,5	139,3	0,	62,4	319,5	317,6
30	149,5	160,0	324,0	263,5	149,5	144,6	0,	68,6	287,5	288,9
50	155,1	173,9	289,7	224,2	155,1	151,6	0,	85,2	244,7	250,4
70	153,9	184,2	254,5	184,4	153,9	150,7	0,	106,0	202,7	212,2
85	149,3	201,2	225,7	157,6	149,3	149,5	0,	134,6	169,3	184,3
90	145,1	211,6	214,7	162,4	145,1	158,5	0,	140,2	158,2	176,0
95	139,1	221,6	202,0	160,6	139,1	159,9	0,	153,4	146,5	167,3

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH <sup>1</sup>	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,376	0,414	1,083	0,870	1,018	0,181	1,1598	1,0739	0,586	0,594
10	0,397	0,437	1,063	0,866	1,036	0,209	1,1861	1,0694	0,720	0,726
15	0,414	0,442	1,041	0,842	1,007	0,235	1,1973	1,0685	0,771	0,777
30	0,448	0,465	0,971	0,765	0,970	0,304	1,2273	1,0686	0,879	0,882
50	0,466	0,506	0,870	0,652	0,978	0,374	1,2590	1,0739	0,920	0,923
70	0,462	0,536	0,764	0,537	0,971	0,445	1,2825	1,0778	0,948	0,950
85	0,448	0,587	0,676	0,459	1,017	0,476	1,3181	1,0857	0,958	0,960
90	0,434	0,619	0,643	0,475	1,120	0,429	1,3319	1,0853	1,001	1,001
95	0,416	0,650	0,604	0,471	1,182	0,341	1,3376	1,0885	0,979	0,980

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6,6	4,7	2,9	4,9	0,228	0,182	0,007	0,175	0,026	0,025
10	6,3	4,6	2,4	5,5	0,218	0,120	0,005	0,115	0,018	0,018
15	6,2	4,6	2,7	5,3	0,227	0,101	0,004	0,097	0,016	0,016
30	6,9	4,8	3,1	6,2	0,261	0,058	0,002	0,057	0,010	0,010
50	7,8	5,1	3,2	10,6	0,321	0,049	0,001	0,048	0,010	0,010
70	8,0	4,5	8,6	17,6	0,386	0,041	0,	0,041	0,009	0,009
85	7,3	3,3	14,0	31,1	0,439	0,045	0,	0,045	0,009	0,009
90	7,2	3,2	16,7	36,0	0,386	-0,002	0,	-0,002	-0,000	-0,000
95	7,3	3,1	17,1	42,9	0,362	0,029	0,	0,029	0,006	0,006

INLET CORR PRESS TEMP ADIA INLET CORR  
WTFLOW RATIO RATIO EFF RPM  
85,84 1,2448 1,0744 0,867 7443,1

ATT FAN VEHICLE

(METRIC)

BP-OGV

70 PERCENT SPEED

RDG 67

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.1	-0.5	0,081	0,083	25,0	0.		
15	41,605	41,554	-0,8	-0,3	0,123	0,123	22,9	0.		
30	39,192	39,218	-0,6	-0,2	0,252	0,249	22,3	0.		
50	35,763	35,852	-0,1	-0,0	0,438	0,432	22,3	0.		
70	32,487	32,639	0,5	0,2	0,612	0,605	24,6	0.		
85	30,124	30,302	1,7	0,9	0,730	0,726	26,4	0.		
90	29,312	29,489	2,3	1,3	0,768	0,767	27,1	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	149,9	146,3			135,8	146,3	63,1	0.		
15	159,2	150,4			146,6	150,4	61,9	0.		
30	171,4	162,8			158,7	162,8	64,9	0.		
50	190,5	178,7			176,2	178,7	72,2	0.		
70	204,1	189,4			185,7	189,4	84,8	0.		
85	212,1	198,9			190,1	198,9	94,2	0.		
90	215,3	204,2			191,7	204,2	97,9	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TY RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,433	0,423			1,077	-0,071	1,1514	1,0720	0,571	0,579
15	0,462	0,435			1,026	-0,046	1,1596	1,0693	0,624	0,631
30	0,499	0,473			1,028	-0,011	1,1840	1,0686	0,721	0,728
50	0,558	0,521			1,016	0,027	1,2170	1,0695	0,830	0,835
70	0,599	0,553			1,022	0,057	1,2357	1,0742	0,840	0,845
85	0,624	0,582			1,048	0,046	1,2473	1,0763	0,854	0,858
90	0,634	0,598			1,066	0,027	1,2533	1,0773	0,862	0,866

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-18,6	-26,8	10,9	25,0	0,173	0,128	0.	0,128	0,045	0,045
15	-19,3	-27,6	10,4	22,9	0,190	0,166	0.	0,166	0,057	0,057
30	-17,8	-25,6	9,4	22,3	0,172	0,117	0.	0,117	0,038	0,038
50	-16,7	-23,9	8,6	22,3	0,172	0,099	0.	0,099	0,030	0,030
70	-15,1	-21,4	8,3	24,5	0,184	0,090	0.	0,090	0,025	0,025
85	-14,6	-20,3	8,4	26,3	0,175	0,083	0.	0,083	0,021	0,021
90	-14,5	-20,2	8,4	27,1	0,166	0,084	0.	0,084	0,021	0,021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
73.03	1.2082	1,0723	0,768	7443,1

ATT FAN VEHICLE

(METRIC)

CORE-OGV 70 PERCENT SPEED RDG 67

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,7	-5,8	0,872	0,873	42,3	19,5		
30	24,689	24,460	-1,4	-4,4	0,895	0,897	41,6	18,9		
50	23,673	23,597	0,4	-2,7	0,928	0,928	40,5	17,9		
70	22,682	22,784	2,5	-1,0	0,960	0,958	41,5	17,2		
85	21,971	22,174	4,0	0,5	0,981	0,979	45,0	16,6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	183,9	170,8			136,1	161,1	123,8	56,7		
30	194,0	170,8			145,2	161,7	128,7	55,0		
50	205,9	175,9			156,5	167,4	133,8	54,1		
70	214,4	182,0			160,5	173,9	142,1	53,7		
85	216,2	182,9			153,0	175,3	152,7	52,1		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,534	0,494			1,178	0,092	1,2992	1,0847	0,917	0,920
30	0,564	0,493			1,107	0,193	1,3059	1,0856	0,926	0,929
50	0,601	0,509			1,066	0,242	1,3173	1,0853	0,960	0,962
70	0,628	0,527			1,084	0,234	1,3217	1,0867	0,957	0,959
85	0,632	0,529			1,146	0,203	1,3068	1,0902	0,881	0,885

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-7,1	-11,0	8,6	22,8	0,199	0,053	0,	0,053	0,017	0,017
30	-6,0	-9,5	8,1	22,6	0,250	0,040	0,	0,040	0,013	0,013
50	-5,9	-9,0	7,7	22,6	0,272	0,034	0,	0,034	0,011	0,011
70	-5,6	-8,0	7,9	24,3	0,277	0,049	0,	0,049	0,015	0,015
85	-3,9	-5,6	9,8	28,3	0,292	0,094	0,	0,094	0,027	0,027

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
12,81	1,3080	1,0865	0,922	7443,1

ATT FAN VEHICLE

(METRIC)

ROTOR

70 PERCENT SPEED

RDG 68

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCY		ABS ANGLE IN OUT	REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT		IN	OUT
5	43,713	43,180	-5,7	-5,9	0,060	0,061	0,	35,9	71,1 65,3
10	42,367	41,961	-4,6	-4,8	0,123	0,122	0,	33,1	69,6 63,3
15	40,996	40,742	-3,4	-3,8	0,187	0,184	0,	32,5	68,2 61,9
30	36,881	37,059	0,4	-0,2	0,375	0,366	0,	33,4	64,5 57,1
50	31,394	32,131	5,7	5,1	0,604	0,593	0,	36,4	60,2 48,1
70	26,010	27,229	10,9	13,3	0,790	0,790	0,	40,8	56,0 36,3
85	21,717	23,647	16,6	13,9	0,908	0,908	0,	47,1	52,5 18,9
90	20,295	22,581	18,8	14,0	0,940	0,941	0,	45,4	51,8 13,5
95	18,796	21,463	20,4	15,8	0,971	0,975	0,	49,3	51,1 3,3

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	116,9	143,7	360,3	278,2	116,9	116,6	0,	84,0	340,8	336,6
10	123,3	148,5	352,6	276,1	123,3	124,5	0,	80,8	330,3	327,1
15	128,3	150,4	344,4	268,9	128,3	127,0	0,	80,6	319,6	317,6
30	137,2	156,9	318,6	241,3	137,2	131,1	0,	86,4	287,5	288,9
50	140,9	168,7	282,4	202,7	140,9	135,9	0,	99,9	244,8	250,5
70	139,1	178,4	245,9	168,0	139,1	136,6	0,	114,7	202,8	212,3
85	135,4	193,5	216,8	140,8	135,4	133,7	0,	139,9	169,3	184,4
90	131,6	203,5	205,8	148,8	131,6	145,1	0,	142,7	158,2	176,0
95	126,0	213,5	193,2	142,4	126,0	142,1	0,	159,2	146,5	167,3

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,348	0,410	1,072	0,793	0,996	0,252	1,2365	1,0978	0,639	0,650
10	0,367	0,425	1,050	0,790	1,010	0,278	1,2545	1,0913	0,733	0,741
15	0,382	0,431	1,027	0,771	0,991	0,302	1,2634	1,0884	0,782	0,789
30	0,410	0,451	0,952	0,694	0,957	0,363	1,2815	1,0862	0,852	0,857
50	0,421	0,487	0,844	0,585	0,966	0,426	1,2956	1,0865	0,888	0,892
70	0,416	0,517	0,735	0,487	0,973	0,492	1,3074	1,0841	0,946	0,948
85	0,404	0,562	0,647	0,409	1,000	0,536	1,3325	1,0891	0,959	0,961
90	0,393	0,594	0,614	0,434	1,131	0,497	1,3451	1,0869	1,018	1,017
95	0,375	0,623	0,576	0,416	1,172	0,415	1,3498	1,0914	0,979	0,980

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	7,9	6,0	3,3	5,8	0,305	0,207	0,009	0,198	0,029	0,028
10	7,8	6,1	3,0	6,4	0,293	0,149	0,007	0,142	0,022	0,021
15	7,8	6,2	3,2	6,4	0,298	0,123	0,005	0,118	0,019	0,019
30	8,8	6,8	3,5	7,6	0,335	0,091	0,005	0,087	0,016	0,015
50	10,3	7,6	3,7	12,4	0,392	0,083	0,	0,083	0,016	0,016
70	10,8	7,3	9,1	19,7	0,437	0,049	0,	0,049	0,010	0,010
85	10,1	6,1	14,1	33,6	0,498	0,049	0,	0,049	0,010	0,010
90	10,0	6,0	17,1	38,2	0,428	-0,026	0,	-0,026	-0,005	-0,005
95	10,1	5,9	15,3	46,9	0,425	0,033	0,	0,033	0,006	0,006

INLET CORR WTFLOW 79,62	PRESS RATIO 1,2887	TEMP RATIO 1,0883	ADIA EFF 0,851	INLET CORR RPM 7444,9
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ATT FAN VEHICLE

(METRIC)

BP-0GV

70 PERCENT SPEED

RDG 68

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,3	-0,3	0,082	0,084	34,3	0.		
15	41,605	41,554	-0,8	0,0	0,124	0,125	31,4	0.		
30	39,192	39,218	-0,2	0,5	0,258	0,257	29,4	0.		
50	35,763	35,852	0,4	0,9	0,447	0,445	29,6	0.		
70	32,487	32,639	1,3	1,2	0,621	0,617	30,9	0.		
85	30,124	30,302	2,2	1,7	0,738	0,736	31,6	0.		
90	29,312	29,489	2,6	1,9	0,776	0,776	32,0	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	148,6	130,3			122,9	130,3	83,4	0.		
15	156,2	136,7			133,3	136,7	81,3	0.		
30	167,9	146,7			146,3	146,7	82,4	0.		
50	181,8	156,8			158,1	156,8	89,9	0.		
70	191,7	163,6			164,6	163,6	98,3	0.		
85	197,9	168,9			168,6	168,9	103,7	0.		
90	201,0	172,3			170,4	172,3	106,5	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,425	0,371			1,059	0,168	1,2331	1,0952	0,648	0,658
15	0,448	0,390			1,025	0,180	1,2453	1,0911	0,710	0,719
30	0,484	0,421			1,003	0,199	1,2627	1,0870	0,792	0,799
50	0,527	0,451			0,993	0,213	1,2782	1,0866	0,839	0,845
70	0,557	0,471			0,994	0,225	1,2831	1,0861	0,857	0,862
85	0,577	0,488			1,003	0,207	1,2812	1,0841	0,872	0,877
90	0,586	0,498			1,011	0,189	1,2817	1,0841	0,874	0,879

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHUCK	PROF		PROF	PROF
10	-9,4	-17,5	10,9	34,2	0,324	0,072	0.	0,072	0,025	0,025	
15	-10,8	-19,1	10,4	31,4	0,306	0,061	0.	0,061	0,021	0,021	
30	-10,7	-18,5	9,4	29,4	0,285	0,040	0.	0,040	0,013	0,013	
50	-9,4	-16,6	8,6	29,6	0,284	0,047	0.	0,047	0,014	0,014	
70	-8,8	-15,1	8,3	30,8	0,287	0,052	0.	0,052	0,014	0,014	
85	-9,4	-15,1	8,4	31,6	0,281	0,072	0.	0,072	0,018	0,018	
90	-9,6	-15,3	8,4	32,0	0,277	0,087	0.	0,087	0,022	0,022	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
68,31	1,2682	1,0879	0,799	7444,9

ATT FAN VEHICLE

(METRIC)

CORE-OGV 70 PERCENT SPEED RDG 68

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.8	0.878	0.879	49.1	19.5		
30	24.689	24.460	-1.4	-4.5	0.900	0.902	46.5	18.9		
50	23.673	23.597	0.3	-3.0	0.932	0.932	44.5	17.9		
70	22.682	22.784	1.9	-1.6	0.963	0.960	45.4	17.1		
85	21.971	22.174	3.3	-0.1	0.984	0.981	51.1	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	176.0	142.9			115.2	134.8	133.1	47.5		
30	186.0	148.3			128.2	140.4	134.8	47.8		
50	195.1	149.9			139.3	142.7	136.7	46.1		
70	205.0	154.8			144.0	147.9	146.1	45.6		
85	206.2	153.7			129.5	147.4	160.2	43.8		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT ACC TT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIC	ADIA	POLY
15	0.508	0.409			1.163	0.263	1.3083	1.0910	0.877	0.881
30	0.539	0.425			1.089	0.331	1.3257	1.0895	0.937	0.939
50	0.567	0.430			1.023	0.366	1.3264	1.0872	0.964	0.965
70	0.597	0.445			1.021	0.360	1.3294	1.0889	0.954	0.956
85	0.600	0.440			1.128	0.361	1.3163	1.0944	0.865	0.870

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-0.3	-4.2	8.6	29.6	0.358	0.087	0.	0.087	0.028	0.028
30	-1.1	-4.6	8.1	27.4	0.360	0.038	0.	0.038	0.012	0.012
50	-1.9	-5.0	7.7	26.6	0.382	0.049	0.	0.049	0.015	0.015
70	-1.7	-4.1	7.9	28.0	0.394	0.077	0.	0.077	0.023	0.023
85	2.1	0.5	9.8	34.1	0.424	0.096	0.	0.096	0.028	0.028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
11.30	1.3188	1.0903	0.911	7444.9

ATT FAN VEHICLE

(METRIC)

ROTOR 93 PERCENT SPEED RDG 69

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
5	43,713	43,180	-6,0	-6,4	0,062	0,061	0,	41,4	68,7	65,7
10	42,367	41,961	-5,1	-5,6	0,126	0,121	0,	38,1	66,9	63,5
15	40,996	40,742	-3,7	-4,4	0,191	0,185	0,	37,5	65,1	61,8
30	36,881	37,059	0,8	0,1	0,382	0,373	0,	38,5	60,7	56,2
50	31,394	32,131	7,4	6,7	0,610	0,608	0,	40,8	56,3	47,3
70	26,010	27,229	12,8	12,6	0,794	0,800	0,	44,6	52,6	38,3
85	21,717	23,647	17,9	12,4	0,909	0,914	0,	45,6	49,8	21,3
90	20,295	22,581	19,6	13,7	0,941	0,946	0,	46,1	49,1	15,8
95	18,796	21,463	20,7	15,8	0,971	0,977	0,	50,4	48,4	5,0

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	177,4	193,1	486,4	351,5	177,4	145,2	0,	127,3	452,9	447,4
10	188,2	198,4	477,6	349,7	188,2	156,4	0,	122,0	439,0	434,8
15	197,4	202,5	468,4	339,6	197,4	160,8	0,	123,0	424,8	422,1
30	214,7	214,2	438,3	301,4	214,7	167,6	0,	133,5	382,1	384,0
50	219,1	226,9	392,2	252,9	219,1	172,2	0,	147,8	325,3	332,9
70	211,4	226,0	342,5	205,4	211,4	162,7	0,	156,8	269,5	282,1
85	200,0	251,1	301,0	190,3	200,0	177,9	0,	177,3	225,0	245,0
90	193,2	258,9	285,6	188,7	193,2	182,1	0,	184,1	210,3	234,0
95	184,8	273,6	268,5	179,1	184,8	178,3	0,	207,4	194,7	222,4

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC IT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,536	0,533	1,470	0,971	0,820	0,335	1,5566	1,1965	0,686	0,705
10	0,571	0,552	1,449	0,973	0,833	0,368	1,5934	1,1829	0,778	0,792
15	0,601	0,565	1,425	0,948	0,817	0,399	1,6196	1,1794	0,824	0,835
30	0,658	0,601	1,343	0,845	0,781	0,476	1,6678	1,1770	0,889	0,896
50	0,672	0,641	1,204	0,715	0,787	0,539	1,6629	1,1699	0,920	0,926
70	0,647	0,644	1,048	0,585	0,773	0,573	1,5798	1,1531	0,912	0,917
85	0,609	0,723	0,917	0,548	0,917	0,547	1,5927	1,1506	0,944	0,948
90	0,587	0,749	0,868	0,546	0,974	0,497	1,5761	1,1485	0,935	0,939
95	0,560	0,792	0,813	0,519	1,006	0,415	1,5837	1,1578	0,890	0,897

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5,5	3,6	3,7	3,0	0,364	0,231	0,101	0,130	0,032	0,018
10	5,1	3,4	3,2	3,5	0,353	0,159	0,091	0,068	0,024	0,010
15	4,7	3,1	3,1	3,5	0,365	0,128	0,081	0,047	0,020	0,008
30	5,0	3,0	2,6	4,7	0,415	0,087	0,056	0,031	0,016	0,006
50	6,3	3,7	2,9	9,0	0,468	0,068	0,034	0,034	0,014	0,007
70	7,3	3,9	11,1	14,0	0,515	0,084	0,023	0,061	0,017	0,012
85	7,3	3,4	16,5	28,2	0,500	0,064	0,015	0,049	0,013	0,010
90	7,4	3,3	19,4	32,6	0,477	0,080	0,002	0,077	0,016	0,016
95	7,4	3,2	17,0	41,9	0,483	0,159	0,	0,159	0,031	0,031

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
108,85	1,6227	1,1717	0,864	9894,2

ATT FAN VEHICLE

(METRIC)

BP-0GV

93 PERCENT SPEED

RDG 69

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,3	-0,2	0,081	0,083	39,7	0,		
15	41,605	41,554	-0,9	0,2	0,123	0,124	36,2	0,		
30	39,192	39,218	-0,4	0,6	0,260	0,259	33,6	0,		
50	35,763	35,852	0,5	1,3	0,458	0,457	33,4	0,		
70	32,487	32,639	1,9	2,4	0,636	0,636	34,5	0,		
85	30,124	30,302	2,9	2,7	0,748	0,750	35,8	0,		
90	29,312	29,489	3,2	2,7	0,784	0,786	36,5	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	198,3	156,8			152,6	156,8	126,3	0,		
15	208,5	165,5			168,2	165,5	122,9	0,		
30	230,0	184,5			191,6	184,5	127,2	0,		
50	249,9	198,6			208,6	198,6	137,7	0,		
70	254,9	200,3			210,2	200,3	144,2	0,		
85	249,7	189,7			202,6	189,7	145,9	0,		
90	247,1	184,4			198,7	184,4	146,9	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,550	0,430			1,026	0,314	1,5478	1,1915	0,694	0,712
15	0,582	0,456			0,983	0,314	1,5717	1,1830	0,754	0,769
30	0,648	0,512			0,964	0,320	1,6246	1,1785	0,833	0,844
50	0,711	0,554			0,952	0,340	1,6613	1,1763	0,885	0,893
70	0,729	0,562			0,953	0,362	1,6430	1,1678	0,909	0,915
85	0,716	0,533			0,937	0,366	1,5768	1,1572	0,884	0,891
90	0,709	0,518			0,930	0,363	1,5456	1,1541	0,860	0,868

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PARAM
10	-3,9	-12,1	10,9	39,6	0,437	0,072	0,	0,072	0,025	0,025
15	-6,0	-14,3	10,4	36,2	0,412	0,066	0,	0,066	0,023	0,023
30	-6,5	-14,3	9,4	33,6	0,377	0,042	0,	0,042	0,014	0,014
50	-5,6	-12,8	8,6	33,4	0,369	0,033	0,	0,033	0,010	0,010
70	-5,1	-11,5	8,3	34,5	0,368	0,024	0,	0,024	0,007	0,007
85	-5,2	-10,9	8,4	35,8	0,390	0,065	0,	0,065	0,017	0,017
90	-5,0	-10,8	8,4	36,6	0,403	0,092	0,	0,092	0,023	0,023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
93,26	1,6090	1,1745	0,834	9894,2

ATT FAN VEHICLE

(METRIC)

CORE-OGV 93 PERCENT SPEED RDG 69

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.7	-5.7	0,878	0,879	46.9	19.5		
30	24,689	24,460	-1.5	-4.6	0,901	0,904	43.1	18.8		
50	23,673	23,597	-0.0	-3.2	0,934	0,934	43.0	17.9		
70	22,682	22,784	1.8	-1.6	0,965	0,962	45.6	17.1		
85	21,971	22,174	3.3	-0.0	0,984	0,982	50.4	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	237.9	196.9			162.7	185.8	173.6	65.4		
30	253.1	201.8			184.7	191.1	173.0	64.8		
50	256.1	193.2			187.5	183.9	174.7	59.2		
70	265.9	194.5			186.1	185.9	190.0	57.1		
85	268.9	195.5			171.7	187.4	206.6	55.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,679	0,554			1,134	0,260	1,5588	1,1578	0,857	0,866
30	0,728	0,570			1,034	0,330	1,5907	1,1526	0,929	0,934
50	0,740	0,545			0,979	0,397	1,5571	1,1480	0,911	0,916
70	0,769	0,548			0,996	0,403	1,5464	1,1536	0,863	0,872
85	0,776	0,549			1,085	0,398	1,5289	1,1620	0,796	0,808

PCT IMM	INCIDENCE ML SS		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-2.6	-6.4	8.5	27.3	0,331	0,067	0.	0,067	0,022	0,022
30	-4.4	-8.0	8.0	24.3	0,344	0,037	0.	0,037	0,012	0,012
50	-3.5	-6.5	7.6	25.1	0,391	0,040	0.	0,040	0,012	0,012
70	-1.5	-3.9	7.9	28.3	0,420	0,071	0.	0,071	0,021	0,021
85	1.4	-0.2	9.8	33.5	0,442	0,092	0.	0,092	0,027	0,027

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15,60	1,5531	1,1548	0,866	9844.2

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OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 97 PERCENT SPEED RDG 70

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
5	43,713	43,180	=6.1	=6.6	0.062	0.060	0.	42.2	68.5	66.3
10	42,367	41,961	=5.2	=5.8	0.126	0.121	0.	38.6	66.6	64.0
15	40,996	40,742	=3.8	=4.6	0.192	0.184	0.	38.0	64.8	62.3
30	36,881	37,059	0.8	0.0	0.382	0.374	0.	39.5	60.3	56.7
50	31,394	32,131	7.5	6.9	0.611	0.609	0.	41.3	55.7	47.6
70	26,010	27,229	13.1	12.7	0.794	0.802	0.	45.2	52.1	39.3
85	21,717	23,647	18.0	12.4	0.909	0.915	0.	45.6	49.4	21.5
90	20,295	22,581	19.6	13.7	0.941	0.946	0.	46.7	48.8	16.5
95	18,796	21,463	20.7	15.9	0.971	0.977	0.	50.7	48.0	6.1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	186.8	198.1	507.8	365.0	186.8	147.2	0.	132.5	472.3	466.5
10	198.5	204.2	498.9	363.5	198.5	159.9	0.	126.9	457.7	453.3
15	208.6	208.2	489.6	352.8	208.6	164.3	0.	127.9	442.9	440.1
30	227.6	220.9	458.9	310.6	227.6	170.3	0.	140.7	398.4	400.4
50	233.4	235.3	411.7	261.8	233.4	177.4	0.	154.6	339.2	347.1
70	224.2	231.5	359.5	211.4	224.2	165.2	0.	162.2	281.0	294.2
85	211.4	261.2	315.8	198.1	211.4	185.0	0.	184.5	234.6	255.5
90	204.1	266.0	299.6	192.7	204.1	185.4	0.	190.8	219.3	243.9
95	195.2	280.0	281.7	182.5	195.2	181.4	0.	213.3	203.1	231.9

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.566	0.544	1.539	1.002	0.790	0.340	1.6086	1.2133	0.682	0.703
10	0.604	0.565	1.519	1.006	0.808	0.374	1.6518	1.1983	0.778	0.793
15	0.637	0.578	1.496	0.980	0.790	0.406	1.6796	1.1944	0.821	0.834
30	0.701	0.616	1.413	0.866	0.750	0.484	1.7338	1.1945	0.875	0.885
50	0.721	0.662	1.271	0.737	0.761	0.549	1.7325	1.1854	0.917	0.923
70	0.690	0.657	1.106	0.600	0.741	0.579	1.6237	1.1651	0.900	0.907
85	0.647	0.751	0.966	0.569	0.902	0.549	1.6480	1.1636	0.938	0.942
90	0.623	0.767	0.914	0.556	0.941	0.498	1.6141	1.1606	0.913	0.919
95	0.594	0.809	0.856	0.527	0.966	0.420	1.6149	1.1694	0.866	0.875

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.3	3.4	4.3	2.3	0.368	0.239	0.128	0.111	0.032	0.015
10	4.8	3.1	3.7	2.8	0.356	0.163	0.116	0.046	0.024	0.007
15	4.4	2.8	3.6	2.7	0.369	0.133	0.105	0.027	0.021	0.004
30	4.6	2.6	3.1	3.8	0.426	0.100	0.077	0.023	0.018	0.004
50	5.8	3.1	3.2	8.2	0.476	0.072	0.049	0.023	0.014	0.005
70	6.9	3.4	12.1	12.5	0.524	0.096	0.032	0.064	0.019	0.013
85	6.9	3.0	16.7	27.7	0.504	0.072	0.018	0.054	0.015	0.011
90	7.0	3.0	20.1	31.5	0.491	0.107	0.003	0.104	0.021	0.021
95	7.0	2.8	18.1	40.5	0.500	0.189	0.	0.189	0.037	0.037

INLET CORR WTFLOW 112.51 PRESS RATIO 1.6807 TEMP RATIO 1.1869 ADIA EFF 0.856 INLET CORR RPM 10316.5

ATT FAN VEHICLE

(METRIC)

BP=OGV

97 PERCENT SPEED

RDG 70

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,3	-0,2	0,080	0,082	40,5	0,		
15	41,605	41,554	-0,9	0,2	0,122	0,123	36,8	0,		
30	39,192	39,218	-0,5	0,6	0,260	0,258	34,1	0,		
50	35,763	35,852	0,5	1,4	0,458	0,457	34,2	0,		
70	32,487	32,639	2,0	2,5	0,637	0,638	34,7	0,		
85	30,124	30,302	2,9	2,8	0,750	0,752	36,0	0,		
90	29,312	29,489	3,1	2,7	0,786	0,788	37,0	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	203,1	157,7			154,5	157,7	131,5	0,		
15	214,2	167,5			171,5	167,5	127,9	0,		
30	236,5	187,1			195,7	187,1	132,7	0,		
50	259,0	202,9			214,2	202,9	145,7	0,		
70	264,0	204,0			217,0	204,0	150,3	0,		
85	256,2	190,8			207,3	190,8	150,6	0,		
90	252,7	184,5			202,0	184,5	151,8	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,560	0,430			1,019	0,337	1,6002	1,2080	0,691	0,711
15	0,595	0,459			0,976	0,334	1,6280	1,1986	0,752	0,769
30	0,663	0,516			0,957	0,338	1,6851	1,1941	0,828	0,840
50	0,733	0,563			0,948	0,358	1,7294	1,1945	0,871	0,881
70	0,753	0,569			0,940	0,379	1,7070	1,1823	0,905	0,912
85	0,733	0,533			0,921	0,393	1,6288	1,1692	0,884	0,892
90	0,723	0,515			0,916	0,395	1,5933	1,1659	0,858	0,867

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-3,1	-11,3	10,9	40,4	0,455	0,072	0,	0,072	0,025	0,025
15	-5,4	-13,7	10,4	36,7	0,426	0,065	0,	0,065	0,022	0,022
30	-5,9	-13,8	9,4	34,1	0,390	0,040	0,	0,040	0,013	0,013
50	-4,8	-12,0	8,6	34,2	0,384	0,033	0,	0,033	0,010	0,010
70	-4,9	-11,3	8,3	34,7	0,382	0,028	0,	0,028	0,008	0,008
85	-4,9	-10,7	8,4	36,1	0,406	0,061	0,	0,061	0,016	0,016
90	-4,6	-10,3	8,4	37,0	0,421	0,082	0,	0,082	0,021	0,021

INLET CORR WTFLOW 96,47	PRESS RATIO 1,6687	TEMP RATIO 1,1901	ADIA EFF 0,829	INLET CORR RPM 10316,5
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ATT FAN VEHICLE

(METRIC)

CORE=OGV

97 PERCENT SPEED

RDG 70

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,6	-5,6	0,879	0,880	47,8	19,5		
30	24,689	24,460	-1,3	-4,4	0,902	0,904	43,3	18,8		
50	23,673	23,597	0,2	-3,0	0,935	0,935	43,3	17,8		
70	22,682	22,784	1,9	-1,5	0,965	0,962	46,2	17,1		
85	21,971	22,174	3,5	0,1	0,984	0,982	50,5	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	246,0	201,4			165,3	190,0	182,2	66,8		
30	263,3	208,8			191,7	197,8	180,5	67,0		
50	264,4	196,6			192,6	187,2	181,4	60,2		
70	271,7	195,0			188,1	186,4	196,2	57,2		
85	275,2	197,4			175,3	189,3	211,9	56,1		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,699	0,564			1,141	0,271	1,5968	1,1727	0,829	0,839
30	0,756	0,588			1,030	0,332	1,6398	1,1660	0,915	0,920
50	0,762	0,553			0,970	0,400	1,5907	1,1603	0,885	0,892
70	0,784	0,546			0,989	0,411	1,5681	1,1655	0,829	0,839
85	0,792	0,552			1,076	0,404	1,5552	1,1734	0,775	0,789

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-1,6	-5,5	8,5	28,3	0,345	0,072	0,	0,072	0,023	0,023
30	-4,3	-7,8	8,0	24,4	0,349	0,043	0,	0,043	0,014	0,014
50	-3,2	-6,2	7,6	25,4	0,404	0,055	0,	0,055	0,017	0,017
70	-0,9	-3,3	7,9	28,9	0,438	0,086	0,	0,086	0,025	0,025
85	1,5	-0,1	9,8	33,7	0,452	0,099	0,	0,099	0,029	0,029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16,04	1,5882	1,1675	0,843	10316,5
16,04	1,5882	1,1675	0,843	10316,5



ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 72

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	REL ANGLE OUT		
	IN	OUT			IN	OUT				
5	43,713	43,180	=6,4	=6,9	0,062	0,059	0,	46,1	68,8	66,9
10	42,367	41,961	=5,5	=6,1	0,126	0,119	0,	41,6	66,8	63,9
15	40,996	40,742	=4,0	=4,8	0,192	0,183	0,	40,7	65,0	62,1
30	36,881	37,059	0,8	0,1	0,382	0,374	0,	41,7	60,3	57,0
50	31,394	32,131	7,7	7,2	0,611	0,611	0,	43,4	55,8	47,5
70	26,010	27,229	13,3	12,5	0,795	0,803	0,	46,9	52,3	39,4
85	21,717	23,647	18,4	12,2	0,910	0,916	0,	45,4	49,7	21,6
90	20,295	22,581	20,1	13,8	0,941	0,949	0,	46,7	49,1	16,6
95	18,796	21,463	21,1	16,0	0,971	0,979	0,	52,5	48,5	5,1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	190,1	205,6	522,3	362,3	190,1	143,1	0,	147,7	486,5	480,5
10	202,8	214,0	513,3	362,9	202,8	160,3	0,	141,5	471,5	467,0
15	213,7	217,8	503,8	352,7	213,7	165,3	0,	141,8	456,2	453,4
30	233,8	227,5	472,3	311,4	233,8	169,8	0,	151,4	410,4	412,4
50	239,5	242,7	423,6	260,7	239,5	177,0	0,	166,1	349,4	357,6
70	230,1	237,2	369,8	210,7	230,1	164,2	0,	171,1	289,5	303,0
85	216,1	269,0	324,2	205,0	216,1	191,2	0,	189,3	241,7	263,2
90	208,0	273,7	307,0	198,5	208,0	190,8	0,	196,3	225,9	251,3
95	198,1	286,2	288,1	179,2	198,1	178,5	0,	223,7	209,2	238,9

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,577	0,558	1,585	0,983	0,755	0,355	1,6916	1,2448	0,662	0,686
10	0,618	0,587	1,565	0,995	0,796	0,389	1,7469	1,2275	0,759	0,777
15	0,654	0,599	1,543	0,971	0,776	0,421	1,7745	1,2220	0,802	0,817
30	0,722	0,630	1,458	0,862	0,727	0,498	1,8156	1,2156	0,862	0,873
50	0,741	0,679	1,311	0,729	0,740	0,560	1,8072	1,2053	0,897	0,905
70	0,710	0,670	1,140	0,595	0,718	0,586	1,6718	1,1793	0,882	0,890
85	0,662	0,773	0,994	0,589	0,914	0,544	1,6949	1,1731	0,940	0,944
90	0,635	0,788	0,938	0,572	0,958	0,486	1,6540	1,1697	0,911	0,917
95	0,603	0,823	0,877	0,516	0,954	0,399	1,6385	1,1818	0,833	0,845

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5,6	3,7	4,8	2,0	0,401	0,274	0,150	0,124	0,036	0,016
10	5,0	3,3	3,6	3,2	0,385	0,190	0,138	0,053	0,028	0,008
15	4,6	3,0	3,4	3,0	0,396	0,158	0,126	0,033	0,025	0,005
30	4,7	2,6	3,3	3,6	0,448	0,117	0,094	0,023	0,021	0,004
50	5,9	3,2	3,1	8,3	0,501	0,094	0,062	0,033	0,019	0,006
70	7,0	3,6	12,2	12,4	0,545	0,117	0,040	0,077	0,023	0,015
85	7,2	3,3	16,8	27,7	0,499	0,071	0,021	0,050	0,014	0,010
90	7,4	3,3	20,2	31,4	0,484	0,111	0,017	0,095	0,022	0,019
95	7,5	3,3	17,1	41,2	0,519	0,243	0,003	0,240	0,047	0,047

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
113,84	1,7525	1,2076	0,837	10627,2

ATT FAN VEHICLE

(METRIC)

BP=OGV

100 PERCENT SPEED

RDG 72

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0,8	0,4	0,078	0,083	44,0	0,		
15	41,605	41,554	-0,3	0,8	0,120	0,124	39,6	0,		
30	39,192	39,218	0,2	1,4	0,260	0,262	36,5	0,		
50	35,763	35,852	1,2	2,3	0,461	0,463	36,1	0,		
70	32,487	32,639	2,6	3,4	0,640	0,644	37,0	0,		
85	30,124	30,302	3,4	3,5	0,752	0,756	38,4	0,		
90	29,312	29,489	3,5	3,3	0,787	0,791	39,3	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	212,3	157,1			152,9	157,1	146,7	0,		
15	224,7	168,0			173,3	168,0	142,6	0,		
30	245,2	187,5			197,2	187,5	145,7	0,		
50	264,5	199,5			213,8	199,5	155,8	0,		
70	268,3	200,3			214,4	200,3	161,4	0,		
85	258,2	182,4			202,5	182,4	160,2	0,		
90	253,8	173,3			196,6	173,3	160,5	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,579	0,422			1,020	0,401	1,6861	1,2387	0,674	0,697
15	0,618	0,455			0,964	0,384	1,7171	1,2277	0,734	0,753
30	0,682	0,512			0,950	0,380	1,7727	1,2196	0,809	0,824
50	0,743	0,548			0,932	0,392	1,8002	1,2142	0,854	0,865
70	0,760	0,553			0,936	0,415	1,7741	1,2014	0,884	0,893
85	0,733	0,505			0,903	0,443	1,6809	1,1853	0,863	0,873
90	0,721	0,480			0,886	0,451	1,6369	1,1806	0,837	0,848

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PARAM
10	0,3	-7,8	10,9	43,7	0,510	0,068	0,	0,068	0,024	0,024
15	-2,7	-10,9	10,4	39,4	0,476	0,072	0,	0,072	0,025	0,025
30	-3,6	-11,4	9,4	36,5	0,429	0,042	0,	0,042	0,014	0,014
50	-2,9	-10,1	8,6	36,1	0,422	0,048	0,	0,048	0,014	0,014
70	-2,6	-9,0	8,3	37,0	0,416	0,031	0,	0,031	0,009	0,009
85	-2,5	-8,3	8,4	38,5	0,452	0,065	0,	0,065	0,016	0,016
90	-2,3	-8,0	8,4	39,3	0,474	0,092	0,	0,092	0,023	0,023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
97,56	1,7419	1,2124	0,809	10627,2

ATT FAN VEHICLE

(METRIC)

CORE=OGV 100 PERCENT SPEED RDG 72

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCY		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.6	-5.7	0.879	0.880	47.8	19.5		
30	24,689	24,460	-1.4	-4.5	0.902	0.905	43.1	18.7		
50	23,673	23,597	-0.1	-3.4	0.937	0.937	42.8	17.8		
70	22,682	22,784	1.3	-2.0	0.967	0.964	46.7	17.0		
85	21,971	22,174	2.9	-0.4	0.986	0.983	52.6	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	256.0	207.5			172.0	195.7	189.6	68.8		
30	272.2	213.9			198.9	202.6	185.8	68.5		
50	273.8	199.0			201.2	189.5	186.0	60.8		
70	280.0	194.0			191.9	185.5	204.1	56.8		
85	280.5	192.6			170.4	184.7	222.3	54.7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.727	0.579			1.130	0.285	1.6420	1.1851	0.822	0.834
30	0.781	0.600			1.016	0.345	1.6838	1.1760	0.912	0.919
50	0.789	0.557			0.939	0.413	1.6229	1.1693	0.876	0.885
70	0.806	0.541			0.957	0.438	1.5896	1.1770	0.800	0.813
85	0.804	0.534			1.073	0.455	1.5662	1.1872	0.731	0.747

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-1.6	-5.5	8.5	28.3	0.354	0.072	0.	0.072	0.023	0.023
30	-4.5	-8.0	7.9	24.2	0.357	0.042	0.	0.042	0.013	0.013
50	-3.7	-6.7	7.5	24.9	0.421	0.070	0.	0.070	0.021	0.021
70	-0.4	-2.8	7.8	29.3	0.467	0.097	0.	0.097	0.029	0.029
85	3.7	2.0	9.7	35.6	0.495	0.096	0.	0.096	0.028	0.028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16.28	1.6207	1.1787	0.828	10627.2

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 73

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6.1	-6.5	0.062	0.060	0.	34.6	68.4	66.6
10	42,367	41,961	-5.1	-5.6	0.126	0.122	0.	31.5	66.5	64.1
15	40,996	40,742	-3.7	-4.4	0.192	0.185	0.	31.9	64.7	62.4
30	36,881	37,059	0.7	-0.0	0.381	0.372	0.	35.2	60.2	57.5
50	31,394	32,131	6.7	6.2	0.608	0.602	0.	37.4	55.6	49.0
70	26,010	27,229	11.7	12.6	0.791	0.794	0.	41.5	51.6	40.8
85	21,717	23,647	16.9	12.6	0.907	0.909	0.	44.6	48.4	21.1
90	20,295	22,581	18.7	13.6	0.940	0.942	0.	44.9	47.7	16.1
95	18,796	21,463	20.1	15.8	0.971	0.974	0.	47.5	47.0	6.6

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	193.8	195.6	523.5	403.4	193.8	161.3	0.	110.6	486.3	480.3
10	206.0	205.7	514.3	400.4	206.0	175.6	0.	107.0	471.3	466.8
15	216.1	210.8	504.7	385.9	216.1	179.0	0.	111.3	456.0	453.2
30	234.6	221.5	472.6	337.2	234.6	181.0	0.	127.7	410.3	412.2
50	240.9	236.3	424.3	285.4	240.9	188.3	0.	142.8	349.2	357.4
70	234.4	234.8	372.3	232.4	234.4	177.9	0.	153.3	289.3	302.9
85	224.1	272.8	329.5	210.0	224.1	196.6	0.	189.1	241.6	263.0
90	216.9	280.1	313.0	209.1	216.9	201.4	0.	194.7	225.8	251.2
95	207.9	298.0	294.8	207.0	207.9	205.5	0.	215.8	209.1	238.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.589	0.544	1.591	1.121	0.834	0.274	1.4713	1.1833	0.636	0.656
10	0.629	0.576	1.570	1.122	0.855	0.308	1.5312	1.1724	0.751	0.765
15	0.662	0.591	1.547	1.083	0.830	0.338	1.5645	1.1744	0.782	0.795
30	0.725	0.621	1.460	0.946	0.773	0.412	1.6150	1.1819	0.807	0.820
50	0.746	0.668	1.314	0.807	0.782	0.474	1.6306	1.1763	0.851	0.861
70	0.724	0.669	1.150	0.662	0.757	0.514	1.5631	1.1605	0.848	0.857
85	0.689	0.785	1.013	0.604	0.897	0.505	1.6503	1.1721	0.894	0.901
90	0.665	0.810	0.960	0.604	0.953	0.457	1.6335	1.1689	0.891	0.898
95	0.635	0.865	0.901	0.601	1.017	0.378	1.6600	1.1771	0.880	0.888

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.2	3.3	4.5	1.9	0.300	0.235	0.148	0.086	0.031	0.011
10	4.7	3.0	3.8	2.5	0.292	0.158	0.136	0.022	0.023	0.003
15	4.3	2.7	3.7	2.4	0.311	0.143	0.125	0.019	0.022	0.003
30	4.6	2.5	3.9	2.9	0.378	0.140	0.094	0.046	0.025	0.008
50	5.6	3.0	4.6	6.8	0.429	0.120	0.062	0.058	0.023	0.011
70	6.3	2.9	13.6	10.7	0.481	0.134	0.039	0.094	0.026	0.018
85	5.9	2.0	16.3	27.2	0.493	0.119	0.018	0.101	0.024	0.021
90	6.0	1.9	19.7	31.3	0.467	0.129	0.014	0.115	0.026	0.023
95	6.0	1.8	18.6	39.6	0.447	0.164	0.003	0.161	0.032	0.031

INLET CORR	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
WTFLOW				
115.20	1.5927	1.1759	0.809	10622.4

ATT FAN VEHICLE

(METRIC)

BP-0GV

100 PERCENT SPEED

RDG 73

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0,9	-0,1	0,082	0,086	32,5	0,		
15	41,605	41,554	-0,5	0,1	0,125	0,127	29,6	0,		
30	39,192	39,218	-0,7	-0,0	0,262	0,259	29,5	0,		
50	35,763	35,852	-0,2	0,3	0,455	0,450	30,3	0,		
70	32,487	32,639	1,1	1,0	0,630	0,626	30,8	0,		
85	30,124	30,302	2,1	1,6	0,742	0,741	31,7	0,		
90	29,312	29,489	2,5	1,7	0,778	0,778	32,4	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	204,9	185,3			172,8	185,3	109,7	0,		
15	218,4	190,8			189,8	190,8	107,7	0,		
30	241,1	210,5			209,8	210,5	118,7	0,		
50	263,1	226,2			227,1	226,2	132,8	0,		
70	272,2	231,1			233,9	231,1	139,4	0,		
85	269,0	226,8			228,8	226,8	141,4	0,		
90	267,4	226,7			225,9	226,7	143,2	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,573	0,515			1,072	0,050	1,4463	1,1786	0,623	0,642
15	0,615	0,532			1,004	0,062	1,4619	1,1721	0,666	0,683
30	0,682	0,589			1,005	0,092	1,5173	1,1787	0,708	0,724
50	0,750	0,635			0,998	0,154	1,5659	1,1825	0,749	0,764
70	0,782	0,653			0,988	0,184	1,5619	1,1743	0,779	0,793
85	0,776	0,643			0,991	0,176	1,5126	1,1638	0,766	0,780
90	0,771	0,643			1,004	0,165	1,4968	1,1613	0,757	0,771

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-11,1	-19,3	10,9	32,4	0,287	0,152	0,	0,152	0,053	0,053
15	-12,6	-20,9	10,4	29,6	0,298	0,202	0,	0,202	0,070	0,070
30	-10,5	-18,4	9,4	29,5	0,285	0,167	0,	0,167	0,054	0,054
50	-8,7	-15,9	8,6	30,3	0,289	0,126	0,	0,126	0,037	0,037
70	-8,8	-15,2	8,3	30,8	0,291	0,118	0,	0,118	0,032	0,032
85	-9,2	-15,0	8,4	31,7	0,292	0,138	0,	0,138	0,036	0,036
90	-9,2	-14,9	8,4	32,4	0,288	0,142	0,	0,142	0,036	0,036

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
98,26	1,5206	1,1761	0,722	10622,4

ATT FAN VEHICLE

(METRIC)

CORE=OGV

100 PERCENT SPEED

RDG 73

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS ANGLE		REL ANGLE	
	IN	OUT					IN	OUT	IN	OUT
15	25,400	25,121		-2.8	-5.8	0,874	0,875	46,4	19,5	
30	24,689	24,460		-1,5	-4,5	0,897	0,899	42,7	18,8	
50	23,673	23,597		0,1	-2,9	0,930	0,931	42,4	17,9	
70	22,682	22,784		2,2	-1,2	0,961	0,959	43,9	17,1	
85	21,971	22,174		3,9	0,4	0,982	0,980	47,2	16,5	

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	251,4	209,5			173,4	197,6	182,1	69,6		
30	272,8	218,5			200,5	206,8	184,9	70,3		
50	274,7	210,2			202,9	200,1	185,3	64,6		
70	286,9	217,5			206,7	207,8	199,0	64,1		
85	292,9	222,9			199,4	213,7	214,5	63,5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,715	0,587			1,132	0,246	1,5929	1,1777	0,800	0,813
30	0,783	0,614			1,032	0,311	1,6458	1,1751	0,874	0,882
50	0,792	0,591			0,985	0,388	1,6119	1,1886	0,867	0,875
70	0,830	0,612			1,008	0,383	1,6211	1,1730	0,856	0,865
85	0,847	0,626			1,070	0,355	1,6118	1,1809	0,808	0,820

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-3,0	-6,9	8,6	26,9	0,323	0,074	0,	0,074	0,024	0,024
30	-4,9	-8,4	8,0	23,8	0,337	0,052	0,	0,052	0,016	0,016
50	-4,0	-7,1	7,6	24,5	0,377	0,033	0,	0,033	0,010	0,010
70	-3,2	-5,6	7,9	26,7	0,384	0,048	0,	0,048	0,014	0,014
85	-1,8	-3,4	9,8	30,5	0,393	0,083	0,	0,083	0,024	0,024

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16,94	1,6094	1,1748	0,833	10622,4

ATT FAN VEHICLE

(METRIC)

ROTOR 105 PERCENT SPEED RDG 74

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.6	-7.1	0.062	0.058	0.	40.0	69.0	67.8
10	42.367	41.961	-5.7	-6.3	0.126	0.118	0.	35.9	66.9	64.8
15	40.996	40.742	-4.1	-4.9	0.192	0.183	0.	34.9	65.0	62.6
30	36.881	37.059	1.0	0.3	0.381	0.375	0.	37.4	60.6	58.7
50	31.394	32.131	7.0	6.7	0.608	0.605	0.	39.5	56.1	50.3
70	26.010	27.229	11.9	13.8	0.791	0.796	0.	44.6	52.2	41.6
85	21.717	23.647	16.7	13.6	0.907	0.910	0.	45.8	48.8	21.7
90	20.295	22.581	18.6	14.3	0.939	0.943	0.	45.9	48.1	17.8
95	18.796	21.463	20.1	16.1	0.970	0.975	0.	49.2	47.4	7.1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	197.6	201.3	547.4	406.0	197.6	154.6	0.	128.9	510.5	504.3
10	211.7	213.4	538.2	404.9	211.7	173.3	0.	124.2	494.8	490.0
15	223.6	221.1	528.5	394.0	223.6	181.6	0.	126.2	478.7	475.8
30	242.8	226.5	494.4	345.8	242.8	180.1	0.	137.4	430.7	432.8
50	247.9	241.0	442.6	290.6	247.9	186.6	0.	152.6	366.6	375.2
70	240.4	242.0	387.3	230.6	240.4	174.7	0.	167.4	303.7	318.0
85	231.6	281.5	343.4	213.6	231.6	199.2	0.	198.9	253.6	276.2
90	224.1	284.7	326.2	210.5	224.1	201.2	0.	201.4	237.0	263.7
95	214.6	304.2	307.0	204.8	214.6	203.1	0.	226.5	219.5	250.6

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.601	0.550	1.666	1.110	0.785	0.291	1.5610	1.2241	0.605	0.629
10	0.648	0.590	1.647	1.119	0.826	0.326	1.6355	1.2096	0.720	0.739
15	0.688	0.613	1.625	1.093	0.815	0.358	1.6837	1.2074	0.774	0.790
30	0.753	0.630	1.533	0.962	0.742	0.428	1.7117	1.2054	0.808	0.822
50	0.770	0.676	1.376	0.815	0.754	0.487	1.7149	1.1979	0.842	0.854
70	0.744	0.683	1.200	0.651	0.725	0.527	1.6419	1.1840	0.827	0.839
85	0.714	0.806	1.059	0.612	0.875	0.536	1.7497	1.1904	0.910	0.917
90	0.689	0.819	1.003	0.605	0.920	0.495	1.7090	1.1835	0.902	0.909
95	0.657	0.878	0.940	0.591	0.974	0.422	1.7384	1.1944	0.880	0.889

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	5.7	3.9	5.7	1.3	0.337	0.284	0.188	0.097	0.036	0.012
10	5.1	3.4	4.5	2.5	0.325	0.198	0.175	0.023	0.028	0.003
15	4.6	3.0	3.9	2.6	0.337	0.164	0.161	0.002	0.025	0.000
30	4.9	2.9	5.0	2.1	0.394	0.149	0.126	0.023	0.025	0.004
50	6.2	3.5	5.9	6.0	0.446	0.133	0.087	0.046	0.025	0.009
70	7.0	3.5	14.4	10.4	0.512	0.164	0.056	0.108	0.031	0.020
85	6.3	2.4	16.9	27.0	0.509	0.105	0.026	0.078	0.021	0.016
90	6.4	2.3	21.4	30.0	0.488	0.119	0.019	0.100	0.024	0.020
95	6.4	2.2	19.1	39.2	0.480	0.168	0.012	0.156	0.033	0.030

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
116.84	1.6851	1.2019	0.796	11151.7

ATT FAN VEHICLE

(METRIC)

BP=OGV

105 PERCENT SPEED

RDG 74

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS ANGLE		REL ANGLE	
	IN	OUT					IN	OUT	IN	OUT
10	42,418	42,316	-1,2	-0,2	0,077	0,079	38,1	0,		
15	41,605	41,554	-0,8	0,0	0,119	0,120	33,9	0,		
30	39,192	39,218	-0,7	0,2	0,260	0,257	31,3	0,		
50	35,763	35,852	0,2	0,8	0,458	0,455	32,2	0,		
70	32,487	32,639	1,5	1,7	0,633	0,631	32,7	0,		
85	30,124	30,302	2,4	2,1	0,747	0,746	34,0	0,		
90	29,312	29,489	2,7	2,1	0,783	0,783	35,0	0,		

PCT IMM	ABS VEL		REL VEL IN	VEL OUT	MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT					IN	OUT	IN	OUT
10	209,1	170,1			164,8	170,1	128,2	0,		
15	225,3	184,0			187,0	184,0	125,2	0,		
30	252,8	208,5			216,0	208,5	131,4	0,		
50	265,6	215,0			224,8	215,0	141,5	0,		
70	276,3	220,4			232,6	220,4	149,1	0,		
85	274,2	214,1			227,5	214,1	153,1	0,		
90	272,1	210,2			222,9	210,2	155,9	0,		

PCT IMM	ABS MACH NO		REL MACH NO IN	MACH NO OUT	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT							ADIA	POLY
10	0,575	0,463			1,029	0,254	1,5508	1,2192	0,609	0,633
15	0,625	0,504			0,983	0,244	1,5922	1,2101	0,677	0,697
30	0,709	0,576			0,966	0,249	1,6689	1,2079	0,758	0,775
50	0,750	0,596			0,957	0,301	1,6824	1,2042	0,785	0,800
70	0,787	0,614			0,947	0,313	1,6763	1,1957	0,813	0,824
85	0,784	0,598			0,941	0,311	1,6176	1,1861	0,792	0,805
90	0,778	0,587			0,944	0,308	1,5867	1,1843	0,765	0,780

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF	
	ML	SS					SHOCK	PROF		PROF	PROF
10	-5,6	-13,7	10,9	37,9	0,407	0,103	0,	0,103	0,036	0,036	
15	-8,3	-16,6	10,4	33,9	0,378	0,106	0,	0,106	0,037	0,037	
30	-8,7	-16,6	9,4	31,3	0,343	0,082	0,	0,082	0,027	0,027	
50	-6,8	-14,0	8,6	32,2	0,349	0,051	0,	0,051	0,015	0,015	
70	-6,9	-13,3	8,3	32,7	0,350	0,062	0,	0,062	0,017	0,017	
85	-7,0	-12,7	8,4	34,0	0,363	0,097	0,	0,097	0,025	0,025	
90	-6,6	-12,3	8,4	35,0	0,372	0,115	0,	0,115	0,029	0,029	

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
100,13	1,6392	1,2031	0,747	11151,7



ATT FAN VEHICLE

(METRIC)

CORE-OGV 105 PERCENT SPEED RDG 74

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,3	-5,3	0,877	0,879	50,7	19,5		
30	24,689	24,460	-0,8	-3,9	0,900	0,904	44,8	18,8		
50	23,673	23,597	0,7	-2,6	0,933	0,934	44,4	17,9		
70	22,682	22,784	2,1	-1,2	0,963	0,961	46,4	17,1		
85	21,971	22,174	3,5	0,2	0,983	0,981	50,5	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	257,4	201,8			163,0	190,4	199,3	67,0		
30	276,9	211,4			196,6	200,1	194,9	67,9		
50	275,0	193,5			196,7	184,2	192,3	59,3		
70	286,5	196,9			197,7	188,2	207,5	57,9		
85	294,9	207,4			187,7	198,8	227,2	59,0		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,725	0,557			1,154	0,332	1,6829	1,2041	0,785	0,801
30	0,790	0,588			1,020	0,368	1,7381	1,1933	0,885	0,894
50	0,787	0,538			0,936	0,429	1,6586	1,1837	0,847	0,857
70	0,822	0,546			0,954	0,425	1,6537	1,1892	0,817	0,830
85	0,845	0,574			1,056	0,407	1,6664	1,2007	0,783	0,798

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
15	1,3	-2,6	8,5	31,1	0,397	0,069	0,	0,069	0,022	0,022	
30	-2,8	-6,3	8,0	25,8	0,383	0,049	0,	0,049	0,015	0,015	
50	-2,1	-5,1	7,6	26,5	0,451	0,090	0,	0,090	0,027	0,027	
70	-0,7	-3,1	7,9	29,1	0,469	0,118	0,	0,118	0,035	0,035	
85	1,5	-0,1	9,8	33,7	0,466	0,120	0,	0,120	0,034	0,034	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16,71	1,6742	1,1943	0,816	11151,7

ATT FAN VEHICLE

(METRIC)

ROTOR 105 PERCENT SPEED RDG 75

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	REL ANGLE IN	REL ANGLE OUT	
	IN	OUT			IN	OUT				
5	43,713	43,180	-6,4	-7,0	0,063	0,059	0,	49,3	69,1	67,7
10	42,367	41,961	-5,5	-6,2	0,127	0,120	0,	44,9	67,1	64,2
15	40,996	40,742	-4,0	-4,9	0,193	0,184	0,	44,5	65,2	62,4
30	36,881	37,059	0,8	0,1	0,384	0,375	0,	44,8	60,5	57,5
50	31,394	32,131	8,3	7,9	0,613	0,616	0,	44,8	55,7	47,9
70	26,010	27,229	14,4	13,6	0,797	0,810	0,	49,1	52,5	40,7
85	21,717	23,647	19,5	13,7	0,911	0,925	0,	46,9	50,5	19,3
90	20,295	22,581	21,1	15,2	0,942	0,956	0,	50,4	50,1	14,9
95	18,796	21,463	21,8	17,1	0,972	0,983	0,	57,2	49,6	4,7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	196,7	215,4	547,2	369,7	196,7	141,2	0,	162,7	510,6	504,4
10	210,1	226,5	537,6	368,4	210,1	161,1	0,	158,9	494,9	490,1
15	221,4	230,8	527,6	354,9	221,4	164,8	0,	161,6	478,9	475,9
30	244,1	238,2	495,1	314,3	244,1	169,0	0,	167,9	430,8	432,9
50	252,6	253,0	445,3	267,7	252,6	180,2	0,	177,6	366,7	375,3
70	240,4	243,9	387,4	211,6	240,4	162,1	0,	182,2	303,8	318,0
85	222,1	288,6	337,1	211,4	222,1	200,1	0,	208,0	253,7	276,2
90	212,4	285,0	318,3	191,3	212,4	185,4	0,	216,7	237,1	263,8
95	201,2	287,0	297,8	161,0	201,2	160,5	0,	237,8	219,5	250,7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,598	0,577	1,665	0,990	0,720	0,368	1,8143	1,2833	0,655	0,682
10	0,642	0,613	1,644	0,997	0,772	0,401	1,8832	1,2685	0,738	0,760
15	0,680	0,626	1,621	0,963	0,746	0,432	1,9104	1,2655	0,765	0,785
30	0,757	0,652	1,536	0,860	0,694	0,509	1,9407	1,2508	0,832	0,847
50	0,787	0,703	1,387	0,744	0,715	0,573	1,9261	1,2304	0,894	0,903
70	0,745	0,684	1,200	0,594	0,683	0,587	1,7429	1,2011	0,856	0,866
85	0,682	0,826	1,036	0,605	0,932	0,523	1,8023	1,2003	0,915	0,922
90	0,650	0,815	0,974	0,547	0,937	0,451	1,7145	1,1963	0,848	0,859
95	0,613	0,818	0,907	0,459	0,876	0,355	1,6382	1,2036	0,744	0,761

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5,8	4,0	5,6	1,5	0,424	0,298	0,188	0,111	0,038	0,014
10	5,3	3,6	3,9	3,2	0,414	0,225	0,175	0,050	0,033	0,007
15	4,8	3,2	3,7	3,0	0,433	0,206	0,161	0,044	0,032	0,007
30	4,8	2,8	3,8	3,2	0,478	0,152	0,126	0,025	0,026	0,004
50	5,8	3,1	3,5	7,7	0,516	0,102	0,087	0,015	0,020	0,003
70	7,3	3,8	13,5	11,2	0,567	0,150	0,056	0,094	0,029	0,018
85	8,0	4,1	14,5	30,1	0,511	0,107	0,028	0,079	0,022	0,016
90	8,4	4,3	18,5	33,4	0,522	0,207	0,023	0,184	0,041	0,037
95	8,6	4,4	16,7	41,6	0,586	0,391	0,003	0,388	0,076	0,075

INLET CORR WFLOW 115,86 PRESS RATIO 1,8623 TEMP RATIO 1,2390 ADIA EFF 0,814 INLET CORR RPM 11154,1

ATT FAN VEHICLE

(METRIC)

BP=OGV

105 PERCENT SPEED

RDG 75

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.8	0.5	0.078	0.083	46.8	0.		
15	41.605	41.554	-0.3	1.1	0.121	0.126	42.4	0.		
30	39.192	39.218	0.8	2.2	0.264	0.269	39.9	0.		
50	35.763	35.852	2.2	3.5	0.467	0.474	37.8	0.		
70	32.487	32.639	3.3	4.4	0.649	0.656	38.6	0.		
85	30.124	30.302	3.8	4.2	0.762	0.767	40.9	0.		
90	29.312	29.489	3.8	3.8	0.796	0.801	42.0	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	224.1	156.6			153.4	156.6	162.7	0.		
15	238.4	170.8			176.1	170.8	160.2	0.		
30	258.8	190.6			198.6	190.6	166.0	0.		
50	274.1	197.7			216.6	197.7	168.0	0.		
70	276.9	200.0			216.5	200.0	172.7	0.		
85	263.0	174.0			199.2	174.0	171.6	0.		
90	256.1	160.1			190.6	160.1	171.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.603	0.414			1.010	0.438	1.8002	1.2780	0.658	0.685
15	0.648	0.455			0.961	0.419	1.8422	1.2686	0.710	0.734
30	0.710	0.511			0.958	0.424	1.9015	1.2624	0.768	0.788
50	0.764	0.536			0.911	0.427	1.9072	1.2421	0.837	0.851
70	0.778	0.546			0.926	0.443	1.8805	1.2259	0.875	0.886
85	0.740	0.476			0.879	0.498	1.7628	1.2082	0.844	0.856
90	0.721	0.437			0.848	0.522	1.7034	1.2019	0.814	0.827

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROP		
10	3.2	=5.0	10.9	46.6	0.564	0.093	0.	0.093	0.033	0.033
15	0.2	=8.1	10.4	42.2	0.521	0.087	0.	0.087	0.030	0.030
30	=0.1	=8.0	9.4	39.9	0.473	0.042	0.	0.042	0.014	0.014
50	=1.2	=8.4	8.6	37.8	0.461	0.064	0.	0.064	0.019	0.019
70	=1.0	=7.4	8.3	38.6	0.446	0.040	0.	0.040	0.011	0.011
85	=0.1	=5.8	8.4	40.9	0.503	0.066	0.	0.066	0.017	0.017
90	0.4	=5.3	8.4	42.1	0.539	0.092	0.	0.092	0.023	0.023

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
100.19	1.8507	1.2446	0.786	11154.1

ATT FAN VEHICLE

(METRIC)

CORE-OGV

105 PERCENT SPEED

RDG 75

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,6	-5,7	0,888	0,889	48,3	19,4		
30	24,689	24,460	-1,3	-4,6	0,912	0,915	44,4	18,6		
50	23,673	23,597	-0,0	-3,5	0,946	0,946	46,0	17,6		
70	22,682	22,784	1,4	-2,3	0,974	0,971	51,8	16,9		
85	21,971	22,174	3,0	-0,5	0,990	0,987	59,0	16,4		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	273,3	214,6			182,0	202,5	203,8	71,0		
30	288,8	217,7			206,2	206,4	202,1	69,2		
50	285,4	191,6			198,3	182,6	205,5	58,0		
70	281,5	175,2			174,0	167,7	221,6	50,8		
85	275,1	157,6			142,0	151,2	234,4	44,5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,773	0,593			1,104	0,529	1,7373	1,2088	0,819	0,832
30	0,825	0,605			0,996	0,385	1,7658	1,2010	0,877	0,887
50	0,816	0,529			0,917	0,469	1,6615	1,1963	0,795	0,809
70	0,801	0,480			0,941	0,525	1,5870	1,2023	0,697	0,716
85	0,779	0,430			1,049	0,583	1,5297	1,2075	0,622	0,644

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-1,2	-5,0	8,5	28,8	0,385	0,070	0,	0,070	0,023	0,023
30	-3,1	-6,7	7,8	25,7	0,400	0,058	0,	0,058	0,018	0,018
50	-0,5	-3,5	7,4	28,4	0,496	0,098	0,	0,098	0,030	0,030
70	4,7	2,3	7,7	34,5	0,568	0,111	0,	0,111	0,033	0,033
85	10,0	8,4	9,6	42,0	0,643	0,115	0,	0,115	0,033	0,033

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15,67	1,6696	1,2029	0,777	11154,1

ATT FAN VEHICLE

(METRIC)

ROTOR 105 PERCENT SPEED RDG 76

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6.4	-6.9	0,063	0,059	0.	45.2	68.9	67.2
10	42,367	41,961	-5.6	-6.2	0,127	0,119	0.	41.1	66.9	64.5
15	40,996	40,742	-4.0	-4.9	0,193	0,184	0.	39.5	65.0	62.7
30	36,881	37,059	1.0	0.2	0,383	0,376	0.	40.6	60.4	58.6
50	31,394	32,131	7.8	7.4	0,612	0,611	0.	41.9	55.8	48.8
70	26,010	27,229	13.5	13.5	0,795	0,805	0.	47.5	52.4	41.4
85	21,717	23,647	18.4	13.5	0,909	0,918	0.	45.6	49.8	20.8
90	20,295	22,581	20.2	14.9	0,941	0,951	0.	47.5	49.3	16.6
95	18,796	21,463	21.2	16.7	0,971	0,981	0.	52.5	48.8	6.6

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	198.4	212.1	548.1	384.9	198.4	149.9	0.	150.1	510.9	504.6
10	212.1	220.1	538.7	384.3	212.1	166.2	0.	144.0	495.1	490.4
15	223.8	224.2	528.9	376.2	223.8	173.3	0.	142.2	479.1	476.1
30	244.7	228.7	495.6	333.2	244.7	173.8	0.	148.7	431.0	433.1
50	252.1	248.7	445.2	280.5	252.1	185.7	0.	165.5	366.9	375.5
70	241.1	241.7	388.0	218.6	241.1	165.8	0.	175.9	304.0	318.2
85	226.1	286.0	339.9	216.4	226.1	203.0	0.	201.5	253.8	276.4
90	217.1	285.4	321.6	204.3	217.1	196.2	0.	207.2	237.2	263.9
95	206.3	294.9	301.3	185.4	206.3	184.2	0.	230.3	219.7	250.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,604	0,573	1,668	1,040	0,757	0,330	1,6952	1,2612	0,623	0,650
10	0,649	0,600	1,648	1,048	0,789	0,364	1,7529	1,2430	0,716	0,737
15	0,688	0,615	1,626	1,032	0,777	0,396	1,7867	1,2336	0,772	0,790
30	0,760	0,632	1,538	0,920	0,711	0,470	1,8100	1,2224	0,831	0,844
50	0,785	0,694	1,387	0,783	0,738	0,533	1,8281	1,2148	0,876	0,886
70	0,747	0,680	1,202	0,615	0,694	0,551	1,6797	1,1938	0,824	0,836
85	0,696	0,820	1,046	0,620	0,924	0,511	1,7646	1,1936	0,910	0,917
90	0,666	0,819	0,986	0,586	0,948	0,448	1,6956	1,1886	0,863	0,873
95	0,630	0,846	0,920	0,532	0,950	0,356	1,6577	1,1968	0,790	0,804

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
5	5.7	3.8	5.2	1.8	0,389	0,305	0,188	0,117	0,039	0,015	
10	5.1	3.4	4.2	2.7	0,376	0,225	0,175	0,050	0,032	0,007	
15	4.6	3.0	4.0	2.6	0,380	0,181	0,162	0,019	0,028	0,003	
30	4.8	2.7	5.0	2.0	0,428	0,140	0,126	0,014	0,024	0,002	
50	5.8	3.2	4.4	7.0	0,480	0,111	0,087	0,024	0,022	0,005	
70	7.1	3.7	14.2	10.5	0,546	0,175	0,057	0,118	0,033	0,022	
85	7.3	3.4	16.0	28.4	0,496	0,109	0,028	0,081	0,022	0,017	
90	7.6	3.5	20.2	31.5	0,492	0,176	0,022	0,154	0,035	0,031	
95	7.8	3.6	18.6	39.5	0,518	0,307	0,004	0,303	0,059	0,059	

INLET CORR WTFLOW 116.51	PRESS RATIO 1,7661	TEMP RATIO 1,2196	ADIA EFF 0,804	INLET CORR RPM 11160.1
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ATT FAN VEHICLE

(METRIC)

BP=OGV

105 PERCENT SPEED

RDG 76

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.0	0.1	0.078	0.082	43,2	0.		
15	41,605	41,554	-0.5	0.6	0.121	0.124	38,9	0.		
30	39,192	39,218	0.1	1.2	0.262	0.263	34,8	0.		
50	35,763	35,852	0.9	1.9	0.462	0.463	35,0	0.		
70	32,487	32,639	2.1	2.8	0.642	0.643	35,4	0.		
85	30,124	30,302	3.0	3.0	0.755	0.758	37,6	0.		
90	29,312	29,489	3.2	2.9	0.790	0.793	38,9	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	219,1	163,7			159,8	163,7	149,3	0.		
15	231,8	176,6			180,4	176,6	145,1	0.		
30	252,5	196,1			207,5	196,1	144,0	0.		
50	266,9	202,9			218,7	202,9	153,0	0.		
70	278,7	212,2			227,1	212,2	161,6	0.		
85	269,1	193,6			213,5	193,6	163,6	0.		
90	262,7	181,9			204,6	181,9	164,7	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,595	0,438			1,018	0,376	1,6840	1,2552	0,629	0,655
15	0,635	0,476			0,974	0,364	1,7228	1,2434	0,691	0,714
30	0,702	0,535			0,945	0,360	1,7825	1,2278	0,788	0,805
50	0,749	0,556			0,927	0,385	1,7910	1,2209	0,820	0,834
70	0,789	0,585			0,935	0,390	1,7975	1,2120	0,860	0,871
85	0,763	0,534			0,908	0,422	1,6991	1,1989	0,822	0,835
90	0,744	0,501			0,892	0,438	1,6434	1,1947	0,783	0,798

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	=0,5	=8,6	10,9	43,0	0,498	0,082	0.	0,082	0,029	0,029
15	=3,3	=11,6	10,4	38,8	0,458	0,069	0.	0,069	0,024	0,024
30	=5,3	=13,1	9,4	34,7	0,408	0,043	0.	0,043	0,014	0,014
50	=4,0	=11,2	8,6	35,0	0,411	0,045	0.	0,045	0,013	0,013
70	=4,2	=10,6	8,3	35,4	0,396	0,037	0.	0,037	0,010	0,010
85	=3,4	=9,1	8,4	37,6	0,437	0,069	0.	0,069	0,018	0,018
90	=2,7	=8,4	8,4	39,0	0,464	0,093	0.	0,093	0,024	0,024

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
100,29	1,7482	1,2233	0,775	11160,1

ATT FAN VEHICLE

(METRIC)

CORE-OGV 105 PERCENT SPEED RDG 76

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,6	-5,7	0,883	0,884	48,2	19,4		
30	24,689	24,460	-1,3	-4,6	0,906	0,909	43,5	18,7		
50	23,673	23,597	-0,0	-3,4	0,941	0,941	44,0	17,7		
70	22,682	22,784	1,3	-2,2	0,971	0,967	47,7	17,0		
85	21,971	22,174	2,8	-0,6	0,988	0,985	54,5	16,4		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	266,3	212,5			177,7	200,5	198,3	70,4		
30	284,9	220,3			206,7	208,8	196,1	70,4		
50	284,2	200,8			204,6	191,3	197,4	61,1		
70	286,5	191,2			192,7	182,9	212,8	55,7		
85	283,1	182,0			164,5	174,5	228,9	51,5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,753	0,589			1,119	0,303	1,6866	1,2033	0,792	0,807
30	0,815	0,614			1,006	0,356	1,7353	1,1951	0,874	0,884
50	0,815	0,558			0,932	0,430	1,6539	1,1887	0,819	0,832
70	0,820	0,528			0,931	0,463	1,6005	1,1941	0,741	0,758
85	0,807	0,500			1,052	0,499	1,5560	1,2024	0,665	0,685

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-1,3	-5,1	8,5	28,6	0,370	0,076	0,	0,076	0,025	0,025
30	-4,1	-7,6	7,9	24,7	0,374	0,055	0,	0,055	0,017	0,017
50	-2,5	-5,5	7,5	26,2	0,449	0,086	0,	0,086	0,026	0,026
70	0,6	-1,8	7,8	30,4	0,501	0,113	0,	0,113	0,033	0,033
85	5,5	3,9	9,7	37,4	0,553	0,117	0,	0,117	0,034	0,034

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16,23	1,6496	1,1967	0,782	11160,1

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 105 PERCENT SPEED RDG 77

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	REL ANGLE OUT	REL ANGLE IN	REL ANGLE OUT
	IN	OUT			IN	OUT				
5	43,713	43,180	-6,0	-6,4	0,063	0,061	0,	35,2	68,8	67,7
10	42,367	41,961	-5,0	-5,6	0,126	0,122	0,	32,7	67,0	65,2
15	40,996	40,742	-3,6	-4,4	0,192	0,185	0,	33,6	65,2	63,5
30	36,881	37,059	0,6	-0,1	0,380	0,371	0,	36,7	60,8	58,8
50	31,394	32,131	6,3	5,9	0,606	0,599	0,	38,4	56,1	51,2
70	26,010	27,229	11,0	12,1	0,789	0,789	0,	42,8	51,7	41,0
85	21,717	23,647	16,7	12,3	0,907	0,908	0,	45,3	48,5	23,1
90	20,295	22,581	18,5	13,5	0,939	0,941	0,	44,8	47,8	16,6
95	18,796	21,463	20,1	15,8	0,970	0,975	0,	47,4	47,1	7,2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	198,9	197,6	548,0	423,1	198,9	161,8	0,	113,4	510,6	504,4
10	211,2	208,1	538,1	416,9	211,2	175,4	0,	112,0	494,9	490,1
15	221,4	214,3	527,6	399,5	221,4	178,5	0,	118,5	478,9	475,9
30	240,5	225,1	493,4	348,9	240,5	180,7	0,	134,4	430,8	432,9
50	247,6	236,3	442,5	294,7	247,6	185,7	0,	146,2	366,7	375,3
70	244,4	244,2	389,9	237,8	244,4	181,0	0,	163,9	303,8	318,1
85	234,3	276,2	345,3	212,9	234,3	196,5	0,	194,0	253,7	276,2
90	226,6	292,6	327,9	219,2	226,6	210,7	0,	203,1	237,1	263,8
95	217,0	310,4	308,7	216,0	217,0	214,3	0,	224,6	219,6	250,7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,606	0,546	1,668	1,170	0,815	0,276	1,5190	1,1974	0,643	0,663
10	0,646	0,579	1,646	1,160	0,833	0,308	1,5804	1,1896	0,737	0,753
15	0,680	0,596	1,621	1,112	0,808	0,337	1,6166	1,1951	0,754	0,770
30	0,745	0,627	1,528	0,971	0,752	0,409	1,6659	1,2010	0,781	0,796
50	0,770	0,664	1,375	0,828	0,750	0,473	1,6653	1,1895	0,828	0,840
70	0,758	0,691	1,210	0,673	0,738	0,529	1,6379	1,1800	0,841	0,852
85	0,724	0,791	1,066	0,610	0,857	0,525	1,7008	1,1853	0,884	0,893
90	0,697	0,844	1,009	0,633	0,953	0,481	1,7312	1,1850	0,918	0,924
95	0,665	0,900	0,946	0,626	1,021	0,402	1,7566	1,1934	0,903	0,910

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5,6	3,7	5,6	1,2	0,297	0,236	0,187	0,049	0,030	0,006
10	5,2	3,5	4,9	1,9	0,296	0,174	0,174	-0,000	0,024	-0,000
15	4,8	3,2	4,8	1,9	0,320	0,170	0,161	0,009	0,025	0,001
30	5,2	3,1	5,2	2,2	0,385	0,165	0,126	0,039	0,028	0,007
50	6,2	3,5	6,8	5,1	0,435	0,140	0,087	0,053	0,026	0,010
70	6,5	3,0	13,8	10,7	0,499	0,145	0,057	0,088	0,028	0,017
85	6,0	2,1	18,3	25,3	0,511	0,130	0,026	0,103	0,026	0,021
90	6,1	2,0	20,2	30,9	0,467	0,099	0,018	0,081	0,020	0,016
95	6,1	1,9	19,2	39,0	0,444	0,136	0,012	0,124	0,026	0,024

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
117,08	1,6461	1,1926	0,795	11154,3



ATT FAN VEHICLE

(METRIC)

BP=0GV

105 PERCENT SPEED

RDG 77

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.1	-0.2	0.082	0.084	33.6	0.		
15	41,605	41,554	-0.7	0.0	0.124	0.126	31.0	0.		
30	39,192	39,218	-0.7	0.1	0.260	0.257	31.3	0.		
50	35,763	35,852	-0.1	0.3	0.452	0.447	31.4	0.		
70	32,487	32,639	1.2	1.2	0.625	0.622	31.7	0.		
85	30,124	30,302	2.3	1.8	0.737	0.737	32.9	0.		
90	29,312	29,489	2.7	1.9	0.773	0.774	33.6	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	205.6	182.7			171.3	182.7	113.3	0.		
15	219.6	190.4			188.3	190.4	112.9	0.		
30	244.3	207.7			208.8	207.7	126.8	0.		
50	265.1	223.5			226.4	223.5	138.1	0.		
70	271.5	227.1			231.1	227.1	142.6	0.		
85	272.2	224.6			228.6	224.6	147.7	0.		
90	274.3	226.6			228.4	226.6	151.9	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.571	0.504			1.066	0.083	1.4947	1.1939	0.628	0.648
15	0.614	0.527			1.010	0.095	1.5172	1.1895	0.667	0.686
30	0.685	0.575			0.996	0.125	1.5640	1.2006	0.679	0.699
50	0.751	0.623			0.989	0.187	1.6143	1.1993	0.736	0.753
70	0.775	0.637			0.982	0.221	1.6057	1.1874	0.773	0.788
85	0.780	0.632			0.983	0.206	1.5594	1.1794	0.755	0.769
90	0.787	0.638			0.993	0.188	1.5490	1.1795	0.742	0.757

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-10.0	-18.2	10.9	33.5	0.309	0.147	0.	0.147	0.052	0.052
15	-11.2	-19.5	10.4	31.0	0.312	0.178	0.	0.178	0.061	0.061
30	-8.8	-16.6	9.4	31.3	0.317	0.175	0.	0.175	0.057	0.057
50	-7.6	-14.8	8.6	31.4	0.311	0.120	0.	0.120	0.036	0.036
70	-7.9	-14.3	8.3	31.7	0.308	0.099	0.	0.099	0.027	0.027
85	-8.1	-13.8	8.4	32.9	0.314	0.138	0.	0.138	0.036	0.036
90	-7.9	-13.7	8.4	33.6	0.314	0.158	0.	0.158	0.040	0.040

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
99.44	1.5685	1.1931	0.711	11154.3

ATT FAN VEHICLE

(METRIC)

CORE=OGV 105 PERCENT SPEED RDG 77

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.8	-5.8	0,872	0,872	45,9	19,5		
30	24,689	24,460	-1,6	-4,6	0,895	0,897	42,7	18,8		
50	23,673	23,597	-0,0	-3,1	0,929	0,929	42,5	17,9		
70	22,682	22,784	2,0	-1,4	0,961	0,959	43,2	17,1		
85	21,971	22,174	3,7	0,2	0,983	0,981	47,6	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPFED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	260,9	217,1			181,7	204,8	187,3	72,1		
30	276,8	218,6			203,5	207,0	187,6	70,4		
50	285,6	216,9			210,7	206,5	192,8	66,6		
70	302,5	230,2			220,4	220,0	207,5	67,7		
85	303,1	228,0			204,8	218,6	223,0	64,8		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,740	0,605			1,120	0,246	1,6667	1,1919	0,819	0,831
30	0,792	0,611			1,018	0,325	1,6940	1,1868	0,870	0,879
50	0,822	0,607			0,979	0,390	1,6871	1,1842	0,875	0,884
70	0,875	0,646			0,998	0,376	1,7194	1,1895	0,884	0,893
85	0,874	0,637			1,059	0,367	1,6761	1,1974	0,806	0,819

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-3,5	-7,4	8,6	26,4	0,322	0,076	0,	0,076	0,025	0,025
30	-4,9	-8,4	8,0	23,9	0,350	0,057	0,	0,057	0,018	0,018
50	-4,0	-7,0	7,6	24,6	0,383	0,040	0,	0,040	0,012	0,012
70	-3,9	-6,3	7,9	26,0	0,378	0,053	0,	0,053	0,016	0,016
85	-1,4	-3,0	9,8	30,7	0,408	0,093	0,	0,093	0,027	0,027

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
17,64	1,6771	1,1899	0,838	11154,3

ATT PAN VEHICLE

(METRIC)

ROTOR 110 PERCENT SPEED RDG 78

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT							IN	OUT
5	43,713	43,180	=6,4	=6,9	0,063	0,059	0,	40,1	69,3	68,3
10	42,367	41,961	=5,4	=6,0	0,127	0,120	0,	36,4	67,3	65,3
15	40,996	40,742	=3,7	=4,6	0,192	0,185	0,	35,8	65,5	63,8
30	36,881	37,059	1,0	0,3	0,382	0,375	0,	38,2	61,2	60,2
50	31,394	32,131	6,9	6,6	0,608	0,604	0,	39,9	56,7	52,2
70	26,010	27,229	11,7	13,0	0,791	0,794	0,	45,6	52,6	42,2
85	21,717	23,647	17,1	13,3	0,907	0,912	0,	45,8	49,4	21,3
90	20,295	22,581	19,0	14,5	0,940	0,945	0,	47,1	48,8	17,7
95	18,796	21,463	20,4	16,3	0,970	0,976	0,	50,1	48,2	8,7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	203,7	207,1	573,2	427,2	203,7	158,9	0,	132,8	535,8	529,3
10	217,7	220,2	563,1	423,4	217,7	177,5	0,	130,1	519,3	514,3
15	229,1	224,3	552,3	411,1	229,1	182,2	0,	130,8	502,5	499,4
30	248,5	228,2	515,8	360,9	248,5	179,4	0,	141,0	452,1	454,2
50	254,6	243,0	461,4	302,9	254,6	187,0	0,	155,4	384,8	393,8
70	249,0	250,4	404,5	237,0	249,0	177,5	0,	176,7	318,8	333,8
85	239,0	297,4	357,7	224,9	239,0	210,3	0,	210,2	266,2	289,9
90	230,2	296,1	338,9	214,6	230,2	205,2	0,	213,5	248,8	276,8
95	219,5	309,1	318,2	205,2	219,5	202,9	0,	233,3	230,4	263,1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH'	ACC PY RATIO	ACC TY RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,621	0,563	1,748	1,161	0,783	0,285	1,6067	1,2424	0,598	0,624
10	0,668	0,604	1,727	1,162	0,821	0,318	1,6846	1,2306	0,697	0,718
15	0,706	0,618	1,702	1,132	0,797	0,347	1,7174	1,2256	0,741	0,760
30	0,772	0,630	1,604	0,997	0,722	0,414	1,7383	1,2212	0,774	0,790
50	0,794	0,678	1,439	0,845	0,735	0,472	1,7402	1,2115	0,811	0,825
70	0,774	0,703	1,258	0,666	0,711	0,515	1,6860	1,2036	0,791	0,805
85	0,740	0,850	1,107	0,642	0,899	0,502	1,8202	1,2117	0,882	0,891
90	0,710	0,848	1,045	0,615	0,920	0,449	1,7438	1,2042	0,843	0,855
95	0,674	0,888	0,977	0,589	0,956	0,367	1,7293	1,2106	0,804	0,819

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	6,1	4,2	6,3	1,1	0,332	0,296	0,229	0,067	0,037	0,008
10	5,5	3,8	5,0	2,3	0,326	0,223	0,215	0,008	0,031	0,001
15	5,1	3,5	5,1	1,9	0,337	0,193	0,201	-0,008	0,029	-0,001
30	5,6	3,5	6,6	1,2	0,392	0,178	0,161	0,017	0,029	0,003
50	6,8	4,1	7,8	4,6	0,444	0,162	0,116	0,046	0,029	0,008
70	7,3	3,9	15,0	10,2	0,524	0,203	0,078	0,123	0,038	0,023
85	6,9	3,0	16,5	27,9	0,504	0,142	0,038	0,104	0,029	0,021
90	7,1	3,0	21,3	30,5	0,499	0,198	0,026	0,171	0,039	0,034
95	7,2	3,0	20,7	38,1	0,499	0,277	0,017	0,259	0,053	0,050

INLET CORR WFLOW 118,36 PRESS RATIO 1,7204 TEMP RATIO 1,2192 ADIA EFF 0,765 INLET CORR RPM 11705,1

ORIGINAL PAGE IS OF POOR QUALITY

## ATT FAN VEHICLE

(METRIC)

BP-OGV

110 PERCENT SPEED

RDG 78

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,4	-0,3	0,079	0,080	38,4	0,		
15	41,605	41,554	-1,0	-0,1	0,121	0,122	34,7	0,		
30	39,192	39,218	-0,8	0,2	0,261	0,258	32,2	0,		
50	35,763	35,852	0,1	0,8	0,457	0,454	32,8	0,		
70	32,487	32,639	1,4	1,6	0,631	0,629	33,3	0,		
85	30,124	30,302	2,4	2,0	0,743	0,743	35,0	0,		
90	29,312	29,489	2,7	2,1	0,779	0,780	36,1	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	215,0	172,8			168,6	172,8	132,9	0,		
15	231,5	186,8			190,5	186,8	131,2	0,		
30	252,7	205,6			213,9	205,6	134,5	0,		
50	268,5	214,3			225,7	214,3	145,4	0,		
70	277,0	217,8			231,6	217,8	152,0	0,		
85	277,0	211,3			226,8	211,3	158,9	0,		
90	277,9	209,3			224,6	209,3	163,6	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,587	0,466			1,023	0,263	1,5940	1,2386	0,597	0,622
15	0,638	0,507			0,981	0,255	1,6369	1,2311	0,654	0,677
30	0,704	0,563			0,962	0,277	1,6967	1,2232	0,731	0,750
50	0,754	0,590			0,950	0,324	1,7189	1,2203	0,760	0,778
70	0,784	0,603			0,940	0,342	1,7056	1,2094	0,787	0,802
85	0,787	0,585			0,932	0,341	1,6447	1,2026	0,754	0,771
90	0,790	0,579			0,932	0,334	1,6207	1,2031	0,729	0,746

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-5,2	-13,4	10,9	38,3	0,419	0,109	0,	0,109	0,038	0,038
15	-7,6	-15,8	10,4	34,6	0,391	0,110	0,	0,110	0,038	0,038
30	-7,9	-15,7	9,4	32,1	0,358	0,071	0,	0,071	0,023	0,023
50	-6,2	-13,4	8,6	32,8	0,362	0,046	0,	0,046	0,014	0,014
70	-6,3	-12,7	8,3	33,3	0,364	0,049	0,	0,049	0,014	0,014
85	-5,9	-11,7	8,4	35,0	0,385	0,093	0,	0,093	0,024	0,024
90	-5,5	-11,2	8,4	36,1	0,396	0,119	0,	0,119	0,030	0,030

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
101,08	1,6742	1,2200	0,721	11705,1

## ATT FAN VEHICLE

(METRIC)

CORE=OGV

110 PERCENT SPEED

RDG 78

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,4	-5,5	0,876	0,878	49,2	19,4		
30	24,689	24,460	-1,0	-4,1	0,901	0,904	44,3	18,7		
50	23,673	23,597	0,6	-2,7	0,935	0,936	44,3	17,8		
70	22,682	22,784	2,3	-1,2	0,966	0,964	47,0	17,0		
85	21,971	22,174	3,7	0,2	0,985	0,983	51,3	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	282,6	223,4			184,8	210,8	213,9	74,1		
30	295,6	224,1			211,7	212,3	206,3	71,7		
50	292,1	205,0			209,0	195,2	204,2	62,6		
70	296,1	200,9			202,0	192,2	216,8	58,7		
85	297,0	200,0			186,1	191,8	230,9	56,7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI RATIO	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,795	0,614			1,131	0,313	1,7722	1,2299	0,773	0,790
30	0,842	0,620			1,002	0,376	1,7972	1,2149	0,849	0,861
50	0,835	0,566			0,934	0,449	1,7117	1,2047	0,811	0,825
70	0,846	0,553			0,949	0,462	1,6720	1,2079	0,761	0,778
85	0,847	0,549			1,025	0,464	1,6443	1,2146	0,711	0,731

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
15	-0,2	-4,1	8,5	29,6	0,383	0,080	0,	0,080	0,026	0,026	
30	-3,3	-6,8	7,9	25,4	0,391	0,056	0,	0,056	0,018	0,018	
50	-2,1	-5,2	7,5	26,6	0,453	0,069	0,	0,069	0,021	0,021	
70	-0,1	-2,5	7,8	29,9	0,484	0,092	0,	0,092	0,027	0,027	
85	2,3	0,7	9,7	34,5	0,505	0,107	0,	0,107	0,031	0,031	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
17,27	1,7176	1,2147	0,779	11705,1

ATT FAN VEHICLE

(METRIC)

ROTOR 110 PERCENT SPEED RDG 87

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6,5	-7,1	0,063	0,058	0,	50,0	69,5	68,1
10	42,367	41,961	-5,6	-6,3	0,127	0,119	0,	45,8	67,6	64,7
15	40,996	40,742	-4,0	-4,8	0,192	0,184	0,	44,6	65,7	62,7
30	36,881	37,059	0,9	0,3	0,383	0,375	0,	45,3	61,3	59,0
50	31,394	32,131	7,6	7,4	0,610	0,610	0,	45,1	56,5	49,3
70	26,010	27,229	13,3	13,8	0,794	0,804	0,	49,9	52,7	41,7
85	21,717	23,647	18,7	14,4	0,909	0,922	0,	46,2	50,2	20,0
90	20,295	22,581	20,6	15,8	0,941	0,956	0,	49,9	49,9	16,5
95	18,796	21,463	21,5	17,5	0,971	0,983	0,	56,9	49,5	7,3

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	200,8	223,9	570,8	384,9	200,8	144,5	0,	171,0	534,3	527,8
10	214,7	235,1	560,6	382,3	214,7	164,3	0,	167,9	517,9	512,9
15	226,4	239,4	549,9	371,9	226,4	170,9	0,	167,7	501,1	498,0
30	247,3	241,1	514,2	328,4	247,3	169,4	0,	171,5	450,8	453,0
50	256,8	257,7	461,7	279,6	256,8	182,8	0,	181,7	383,7	392,7
70	248,7	251,6	403,6	218,0	248,7	164,8	0,	190,1	317,9	332,8
85	233,3	301,4	353,4	224,9	233,3	212,1	0,	214,1	265,4	289,0
90	223,0	293,9	333,6	201,4	223,0	193,7	0,	221,2	248,1	276,0
95	210,9	293,0	311,9	166,6	210,9	165,3	0,	241,7	229,7	262,3

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH <sup>1</sup>	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,612	0,594	1,739	1,022	0,722	0,348	1,8468	1,3115	0,615	0,646
10	0,658	0,630	1,717	1,025	0,772	0,380	1,9192	1,2967	0,690	0,717
15	0,697	0,645	1,693	1,002	0,757	0,409	1,9491	1,2880	0,729	0,753
30	0,769	0,655	1,598	0,893	0,686	0,478	1,9471	1,2680	0,783	0,802
50	0,802	0,712	1,441	0,772	0,713	0,543	1,9445	1,2463	0,849	0,863
70	0,773	0,702	1,255	0,608	0,668	0,569	1,7844	1,2198	0,819	0,833
85	0,720	0,861	1,091	0,643	0,929	0,526	1,8949	1,2169	0,924	0,930
90	0,686	0,838	1,025	0,574	0,931	0,457	1,7831	1,2100	0,856	0,867
95	0,645	0,832	0,954	0,473	0,861	0,366	1,6832	1,2168	0,740	0,758

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	6,3	4,4	6,0	1,6	0,426	0,341	0,227	0,114	0,043	0,014
10	5,8	4,1	4,4	3,2	0,418	0,274	0,213	0,061	0,039	0,009
15	5,3	3,7	4,0	3,2	0,428	0,241	0,199	0,043	0,037	0,007
30	5,6	3,6	5,3	2,5	0,472	0,199	0,159	0,040	0,033	0,007
50	6,5	3,9	4,9	7,2	0,511	0,146	0,114	0,032	0,028	0,006
70	7,5	4,0	14,5	10,7	0,575	0,191	0,076	0,115	0,036	0,022
85	7,7	3,8	15,2	29,5	0,504	0,097	0,038	0,059	0,020	0,012
90	8,2	4,1	20,1	31,8	0,513	0,196	0,027	0,169	0,039	0,033
95	8,5	4,3	19,3	39,1	0,585	0,392	0,020	0,372	0,076	0,072

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
117,49	1,8945	1,2580	0,776	11672,1

## ATT FAN VEHICLE

(METRIC)

BP=OGV

110 PERCENT SPEED

RDG 87

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0,7	0,6	0,078	0,083	47,6	0,		
15	41,605	41,554	-0,1	1,3	0,121	0,126	43,2	0,		
30	39,192	39,218	1,2	2,6	0,264	0,271	39,6	0,		
50	35,763	35,852	2,2	3,5	0,464	0,471	38,8	0,		
70	32,487	32,639	2,9	4,1	0,642	0,648	38,9	0,		
85	30,124	30,302	3,4	3,8	0,755	0,759	40,9	0,		
90	29,312	29,489	3,5	3,4	0,790	0,794	41,9	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	233,2	161,3			157,4	161,3	171,5	0,		
15	247,8	177,4			180,6	177,4	169,2	0,		
30	265,8	192,8			204,9	192,8	169,3	0,		
50	273,6	192,2			213,3	192,2	171,3	0,		
70	283,5	201,4			220,8	201,4	177,9	0,		
85	274,9	181,6			208,2	181,6	179,5	0,		
90	268,6	168,3			200,3	168,3	178,9	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,622	0,422			1,011	0,463	1,8385	1,3066	0,620	0,651
15	0,667	0,468			0,971	0,441	1,8874	1,2966	0,671	0,699
30	0,726	0,514			0,939	0,439	1,9320	1,2799	0,740	0,762
50	0,757	0,517			0,899	0,454	1,9029	1,2583	0,781	0,800
70	0,793	0,546			0,912	0,452	1,9022	1,2436	0,828	0,843
85	0,771	0,493			0,875	0,500	1,8038	1,2281	0,805	0,820
90	0,754	0,457			0,845	0,526	1,7449	1,2212	0,780	0,796

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	3,9	-4,2	10,9	47,3	0,576	0,078	0,	0,078	0,028	0,028
15	1,0	-7,3	10,4	43,0	0,526	0,065	0,	0,065	0,022	0,022
30	-0,5	-8,3	9,4	39,6	0,481	0,042	0,	0,042	0,014	0,014
50	-0,2	-7,4	8,6	38,8	0,484	0,063	0,	0,063	0,019	0,019
70	-0,7	-7,1	8,3	38,9	0,460	0,052	0,	0,052	0,014	0,014
85	-0,1	-5,8	8,4	40,9	0,506	0,070	0,	0,070	0,018	0,018
90	0,3	-5,4	8,4	41,9	0,539	0,090	0,	0,090	0,023	0,023

INLET CORR  
WTFLOW  
101,26

PRESS  
RATIO  
1,8751

TEMP  
RATIO  
1,2642

ADIA  
EFF  
0,745

INLET CORR  
RPM  
11672,1

ATT FAN VEHICLE

(METRIC)

CORE=OGV

110 PERCENT SPEED

RDG 87

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,3	-5,4	0,886	0,887	48,5	19,4		
30	24,689	24,460	-0,9	-4,2	0,911	0,915	44,1	18,5		
50	23,673	23,597	0,5	-3,1	0,947	0,948	45,8	17,6		
70	22,682	22,784	1,5	-2,2	0,975	0,972	52,2	16,8		
85	21,971	22,174	2,8	-0,5	0,990	0,987	59,8	16,4		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	288,6	229,3			191,3	216,4	216,0	75,7		
30	300,9	228,7			216,0	216,9	209,5	72,4		
50	292,8	196,3			204,0	187,2	210,1	59,2		
70	285,5	167,9			175,0	160,7	226,0	48,5		
85	277,4	147,8			139,7	141,8	238,3	41,6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,813	0,631			1,122	0,316	1,8374	1,2314	0,820	0,835
30	0,858	0,633			0,999	0,375	1,8523	1,2176	0,885	0,895
50	0,835	0,539			0,920	0,456	1,7106	1,2100	0,789	0,804
70	0,809	0,457			0,883	0,518	1,5943	1,2159	0,660	0,682
85	0,782	0,399			1,020	0,586	1,5323	1,2208	0,587	0,611

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-0,9	-4,8	8,4	29,0	0,375	0,069	0,	0,069	0,022	0,022
30	-3,4	-7,0	7,7	25,4	0,391	0,059	0,	0,059	0,019	0,019
50	-0,6	-3,7	7,3	28,3	0,494	0,111	0,	0,111	0,034	0,034
70	5,1	2,7	7,6	34,9	0,610	0,169	0,	0,169	0,050	0,050
85	10,9	9,2	9,6	42,9	0,688	0,163	0,	0,163	0,047	0,047

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16,22	1,7308	1,2195	0,773	11672,1



ATT FAN VEHICLE

(METRIC)

ROTOR 110 PERCENT SPEED RDG 88

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6,1	-6,6	0,063	0,060	0,	43,4	69,3	68,1
10	42,367	41,961	-5,0	-5,6	0,127	0,123	0,	40,0	67,5	65,0
15	40,996	40,742	-3,3	-4,1	0,193	0,188	0,	40,1	65,8	63,6
30	36,881	37,059	1,1	0,5	0,382	0,376	0,	42,4	61,6	59,9
50	31,394	32,131	6,8	6,5	0,608	0,603	0,	42,5	56,8	51,1
70	26,010	27,229	12,2	13,1	0,791	0,797	0,	48,0	52,7	41,0
85	21,717	23,647	17,2	13,1	0,907	0,912	0,	47,1	49,7	21,7
90	20,295	22,581	19,2	14,3	0,940	0,946	0,	47,1	49,1	16,4
95	18,796	21,463	20,6	16,3	0,970	0,978	0,	51,1	48,5	7,5

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	203,1	212,6	572,6	413,4	203,1	155,0	0,	145,6	535,3	528,8
10	216,2	225,4	562,1	408,0	216,2	172,9	0,	144,4	518,8	513,9
15	226,5	229,0	550,8	393,1	226,5	175,5	0,	147,1	502,0	498,9
30	243,8	233,1	513,2	342,8	243,8	172,1	0,	157,2	451,6	453,8
50	253,2	249,4	460,4	291,4	253,2	184,5	0,	167,9	384,5	393,5
70	247,9	254,6	403,6	226,5	247,9	172,8	0,	187,0	318,5	333,4
85	236,3	292,0	355,8	216,2	236,3	201,5	0,	211,3	265,9	289,6
90	228,0	301,0	337,3	216,8	228,0	208,5	0,	217,1	248,5	276,5
95	217,5	310,7	316,7	201,7	217,5	200,1	0,	237,7	230,2	262,8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH'	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,619	0,573	1,746	1,115	0,765	0,315	1,7135	1,2657	0,626	0,653
10	0,663	0,613	1,723	1,109	0,802	0,346	1,7871	1,2561	0,704	0,727
15	0,697	0,624	1,695	1,071	0,776	0,372	1,8124	1,2535	0,730	0,752
30	0,756	0,638	1,592	0,938	0,706	0,436	1,8191	1,2464	0,757	0,776
50	0,789	0,692	1,435	0,808	0,730	0,502	1,8269	1,2283	0,823	0,837
70	0,771	0,712	1,255	0,634	0,698	0,542	1,7484	1,2150	0,805	0,820
85	0,731	0,832	1,100	0,616	0,870	0,527	1,8206	1,2119	0,881	0,891
90	0,702	0,863	1,039	0,621	0,942	0,476	1,8054	1,2074	0,887	0,896
95	0,667	0,891	0,971	0,579	0,965	0,393	1,7758	1,2139	0,834	0,847

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6,1	4,2	6,1	1,3	0,363	0,297	0,228	0,070	0,037	0,009
10	5,6	4,0	4,7	2,6	0,360	0,236	0,214	0,023	0,033	0,003
15	5,4	3,8	4,9	2,3	0,377	0,220	0,199	0,020	0,033	0,003
30	6,0	3,9	6,3	1,9	0,434	0,208	0,160	0,049	0,034	0,008
50	6,9	4,2	6,7	5,9	0,475	0,159	0,115	0,044	0,029	0,008
70	7,5	4,0	13,8	11,4	0,553	0,199	0,077	0,123	0,038	0,023
85	7,2	3,3	16,9	27,5	0,527	0,144	0,038	0,106	0,029	0,022
90	7,3	3,3	20,0	31,9	0,494	0,147	0,027	0,120	0,029	0,024
95	7,5	3,3	19,5	39,3	0,502	0,243	0,018	0,226	0,047	0,044

INLET CORR WFLOW 117,82 PRESS RATIO 1,7952 TEMP RATIO 1,2369 ADIA EFF 0,768 INLET CORR RPM 11694,2

ATT FAN VEHICLE

(METRIC)

BP=OGV

110 PERCENT SPEED

RDG 88

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT							IN	OUT
10	42,418	42,316	-1,4	-0,2	0,081	0,082	41,6	0,		
15	41,605	41,554	-1,0	0,1	0,124	0,125	38,0	0,		
30	39,192	39,218	-0,3	0,9	0,265	0,265	36,4	0,		
50	35,763	35,852	1,0	2,0	0,459	0,460	36,7	0,		
70	32,487	32,639	2,3	2,9	0,632	0,635	35,6	0,		
85	30,124	30,302	3,0	2,9	0,746	0,748	37,1	0,		
90	29,312	29,489	3,2	2,8	0,782	0,784	38,8	0,		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
10	221,3	167,4			165,7	167,4	146,3	0,		
15	237,1	182,2			186,9	182,2	145,6	0,		
30	255,7	197,0			205,9	197,0	151,6	0,		
50	270,0	201,7			216,4	201,7	161,5	0,		
70	278,4	208,0			226,4	208,0	162,1	0,		
85	276,2	198,7			220,2	198,7	166,3	0,		
90	275,9	193,5			215,2	193,5	172,5	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VFL R	CHI	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,600	0,447			1,008	0,354	1,7053	1,2624	0,628	0,654
15	0,647	0,489			0,974	0,343	1,7512	1,2563	0,677	0,702
30	0,704	0,532			0,957	0,368	1,7960	1,2514	0,724	0,746
50	0,750	0,547			0,931	0,400	1,7962	1,2443	0,746	0,766
70	0,784	0,571			0,919	0,402	1,7898	1,2231	0,811	0,826
85	0,781	0,546			0,903	0,405	1,7189	1,2116	0,791	0,806
90	0,779	0,530			0,901	0,403	1,6827	1,2138	0,750	0,767

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-2,1	-10,2	10,9	41,5	0,481	0,089	0,	0,089	0,031	0,031
15	-4,2	-12,5	10,4	38,0	0,446	0,079	0,	0,079	0,027	0,027
30	-3,7	-11,5	9,4	36,4	0,422	0,046	0,	0,046	0,015	0,015
50	-2,3	-9,5	8,6	36,7	0,431	0,052	0,	0,052	0,015	0,015
70	-4,0	-10,4	8,3	35,6	0,412	0,048	0,	0,048	0,013	0,013
85	-3,9	-9,6	8,4	37,1	0,435	0,091	0,	0,091	0,023	0,023
90	-2,8	-8,5	8,4	38,8	0,456	0,123	0,	0,123	0,031	0,031

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
100,76	1,7602	1,2405	0,729	11694,2

ATT FAN VEHICLE

(METRIC)

CORE=OGV 110 PERCENT SPEED RDG 88

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.4	-5.4	0.877	0.879	49.5	19.4		
30	24,689	24,460	-1.6	-4.2	0.901	0.904	45.4	18.7		
50	23,673	23,597	0.5	-2.8	0.935	0.936	44.5	17.8		
70	22,682	22,784	1.9	-1.6	0.967	0.964	46.9	17.0		
85	21,971	22,174	3.2	-0.2	0.986	0.983	52.9	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	272.2	211.3			177.0	199.4	206.9	70.1		
30	287.8	213.4			202.3	202.2	204.8	68.4		
50	295.7	206.9			211.1	197.0	207.3	63.1		
70	300.9	200.1			205.6	191.4	220.4	58.5		
85	298.5	190.9			180.2	183.0	236.9	54.1		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.765	0.580			1.117	0.354	1.7629	1.2222	0.791	0.807
30	0.817	0.589			0.995	0.402	1.7860	1.2135	0.844	0.856
50	0.845	0.571			0.932	0.441	1.7508	1.2077	0.836	0.848
70	0.861	0.550			0.916	0.456	1.7016	1.2110	0.777	0.793
85	0.850	0.522			1.010	0.480	1.6489	1.2195	0.700	0.720

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	0.1	-3.8	8.5	29.9	0.399	0.056	0.	0.056	0.018	0.018
30	-2.2	-5.7	7.9	26.5	0.417	0.059	0.	0.059	0.019	0.019
50	-2.0	-5.0	7.5	26.7	0.457	0.086	0.	0.086	0.026	0.026
70	-0.2	-2.6	7.8	29.7	0.502	0.128	0.	0.128	0.038	0.038
85	3.9	2.3	9.7	35.9	0.548	0.142	0.	0.142	0.041	0.041

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
17.05	1.7307	1.2152	0.789	11694.2

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 107

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5.9	-6.2	0.062	0.061	0.	34.1	68.3	65.0
10	42,367	41,961	-4.8	-5.3	0.125	0.122	0.	30.8	66.5	63.0
15	40,996	40,742	-3.5	-4.2	0.190	0.185	0.	31.1	64.8	61.8
30	36,881	37,059	0.2	-0.4	0.378	0.368	0.	33.4	60.5	57.3
50	31,394	32,131	5.7	5.2	0.605	0.595	0.	35.0	55.4	49.1
70	26,010	27,229	11.2	12.0	0.790	0.790	0.	39.6	51.0	38.6
85	21,717	23,647	17.0	12.4	0.907	0.909	0.	44.6	48.1	21.1
90	20,295	22,581	18.8	13.6	0.940	0.942	0.	41.9	47.4	16.9
95	18,796	21,463	20.3	15.8	0.971	0.975	0.	46.2	46.8	6.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	185.1	197.0	499.4	384.8	185.1	163.5	0.	109.9	463.8	458.2
10	196.0	203.2	490.4	383.6	196.0	174.7	0.	103.7	449.5	445.2
15	204.7	205.1	480.8	370.8	204.7	175.8	0.	105.7	435.0	432.3
30	221.5	212.7	449.6	328.3	221.5	177.6	0.	117.1	391.3	393.2
50	230.5	225.5	405.1	281.3	230.5	185.1	0.	128.9	333.1	340.9
70	227.7	233.7	357.8	230.3	227.7	181.5	0.	147.1	276.0	288.9
85	216.0	260.0	315.8	200.0	216.0	187.2	0.	180.4	230.4	250.9
90	208.9	272.7	300.0	214.1	208.9	205.6	0.	179.3	215.3	239.6
95	199.7	287.5	282.2	204.2	199.7	202.6	0.	203.9	199.4	227.7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH RATIO	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.561	0.550	1.513	1.075	0.884	0.259	1.4246	1.1738	0.612	0.631
10	0.596	0.573	1.491	1.081	0.892	0.291	1.4687	1.1593	0.728	0.743
15	0.625	0.579	1.467	1.046	0.860	0.320	1.4890	1.1579	0.763	0.776
30	0.680	0.601	1.381	0.928	0.803	0.393	1.5290	1.1591	0.811	0.822
50	0.711	0.642	1.249	0.801	0.804	0.469	1.5551	1.1516	0.887	0.894
70	0.701	0.669	1.102	0.660	0.795	0.528	1.5478	1.1468	0.905	0.911
85	0.662	0.749	0.968	0.576	0.885	0.509	1.5796	1.1568	0.890	0.897
90	0.638	0.794	0.917	0.623	1.010	0.459	1.5962	1.1485	0.963	0.965
95	0.608	0.838	0.859	0.595	1.054	0.371	1.6049	1.1587	0.912	0.918

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.1	3.2	2.9	3.4	0.303	0.249	0.115	0.134	0.035	0.019
10	4.7	3.0	2.7	3.6	0.288	0.168	0.104	0.064	0.025	0.010
15	4.4	2.8	3.1	3.2	0.304	0.150	0.094	0.056	0.024	0.009
30	4.8	2.8	3.6	3.5	0.358	0.129	0.068	0.061	0.023	0.011
50	5.5	2.8	4.7	6.7	0.403	0.083	0.043	0.041	0.016	0.008
70	5.8	2.3	11.4	12.4	0.463	0.082	0.027	0.055	0.016	0.011
85	5.6	1.7	16.3	27.0	0.498	0.120	0.013	0.107	0.025	0.022
90	5.7	1.6	20.5	30.3	0.417	0.041	0.010	0.031	0.008	0.006
95	5.8	1.6	18.9	38.8	0.416	0.119	0.002	0.117	0.023	0.023

INLET CORR WTFLOW 112.47	PRESS RATIO 1.5296	TEMP RATIO 1.1570	ADIA EFF 0.822	INLET CORR RPM 10152.1
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AIT FAN VEHICLE

(METRIC)

BP-0GV

95 PERCENT SPEED

RDG 107

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.7	-0.1	0.083	0.087	32.0	0.		
15	41.605	41.554	-0.4	0.1	0.126	0.128	29.1	0.		
30	39.192	39.218	-0.9	-0.2	0.260	0.255	28.6	0.		
50	35.763	35.852	-0.2	0.0	0.448	0.443	28.6	0.		
70	32.487	32.639	0.9	0.7	0.621	0.616	28.5	0.		
85	30.124	30.302	1.9	1.2	0.736	0.733	29.5	0.		
90	29.312	29.489	2.4	1.5	0.773	0.772	30.4	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	204.5	188.7			173.4	188.7	108.0	0.		
15	214.7	188.4			187.6	188.4	104.3	0.		
30	231.5	208.3			203.3	208.3	110.8	0.		
50	252.6	225.4			221.8	225.4	120.9	0.		
70	263.6	232.1			231.7	232.1	125.8	0.		
85	266.9	236.1			232.4	236.1	131.2	0.		
90	268.5	241.1			231.5	241.1	135.9	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.574	0.527			1.090	-0.048	1.3763	1.1675	0.570	0.589
15	0.607	0.529			1.004	-0.028	1.3746	1.1588	0.599	0.617
30	0.659	0.588			1.027	0.018	1.4300	1.1592	0.676	0.692
50	0.725	0.640			1.018	0.094	1.4846	1.1585	0.754	0.767
70	0.763	0.663			1.002	0.115	1.4876	1.1502	0.800	0.811
85	0.776	0.678			1.017	0.094	1.4716	1.1447	0.806	0.817
90	0.781	0.693			1.042	0.077	1.4745	1.1458	0.805	0.815

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-11.6	-19.8	10.9	31.9	0.263	0.218	0.	0.218	0.076	0.076
15	-13.1	-21.4	10.4	29.0	0.291	0.291	0.	0.291	0.100	0.100
30	-11.5	-19.3	9.4	28.6	0.254	0.195	0.	0.195	0.063	0.063
50	-10.4	-17.6	8.6	28.6	0.249	0.128	0.	0.128	0.038	0.038
70	-11.1	-17.5	8.3	28.5	0.250	0.134	0.	0.134	0.037	0.037
85	-11.5	-17.2	8.4	29.4	0.241	0.151	0.	0.151	0.039	0.039
90	-11.2	-16.9	8.4	30.4	0.230	0.143	0.	0.143	0.036	0.036

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
95.74	1.4512	1.1569	0.716	10132.1

ATT FAN VEHICLE

(METRIC)

CORE-OGV

95 PERCENT SPEED

ROG 107

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.7	-5.8	0.874	0.875	43.7	19.5		
30	24,689	24,460	-1.5	-4.5	0.897	0.899	43.2	18.8		
50	23,673	23,597	0.1	-3.0	0.930	0.930	40.0	17.9		
70	22,682	22,784	1.9	-1.4	0.962	0.959	41.2	17.1		
85	21,971	22,174	3.5	0.1	0.983	0.981	46.8	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	250.5	222.1			181.4	209.6	172.8	73.7		
30	259.6	213.1			189.4	201.8	177.5	68.5		
50	268.3	215.7			205.6	205.3	172.4	66.2		
70	280.4	224.4			211.0	214.5	184.8	66.0		
85	282.1	222.4			193.1	213.2	205.3	63.2		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.718	0.629			1.150	0.159	1.5737	1.1609	0.859	0.868
30	0.746	0.602			1.063	0.262	1.5556	1.1603	0.839	0.849
50	0.779	0.613			0.997	0.322	1.5668	1.1497	0.915	0.920
70	0.817	0.639			1.013	0.321	1.5811	1.1529	0.915	0.920
85	0.818	0.629			1.097	0.310	1.5436	1.1647	0.802	0.813

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-5.8	-9.6	8.5	24.2	0.251	0.066	0.	0.066	0.021	0.021
30	-4.4	-7.9	8.0	24.2	0.318	0.074	0.	0.074	0.023	0.023
50	-6.4	-9.5	7.6	22.1	0.324	0.039	0.	0.039	0.012	0.012
70	-5.9	-8.3	7.9	23.9	0.328	0.045	0.	0.045	0.013	0.013
85	-2.1	-3.8	9.8	30.0	0.364	0.090	0.	0.090	0.026	0.026

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16.73	1.5588	1.1578	0.857	10132.1

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 117

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6.5	-7.0	0.062	0.058	0.	47.0	69.1	67.4
10	42,367	41,961	-5.7	-6.4	0.126	0.118	0.	43.0	67.1	64.5
15	40,996	40,742	-4.4	-5.2	0.191	0.181	0.	41.6	65.3	62.6
30	36,881	37,059	0.6	-0.2	0.383	0.373	0.	41.7	60.4	57.1
50	31,394	32,131	8.2	7.6	0.613	0.615	0.	43.0	55.9	48.4
70	26,010	27,229	14.3	13.7	0.797	0.810	0.	46.9	52.8	39.6
85	21,717	23,647	19.1	17.4	0.911	0.922	0.	48.0	50.5	19.6
90	20,295	22,581	20.7	14.7	0.942	0.953	0.	49.9	50.0	13.1
95	18,796	21,463	21.5	16.5	0.972	0.981	0.	56.4	49.4	2.5

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	187.1	203.6	521.4	360.4	187.1	139.4	0.	148.4	486.7	480.8
10	199.8	211.7	512.3	359.0	199.8	155.3	0.	143.6	471.7	467.2
15	211.0	215.8	502.9	350.0	211.0	161.6	0.	143.0	456.4	453.6
30	233.2	226.6	472.2	312.0	233.2	169.3	0.	150.6	410.6	412.6
50	239.1	238.8	423.5	262.6	239.1	175.3	0.	162.2	349.5	357.7
70	226.7	237.2	367.8	211.0	226.7	164.4	0.	170.9	289.6	303.2
85	210.6	271.6	320.7	195.3	210.6	184.6	0.	199.3	241.8	263.3
90	202.5	278.8	303.4	187.5	202.5	183.0	0.	210.4	226.0	251.4
95	192.8	282.5	284.5	161.2	192.8	161.0	0.	232.2	209.3	239.0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC T1 RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.567	0.552	1.581	0.977	0.747	0.360	1.7039	1.2461	0.668	0.692
10	0.608	0.579	1.560	0.982	0.783	0.394	1.7567	1.2310	0.756	0.774
15	0.645	0.593	1.538	0.962	0.769	0.427	1.7857	1.2239	0.805	0.820
30	0.720	0.627	1.458	0.864	0.728	0.510	1.8387	1.2145	0.886	0.896
50	0.740	0.668	1.311	0.735	0.734	0.574	1.8203	1.2006	0.930	0.936
70	0.698	0.670	1.132	0.596	0.733	0.593	1.6942	1.1793	0.907	0.913
85	0.644	0.778	0.981	0.559	0.900	0.542	1.7115	1.1824	0.910	0.916
90	0.618	0.800	0.925	0.538	0.954	0.481	1.6864	1.1817	0.886	0.894
95	0.586	0.809	0.864	0.461	0.901	0.390	1.6311	1.1895	0.792	0.806

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	5.9	4.0	5.4	1.8	0.404	0.271	0.150	0.120	0.035	0.015
10	5.3	3.6	4.2	2.9	0.393	0.196	0.138	0.057	0.028	0.008
15	4.9	3.3	3.9	2.9	0.402	0.157	0.126	0.031	0.024	0.005
30	4.8	2.7	3.5	3.6	0.446	0.096	0.045	0.001	0.017	0.000
50	6.0	3.3	4.0	7.4	0.493	0.064	0.062	0.002	0.012	0.000
70	7.6	4.1	12.4	12.5	0.538	0.095	0.040	0.054	0.018	0.011
85	8.1	4.1	14.8	29.9	0.533	0.112	0.023	0.090	0.023	0.018
90	8.3	4.2	16.7	35.2	0.518	0.154	0.019	0.136	0.031	0.027
95	8.4	4.2	14.5	44.1	0.575	0.320	0.003	0.317	0.062	0.062

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
112.93	1.7696	1.2082	0.851	10631.8

ATT FAN VEHICLE

(METRIC)

BP-OGV

100 PERCENT SPEED

RDG 117

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.8	0.4	0.077	0.082	44.9	0.		
15	41.605	41.554	-0.3	0.9	0.119	0.123	40.7	0.		
30	39.192	39.218	0.4	1.7	0.259	0.262	36.7	0.		
50	35.763	35.852	1.5	2.6	0.464	0.468	35.6	0.		
70	32.487	32.639	2.7	3.5	0.647	0.651	36.7	0.		
85	30.124	30.302	3.3	3.4	0.760	0.764	38.5	0.		
90	29.312	29.489	3.4	3.1	0.795	0.798	39.5	0.		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
10	210.4	153.8			149.0	153.8	148.1	0.		
15	222.7	165.7			168.8	165.7	144.8	0.		
30	244.1	187.3			195.8	187.3	145.7	0.		
50	264.2	201.3			214.9	201.3	153.7	0.		
70	263.8	197.5			211.7	197.5	157.5	0.		
85	254.3	179.6			199.2	179.6	158.1	0.		
90	251.3	172.0			194.0	172.0	154.6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.573	0.413			1.024	0.398	1.6916	1.2411	0.672	0.695
15	0.611	0.448			0.974	0.384	1.7248	1.2313	0.729	0.749
30	0.679	0.511			0.954	0.378	1.7879	1.2196	0.822	0.836
50	0.743	0.554			0.936	0.376	1.8213	1.2114	0.884	0.893
70	0.747	0.546			0.935	0.399	1.7755	1.1966	0.907	0.914
85	0.722	0.497			0.904	0.425	1.6824	1.1830	0.875	0.884
90	0.714	0.476			0.890	0.432	1.6443	1.1798	0.849	0.859

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	1.3	-6.9	10.9	44.7	0.523	0.085	0.	0.085	0.030	0.030
15	-1.5	-9.8	10.4	40.5	0.485	0.079	0.	0.079	0.027	0.027
30	-3.4	-11.2	9.4	36.6	0.428	0.041	0.	0.041	0.013	0.013
50	-3.4	-10.6	8.6	35.6	0.412	0.053	0.	0.053	0.016	0.016
70	-2.9	-9.3	8.3	36.7	0.413	0.046	0.	0.046	0.013	0.013
85	-2.5	-8.2	8.4	38.6	0.452	0.085	0.	0.085	0.022	0.022
90	-2.1	-7.8	8.4	39.5	0.474	0.112	0.	0.112	0.028	0.028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
97.75	1.7534	1.2113	0.823	10651.8



ATT FAN VEHICLE

(METRIC)

CORE-OGV 100 PERCENT SPEED RDG 117

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.5	-5.6	0.887	0.888	50.7	19.4		
30	24.689	24.460	-1.3	-4.5	0.909	0.912	46.1	18.7		
50	23.673	23.597	-0.4	-3.6	0.942	0.942	46.3	17.8		
70	22.682	22.784	0.9	-2.4	0.971	0.967	51.2	17.0		
85	21.971	22.174	2.6	-0.7	0.988	0.984	57.3	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	258.0	197.4			163.6	186.3	199.6	65.4		
30	268.4	193.5			186.0	183.3	193.5	61.8		
50	275.3	183.9			190.4	175.2	199.0	56.0		
70	276.0	173.3			173.0	165.8	215.2	50.7		
85	274.1	165.6			148.0	158.9	230.2	47.0		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.730	0.546			1.131	0.356	1.6705	1.1948	0.811	0.824
30	0.766	0.538			0.981	0.413	1.6688	1.1834	0.859	0.869
50	0.789	0.510			0.916	0.464	1.6307	1.1812	0.827	0.839
70	0.789	0.478			0.935	0.517	1.5854	1.1870	0.753	0.768
85	0.781	0.455			1.062	0.560	1.5536	1.1939	0.692	0.710

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	1.3	-2.6	8.5	31.1	0.415	0.071	0.	0.071	0.023	0.023
30	-1.4	-5.0	7.9	27.3	0.443	0.080	0.	0.080	0.025	0.025
50	-0.2	-3.2	7.5	28.5	0.500	0.107	0.	0.107	0.033	0.033
70	4.1	1.7	7.8	33.7	0.559	0.111	0.	0.111	0.033	0.033
85	8.3	6.7	9.7	40.3	0.598	0.094	0.	0.094	0.027	0.027

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.17	1.6270	1.1880	0.794	10631.8

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 118

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCY		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6,1	-6,5	0,062	0,060	0,	43,3	68,9	67,1
10	42,367	41,961	-5,1	-5,7	0,126	0,121	0,	40,7	67,0	64,2
15	40,996	40,742	-3,8	-4,5	0,192	0,185	0,	40,8	65,3	62,5
30	36,881	37,059	0,6	-0,1	0,382	0,372	0,	41,8	60,7	57,2
50	31,394	32,131	7,6	7,0	0,611	0,610	0,	41,1	55,9	48,5
70	26,010	27,229	13,5	13,5	0,794	0,805	0,	48,9	52,6	37,8
85	21,717	23,647	18,0	13,0	0,909	0,915	0,	46,7	49,8	20,5
90	20,295	22,581	19,8	14,3	0,941	0,948	0,	46,5	49,2	15,7
95	18,796	21,463	20,9	16,3	0,971	0,979	0,	52,2	48,6	5,0

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	189,1	200,4	522,2	373,8	189,1	146,4	0,	136,9	486,8	480,8
10	200,9	210,7	512,8	367,2	200,9	160,1	0,	136,9	471,8	467,2
15	210,9	215,4	502,9	353,2	210,9	163,3	0,	140,4	456,5	453,7
30	230,9	226,1	471,1	311,7	230,9	168,6	0,	150,6	410,7	412,7
50	239,1	238,6	423,5	270,4	239,1	180,5	0,	156,3	349,6	357,8
70	227,6	243,0	368,3	203,2	227,6	162,3	0,	180,9	289,6	303,2
85	214,5	270,8	323,3	200,5	214,5	188,4	0,	194,6	241,8	263,3
90	207,1	278,2	306,5	201,9	207,1	194,9	0,	198,4	226,0	251,4
95	197,6	287,6	287,8	181,3	197,6	180,7	0,	223,8	209,3	239,0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,574	0,547	1,584	1,021	0,776	0,345	1,6596	1,2272	0,685	0,707
10	0,612	0,579	1,562	1,009	0,800	0,378	1,7159	1,2209	0,755	0,773
15	0,645	0,593	1,538	0,972	0,776	0,408	1,7433	1,2201	0,782	0,798
30	0,712	0,626	1,453	0,863	0,732	0,486	1,7885	1,2145	0,843	0,855
50	0,740	0,670	1,311	0,759	0,757	0,555	1,7857	1,1936	0,931	0,936
70	0,701	0,685	1,134	0,573	0,720	0,574	1,6875	1,1888	0,854	0,865
85	0,657	0,777	0,990	0,575	0,897	0,545	1,7003	1,1780	0,920	0,926
90	0,633	0,802	0,936	0,582	0,976	0,492	1,6828	1,1724	0,930	0,935
95	0,601	0,828	0,876	0,522	0,968	0,406	1,6550	1,1819	0,851	0,861

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5,7	3,8	5,0	1,9	0,371	0,243	0,150	0,093	0,032	0,012
10	5,2	3,5	3,9	2,9	0,374	0,190	0,138	0,053	0,028	0,008
15	4,9	3,3	3,8	2,9	0,393	0,173	0,126	0,048	0,027	0,007
30	5,0	3,0	3,6	3,7	0,445	0,132	0,095	0,037	0,023	0,007
50	5,9	3,3	4,1	7,4	0,470	0,058	0,062	-0,004	0,011	-0,001
70	7,4	3,9	10,6	14,2	0,565	0,152	0,040	0,112	0,030	0,022
85	7,4	3,4	15,7	28,8	0,519	0,096	0,021	0,075	0,020	0,015
90	7,5	3,4	19,3	32,6	0,477	0,088	0,017	0,072	0,018	0,014
95	7,6	3,4	17,0	41,3	0,509	0,219	0,003	0,215	0,043	0,042

INLET CORR PRESS TEMP ADIA INLET CORR  
 RTFLOW RATIO RATIO EFF RPM  
 113,40 1,7367 1,2039 0,838 10633,2

ATT FAN VEHICLE

(METRIC)

BP-0GV

100 PERCENT SPEED

RDG 118

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,5	-0,2	0,080	0,081	42,0	0,		
15	41,605	41,554	-1,1	0,1	0,122	0,122	38,9	0,		
30	39,192	39,218	-0,3	0,8	0,259	0,259	36,8	0,		
50	35,763	35,852	1,0	1,9	0,458	0,459	35,6	0,		
70	32,487	32,639	2,0	2,6	0,639	0,640	34,5	0,		
85	30,124	30,302	2,7	2,7	0,754	0,755	37,3	0,		
90	29,312	29,489	3,0	2,6	0,789	0,791	39,6	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	206,7	155,7			153,7	155,7	137,9	0,		
15	220,5	167,8			171,7	167,8	138,1	0,		
30	243,1	187,7			194,7	187,7	145,5	0,		
50	263,4	201,4			214,3	201,4	153,2	0,		
70	266,7	202,0			220,0	202,0	151,0	0,		
85	262,1	190,0			208,4	190,0	158,4	0,		
90	261,2	184,4			201,2	184,4	166,2	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,566	0,421			1,011	0,359	1,6492	1,2250	0,683	0,704
15	0,608	0,455			0,977	0,351	1,6834	1,2211	0,726	0,745
30	0,676	0,513			0,965	0,366	1,7420	1,2194	0,783	0,799
50	0,741	0,554			0,939	0,378	1,7760	1,2107	0,846	0,858
70	0,759	0,561			0,918	0,392	1,7508	1,1890	0,918	0,924
85	0,747	0,528			0,913	0,411	1,6761	1,1831	0,868	0,877
90	0,742	0,510			0,919	0,416	1,6421	1,1873	0,813	0,826

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PRUF
	ML	SS					SHOCK	PRUF		
10	-1,6	-9,8	10,9	42,0	0,485	0,087	0,	0,087	0,031	0,031
15	-3,3	-11,6	10,4	38,9	0,457	0,081	0,	0,081	0,028	0,028
30	-3,3	-11,1	9,4	36,8	0,422	0,044	0,	0,044	0,014	0,014
50	-3,5	-10,6	8,6	35,6	0,409	0,046	0,	0,046	0,014	0,014
70	-5,2	-11,5	8,3	34,4	0,397	0,041	0,	0,041	0,012	0,012
85	-3,7	-9,4	8,4	37,3	0,430	0,074	0,	0,074	0,019	0,019
90	-2,0	-7,7	8,4	39,7	0,454	0,099	0,	0,099	0,025	0,025

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
97,59	1,7180	1,2074	0,806	10633,2

AIT FAN VEHICLE

(METRIC)

CORE-OGV 100 PERCENT SPEED RDG 118

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.3	-5.3	0.882	0.883	49.9	19.4		
30	24,689	24,460	-0.8	-4.0	0.904	0.908	45.3	18.7		
50	23,673	23,597	0.5	-2.8	0.938	0.939	43.7	17.8		
70	22,682	22,784	2.0	-1.5	0.968	0.966	47.4	17.0		
85	21,971	22,174	3.4	-0.1	0.986	0.984	54.2	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	254.3	200.7			163.8	189.3	194.6	66.5		
30	267.4	201.3			188.2	190.7	190.0	64.5		
50	274.1	197.8			198.4	188.4	189.4	60.4		
70	277.8	190.5			188.1	182.1	204.8	55.7		
85	278.5	179.5			162.9	172.1	225.1	50.9		

PCT IMM	ABS MACH NU		REL MACH NU		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.720	0.557			1.146	0.334	1.6556	1.1900	0.816	0.828
30	0.764	0.562			1.007	0.385	1.6688	1.1799	0.876	0.885
50	0.789	0.553			0.948	0.423	1.6483	1.1726	0.889	0.897
70	0.798	0.530			0.954	0.442	1.6014	1.1780	0.809	0.821
85	0.796	0.496			1.048	0.455	1.5480	1.1894	0.702	0.720

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	0.5	-3.4	8.5	30.3	0.386	0.054	0.	0.054	0.018	0.018
30	-2.3	-5.8	7.9	26.3	0.404	0.060	0.	0.060	0.019	0.019
50	-2.8	-5.8	7.5	25.9	0.430	0.068	0.	0.068	0.021	0.021
70	0.3	-2.1	7.8	30.1	0.481	0.109	0.	0.109	0.032	0.032
85	5.2	3.6	9.7	37.2	0.546	0.159	0.	0.159	0.046	0.046

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.81	1.6265	1.1824	0.818	10633.2

C-3

ATT FAN VEHICLE

(METRIC)

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.3	-6.8	0.062	0.059	0.	44.7	69.2	66.0
10	42.367	41.961	-5.5	-6.0	0.125	0.119	0.	40.9	67.3	63.3
15	40.996	40.742	-4.2	-4.9	0.190	0.181	0.	40.2	65.5	61.6
30	36.881	37.059	0.2	-0.5	0.381	0.370	0.	40.2	60.7	56.2
50	31.394	32.131	8.0	7.3	0.612	0.613	0.	40.3	56.2	47.1
70	26.010	27.229	13.6	14.1	0.796	0.806	0.	46.4	53.2	39.6
85	21.717	23.647	18.2	13.9	0.910	0.917	0.	47.0	50.3	22.2
90	20.295	22.581	19.9	14.8	0.942	0.949	0.	45.8	49.6	16.6
95	18.796	21.463	21.1	16.6	0.971	0.980	0.	50.9	49.0	6.8

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	177.1	199.2	495.4	347.8	177.1	142.1	0.	139.6	462.7	457.0
10	188.5	206.9	486.4	346.8	188.5	156.7	0.	134.9	448.4	444.1
15	198.3	209.9	477.1	336.7	198.3	160.5	0.	135.2	433.9	431.2
30	218.8	219.6	447.5	301.6	218.8	167.8	0.	141.7	390.3	392.2
50	224.5	233.2	401.0	260.3	224.5	178.4	0.	150.3	332.3	340.1
70	211.9	225.8	347.4	202.9	211.9	158.1	0.	161.1	275.3	288.2
85	201.0	251.2	305.3	187.2	201.0	174.0	0.	181.2	229.9	250.3
90	194.3	262.9	289.6	194.0	194.3	186.4	0.	185.4	214.8	239.0
95	185.3	271.7	271.9	177.0	185.3	175.9	0.	207.2	198.9	227.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH'	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.535	0.545	1.497	0.952	0.804	0.336	1.5956	1.2202	0.649	0.671
10	0.572	0.571	1.475	0.957	0.836	0.369	1.6426	1.2065	0.738	0.755
15	0.604	0.581	1.452	0.933	0.812	0.400	1.6642	1.2012	0.779	0.794
30	0.671	0.613	1.373	0.842	0.770	0.483	1.7143	1.1917	0.868	0.878
50	0.690	0.659	1.233	0.735	0.797	0.546	1.7164	1.1769	0.944	0.948
70	0.648	0.641	1.063	0.576	0.751	0.564	1.5906	1.1605	0.884	0.891
85	0.612	0.721	0.930	0.537	0.883	0.553	1.6076	1.1574	0.923	0.928
90	0.590	0.760	0.880	0.561	0.988	0.507	1.6135	1.1530	0.957	0.960
95	0.562	0.785	0.824	0.511	1.012	0.422	1.5972	1.1599	0.895	0.902

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	5.9	4.1	4.0	3.2	0.392	0.275	0.115	0.159	0.037	0.022
10	5.5	3.8	3.0	4.3	0.380	0.201	0.104	0.097	0.030	0.015
15	5.1	3.5	2.9	4.1	0.392	0.172	0.094	0.078	0.027	0.012
30	5.1	3.0	2.5	4.9	0.432	0.106	0.067	0.040	0.019	0.007
50	6.3	3.6	2.7	9.1	0.461	0.049	0.041	0.008	0.010	0.002
70	7.9	4.5	12.4	13.1	0.528	0.115	0.028	0.087	0.022	0.017
85	7.8	3.9	17.4	27.4	0.522	0.091	0.018	0.073	0.018	0.015
90	7.9	3.8	20.2	31.9	0.467	0.052	0.003	0.049	0.010	0.010
95	8.0	3.8	18.8	39.7	0.479	0.152	0.	0.152	0.030	0.030

INLET CORR PRESS TEMP ADIA INLET CORR  
 WFLOW RATIO RATIO EFF RPM  
 109.38 1.6624 1.1845 0.847 10106.9

ORIGINAL PAGE IS  
 OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-0GV

95 PERCENT SPEED

RDG 121

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.0	0.1	0.079	0.082	42.5	0.		
15	41,605	41,554	-0.5	0.6	0.121	0.124	38.6	0.		
30	39,192	39,218	0.2	1.3	0.259	0.261	35.6	0.		
50	35,763	35,852	1.4	2.3	0.460	0.463	33.6	0.		
70	32,487	32,639	2.6	3.2	0.645	0.648	34.1	0.		
85	30,124	30,302	3.2	3.2	0.758	0.762	36.6	0.		
90	29,312	29,489	3.4	3.0	0.793	0.796	37.9	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	206.6	157.1			152.4	157.1	139.0	0.		
15	218.3	168.1			170.6	168.1	135.8	0.		
30	237.3	185.6			192.9	185.6	138.1	0.		
50	259.8	204.6			216.3	204.6	143.9	0.		
70	259.1	201.8			214.5	201.8	145.4	0.		
85	247.4	183.0			198.8	183.0	147.2	0.		
90	244.5	176.0			193.0	176.0	149.9	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH'	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.568	0.427			1.025	0.358	1.5869	1.2153	0.655	0.677
15	0.605	0.459			0.981	0.350	1.6173	1.2064	0.713	0.732
30	0.665	0.511			0.961	0.358	1.6656	1.1979	0.793	0.807
50	0.738	0.569			0.944	0.349	1.7168	1.1881	0.888	0.896
70	0.741	0.565			0.942	0.363	1.6767	1.1727	0.921	0.927
85	0.708	0.512			0.923	0.383	1.5817	1.1619	0.865	0.873
90	0.699	0.492			0.915	0.384	1.5459	1.1606	0.825	0.836

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-1.2	-9.3	10.9	42.5	0.482	0.079	0.	0.079	0.028	0.028
15	-3.6	-11.9	10.4	38.5	0.449	0.070	0.	0.070	0.024	0.024
30	-4.4	-12.3	9.4	35.5	0.407	0.037	0.	0.037	0.012	0.012
50	-5.4	-12.6	8.6	33.6	0.378	0.039	0.	0.039	0.012	0.012
70	-5.5	-11.9	8.3	34.2	0.373	0.035	0.	0.035	0.010	0.010
85	-4.4	-10.1	8.4	36.6	0.412	0.079	0.	0.079	0.020	0.020
90	-3.7	-9.4	8.4	38.0	0.434	0.110	0.	0.110	0.028	0.028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
94.53	1.6471	1.1882	0.814	10106.9

## ATT FAN VEHICLE

(METRIC)

CORE-UGV

95 PERCENT SPEED

RDG 121

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.4	-5.5	0,885	0,887	48.6	19.4		
30	24,689	24,460	-1.2	-4.4	0,907	0,910	45.5	18.7		
50	23,673	23,597	0.1	-3.2	0,940	0,940	43.7	17.8		
70	22,682	22,784	1.2	-2.2	0,970	0,966	46.1	17.0		
85	21,971	22,174	2.6	-0.7	0,988	0,984	53.9	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	249.8	194.4			158.7	183.4	179.7	64.4		
30	246.3	187.3			172.7	177.4	175.7	60.0		
50	256.1	187.8			185.3	178.8	176.9	57.3		
70	262.9	183.9			182.5	175.9	190.3	53.8		
85	261.1	172.0			153.7	165.0	209.1	48.7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH'	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.682	0.544			1.149	0.291	1.5943	1.1668	0.855	0.864
30	0.705	0.525			1.023	0.367	1.5806	1.1583	0.883	0.890
50	0.738	0.528			0.963	0.401	1.5763	1.1532	0.906	0.912
70	0.758	0.516			0.935	0.418	1.5475	1.1570	0.846	0.855
85	0.749	0.479			1.068	0.450	1.4986	1.1669	0.734	0.749

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-0.9	-4.7	8.5	29.0	0.356	0.061	0.	0.061	0.020	0.020
30	-2.1	-5.6	7.9	26.6	0.397	0.064	0.	0.064	0.020	0.020
50	-2.8	-5.8	7.5	25.9	0.418	0.073	0.	0.073	0.022	0.022
70	-1.0	-3.4	7.8	28.7	0.463	0.115	0.	0.115	0.034	0.034
85	4.9	3.3	9.7	36.6	0.532	0.147	0.	0.147	0.042	0.042

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14.85	1.5605	1.1608	0.843	10106.9

ATTI FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 124

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.3	-6.8	0.062	0.059	0.	40.5	68.7	66.5
10	42.367	41.961	-5.5	-6.1	0.125	0.119	0.	36.5	64.8	63.8
15	40.996	40.742	-4.1	-4.9	0.191	0.182	0.	35.7	64.9	62.2
30	36.881	37.059	0.5	-0.3	0.381	0.372	0.	36.7	60.3	57.0
50	31.394	32.131	7.3	6.5	0.611	0.608	0.	39.5	55.8	48.4
70	26.010	27.229	13.1	11.6	0.795	0.801	0.	43.3	52.0	38.1
85	21.717	23.647	18.7	11.8	0.910	0.917	0.	46.2	49.8	17.5
90	20.295	22.581	20.3	13.5	0.942	0.949	0.	47.8	49.2	11.7
95	18.796	21.463	21.2	15.8	0.971	0.979	0.	52.2	48.6	2.0

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	181.2	191.4	496.7	363.8	181.2	146.1	0.	123.7	462.5	456.8
10	193.1	200.2	488.1	363.2	193.1	161.2	0.	118.5	448.2	443.9
15	203.3	203.7	479.0	353.5	203.3	165.6	0.	118.6	453.7	431.0
30	222.6	214.0	449.2	315.1	222.6	171.6	0.	127.9	390.2	392.1
50	227.9	226.7	402.8	263.0	227.9	175.2	0.	143.7	332.1	339.9
70	220.4	231.7	352.6	214.7	220.4	170.2	0.	157.2	275.2	288.1
85	205.3	269.1	308.1	197.1	205.3	188.4	0.	192.2	229.8	250.2
90	197.5	275.1	291.7	191.4	197.5	187.6	0.	201.2	214.7	238.9
95	188.2	284.0	273.8	178.2	188.2	178.1	0.	221.2	198.9	227.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.548	0.529	1.503	1.005	0.808	0.320	1.5323	1.1949	0.665	0.685
10	0.587	0.558	1.483	1.012	0.839	0.355	1.5846	1.1812	0.776	0.790
15	0.620	0.569	1.461	0.988	0.817	0.387	1.6109	1.1765	0.827	0.838
30	0.684	0.601	1.381	0.885	0.772	0.468	1.6624	1.1731	0.903	0.910
50	0.702	0.641	1.241	0.744	0.770	0.533	1.6601	1.1687	0.924	0.929
70	0.677	0.660	1.082	0.612	0.778	0.564	1.5938	1.1565	0.910	0.916
85	0.626	0.775	0.940	0.568	0.954	0.492	1.6307	1.1666	0.900	0.907
90	0.601	0.795	0.888	0.555	0.994	0.420	1.5960	1.1657	0.863	0.871
95	0.571	0.821	0.830	0.515	0.997	0.317	1.5705	1.1724	0.799	0.811

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.5	3.6	4.4	2.3	0.351	0.238	0.114	0.124	0.032	0.017
10	5.0	3.3	3.5	3.2	0.337	0.156	0.103	0.052	0.023	0.008
15	4.5	2.9	3.5	3.0	0.347	0.121	0.093	0.028	0.019	0.004
30	4.6	2.6	3.3	3.6	0.395	0.072	0.066	0.006	0.013	0.001
50	5.8	3.2	4.0	7.4	0.455	0.064	0.041	0.023	0.013	0.004
70	6.8	3.3	10.9	13.6	0.503	0.084	0.027	0.057	0.017	0.011
85	7.3	3.4	12.7	31.7	0.499	0.121	0.017	0.104	0.025	0.022
90	7.5	3.4	15.3	36.4	0.487	0.179	0.002	0.178	0.036	0.036
95	7.6	3.4	14.0	44.9	0.502	0.299	0.	0.299	0.058	0.058

INLET CORR WTFLOW 110.83	PRESS RATIO 1.6205	TEMP RATIO 1.1723	ADIA EFF 0.858	INLET CORR RPM 10102.5
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ATT FAN VEHICLE

(METRIC)

BP-0GV

95 PERCENT SPEED

RDG 124

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.2	-0.2	0.077	0.080	39.0	0.		
15	41.605	41.554	-0.8	0.1	0.119	0.120	35.0	0.		
30	39.192	39.218	-0.5	0.4	0.256	0.254	32.0	0.		
50	35.763	35.852	0.3	0.9	0.454	0.451	31.6	0.		
70	32.487	32.639	1.2	1.5	0.632	0.630	33.4	0.		
85	30.124	30.302	2.3	2.0	0.746	0.745	34.9	0.		
90	29.312	29.489	2.7	2.1	0.782	0.783	35.4	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	196.4	157.4			152.7	157.4	123.0	0.		
15	209.2	168.6			171.3	168.6	119.6	0.		
30	230.1	188.7			195.0	188.7	122.1	0.		
50	251.1	203.9			213.8	203.9	131.5	0.		
70	257.4	204.9			214.9	204.9	141.5	0.		
85	255.7	199.6			209.7	199.6	146.3	0.		
90	254.6	196.8			207.6	196.8	147.4	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.544	0.432			1.027	0.290	1.5255	1.1905	0.673	0.692
15	0.585	0.466			0.983	0.284	1.5565	1.1818	0.741	0.757
30	0.650	0.526			0.969	0.290	1.6135	1.1749	0.837	0.848
50	0.716	0.571			0.954	0.304	1.6533	1.1720	0.898	0.905
70	0.737	0.575			0.953	0.333	1.6346	1.1680	0.897	0.904
85	0.734	0.561			0.952	0.343	1.5877	1.1612	0.876	0.884
90	0.731	0.554			0.948	0.340	1.5649	1.1580	0.864	0.872

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-4.7	-12.8	10.9	38.9	0.424	0.081	0.	0.081	0.029	0.029
15	-7.2	-15.5	10.4	35.0	0.394	0.078	0.	0.078	0.027	0.027
30	-8.0	-15.9	9.4	32.1	0.351	0.041	0.	0.041	0.013	0.013
50	-7.4	-14.6	8.6	31.6	0.343	0.043	0.	0.043	0.013	0.013
70	-6.2	-12.6	8.3	33.3	0.354	0.040	0.	0.040	0.011	0.011
85	-6.0	-11.8	8.4	34.9	0.367	0.057	0.	0.057	0.015	0.015
90	-6.2	-11.9	8.4	35.4	0.373	0.074	0.	0.074	0.019	0.019

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
94.85	1.6023	1.1730	0.833	10102.5

ATT FAN VEHICLE

(METRIC)

CORE-OGV

95 PERCENT SPEED

RDG 124

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.9	-6.0	0.879	0.879	45.3	19.5		
30	24,689	24,460	-1.8	-5.0	0.902	0.904	43.0	18.8		
50	23,673	23,597	-0.3	-3.6	0.937	0.936	43.4	17.8		
70	22,682	22,784	1.7	-1.9	0.967	0.964	46.6	17.0		
85	21,971	22,174	3.4	-0.1	0.985	0.983	51.0	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	253.3	208.7			178.3	196.9	179.9	69.2		
30	273.4	215.6			200.1	204.2	186.3	69.1		
50	277.8	205.1			201.9	195.3	191.0	62.6		
70	282.4	201.6			193.7	192.8	205.6	59.0		
85	278.4	195.6			174.2	187.5	216.8	55.5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.724	0.587			1.099	0.275	1.5790	1.1670	0.835	0.845
30	0.788	0.608			1.018	0.344	1.6220	1.1680	0.882	0.890
50	0.803	0.577			0.964	0.422	1.5820	1.1652	0.847	0.857
70	0.817	0.565			0.989	0.445	1.5520	1.1700	0.787	0.800
85	0.802	0.506			1.065	0.465	1.5112	1.1741	0.719	0.735

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-4.1	-8.0	8.5	25.8	0.328	0.056	0.	0.056	0.018	0.018
30	-4.6	-8.1	8.0	24.2	0.355	0.040	0.	0.040	0.013	0.013
50	-3.1	-6.1	7.6	25.6	0.411	0.041	0.	0.041	0.012	0.012
70	-0.5	-2.9	7.8	29.4	0.445	0.055	0.	0.055	0.016	0.016
85	2.4	0.8	9.7	34.6	0.477	0.061	0.	0.061	0.018	0.018

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.99	1.5670	1.1681	0.815	10102.5

ATT FAN VEHICLE

(METRIC)

ROTOR

90 PERCENT SPEED

RDG 127

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.0	-6.3	0.062	0.060	0.	42.7	69.7	65.7
10	42.367	41.961	-5.0	-5.4	0.125	0.121	0.	38.7	67.9	63.3
15	40.996	40.742	-3.6	-4.2	0.190	0.185	0.	38.0	66.3	61.8
30	36.881	37.059	0.9	0.3	0.381	0.373	0.	38.5	62.1	56.7
50	31.394	32.131	7.4	6.6	0.610	0.607	0.	42.4	58.0	46.6
70	26.010	27.229	12.3	12.6	0.793	0.797	0.	45.5	54.2	38.0
85	21.717	23.647	17.5	12.6	0.909	0.912	0.	47.1	51.1	20.8
90	20.295	22.581	19.3	13.7	0.941	0.945	0.	45.6	50.4	15.4
95	18.796	21.463	20.7	15.8	0.971	0.977	0.	50.2	49.7	4.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	162.9	188.0	467.3	335.7	162.9	138.6	0.	126.9	438.0	432.7
10	172.9	193.6	458.4	335.9	172.9	151.3	0.	120.6	424.5	420.4
15	181.1	195.9	448.9	326.6	181.1	154.5	0.	120.5	410.8	408.2
30	195.9	204.6	418.3	291.9	195.9	160.2	0.	127.3	369.5	371.3
50	198.6	221.9	372.0	238.6	198.6	164.4	0.	149.0	314.6	321.9
70	192.4	219.1	323.9	195.6	192.4	155.6	0.	154.2	260.6	272.8
85	184.2	241.6	285.1	177.5	184.2	166.5	0.	175.1	217.6	236.9
90	178.5	253.5	270.6	186.4	178.5	180.2	0.	178.3	203.3	226.3
95	170.8	266.4	254.2	175.1	170.8	174.5	0.	201.3	188.3	215.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	PULY
5	0.490	0.520	1.406	0.929	0.852	0.325	1.5152	1.1896	0.665	0.684
10	0.522	0.540	1.383	0.937	0.877	0.356	1.5498	1.1749	0.763	0.777
15	0.548	0.548	1.358	0.914	0.855	0.385	1.5670	1.1698	0.806	0.818
30	0.596	0.576	1.272	0.821	0.819	0.457	1.5998	1.1633	0.880	0.887
50	0.605	0.627	1.132	0.675	0.829	0.512	1.6082	1.1656	0.878	0.886
70	0.584	0.625	0.984	0.558	0.809	0.548	1.5298	1.1457	0.886	0.893
85	0.558	0.695	0.863	0.511	0.927	0.536	1.5451	1.1437	0.921	0.926
90	0.540	0.734	0.818	0.540	1.039	0.489	1.5548	1.1394	0.964	0.966
95	0.515	0.772	0.767	0.508	1.069	0.405	1.5595	1.1478	0.916	0.921

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
5	6.5	4.6	3.7	4.0	0.372	0.248	0.084	0.164	0.034	0.022	
10	6.1	4.4	3.0	4.7	0.355	0.170	0.074	0.096	0.025	0.014	
15	5.9	4.3	3.1	4.5	0.364	0.140	0.065	0.075	0.022	0.012	
30	6.4	4.4	3.1	5.5	0.404	0.092	0.043	0.048	0.016	0.009	
50	8.0	5.4	2.2	11.4	0.479	0.110	0.027	0.084	0.022	0.017	
70	8.9	5.5	10.8	16.0	0.517	0.112	0.022	0.089	0.022	0.018	
85	8.6	4.7	16.0	30.1	0.516	0.094	0.	0.094	0.019	0.019	
90	8.6	4.6	19.0	34.4	0.455	0.044	0.	0.044	0.009	0.009	
95	8.7	4.5	16.7	43.5	0.461	0.127	0.	0.127	0.025	0.025	

INLET CORR WFLOW 102.83 PRESS RATIO 1.5719 TEMP RATIO 1.1633 ADIA EFF 0.845 INLET CORR RPM 9568.3

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP=0GV

90 PERCENT SPEED

RDG 127

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,2	-0,1	0,080	0,083	40,7	0,		
15	41,605	41,554	-0,7	0,3	0,123	0,125	36,8	0,		
30	39,192	39,218	-0,2	0,8	0,260	0,260	34,1	0,		
50	35,763	35,852	0,5	1,4	0,457	0,456	33,7	0,		
70	32,487	32,639	1,7	2,2	0,634	0,634	36,2	0,		
85	30,124	30,302	2,8	2,7	0,746	0,748	37,2	0,		
90	29,312	29,484	3,1	2,6	0,782	0,784	37,4	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	193,5	151,7			146,7	151,7	125,6	0,		
15	203,3	161,0			162,7	161,0	121,5	0,		
30	219,7	175,8			182,0	175,8	123,1	0,		
50	238,4	188,0			198,2	188,0	132,5	0,		
70	247,4	192,3			199,6	192,3	146,2	0,		
85	242,8	182,5			193,5	182,5	146,6	0,		
90	240,2	177,1			191,0	177,1	145,6	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,537	0,417			1,031	0,324	1,5077	1,1842	0,676	0,694
15	0,569	0,445			0,987	0,323	1,5317	1,1748	0,741	0,756
30	0,620	0,489			0,966	0,332	1,5683	1,1671	0,821	0,832
50	0,679	0,526			0,949	0,344	1,5951	1,1639	0,871	0,879
70	0,707	0,539			0,964	0,371	1,5878	1,1643	0,859	0,868
85	0,696	0,512			0,944	0,386	1,5314	1,1529	0,847	0,856
90	0,689	0,498			0,928	0,386	1,5030	1,1477	0,836	0,845

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-3,0	-11,1	10,9	40,5	0,448	0,073	0,	0,073	0,026	0,026
15	-5,4	-13,7	10,4	36,7	0,417	0,060	0,	0,060	0,021	0,021
30	-6,0	-13,8	9,4	34,1	0,382	0,032	0,	0,032	0,011	0,011
50	-5,3	-12,5	8,6	33,7	0,376	0,039	0,	0,039	0,012	0,012
70	-3,4	-9,8	8,3	36,2	0,384	0,030	0,	0,030	0,008	0,008
85	-3,8	-9,5	8,4	37,2	0,404	0,056	0,	0,056	0,014	0,014
90	-4,2	-9,9	8,4	37,4	0,415	0,081	0,	0,081	0,020	0,020

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
88,02	1,5566	1,1660	0,812	9568,3

ATT FAN VEHICLE

(METRIC)

CORE-OGV

90 PERCENT SPEED

RDG 127

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.7	-5.8	0.878	0.878	48.0	19.5		
30	24.689	24.460	-1.6	-4.7	0.900	0.902	45.3	18.8		
50	23.673	23.597	-0.2	-3.3	0.933	0.933	43.6	17.9		
70	22.682	22.784	1.4	-1.9	0.964	0.961	45.1	17.1		
85	21.971	22.174	3.0	-0.3	0.984	0.981	50.9	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	252.6	188.8			155.8	178.1	172.8	62.7		
30	240.0	184.1			168.9	174.4	170.5	59.2		
50	247.2	184.1			179.1	175.2	170.5	56.5		
70	258.8	189.5			182.7	181.1	183.5	55.8		
85	260.9	188.5			164.4	180.7	202.0	53.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH'	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.665	0.531			1.137	0.264	1.5302	1.1519	0.851	0.860
30	0.689	0.519			1.031	0.349	1.5272	1.1455	0.884	0.891
50	0.714	0.520			0.978	0.403	1.5258	1.1398	0.918	0.923
70	0.750	0.536			0.983	0.407	1.5314	1.1433	0.903	0.909
85	0.753	0.531			1.089	0.415	1.5110	1.1529	0.819	0.829

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-1.4	-5.3	8.5	28.5	0.353	0.091	0.	0.091	0.029	0.029
30	-2.3	-5.8	8.0	26.4	0.387	0.070	0.	0.070	0.022	0.022
50	-2.8	-5.9	7.6	25.7	0.404	0.049	0.	0.049	0.015	0.015
70	-2.0	-4.4	7.9	27.7	0.417	0.064	0.	0.064	0.019	0.019
85	2.0	0.3	9.8	33.9	0.448	0.079	0.	0.079	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14.81	1.5219	1.1470	0.867	9568.3

ORIGINAL PAGE IS  
OF POOR QUALITY

APPENDIX D

BLADE ELEMENT DATA

(c) Short Bellmouth Inlet Test  
with Uniform Inlet Flow

ATT FAN VEHICLE

(METRIC)

ROTOR 70 PERCENT SPEED RDG 141

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.5	-5.7	0.060	0.062	0.	38.8	71.8	65.5
10	42.367	41.961	-4.5	-4.7	0.123	0.122	0.	36.6	70.3	64.0
15	40.996	40.742	-3.4	-3.8	0.187	0.183	0.	35.7	68.9	62.5
30	36.881	37.059	0.4	-0.1	0.375	0.367	0.	34.7	65.3	57.6
50	31.394	32.131	5.8	5.2	0.604	0.594	0.	37.7	61.2	49.4
70	26.010	27.229	11.1	12.7	0.790	0.790	0.	43.3	57.2	36.2
85	21.717	23.647	16.7	12.9	0.908	0.908	0.	49.2	53.9	15.8
90	20.295	22.581	18.9	13.5	0.941	0.941	0.	48.7	53.1	9.3
95	18.796	21.463	20.4	15.5	0.971	0.974	0.	52.4	52.4	-0.1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	112.8	144.6	359.7	271.7	112.8	113.0	0.	90.2	341.5	337.4
10	118.8	146.6	351.7	268.0	118.8	117.8	0.	87.1	331.0	327.8
15	123.7	148.9	343.3	261.1	123.7	121.0	0.	86.9	320.3	318.3
30	132.6	155.4	317.2	238.2	132.6	127.8	0.	88.5	288.1	289.5
50	135.5	164.2	280.2	199.2	135.5	130.2	0.	100.2	245.3	251.0
70	133.5	176.9	243.2	160.1	133.5	130.2	0.	119.7	203.2	212.7
85	129.3	198.4	213.3	136.4	129.3	131.5	0.	148.5	169.7	184.8
90	125.7	207.9	202.4	140.9	125.7	139.3	0.	154.4	158.6	176.4
95	120.5	214.8	190.0	134.1	120.5	134.0	0.	167.7	146.8	167.7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.335	0.411	1.069	0.772	1.000	0.264	1.2558	1.1052	0.639	0.650
10	0.353	0.418	1.046	0.764	0.991	0.289	1.2663	1.0987	0.707	0.717
15	0.368	0.426	1.023	0.746	0.980	0.312	1.2754	1.0955	0.754	0.762
30	0.396	0.446	0.946	0.684	0.966	0.372	1.2918	1.0885	0.858	0.863
50	0.405	0.473	0.837	0.574	0.963	0.434	1.2970	1.0870	0.887	0.891
70	0.399	0.511	0.726	0.463	0.969	0.492	1.3089	1.0879	0.909	0.913
85	0.386	0.575	0.636	0.395	1.035	0.510	1.3433	1.0948	0.928	0.931
90	0.375	0.605	0.603	0.410	1.139	0.461	1.3522	1.0941	0.957	0.959
95	0.359	0.626	0.565	0.391	1.150	0.372	1.3467	1.0969	0.916	0.919

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	8.6	6.7	3.5	6.2	0.328	0.221	0.011	0.211	0.031	0.029
10	8.5	6.8	3.7	6.3	0.321	0.176	0.008	0.168	0.026	0.025
15	8.5	6.9	3.8	6.5	0.325	0.149	0.007	0.142	0.023	0.022
30	9.6	7.6	3.9	7.9	0.343	0.090	0.006	0.084	0.016	0.015
50	11.3	8.6	5.0	12.2	0.400	0.085	0.	0.085	0.016	0.016
70	11.9	8.5	9.0	21.0	0.469	0.088	0.	0.088	0.018	0.018
85	11.4	7.5	11.0	38.1	0.520	0.093	0.	0.093	0.020	0.020
90	11.4	7.3	12.9	43.7	0.470	0.060	0.	0.060	0.012	0.012
95	11.4	7.2	11.9	51.9	0.474	0.139	0.	0.139	0.027	0.027

INLET CORR WTFLOW 77.05 PRESS RATIO 1.2958 TEMP RATIO 1.0920 ADIA EFF 0.836 INLET CORR RPM 7460.6

ATT FAN VEHICLE

(METRIC)

BP-OGV

70 PERCENT SPEED

RDG 141

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42.418	42.316	-1.2	-0.1	0.083	0.085	37.4	0.		
15	41.605	41.554	-0.6	0.3	0.124	0.127	34.9	0.		
30	39.192	39.218	0.1	1.0	0.256	0.257	31.9	0.		
50	35.763	35.852	0.4	1.0	0.446	0.444	30.8	0.		
70	32.487	32.639	0.8	1.0	0.619	0.614	32.3	0.		
85	30.124	30.302	1.8	1.3	0.735	0.732	33.5	0.		
90	29.312	29.489	2.3	1.6	0.774	0.773	34.2	0.		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
10	147.9	125.3			117.5	125.3	89.8	0.		
15	153.5	130.3			125.9	130.3	87.7	0.		
30	165.8	139.9			140.7	139.9	87.7	0.		
50	176.3	147.5			151.5	147.5	90.2	0.		
70	185.5	153.9			156.9	153.9	99.0	0.		
85	193.9	161.0			161.7	161.0	106.9	0.		
90	196.8	165.0			162.7	165.0	110.7	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.421	0.355			1.064	0.227	1.2507	1.1027	0.643	0.654
15	0.439	0.370			1.032	0.240	1.2596	1.0984	0.693	0.703
30	0.476	0.400			0.994	0.243	1.2743	1.0928	0.773	0.781
50	0.510	0.423			0.974	0.248	1.2825	1.0870	0.847	0.852
70	0.538	0.442			0.982	0.272	1.2880	1.0869	0.863	0.868
85	0.564	0.463			0.996	0.268	1.2929	1.0868	0.877	0.881
90	0.572	0.475			1.015	0.257	1.2962	1.0875	0.879	0.883

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-6.2	-14.4	10.9	37.3	0.369	0.063	0.	0.063	0.022	0.022
15	-7.3	-15.6	10.4	34.8	0.350	0.046	0.	0.046	0.016	0.016
30	-8.1	-16.0	9.4	31.9	0.328	0.049	0.	0.049	0.016	0.016
50	-8.3	-15.4	8.6	30.7	0.315	0.056	0.	0.056	0.017	0.017
70	-7.4	-13.7	8.3	32.2	0.315	0.042	0.	0.042	0.011	0.011
85	-7.5	-13.2	8.4	33.4	0.311	0.047	0.	0.047	0.012	0.012
90	-7.3	-13.1	8.4	34.2	0.303	0.044	0.	0.044	0.011	0.011

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
65.89	1.2784	1.0915	0.795	7460.6



ATT FAN VEHICLE

(METRIC)

CORE-OGV 70 PERCENT SPEED RDG 141

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,8	-5,9	0,876	0,877	49,5	19,5		
30	24,689	24,460	-1,5	-4,5	0,898	0,900	48,6	18,9		
50	23,673	23,597	0,3	-2,9	0,930	0,931	46,7	17,9		
70	22,682	22,784	2,3	-1,3	0,962	0,960	48,7	17,1		
85	21,971	22,174	3,8	0,3	0,983	0,980	52,6	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	176,2	138,8			114,5	130,9	134,0	46,2		
30	190,0	146,2			125,8	138,4	142,4	47,2		
50	202,4	150,8			138,9	143,5	147,2	46,4		
70	208,1	150,6			137,5	143,9	156,2	44,4		
85	209,2	148,8			127,2	142,7	166,0	42,4		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACCP T RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,508	0,396			1,137	0,322	1,3069	1,0919	0,865	0,870
30	0,549	0,418			1,090	0,371	1,3266	1,0950	0,885	0,890
50	0,588	0,431			1,030	0,397	1,3354	1,0941	0,916	0,919
70	0,605	0,431			1,044	0,403	1,3258	1,0955	0,879	0,884
85	0,608	0,425			1,120	0,398	1,3112	1,0983	0,818	0,825

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	0,1	-3,8	8,6	30,0	0,386	0,064	0,	0,064	0,021	0,021
30	1,0	-2,5	8,1	29,6	0,403	0,048	0,	0,048	0,015	0,015
50	0,2	-2,8	7,7	28,7	0,416	0,055	0,	0,055	0,017	0,017
70	1,6	-0,8	7,9	31,4	0,442	0,083	0,	0,083	0,025	0,025
85	3,6	2,0	9,8	35,9	0,464	0,107	0,	0,107	0,031	0,031

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
11,16	1,3205	1,0948	0,872	7460,6

ATT FAN VEHICLE

(METRIC)

ROTOR 80 PERCENT SPEED RDG 142

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,4	-5,6	0,062	0,063	0,	41,2	71,0	65,3
10	42,367	41,961	-4,2	-4,5	0,125	0,125	0,	38,8	69,4	63,5
15	40,996	40,742	-2,9	-3,3	0,190	0,188	0,	39,5	68,0	61,8
30	36,881	37,059	1,1	0,6	0,380	0,373	0,	40,1	64,3	56,3
50	31,394	32,131	6,9	6,2	0,608	0,603	0,	40,3	60,5	49,5
70	26,010	27,229	11,5	13,4	0,792	0,794	0,	44,9	56,6	38,1
85	21,717	23,647	16,9	13,5	0,908	0,910	0,	49,6	53,1	18,7
90	20,295	22,581	18,9	13,9	0,941	0,942	0,	48,9	52,3	12,3
95	18,796	21,463	20,4	15,7	0,971	0,974	0,	51,8	51,6	2,7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	135,1	168,3	412,6	302,5	135,1	126,9	0,	110,6	389,9	385,1
10	142,2	171,4	403,7	298,7	142,2	133,7	0,	107,2	377,9	374,2
15	147,8	175,5	394,4	285,9	147,8	135,4	0,	111,6	365,6	363,4
30	158,0	184,4	364,9	254,4	158,0	141,0	0,	118,9	328,9	330,5
50	159,9	187,1	322,4	219,0	159,9	143,1	0,	120,5	280,0	286,6
70	156,3	195,2	279,7	176,2	156,3	140,1	0,	136,0	232,0	242,8
85	152,0	217,7	246,2	151,0	152,0	143,5	0,	163,7	193,7	210,9
90	147,8	227,6	233,7	155,4	147,8	152,1	0,	169,4	181,0	201,4
95	141,9	238,1	219,6	150,8	141,9	150,6	0,	184,4	167,6	191,4

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,403	0,472	1,232	0,848	0,937	0,313	1,4023	1,1473	0,689	0,703
10	0,425	0,483	1,208	0,842	0,939	0,339	1,4190	1,1386	0,758	0,770
15	0,443	0,495	1,182	0,806	0,916	0,363	1,4333	1,1400	0,774	0,785
30	0,475	0,522	1,096	0,720	0,894	0,424	1,4538	1,1356	0,832	0,841
50	0,481	0,534	0,969	0,626	0,895	0,480	1,4300	1,1192	0,902	0,907
70	0,469	0,560	0,840	0,506	0,890	0,540	1,4197	1,1141	0,923	0,927
85	0,456	0,628	0,738	0,436	0,959	0,576	1,4590	1,1192	0,956	0,958
90	0,443	0,660	0,700	0,450	1,056	0,539	1,4682	1,1179	0,984	0,985
95	0,424	0,691	0,657	0,438	1,098	0,467	1,4712	1,1214	0,961	0,963

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	7,7	5,9	3,2	5,6	0,356	0,216	0,037	0,179	0,030	0,025
10	7,6	5,9	3,2	5,9	0,348	0,165	0,031	0,134	0,025	0,020
15	7,6	6,0	3,1	6,3	0,370	0,161	0,026	0,135	0,026	0,021
30	8,7	6,6	2,7	8,2	0,411	0,128	0,016	0,112	0,023	0,020
50	10,5	7,9	5,1	11,1	0,434	0,081	0,016	0,065	0,016	0,013
70	11,3	7,9	10,9	18,3	0,495	0,076	0,002	0,074	0,015	0,015
85	10,6	6,7	13,9	34,2	0,538	0,056	0,	0,056	0,012	0,012
90	10,6	6,5	15,9	39,7	0,493	0,021	0,	0,021	0,004	0,004
95	10,6	6,4	14,7	48,0	0,482	0,063	0,	0,063	0,012	0,012

INLET CORR WTFLOW 88,55 PRESS RATIO 1,4353 TEMP RATIO 1,1285 ADIA EFF 0,847 INLET CORR RPM 8516,6

ATT FAN VEHICLE

(METRIC)

BP=OGV

80 PERCENT SPEED

RDG 142

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.4	-0.3	0.085	0.087	39.4	0.		
15	41,605	41,554	-1.0	0.2	0.129	0.130	36.7	0.		
30	39,192	39,218	0.1	1.2	0.265	0.267	36.2	0.		
50	35,763	35,852	1.2	2.0	0.458	0.460	34.4	0.		
70	32,487	32,639	1.6	2.0	0.631	0.630	34.8	0.		
85	30,124	30,302	2.2	2.0	0.744	0.743	36.0	0.		
90	29,312	29,489	2.6	2.0	0.780	0.781	36.4	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	173.6	139.5			134.3	139.5	109.8	0.		
15	180.8	146.4			145.0	146.4	107.9	0.		
30	197.6	159.5			159.4	159.5	116.8	0.		
50	207.4	164.8			171.1	164.8	117.1	0.		
70	207.2	161.4			170.3	161.4	118.1	0.		
85	210.8	164.2			170.6	164.2	123.9	0.		
90	213.6	167.9			172.1	167.9	126.6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL M	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.488	0.389			1.038	0.296	1.3948	1.1434	0.695	0.709
15	0.511	0.410			1.008	0.309	1.4106	1.1383	0.747	0.759
30	0.560	0.447			1.000	0.322	1.4371	1.1410	0.774	0.786
50	0.593	0.466			0.962	0.330	1.4382	1.1290	0.848	0.856
70	0.596	0.458			0.948	0.358	1.4138	1.1182	0.880	0.885
85	0.608	0.467			0.963	0.359	1.4043	1.1150	0.886	0.891
90	0.617	0.478			0.976	0.349	1.4060	1.1143	0.895	0.900

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-4.3	-12.4	10.9	39.3	0.422	0.066	0.	0.066	0.023	0.023
15	-5.6	-13.8	10.4	36.6	0.398	0.041	0.	0.041	0.014	0.014
30	-3.8	-11.7	9.4	36.2	0.385	0.030	0.	0.030	0.010	0.010
50	-4.6	-11.8	8.6	34.4	0.373	0.043	0.	0.043	0.013	0.013
70	-4.9	-11.2	8.3	34.8	0.377	0.040	0.	0.040	0.011	0.011
85	-5.0	-10.7	8.4	36.0	0.373	0.039	0.	0.039	0.010	0.010
90	-5.2	-10.9	8.4	36.4	0.364	0.039	0.	0.039	0.010	0.010

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
75.98	1.4197	1.1300	0.810	8516.6

ATT FAN VEHICLE

(METRIC)

CORE=OGV

80 PERCENT SPEED

RDG 142

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,8	-5,9	0,879	0,879	49,4	19,5		
30	24,689	24,460	-1,5	-4,6	0,900	0,903	48,3	18,8		
50	23,673	23,597	0,2	-3,0	0,932	0,933	47,6	17,9		
70	22,682	22,784	2,0	-1,4	0,963	0,960	48,5	17,1		
85	21,971	22,174	3,5	0,1	0,983	0,980	52,6	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	194,8	152,4			126,8	143,8	147,9	50,7		
30	209,5	159,5			139,4	151,0	156,4	51,4		
50	219,5	157,4			148,2	149,8	162,0	48,4		
70	228,5	161,8			151,5	154,6	171,2	47,7		
85	231,1	163,6			140,6	156,8	183,3	46,6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,559	0,432			1,127	0,315	1,4165	1,1158	0,903	0,908
30	0,603	0,452			1,079	0,367	1,4406	1,1191	0,923	0,927
50	0,634	0,446			1,009	0,404	1,4321	1,1182	0,915	0,919
70	0,662	0,459			1,019	0,406	1,4341	1,1194	0,909	0,913
85	0,669	0,463			1,111	0,404	1,4259	1,1238	0,862	0,869

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-0,0	-3,9	8,6	29,9	0,392	0,083	0,	0,083	0,027	0,027
30	0,7	-2,8	8,0	29,4	0,407	0,061	0,	0,061	0,019	0,019
50	1,1	-1,9	7,7	29,6	0,450	0,092	0,	0,092	0,028	0,028
70	1,4	-1,0	7,9	31,2	0,457	0,103	0,	0,103	0,030	0,030
85	3,6	2,0	9,8	35,7	0,468	0,109	0,	0,109	0,031	0,031

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
12,56	1,4272	1,1193	0,897	8516,6

ATT FAN VEHICLE

(METRIC)

ROTOR 90 PERCENT SPEED RDG 143

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
5	43,713	43,180	-5,8	-6,1	0,062	0,062	0,	41,8	69,1	65,2
10	42,367	41,961	-4,7	-5,1	0,126	0,124	0,	38,4	67,3	63,3
15	40,996	40,742	-3,4	-3,9	0,192	0,187	0,	38,8	65,7	61,6
30	36,881	37,059	1,2	0,5	0,382	0,376	0,	39,3	61,4	55,6
50	31,394	32,131	7,6	6,9	0,611	0,609	0,	41,0	57,3	48,4
70	26,010	27,229	12,6	13,0	0,794	0,800	0,	45,6	53,6	36,7
85	21,717	23,647	17,5	12,6	0,909	0,912	0,	47,9	50,5	20,7
90	20,295	22,581	19,2	13,6	0,941	0,944	0,	45,8	49,7	14,9
95	18,796	21,463	20,6	15,7	0,971	0,976	0,	50,5	49,0	3,3

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	168,9	190,8	470,8	338,9	168,9	142,7	0,	126,7	439,4	434,1
10	178,6	194,1	461,8	337,9	178,6	152,3	0,	120,2	425,9	421,8
15	186,8	198,2	452,5	324,5	186,8	154,5	0,	124,1	412,1	409,5
30	202,0	211,1	422,2	289,6	202,0	163,5	0,	133,6	370,7	372,5
50	204,0	215,6	375,8	244,4	204,0	163,3	0,	140,9	315,6	323,0
70	197,5	224,1	327,7	196,6	197,5	158,9	0,	158,0	261,5	273,7
85	188,6	241,5	288,5	174,9	188,6	164,1	0,	177,2	218,3	237,7
90	183,1	255,7	274,1	186,7	183,1	181,0	0,	180,7	204,0	227,0
95	175,6	271,2	257,9	176,8	175,6	176,4	0,	205,9	188,9	215,8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,509	0,528	1,419	0,938	0,844	0,341	1,5471	1,1899	0,699	0,717
10	0,540	0,541	1,396	0,942	0,853	0,372	1,5743	1,1751	0,791	0,804
15	0,566	0,554	1,372	0,906	0,829	0,401	1,5967	1,1756	0,814	0,826
30	0,616	0,593	1,287	0,813	0,810	0,474	1,6426	1,1719	0,886	0,894
50	0,622	0,611	1,146	0,692	0,801	0,531	1,6060	1,1574	0,921	0,926
70	0,601	0,639	0,997	0,560	0,805	0,573	1,5675	1,1493	0,918	0,923
85	0,572	0,694	0,875	0,503	0,890	0,566	1,5602	1,1457	0,930	0,934
90	0,554	0,741	0,830	0,541	1,016	0,525	1,5820	1,1417	0,988	0,989
95	0,530	0,787	0,779	0,513	1,050	0,446	1,5971	1,1516	0,944	0,948

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5,9	4,0	3,2	3,8	0,369	0,223	0,084	0,139	0,031	0,019
10	5,5	3,8	3,0	4,1	0,355	0,150	0,074	0,075	0,022	0,011
15	5,3	3,7	2,9	4,1	0,376	0,138	0,065	0,072	0,022	0,012
30	5,8	3,7	2,0	6,0	0,419	0,089	0,044	0,045	0,016	0,008
50	7,4	4,7	4,0	9,0	0,461	0,067	0,027	0,040	0,013	0,008
70	8,4	4,9	9,5	16,5	0,521	0,082	0,021	0,061	0,017	0,012
85	8,0	4,1	15,9	29,5	0,534	0,083	0,	0,083	0,017	0,017
90	8,0	3,9	18,5	34,4	0,463	0,013	0,	0,013	0,003	0,003
95	8,0	3,8	15,3	44,2	0,468	0,085	0,	0,085	0,017	0,017

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
104,82	1,5960	1,1648	0,867	9599,1

ATT FAN VEHICLE

(METRIC)

BP-0GV

90 PERCENT SPEED

RDG 143

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
10	42.418	42.316	-1.4	-0.2	0.083	0.085	39.7	0.		
15	41.605	41.554	-1.0	0.1	0.127	0.127	36.3	0.		
30	39.192	39.218	-0.1	0.9	0.265	0.265	35.2	0.		
50	35.763	35.852	0.9	1.8	0.462	0.463	33.9	0.		
70	32.487	32.639	1.7	2.1	0.637	0.636	34.9	0.		
85	30.124	30.302	2.4	2.2	0.749	0.749	36.3	0.		
90	29.312	29.489	2.7	2.3	0.785	0.785	37.2	0.		

PCT IMM	ABS VEL		REL VEL IN	REL VEL OUT	MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE IN	SPEED OUT
	IN	OUT								
10	196.3	154.6			151.1	154.6	124.9	0.		
15	204.9	162.7			165.2	162.7	121.0	0.		
30	225.9	181.2			184.7	181.2	130.0	0.		
50	241.6	189.8			200.5	189.8	134.8	0.		
70	240.1	184.3			197.0	184.3	137.3	0.		
85	240.9	182.1			194.1	182.1	142.6	0.		
90	242.6	183.0			193.3	183.0	146.6	0.		

PCT IMM	ABS MACH NO		REL MACH NO IN	REL MACH NO OUT	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT							ADIA	POLY
10	0.546	0.425			1.023	0.323	1.5379	1.1838	0.712	0.729
15	0.573	0.450			0.985	0.329	1.5606	1.1748	0.776	0.790
30	0.636	0.503			0.981	0.335	1.6086	1.1770	0.822	0.833
50	0.687	0.531			0.947	0.341	1.6214	1.1674	0.885	0.892
70	0.687	0.517			0.935	0.378	1.5815	1.1551	0.902	0.909
85	0.691	0.512			0.938	0.385	1.5500	1.1490	0.895	0.901
90	0.697	0.515			0.947	0.378	1.5414	1.1491	0.882	0.889

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-4.0	-12.1	10.9	39.6	0.439	0.066	0.	0.066	0.023	0.023
15	-6.0	-14.2	10.4	36.2	0.411	0.046	0.	0.046	0.016	0.016
30	-4.9	-12.7	9.4	35.2	0.385	0.026	0.	0.026	0.008	0.008
50	-5.1	-12.3	8.6	33.9	0.380	0.049	0.	0.049	0.015	0.015
70	-4.7	-11.1	8.3	34.9	0.389	0.038	0.	0.038	0.011	0.011
85	-4.7	-10.4	8.4	36.3	0.397	0.052	0.	0.052	0.013	0.013
90	-4.4	-10.1	8.4	37.2	0.398	0.062	0.	0.062	0.016	0.016

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
89.97	1.5812	1.1674	0.836	9599.1

ATT FAN VEHICLE

(METRIC)

CORE-UGV

90 PERCENT SPEED

RDG 143

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.7	-5.8	0.879	0.880	48.8	19.5		
30	24,689	24,460	-1.5	-4.5	0.901	0.903	46.4	18.8		
50	23,673	23,597	0.0	-3.1	0.933	0.933	44.2	17.9		
70	22,682	22,784	1.6	-1.7	0.964	0.960	45.5	17.1		
85	21,971	22,174	3.1	-0.2	0.984	0.981	51.4	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	227.6	180.0			150.0	169.8	171.2	59.8		
30	237.3	181.0			163.8	171.4	171.7	58.3		
50	248.0	181.8			178.0	173.1	172.8	55.9		
70	261.6	189.0			183.4	180.6	186.7	55.7		
85	266.1	189.8			166.1	181.9	207.5	54.0		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.649	0.505			1.126	0.305	1.5334	1.1510	0.861	0.869
30	0.680	0.510			1.044	0.379	1.5473	1.1470	0.903	0.909
50	0.716	0.513			0.971	0.417	1.5473	1.1421	0.935	0.939
70	0.758	0.534			0.979	0.411	1.5580	1.1462	0.924	0.928
85	0.768	0.533			1.086	0.411	1.5420	1.1575	0.836	0.846

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
15	-0.6	-4.5	8.5	29.3	0.379	0.080	0.	0.080	0.026	0.026	
30	-1.2	-4.7	8.0	27.4	0.396	0.044	0.	0.044	0.014	0.014	
50	-2.3	-5.3	7.7	26.3	0.419	0.054	0.	0.054	0.016	0.016	
70	-1.6	-4.0	7.9	28.0	0.429	0.075	0.	0.075	0.022	0.022	
85	2.4	0.8	9.8	34.3	0.459	0.098	0.	0.098	0.028	0.028	

INLET CORR WTFLOW	14.85	PRESS RATIO	1.5422	TEMP RATIO	1.1492	ADIA EFF	0.883	INLET CORR RPM	9599.1
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ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR 90 PERCENT SPEED RDG 144

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.8	-6.1	0.062	0.062	0.	42.6	69.1	65.0
10	42.367	41.961	-4.7	-5.2	0.126	0.123	0.	39.0	67.3	62.9
15	40.996	40.742	-3.3	-3.9	0.191	0.187	0.	38.8	65.7	61.3
30	36.881	37.059	1.1	0.4	0.381	0.375	0.	39.0	61.6	56.3
50	31.394	32.131	7.0	6.3	0.610	0.605	0.	41.5	57.3	48.1
70	26.010	27.229	12.3	12.1	0.794	0.797	0.	43.4	53.2	38.1
85	21.717	23.647	18.2	12.4	0.910	0.916	0.	47.9	50.6	17.7
90	20.295	22.581	19.8	13.6	0.941	0.947	0.	50.2	50.0	10.6
95	18.796	21.463	20.7	15.8	0.971	0.976	0.	54.0	49.2	0.6

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	168.5	192.9	470.8	335.6	168.5	142.3	0.	130.3	439.6	434.2
10	178.4	197.0	461.9	335.7	178.4	153.4	0.	123.4	426.0	422.0
15	186.5	200.0	452.5	324.4	186.5	156.0	0.	125.2	412.3	409.7
30	200.8	207.8	421.7	290.9	200.8	161.6	0.	130.7	370.9	372.7
50	204.0	216.3	375.9	242.9	204.0	162.4	0.	142.8	315.7	323.1
70	200.2	220.4	329.4	203.9	200.2	161.8	0.	149.7	261.6	273.8
85	188.8	251.4	288.7	178.7	188.8	170.7	0.	184.6	218.4	237.8
90	182.3	258.9	273.6	171.3	182.3	168.6	0.	196.5	204.1	227.1
95	174.6	268.5	257.3	161.9	174.6	161.9	0.	214.1	189.0	215.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.508	0.533	1.419	0.927	0.844	0.339	1.5499	1.1953	0.683	0.702
10	0.539	0.549	1.396	0.935	0.861	0.370	1.5800	1.1798	0.777	0.790
15	0.565	0.558	1.372	0.906	0.838	0.399	1.5990	1.1771	0.810	0.822
30	0.612	0.584	1.285	0.817	0.805	0.469	1.6253	1.1682	0.885	0.893
50	0.622	0.612	1.146	0.687	0.797	0.532	1.6075	1.1591	0.913	0.918
70	0.610	0.630	1.003	0.583	0.809	0.585	1.5623	1.1419	0.958	0.961
85	0.573	0.723	0.876	0.514	0.933	0.557	1.5973	1.1517	0.944	0.947
90	0.552	0.747	0.828	0.494	0.962	0.502	1.5800	1.1537	0.908	0.914
95	0.527	0.775	0.777	0.468	0.963	0.420	1.5666	1.1591	0.860	0.869

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.9	4.0	3.0	4.1	0.379	0.239	0.084	0.155	0.034	0.022
10	5.5	3.8	2.6	4.5	0.362	0.163	0.075	0.088	0.025	0.013
15	5.3	3.7	2.6	4.5	0.377	0.142	0.066	0.076	0.023	0.012
30	5.9	3.9	2.6	5.5	0.413	0.089	0.044	0.045	0.016	0.008
50	7.4	4.7	3.7	9.4	0.469	0.076	0.027	0.049	0.015	0.010
70	8.0	4.5	10.9	14.9	0.497	0.040	0.020	0.019	0.008	0.004
85	8.1	4.2	12.9	32.2	0.523	0.069	0.	0.069	0.014	0.014
90	8.2	4.2	14.2	38.4	0.525	0.124	0.	0.124	0.025	0.025
95	8.2	4.0	12.6	47.4	0.538	0.215	0.	0.215	0.042	0.042

INLET CORR WTFLOW 104.81 PRESS RATIO 1.5932 TEMP RATIO 1.1647 ADIA EFF 0.864 INLET CORR RPM 9602.8



ATT FAN VEHICLE

(METRIC)

BP-0GV

90 PERCENT SPEED

RDG 144

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.1	-0.0	0,083	0,086	40,5	0.		
15	41,605	41,554	-0.6	0.4	0,126	0,128	36,8	0.		
30	39,192	39,218	0.1	1.2	0,264	0,265	35,0	0.		
50	35,763	35,852	0.8	1.7	0,459	0,459	33,8	0.		
70	32,487	32,639	1.7	2.2	0,632	0,631	35,4	0.		
85	30,124	30,302	2.8	2.6	0,744	0,746	36,0	0.		
90	29,312	29,489	3.1	2.6	0,781	0,783	35,9	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	198,8	156,6			151,3	156,6	128,5	0.		
15	207,6	164,9			166,2	164,9	124,2	0.		
30	224,7	179,4			184,1	179,4	128,8	0.		
50	236,1	184,4			196,2	184,4	131,3	0.		
70	242,3	189,3			197,4	189,3	140,5	0.		
85	243,0	186,8			196,7	186,8	142,8	0.		
90	241,5	183,6			195,6	183,6	141,6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,552	0,430			1,032	0,321	1,5406	1,1891	0,695	0,713
15	0,581	0,456			0,989	0,324	1,5634	1,1793	0,759	0,774
30	0,633	0,498			0,974	0,329	1,5985	1,1754	0,818	0,829
50	0,672	0,516			0,939	0,345	1,5997	1,1632	0,880	0,888
70	0,693	0,531			0,959	0,371	1,5956	1,1584	0,902	0,908
85	0,698	0,526			0,950	0,368	1,5612	1,1496	0,907	0,913
90	0,695	0,518			0,940	0,363	1,5390	1,1442	0,909	0,915

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF	
	ML	SS					SHOCK	PROF		TOT	PROF
10	-3,2	-11,3	10,9	40,3	0,444	0,070	0.	0,070	0,025	0,025	
15	-5,4	-13,7	10,4	36,7	0,415	0,055	0.	0,055	0,019	0,019	
30	-5,1	-12,9	9,4	35,0	0,388	0,039	0.	0,039	0,013	0,013	
50	-5,2	-12,4	8,6	33,8	0,385	0,053	0.	0,053	0,016	0,016	
70	-4,2	-10,6	8,3	35,4	0,377	0,022	0.	0,022	0,006	0,006	
85	-4,9	-10,7	8,4	36,0	0,383	0,048	0.	0,048	0,012	0,012	
90	-5,6	-11,4	8,4	35,9	0,387	0,068	0.	0,068	0,017	0,017	

INLET CORR  
WTFLOW  
89,73

PRESS  
RATIO  
1,5770

TEMP  
RATIO  
1,1669

ADIA  
EFF  
0,833

INLET CORR  
RPM  
9602,8

ATT FAN VEHICLE

(METRIC)

CORE=OGV

90 PERCENT SPEED

RDG 144

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-3.3	-6.4	0.879	0.878	45.0	19.5		
30	24.689	24.460	-2.4	-5.4	0.902	0.902	45.3	18.8		
50	23.673	23.597	-0.6	-3.8	0.935	0.934	46.2	17.9		
70	22.682	22.784	1.8	-1.7	0.964	0.961	49.4	17.1		
85	21.971	22.174	3.7	0.2	0.983	0.981	52.6	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	229.1	183.8			162.0	173.4	162.0	61.0		
30	248.9	193.8			175.1	183.5	176.9	62.3		
50	257.3	188.5			178.1	179.4	185.7	57.8		
70	263.1	186.0			171.0	177.8	199.8	54.6		
85	264.9	184.5			161.2	176.9	210.2	52.5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.656	0.519			1.067	0.280	1.5350	1.1429	0.911	0.917
30	0.716	0.546			1.044	0.353	1.5805	1.1518	0.921	0.926
50	0.742	0.530			1.004	0.430	1.5654	1.1527	0.895	0.901
70	0.759	0.522			1.037	0.454	1.5443	1.1572	0.841	0.851
85	0.764	0.517			1.095	0.450	1.5216	1.1604	0.794	0.806

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-4.4	-8.3	8.6	25.6	0.350	0.086	0.	0.086	0.028	0.028
30	-2.3	-5.8	8.0	26.5	0.377	0.048	0.	0.048	0.015	0.015
50	-0.3	-3.3	7.6	28.3	0.428	0.040	0.	0.040	0.012	0.012
70	2.3	-0.1	7.9	32.2	0.463	0.055	0.	0.055	0.016	0.016
85	3.6	2.0	9.8	35.9	0.482	0.078	0.	0.078	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.08	1.5473	1.1521	0.873	9602.8

ATT FAN VEHICLE

(METRIC)

ROTOR 95 PERCENT SPEED RDG 145

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6.0	-6.5	0.062	0.060	0.	42.5	68.7	65.9
10	42,367	41,961	-5.3	-5.8	0.125	0.120	0.	39.9	66.8	64.1
15	40,996	40,742	-4.1	-4.8	0.190	0.182	0.	39.0	65.0	62.2
30	36,881	37,059	0.3	-0.4	0.380	0.369	0.	39.4	60.3	56.0
50	31,394	32,131	7.0	6.3	0.609	0.605	0.	40.8	55.7	48.5
70	26,010	27,229	12.7	12.5	0.794	0.799	0.	43.0	51.8	39.0
85	21,717	23,647	18.2	12.6	0.909	0.916	0.	48.3	49.4	20.0
90	20,295	22,581	19.6	13.8	0.941	0.946	0.	48.5	48.7	14.7
95	18,796	21,463	20.6	15.8	0.971	0.976	0.	50.7	47.9	6.3

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	180.7	196.1	494.5	353.9	180.7	145.1	0.	131.9	460.3	454.7
10	191.8	199.5	485.6	349.9	191.8	153.5	0.	127.4	446.1	441.9
15	201.6	204.6	476.5	340.0	201.6	159.2	0.	128.6	431.7	429.0
30	221.5	219.3	447.1	303.1	221.5	169.5	0.	139.1	388.4	390.2
50	227.4	225.1	401.3	257.0	227.4	170.9	0.	146.4	330.6	338.3
70	220.9	228.1	351.9	215.0	220.9	168.8	0.	153.5	273.9	286.7
85	206.4	254.6	308.0	182.2	206.4	171.7	0.	188.0	228.7	249.0
90	199.2	260.9	292.2	181.2	199.2	175.6	0.	193.0	213.7	237.8
95	190.8	272.4	274.9	177.7	190.8	176.7	0.	207.4	197.9	226.0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.547	0.540	1.496	0.974	0.803	0.344	1.5932	1.2070	0.687	0.707
10	0.582	0.553	1.475	0.969	0.803	0.377	1.6233	1.1941	0.765	0.780
15	0.615	0.569	1.452	0.945	0.793	0.409	1.6548	1.1905	0.812	0.825
30	0.680	0.613	1.373	0.847	0.767	0.492	1.7192	1.1873	0.894	0.902
50	0.700	0.636	1.236	0.726	0.752	0.563	1.6928	1.1709	0.950	0.953
70	0.678	0.650	1.081	0.613	0.766	0.611	1.6299	1.1525	0.982	0.983
85	0.630	0.730	0.940	0.523	0.861	0.579	1.6325	1.1617	0.930	0.934
90	0.607	0.751	0.890	0.522	0.911	0.532	1.6093	1.1588	0.917	0.923
95	0.579	0.787	0.834	0.514	0.959	0.460	1.6038	1.1611	0.897	0.903

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.5	3.6	3.9	2.8	0.373	0.236	0.111	0.125	0.032	0.017
10	5.0	3.3	3.8	2.9	0.368	0.173	0.100	0.073	0.025	0.011
15	4.6	3.0	3.5	3.1	0.379	0.140	0.090	0.050	0.022	0.008
30	4.7	2.6	2.3	4.6	0.427	0.085	0.064	0.021	0.015	0.004
50	5.7	3.1	4.1	7.4	0.470	0.044	0.040	0.004	0.009	0.001
70	6.6	3.1	11.8	12.6	0.499	0.016	0.025	-0.009	0.003	-0.002
85	6.9	3.0	15.2	28.7	0.542	0.083	0.015	0.068	0.017	0.014
90	7.0	2.9	18.3	33.3	0.523	0.104	0.003	0.101	0.021	0.020
95	6.9	2.7	18.3	40.5	0.505	0.146	0.	0.146	0.028	0.028

INLET CORR WFLOW 110.87 PRESS RATIO 1.6626 TEMP RATIO 1.1780 ADIA EFF 0.878 INLET CORR RPM 10055.7

ATT FAN VEHICLE

(METRIC)

BP=OGV

95 PERCENT SPEED

RDG 145

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42,418	42,316	-1,2	-0,0	0,080	0,083	41,0	0,		
15	41,605	41,554	-0,6	0,4	0,121	0,124	37,9	0,		
30	39,192	39,218	0,1	1,1	0,257	0,258	34,7	0,		
50	35,763	35,852	1,0	1,9	0,455	0,456	33,7	0,		
70	32,487	32,639	2,2	2,6	0,633	0,634	34,4	0,		
85	30,124	30,302	3,0	2,8	0,747	0,749	35,3	0,		
90	29,312	29,489	3,2	2,7	0,783	0,786	35,4	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	200,5	156,3			151,3	156,3	131,3	0,		
15	209,5	164,7			165,4	164,7	128,4	0,		
30	233,9	185,1			192,4	185,1	133,0	0,		
50	253,1	200,3			210,6	200,3	140,3	0,		
70	254,0	199,1			209,6	199,1	143,5	0,		
85	251,3	192,7			205,2	192,7	145,1	0,		
90	249,7	188,9			203,5	188,9	144,7	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT ACC TT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
10	0,553	0,427			1,030	0,341	1,5843	1,2023	0,694	0,714
15	0,582	0,452			0,993	0,344	1,6076	1,1942	0,748	0,764
30	0,657	0,512			0,961	0,330	1,6630	1,1897	0,825	0,837
50	0,718	0,558			0,951	0,335	1,6998	1,1826	0,896	0,904
70	0,726	0,558			0,950	0,358	1,6694	1,1694	0,931	0,936
85	0,721	0,541			0,940	0,350	1,6151	1,1590	0,923	0,928
90	0,717	0,531			0,930	0,342	1,5882	1,1542	0,917	0,922

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-2,6	-10,8	10,9	40,9	0,454	0,062	0,	0,062	0,022	0,022
15	-4,4	-12,6	10,4	37,8	0,428	0,047	0,	0,047	0,016	0,016
30	-5,4	-13,2	9,4	34,7	0,394	0,052	0,	0,052	0,017	0,017
50	-5,3	-12,5	8,6	33,7	0,373	0,046	0,	0,046	0,014	0,014
70	-5,2	-11,6	8,3	34,4	0,370	0,034	0,	0,034	0,009	0,009
85	-5,7	-11,4	8,4	35,3	0,382	0,072	0,	0,072	0,018	0,018
90	-6,1	-11,9	8,4	35,5	0,389	0,099	0,	0,099	0,025	0,025

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
95,13	1,6451	1,1807	0,846	10055,7

ATT FAN VEHICLE

(METRIC)

CORE-OGV 95 PERCENT SPEED RDG 145

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.8	-5.9	0.880	0.881	46.2	19.5		
30	24,689	24,460	-1.6	-4.7	0.903	0.905	45.0	18.8		
50	23,673	23,597	0.0	-3.1	0.935	0.935	45.6	17.9		
70	22,682	22,784	1.9	-1.5	0.965	0.962	46.9	17.1		
85	21,971	22,174	3.5	0.1	0.984	0.981	50.2	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	242.7	201.4			168.2	190.0	175.0	66.8		
30	253.8	198.3			179.4	187.8	179.6	63.6		
50	259.0	189.2			181.2	180.1	185.1	57.9		
70	264.7	189.3			181.1	180.9	193.3	55.6		
85	268.4	193.0			171.9	185.0	205.9	54.9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.693	0.567			1.124	0.246	1.6052	1.1617	0.895	0.902
30	0.728	0.557			1.046	0.333	1.6086	1.1613	0.902	0.908
50	0.745	0.531			0.993	0.399	1.5742	1.1595	0.868	0.876
70	0.763	0.531			0.998	0.415	1.5610	1.1593	0.852	0.861
85	0.773	0.541			1.074	0.406	1.5538	1.1641	0.818	0.829

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-3.3	-7.1	8.5	26.7	0.325	0.077	0.	0.077	0.025	0.025
30	-2.5	-6.1	8.0	26.3	0.371	0.065	0.	0.065	0.021	0.021
50	-0.8	-3.9	7.6	27.8	0.428	0.079	0.	0.079	0.024	0.024
70	-0.2	-2.6	7.9	29.7	0.444	0.085	0.	0.085	0.025	0.025
85	1.2	-0.4	9.8	33.4	0.448	0.092	0.	0.092	0.026	0.026

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.75	1.5802	1.1616	0.864	10055.7

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 146

PCT IMM	RADIUS		MERID		ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,9	-6,3	0,063	0,062	0,	42,5	68,5	66,1		
10	42,367	41,961	-4,8	-5,4	0,127	0,123	0,	39,8	66,7	63,7		
15	40,996	40,742	-3,5	-4,2	0,192	0,187	0,	40,5	65,0	61,8		
30	36,881	37,059	1,1	0,4	0,383	0,376	0,	41,1	60,5	55,8		
50	31,394	32,131	7,4	6,8	0,611	0,609	0,	43,3	56,2	48,1		
70	26,010	27,229	12,7	11,8	0,794	0,799	0,	44,9	52,2	37,5		
85	21,717	23,647	18,2	11,9	0,909	0,915	0,	46,7	49,6	19,9		
90	20,295	22,581	19,9	13,5	0,941	0,947	0,	46,1	49,0	14,9		
95	18,796	21,463	21,0	15,8	0,971	0,978	0,	50,6	48,3	6,3		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	183,0	195,8	497,7	355,9	183,0	144,7	0,	131,9	462,8	457,1
10	193,8	202,9	488,6	351,3	193,8	156,0	0,	129,6	448,5	444,2
15	203,0	208,9	479,2	335,9	203,0	159,0	0,	135,4	434,0	431,3
30	220,5	222,1	448,4	298,0	220,5	167,4	0,	145,9	390,5	392,3
50	224,1	228,0	400,9	248,5	224,1	166,5	0,	155,6	332,4	340,2
70	218,9	233,1	351,7	208,8	218,9	166,9	0,	162,8	275,4	288,3
85	206,0	259,3	308,7	190,8	206,0	179,9	0,	186,7	229,9	250,4
90	198,8	267,8	292,7	194,5	198,8	188,4	0,	190,4	214,9	239,1
95	189,6	273,8	274,8	178,6	189,6	177,7	0,	208,4	199,0	227,2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,554	0,538	1,507	0,979	0,791	0,361	1,6343	1,2083	0,723	0,742
10	0,589	0,561	1,485	0,972	0,806	0,394	1,6764	1,1987	0,800	0,814
15	0,619	0,578	1,461	0,930	0,785	0,424	1,7071	1,2019	0,818	0,831
30	0,677	0,619	1,377	0,830	0,760	0,500	1,7554	1,1976	0,883	0,892
50	0,689	0,641	1,233	0,699	0,744	0,562	1,7136	1,1827	0,911	0,917
70	0,672	0,663	1,079	0,594	0,765	0,607	1,6491	1,1624	0,946	0,950
85	0,629	0,745	0,942	0,549	0,900	0,570	1,6478	1,1616	0,949	0,953
90	0,605	0,774	0,891	0,562	0,983	0,516	1,6370	1,1574	0,961	0,963
95	0,575	0,791	0,834	0,516	0,991	0,430	1,6020	1,1618	0,891	0,898

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
5	5,3	3,4	4,1	2,4	0,373	0,210	0,114	0,096	0,028	0,013	
10	4,9	3,2	3,4	3,1	0,370	0,150	0,103	0,047	0,022	0,007	
15	4,6	3,0	3,1	3,3	0,396	0,143	0,093	0,050	0,023	0,008	
30	4,9	2,8	2,2	4,9	0,443	0,097	0,066	0,031	0,018	0,006	
50	6,3	3,6	3,7	8,2	0,497	0,081	0,042	0,040	0,016	0,008	
70	7,0	3,5	10,3	14,4	0,524	0,053	0,027	0,025	0,011	0,005	
85	7,1	3,2	15,1	29,2	0,518	0,060	0,016	0,044	0,012	0,009	
90	7,2	3,2	18,5	33,3	0,475	0,049	0,002	0,047	0,010	0,009	
95	7,3	3,1	18,3	40,2	0,489	0,157	0,	0,157	0,030	0,030	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
110,66	1,6911	1,1864	0,869	10109,6

ATT FAN VEHICLE

(METRIC)

BP=OGV

95 PERCENT SPEED

RDG 146

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.4	-0.2	0.081	0.083	41.2	0.		
15	41.605	41.554	-1.0	0.2	0.124	0.125	38.1	0.		
30	39.192	39.218	-0.3	0.9	0.262	0.262	36.9	0.		
50	35.763	35.852	0.8	1.7	0.460	0.460	35.3	0.		
70	32.487	32.639	1.9	2.4	0.635	0.635	37.0	0.		
85	30.124	30.302	2.8	2.7	0.746	0.748	37.8	0.		
90	29.312	29.489	3.1	2.7	0.782	0.784	37.7	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	201.0	154.4			151.4	154.4	131.9	0.		
15	212.4	163.7			167.2	163.7	130.6	0.		
30	237.0	184.2			189.4	184.2	142.4	0.		
50	252.8	193.9			206.3	193.9	146.0	0.		
70	253.6	190.3			202.4	190.3	152.7	0.		
85	252.2	184.8			199.4	184.8	154.5	0.		
90	251.4	182.2			198.9	182.2	153.8	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.555	0.421			1.018	0.344	1.6239	1.2045	0.727	0.745
15	0.589	0.448			0.978	0.342	1.6501	1.1988	0.774	0.789
30	0.662	0.506			0.973	0.345	1.7064	1.2041	0.808	0.822
50	0.714	0.537			0.939	0.368	1.7260	1.1910	0.884	0.892
70	0.720	0.529			0.940	0.410	1.6897	1.1813	0.892	0.900
85	0.720	0.515			0.928	0.419	1.6426	1.1702	0.895	0.902
90	0.719	0.509			0.917	0.416	1.6214	1.1647	0.899	0.905

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-2.5	-10.6	10.9	41.1	0.466	0.078	0.	0.078	0.027	0.027
15	-4.2	-12.4	10.4	38.0	0.443	0.074	0.	0.074	0.026	0.026
30	-3.1	-11.0	9.4	36.9	0.418	0.058	0.	0.058	0.019	0.019
50	-3.7	-10.9	8.6	35.3	0.405	0.052	0.	0.052	0.016	0.016
70	-2.6	-9.0	8.3	37.0	0.414	0.032	0.	0.032	0.009	0.009
85	-3.2	-8.9	8.4	37.8	0.425	0.051	0.	0.051	0.013	0.013
90	-3.8	-9.6	8.4	37.7	0.429	0.068	0.	0.068	0.017	0.017

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
94.60	1.6773	1.1904	0.836	10109.6

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE-OGV

95 PERCENT SPEED

RDG 146

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.8	-5.9	0.877	0.878	46.6	19.5		
30	24.689	24.460	-1.6	-4.7	0.901	0.903	43.7	18.8		
50	23.673	23.597	-0.1	-3.4	0.935	0.934	42.8	17.8		
70	22.682	22.784	1.5	-1.9	0.966	0.962	44.9	17.1		
85	21.971	22.174	3.0	-0.3	0.985	0.982	50.8	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	246.0	202.1			169.1	190.6	178.6	67.0		
30	259.4	205.7			187.5	194.8	179.3	66.0		
50	268.6	202.0			197.0	192.3	182.7	61.8		
70	271.5	197.4			192.4	188.7	192.0	57.9		
85	269.9	191.1			170.4	183.2	208.4	54.3		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.702	0.567			1.121	0.255	1.5989	1.1659	0.865	0.873
30	0.746	0.579			1.035	0.334	1.6271	1.1619	0.922	0.927
50	0.776	0.569			0.974	0.388	1.6111	1.1583	0.922	0.927
70	0.785	0.555			0.967	0.416	1.5786	1.1589	0.877	0.885
85	0.777	0.535			1.067	0.433	1.5395	1.1666	0.787	0.800

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-2.8	-6.7	8.5	27.1	0.336	0.084	0.	0.084	0.027	0.027
30	-3.8	-7.4	8.0	24.9	0.354	0.046	0.	0.046	0.015	0.015
50	-3.6	-6.7	7.6	25.0	0.394	0.056	0.	0.056	0.017	0.017
70	-2.2	-4.6	7.8	27.6	0.427	0.071	0.	0.071	0.021	0.021
85	1.8	0.2	9.7	33.8	0.465	0.084	0.	0.084	0.024	0.024

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16.06	1.5909	1.1630	0.870	10109.6



ATT FAN VEHICLE

(METRIC)

ROTOR 95 PERCENT SPEED RDG 147

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6.2	-6.6	0.062	0.060	0.	41.4	68.2	66.6
10	42,367	41,961	-5.4	-5.9	0.126	0.120	0.	37.9	66.3	64.4
15	40,996	40,742	-4.0	-4.7	0.192	0.184	0.	37.2	64.4	62.0
30	36,881	37,059	1.2	0.4	0.383	0.376	0.	38.6	59.8	55.8
50	31,394	32,131	7.4	6.8	0.611	0.609	0.	41.3	55.5	48.9
70	26,010	27,229	13.0	12.5	0.795	0.802	0.	43.1	51.5	38.9
85	21,717	23,647	18.6	12.8	0.910	0.918	0.	44.6	49.1	20.9
90	20,295	22,581	20.3	14.3	0.942	0.951	0.	46.7	48.7	14.7
95	18,796	21,463	21.2	16.3	0.971	0.980	0.	55.1	48.1	2.2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	185.8	191.8	498.4	360.5	185.8	144.3	0.	126.5	462.5	456.9
10	197.8	197.3	490.0	358.9	197.8	155.9	0.	120.8	448.3	444.0
15	208.3	205.1	481.2	348.0	208.3	163.5	0.	123.9	433.7	431.1
30	226.8	220.8	451.3	307.2	226.8	172.5	0.	137.9	390.2	392.1
50	230.1	224.6	404.1	256.2	230.1	169.2	0.	147.7	332.2	340.0
70	224.4	229.2	355.1	215.6	224.4	169.3	0.	154.6	275.2	288.1
85	209.8	260.4	311.1	200.4	209.8	187.8	0.	180.4	229.8	250.2
90	201.5	266.9	294.5	191.9	201.5	186.0	0.	191.5	214.7	238.9
95	191.7	273.5	276.2	161.1	191.7	160.9	0.	221.1	198.9	227.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.563	0.529	1.510	0.994	0.778	0.352	1.5931	1.1993	0.714	0.732
10	0.602	0.548	1.491	0.997	0.792	0.387	1.6338	1.1848	0.815	0.827
15	0.637	0.572	1.470	0.970	0.788	0.422	1.6774	1.1847	0.862	0.872
30	0.698	0.618	1.389	0.860	0.762	0.500	1.7399	1.1867	0.918	0.924
50	0.709	0.633	1.246	0.722	0.737	0.564	1.6931	1.1733	0.937	0.941
70	0.690	0.653	1.092	0.615	0.758	0.612	1.6354	1.1542	0.979	0.980
85	0.641	0.751	0.951	0.578	0.921	0.575	1.6579	1.1569	0.990	0.991
90	0.614	0.771	0.897	0.554	0.972	0.515	1.6312	1.1566	0.958	0.961
95	0.582	0.787	0.839	0.463	0.899	0.429	1.5908	1.1706	0.831	0.842

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.0	3.1	4.5	1.8	0.361	0.209	0.113	0.095	0.028	0.013
10	4.5	2.8	4.1	2.1	0.350	0.131	0.103	0.028	0.019	0.004
15	4.0	2.4	3.3	2.6	0.366	0.100	0.092	0.008	0.016	0.001
30	4.2	2.1	2.2	4.2	0.421	0.065	0.066	-0.001	0.012	-0.000
50	5.6	2.9	4.5	6.7	0.475	0.053	0.041	0.012	0.010	0.002
70	6.3	2.8	11.7	12.3	0.502	0.020	0.026	-0.006	0.004	-0.001
85	6.6	2.7	16.1	27.6	0.488	0.010	0.015	-0.005	0.002	-0.001
90	6.9	2.9	18.3	32.3	0.474	0.052	0.002	0.050	0.010	0.010
95	7.1	2.9	14.2	43.3	0.557	0.248	0.	0.248	0.048	0.048

INLET CORR WFLOW 112.04 PRESS RATIO 1.6720 TEMP RATIO 1.1771 ADIA EFF 0.893 INLET CORR RPM 10103.4

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-OGV

95 PERCENT SPEED

RDG 147

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,3	-0,2	0,079	0,081	40,0	0,		
15	41,605	41,554	-0,9	0,1	0,120	0,122	36,3	0,		
30	39,192	39,218	-0,6	0,4	0,259	0,257	33,6	0,		
50	35,763	35,852	0,3	1,0	0,459	0,457	33,8	0,		
70	32,487	32,639	1,4	1,8	0,635	0,633	34,6	0,		
85	30,124	30,302	2,4	2,2	0,748	0,748	34,9	0,		
90	29,312	29,489	2,8	2,2	0,785	0,785	35,2	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	195,8	154,1			150,1	154,1	125,3	0,		
15	206,6	163,2			166,6	163,2	121,8	0,		
30	236,5	190,1			197,1	190,1	130,8	0,		
50	252,9	200,3			210,2	200,3	140,6	0,		
70	254,1	197,0			209,3	197,0	144,1	0,		
85	253,2	194,6			207,9	194,6	144,7	0,		
90	251,9	192,5			205,9	192,5	145,2	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,542	0,422			1,025	0,309	1,5804	1,1941	0,720	0,737
15	0,576	0,449			0,979	0,307	1,6055	1,1852	0,782	0,796
30	0,666	0,527			0,966	0,295	1,6838	1,1873	0,857	0,867
50	0,717	0,558			0,952	0,334	1,7080	1,1839	0,899	0,906
70	0,725	0,551			0,941	0,376	1,6752	1,1712	0,928	0,933
85	0,727	0,547			0,936	0,378	1,6386	1,1594	0,951	0,954
90	0,724	0,542			0,936	0,375	1,6182	1,1555	0,948	0,951

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-3,7	-11,8	10,9	39,8	0,441	0,083	0,	0,083	0,029	0,029
15	-6,0	-14,2	10,4	36,2	0,416	0,081	0,	0,081	0,028	0,028
30	-6,5	-14,3	9,4	33,6	0,375	0,066	0,	0,066	0,021	0,021
50	-5,2	-12,4	8,6	33,8	0,374	0,047	0,	0,047	0,014	0,014
70	-5,1	-11,4	8,3	34,6	0,379	0,027	0,	0,027	0,007	0,007
85	-6,1	-11,8	8,4	34,9	0,379	0,037	0,	0,037	0,009	0,009
90	-6,4	-12,1	8,4	35,2	0,381	0,048	0,	0,048	0,012	0,012

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
96,28	1,6568	1,1794	0,865	10103,4

ATT FAN VEHICLE

(METRIC)

CORE=OGV

95 PERCENT SPEED

RDG 147

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.9	-5.9	0.881	0.882	46.5	19.5		
30	24.689	24.460	-1.9	-5.0	0.905	0.906	43.0	18.8		
50	23.673	23.597	-0.9	-4.0	0.939	0.937	42.5	17.8		
70	22.682	22.784	1.0	-2.4	0.969	0.964	48.7	17.0		
85	21.971	22.174	2.9	-0.5	0.986	0.983	54.9	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	244.1	200.7			168.1	189.4	177.0	66.6		
30	258.7	203.1			189.1	192.4	176.4	65.1		
50	265.6	196.0			195.9	186.7	179.8	59.9		
70	268.6	189.8			177.1	181.5	201.6	55.6		
85	267.9	183.0			154.2	175.5	219.1	51.9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.696	0.564			1.121	0.261	1.6076	1.1644	0.884	0.891
30	0.744	0.572			1.013	0.334	1.6313	1.1590	0.944	0.948
50	0.768	0.552			0.947	0.405	1.6062	1.1555	0.933	0.937
70	0.773	0.531			1.011	0.452	1.5717	1.1658	0.832	0.842
85	0.767	0.509			1.122	0.478	1.5349	1.1755	0.742	0.757

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-2.9	-6.8	8.5	27.0	0.335	0.075	0.	0.075	0.024	0.024
30	-4.5	-8.1	8.0	24.2	0.359	0.059	0.	0.059	0.019	0.019
50	-3.9	-7.0	7.6	24.6	0.408	0.061	0.	0.061	0.019	0.019
70	1.6	-0.8	7.8	31.1	0.462	0.062	0.	0.062	0.019	0.019
85	6.0	4.3	9.7	38.0	0.507	0.072	0.	0.072	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.76	1.5912	1.1631	0.870	10103.4

ATT FAN VEHICLE

(METRIC)

ROTOR

100 PERCENT SPEED

RDG 149

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.4	-7.0	0.062	0.059	0.	46.2	68.8	67.1
10	42.367	41.961	-5.8	-6.5	0.125	0.117	0.	42.9	66.9	64.9
15	40.996	40.742	-4.5	-5.4	0.190	0.179	0.	41.3	64.9	62.6
30	36.881	37.059	0.4	-0.6	0.380	0.370	0.	41.8	60.1	56.7
50	31.394	32.131	7.1	6.4	0.609	0.606	0.	43.4	55.3	48.1
70	26.010	27.229	13.1	11.6	0.794	0.801	0.	45.1	51.4	40.0
85	21.717	23.647	18.6	11.7	0.909	0.917	0.	46.8	49.3	18.5
90	20.295	22.581	20.2	13.5	0.941	0.950	0.	49.7	48.8	12.2
95	18.796	21.463	21.0	15.8	0.971	0.978	0.	54.6	48.1	3.0

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE SPEED	
	IN	OUT	IN	OUT					IN	OUT
5	189.7	203.9	522.0	362.6	189.7	141.8	0.	146.6	486.3	480.3
10	202.4	208.7	512.9	359.6	202.4	153.3	0.	141.5	471.3	466.8
15	214.0	215.4	503.8	351.0	214.0	162.1	0.	141.9	456.0	453.2
30	236.2	229.0	473.4	310.6	236.2	170.7	0.	152.7	410.3	412.2
50	243.6	239.2	425.8	260.8	243.6	174.4	0.	163.8	349.2	357.4
70	236.8	235.3	373.9	217.2	236.8	167.7	0.	165.1	289.3	302.9
85	219.3	277.3	326.3	202.0	219.3	192.0	0.	200.2	241.6	263.0
90	210.7	281.7	308.8	189.4	210.7	185.3	0.	212.2	225.8	251.2
95	200.9	285.9	289.9	170.1	200.9	169.8	0.	230.0	209.1	238.7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.576	0.554	1.584	0.984	0.748	0.360	1.6993	1.2430	0.673	0.696
10	0.617	0.571	1.564	0.984	0.763	0.395	1.7387	1.2275	0.753	0.771
15	0.655	0.592	1.543	0.965	0.762	0.428	1.7810	1.2220	0.808	0.823
30	0.730	0.634	1.463	0.860	0.724	0.511	1.8409	1.2172	0.877	0.887
50	0.756	0.669	1.321	0.730	0.717	0.581	1.8184	1.2019	0.923	0.929
70	0.732	0.666	1.156	0.615	0.714	0.621	1.6975	1.1729	0.944	0.948
85	0.673	0.796	1.001	0.580	0.908	0.563	1.7441	1.1821	0.946	0.950
90	0.644	0.809	0.944	0.544	0.927	0.499	1.6988	1.1835	0.891	0.899
95	0.612	0.821	0.883	0.488	0.889	0.414	1.6435	1.1890	0.807	0.820

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.6	3.7	5.1	1.8	0.399	0.264	0.149	0.115	0.034	0.015
10	5.0	3.4	4.6	2.2	0.392	0.195	0.138	0.058	0.028	0.008
15	4.5	2.9	3.9	2.7	0.400	0.154	0.126	0.028	0.024	0.004
30	4.4	2.4	3.0	3.7	0.453	0.105	0.094	0.010	0.019	0.002
50	5.4	2.7	3.7	7.3	0.503	0.070	0.062	0.008	0.014	0.002
70	6.2	2.7	12.8	11.1	0.530	0.053	0.040	0.014	0.010	0.003
85	6.8	2.9	13.7	30.0	0.517	0.065	0.020	0.046	0.014	0.009
90	7.0	3.0	15.8	35.3	0.525	0.145	0.016	0.129	0.029	0.026
95	7.1	2.9	15.0	43.6	0.566	0.285	0.003	0.283	0.056	0.055

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
114.55	1.7699	1.2069	0.857	10622.3

ATT FAN VEHICLE

(METRIC)

BP=OGV

100 PERCENT SPEED

RDG 149

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42,418	42,316	-1.0	0.2	0.076	0.079	45.2	0.		
15	41,605	41,554	-0.5	0.7	0.116	0.119	41.3	0.		
30	39,192	39,218	0.1	1.4	0.252	0.254	36.6	0.		
50	35,763	35,852	1.1	2.1	0.453	0.454	36.3	0.		
70	32,487	32,639	2.1	2.9	0.631	0.633	36.8	0.		
85	30,124	30,302	3.0	3.0	0.746	0.748	37.5	0.		
90	29,312	29,489	3.2	2.9	0.782	0.785	37.7	0.		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
10	206.8	149.6			145.8	149.6	146.3	0.		
15	217.1	160.2			163.1	160.2	143.0	0.		
30	245.0	187.1			196.6	187.1	146.2	0.		
50	262.3	197.1			211.5	197.1	155.1	0.		
70	267.6	199.7			214.3	199.7	160.4	0.		
85	261.2	189.1			207.4	189.1	158.9	0.		
90	256.2	181.0			202.8	181.0	156.6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.563	0.401			1.020	0.411	1.6835	1.2381	0.674	0.697
15	0.596	0.433			0.977	0.404	1.7124	1.2283	0.727	0.747
30	0.681	0.510			0.950	0.375	1.7901	1.2202	0.822	0.836
50	0.737	0.541			0.931	0.389	1.8087	1.2131	0.866	0.876
70	0.758	0.552			0.932	0.413	1.7912	1.2000	0.906	0.914
85	0.743	0.525			0.913	0.436	1.7238	1.1839	0.915	0.921
90	0.730	0.503			0.895	0.447	1.6824	1.1762	0.910	0.916

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
10	1.5	-6.6	10.9	45.0	0.530	0.080	0.	0.080	0.028	0.028	0.028
15	-0.9	-9.2	10.4	41.2	0.493	0.064	0.	0.064	0.022	0.022	0.022
30	-3.4	-11.3	9.4	36.6	0.431	0.050	0.	0.050	0.016	0.016	0.016
50	-2.8	-9.9	8.6	36.3	0.424	0.055	0.	0.055	0.017	0.017	0.017
70	-2.8	-9.2	8.3	36.8	0.417	0.037	0.	0.037	0.010	0.010	0.010
85	-3.5	-9.2	8.4	37.5	0.432	0.046	0.	0.046	0.012	0.012	0.012
90	-3.9	-9.6	8.4	37.7	0.446	0.060	0.	0.060	0.015	0.015	0.015

INLET CORR	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
WTFLOW	1.7570	1.2107	0.829	10622.3
97.90				

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE=OGV 100 PERCENT SPEED RDG 149

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.9	-5.9	0.878	0.878	46.3	19.5		
30	24,689	24,460	-1.7	-4.8	0.902	0.904	43.7	18.7		
50	23,673	23,597	-0.2	-3.4	0.936	0.936	44.7	17.8		
70	22,682	22,784	1.8	-1.7	0.966	0.963	49.2	17.0		
85	21,971	22,174	3.5	0.1	0.985	0.982	53.0	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	258.4	211.2			178.6	199.3	186.8	70.0		
30	279.0	219.1			201.9	207.6	192.6	70.2		
50	285.2	205.1			202.6	195.3	200.8	62.6		
70	284.8	195.7			186.2	187.1	215.3	57.3		
85	281.7	192.1			169.7	184.2	224.9	54.5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.735	0.590			1.110	0.269	1.6624	1.1823	0.857	0.867
30	0.801	0.614			1.024	0.333	1.7106	1.1826	0.908	0.914
50	0.821	0.572			0.959	0.402	1.6528	1.1827	0.845	0.855
70	0.818	0.543			1.000	0.444	1.6008	1.1873	0.768	0.783
85	0.807	0.532			1.079	0.463	1.5700	1.1899	0.724	0.741

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-3.1	-7.0	8.5	26.8	0.340	0.077	0.	0.077	0.025	0.025
30	-3.9	-7.4	7.9	24.8	0.362	0.062	0.	0.062	0.020	0.020
50	-1.7	-4.8	7.5	26.9	0.438	0.098	0.	0.098	0.030	0.030
70	2.1	-0.3	7.8	31.9	0.485	0.104	0.	0.104	0.031	0.031
85	4.0	2.4	9.7	36.4	0.501	0.091	0.	0.091	0.026	0.026

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16.65	1.6416	1.1842	0.826	10622.3

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 150

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6,3	-6,9	0,062	0,059	0,	46,9	68,9	67,2
10	42,367	41,961	-5,8	-6,4	0,126	0,118	0,	44,4	66,9	64,9
15	40,996	40,742	-4,6	-5,4	0,191	0,180	0,	42,8	65,0	62,5
30	36,881	37,059	0,6	-0,2	0,382	0,372	0,	42,5	60,0	55,9
50	31,394	32,131	7,9	7,3	0,611	0,612	0,	44,5	55,7	48,1
70	26,010	27,229	13,4	12,0	0,795	0,802	0,	47,2	52,1	38,5
85	21,717	23,647	18,3	11,6	0,909	0,915	0,	47,3	49,6	19,2
90	20,295	22,581	20,0	13,4	0,941	0,948	0,	47,3	49,0	13,9
95	18,796	21,463	20,9	15,8	0,971	0,978	0,	53,9	48,3	3,7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	189,2	204,6	521,7	359,7	189,2	140,2	0,	149,0	486,2	480,2
10	201,8	210,2	512,6	353,8	201,8	150,6	0,	146,6	471,2	466,7
15	213,6	217,7	503,6	345,1	213,6	160,1	0,	147,5	456,0	453,1
30	236,8	233,6	473,6	307,3	236,8	172,3	0,	157,7	410,2	412,2
50	240,7	239,9	424,1	256,2	240,7	171,8	0,	167,4	349,2	357,4
70	231,5	239,9	370,5	209,1	231,5	164,8	0,	174,3	289,3	302,8
85	216,3	273,6	324,2	198,1	216,3	187,5	0,	199,1	241,5	263,0
90	208,7	281,8	307,4	199,4	208,7	193,9	0,	204,4	225,7	251,1
95	199,2	286,0	288,8	173,2	199,2	172,8	0,	227,7	209,0	238,7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,574	0,555	1,583	0,975	0,742	0,369	1,7248	1,2470	0,682	0,706
10	0,615	0,574	1,562	0,965	0,752	0,403	1,7652	1,2357	0,748	0,767
15	0,654	0,597	1,542	0,946	0,755	0,437	1,8108	1,2306	0,802	0,817
30	0,732	0,646	1,464	0,849	0,730	0,521	1,8826	1,2243	0,883	0,893
50	0,746	0,670	1,314	0,716	0,715	0,580	1,8280	1,2064	0,911	0,918
70	0,714	0,677	1,143	0,590	0,717	0,609	1,7074	1,1825	0,905	0,912
85	0,663	0,784	0,994	0,568	0,889	0,557	1,7177	1,1817	0,920	0,926
90	0,638	0,812	0,939	0,575	0,971	0,498	1,7020	1,1772	0,926	0,931
95	0,607	0,821	0,879	0,498	0,919	0,413	1,6467	1,1858	0,824	0,836

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	5,6	3,8	5,2	1,7	0,406	0,260	0,149	0,111	0,034	0,014
10	5,1	3,4	4,6	2,3	0,406	0,205	0,137	0,067	0,029	0,010
15	4,6	3,0	3,8	2,9	0,415	0,163	0,126	0,037	0,025	0,006
30	4,4	2,3	2,2	4,4	0,463	0,102	0,094	0,008	0,019	0,001
50	5,7	3,1	3,7	7,6	0,513	0,084	0,062	0,022	0,016	0,004
70	6,9	3,4	11,3	13,0	0,553	0,095	0,040	0,055	0,019	0,011
85	7,2	3,2	14,4	29,8	0,532	0,097	0,020	0,076	0,020	0,016
90	7,3	3,2	17,5	34,1	0,489	0,095	0,016	0,079	0,019	0,016
95	7,3	3,1	15,7	42,8	0,546	0,259	0,003	0,256	0,050	0,050

INLET CORR WTFLOW 114,03 PRESS RATIO 1,7895 TEMP RATIO 1,2126 ADIA EFF 0,851 INLET CORR RPM 10620,7

ATT FAN VEHICLE

(METRIC)

BP=OGV

100 PERCENT SPEED

RDG 150

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.1	0.2	0.077	0.080	45.8	0.		
15	41,605	41,554	-0.6	0.7	0.118	0.121	42.3	0.		
30	39,192	39,218	0.3	1.7	0.256	0.259	37.3	0.		
50	35,763	35,852	1.7	2.8	0.461	0.465	36.6	0.		
70	32,487	32,639	2.8	3.8	0.640	0.645	38.4	0.		
85	30,124	30,302	3.5	3.8	0.751	0.756	40.0	0.		
90	29,312	29,489	3.7	3.5	0.786	0.790	40.4	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	209.1	148.9			145.9	148.9	149.5	0.		
15	220.0	160.2			162.7	160.2	147.8	0.		
30	249.9	189.6			198.7	189.6	151.5	0.		
50	267.0	199.8			214.5	199.8	159.0	0.		
70	264.4	193.4			207.4	193.4	163.9	0.		
85	257.0	177.4			197.0	177.4	165.0	0.		
90	253.6	168.9			193.3	168.9	164.2	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.569	0.399			1.015	0.431	1.7106	1.2434	0.681	0.704
15	0.602	0.431			0.980	0.424	1.7417	1.2362	0.727	0.748
30	0.694	0.516			0.951	0.393	1.8304	1.2280	0.827	0.841
50	0.750	0.548			0.931	0.400	1.8498	1.2183	0.880	0.890
70	0.746	0.532			0.934	0.436	1.7939	1.2043	0.889	0.898
85	0.728	0.489			0.903	0.461	1.7088	1.1908	0.867	0.877
90	0.719	0.466			0.877	0.468	1.6679	1.1845	0.853	0.863

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	2.1	-6.0	10.9	45.6	0.544	0.075	0.	0.075	0.026	0.026
15	0.1	-8.2	10.4	42.2	0.507	0.057	0.	0.057	0.020	0.020
30	-2.7	-10.6	9.4	37.3	0.439	0.039	0.	0.039	0.013	0.013
50	-2.5	-9.6	8.6	36.6	0.429	0.048	0.	0.048	0.014	0.014
70	-1.3	-7.6	8.3	38.4	0.437	0.034	0.	0.034	0.010	0.010
85	-1.0	-6.7	8.4	40.0	0.473	0.069	0.	0.069	0.018	0.018
90	-1.2	-6.9	8.4	40.4	0.495	0.098	0.	0.098	0.025	0.025

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
97.57	1.7797	1.2174	0.824	10620.7



ATT FAN VEHICLE

(METRIC)

CORE-OGV 100 PERCENT SPEED RDG 150

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.7	-5.7	0,878	0,879	47,9	19,5		
30	24,689	24,460	-1.4	-4,6	0,901	0,903	45,6	18,8		
50	23,673	23,597	-0,0	-3,2	0,935	0,935	43,5	17,8		
70	22,682	22,784	1,7	-1,7	0,966	0,963	47,7	17,1		
85	21,971	22,174	3,3	-0,0	0,985	0,982	53,1	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	259,4	206,1			173,8	194,4	192,5	68,4		
30	272,2	206,4			190,6	195,5	194,3	66,2		
50	283,2	205,4			205,6	195,6	195,0	62,8		
70	283,5	195,8			190,8	187,1	209,2	57,4		
85	282,8	188,4			169,8	180,7	226,1	53,5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,736	0,574			1,113	0,305	1,6609	1,1879	0,830	0,842
30	0,778	0,576			1,017	0,374	1,6748	1,1840	0,863	0,872
50	0,816	0,574			0,948	0,419	1,6693	1,1775	0,888	0,896
70	0,815	0,545			0,970	0,457	1,6161	1,1817	0,809	0,822
85	0,810	0,521			1,059	0,473	1,5740	1,1904	0,727	0,744

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-1,5	-5,4	8,5	28,4	0,372	0,077	0,	0,077	0,025	0,025
30	-2,0	-5,5	8,0	26,6	0,402	0,066	0,	0,066	0,021	0,021
50	-3,0	-6,0	7,6	25,6	0,426	0,068	0,	0,068	0,021	0,021
70	0,6	-1,8	7,8	30,3	0,478	0,085	0,	0,085	0,025	0,025
85	4,2	2,5	9,7	36,3	0,515	0,100	0,	0,100	0,029	0,029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16,47	1,6432	1,1844	0,827	10620,7

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 152

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6.5	-7.0	0,062	0,058	0.	49.0	68.9	67.2
10	42,367	41,961	-6.0	-6.5	0,126	0,117	0.	45.9	66.9	64.7
15	40,996	40,742	-4.7	-5.4	0,191	0,179	0.	44.0	64.8	61.8
30	36,881	37,059	1.2	0.5	0,383	0,377	0.	43.1	59.9	55.0
50	31,394	32,131	8.4	8.2	0,612	0,616	0.	46.0	56.0	47.5
70	26,010	27,229	13.6	14.6	0,795	0,807	0.	47.2	52.6	39.5
85	21,717	23,647	18.1	14.2	0,909	0,918	0.	48.5	49.8	22.9
90	20,295	22,581	19.7	14.9	0,941	0,949	0.	49.4	49.1	18.0
95	18,796	21,463	20.7	16.4	0,971	0,977	0.	53.1	48.4	7.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	189.0	208.1	521.7	351.7	189.0	137.2	0.	156.5	486.3	480.3
10	202.2	213.9	512.8	347.4	202.2	149.3	0.	153.1	471.3	466.8
15	214.8	223.2	504.1	339.3	214.8	161.0	0.	154.6	456.0	453.2
30	237.6	239.1	474.1	304.0	237.6	174.7	0.	163.4	410.3	412.2
50	238.5	243.2	422.9	249.7	238.5	169.7	0.	174.2	349.2	357.4
70	227.9	237.7	368.3	210.4	227.9	164.4	0.	171.6	289.3	302.9
85	214.8	259.2	323.3	188.9	214.8	174.8	0.	191.4	241.6	263.0
90	207.4	262.7	306.6	182.7	207.4	174.4	0.	196.5	225.8	251.2
95	198.5	274.7	288.3	171.1	198.5	169.4	0.	216.2	209.1	238.7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,573	0,562	1,583	0,950	0,727	0,379	1,7612	1,2594	0,676	0,701
10	0,616	0,582	1,563	0,945	0,746	0,415	1,8043	1,2461	0,746	0,766
15	0,658	0,610	1,544	0,928	0,756	0,450	1,8604	1,2419	0,802	0,819
30	0,735	0,660	1,466	0,839	0,737	0,531	1,9306	1,2326	0,889	0,899
50	0,738	0,677	1,309	0,695	0,713	0,581	1,8505	1,2157	0,891	0,900
70	0,702	0,671	1,134	0,594	0,723	0,612	1,7182	1,1805	0,927	0,932
85	0,658	0,741	0,990	0,540	0,831	0,605	1,7081	1,1751	0,944	0,948
90	0,634	0,753	0,936	0,524	0,870	0,567	1,6718	1,1705	0,928	0,933
95	0,604	0,789	0,878	0,491	0,886	0,506	1,6612	1,1768	0,883	0,891

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK PROF	TOT	PROF	
5	5,7	3,8	5,1	1,8	0,426	0,275	0,150	0,125	0,036	0,016
10	5,1	3,4	4,4	2,6	0,423	0,213	0,138	0,075	0,031	0,011
15	4,4	2,8	3,1	3,5	0,432	0,168	0,126	0,042	0,027	0,007
30	4,3	2,2	1,3	5,1	0,473	0,099	0,094	0,006	0,019	0,001
50	6,0	3,4	3,1	8,3	0,531	0,105	0,061	0,043	0,021	0,009
70	7,3	3,9	12,3	12,5	0,543	0,075	0,039	0,035	0,015	0,007
85	7,3	3,4	18,1	26,2	0,549	0,067	0,020	0,046	0,013	0,009
90	7,4	3,3	21,6	30,1	0,537	0,091	0,017	0,075	0,018	0,015
95	7,4	3,2	19,9	38,8	0,553	0,167	0,004	0,163	0,032	0,032

INLET CORR WTFLOW 113,79 PRESS RATIO 1,8184 TEMP RATIO 1,2188 ADIA EFF 0,852 INLET CORR RPM 10622,4

ATT FAN VEHICLE

(METRIC)

BP-OGV

100 PERCENT SPEED

RDG 152

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0,8	0,5	0,078	0,082	46,7	0,		
15	41,605	41,554	-0,3	1,1	0,120	0,124	42,9	0,		
30	39,192	39,218	0,7	2,1	0,263	0,268	37,7	0,		
50	35,763	35,852	2,4	3,7	0,474	0,482	37,7	0,		
70	32,487	32,639	4,0	5,1	0,652	0,662	39,2	0,		
85	30,124	30,302	4,2	4,6	0,762	0,769	39,7	0,		
90	29,312	29,489	4,1	4,1	0,796	0,802	40,3	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	215,6	151,2			148,0	151,2	156,5	0,		
15	227,0	162,1			166,3	162,1	154,1	0,		
30	260,0	196,8			205,9	196,8	158,9	0,		
50	273,4	202,3			216,3	202,3	167,1	0,		
70	263,9	186,8			204,8	186,8	166,6	0,		
85	252,5	168,9			194,4	168,9	161,1	0,		
90	249,2	162,8			190,4	162,8	160,8	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,585	0,403			1,015	0,446	1,7458	1,2546	0,678	0,702
15	0,620	0,435			0,967	0,436	1,7762	1,2461	0,725	0,746
30	0,721	0,534			0,953	0,396	1,8868	1,2392	0,831	0,846
50	0,766	0,552			0,936	0,416	1,8891	1,2296	0,868	0,879
70	0,744	0,513			0,916	0,451	1,7935	1,2071	0,877	0,887
85	0,715	0,466			0,873	0,470	1,6988	1,1858	0,880	0,888
90	0,707	0,449			0,860	0,474	1,6658	1,1806	0,869	0,878

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TGT	PROF
10	3,0	-5,1	10,9	46,5	0,559	0,076	0,	0,076	0,027	0,027
15	0,7	-7,6	10,4	42,7	0,525	0,069	0,	0,069	0,024	0,024
30	-2,4	-10,2	9,4	37,6	0,443	0,040	0,	0,040	0,013	0,013
50	-1,3	-8,5	8,6	37,8	0,441	0,043	0,	0,043	0,013	0,013
70	-0,4	-6,8	8,3	39,2	0,460	0,051	0,	0,051	0,014	0,014
85	-1,2	-7,0	8,4	39,8	0,492	0,089	0,	0,089	0,023	0,023
90	-1,3	-7,0	8,4	40,3	0,507	0,110	0,	0,110	0,028	0,028

INLET CORR WTFLOW	98,59	PRESS RATIO	1,8089	TEMP RATIO	1,2251	ADIA EFF	0,820	INLET CORR RPM	10622,4
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ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE-UGV

100 PERCENT SPEED

RDG 152

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,3	-5,4	0,887	0,889	50,9	19,4		
30	24,689	24,460	-0,9	-4,1	0,909	0,912	47,1	18,7		
50	23,673	23,597	0,7	-2,6	0,940	0,941	47,1	17,8		
70	22,682	22,784	2,5	-1,1	0,968	0,966	50,3	17,0		
85	21,971	22,174	3,9	0,4	0,985	0,984	54,6	16,5		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
15	244,6	190,5			154,5	179,7	189,7	63,1		
30	253,9	188,0			173,0	178,1	185,9	60,2		
50	255,9	178,7			174,4	170,2	187,4	54,6		
70	260,4	173,0			166,4	165,4	200,3	50,6		
85	265,2	169,9			153,9	162,9	215,8	48,2		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,691	0,528			1,156	0,326	1,6717	1,1850	0,855	0,865
30	0,723	0,523			1,026	0,388	1,6741	1,1759	0,902	0,909
50	0,731	0,497			0,976	0,444	1,6361	1,1706	0,886	0,893
70	0,744	0,480			0,991	0,456	1,6000	1,1743	0,824	0,836
85	0,757	0,469			1,056	0,446	1,5731	1,1818	0,760	0,775

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	1,4	-2,4	8,5	31,3	0,401	0,081	0,	0,081	0,026	0,026
30	-0,5	-4,0	7,9	28,2	0,424	0,073	0,	0,073	0,023	0,023
50	0,6	-2,4	7,5	29,3	0,469	0,079	0,	0,079	0,024	0,024
70	3,2	0,8	7,8	33,2	0,513	0,120	0,	0,120	0,035	0,035
85	5,6	4,0	9,7	37,9	0,548	0,168	0,	0,168	0,048	0,048

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15,19	1,6332	1,1780	0,845	10622,4

ATT FAN VEHICLE

(METRIC)

ROTOR

100 PERCENT SPEED

RDG 154

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.6	-7.1	0.062	0.058	0.	50.6	69.3	67.5
10	42.367	41.961	-6.0	-6.6	0.126	0.116	0.	46.6	67.3	64.6
15	40.996	40.742	-4.5	-5.3	0.191	0.180	0.	44.3	65.3	61.9
30	36.881	37.059	1.3	0.5	0.383	0.377	0.	43.8	60.7	56.1
50	31.394	32.131	8.0	7.5	0.612	0.613	0.	47.4	56.8	48.0
70	26.010	27.229	13.1	11.3	0.795	0.800	0.	47.5	52.9	39.6
85	21.717	23.647	18.5	11.2	0.910	0.916	0.	47.6	50.5	18.2
90	20.295	22.581	20.2	13.1	0.941	0.949	0.	50.3	49.9	12.3
95	18.796	21.463	20.9	15.7	0.971	0.977	0.	55.2	49.1	4.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	184.8	208.8	520.1	345.9	184.8	133.1	0.	160.9	486.1	480.2
10	197.9	215.7	511.0	344.6	197.9	148.8	0.	155.9	471.2	466.6
15	209.8	222.7	501.9	338.2	209.8	159.9	0.	155.1	455.9	453.1
30	230.0	233.3	470.2	301.8	230.0	168.3	0.	161.6	410.1	412.1
50	230.6	240.8	418.4	244.0	230.6	163.7	0.	176.6	349.1	357.3
70	224.3	235.7	366.0	207.1	224.3	160.8	0.	172.4	289.2	302.8
85	210.3	276.4	320.2	197.8	210.3	188.3	0.	202.3	241.5	263.0
90	202.6	279.3	303.3	185.3	202.6	181.3	0.	212.5	225.7	251.1
95	193.5	278.4	284.9	163.6	193.5	163.0	0.	225.7	209.0	238.7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.560	0.562	1.575	0.931	0.722	0.385	1.7844	1.2667	0.675	0.700
10	0.602	0.586	1.555	0.936	0.760	0.420	1.8321	1.2503	0.755	0.774
15	0.642	0.609	1.535	0.924	0.767	0.453	1.8764	1.2424	0.813	0.829
30	0.709	0.643	1.450	0.832	0.732	0.529	1.9159	1.2299	0.888	0.898
50	0.711	0.670	1.290	0.678	0.711	0.581	1.8495	1.2177	0.882	0.892
70	0.690	0.665	1.126	0.585	0.722	0.620	1.7133	1.1804	0.922	0.927
85	0.643	0.792	0.979	0.567	0.927	0.569	1.7577	1.1840	0.950	0.954
90	0.618	0.801	0.925	0.532	0.944	0.508	1.7101	1.1842	0.900	0.907
95	0.588	0.798	0.866	0.469	0.885	0.428	1.6346	1.1861	0.810	0.823

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6.1	4.2	5.5	1.9	0.439	0.282	0.150	0.132	0.036	0.017
10	5.5	3.8	4.3	3.1	0.428	0.209	0.138	0.071	0.030	0.010
15	4.9	3.3	3.2	3.8	0.432	0.161	0.126	0.035	0.025	0.006
30	5.1	3.0	2.5	4.7	0.472	0.101	0.093	0.008	0.018	0.001
50	6.9	4.2	3.6	8.8	0.542	0.118	0.061	0.056	0.023	0.011
70	7.7	4.2	12.4	13.0	0.553	0.079	0.041	0.039	0.015	0.007
85	8.0	4.1	13.4	31.6	0.525	0.062	0.023	0.040	0.013	0.008
90	8.1	4.1	15.9	36.5	0.531	0.137	0.018	0.119	0.028	0.024
95	8.1	3.9	16.7	43.4	0.580	0.286	0.003	0.282	0.055	0.055

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
112.23	1.8209	1.2203	0.848	10619.6

ATT FAN VEHICLE

(METRIC)

BP=OGV

100 PERCENT SPEED

RDG 154

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0,6	0,8	0,076	0,082	48,5	0,		
15	41,605	41,554	0,1	1,4	0,118	0,124	44,1	0,		
30	39,192	39,218	1,0	2,5	0,260	0,267	38,5	0,		
50	35,763	35,852	2,2	3,6	0,467	0,474	38,6	0,		
70	32,487	32,639	3,5	4,8	0,642	0,650	41,5	0,		
85	30,124	30,302	4,1	4,6	0,750	0,757	42,0	0,		
90	29,312	29,489	4,1	4,2	0,784	0,790	41,8	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	215,2	147,2			142,5	147,2	160,7	0,		
15	226,6	159,6			162,9	159,6	157,1	0,		
30	252,8	187,8			197,7	187,8	157,5	0,		
50	262,3	188,2			204,9	188,2	163,7	0,		
70	260,8	182,2			195,5	182,2	172,6	0,		
85	251,3	164,0			186,9	164,0	168,1	0,		
90	246,3	154,6			183,9	154,6	163,9	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,582	0,391			1,020	0,475	1,7715	1,2612	0,679	0,704
15	0,618	0,427			0,968	0,458	1,8050	1,2505	0,734	0,755
30	0,700	0,509			0,946	0,422	1,8896	1,2370	0,841	0,855
50	0,733	0,513			0,919	0,445	1,8714	1,2247	0,873	0,883
70	0,732	0,498			0,934	0,485	1,8174	1,2148	0,866	0,877
85	0,709	0,450			0,882	0,523	1,7316	1,1939	0,876	0,885
90	0,697	0,425			0,847	0,538	1,6908	1,1838	0,881	0,890

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	4,9	-3,3	10,9	48,2	0,585	0,074	0,	0,074	0,026	0,026
15	1,8	-6,4	10,4	43,8	0,541	0,063	0,	0,063	0,022	0,022
30	-1,5	-9,4	9,4	38,5	0,461	0,034	0,	0,034	0,011	0,011
50	-0,4	-7,6	8,6	38,7	0,467	0,046	0,	0,046	0,014	0,014
70	1,9	-4,5	8,3	41,6	0,480	0,030	0,	0,030	0,008	0,008
85	1,1	-4,7	8,4	42,0	0,516	0,052	0,	0,052	0,013	0,013
90	0,2	-5,5	8,4	41,7	0,535	0,070	0,	0,070	0,018	0,018

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
95,72	1,8190	1,2265	0,823	10619,6

ATT FAN VEHICLE

(METRIC)

CORE=OGV 100 PERCENT SPEED RDG 154

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,6	-5,6	0,876	0,877	47,2	19,4		
30	24,689	24,460	-1,2	-4,3	0,900	0,903	44,3	18,7		
50	23,673	23,597	0,6	-2,7	0,936	0,937	45,1	17,7		
70	22,682	22,784	2,9	-0,8	0,966	0,965	49,9	17,0		
85	21,971	22,174	4,4	0,8	0,984	0,983	53,4	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	258,9	211,9			176,1	200,0	189,8	70,2		
30	278,9	219,6			199,6	208,0	194,8	70,2		
50	285,2	208,2			201,2	198,3	202,2	63,4		
70	279,5	193,3			180,0	184,9	213,5	56,4		
85	272,7	181,7			163,0	174,2	218,8	51,4		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,736	0,592			1,128	0,279	1,6773	1,1852	0,860	0,870
30	0,800	0,615			1,036	0,336	1,7223	1,1847	0,910	0,917
50	0,820	0,581			0,985	0,392	1,5704	1,1840	0,858	0,868
70	0,801	0,536			1,027	0,425	1,5901	1,1859	0,762	0,777
85	0,780	0,503			1,067	0,437	1,5306	1,1849	0,700	0,717

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
15	-2,3	-6,1	8,5	27,7	0,343	0,065	0,	0,065	0,021	0,021	0,021
30	-3,3	-6,8	7,9	25,5	0,364	0,057	0,	0,057	0,018	0,018	0,018
50	-1,3	-4,4	7,5	27,4	0,426	0,090	0,	0,090	0,028	0,028	0,028
70	2,8	0,4	7,8	32,9	0,483	0,119	0,	0,119	0,035	0,035	0,035
85	4,4	2,8	9,7	36,9	0,519	0,144	0,	0,144	0,041	0,041	0,041

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16,51	1,6436	1,1843	0,828	10619,6

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 155

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6.0	-6.5	0.063	0.061	0.	40.5	68.3	66.5
10	42,367	41,961	-5.1	-5.7	0.126	0.122	0.	37.8	66.4	64.3
15	40,996	40,742	-3.8	-4.6	0.192	0.185	0.	36.9	64.6	62.9
30	36,881	37,059	0.6	-0.2	0.381	0.372	0.	38.3	60.0	57.9
50	31,394	32,131	7.0	6.5	0.609	0.605	0.	40.3	55.1	48.8
70	26,010	27,229	12.8	13.0	0.793	0.800	0.	44.0	51.3	39.5
85	21,717	23,647	17.9	12.9	0.908	0.915	0.	47.3	48.8	19.6
90	20,295	22,581	19.5	14.1	0.940	0.947	0.	47.9	48.1	13.3
95	18,796	21,463	20.6	16.1	0.971	0.977	0.	51.2	47.4	6.2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	194.4	201.1	523.5	382.2	194.4	153.4	0.	130.1	486.1	480.2
10	206.5	207.4	514.4	377.6	206.5	164.2	0.	126.6	471.1	466.6
15	216.9	210.2	504.9	367.8	216.9	168.3	0.	126.0	455.9	453.0
30	237.0	220.4	473.7	325.3	237.0	173.0	0.	136.6	410.1	412.1
50	244.9	236.3	426.5	273.1	244.9	180.6	0.	152.4	349.1	357.3
70	237.4	238.2	374.2	222.8	237.4	173.5	0.	163.1	289.2	302.8
85	222.4	272.4	328.3	198.2	222.4	187.3	0.	197.9	241.5	263.0
90	214.7	283.1	311.5	198.0	214.7	193.1	0.	207.1	225.7	251.1
95	205.4	286.1	293.0	184.7	205.4	183.7	0.	219.3	209.0	238.7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT ACC TT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
5	0.591	0.552	1.591	1.049	0.790	0.328	1.6079	1.2156	0.674	0.695
10	0.630	0.573	1.571	1.044	0.798	0.361	1.6524	1.2038	0.757	0.774
15	0.665	0.584	1.548	1.021	0.778	0.393	1.6784	1.1970	0.810	0.823
30	0.733	0.615	1.465	0.907	0.731	0.472	1.7278	1.1944	0.870	0.880
50	0.760	0.664	1.324	0.768	0.738	0.544	1.7401	1.1880	0.912	0.919
70	0.734	0.676	1.157	0.632	0.734	0.583	1.6622	1.1709	0.914	0.920
85	0.683	0.781	1.009	0.568	0.861	0.553	1.6972	1.1798	0.907	0.914
90	0.658	0.815	0.954	0.570	0.930	0.501	1.6956	1.1796	0.907	0.913
95	0.627	0.825	0.894	0.532	0.931	0.423	1.6458	1.1806	0.847	0.857

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.1	3.2	4.4	1.9	0.353	0.240	0.148	0.092	0.032	0.012
10	4.6	2.9	4.0	2.2	0.349	0.176	0.136	0.040	0.026	0.006
15	4.2	2.6	4.2	1.9	0.357	0.138	0.125	0.014	0.021	0.002
30	4.3	2.3	4.2	2.4	0.411	0.101	0.094	0.007	0.018	0.001
50	5.2	2.5	4.4	6.4	0.467	0.074	0.062	0.012	0.014	0.002
70	6.1	2.6	12.3	11.5	0.513	0.081	0.039	0.042	0.016	0.008
85	6.3	2.4	14.8	28.4	0.533	0.109	0.018	0.091	0.022	0.019
90	6.4	2.3	16.9	34.0	0.506	0.119	0.014	0.104	0.024	0.021
95	6.4	2.2	18.2	40.2	0.516	0.215	0.003	0.212	0.042	0.041

INLET CORR WTFLOW 115.34 PRESS RATIO 1.6927 TEMP RATIO 1.1908 ADIA EFF 0.851 INLET CORR RPM 10618.7



ATT FAN VEHICLE

(METRIC)

BP-DGV

100 PERCENT SPEED

RDG 155

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,4	-0,4	0,080	0,081	39,4	0.		
15	41,605	41,554	-1,0	-0,0	0,122	0,122	36,2	0.		
30	39,192	39,218	-0,5	0,4	0,258	0,256	32,9	0.		
50	35,763	35,852	0,0	0,8	0,454	0,451	33,2	0.		
70	32,487	32,639	1,3	1,6	0,632	0,629	33,5	0.		
85	30,124	30,302	2,4	2,1	0,747	0,747	34,5	0.		
90	29,312	29,489	2,8	2,2	0,784	0,785	35,2	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	205,6	162,5			159,1	162,5	130,0	0.		
15	216,9	172,9			175,2	172,9	127,7	0.		
30	237,2	189,7			199,2	189,7	128,7	0.		
50	259,0	202,9			216,7	202,9	142,0	0.		
70	269,6	211,5			224,8	211,5	148,9	0.		
85	267,2	205,2			220,4	205,2	151,1	0.		
90	265,0	200,6			216,6	200,6	152,6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,566	0,442			1,020	0,320	1,6015	1,2117	0,680	0,701
15	0,602	0,473			0,987	0,320	1,6322	1,2041	0,736	0,754
30	0,666	0,524			0,953	0,325	1,6811	1,1938	0,826	0,838
50	0,733	0,563			0,938	0,344	1,7153	1,1951	0,854	0,865
70	0,769	0,590			0,941	0,372	1,7271	1,1860	0,908	0,915
85	0,766	0,574			0,931	0,380	1,6720	1,1749	0,904	0,911
90	0,760	0,562			0,927	0,379	1,6397	1,1718	0,883	0,891

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
10	-4,3	-12,4	10,9	39,3	0,436	0,066	0.	0,066	0,023	0,023	0,023
15	-6,1	-14,3	10,4	36,1	0,408	0,053	0.	0,053	0,018	0,018	0,018
30	-7,2	-15,0	9,4	32,9	0,376	0,039	0.	0,039	0,013	0,013	0,013
50	-5,8	-13,0	8,6	33,2	0,379	0,048	0.	0,048	0,014	0,014	0,014
70	-6,1	-12,5	8,3	33,5	0,366	0,015	0.	0,015	0,004	0,004	0,004
85	-6,5	-12,2	8,4	34,5	0,378	0,036	0.	0,036	0,009	0,009	0,009
90	-6,4	-12,1	8,4	35,2	0,388	0,058	0.	0,058	0,014	0,014	0,014

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
99,03	1,6761	1,1925	0,826	10618,7

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE=OGV

100 PERCENT SPEED

RDG 155

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,7	-5,7	0,880	0,881	47,2	19,5		
30	24,689	24,460	-1,3	-4,4	0,903	0,906	45,2	18,8		
50	23,673	23,597	0,6	-2,7	0,936	0,937	44,8	17,8		
70	22,682	22,784	2,7	-0,9	0,966	0,964	47,6	17,0		
85	21,971	22,174	4,2	0,6	0,985	0,983	51,5	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	253,3	205,6			172,3	194,0	185,7	68,2		
30	267,5	207,1			188,6	196,1	189,8	66,4		
50	280,1	208,4			198,8	198,4	197,4	63,6		
70	280,3	199,6			189,2	190,8	206,8	58,4		
85	275,1	187,2			171,7	179,5	214,9	53,1		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,719	0,574			1,120	0,290	1,6472	1,1812	0,846	0,856
30	0,765	0,579			1,033	0,361	1,6656	1,1800	0,872	0,881
50	0,806	0,583			0,996	0,401	1,6654	1,1796	0,874	0,882
70	0,806	0,556			1,005	0,418	1,6093	1,1802	0,808	0,821
85	0,789	0,520			1,043	0,424	1,5439	1,1814	0,728	0,745

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-2,3	-6,1	8,5	27,7	0,350	0,062	0,	0,062	0,020	0,020
30	-2,4	-5,9	8,0	26,3	0,383	0,052	0,	0,052	0,016	0,016
50	-1,7	-4,7	7,5	27,0	0,410	0,056	0,	0,056	0,017	0,017
70	0,5	-1,9	7,8	30,5	0,453	0,095	0,	0,095	0,028	0,028
85	2,5	0,9	9,7	34,9	0,497	0,138	0,	0,138	0,040	0,040

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16,31	1,6277	1,1803	0,828	10618,7

APPENDIX D

BLADE ELEMENT DATA

(d) Hybrid Inlet Aerodynamic Performance  
Test

- Takeoff Mode

ATT FAN VEHICLE

(METRIC)

ROTOR

70 PERCENT SPEED

RDG 170

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.4	-5.5	0.061	0.063	0.	34.2	70.0	63.2
10	42.367	41.961	-4.2	-4.4	0.124	0.125	0.	31.6	68.5	61.8
15	40.996	40.742	-2.9	-3.3	0.189	0.187	0.	30.7	67.0	60.6
30	36.881	37.059	0.9	0.4	0.377	0.370	0.	31.9	63.4	55.4
50	31.394	32.131	5.5	5.2	0.604	0.593	0.	37.0	59.2	46.3
70	26.010	27.229	10.5	13.1	0.789	0.788	0.	38.6	54.6	35.6
85	21.717	23.647	16.5	13.9	0.907	0.908	0.	47.8	51.1	16.5
90	20.295	22.581	18.5	13.8	0.940	0.940	0.	47.0	50.3	9.6
95	18.796	21.463	20.1	15.6	0.971	0.972	0.	47.1	49.6	3.8

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	124.1	153.3	361.9	280.3	124.1	127.0	0.	85.9	339.9	335.8
10	130.5	154.8	354.4	278.8	130.5	132.0	0.	80.8	329.5	326.3
15	135.4	155.7	346.4	272.6	135.4	133.9	0.	79.4	318.8	316.8
30	143.5	163.6	320.7	245.1	143.5	139.0	0.	86.4	286.8	288.2
50	146.4	174.2	284.7	201.4	146.4	139.4	0.	104.6	244.1	249.9
70	146.2	181.8	249.6	174.9	146.2	143.4	0.	111.7	202.3	211.8
85	142.0	198.3	220.6	140.9	142.0	135.4	0.	144.9	168.9	183.9
90	138.1	210.9	209.7	148.1	138.1	146.2	0.	151.9	157.8	175.6
95	132.6	218.5	197.4	152.1	132.6	151.8	0.	157.2	146.2	166.9

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.370	0.438	1.078	0.800	1.021	0.241	1.2371	1.0999	0.627	0.638
10	0.389	0.444	1.057	0.800	1.011	0.268	1.2492	1.0912	0.720	0.728
15	0.404	0.448	1.034	0.783	0.990	0.292	1.2568	1.0869	0.776	0.783
30	0.429	0.471	0.960	0.706	0.969	0.347	1.2773	1.0861	0.842	0.847
50	0.439	0.503	0.853	0.581	0.955	0.402	1.2870	1.0901	0.829	0.835
70	0.438	0.528	0.747	0.508	0.972	0.476	1.2996	1.0817	0.952	0.954
85	0.425	0.576	0.660	0.409	0.966	0.516	1.3314	1.0920	0.927	0.930
90	0.413	0.615	0.627	0.432	1.085	0.474	1.3518	1.0921	0.976	0.977
95	0.396	0.639	0.589	0.445	1.177	0.392	1.3512	1.0906	0.991	0.992

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	TOT	PROF	
5	6.8	4.9	1.1	6.8	0.304	0.216	0.007	0.209	0.032	0.031
10	6.6	5.0	1.5	6.6	0.289	0.155	0.005	0.150	0.024	0.024
15	6.6	5.0	1.9	6.4	0.290	0.123	0.004	0.119	0.020	0.020
30	7.8	5.7	1.8	8.2	0.326	0.096	0.003	0.093	0.018	0.017
50	9.2	6.6	1.9	13.2	0.405	0.128	0.	0.128	0.026	0.026
70	9.4	5.9	8.4	19.1	0.416	0.041	0.	0.041	0.009	0.009
85	8.7	4.7	11.7	34.5	0.511	0.088	0.	0.088	0.018	0.018
90	8.6	4.5	13.2	40.8	0.452	0.029	0.	0.029	0.006	0.006
95	8.6	4.4	15.8	45.5	0.393	0.014	0.	0.014	0.003	0.003

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
82.91	1.2844	1.0889	0.834	7426.2

ATT FAN VEHICLE

(METRIC)

BP-DGV

70 PERCENT SPEED

RDG 170

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
10	42.418	42.316	-1.4	-0.5	0.086	0.087	32.3	0.		
15	41.605	41.554	-1.0	-0.2	0.129	0.129	29.7	0.		
30	39.192	39.218	-0.5	0.2	0.263	0.261	27.5	0.		
50	35.763	35.852	0.2	0.7	0.452	0.448	29.2	0.		
70	32.487	32.639	1.4	1.3	0.621	0.618	31.0	0.		
85	30.124	30.302	2.3	1.8	0.736	0.735	30.3	0.		
90	29.312	29.489	2.7	1.9	0.774	0.774	30.4	0.		

PCT IMM	ABS VEL		REL IN	VEL OUT	MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE IN	SPEED OUT
	IN	OUT								
10	158.3	141.4			133.8	141.4	84.5	0.		
15	164.0	145.5			142.5	145.5	81.1	0.		
30	175.1	155.3			155.4	155.3	80.8	0.		
50	189.2	165.1			165.1	165.1	92.2	0.		
70	198.8	170.1			170.4	170.1	102.3	0.		
85	205.2	177.4			177.1	177.4	103.6	0.		
90	206.8	181.1			178.5	181.1	104.4	0.		

PCT IMM	ABS MACH NO		REL IN	MACH NO OUT	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT							ADIA	POLY
10	0.453	0.403			1.057	0.120	1.2271	1.0962	0.626	0.636
15	0.472	0.416			1.021	0.141	1.2360	1.0907	0.689	0.698
30	0.507	0.447			1.001	0.170	1.2554	1.0851	0.789	0.796
50	0.549	0.475			1.000	0.197	1.2715	1.0885	0.803	0.809
70	0.578	0.490			0.999	0.209	1.2712	1.0894	0.793	0.800
85	0.600	0.514			1.002	0.176	1.2724	1.0839	0.850	0.855
90	0.605	0.526			1.015	0.155	1.2733	1.0823	0.869	0.873

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-11.3	-19.5	10.9	32.3	0.297	0.091	0.	0.091	0.032	0.032
15	-12.5	-20.8	10.4	29.7	0.284	0.079	0.	0.079	0.027	0.027
30	-12.6	-20.4	9.4	27.5	0.262	0.047	0.	0.047	0.015	0.015
50	-9.8	-17.0	8.6	29.1	0.272	0.045	0.	0.045	0.013	0.013
70	-8.6	-15.0	8.3	31.0	0.285	0.065	0.	0.065	0.018	0.018
85	-10.6	-16.4	8.4	30.3	0.266	0.087	0.	0.087	0.022	0.022
90	-11.2	-16.9	8.4	30.4	0.252	0.090	0.	0.090	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
70.98	1.2601	1.0885	0.771	7426.2

ATT FAN VEHICLE

(METRIC)

CORE-OGV

70 PERCENT SPEED

RDG 170

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,9	-6,0	0,877	0,878	45,3	19,5		
30	24,689	24,460	-1,8	-4,7	0,899	0,901	46,2	18,9		
50	23,673	23,597	0,5	-2,7	0,930	0,931	45,9	17,9		
70	22,682	22,784	2,8	-0,8	0,961	0,960	44,9	17,1		
85	21,971	22,174	4,2	0,6	0,982	0,980	47,3	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	182,9	155,3			128,7	146,5	129,9	51,6		
30	189,3	153,6			131,1	145,4	136,5	49,5		
50	203,2	161,8			141,4	153,9	145,8	49,7		
70	211,2	165,8			149,6	158,5	149,1	48,9		
85	209,6	163,1			142,3	156,4	153,8	46,5		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,529	0,446			1,133	0,196	1,3144	1,0886	0,917	0,920
30	0,548	0,441			1,104	0,299	1,3170	1,0907	0,902	0,906
50	0,591	0,465			1,086	0,335	1,3351	1,0927	0,928	0,931
70	0,616	0,477			1,058	0,320	1,3335	1,0909	0,943	0,945
85	0,611	0,469			1,098	0,302	1,3119	1,0908	0,889	0,893

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-4,1	-8,0	8,6	25,8	0,300	0,091	0,	0,091	0,029	0,029
30	-1,4	-4,9	8,1	27,3	0,346	0,051	0,	0,051	0,016	0,016
50	-0,6	-3,6	7,7	27,9	0,358	0,037	0,	0,037	0,011	0,011
70	-2,2	-4,6	7,9	27,8	0,361	0,072	0,	0,072	0,021	0,021
85	-1,6	-3,3	9,8	30,6	0,375	0,106	0,	0,106	0,031	0,031

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
11,93	1,3206	1,0908	0,910	7426,2

ATT FAN VEHICLE

(METRIC)

ROTOR

80 PERCENT SPEED

RDG 171

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.6	-5.9	0.061	0.061	0.	38.6	70.1	64.0
10	42.367	41.961	-4.7	-5.0	0.123	0.121	0.	36.7	68.5	62.6
15	40.996	40.742	-3.7	-4.1	0.187	0.182	0.	35.1	66.9	61.2
30	36.881	37.059	-0.1	-0.6	0.375	0.363	0.	36.0	62.8	55.7
50	31.394	32.131	5.8	5.2	0.603	0.594	0.	36.2	58.2	46.8
70	26.010	27.229	11.0	13.4	0.789	0.790	0.	43.0	54.2	36.5
85	21.717	23.647	16.4	13.8	0.907	0.907	0.	46.2	50.6	20.5
90	20.295	22.581	18.6	14.0	0.940	0.941	0.	44.4	49.8	13.7
95	18.796	21.463	20.2	15.9	0.971	0.974	0.	48.7	49.1	3.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	141.7	173.4	414.3	308.1	141.7	135.7	0.	108.0	389.3	384.6
10	149.4	174.7	405.8	303.9	149.4	140.3	0.	104.1	377.3	373.7
15	155.8	176.2	397.0	298.8	155.8	144.2	0.	101.1	365.1	362.9
30	168.5	186.0	369.2	267.1	168.5	150.3	0.	109.4	328.5	330.1
50	174.1	198.2	329.4	233.1	174.1	160.3	0.	116.8	279.6	286.2
70	170.1	201.0	287.4	183.6	170.1	148.8	0.	135.0	231.7	242.5
85	165.6	217.7	254.7	162.6	165.6	152.8	0.	155.0	193.4	210.6
90	161.0	234.2	242.1	174.5	161.0	170.0	0.	161.3	180.8	201.1
95	154.3	243.9	227.7	164.8	154.3	164.3	0.	180.0	167.4	191.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.424	0.488	1.239	0.867	0.957	0.272	1.3492	1.1435	0.623	0.638
10	0.448	0.494	1.216	0.859	0.939	0.300	1.3635	1.1343	0.689	0.703
15	0.468	0.500	1.192	0.848	0.927	0.327	1.3757	1.1267	0.753	0.764
30	0.508	0.530	1.112	0.761	0.894	0.397	1.4103	1.1246	0.828	0.836
50	0.525	0.569	0.994	0.669	0.923	0.466	1.4290	1.1153	0.931	0.934
70	0.513	0.578	0.866	0.528	0.868	0.524	1.4097	1.1130	0.912	0.917
85	0.499	0.630	0.767	0.471	0.934	0.571	1.4420	1.1128	0.977	0.978
90	0.484	0.683	0.728	0.509	1.081	0.536	1.4784	1.1121	1.055	1.052
95	0.463	0.711	0.683	0.480	1.102	0.461	1.4778	1.1183	0.998	0.998

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6.9	5.0	1.9	6.1	0.343	0.252	0.035	0.218	0.037	0.032
10	6.7	5.0	2.3	5.9	0.337	0.203	0.029	0.174	0.031	0.027
15	6.5	4.9	2.5	5.8	0.333	0.158	0.024	0.134	0.025	0.022
30	7.2	5.1	2.0	7.5	0.378	0.121	0.014	0.108	0.023	0.020
50	8.3	5.6	2.4	11.7	0.400	0.051	0.011	0.040	0.010	0.008
70	9.0	5.5	9.3	17.6	0.482	0.083	0.001	0.082	0.017	0.017
85	8.1	4.2	15.7	30.0	0.501	0.026	0.	0.026	0.005	0.005
90	8.1	4.0	17.3	36.0	0.424	-0.071	0.	-0.071	-0.014	-0.014
95	8.1	3.9	15.9	44.5	0.433	0.005	0.	0.005	0.001	0.001

INLET CORR WTFLOW 93.64 PRESS RATIO 1.4098 TEMP RATIO 1.1217 ADIA EFF 0.847 INLET CORR RPM 8505.1

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP=OGV

80 PERCENT SPEED

RDG 171

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.2	-0.2	0.082	0.084	37.3	0.		
15	41,605	41,554	-0.7	0.2	0.124	0.126	34.8	0.		
30	39,192	39,218	-0.1	0.7	0.255	0.255	30.8	0.		
50	35,763	35,852	0.7	1.2	0.446	0.444	31.6	0.		
70	32,487	32,639	1.6	1.7	0.622	0.620	30.2	0.		
85	30,124	30,302	2.4	1.9	0.739	0.738	31.7	0.		
90	29,312	29,489	2.8	2.1	0.777	0.777	33.1	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	177.6	149.0			141.3	149.0	107.4	0.		
15	183.9	154.1			151.1	154.1	104.7	0.		
30	198.3	166.7			170.2	166.7	101.7	0.		
50	217.3	181.9			185.1	181.9	113.9	0.		
70	225.8	188.9			195.2	188.9	113.6	0.		
85	227.3	189.4			193.3	189.4	119.4	0.		
90	227.9	190.0			190.8	190.0	124.5	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.501	0.417			1.053	0.229	1.3381	1.1401	0.619	0.635
15	0.521	0.433			1.018	0.244	1.3497	1.1340	0.668	0.682
30	0.567	0.472			0.979	0.254	1.3769	1.1225	0.781	0.791
50	0.625	0.517			0.983	0.257	1.4064	1.1254	0.816	0.825
70	0.655	0.541			0.967	0.258	1.4102	1.1138	0.907	0.912
85	0.661	0.544			0.981	0.241	1.3887	1.1105	0.890	0.895
90	0.662	0.545			0.996	0.228	1.3787	1.1122	0.857	0.863

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROP	TOT	PROP
10	-6.4	-14.5	10.9	37.2	0.376	0.077	0.	0.077	0.027	0.027
15	-7.5	-15.7	10.4	34.7	0.360	0.063	0.	0.063	0.022	0.022
30	-9.2	-17.1	9.4	30.8	0.326	0.044	0.	0.044	0.014	0.014
50	-7.4	-14.6	8.6	31.6	0.319	0.048	0.	0.048	0.014	0.014
70	-9.4	-15.8	8.3	30.2	0.301	0.049	0.	0.049	0.014	0.014
85	-9.2	-15.0	8.4	31.7	0.302	0.075	0.	0.075	0.019	0.019
90	-8.4	-14.2	8.4	33.2	0.305	0.090	0.	0.090	0.023	0.023

INLET CORR PRESS TEMP ADIA INLET CORR  
 WFLOW RATIO RATIO EFF CORR  
 80.12 1.3834 1.1229 0.790 8595.1



ATT FAN VEHICLE

(METRIC)

CORE-OGV

80 PERCENT SPEED

RDG 171

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
15	25,400	25,121	-2,8	-5,9	0,877	0,877	45,6	19,5		
30	24,689	24,460	-1,7	-4,7	0,898	0,900	46,4	18,9		
50	23,673	23,597	0,1	-3,1	0,931	0,931	43,1	17,9		
70	22,682	22,784	2,0	-1,5	0,962	0,960	44,9	17,1		
85	21,971	22,174	3,6	0,1	0,983	0,981	50,2	16,5		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
15	200,5	167,8			140,4	158,3	143,2	55,8		
30	206,8	165,1			142,7	156,3	149,7	53,2		
50	224,2	176,9			163,9	168,3	153,1	54,4		
70	235,2	182,2			166,5	174,1	166,0	53,7		
85	234,2	177,0			150,2	169,7	179,6	50,4		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,577	0,478			1,123	0,228	1,4232	1,1120	0,948	0,950
30	0,596	0,470			1,088	0,325	1,4227	1,1138	0,932	0,935
50	0,651	0,505			1,024	0,348	1,4554	1,1116	1,014	1,014
70	0,684	0,520			1,040	0,343	1,4575	1,1155	0,984	0,985
85	0,679	0,504			1,122	0,343	1,4256	1,1211	0,880	0,886

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-3,8	-7,7	8,6	26,1	0,315	0,081	0,	0,081	0,026	0,026
30	-1,2	-4,7	8,1	27,5	0,361	0,047	0,	0,047	0,015	0,015
50	-3,4	-6,4	7,7	25,1	0,354	0,035	0,	0,035	0,011	0,011
70	-2,2	-4,6	7,9	27,6	0,373	0,067	0,	0,067	0,020	0,020
85	1,2	-0,4	9,8	33,3	0,411	0,103	0,	0,103	0,030	0,030

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
13,53	1,4347	1,1147	0,948	8505,1

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

90 PERCENT SPEED

RDG 172

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5.7	-6.0	0.062	0.062	0.	41.2	69.1	64.4
10	42,367	41,961	-4.7	-5.2	0.125	0.122	0.	39.0	67.4	63.0
15	40,996	40,742	-3.7	-4.2	0.189	0.184	0.	37.8	65.8	61.8
30	36,881	37,059	0.0	-0.5	0.378	0.367	0.	38.7	61.4	56.2
50	31,394	32,131	6.4	5.8	0.607	0.600	0.	40.3	56.5	45.5
70	26,010	27,229	12.3	13.5	0.792	0.798	0.	43.1	52.7	37.2
85	21,717	23,647	17.5	13.6	0.908	0.913	0.	49.1	49.8	19.2
90	20,295	22,581	19.2	14.2	0.941	0.944	0.	47.7	49.0	12.3
95	18,796	21,463	20.5	16.0	0.971	0.976	0.	50.2	48.3	4.6

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	168.0	194.6	469.2	338.3	168.0	146.6	0.	127.9	438.0	432.7
10	177.3	195.7	460.1	334.5	177.3	152.4	0.	122.7	424.6	420.5
15	185.1	196.2	450.6	327.2	185.1	155.1	0.	120.1	410.8	408.3
30	201.5	207.3	420.9	291.0	201.5	161.8	0.	129.5	369.6	371.4
50	209.5	226.9	378.0	246.9	209.5	173.5	0.	146.3	314.6	322.0
70	203.3	223.8	330.6	205.8	203.3	165.6	0.	150.6	260.6	272.9
85	192.7	243.9	290.7	171.4	192.7	162.3	0.	182.0	217.6	237.0
90	186.9	259.4	276.2	181.3	186.9	177.5	0.	189.2	203.4	226.3
95	179.2	266.6	260.0	175.1	179.2	174.6	0.	201.5	188.4	213.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.506	0.539	1.414	0.937	0.872	0.319	1.5165	1.1912	0.661	0.680
10	0.536	0.545	1.390	0.932	0.860	0.349	1.5350	1.1781	0.731	0.747
15	0.561	0.549	1.365	0.915	0.839	0.377	1.5468	1.1693	0.784	0.797
30	0.614	0.583	1.283	0.819	0.806	0.455	1.5928	1.1662	0.856	0.865
50	0.640	0.644	1.155	0.700	0.829	0.530	1.6299	1.1625	0.922	0.927
70	0.620	0.640	1.008	0.589	0.813	0.374	1.5604	1.1424	0.952	0.955
85	0.585	0.701	0.883	0.492	0.856	0.570	1.5625	1.1489	0.913	0.919
90	0.567	0.750	0.837	0.525	0.974	0.528	1.5914	1.1480	0.959	0.962
95	0.542	0.773	0.786	0.508	1.012	0.453	1.5759	1.1493	0.930	0.934

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROP		
5	5.9	4.0	2.4	4.7	0.369	0.282	0.082	0.169	0.036	0.024
10	5.6	3.9	2.7	4.5	0.362	0.194	0.073	0.121	0.029	0.018
15	5.4	3.8	3.1	4.1	0.364	0.154	0.064	0.090	0.024	0.014
30	5.8	3.7	2.5	5.6	0.414	0.111	0.043	0.068	0.020	0.012
50	6.6	3.9	1.1	11.2	0.464	0.068	0.025	0.042	0.014	0.009
70	7.4	4.0	10.0	15.2	0.492	0.046	0.018	0.027	0.009	0.005
85	7.3	3.4	14.4	29.9	0.553	0.103	0.	0.103	0.021	0.021
90	7.3	3.2	15.9	36.3	0.494	0.051	0.	0.051	0.010	0.010
95	7.3	3.1	16.6	42.8	0.480	0.103	0.	0.103	0.020	0.020

INLET CORR PRESS TEMP ADIA INLET CORR  
 NTFLOW RATIO RATIO EFF RPM  
 105.62 1.5789 1.1632 0.854 9569.3

ATT FAN VEHICLE

(METRIC)

BP=OGV

90 PERCENT SPEED

RDG 172

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.1	-0.1	0.082	0.085	39.9	0.		
15	41,605	41,554	-0.6	0.3	0.124	0.127	37.0	0.		
30	39,192	39,218	-0.1	0.8	0.257	0.257	33.6	0.		
50	35,763	35,852	0.5	1.2	0.450	0.448	33.7	0.		
70	32,487	32,639	1.8	2.1	0.629	0.629	33.7	0.		
85	30,124	30,302	2.8	2.5	0.746	0.748	34.1	0.		
90	29,312	29,489	3.1	2.5	0.784	0.786	34.4	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	198.6	159.2			192.5	199.2	127.0	0.		
15	205.3	164.7			163.8	164.7	123.5	0.		
30	219.7	175.0			183.1	175.0	121.5	0.		
50	244.7	195.4			203.6	195.4	135.6	0.		
70	257.4	205.3			214.1	205.3	142.8	0.		
85	253.4	198.7			209.9	198.7	142.1	0.		
90	250.7	194.8			206.9	194.8	141.6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH'	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.552	0.438			1.042	0.289	1.5008	1.1863	0.660	0.679
15	0.574	0.455			1.003	0.300	1.5154	1.1777	0.710	0.726
30	0.621	0.488			0.955	0.312	1.5392	1.1648	0.796	0.808
50	0.697	0.547			0.960	0.317	1.5912	1.1679	0.845	0.855
70	0.739	0.578			0.959	0.325	1.6025	1.1606	0.898	0.905
85	0.731	0.562			0.948	0.320	1.5490	1.1482	0.899	0.905
90	0.724	0.551			0.943	0.313	1.5217	1.1437	0.887	0.894

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-3.8	-11.9	10.9	39.8	0.426	0.080	0.	0.080	0.028	0.028
15	-5.2	-13.5	10.4	37.0	0.407	0.066	0.	0.066	0.023	0.023
30	-6.5	-14.3	9.4	33.6	0.383	0.061	0.	0.061	0.020	0.020
50	-5.3	-12.5	8.6	33.7	0.365	0.052	0.	0.052	0.015	0.015
70	-5.9	-12.3	8.3	33.7	0.354	0.047	0.	0.047	0.013	0.013
85	-6.8	-12.6	8.4	34.1	0.360	0.077	0.	0.077	0.020	0.020
90	-7.1	-12.9	8.4	34.5	0.365	0.097	0.	0.097	0.024	0.024

INLET CORR W/FLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
90.94	1.5534	1.1684	0.811	9569.3

ATT FAN VEHICLE

(METRIC)

CORE-OGV

90 PERCENT SPEED

RDG 172

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,7	-5,8	0,882	0,883	48,0	19,5		
30	24,689	24,460	-1,5	-4,6	0,904	0,906	47,7	18,8		
50	23,673	23,597	0,3	-2,9	0,935	0,935	46,0	17,9		
70	22,682	22,784	2,2	-1,3	0,965	0,962	46,9	17,1		
85	21,971	22,174	3,7	0,3	0,984	0,982	51,1	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	230,8	183,8			154,4	173,4	171,6	61,0		
30	235,0	174,8			158,1	165,5	173,9	56,2		
50	251,5	183,7			174,8	174,8	180,9	56,3		
70	258,7	185,6			176,8	177,4	189,0	54,6		
85	256,5	179,2			161,4	171,8	199,2	50,9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,659	0,517			1,118	0,314	1,5568	1,1509	0,894	0,900
30	0,673	0,491			1,040	0,407	1,5385	1,1486	0,881	0,888
50	0,725	0,517			0,998	0,427	1,5637	1,1483	0,919	0,924
70	0,748	0,523			0,998	0,431	1,5543	1,1483	0,906	0,911
85	0,740	0,503			1,060	0,439	1,5160	1,1512	0,835	0,844

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROP	TOT	PROP
15	-1,4	-5,3	8,5	28,6	0,370	0,060	0,	0,060	0,020	0,020
30	0,2	-3,4	8,0	28,9	0,427	0,050	0,	0,050	0,016	0,016
50	-0,5	-3,5	7,6	28,1	0,430	0,048	0,	0,048	0,015	0,015
70	-0,2	-2,6	7,9	29,7	0,444	0,066	0,	0,066	0,020	0,020
85	2,1	0,5	9,8	34,3	0,475	0,090	0,	0,090	0,026	0,026

INLET CORR WTFLOW	14,68	PRESS RATIO	1,5449	TEMP RATIO	1,1497	ADIA EFF	0,884	INLET CORR RPM	9569,3
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ATT FAN VEHICLE

(METRIC)

ROTOR 93 PERCENT SPEED RDG 173

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE OUT	REL ANGLE		
	IN	OUT			IN	OUT		IN	OUT	
5	43,713	43,180	-6.0	-6.4	0.061	0.060	0.	42.2	69.0	65.8
10	42,367	41,961	-5.3	-5.8	0.124	0.119	0.	39.2	67.2	64.2
15	40,996	40,742	-4.3	-5.0	0.188	0.180	0.	38.3	65.5	62.8
30	36,881	37,059	-0.5	-1.1	0.377	0.363	0.	38.6	60.7	56.9
50	31,394	32,131	6.7	6.1	0.607	0.602	0.	39.3	55.7	47.5
70	26,010	27,229	12.7	14.1	0.793	0.801	0.	43.4	52.2	39.3
85	21,717	23,647	17.7	14.4	0.909	0.915	0.	47.6	49.4	23.1
90	20,295	22,581	19.5	14.9	0.941	0.947	0.	46.7	48.7	16.6
95	18,796	21,463	20.7	16.5	0.971	0.977	0.	50.8	48.0	8.8

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	174.3	193.5	484.7	348.3	174.3	143.8	0.	129.5	452.3	446.8
10	184.6	194.9	475.6	346.1	184.6	151.2	0.	122.9	438.4	434.1
15	193.7	196.9	466.3	337.4	193.7	154.8	0.	121.7	424.2	421.5
30	214.3	210.3	437.6	301.2	214.3	164.4	0.	131.1	381.6	383.4
50	222.9	225.9	393.9	258.4	222.9	175.3	0.	142.5	324.8	332.4
70	214.0	223.4	343.8	210.2	214.0	164.6	0.	151.0	269.1	281.7
85	202.5	241.9	302.5	179.7	202.5	166.0	0.	176.0	224.7	244.7
90	195.8	254.9	287.1	185.3	195.8	178.1	0.	182.5	210.0	233.6
95	187.2	258.7	270.0	169.3	187.2	167.4	0.	197.1	194.5	222.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.526	0.534	1.463	0.961	0.825	0.333	1.5583	1.1997	0.677	0.696
10	0.559	0.542	1.441	0.962	0.821	0.365	1.5804	1.1838	0.760	0.775
15	0.589	0.549	1.417	0.941	0.802	0.397	1.5997	1.1771	0.811	0.823
30	0.656	0.590	1.340	0.845	0.771	0.486	1.6646	1.1736	0.903	0.910
50	0.685	0.640	1.211	0.732	0.787	0.567	1.6902	1.1635	0.990	0.990
70	0.655	0.637	1.053	0.600	0.768	0.614	1.6121	1.1473	0.992	0.993
85	0.617	0.695	0.922	0.516	0.831	0.627	1.6105	1.1490	0.979	0.980
90	0.595	0.736	0.873	0.535	0.934	0.593	1.6276	1.1473	1.014	1.013
95	0.568	0.747	0.818	0.489	0.938	0.531	1.5960	1.1504	0.950	0.953

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.8	3.9	3.7	3.3	0.370	0.241	0.101	0.141	0.033	0.019
10	5.4	3.7	3.9	3.2	0.359	0.172	0.091	0.082	0.025	0.012
15	5.1	3.5	4.1	2.9	0.366	0.136	0.081	0.055	0.021	0.008
30	5.0	3.0	3.2	4.3	0.414	0.075	0.056	0.018	0.013	0.003
50	5.8	3.1	3.1	8.4	0.454	0.009	0.034	-0.025	0.002	-0.005
70	6.9	3.5	12.1	12.5	0.497	0.007	0.022	-0.015	0.001	-0.003
85	6.9	3.0	18.3	25.4	0.539	0.024	0.008	0.016	0.005	0.003
90	6.9	2.9	20.2	31.2	0.491	-0.019	0.	-0.019	-0.004	-0.004
95	7.0	2.8	20.8	37.9	0.509	0.070	0.	0.070	0.013	0.013

INLET CORR WTFLOW 109.00 PRESS RATIO 1.6336 TEMP RATIO 1.1678 ADIA EFF 0.897 INLET CORR RPM 9880.2

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-OGV

93 PERCENT SPEED

RDG 173

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42,418	42,316	-1.1	-0.0	0.080	0.083	40.6	0.		
15	41,605	41,554	-0.5	0.4	0.121	0.123	37.3	0.		
30	39,192	39,218	0.1	1.1	0.253	0.254	33.9	0.		
50	35,763	35,852	0.9	1.6	0.449	0.449	32.7	0.		
70	32,487	32,639	2.0	2.3	0.632	0.633	32.9	0.		
85	30,124	30,302	2.8	2.6	0.750	0.752	34.1	0.		
90	29,312	29,489	3.1	2.6	0.787	0.790	34.7	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	197.2	155.9			149.7	155.9	128.1	0.		
15	204.5	162.7			162.6	162.7	123.8	0.		
30	223.3	179.1			185.3	179.1	124.6	0.		
50	249.5	201.2			210.0	201.2	134.8	0.		
70	256.5	206.3			215.5	206.3	139.1	0.		
85	251.0	198.1			207.9	198.1	140.7	0.		
90	248.9	194.7			204.9	194.7	141.4	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.546	0.427			1.039	0.306	1.5425	1.1939	0.680	0.699
15	0.570	0.448			0.998	0.314	1.5609	1.1838	0.738	0.754
30	0.629	0.497			0.966	0.314	1.6024	1.1745	0.826	0.838
50	0.711	0.563			0.958	0.301	1.6611	1.1723	0.906	0.912
70	0.736	0.581			0.957	0.307	1.6538	1.1615	0.957	0.960
85	0.722	0.559			0.953	0.304	1.5915	1.1515	0.937	0.941
90	0.717	0.550			0.952	0.295	1.5654	1.1481	0.923	0.927

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-3.0	-11.2	10.9	40.5	0.441	0.081	0.	0.081	0.029	0.029
15	-4.9	-13.2	10.4	37.2	0.416	0.063	0.	0.063	0.022	0.022
30	-6.1	-14.0	9.4	33.9	0.380	0.050	0.	0.050	0.016	0.016
50	-6.3	-13.5	8.6	32.7	0.354	0.058	0.	0.058	0.017	0.017
70	-6.8	-13.1	8.3	32.9	0.344	0.055	0.	0.055	0.015	0.015
85	-6.8	-12.6	8.4	34.1	0.355	0.087	0.	0.087	0.022	0.022
90	-6.9	-12.6	8.4	34.7	0.361	0.108	0.	0.108	0.027	0.027

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
94.17	1.6088	1.1706	0.853	9880.2

ATT FAN VEHICLE

(METRIC)

CORE-OGV

93 PERCENT SPEED

RDG 173

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
15	25,400	25,121	-2.6	-5.8	0.885	0.886	47.6	19.5		
30	24,689	24,460	-1.4	-4.6	0.907	0.909	46.5	18.8		
50	23,673	23,597	0.2	-3.1	0.938	0.938	44.8	17.8		
70	22,682	22,784	1.9	-1.6	0.968	0.965	47.3	17.1		
85	21,971	22,174	3.4	-0.0	0.986	0.983	52.8	16.5		

PCT IMM	ABS VEL		REL IN	VEL OUT	MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE IN	SPEED OUT
	IN	OUT								
15	227.2	184.2			153.2	173.8	167.7	61.1		
30	233.4	179.2			160.7	169.7	169.3	57.5		
50	247.1	183.3			175.5	174.5	174.1	56.0		
70	250.4	179.7			169.9	171.8	184.1	52.7		
85	246.0	169.7			149.0	162.7	195.4	48.2		

PCT IMM	ABS MACH NO		REL IN	MACH NO OUT	AXIAL VEL R	CH 1	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT							ADIA	POLY
15	0.648	0.518			1.129	0.285	1.5956	1.1523	0.938	0.942
30	0.668	0.503			1.049	0.372	1.5890	1.1493	0.948	0.951
50	0.711	0.516			0.992	0.400	1.5987	1.1474	0.973	0.975
70	0.721	0.505			0.999	0.420	1.5714	1.1491	0.925	0.929
85	0.706	0.475			1.082	0.445	1.5258	1.1532	0.838	0.847

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-1.8	-5.7	8.5	28.1	0.352	0.067	0.	0.067	0.022	0.022
30	-1.1	-4.6	8.0	27.6	0.395	0.049	0.	0.049	0.015	0.015
50	-1.7	-4.7	7.6	26.9	0.413	0.059	0.	0.059	0.018	0.018
70	0.2	-2.2	7.8	30.0	0.447	0.081	0.	0.081	0.024	0.024
85	3.8	2.2	9.7	35.9	0.493	0.099	0.	0.099	0.028	0.028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14.83	1.5766	1.1503	0.924	9880.2

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 174

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT							IN	OUT
5	43.713	43.180	-6.0	-6.4	0.062	0.060	0.	41.6	68.9	65.7
10	42.367	41.961	-5.3	-5.9	0.125	0.119	0.	39.2	67.0	64.4
15	40.996	40.742	-4.3	-5.0	0.189	0.180	0.	37.8	65.2	62.6
30	36.881	37.059	-0.1	-0.8	0.379	0.366	0.	38.5	60.4	56.2
50	31.394	32.131	6.9	6.3	0.608	0.604	0.	40.0	55.6	47.3
70	26.010	27.224	12.7	13.3	0.793	0.800	0.	42.3	52.0	40.2
85	21.717	23.647	18.0	13.6	0.909	0.916	0.	47.0	49.4	22.2
90	20.295	22.581	19.6	14.4	0.941	0.947	0.	47.4	48.7	15.8
95	18.796	21.463	20.7	16.2	0.971	0.977	0.	50.7	48.0	8.3

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE SPEED	
	IN	OUT	IN	OUT					IN	OUT
5	179.6	197.1	495.6	357.8	179.6	147.9	0.	130.4	461.9	456.2
10	190.4	197.9	486.5	353.8	190.4	153.7	0.	124.6	447.6	443.4
15	200.3	202.1	477.3	346.0	200.3	159.9	0.	123.6	433.2	430.5
30	221.4	218.5	448.2	307.4	221.4	170.9	0.	136.1	389.7	391.6
50	228.7	231.3	402.9	260.9	228.7	177.5	0.	148.3	331.7	339.5
70	220.4	225.2	352.3	218.2	220.4	168.7	0.	149.2	274.8	287.7
85	207.0	250.7	309.0	186.6	207.0	173.4	0.	181.0	229.5	249.9
90	199.8	261.2	293.1	186.5	199.8	179.9	0.	189.5	214.4	238.6
95	191.0	266.3	275.5	174.4	191.0	172.8	0.	202.6	198.6	226.8

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.543	0.543	1.499	0.986	0.823	0.324	1.5602	1.2053	0.660	0.681
10	0.578	0.549	1.477	0.981	0.809	0.356	1.5813	1.1904	0.735	0.751
15	0.610	0.563	1.454	0.963	0.802	0.389	1.6113	1.1837	0.795	0.808
30	0.680	0.612	1.377	0.861	0.775	0.475	1.6870	1.1841	0.876	0.884
50	0.705	0.654	1.241	0.737	0.777	0.546	1.6925	1.1737	0.934	0.939
70	0.677	0.643	1.082	0.623	0.766	0.588	1.5985	1.1487	0.964	0.967
85	0.632	0.720	0.944	0.536	0.858	0.574	1.6112	1.1561	0.935	0.939
90	0.608	0.753	0.892	0.538	0.929	0.529	1.6124	1.1561	0.937	0.941
95	0.580	0.769	0.836	0.504	0.943	0.458	1.5816	1.1582	0.885	0.892

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.6	3.8	3.7	3.2	0.365	0.253	0.113	0.140	0.035	0.019
10	5.2	3.5	4.1	2.8	0.359	0.191	0.103	0.088	0.028	0.013
15	4.8	3.2	3.9	2.9	0.364	0.148	0.093	0.055	0.023	0.009
30	4.7	2.7	2.5	4.6	0.418	0.098	0.066	0.032	0.018	0.006
50	5.7	3.0	2.9	8.4	0.464	0.056	0.041	0.016	0.011	0.003
70	6.7	3.3	13.0	11.5	0.487	0.032	0.026	0.006	0.006	0.001
85	6.9	3.0	17.4	26.3	0.526	0.074	0.015	0.059	0.015	0.012
90	7.0	2.9	19.4	32.1	0.501	0.078	0.003	0.075	0.016	0.015
95	7.0	2.8	20.3	38.6	0.509	0.160	0.	0.160	0.031	0.031

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
110.83	1.6387	1.1756	0.863	10089.6



ATT FAN VEHICLE

(METRIC)

BP-OGV

95 PERCENT SPEED

RDG 174

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.1	-0.1	0,080	0,082	40,2	0.		
15	41,605	41,554	-0,6	0,3	0,121	0,123	37,2	0.		
30	39,192	39,218	-0,1	0,9	0,254	0,254	33,2	0.		
50	35,763	35,852	0,8	1,5	0,452	0,451	33,2	0.		
70	32,487	32,639	2,1	2,4	0,633	0,634	33,3	0.		
85	30,124	30,302	2,9	2,6	0,749	0,750	33,8	0.		
90	29,312	29,489	3,1	2,6	0,785	0,787	34,1	0.		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
10	200,4	158,8			153,0	158,8	129,3	0.		
15	207,8	165,4			165,5	165,4	125,5	0.		
30	232,0	185,6			194,1	185,6	127,0	0.		
50	258,2	207,3			215,9	207,3	141,5	0.		
70	261,5	207,6			218,6	207,6	143,6	0.		
85	253,2	197,8			210,6	197,8	140,6	0.		
90	250,7	194,8			207,8	194,8	140,2	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,554	0,434			1,036	0,311	1,5455	1,1999	0,662	0,682
15	0,578	0,455			0,998	0,320	1,5638	1,1905	0,715	0,733
30	0,653	0,515			0,956	0,308	1,6186	1,1817	0,812	0,824
50	0,734	0,578			0,960	0,309	1,6787	1,1847	0,863	0,873
70	0,749	0,583			0,950	0,326	1,6534	1,1704	0,907	0,913
85	0,728	0,558			0,940	0,326	1,5852	1,1545	0,910	0,916
90	0,722	0,550			0,939	0,318	1,5604	1,1499	0,904	0,910

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		PROF	PROF
10	=3,4	-11,6	10,9	40,1	0,437	0,071	0.	0,071	0,025	0,025	
15	=5,0	-13,3	10,4	37,1	0,414	0,055	0.	0,055	0,019	0,019	
30	=6,8	-14,7	9,4	33,2	0,378	0,060	0.	0,060	0,019	0,019	
50	=5,8	-13,0	8,6	33,2	0,360	0,055	0.	0,055	0,016	0,016	
70	=6,3	-12,7	8,3	33,3	0,356	0,052	0.	0,052	0,014	0,014	
85	=7,2	-12,9	8,4	33,8	0,361	0,075	0.	0,075	0,019	0,019	
90	=7,5	-13,2	8,4	34,1	0,364	0,092	0.	0,092	0,023	0,023	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
95,42	1,6162	1,1785	0,824	10089,6

ATT FAN VEHICLE

(METRIC)

CORE=OGV

95 PERCENT SPEED

RDG 174

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.8	-5.9	0.883	0.884	45.9	19.5		
30	24,689	24,460	-1.7	-4.8	0.905	0.907	44.9	18.8		
50	23,673	23,597	-0.0	-3.2	0.937	0.937	44.7	17.8		
70	22,682	22,784	2.0	-1.5	0.966	0.964	47.0	17.1		
85	21,971	22,174	3.5	0.1	0.985	0.983	51.3	16.5		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
15	238.7	199.3			166.2	188.0	171.4	66.1		
30	245.0	191.4			173.5	181.3	173.0	61.4		
50	256.5	192.9			182.2	183.7	180.6	59.0		
70	259.5	188.4			177.0	180.1	189.9	55.3		
85	257.3	181.1			161.1	173.7	200.4	51.4		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH1	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.681	0.561			1.127	0.241	1.5979	1.1589	0.902	0.908
30	0.702	0.538			1.040	0.338	1.5835	1.1559	0.900	0.906
50	0.738	0.543			1.006	0.388	1.5864	1.1561	0.903	0.909
70	0.748	0.529			1.009	0.410	1.5550	1.1571	0.856	0.864
85	0.739	0.507			1.073	0.419	1.5151	1.1604	0.786	0.798

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-3.5	-7.4	8.5	26.4	0.318	0.072	0.	0.072	0.023	0.023
30	-2.6	-6.2	8.0	26.1	0.373	0.062	0.	0.062	0.020	0.020
50	-1.7	-4.8	7.6	26.9	0.401	0.055	0.	0.055	0.017	0.017
70	-0.1	-2.5	7.9	29.8	0.437	0.079	0.	0.079	0.023	0.023
85	2.3	0.7	9.7	34.5	0.470	0.103	0.	0.103	0.030	0.030

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.42	1.5691	1.1579	0.870	10089.6

ATT FAN VEHICLE

(METRIC)

ROTOR 70 PERCENT SPEED RDG 176

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
5	43,713	43,180	-5,5	-5,6	0,061	0,062	0,	37,8	71,1	64,4
10	42,367	41,961	-4,4	-4,6	0,123	0,123	0,	35,7	69,6	63,1
15	40,996	40,742	-3,2	-3,6	0,187	0,185	0,	33,8	68,2	61,6
30	36,881	37,059	0,7	0,1	0,375	0,368	0,	35,1	64,6	56,4
50	31,394	32,131	5,5	5,1	0,603	0,592	0,	38,3	60,4	47,2
70	26,010	27,229	10,6	13,4	0,789	0,788	0,	41,4	56,1	36,4
85	21,717	23,647	16,3	14,2	0,907	0,908	0,	49,0	52,6	18,6
90	20,295	22,581	18,5	14,0	0,940	0,940	0,	46,9	51,8	11,6
95	18,796	21,463	20,2	15,7	0,971	0,973	0,	48,3	51,1	4,2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	116,8	148,7	359,4	271,8	116,8	117,7	0,	90,8	340,0	335,8
10	122,9	149,8	351,7	268,3	122,9	121,7	0,	87,3	329,5	326,3
15	127,9	151,6	343,5	264,7	127,9	126,1	0,	84,1	318,8	316,8
30	136,2	159,5	317,5	235,7	136,2	130,3	0,	91,8	286,8	288,2
50	139,4	170,9	281,1	197,2	139,4	134,4	0,	105,6	244,2	249,9
70	138,1	177,0	244,9	165,5	138,1	134,4	0,	115,1	202,3	211,8
85	134,5	190,8	215,9	134,2	134,5	127,4	0,	142,1	168,9	183,9
90	131,0	205,1	205,1	145,0	131,0	142,4	0,	147,6	157,8	175,6
95	125,6	213,4	192,8	145,3	125,6	144,9	0,	156,6	146,2	166,9

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,347	0,423	1,069	0,773	1,007	0,261	1,2542	1,1055	0,634	0,646
10	0,366	0,428	1,047	0,766	0,990	0,286	1,2636	1,0984	0,703	0,712
15	0,381	0,434	1,024	0,758	0,987	0,310	1,2726	1,0920	0,775	0,783
30	0,407	0,458	0,948	0,677	0,958	0,368	1,2912	1,0914	0,829	0,835
50	0,417	0,492	0,840	0,568	0,967	0,427	1,3022	1,0910	0,861	0,866
70	0,413	0,513	0,732	0,479	0,963	0,498	1,3057	1,0842	0,941	0,943
85	0,402	0,553	0,645	0,389	0,957	0,553	1,3304	1,0902	0,942	0,944
90	0,391	0,598	0,612	0,423	1,114	0,518	1,3567	1,0895	1,017	1,017
95	0,374	0,623	0,574	0,424	1,191	0,442	1,3578	1,0901	1,014	1,013

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	7,9	6,0	2,4	6,6	0,327	0,225	0,009	0,216	0,032	0,031
10	7,8	6,1	2,8	6,5	0,320	0,178	0,007	0,171	0,027	0,026
15	7,8	6,2	2,9	6,6	0,311	0,131	0,005	0,126	0,021	0,020
30	9,0	6,9	2,7	8,4	0,356	0,113	0,005	0,108	0,021	0,020
50	10,4	7,8	2,8	13,6	0,414	0,107	0,	0,107	0,021	0,021
70	10,9	7,4	9,2	19,7	0,446	0,055	0,	0,055	0,011	0,011
85	10,1	6,2	13,8	33,9	0,529	0,071	0,	0,071	0,015	0,015
90	10,0	6,0	15,2	40,2	0,449	-0,026	0,	-0,026	-0,005	-0,005
95	10,1	5,9	16,2	46,4	0,410	-0,019	0,	-0,019	-0,004	-0,004

INLET CORR WTFLOW 79.24 PRESS RATIO 1.2966 TEMP RATIO 1.0918 ADIA EFF 0.839 INLET CORR RPM 7426.5

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-06V

70 PERCENT SPEED

RDG 176

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,3	-0,3	0,083	0,085	36,4	0,		
15	41,605	41,554	-0,8	0,0	0,126	0,127	33,9	0,		
30	39,192	39,218	-0,3	0,5	0,259	0,258	29,8	0,		
50	35,763	35,852	0,4	1,0	0,448	0,446	32,2	0,		
70	32,487	32,639	1,5	1,5	0,619	0,617	32,3	0,		
85	30,124	30,302	2,3	1,9	0,736	0,735	32,1	0,		
90	29,312	29,489	2,7	2,0	0,775	0,775	32,5	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	152,3	130,2			122,5	130,2	90,3	0,		
15	157,5	135,0			130,8	135,0	87,8	0,		
30	169,7	145,6			147,3	145,6	84,3	0,		
50	183,4	155,1			155,2	155,1	97,6	0,		
70	193,3	161,0			163,5	161,0	103,1	0,		
85	198,5	166,7			168,2	166,7	105,4	0,		
90	199,9	169,5			168,7	169,5	107,2	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,434	0,369			1,061	0,189	1,2442	1,1028	0,627	0,638
15	0,451	0,384			1,031	0,207	1,2536	1,0980	0,680	0,690
30	0,489	0,417			0,988	0,224	1,2728	1,0887	0,804	0,810
50	0,529	0,444			1,000	0,245	1,2862	1,0938	0,795	0,802
70	0,561	0,463			0,986	0,254	1,2885	1,0902	0,833	0,839
85	0,578	0,481			0,992	0,232	1,2868	1,0853	0,876	0,880
90	0,583	0,490			1,006	0,216	1,2859	1,0844	0,882	0,886

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-7,2	-15,4	10,9	36,4	0,356	0,089	0,	0,089	0,031	0,031
15	-8,3	-16,6	10,4	33,8	0,336	0,065	0,	0,065	0,022	0,022
30	-10,3	-18,1	9,4	29,8	0,303	0,044	0,	0,044	0,014	0,014
50	-6,9	-14,0	8,6	32,1	0,312	0,043	0,	0,043	0,013	0,013
70	-7,3	-13,7	8,3	32,3	0,313	0,058	0,	0,058	0,016	0,016
85	-8,9	-14,6	8,4	32,1	0,297	0,070	0,	0,070	0,018	0,018
90	-9,1	-14,8	8,4	32,5	0,288	0,074	0,	0,074	0,019	0,019

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
67,92	1,2760	1,0921	0,783	7426,5

ATT FAN VEHICLE

(METRIC)

CORE-OGV

70 PERCENT SPEED

RDG 176

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.9	-6.1	0.878	0.878	46.9	19.5		
30	24,689	24,460	-1.8	-4.8	0.900	0.901	47.8	18.9		
50	23,673	23,597	0.3	-3.0	0.930	0.931	46.5	18.0		
70	22,682	22,784	2.3	-1.3	0.962	0.959	45.3	17.2		
85	21,971	22,174	3.7	0.2	0.983	0.980	49.7	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	175.2	143.0			119.7	134.9	127.9	47.5		
30	180.6	140.8			121.3	133.3	133.8	45.4		
50	196.3	152.0			135.2	144.7	142.2	46.8		
70	205.7	157.6			144.8	150.6	146.3	46.5		
85	205.0	153.9			132.7	147.5	156.0	43.8		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.506	0.410			1.122	0.249	1.3142	1.0873	0.930	0.933
30	0.522	0.403			1.094	0.346	1.3148	1.0889	0.915	0.919
50	0.570	0.436			1.069	0.367	1.3389	1.0905	0.961	0.963
70	0.600	0.453			1.034	0.355	1.3425	1.0890	0.986	0.987
85	0.597	0.441			1.105	0.351	1.3217	1.0918	0.903	0.907

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-2.5	-6.4	8.6	27.4	0.343	0.092	0.	0.092	0.030	0.030
30	0.3	-3.3	8.1	29.0	0.387	0.054	0.	0.054	0.017	0.017
50	0.0	-3.0	7.7	28.5	0.384	0.039	0.	0.039	0.012	0.012
70	-1.8	-4.2	7.9	28.0	0.384	0.066	0.	0.066	0.019	0.019
85	0.7	-0.9	9.8	32.8	0.414	0.099	0.	0.099	0.029	0.029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
11.32	1.3249	1.0898	0.932	7426.5

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

70 PERCENT SPEED

RDG 177

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	REL ANGLE IN	REL ANGLE OUT	
	IN	OUT			IN	OUT				
5	43.713	43.180	-5.2	-5.3	0.060	0.063	0.	49.6	74.2	66.2
10	42.367	41.961	-4.2	-4.3	0.122	0.124	0.	48.1	72.9	65.2
15	40.996	40.742	-3.1	-3.4	0.186	0.184	0.	46.5	71.7	63.9
30	36.881	37.059	0.2	-0.2	0.374	0.364	0.	45.0	68.5	59.2
50	31.394	32.131	5.3	4.7	0.603	0.591	0.	45.5	64.4	49.7
70	26.010	27.229	11.4	13.2	0.792	0.793	0.	46.8	60.5	38.1
85	21.717	23.647	18.4	15.3	0.910	0.921	0.	50.7	58.0	18.5
90	20.295	22.581	20.7	16.0	0.942	0.954	0.	54.0	57.7	12.7
95	18.796	21.463	21.6	17.1	0.972	0.981	0.	64.0	57.3	7.6

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	96.7	151.0	353.5	241.9	96.7	98.1	0.	114.7	340.0	335.9
10	101.7	149.5	344.9	237.3	101.7	100.0	0.	111.1	329.5	326.4
15	105.6	149.0	335.9	232.7	105.6	102.7	0.	108.0	318.9	316.9
30	113.1	152.2	308.3	210.3	113.1	107.7	0.	107.4	286.9	288.2
50	117.3	162.9	270.9	175.9	117.3	114.3	0.	116.1	244.2	249.9
70	116.5	169.5	233.5	148.0	116.5	117.6	0.	122.0	202.3	211.8
85	111.2	189.4	202.2	128.8	111.2	122.6	0.	144.3	168.9	183.9
90	106.5	189.6	190.4	117.1	106.5	114.5	0.	150.9	157.9	175.6
95	101.0	176.1	177.7	80.8	101.0	80.2	0.	156.7	146.2	166.9

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.287	0.424	1.047	0.680	1.012	0.307	1.3238	1.1334	0.626	0.640
10	0.301	0.421	1.023	0.669	0.982	0.327	1.3219	1.1254	0.662	0.675
15	0.313	0.421	0.997	0.658	0.973	0.346	1.3209	1.1182	0.700	0.712
30	0.336	0.433	0.916	0.598	0.954	0.399	1.3208	1.1070	0.773	0.782
50	0.349	0.466	0.806	0.503	0.977	0.464	1.3245	1.0998	0.837	0.844
70	0.346	0.488	0.694	0.426	1.003	0.529	1.3199	1.0893	0.925	0.928
85	0.330	0.548	0.601	0.373	1.126	0.541	1.3453	1.0917	0.965	0.966
90	0.316	0.549	0.565	0.339	1.169	0.484	1.3336	1.0917	0.934	0.937
95	0.299	0.508	0.527	0.233	0.886	0.405	1.2730	1.0906	0.788	0.796

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROP	TOT	PROP
5	11.0	9.1	4.1	8.0	0.423	0.288	0.016	0.272	0.039	0.037
10	11.1	9.4	4.9	7.7	0.419	0.256	0.013	0.243	0.036	0.034
15	11.3	9.7	5.2	7.9	0.415	0.225	0.013	0.212	0.033	0.031
30	12.8	10.8	5.6	9.5	0.436	0.177	0.004	0.174	0.030	0.029
50	14.5	11.8	5.3	15.2	0.482	0.146	0.	0.146	0.028	0.028
70	15.3	11.8	10.9	22.4	0.501	0.080	0.	0.080	0.016	0.016
85	15.5	11.6	13.7	38.3	0.520	0.049	0.	0.049	0.010	0.010
90	16.0	11.9	16.3	44.0	0.522	0.103	0.	0.103	0.021	0.021
95	16.3	12.1	19.6	48.3	0.691	0.375	0.	0.375	0.072	0.072

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
67.37	1.3222	1.1052	0.790	7427.5

ATT FAN VEHICLE

(METRIC)

BP-OGV

70 PERCENT SPEED

RDG 177

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.2	1.0	0.085	0.093	47.9	0.		
15	41.605	41.554	0.7	1.9	0.127	0.136	45.6	0.		
30	39.192	39.218	1.9	3.1	0.260	0.269	41.3	0.		
50	35.763	35.852	2.4	3.5	0.448	0.455	40.3	0.		
70	32.487	32.639	3.0	3.6	0.621	0.626	39.5	0.		
85	30.124	30.302	3.3	3.3	0.740	0.744	38.7	0.		
90	29.312	29.489	3.4	3.0	0.779	0.783	38.7	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	154.1	113.3			103.2	113.3	114.4	0.		
15	156.2	114.4			109.2	114.4	111.6	0.		
30	161.1	119.3			121.0	119.3	106.3	0.		
50	169.2	124.7			129.1	124.7	109.4	0.		
70	177.0	132.1			136.6	132.1	112.6	0.		
85	180.4	134.0			140.9	134.0	112.6	0.		
90	182.3	135.4			142.3	135.4	113.9	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.434	0.316			1.092	0.383	1.3095	1.1299	0.617	0.631
15	0.441	0.320			1.041	0.402	1.3103	1.1243	0.640	0.659
30	0.458	0.336			0.983	0.412	1.3126	1.1117	0.723	0.734
50	0.484	0.353			0.962	0.406	1.3115	1.1050	0.767	0.776
70	0.509	0.376			0.966	0.402	1.3137	1.0982	0.826	0.832
85	0.521	0.383			0.950	0.386	1.3038	1.0911	0.865	0.870
90	0.527	0.387			0.951	0.372	1.3003	1.0896	0.869	0.874

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	4.3	-3.9	10.9	47.7	0.527	0.083	0.	0.083	0.029	0.029
15	3.4	-4.9	10.4	45.4	0.515	0.069	0.	0.069	0.024	0.024
30	1.3	-6.6	9.4	41.2	0.474	0.044	0.	0.044	0.014	0.014
50	1.3	-5.9	8.6	40.3	0.457	0.058	0.	0.058	0.017	0.017
70	-0.1	-6.5	8.3	39.5	0.428	0.046	0.	0.046	0.013	0.013
85	-2.3	-8.0	8.4	38.7	0.418	0.069	0.	0.069	0.018	0.018
90	-2.9	-8.6	8.4	38.7	0.416	0.085	0.	0.085	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
58.21	1.3103	1.1074	0.747	7427.5

ATT FAN VEHICLE

(METRIC)

CORE-UGV

70 PERCENT SPEED

RDG 177

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,7	-5,9	0,887	0,888	50,1	19,4		
30	24,689	24,460	-1,8	-5,1	0,912	0,914	49,1	18,6		
50	23,673	23,597	-0,8	-4,2	0,947	0,945	50,3	17,7		
70	22,682	22,784	1,2	-2,6	0,973	0,970	60,1	16,9		
85	21,971	22,174	3,0	-0,5	0,988	0,985	65,0	16,4		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
15	174,8	135,5			112,1	127,9	134,1	44,8		
30	182,8	133,3			119,7	126,4	138,1	42,4		
50	187,1	125,2			119,4	119,3	144,2	37,9		
70	172,8	101,5			86,5	97,1	148,7	29,6		
85	168,8	90,1			71,3	86,4	153,5	25,4		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,504	0,387			1,134	0,325	1,3252	1,0915	0,915	0,919
30	0,528	0,380			1,051	0,388	1,3245	1,0917	0,912	0,916
50	0,541	0,356			0,987	0,445	1,3060	1,0918	0,864	0,869
70	0,498	0,288			1,081	0,585	1,2628	1,0907	0,760	0,768
85	0,486	0,255			1,193	0,647	1,2450	1,0906	0,713	0,722

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	0,7	-3,2	8,5	30,7	0,402	0,081	0,	0,081	0,026	0,026
30	1,5	-2,0	7,8	30,4	0,447	0,088	0,	0,088	0,028	0,028
50	3,8	0,8	7,4	32,5	0,516	0,120	0,	0,120	0,037	0,037
70	13,0	10,6	7,7	42,4	0,646	0,097	0,	0,097	0,029	0,029
85	16,0	14,4	9,7	48,4	0,693	0,074	0,	0,074	0,021	0,021

INLET CORR W/FLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
9,16	1,3002	1,0914	0,852	7427,5



ATT FAN VEHICLE

(METRIC)

ROTOR

80 PERCENT SPEED

RDG 178

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	REL ANGLE OUT	IN	OUT
	IN	OUT			IN	OUT				
5	43.713	43.180	-5.5	-5.7	0.061	0.062	0.	41.4	71.1	65.1
10	42.367	41.961	-4.6	-4.9	0.124	0.122	0.	40.4	69.6	63.8
15	40.996	40.742	-3.6	-3.9	0.186	0.184	0.	38.4	68.1	62.1
30	36.881	37.059	0.5	0.0	0.377	0.369	0.	37.4	64.2	56.9
50	31.394	32.131	6.6	6.1	0.607	0.601	0.	39.3	60.1	48.3
70	26.010	27.229	11.7	15.0	0.791	0.797	0.	43.4	56.4	39.1
85	21.717	23.647	16.6	15.7	0.908	0.911	0.	50.2	52.8	21.4
90	20.295	22.581	18.7	15.0	0.940	0.943	0.	48.6	52.0	14.0
95	18.796	21.463	20.3	16.2	0.971	0.975	0.	51.4	51.3	4.4

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	133.9	169.6	411.8	301.0	133.9	127.5	0.	111.9	389.4	384.7
10	141.1	170.8	402.9	293.9	141.1	130.3	0.	110.4	377.4	373.8
15	147.3	173.0	393.0	289.6	147.3	135.7	0.	107.2	365.2	362.9
30	159.1	180.9	365.0	263.0	159.1	143.7	0.	109.8	328.5	330.1
50	162.1	191.4	323.2	222.1	162.1	148.4	0.	121.0	279.7	286.2
70	157.2	193.5	280.0	181.5	157.2	142.8	0.	130.6	231.7	242.6
85	153.2	210.1	246.8	147.0	153.2	137.6	0.	158.8	193.5	210.7
90	149.1	223.8	234.4	155.3	149.1	151.1	0.	165.2	180.8	201.2
95	143.2	234.2	220.3	150.2	143.2	149.7	0.	180.0	167.4	191.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.400	0.475	1.229	0.844	0.951	0.293	1.3793	1.1488	0.647	0.662
10	0.422	0.480	1.205	0.826	0.924	0.319	1.3901	1.1425	0.693	0.706
15	0.441	0.488	1.180	0.818	0.923	0.345	1.4027	1.1342	0.757	0.768
30	0.478	0.514	1.097	0.748	0.905	0.412	1.4281	1.1251	0.857	0.864
50	0.487	0.547	0.972	0.635	0.917	0.472	1.4322	1.1195	0.905	0.909
70	0.472	0.556	0.841	0.522	0.899	0.530	1.4102	1.1096	0.941	0.944
85	0.460	0.606	0.740	0.424	0.900	0.594	1.4408	1.1156	0.952	0.954
90	0.447	0.649	0.702	0.450	1.032	0.568	1.4658	1.1148	1.006	1.005
95	0.428	0.680	0.659	0.436	1.081	0.504	1.4709	1.1184	0.985	0.985

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
5	7.9	6.0	3.0	6.0	0.359	0.247	0.037	0.209	0.035	0.029	
10	7.7	6.1	3.5	5.8	0.362	0.213	0.031	0.182	0.032	0.027	
15	7.7	6.1	3.4	6.1	0.356	0.166	0.026	0.139	0.026	0.022	
30	8.5	6.5	3.2	7.5	0.381	0.104	0.016	0.088	0.019	0.016	
50	10.1	7.5	3.9	12.0	0.427	0.079	0.015	0.064	0.015	0.012	
70	11.1	7.7	11.9	17.1	0.469	0.056	0.003	0.053	0.011	0.010	
85	10.3	6.4	16.6	31.0	0.551	0.059	0.	0.059	0.012	0.012	
90	10.2	6.2	17.6	37.7	0.492	-0.010	0.	-0.010	-0.002	-0.002	
95	10.3	6.1	16.4	46.1	0.481	0.025	0.	0.025	0.005	0.005	

INLET CORR  
RATIO  
88.86

PRESS  
RATIO  
1.4209

TEMP  
RATIO  
1.1246

ADIA  
EFF  
0.847

INLET CORR  
RPM  
8506.6

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP=0GV

80 PERCENT SPEED

RDG 178

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,2	-0,1	0,084	0,086	40,2	0,		
15	41,605	41,554	-0,6	0,4	0,126	0,128	38,1	0,		
30	39,192	39,218	0,3	1,2	0,260	0,262	32,9	0,		
50	35,763	35,852	0,9	1,6	0,455	0,455	32,8	0,		
70	32,487	32,639	1,8	2,1	0,632	0,632	33,3	0,		
85	30,124	30,302	2,7	2,3	0,749	0,750	34,1	0,		
90	29,312	29,489	3,0	2,4	0,787	0,788	34,3	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	174,3	141,3			133,2	141,3	112,4	0,		
15	180,2	147,3			141,9	147,3	111,0	0,		
30	194,5	158,7			163,3	158,7	105,7	0,		
50	208,5	170,8			175,2	170,8	113,1	0,		
70	215,4	175,1			180,0	175,1	118,3	0,		
85	216,3	174,0			179,2	174,0	121,0	0,		
90	216,4	173,7			178,7	173,7	122,0	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,490	0,394			1,058	0,272	1,3666	1,1466	0,637	0,652
15	0,508	0,412			1,036	0,288	1,3797	1,1420	0,678	0,692
30	0,555	0,448			0,970	0,292	1,4024	1,1275	0,796	0,805
50	0,598	0,484			0,975	0,298	1,4228	1,1245	0,852	0,859
70	0,621	0,499			0,973	0,309	1,4185	1,1183	0,888	0,893
85	0,626	0,497			0,971	0,295	1,3945	1,1122	0,888	0,894
90	0,627	0,496			0,973	0,283	1,3839	1,1100	0,884	0,889

PCT IMM	INCIDENCE		DEV	TURN	D*FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-3,5	-11,6	10,9	40,1	0,419	0,081	0,	0,081	0,029	0,029
15	-4,2	-12,4	10,4	38,0	0,397	0,050	0,	0,050	0,017	0,017
30	-7,1	-15,0	9,4	32,9	0,361	0,049	0,	0,049	0,016	0,016
50	-6,2	-13,4	8,6	32,8	0,342	0,035	0,	0,035	0,010	0,010
70	-6,3	-12,7	8,3	33,3	0,337	0,035	0,	0,035	0,010	0,010
85	-6,9	-12,6	8,4	34,1	0,339	0,065	0,	0,065	0,017	0,017
90	-7,2	-13,0	8,4	34,4	0,340	0,083	0,	0,083	0,021	0,021

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
76,96	1,4005	1,1258	0,803	8506,6

ATT FAN VEHICLE

(METRIC)

CORE-OGV

80 PERCENT SPEED

RDG 178

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,480	25,121	-2,8	-6,0	0,885	0,886	51,1	19,5		
30	24,689	24,460	-1,7	-4,7	0,905	0,907	50,6	18,9		
50	23,673	23,597	0,2	-3,1	0,935	0,935	48,2	18,0		
70	22,682	22,784	2,1	-1,4	0,965	0,962	49,0	17,2		
85	21,971	22,174	3,7	0,1	0,984	0,982	53,7	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	189,0	141,5			118,7	133,4	147,0	47,0		
30	196,8	141,4			124,9	133,8	152,1	45,6		
50	211,5	152,4			141,1	145,0	157,6	46,9		
70	221,9	156,8			145,4	149,8	167,5	46,2		
85	222,8	152,3			132,1	146,0	179,2	43,4		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,541	0,400			1,119	0,357	1,4162	1,1150	0,909	0,914
30	0,565	0,400			1,065	0,427	1,4210	1,1156	0,913	0,918
50	0,610	0,432			1,026	0,444	1,4464	1,1148	0,968	0,970
70	0,642	0,445			1,025	0,436	1,4474	1,1167	0,955	0,957
85	0,643	0,430			1,098	0,438	1,4239	1,1210	0,878	0,884

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	1,7	-2,2	8,6	31,6	0,435	0,092	0,	0,092	0,030	0,030
30	3,1	-0,5	8,1	31,7	0,466	0,067	0,	0,067	0,021	0,021
50	1,7	-1,3	7,7	30,2	0,449	0,043	0,	0,043	0,013	0,013
70	1,9	-0,5	7,9	31,7	0,462	0,074	0,	0,074	0,022	0,022
85	4,7	3,1	9,8	36,8	0,500	0,110	0,	0,110	0,032	0,032

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
11,90	1,4294	1,1166	0,921	8506,6

ATT FAN VEHICLE

(METRIC)

ROTOR

80 PERCENT SPEED

RDG 179

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE IN OUT	REL ANGLE		
	IN	OUT	IN	OUT	IN	OUT		IN	OUT	
5	43.713	43.180	-5.8	-6.0	0.060	0.061	0.	49.7	73.2	67.1
10	42.367	41.961	-5.2	-5.4	0.122	0.118	0.	48.4	71.7	66.0
15	40.996	40.742	-4.3	-4.6	0.186	0.178	0.	45.3	70.2	63.7
30	36.881	37.059	0.6	-0.0	0.377	0.369	0.	41.4	66.4	57.2
50	31.394	32.131	7.2	6.4	0.609	0.605	0.	45.1	62.9	50.6
70	26.010	27.229	12.1	13.4	0.793	0.797	0.	49.5	59.4	38.3
85	21.717	23.647	17.3	13.5	0.909	0.912	0.	53.0	56.2	18.9
90	20.295	22.581	19.3	13.9	0.941	0.944	0.	51.8	55.4	12.4
95	18.796	21.463	20.7	15.8	0.971	0.976	0.	55.1	54.8	3.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	118.4	167.9	407.1	279.0	118.4	108.9	0.	127.9	389.5	384.7
10	125.4	167.2	397.7	272.6	125.4	111.2	0.	124.9	377.5	373.8
15	131.8	170.5	388.3	270.4	131.8	120.1	0.	120.9	365.2	363.0
30	143.7	180.6	358.6	250.3	143.7	135.4	0.	119.7	328.6	330.2
50	144.4	183.7	314.8	203.3	144.4	130.1	0.	129.8	279.7	286.3
70	140.2	192.6	270.9	160.5	140.2	127.1	0.	144.6	231.7	242.6
85	135.7	212.0	236.4	137.0	135.7	129.9	0.	167.5	193.5	210.7
90	132.0	221.1	223.8	142.3	132.0	139.3	0.	171.7	180.8	201.2
95	126.5	225.5	209.9	132.7	126.5	132.4	0.	182.6	167.5	191.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.352	0.466	1.211	0.774	0.919	0.326	1.4371	1.1700	0.642	0.660
10	0.373	0.466	1.185	0.759	0.890	0.352	1.4394	1.1610	0.681	0.697
15	0.393	0.478	1.159	0.757	0.917	0.377	1.4534	1.1511	0.746	0.759
30	0.430	0.511	1.073	0.708	0.945	0.442	1.4799	1.1363	0.870	0.877
50	0.432	0.522	0.942	0.578	0.902	0.494	1.4488	1.1284	0.870	0.877
70	0.419	0.550	0.810	0.459	0.903	0.544	1.4305	1.1211	0.889	0.895
85	0.405	0.610	0.706	0.394	0.973	0.561	1.4468	1.1220	0.913	0.917
90	0.394	0.639	0.668	0.411	1.086	0.522	1.4532	1.1195	0.943	0.946
95	0.377	0.652	0.625	0.384	1.093	0.449	1.4360	1.1202	0.907	0.911

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	TOT	PROF	
5	10.0	8.1	5.1	6.0	0.419	0.282	0.044	0.238	0.037	0.031
10	9.9	8.2	5.7	5.8	0.420	0.248	0.038	0.211	0.034	0.029
15	9.8	8.2	5.0	6.7	0.408	0.194	0.032	0.161	0.029	0.024
30	10.7	8.7	3.6	9.4	0.414	0.104	0.020	0.084	0.019	0.015
50	12.9	10.3	6.2	12.4	0.477	0.117	0.010	0.107	0.022	0.020
70	14.1	10.7	11.1	20.7	0.542	0.122	0.	0.122	0.024	0.024
85	13.7	9.8	14.1	36.9	0.583	0.121	0.	0.121	0.025	0.025
90	13.7	9.6	16.0	42.6	0.531	0.084	0.	0.084	0.017	0.017
95	13.8	9.6	15.9	49.8	0.539	0.160	0.	0.160	0.031	0.031

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
80.92	1.4524	1.1365	0.824	8507.7

ATT FAN VEHICLE

(METRIC)

BP-0GV

80 PERCENT SPEED

RDG 179

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0,3	0,9	0,080	0,087	48,4	0,		
15	41,605	41,554	0,6	1,8	0,121	0,129	45,9	0,		
30	39,192	39,218	1,7	2,9	0,255	0,264	38,3	0,		
50	35,763	35,852	1,7	2,9	0,457	0,462	37,7	0,		
70	32,487	32,639	2,4	3,1	0,633	0,636	39,2	0,		
85	30,124	30,302	2,9	2,9	0,747	0,749	40,2	0,		
90	29,312	29,489	3,1	2,8	0,784	0,786	41,0	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	171,2	124,0			113,6	124,0	128,0	0,		
15	175,1	128,4			121,9	128,4	125,7	0,		
30	190,7	143,7			149,7	143,7	118,1	0,		
50	200,7	151,4			158,9	151,4	122,6	0,		
70	199,7	147,8			154,8	147,8	126,3	0,		
85	202,1	145,1			154,4	145,1	130,3	0,		
90	204,6	145,4			154,5	145,4	134,1	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,476	0,341			1,082	0,409	1,4214	1,1667	0,634	0,652
15	0,489	0,355			1,042	0,420	1,4287	1,1603	0,669	0,686
30	0,539	0,401			0,952	0,380	1,4530	1,1422	0,792	0,803
50	0,571	0,425			0,953	0,376	1,4578	1,1348	0,843	0,851
70	0,571	0,416			0,955	0,426	1,4353	1,1263	0,861	0,868
85	0,580	0,410			0,940	0,431	1,4128	1,1207	0,860	0,866
90	0,587	0,410			0,941	0,423	1,4059	1,1209	0,846	0,853

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF	
	ML	SS					SHOCK	PROF		PROF	PROF
10	4,7	-3,4	10,9	48,2	0,542	0,077	0,	0,077	0,027	0,027	
15	3,6	-4,6	10,4	45,6	0,517	0,052	0,	0,052	0,018	0,018	
30	-1,8	-9,6	9,4	38,2	0,450	0,064	0,	0,064	0,021	0,021	
50	-1,3	-8,5	8,6	37,7	0,427	0,061	0,	0,061	0,018	0,018	
70	-0,4	-6,8	8,3	39,2	0,433	0,029	0,	0,029	0,008	0,008	
85	-0,8	-6,5	8,4	40,2	0,448	0,059	0,	0,059	0,015	0,015	
90	-0,6	-6,3	8,4	41,0	0,455	0,081	0,	0,081	0,020	0,020	

INLET CORR WTFLOW 69,65 PRESS RATIO 1,4371 TEMP RATIO 1,1388 ADIA EFF 0,787 INLET CORR RPM 8507,7

ATT FAN VEHICLE

(METRIC)

CORE=OGV

80 PERCENT SPEED

RDG 179

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS ANGLE		REL ANGLE	
	IN	OUT					IN	OUT	IN	OUT
15	25,400	25,121	-2,2	-5,3	0,881	0,883	54,4	19,4		
30	24,689	24,460	-0,7	-3,9	0,903	0,907	52,0	18,8		
50	23,673	23,597	0,9	-2,5	0,935	0,936	50,3	17,8		
70	22,682	22,784	2,2	-1,3	0,965	0,963	51,8	17,1		
85	21,971	22,174	3,4	0,0	0,985	0,982	56,4	16,5		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
15	199,6	145,6			116,4	137,3	162,2	48,3		
30	203,8	141,1			125,4	133,7	160,7	45,3		
50	214,2	141,1			136,8	134,3	164,8	43,2		
70	217,3	137,0			134,4	131,0	170,9	40,3		
85	217,8	134,5			120,5	128,9	181,3	38,3		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,570	0,410			1,173	0,402	1,4315	1,1267	0,852	0,859
30	0,584	0,398			1,056	0,464	1,4242	1,1221	0,871	0,877
50	0,617	0,398			0,980	0,474	1,4192	1,1201	0,876	0,882
70	0,627	0,386			0,964	0,493	1,4011	1,1192	0,849	0,856
85	0,628	0,378			1,068	0,510	1,3887	1,1222	0,805	0,814

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	4,9	1,1	8,5	34,8	0,468	0,074	0,	0,074	0,024	0,024
30	4,5	0,9	8,0	33,1	0,500	0,068	0,	0,068	0,022	0,022
50	3,8	0,8	7,6	32,4	0,524	0,104	0,	0,104	0,032	0,032
70	4,7	2,3	7,9	34,6	0,557	0,125	0,	0,125	0,037	0,037
85	7,5	5,8	9,8	39,6	0,577	0,120	0,	0,120	0,034	0,034

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
11,27	1,4144	1,1226	0,849	8507,7

ATT FAN VEHICLE

(METRIC)

ROTOR 90 PERCENT SPEED RDG 181

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5.6	-5.8	0.062	0.063	0.	42.4	69.5	64.7
10	42,367	41,961	-4.5	-4.9	0.125	0.124	0.	40.3	67.8	63.4
15	40,996	40,742	-3.4	-3.9	0.190	0.186	0.	39.2	66.3	62.0
30	36,881	37,059	0.4	-0.1	0.379	0.370	0.	39.8	62.1	56.6
50	31,394	32,131	6.7	6.2	0.608	0.602	0.	40.9	57.5	46.5
70	26,010	27,224	12.3	14.5	0.792	0.799	0.	43.9	53.8	39.1
85	21,717	23,647	17.0	14.5	0.908	0.912	0.	48.5	50.5	23.0
90	20,295	22,581	18.9	14.7	0.940	0.944	0.	46.0	49.7	16.4
95	18,796	21,463	20.4	16.3	0.971	0.976	0.	50.3	49.0	6.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	164.5	194.0	467.9	334.7	164.5	143.7	0.	130.3	438.0	432.7
10	173.5	194.3	458.6	330.3	173.5	148.4	0.	125.4	424.5	420.4
15	180.9	195.8	448.9	322.5	180.9	151.8	0.	123.7	410.8	408.2
30	195.8	205.5	418.2	287.0	195.8	157.8	0.	131.5	369.5	371.3
50	202.2	222.5	373.9	244.2	202.2	168.5	0.	145.3	314.6	321.9
70	195.3	217.1	325.7	201.9	195.3	158.8	0.	148.1	260.6	272.8
85	187.8	233.5	287.4	170.4	187.8	157.7	0.	172.2	217.6	236.9
90	182.5	249.4	273.2	183.1	182.5	176.3	0.	176.5	203.3	226.3
95	175.0	258.9	257.1	170.4	175.0	169.2	0.	195.8	188.3	215.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.495	0.536	1.408	0.925	0.872	0.328	1.5389	1.1949	0.672	0.692
10	0.524	0.540	1.384	0.918	0.856	0.357	1.5532	1.1821	0.736	0.752
15	0.547	0.547	1.356	0.900	0.841	0.384	1.5667	1.1743	0.785	0.798
30	0.595	0.577	1.272	0.806	0.808	0.458	1.6019	1.1687	0.854	0.864
50	0.616	0.630	1.140	0.692	0.835	0.529	1.6258	1.1614	0.923	0.928
70	0.594	0.620	0.990	0.577	0.810	0.578	1.5529	1.1400	0.957	0.959
85	0.570	0.671	0.872	0.490	0.846	0.615	1.5619	1.1413	0.962	0.964
90	0.552	0.722	0.827	0.530	0.987	0.586	1.5966	1.1380	1.036	1.034
95	0.528	0.750	0.776	0.494	1.007	0.523	1.5910	1.1443	0.984	0.985

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6.3	4.4	2.6	4.8	0.377	0.248	0.083	0.165	0.035	0.024
10	6.0	4.3	3.1	4.5	0.371	0.195	0.074	0.121	0.029	0.018
15	5.9	4.3	3.3	4.4	0.374	0.158	0.065	0.093	0.025	0.015
30	6.4	4.4	3.0	5.7	0.420	0.115	0.044	0.071	0.021	0.013
50	7.5	4.9	2.1	11.1	0.464	0.067	0.026	0.041	0.014	0.008
70	8.5	5.1	11.9	14.5	0.493	0.042	0.021	0.021	0.008	0.004
85	8.0	4.1	18.2	27.0	0.546	0.044	0.	0.044	0.009	0.009
90	7.9	3.9	20.0	32.8	0.471	-0.048	0.	-0.048	-0.009	-0.009
95	8.0	3.8	18.7	41.1	0.483	0.025	0.	0.025	0.005	0.005

INLET CORR WFLOW 103.62 PRESS RATIO 1.5846 TEMP RATIO 1.1634 ADIA EFF 0.860 INLET CORR RPM 9568.1

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP=OGV

90 PERCENT SPEED

RDG 181

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,0	0,0	0,084	0,088	40,7	0,		
15	41,605	41,554	-0,4	0,5	0,127	0,130	38,0	0,		
30	39,192	39,218	0,2	1,1	0,262	0,263	34,7	0,		
50	35,763	35,852	0,8	1,6	0,455	0,455	34,6	0,		
70	32,487	32,639	2,1	2,5	0,634	0,635	34,3	0,		
85	30,124	30,302	3,0	2,8	0,751	0,753	34,7	0,		
90	29,312	29,489	3,2	2,7	0,788	0,790	35,1	0,		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
10	198,9	158,3			150,9	158,3	129,4	0,		
15	204,9	163,6			161,5	163,6	126,1	0,		
30	219,8	172,0			180,6	172,0	125,3	0,		
50	239,9	189,7			197,5	189,7	136,2	0,		
70	250,2	197,6			206,7	197,6	141,1	0,		
85	245,0	189,8			201,5	189,8	139,3	0,		
90	241,9	185,3			198,0	185,3	138,9	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,552	0,435			1,046	0,309	1,5251	1,1898	0,675	0,694
15	0,572	0,451			1,010	0,321	1,5388	1,1813	0,723	0,739
30	0,620	0,478			0,951	0,327	1,5560	1,1699	0,792	0,805
50	0,682	0,530			0,960	0,336	1,5976	1,1686	0,850	0,859
70	0,717	0,556			0,956	0,343	1,6017	1,1586	0,908	0,914
85	0,705	0,536			0,943	0,341	1,5468	1,1452	0,914	0,919
90	0,697	0,524			0,937	0,336	1,5189	1,1408	0,901	0,906

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	HL	SS					SHOCK	PROF		
10	-3,0	-11,1	10,9	40,6	0,436	0,067	0,	0,067	0,024	0,024
15	-4,2	-12,5	10,4	37,9	0,416	0,050	0,	0,050	0,017	0,017
30	-5,3	-13,2	9,4	34,7	0,403	0,070	0,	0,070	0,023	0,023
50	-4,4	-11,6	8,6	34,6	0,378	0,045	0,	0,045	0,013	0,013
70	-5,3	-11,7	8,3	34,3	0,364	0,039	0,	0,039	0,011	0,011
85	-6,3	-12,0	8,4	34,7	0,371	0,068	0,	0,068	0,017	0,017
90	-6,5	-12,2	8,4	35,1	0,378	0,088	0,	0,088	0,022	0,022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
89,53	1,5622	1,1665	0,816	9568,1



ATT FAN VEHICLE

(METRIC)

CORE-OGV

90 PERCENT SPEED

RDG 181

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,5	-5,6	0,884	0,885	50,2	19,5		
30	24,689	24,460	-1,1	-4,3	0,904	0,907	48,6	18,8		
50	23,673	23,597	0,4	-2,9	0,935	0,936	45,2	17,9		
70	22,682	22,784	1,9	-1,5	0,965	0,962	46,9	17,1		
85	21,971	22,174	3,3	-0,1	0,985	0,982	52,7	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	214,8	168,4			137,7	158,9	164,8	55,9		
30	221,5	164,6			146,5	155,8	166,2	53,0		
50	238,0	173,5			168,0	165,1	168,7	53,3		
70	247,2	176,7			168,9	168,8	180,6	52,0		
85	247,1	172,1			149,7	165,0	196,3	49,0		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,612	0,473			1,148	0,325	1,5404	1,1449	0,907	0,912
30	0,633	0,462			1,054	0,397	1,5353	1,1419	0,919	0,923
50	0,686	0,489			0,979	0,405	1,5578	1,1383	0,976	0,976
70	0,714	0,498			0,991	0,408	1,5542	1,1413	0,950	0,953
85	0,711	0,483			1,093	0,421	1,5258	1,1488	0,862	0,870

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	0,7	-3,1	8,5	30,6	0,392	0,069	0,	0,069	0,022	0,022
30	1,1	-2,5	8,0	29,6	0,431	0,063	0,	0,063	0,020	0,020
50	-1,3	-4,3	7,7	27,2	0,429	0,076	0,	0,076	0,023	0,023
70	-0,2	-2,6	7,9	29,5	0,446	0,097	0,	0,097	0,029	0,029
85	3,8	2,1	9,8	35,8	0,483	0,112	0,	0,112	0,032	0,032

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14,09	1,5416	1,1432	0,919	9568,1

ATT FAN VEHICLE

(METRIC)

ROTOR 90 PERCENT SPEED RDG 182

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCY		ABS ANGLE IN	REL ANGLE OUT	REL ANGLE IN	REL ANGLE OUT
	IN	OUT			IN	OUT				
5	43.713	43.180	-5.9	-6.3	0.061	0.060	0.	35.8	68.7	64.7
10	42.367	41.961	-6.0	-5.5	0.124	0.120	0.	32.8	66.9	62.8
15	40.996	40.742	-3.9	-4.5	0.189	0.182	0.	31.7	65.1	61.8
30	36.881	37.059	-0.1	-0.7	0.377	0.366	0.	33.6	60.6	56.3
50	31.394	32.131	6.1	5.6	0.606	0.597	0.	36.5	55.7	46.6
70	26.010	27.229	11.7	13.6	0.791	0.795	0.	39.6	51.7	38.1
85	21.717	23.647	17.1	14.1	0.908	0.912	0.	46.1	48.7	21.8
90	20.295	22.581	18.9	14.5	0.940	0.943	0.	45.1	48.0	15.3
95	18.796	21.463	20.3	16.1	0.971	0.975	0.	46.5	47.3	9.2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	172.2	189.1	470.9	357.6	172.2	153.7	0.	110.1	438.3	432.9
10	182.3	193.7	462.2	355.7	182.3	162.9	0.	104.6	424.8	420.7
15	190.9	194.3	453.2	348.4	190.9	165.5	0.	101.8	411.0	408.5
30	208.1	205.7	424.3	309.6	208.1	171.3	0.	113.8	369.8	371.5
50	215.8	223.7	381.6	261.4	215.8	180.2	0.	132.6	314.8	322.1
70	210.2	223.7	334.9	219.1	210.2	174.2	0.	140.2	260.8	273.0
85	200.0	241.2	295.6	182.4	200.0	170.0	0.	171.1	217.7	237.1
90	193.7	255.6	280.9	189.7	193.7	183.4	0.	178.0	203.5	226.4
95	185.6	262.3	264.5	186.5	185.6	184.3	0.	186.6	188.4	215.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.519	0.529	1.421	1.001	0.893	0.271	1.4077	1.1645	0.624	0.641
10	0.552	0.546	1.399	1.003	0.895	0.303	1.4416	1.1517	0.726	0.740
15	0.579	0.550	1.376	0.986	0.869	0.334	1.4580	1.1435	0.793	0.803
30	0.636	0.584	1.296	0.878	0.826	0.413	1.5147	1.1463	0.861	0.869
50	0.661	0.638	1.169	0.746	0.836	0.487	1.5531	1.1474	0.909	0.915
70	0.643	0.643	1.024	0.630	0.825	0.538	1.5150	1.1323	0.952	0.955
85	0.609	0.695	0.900	0.526	0.863	0.547	1.5263	1.1398	0.918	0.923
90	0.589	0.741	0.854	0.550	0.968	0.507	1.5517	1.1394	0.960	0.962
95	0.562	0.763	0.801	0.543	1.026	0.433	1.5364	1.1385	0.943	0.946

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	5.4	3.6	2.6	4.0	0.318	0.245	0.082	0.163	0.035	0.023
10	5.0	3.4	2.5	4.1	0.306	0.172	0.073	0.099	0.026	0.015
15	4.7	3.1	3.1	3.5	0.308	0.128	0.064	0.064	0.020	0.010
30	5.0	2.9	2.7	4.7	0.363	0.096	0.043	0.053	0.017	0.010
50	5.8	3.1	2.2	9.3	0.421	0.071	0.025	0.046	0.014	0.009
70	6.5	3.0	10.9	13.4	0.452	0.041	0.017	0.025	0.008	0.005
85	6.2	2.3	17.0	26.4	0.513	0.090	0.006	0.084	0.018	0.017
90	6.2	2.2	18.9	32.3	0.464	0.047	0.	0.047	0.009	0.009
95	6.3	2.1	21.2	37.5	0.435	0.077	0.	0.077	0.015	0.015

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
107.81	1.5067	1.1456	0.853	9574.0

ATT FAN VEHICLE

(METRIC)

BP=UGV

90 PERCENT SPEED

RDG 182

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1.1	-0.3	0,082	0,084	33,9	0.		
15	41,605	41,554	-0,7	0,0	0,124	0,125	30,9	0.		
30	39,192	39,218	-0,5	0,2	0,257	0,255	28,0	0.		
50	35,763	35,852	0,1	0,5	0,449	0,445	29,4	0.		
70	32,487	32,639	1,3	1,2	0,626	0,623	29,9	0.		
85	30,124	30,302	2,3	1,7	0,743	0,742	30,2	0.		
90	29,312	29,489	2,7	1,9	0,781	0,781	30,6	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	195,7	172,6			162,4	172,6	108,8	0.		
15	205,0	178,7			175,9	178,7	105,1	0.		
30	220,4	190,3			194,5	190,3	103,6	0.		
50	247,9	214,1			216,0	214,1	121,8	0.		
70	259,4	221,0			225,0	221,0	129,2	0.		
85	258,1	220,6			223,0	220,6	129,9	0.		
90	257,4	221,8			221,5	221,8	131,0	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH'	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,550	0,482			1,061	0,129	1,3916	1,1597	0,620	0,637
15	0,580	0,502			1,015	0,141	1,4088	1,1513	0,680	0,695
30	0,630	0,539			0,980	0,162	1,4390	1,1406	0,780	0,791
50	0,713	0,608			0,993	0,189	1,5058	1,1508	0,823	0,832
70	0,751	0,630			0,982	0,202	1,5077	1,1457	0,855	0,863
85	0,751	0,632			0,990	0,180	1,4745	1,1356	0,866	0,873
90	0,749	0,637			1,002	0,162	1,4634	1,1330	0,864	0,871

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	HL	SS					SHOCK	PROP		
10	-9,8	-17,9	10,9	33,8	0,316	0,109	0.	0,109	0,038	0,038
15	-11,3	-19,6	10,4	30,9	0,306	0,114	0.	0,114	0,039	0,039
30	-12,0	-19,9	9,4	28,0	0,288	0,104	0.	0,104	0,034	0,034
50	-9,6	-16,8	8,6	29,4	0,281	0,075	0.	0,075	0,022	0,022
70	-9,7	-16,1	8,3	29,9	0,285	0,088	0.	0,088	0,024	0,024
85	-10,7	-16,5	8,4	30,2	0,275	0,108	0.	0,108	0,028	0,028
90	-10,9	-16,7	8,4	30,6	0,267	0,115	0.	0,115	0,029	0,029

INLET CORR HTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
92,69	1,4632	1,1464	0,785	9574,0

ATT FAN VEHICLE

(METRIC)

CORE-OGV 90 PERCENT SPEED RDG 182

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.7	-5.6	0,881	0,882	45.4	19.5		
30	24,689	24,460	-1.6	-4.6	0,903	0,905	44.5	18.8		
50	23,673	23,597	0.3	-2.9	0,934	0,935	43.6	17.9		
70	22,682	22,784	2.4	-1.1	0,964	0,962	43.9	17.1		
85	21,971	22,174	3.9	0.4	0,984	0,982	47.6	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	230.2	197.7			161.7	186.5	163.8	65.6		
30	231.6	184.4			165.1	174.6	162.4	59.3		
50	247.5	195.7			179.2	186.3	170.7	60.0		
70	253.6	197.9			183.0	189.2	175.8	58.2		
85	250.5	190.5			169.1	182.6	184.6	54.1		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,659	0,560			1,148	0,199	1,5283	1,1440	0,894	0,901
30	0,665	0,521			1,051	0,309	1,4964	1,1390	0,878	0,885
50	0,715	0,555			1,038	0,347	1,5317	1,1400	0,925	0,930
70	0,735	0,562			1,028	0,348	1,5216	1,1382	0,922	0,927
85	0,725	0,539			1,076	0,342	1,4760	1,1402	0,839	0,848

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-4.0	-7.9	8.5	25.9	0,289	0,074	0.	0,074	0,024	0,024
30	-3.0	-6.6	8.0	25.7	0,356	0,071	0.	0,071	0,022	0,022
50	-2.8	-5.9	7.6	25.7	0,354	0,034	0.	0,034	0,011	0,011
70	-3.2	-5.6	7.9	26.7	0,364	0,054	0.	0,054	0,016	0,016
85	-1.4	-3.0	9.8	30.8	0,397	0,098	0.	0,098	0,028	0,028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15,11	1,5100	1,1409	0,887	9574,0

ATT FAN VEHICLE

(METRIC)

ROTOR 90 PERCENT SPEED RDG 183

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
5	43,713	43,180	-5,7	-5,9	0,062	0,062	0,	47,4	70,6	64,7
10	42,367	41,961	-4,9	-5,2	0,122	0,122	0,	46,3	68,9	63,5
15	40,996	40,742	-3,6	-4,2	0,190	0,184	0,	43,4	67,3	61,6
30	36,881	37,059	0,9	0,4	0,381	0,374	0,	40,9	63,1	56,1
50	31,394	32,131	7,6	7,1	0,611	0,610	0,	43,8	59,0	46,2
70	26,010	27,229	13,4	16,2	0,795	0,808	0,	47,1	55,8	38,1
85	21,717	23,647	17,4	16,8	0,909	0,917	0,	52,6	52,6	19,6
90	20,295	22,581	19,3	16,0	0,941	0,947	0,	52,2	51,8	12,0
95	18,796	21,463	20,6	16,8	0,971	0,977	0,	54,1	51,0	5,2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	155,4	200,0	465,2	316,8	155,4	135,8	0,	146,8	438,4	433,1
10	164,4	199,6	455,6	309,5	164,4	138,3	0,	144,0	424,9	420,9
15	172,5	201,9	445,9	307,7	172,5	146,9	0,	138,3	411,2	408,6
30	187,4	208,7	414,7	282,9	187,4	157,8	0,	136,7	369,9	371,7
50	190,7	224,3	368,1	233,7	190,7	162,6	0,	154,6	314,9	322,3
70	182,2	219,9	318,2	191,3	182,2	152,8	0,	158,0	260,9	273,1
85	174,7	238,8	279,2	157,6	174,7	149,2	0,	186,5	217,8	237,2
90	169,8	249,0	265,1	160,1	169,8	156,9	0,	194,5	203,5	226,5
95	163,1	253,3	249,2	153,3	163,1	152,9	0,	202,0	188,5	215,3

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,466	0,548	1,396	0,868	0,873	0,335	1,5825	1,2198	0,638	0,660
10	0,495	0,549	1,371	0,852	0,843	0,363	1,5904	1,2090	0,678	0,698
15	0,521	0,559	1,346	0,853	0,855	0,391	1,6082	1,1947	0,747	0,763
30	0,568	0,585	1,257	0,793	0,843	0,460	1,6333	1,1754	0,858	0,867
50	0,579	0,633	1,117	0,659	0,855	0,517	1,6377	1,1722	0,879	0,887
70	0,552	0,626	0,963	0,544	0,840	0,547	1,5594	1,1496	0,905	0,911
85	0,527	0,683	0,843	0,451	0,852	0,576	1,5707	1,1527	0,902	0,908
90	0,512	0,719	0,799	0,461	0,942	0,542	1,5840	1,1524	0,921	0,926
95	0,491	0,730	0,750	0,442	0,971	0,477	1,5566	1,1503	0,897	0,903

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	7,4	5,5	2,7	5,8	0,423	0,301	0,087	0,215	0,043	0,031
10	7,1	5,4	3,2	5,5	0,426	0,265	0,077	0,188	0,040	0,028
15	6,9	5,3	2,9	5,9	0,413	0,203	0,068	0,135	0,032	0,021
30	7,5	5,4	2,5	7,2	0,428	0,118	0,045	0,073	0,022	0,013
50	9,1	6,4	1,8	12,9	0,489	0,111	0,028	0,083	0,023	0,017
70	10,5	7,1	10,9	17,3	0,517	0,102	0,027	0,075	0,020	0,015
85	10,1	6,2	14,8	31,7	0,587	0,128	0,	0,128	0,026	0,026
90	10,0	6,0	15,6	38,9	0,555	0,111	0,	0,111	0,023	0,023
95	10,0	5,8	17,2	44,9	0,546	0,162	0,	0,162	0,032	0,032

INLET CORR WTFLOW 99,41 PRESS RATIO 1,6053 TEMP RATIO 1,1761 ADIA EFF 0,822 INLET CORR RPM 9577,7

ATT FAN VEHICLE

(METRIC)

BP=OGV

90 PERCENT SPEED

RDG 183

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL IN	ANGLE OUT
	IN	OUT								
10	42,418	42,316	-0.6	0.6	0.084	0.090	45.5	0.		
15	41,605	41,554	0.2	1.3	0.127	0.133	43.1	0.		
30	39,192	39,218	1.1	2.3	0.265	0.271	36.2	0.		
50	35,763	35,852	1.6	2.7	0.467	0.470	36.6	0.		
70	32,487	32,639	2.7	3.3	0.646	0.649	36.9	0.		
85	30,124	30,302	3.3	3.3	0.762	0.766	37.2	0.		
90	29,312	29,489	3.4	3.1	0.799	0.803	38.1	0.		

PCT IMM	ABS VEL		REL VEL IN	MERID IN	VEL OUT	YANG IN	VEL OUT	BLADE IN	SPEED OUT
	IN	OUT							
10	206.2	152.7		144.4	152.7	147.1	0.		
15	211.5	157.4		154.4	157.4	144.5	0.		
30	226.6	172.5		182.9	172.5	133.9	0.		
50	239.3	181.0		192.2	181.0	142.7	0.		
70	247.9	186.7		198.3	186.7	148.8	0.		
85	242.5	177.2		193.2	177.2	146.5	0.		
90	239.1	170.8		188.2	170.8	147.4	0.		

PCT IMM	ABS MACH NO		REL MACH NO IN	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT						ADIA	POLY
10	0.567	0.414		1.051	0.390	1.5627	1.2158	0.630	0.653
15	0.584	0.429		1.013	0.402	1.5737	1.2078	0.666	0.686
30	0.637	0.477		0.939	0.383	1.6077	1.1815	0.800	0.813
50	0.678	0.503		0.941	0.384	1.6148	1.1767	0.830	0.841
70	0.707	0.521		0.941	0.392	1.6084	1.1675	0.869	0.877
85	0.695	0.497		0.919	0.405	1.5538	1.1527	0.879	0.886
90	0.685	0.479		0.910	0.411	1.5225	1.1496	0.853	0.862

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SNOCK	PROF	TOT	PROF
10	1.9	-6.3	10.9	45.4	0.513	0.072	0.	0.072	0.025	0.025
15	0.9	-7.4	10.4	42.9	0.494	0.055	0.	0.055	0.019	0.019
30	-3.9	-11.7	9.4	36.1	0.432	0.046	0.	0.046	0.015	0.015
50	-2.4	-9.6	8.6	36.6	0.421	0.052	0.	0.052	0.016	0.016
70	-2.7	-9.1	8.3	36.9	0.411	0.048	0.	0.048	0.013	0.013
85	-3.7	-9.5	8.4	37.3	0.424	0.068	0.	0.068	0.017	0.017
90	-3.4	-9.2	8.4	38.2	0.440	0.088	0.	0.088	0.022	0.022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
86.99	1.5870	1.1795	0.786	9577.7

ATT FAN VEHICLE

(METRIC)

CORE-OGV

90 PERCENT SPEED

RDG 183

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.2	-5.4	0,894	0,895	54,4	19,4		
30	24,689	24,460	-0.7	-3.9	0,913	0,917	52,5	18,7		
50	23,673	23,597	1,3	-2,2	0,942	0,944	51,7	17,8		
70	22,682	22,784	2,9	-0,8	0,969	0,968	53,5	17,0		
85	21,971	22,174	3,9	0,4	0,986	0,984	57,1	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	216,8	154,4			126,4	145,6	176,1	51,2		
30	225,0	153,2			137,0	145,1	178,5	49,1		
50	236,7	152,2			146,7	144,9	185,9	46,5		
70	238,4	143,4			142,0	137,1	191,5	42,1		
85	236,0	136,4			128,2	130,8	198,0	38,7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,615	0,430			1,145	0,435	1,5470	1,1550	0,857	0,865
30	0,640	0,427			1,050	0,485	1,5478	1,1527	0,870	0,878
50	0,677	0,424			0,988	0,493	1,5390	1,1524	0,860	0,868
70	0,683	0,399			0,958	0,514	1,5044	1,1506	0,822	0,832
85	0,675	0,379			1,019	0,537	1,4779	1,1506	0,784	0,795

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	4,9	1,1	8,5	34,8	0,488	0,066	0,	0,066	0,021	0,021
30	4,9	1,4	7,9	33,6	0,515	0,063	0,	0,063	0,020	0,020
50	5,3	2,2	7,5	33,9	0,546	0,106	0,	0,106	0,033	0,033
70	6,4	4,0	7,8	36,4	0,594	0,144	0,	0,144	0,042	0,042
85	8,2	6,5	9,7	40,4	0,624	0,145	0,	0,145	0,042	0,042

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
12,42	1,5258	1,1527	0,840	9577,7

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

ROG 184

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.0	-6.4	0.061	0.060	0.	45.1	69.3	65.9
10	42.367	41.961	-5.3	-5.8	0.124	0.119	0.	42.7	67.5	64.4
15	40.996	40.742	-4.2	-4.9	0.189	0.180	0.	41.2	65.8	62.6
30	36.881	37.059	-0.2	-0.8	0.378	0.366	0.	41.2	61.1	56.7
50	31.394	32.131	6.9	6.3	0.608	0.604	0.	41.5	56.3	47.5
70	26.010	27.229	12.7	13.4	0.793	0.800	0.	45.1	52.8	39.4
85	21.717	23.647	17.7	13.3	0.908	0.914	0.	48.4	49.9	22.4
90	20.295	22.581	19.3	14.2	0.941	0.945	0.	47.7	49.2	15.6
95	18.796	21.463	20.6	16.1	0.971	0.976	0.	50.6	48.5	8.3

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	175.6	200.6	494.8	345.8	175.6	142.0	0.	141.7	462.6	457.0
10	186.1	201.6	485.4	341.9	186.1	148.6	0.	136.2	448.4	444.1
15	195.5	205.1	475.9	334.2	195.5	154.5	0.	134.8	433.8	431.2
30	215.7	217.1	445.9	297.7	215.7	163.2	0.	143.1	390.3	392.2
50	223.3	230.4	400.3	255.5	223.3	173.1	0.	152.0	332.2	340.0
70	214.5	226.8	349.0	207.7	214.5	162.2	0.	158.5	275.3	288.2
85	202.8	248.1	306.5	180.1	202.8	167.1	0.	183.3	229.8	250.3
90	196.5	261.4	291.1	185.4	196.5	178.9	0.	190.6	214.8	239.0
95	188.2	266.6	273.8	174.7	188.2	173.1	0.	202.7	198.9	227.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	PULY
5	0.530	0.549	1.494	0.946	0.809	0.348	1.6300	1.2236	0.670	0.692
10	0.564	0.555	1.471	0.941	0.801	0.379	1.6492	1.2085	0.737	0.755
15	0.594	0.567	1.447	0.925	0.794	0.410	1.6739	1.2006	0.791	0.805
30	0.661	0.605	1.366	0.829	0.759	0.494	1.7275	1.1936	0.873	0.882
50	0.686	0.649	1.230	0.720	0.776	0.569	1.7353	1.1784	0.956	0.960
70	0.657	0.645	1.069	0.590	0.757	0.611	1.6393	1.1583	0.958	0.961
85	0.618	0.711	0.935	0.516	0.840	0.612	1.6367	1.1584	0.954	0.957
90	0.598	0.753	0.885	0.534	0.936	0.576	1.6543	1.1574	0.983	0.984
95	0.571	0.769	0.830	0.504	0.958	0.511	1.6264	1.1586	0.940	0.944

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	6.1	4.2	3.8	3.5	0.396	0.263	0.115	0.148	0.036	0.020
10	5.7	4.0	4.1	3.3	0.390	0.204	0.105	0.100	0.030	0.014
15	5.4	3.8	3.9	3.5	0.394	0.162	0.094	0.068	0.025	0.011
30	5.4	3.4	3.1	4.7	0.441	0.105	0.067	0.038	0.019	0.007
50	6.3	3.7	3.1	8.9	0.476	0.039	0.042	-0.002	0.008	-0.000
70	7.5	4.1	12.2	13.0	0.519	0.041	0.027	0.013	0.008	0.003
85	7.5	3.5	17.6	26.9	0.548	0.054	0.017	0.037	0.011	0.007
90	7.5	3.4	19.2	32.9	0.505	0.021	0.003	0.017	0.004	0.004
95	7.5	3.3	20.3	39.2	0.506	0.086	0.	0.086	0.017	0.017

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
109.33	1.6848	1.1849	0.869	10105.7



## ATT FAN VEHICLE

(METRIC)

BP-0GV

95 PERCENT SPEED

RDG 184

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0.9	0.2	0.080	0.083	43.8	0.		
15	41,605	41,554	-0.3	0.7	0.121	0.124	40.7	0.		
30	39,192	39,218	0.3	1.5	0.254	0.256	36.3	0.		
50	35,763	35,852	1.2	2.1	0.451	0.453	35.2	0.		
70	32,487	32,639	2.4	2.9	0.633	0.636	35.1	0.		
85	30,124	30,302	3.1	3.1	0.749	0.752	36.5	0.		
90	29,312	29,489	3.3	2.9	0.786	0.789	36.9	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	203.9	153.0			147.2	153.0	140.9	0.		
15	210.9	159.3			160.0	159.3	137.2	0.		
30	231.7	177.9			186.7	177.9	137.1	0.		
50	252.7	195.7			206.6	195.7	145.6	0.		
70	258.1	198.9			211.1	198.9	148.5	0.		
85	251.2	187.5			202.1	187.5	149.3	0.		
90	248.5	182.4			198.8	182.4	149.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH1	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.560	0.414			1.035	0.368	1.6105	1.2181	0.669	0.690
15	0.583	0.434			0.991	0.375	1.6269	1.2084	0.716	0.735
30	0.648	0.489			0.951	0.363	1.6746	1.1964	0.808	0.822
50	0.715	0.542			0.946	0.361	1.7187	1.1903	0.879	0.888
70	0.736	0.555			0.943	0.373	1.7041	1.1762	0.934	0.938
85	0.719	0.525			0.929	0.382	1.6328	1.1643	0.915	0.921
90	0.711	0.511			0.920	0.381	1.6020	1.1596	0.903	0.909

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	0.1	-8.0	10.9	43.6	0.496	0.081	0.	0.081	0.029	0.029
15	-1.6	-9.8	10.4	40.5	0.472	0.066	0.	0.066	0.023	0.023
30	-3.8	-11.6	9.4	36.3	0.425	0.057	0.	0.057	0.018	0.018
50	-3.8	-11.0	8.6	35.2	0.397	0.047	0.	0.047	0.014	0.014
70	-4.5	-10.9	8.3	35.2	0.386	0.039	0.	0.039	0.011	0.011
85	-4.5	-10.2	8.4	36.5	0.406	0.069	0.	0.069	0.018	0.018
90	-4.7	-10.4	8.4	36.9	0.416	0.091	0.	0.091	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
94.04	1.6665	1.1890	0.831	10105.7

ATT FAN VEHICLE

(METRIC)

CORE-OGV

95 PERCENT SPEED

RDG 184

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
15	25,400	25,121	-2.6	-5.7	0.881	0.882	48.1	19.5		
30	24,689	24,460	-1.4	-4.5	0.903	0.906	46.6	18.8		
50	23,673	23,597	0.4	-2.9	0.935	0.936	45.5	17.9		
70	22,682	22,784	2.2	-1.3	0.965	0.963	47.1	17.1		
85	21,971	22,174	3.6	0.2	0.985	0.982	51.4	16.5		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
15	233.2	187.1			155.8	176.5	173.5	62.1		
30	241.2	184.5			165.7	174.8	175.3	59.3		
50	255.4	187.4			179.1	178.4	182.2	57.4		
70	259.8	184.8			177.1	176.6	190.3	54.3		
85	256.6	178.3			160.0	171.0	200.3	50.7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.663	0.524			1.127	0.294	1.6098	1.1611	0.904	0.911
30	0.689	0.517			1.048	0.375	1.6114	1.1583	0.923	0.928
50	0.734	0.526			0.994	0.402	1.6165	1.1577	0.933	0.937
70	0.748	0.518			0.990	0.415	1.5909	1.1577	0.899	0.906
85	0.737	0.498			1.063	0.428	1.5531	1.1606	0.835	0.845

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-1.3	-5.2	8.5	28.6	0.364	0.073	0.	0.073	0.024	0.024
30	-0.9	-4.5	8.0	27.8	0.399	0.050	0.	0.050	0.016	0.016
50	-1.0	-4.0	7.6	27.6	0.424	0.071	0.	0.071	0.022	0.022
70	-0.0	-2.4	7.9	29.9	0.452	0.098	0.	0.098	0.029	0.029
85	2.5	0.8	9.8	34.6	0.481	0.107	0.	0.107	0.031	0.031

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.29	1.5965	1.1595	0.897	10105.7

ATT FAN VEHICLE

(METRIC)

ROTOR

95 PERCENT SPEED

RDG 185

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.9	-6.3	0.062	0.061	0.	46.8	69.2	65.0
10	42.367	41.961	-5.1	-5.6	0.126	0.121	0.	43.5	67.3	63.4
15	40.996	40.742	-3.9	-4.5	0.191	0.184	0.	41.0	65.6	61.9
30	36.801	37.059	0.9	0.2	0.382	0.374	0.	40.9	61.2	56.4
50	31.394	32.131	7.6	7.1	0.612	0.610	0.	43.8	56.7	45.8
70	26.010	27.229	13.6	15.1	0.796	0.807	0.	44.7	53.2	39.7
85	21.717	23.647	18.5	15.6	0.910	0.921	0.	49.9	50.6	20.4
90	20.295	22.581	20.1	15.9	0.942	0.952	0.	50.5	50.0	13.9
95	18.796	21.463	21.1	17.1	0.971	0.980	0.	54.8	49.3	6.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	176.9	208.4	495.0	337.1	176.9	143.2	0.	151.5	462.3	456.7
10	187.7	208.2	485.8	336.7	187.7	151.2	0.	143.0	448.1	443.8
15	197.2	208.8	476.4	333.9	197.2	157.8	0.	136.6	433.6	430.9
30	214.8	218.4	445.3	298.8	214.8	165.1	0.	142.9	390.1	391.9
50	220.2	238.2	398.4	246.4	220.2	172.6	0.	164.1	332.0	339.8
70	211.6	226.7	347.0	209.9	211.6	163.9	0.	156.7	275.1	288.0
85	199.0	253.1	303.9	177.1	199.0	166.7	0.	190.4	229.7	250.1
90	191.9	261.3	287.9	174.7	191.9	170.0	0.	198.5	214.6	238.8
95	183.3	260.6	270.4	155.5	183.3	154.6	0.	209.8	198.8	227.0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.534	0.568	1.496	0.918	0.810	0.352	1.6597	1.2389	0.652	0.676
10	0.569	0.572	1.473	0.925	0.808	0.384	1.6762	1.2186	0.727	0.746
15	0.600	0.578	1.449	0.924	0.803	0.414	1.6926	1.2028	0.800	0.814
30	0.658	0.609	1.364	0.833	0.770	0.491	1.7334	1.1935	0.880	0.889
50	0.676	0.669	1.223	0.692	0.785	0.555	1.7498	1.1925	0.900	0.908
70	0.647	0.645	1.062	0.597	0.777	0.589	1.6282	1.1572	0.951	0.954
85	0.606	0.724	0.925	0.507	0.851	0.587	1.6446	1.1642	0.930	0.935
90	0.583	0.751	0.874	0.502	0.917	0.543	1.6394	1.1640	0.925	0.930
95	0.555	0.748	0.819	0.446	0.893	0.472	1.5833	1.1639	0.856	0.865

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.9	4.1	3.0	4.2	0.421	0.290	0.115	0.176	0.041	0.025
10	5.5	3.8	3.1	4.0	0.405	0.219	0.104	0.115	0.033	0.017
15	5.2	3.6	3.2	3.9	0.395	0.156	0.093	0.063	0.025	0.010
30	5.5	3.5	2.8	4.9	0.437	0.100	0.066	0.034	0.018	0.006
50	6.7	4.1	1.4	11.0	0.504	0.093	0.041	0.052	0.019	0.011
70	8.0	4.5	12.5	13.2	0.506	0.049	0.028	0.021	0.010	0.004
85	8.1	4.2	15.6	28.7	0.555	0.087	0.012	0.074	0.018	0.015
90	8.2	4.2	17.5	34.7	0.536	0.100	0.	0.100	0.020	0.020
95	8.3	4.1	18.7	40.9	0.566	0.214	0.	0.214	0.041	0.041

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
108.69	1.6930	1.1911	0.849	10099.6

ORIGINAL PAGE IS OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP-0GV

95 PERCENT SPEED

RDG 185

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0.7	0.5	0.082	0.087	44.5	0.		
15	41,605	41,554	0.0	1.0	0.125	0.130	40.8	0.		
30	39,192	39,218	0.4	1.6	0.264	0.267	35.1	0.		
50	35,763	35,852	1.1	2.2	0.465	0.466	36.2	0.		
70	32,487	32,639	2.8	3.5	0.645	0.649	36.7	0.		
85	30,124	30,302	3.5	3.5	0.760	0.765	36.5	0.		
90	29,312	29,489	3.6	3.2	0.797	0.801	36.7	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	214.0	159.6			152.6	159.6	149.7	0.		
15	219.9	165.7			166.4	165.7	143.6	0.		
30	234.7	178.4			192.1	178.4	135.0	0.		
50	256.3	195.9			206.8	195.9	151.4	0.		
70	264.4	199.4			212.0	199.4	158.0	0.		
85	253.2	184.0			203.7	184.0	150.3	0.		
90	247.4	176.3			198.6	176.3	147.6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.586	0.431			1.039	0.380	1.6393	1.2312	0.656	0.679
15	0.607	0.450			0.989	0.386	1.6501	1.2175	0.713	0.733
30	0.658	0.491			0.927	0.379	1.6882	1.1932	0.835	0.847
50	0.723	0.541			0.946	0.386	1.7316	1.1977	0.859	0.869
70	0.752	0.554			0.941	0.397	1.7156	1.1873	0.890	0.898
85	0.724	0.514			0.906	0.413	1.6317	1.1651	0.909	0.915
90	0.709	0.493			0.891	0.418	1.5926	1.1577	0.902	0.908

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	0.8	-7.3	10.9	44.2	0.503	0.077	0.	0.077	0.027	0.027
15	-1.4	-9.7	10.4	40.6	0.474	0.057	0.	0.057	0.020	0.020
30	-5.0	-12.8	9.4	35.1	0.428	0.052	0.	0.052	0.017	0.017
50	-2.8	-10.0	8.6	36.2	0.412	0.036	0.	0.036	0.011	0.011
70	-2.9	-9.3	8.3	36.7	0.408	0.039	0.	0.039	0.011	0.011
85	-4.5	-10.2	8.4	36.5	0.424	0.065	0.	0.065	0.017	0.017
90	-4.9	-10.6	8.4	36.7	0.435	0.082	0.	0.082	0.021	0.021

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR. RPM
94.72	1.6790	1.1950	0.818	10099.6

ATT FAN VEHICLE

(METRIC)

CORE-OGV

95 PERCENT SPEED

RDG 185

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,6	-5,8	0,892	0,893	49,4	19,4		
30	24,689	24,460	-1,5	-4,7	0,914	0,916	48,5	18,7		
50	23,673	23,597	0,0	-3,4	0,944	0,944	48,6	17,8		
70	22,682	22,784	1,5	-2,0	0,971	0,968	52,1	17,0		
85	21,971	22,174	3,0	-0,4	0,988	0,985	57,5	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	233,9	180,7			152,2	170,5	177,6	59,8		
30	243,1	176,2			161,1	167,0	182,0	56,3		
50	252,5	170,2			167,0	162,1	189,6	51,8		
70	249,9	156,8			153,6	149,9	197,3	45,9		
85	247,3	147,5			132,8	141,4	208,2	41,8		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,664	0,504			1,115	0,344	1,6170	1,1648	0,893	0,900
30	0,693	0,491			1,032	0,414	1,6119	1,1642	0,890	0,897
50	0,723	0,474			0,968	0,453	1,5884	1,1640	0,862	0,870
70	0,715	0,435			0,953	0,507	1,5390	1,1635	0,802	0,814
85	0,705	0,408			1,059	0,545	1,5070	1,1666	0,746	0,760

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	0,0	-3,9	8,5	30,0	0,402	0,069	0,	0,069	0,022	0,022
30	0,9	-2,6	7,9	29,7	0,449	0,072	0,	0,072	0,023	0,023
50	2,1	-0,9	7,5	30,8	0,502	0,108	0,	0,108	0,033	0,033
70	5,0	2,6	7,8	34,8	0,566	0,123	0,	0,123	0,036	0,036
85	8,5	6,9	9,7	40,6	0,605	0,115	0,	0,115	0,033	0,033

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
13,97	1,5785	1,1649	0,845	10099,6

AIT FAN VEHICLE

(METRIC)

ROTOR

100 PERCENT SPEED

RDG 191

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5.5	-5.7	0.063	0.064	0.	33.1	68.5	64.9
10	42,367	41,961	-4.3	-4.8	0.126	0.126	0.	31.4	66.9	63.7
15	40,996	40,742	-3.2	-3.9	0.191	0.187	0.	32.8	65.3	62.8
30	36,881	37,059	-0.2	-0.8	0.378	0.366	0.	35.5	60.9	57.5
50	31,394	32,131	5.6	5.1	0.605	0.595	0.	34.8	55.5	49.8
70	26,010	27,229	11.4	11.7	0.790	0.791	0.	37.8	51.3	41.9
85	21,717	23,647	17.0	12.0	0.907	0.909	0.	44.0	48.6	22.6
90	20,295	22,581	18.8	13.3	0.940	0.942	0.	43.3	47.8	16.0
95	18,796	21,463	20.2	15.7	0.971	0.974	0.	45.2	47.2	9.9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	192.2	206.5	523.4	407.3	192.2	173.3	0.	112.3	486.8	480.9
10	202.2	208.3	513.3	400.6	202.2	177.9	0.	108.3	471.8	467.3
15	210.1	209.0	502.6	383.1	210.1	175.6	0.	113.1	456.3	453.7
30	228.7	221.5	470.1	336.7	228.7	180.5	0.	128.6	410.7	412.7
50	241.3	233.0	424.8	295.5	241.3	191.6	0.	132.6	349.6	357.8
70	236.7	232.3	374.1	246.3	236.7	184.9	0.	140.5	289.6	303.2
85	223.3	267.7	329.2	210.4	223.3	194.7	0.	183.8	241.8	263.3
90	216.1	285.7	312.7	218.7	216.1	210.7	0.	192.9	226.0	251.5
95	206.7	292.8	294.2	213.2	206.7	210.3	0.	203.8	209.3	239.0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.584	0.575	1.590	1.135	0.900	0.251	1.4618	1.1867	0.614	0.634
10	0.616	0.584	1.565	1.123	0.879	0.279	1.4888	1.1749	0.689	0.705
15	0.642	0.585	1.537	1.073	0.837	0.305	1.5017	1.1774	0.694	0.711
30	0.705	0.621	1.448	0.944	0.792	0.379	1.5608	1.1831	0.741	0.756
50	0.748	0.662	1.316	0.839	0.794	0.459	1.5908	1.1635	0.868	0.876
70	0.732	0.665	1.157	0.705	0.781	0.510	1.5455	1.1472	0.900	0.906
85	0.686	0.770	1.012	0.605	0.892	0.483	1.6040	1.1670	0.865	0.874
90	0.662	0.829	0.958	0.634	1.002	0.431	1.6432	1.1676	0.910	0.916
95	0.631	0.852	0.898	0.620	1.053	0.345	1.6192	1.1679	0.879	0.887

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.3	3.4	2.9	3.6	0.293	0.253	0.149	0.104	0.036	0.015
10	5.1	3.4	3.4	3.1	0.290	0.199	0.137	0.063	0.029	0.009
15	4.9	3.3	4.1	2.6	0.314	0.202	0.125	0.077	0.031	0.012
30	5.2	3.2	3.9	3.7	0.377	0.188	0.095	0.093	0.033	0.016
50	5.6	2.9	5.4	6.0	0.401	0.099	0.063	0.036	0.019	0.007
70	6.1	2.6	14.7	9.3	0.438	0.082	0.040	0.042	0.015	0.008
85	6.1	2.2	17.8	25.7	0.488	0.146	0.018	0.128	0.030	0.026
90	6.1	2.0	19.6	31.6	0.435	0.106	0.014	0.092	0.021	0.018
95	6.2	2.0	21.9	36.7	0.413	0.160	0.003	0.157	0.031	0.030

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
114.69	1.5533	1.1714	0.782	10634.2

ATT FAN VEHICLE

(METRIC)

BP-0GV

100 PERCENT SPEED

RDG 191

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.9	-0.2	0.087	0.090	31.6	0.		
15	41.605	41.554	-0.6	-0.0	0.130	0.132	29.7	0.		
30	39.192	39.218	-0.9	-0.2	0.260	0.256	30.7	0.		
50	35.763	35.852	-0.1	0.2	0.446	0.441	29.6	0.		
70	32.487	32.639	1.1	0.8	0.621	0.617	28.3	0.		
85	30.124	30.302	2.0	1.3	0.736	0.734	28.7	0.		
90	29.312	29.489	2.4	1.5	0.774	0.773	29.2	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	212.7	197.6			181.2	197.6	111.1	0.		
15	219.9	194.0			191.0	194.0	109.0	0.		
30	236.6	209.1			203.5	209.1	120.6	0.		
50	264.4	234.8			229.9	234.8	130.6	0.		
70	272.1	240.5			239.7	240.5	128.9	0.		
85	269.5	240.8			236.5	240.8	129.3	0.		
90	268.8	244.1			234.7	244.1	131.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.595	0.550			1.093	-0.067	1.4002	1.1811	0.558	0.578
15	0.619	0.541			1.016	-0.044	1.3881	1.1743	0.564	0.583
30	0.667	0.584			1.031	0.013	1.4284	1.1817	0.590	0.610
50	0.755	0.662			1.024	0.091	1.5135	1.1799	0.699	0.716
70	0.787	0.686			1.003	0.106	1.5128	1.1614	0.778	0.791
85	0.783	0.691			1.019	0.081	1.4805	1.1500	0.791	0.802
90	0.781	0.702			1.041	0.062	1.4774	1.1478	0.798	0.809

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-12.1	-20.2	10.9	31.5	0.254	0.226	0.	0.226	0.079	0.079
15	-12.5	-20.8	10.4	29.7	0.289	0.300	0.	0.300	0.103	0.103
30	-9.4	-17.2	9.4	30.7	0.279	0.233	0.	0.233	0.076	0.076
50	-9.4	-16.6	8.6	29.6	0.257	0.142	0.	0.142	0.042	0.042
70	-11.4	-17.7	8.3	28.3	0.246	0.140	0.	0.140	0.038	0.038
85	-12.3	-18.0	8.4	28.7	0.230	0.149	0.	0.149	0.038	0.038
90	-12.4	-18.1	8.4	29.2	0.215	0.139	0.	0.139	0.035	0.035

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
97.52	1.4674	1.1718	0.674	10634.2

ATT FAN VEHICLE

(METRIC)

CORE=OGV 100 PERCENT SPEED RDG 191

PCT IMM	RADIUS		MERID	ANGLE	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,7	-5,7	0,873	0,873	44,0	19,5		
30	24,689	24,460	-1,5	-4,5	0,896	0,898	41,0	18,8		
50	23,673	23,597	0,2	-2,9	0,929	0,929	40,7	17,9		
70	22,682	22,784	2,3	-1,1	0,961	0,959	41,1	17,1		
85	21,971	22,174	3,8	0,4	0,983	0,981	44,9	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	253,7	228,1			182,6	215,2	176,2	75,7		
30	262,8	221,5			198,3	209,7	172,6	71,3		
50	283,3	232,6			214,9	221,4	184,7	71,4		
70	291,1	237,9			219,5	227,3	191,4	70,0		
85	286,5	231,0			203,1	221,5	201,7	65,7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PY RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,724	0,644			1,172	0,125	1,5634	1,1721	0,791	0,804
30	0,756	0,626			1,052	0,232	1,5561	1,1642	0,820	0,831
50	0,821	0,659			1,029	0,282	1,6006	1,1682	0,855	0,864
70	0,847	0,676			1,032	0,285	1,5990	1,1671	0,859	0,868
85	0,830	0,654			1,086	0,274	1,5387	1,1701	0,770	0,784

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-5,4	-9,3	8,5	24,5	0,239	0,082	0,	0,082	0,026	0,026
30	-6,5	-10,1	8,0	22,2	0,290	0,076	0,	0,076	0,024	0,024
50	-5,8	-8,8	7,6	22,8	0,309	0,056	0,	0,056	0,017	0,017
70	-6,0	-8,4	7,9	23,9	0,312	0,062	0,	0,062	0,018	0,018
85	-4,1	-5,7	9,8	28,1	0,337	0,101	0,	0,101	0,029	0,029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
17,17	1,5670	1,1690	0,810	10634,2



ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 192

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,9	-6,4	0,062	0,061	0,	41,7	68,9	66,3
10	42,367	41,961	-5,2	-5,7	0,125	0,121	0,	39,2	67,2	65,0
15	40,996	40,742	-4,2	-4,9	0,190	0,182	0,	37,9	65,4	63,6
30	36,881	37,059	-0,3	-0,9	0,379	0,366	0,	39,5	60,6	57,8
50	31,394	32,131	6,7	6,3	0,608	0,603	0,	40,0	55,4	48,1
70	26,010	27,229	12,8	14,5	0,792	0,802	0,	43,3	51,9	41,4
85	21,717	23,647	17,6	14,7	0,908	0,916	0,	47,6	49,2	24,1
90	20,295	22,581	19,3	15,1	0,940	0,947	0,	47,4	48,5	17,6
95	18,796	21,463	20,6	16,6	0,971	0,977	0,	50,2	47,8	10,7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	188,4	204,0	522,0	378,0	188,4	152,8	0,	135,1	486,8	480,9
10	199,6	204,1	512,3	373,8	199,6	158,4	0,	128,7	471,8	467,3
15	209,5	206,3	502,3	365,6	209,5	163,1	0,	126,4	456,5	453,7
30	231,5	221,5	471,5	320,9	231,5	170,7	0,	141,0	410,7	412,7
50	242,5	240,1	425,5	274,9	242,5	184,3	0,	153,8	349,6	357,8
70	232,8	232,4	371,6	225,7	232,8	171,6	0,	156,6	289,7	303,2
85	219,3	257,1	326,5	192,2	219,3	176,4	0,	187,0	241,8	263,3
90	211,8	269,0	309,8	194,1	211,8	185,7	0,	194,6	226,0	251,5
95	202,5	273,5	291,3	182,3	202,5	179,4	0,	206,5	209,3	239,0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,571	0,558	1,583	1,035	0,811	0,318	1,6086	1,2243	0,648	0,671
10	0,608	0,563	1,560	1,031	0,795	0,350	1,6294	1,2073	0,722	0,741
15	0,640	0,572	1,536	1,013	0,781	0,381	1,6529	1,1979	0,780	0,795
30	0,714	0,616	1,454	0,893	0,741	0,465	1,7262	1,2011	0,839	0,851
50	0,752	0,675	1,319	0,774	0,761	0,544	1,7626	1,1899	0,926	0,931
70	0,719	0,660	1,147	0,641	0,737	0,583	1,6539	1,1647	0,939	0,943
85	0,673	0,735	1,002	0,550	0,816	0,589	1,6706	1,1700	0,929	0,934
90	0,648	0,773	0,948	0,558	0,898	0,552	1,6801	1,1693	0,944	0,948
95	0,617	0,787	0,888	0,525	0,923	0,488	1,6459	1,1699	0,901	0,908

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5,7	3,8	4,2	2,7	0,362	0,267	0,150	0,117	0,036	0,016
10	5,3	3,7	4,7	2,2	0,355	0,204	0,138	0,066	0,029	0,009
15	5,0	3,4	4,9	2,0	0,358	0,160	0,126	0,034	0,024	0,005
30	4,9	2,9	4,1	3,2	0,423	0,129	0,095	0,034	0,023	0,006
50	5,5	2,8	3,7	7,5	0,463	0,064	0,063	0,001	0,013	0,000
70	6,7	3,2	14,2	10,2	0,496	0,057	0,039	0,018	0,011	0,003
85	6,7	2,8	19,3	24,1	0,538	0,081	0,019	0,062	0,016	0,012
90	6,8	2,7	21,2	30,0	0,508	0,068	0,015	0,053	0,013	0,010
95	6,8	2,6	22,7	35,9	0,509	0,136	0,004	0,133	0,026	0,025

INLET CORR WFLOW 114,08 PRESS RATIO 1,6911 TEMP RATIO 1,1916 ADIA EFF 0,845 INLET CORR RPM 10634,4

ATT FAN VEHICLE

(METRIC)

HP=0GV

100 PERCENT SPEED

RDG 192

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,3	-0,2	0,080	0,482	40,5	0,		
15	41,605	41,554	-0,8	0,2	0,121	0,123	37,4	0,		
30	39,192	39,218	-0,4	0,6	0,254	0,253	33,4	0,		
50	35,763	35,852	0,4	1,1	0,450	0,448	33,9	0,		
70	32,487	32,639	1,9	2,2	0,633	0,633	33,0	0,		
85	30,124	30,302	2,8	2,5	0,751	0,753	33,7	0,		
90	29,312	29,489	3,0	2,5	0,789	0,791	34,2	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	206,6	162,6			157,0	162,6	134,0	0,		
15	213,7	169,9			169,6	169,9	129,7	0,		
30	234,6	183,8			195,7	183,8	129,3	0,		
50	264,9	211,4			219,8	211,4	147,8	0,		
70	274,0	216,1			229,8	216,1	149,2	0,		
85	265,3	205,5			220,8	205,5	147,0	0,		
90	261,5	201,0			216,3	201,0	146,9	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,567	0,442			1,033	0,307	1,5883	1,2184	0,647	0,669
15	0,591	0,464			1,000	0,318	1,6094	1,2075	0,702	0,721
30	0,657	0,507			0,939	0,321	1,6481	1,1948	0,788	0,802
50	0,748	0,586			0,963	0,330	1,7329	1,2035	0,836	0,848
70	0,783	0,604			0,940	0,338	1,7239	1,1865	0,903	0,910
85	0,761	0,576			0,931	0,340	1,6476	1,1703	0,900	0,907
90	0,751	0,564			0,930	0,337	1,6153	1,1655	0,887	0,894

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-3,1	-11,3	10,9	40,4	0,443	0,085	0,	0,085	0,030	0,030
15	-4,8	-13,1	10,4	37,4	0,416	0,059	0,	0,059	0,020	0,020
30	-6,6	-14,5	9,4	33,4	0,395	0,074	0,	0,074	0,024	0,024
50	-5,1	-12,3	8,6	33,9	0,367	0,037	0,	0,037	0,011	0,011
70	-6,6	-13,0	8,3	33,0	0,360	0,049	0,	0,049	0,014	0,014
85	-7,3	-13,0	8,4	33,7	0,368	0,071	0,	0,071	0,018	0,018
90	-7,4	-13,1	8,4	34,2	0,373	0,085	0,	0,085	0,022	0,022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
98,64	1,6663	1,1947	0,807	10634,4

ATT FAN VEHICLE

(METRIC)

CORE-OGV

100 PERCENT SPEED

RDG 192

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.7	-5.8	0.886	0.886	48.5	19.5		
30	24,689	24,460	-1.5	-4.6	0.907	0.909	46.3	18.8		
50	23,673	23,597	0.2	-3.1	0.938	0.939	45.7	17.8		
70	22,682	22,784	1.9	-1.6	0.967	0.965	47.4	17.1		
85	21,971	22,174	3.4	-0.1	0.986	0.983	52.3	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	238.8	189.5			158.5	178.8	178.7	62.9		
30	247.2	187.0			170.9	177.1	178.7	60.0		
50	260.1	189.3			181.9	180.3	186.1	57.9		
70	263.0	183.4			178.0	175.3	193.8	53.8		
85	259.7	174.7			159.0	167.5	204.9	49.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.677	0.528			1.122	0.304	1.6414	1.1746	0.871	0.880
30	0.704	0.522			1.030	0.385	1.6443	1.1698	0.899	0.906
50	0.745	0.529			0.990	0.419	1.6485	1.1695	0.906	0.912
70	0.754	0.511			0.971	0.442	1.6121	1.1691	0.865	0.873
85	0.742	0.485			1.048	0.463	1.5691	1.1727	0.795	0.808

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-1.0	-4.8	8.5	29.0	0.375	0.078	0.	0.078	0.025	0.025
30	-1.3	-4.8	8.0	27.5	0.407	0.054	0.	0.054	0.017	0.017
50	-0.8	-3.8	7.6	27.8	0.431	0.060	0.	0.060	0.018	0.018
70	0.3	-2.1	7.8	30.2	0.470	0.091	0.	0.091	0.027	0.027
85	3.3	1.7	9.7	35.4	0.508	0.104	0.	0.104	0.030	0.030

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.43	1.6244	1.1717	0.866	10634.4

ATT FAN VEHICLE

(METRIC)

ROTOR

100 PERCENT SPEED

RDG 194

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-6.2	-6.7	0.062	0.059	0.	46.4	69.3	66.3
10	42.367	41.961	-5.7	-6.2	0.125	0.118	0.	43.3	67.5	64.6
15	40.996	40.742	-4.6	-5.3	0.190	0.179	0.	41.0	65.6	62.8
30	36.881	37.059	0.0	-0.7	0.380	0.368	0.	41.4	60.8	56.4
50	31.394	32.131	7.2	6.8	0.609	0.607	0.	43.3	56.0	46.6
70	26.010	27.229	13.3	14.7	0.794	0.805	0.	45.4	52.5	38.1
85	21.717	23.647	18.2	15.0	0.909	0.919	0.	49.6	49.9	20.2
90	20.295	22.581	19.8	15.5	0.941	0.950	0.	49.9	49.3	13.5
95	18.796	21.463	20.9	16.8	0.971	0.979	0.	53.5	48.6	6.1

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	185.4	210.9	522.8	361.3	185.4	145.9	0.	152.3	488.8	482.8
10	197.4	212.0	513.2	359.4	197.4	154.7	0.	144.8	473.7	469.2
15	208.3	214.9	503.5	354.5	208.3	162.6	0.	140.5	458.4	455.5
30	230.7	231.0	472.5	313.4	230.7	173.0	0.	153.0	412.4	414.3
50	239.0	248.3	424.6	262.2	239.0	181.3	0.	169.6	351.0	359.3
70	229.2	244.9	370.3	217.4	229.2	173.2	0.	173.1	290.8	304.4
85	215.0	268.2	324.3	188.3	215.0	177.3	0.	201.2	242.8	264.4
90	207.4	279.0	307.4	188.4	207.4	183.6	0.	210.1	226.9	252.5
95	198.1	281.4	288.8	173.0	198.1	172.2	0.	222.5	210.2	240.0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.562	0.571	1.584	0.979	0.787	0.332	1.6694	1.2538	0.621	0.647
10	0.601	0.579	1.562	0.982	0.788	0.365	1.6939	1.2337	0.695	0.717
15	0.637	0.591	1.539	0.975	0.785	0.397	1.7224	1.2205	0.762	0.780
30	0.711	0.640	1.457	0.868	0.752	0.479	1.7990	1.2191	0.834	0.847
50	0.740	0.694	1.314	0.733	0.759	0.545	1.8093	1.2105	0.877	0.887
70	0.706	0.693	1.141	0.615	0.756	0.571	1.6989	1.1827	0.895	0.902
85	0.659	0.766	0.994	0.537	0.838	0.553	1.6959	1.1837	0.887	0.895
90	0.633	0.801	0.939	0.541	0.913	0.505	1.6971	1.1833	0.890	0.898
95	0.603	0.808	0.879	0.497	0.915	0.428	1.6475	1.1839	0.834	0.845

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6.1	4.2	4.3	3.1	0.406	0.312	0.154	0.158	0.042	0.021
10	5.7	4.0	4.3	3.0	0.394	0.243	0.142	0.101	0.035	0.015
15	5.2	3.6	4.1	3.1	0.391	0.187	0.130	0.057	0.029	0.009
30	5.1	3.1	2.8	4.7	0.447	0.142	0.097	0.045	0.026	0.008
50	6.0	3.4	2.2	9.5	0.502	0.115	0.064	0.051	0.023	0.010
70	7.3	3.8	10.9	13.9	0.527	0.107	0.041	0.066	0.021	0.013
85	7.4	3.5	15.4	28.4	0.558	0.139	0.021	0.118	0.028	0.024
90	7.6	3.5	17.1	34.6	0.531	0.146	0.017	0.129	0.029	0.026
95	7.6	3.4	18.1	41.0	0.544	0.244	0.004	0.241	0.047	0.047

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
113.18	1.7441	1.2115	0.814	10676.9

ATT FAN VEHICLE

(METRIC)

BP=OGV

100 PERCENT SPEED

RDG 194

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0.6	0.5	0.078	0.083	45.1	0.		
15	41,605	41,554	-0.0	0.9	0.118	0.123	41.4	0.		
30	39,192	39,218	-0.1	1.1	0.253	0.253	35.6	0.		
50	35,763	35,852	0.5	1.4	0.454	0.452	36.2	0.		
70	32,487	32,639	2.2	2.7	0.637	0.639	35.9	0.		
85	30,124	30,302	3.1	3.0	0.755	0.758	36.4	0.		
90	29,312	29,489	3.3	2.9	0.792	0.795	37.0	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	213.9	157.4			151.0	157.4	151.3	0.		
15	221.3	162.7			165.9	162.7	146.1	0.		
30	243.1	182.2			197.6	182.2	141.7	0.		
50	273.0	208.1			220.4	208.1	161.1	0.		
70	279.6	209.9			226.5	209.9	164.0	0.		
85	272.0	197.6			218.9	197.6	161.4	0.		
90	269.5	192.6			215.3	192.6	162.0	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.582	0.422			1.036	0.380	1.6445	1.2470	0.618	0.644
15	0.606	0.439			0.975	0.379	1.6578	1.2340	0.664	0.687
30	0.677	0.498			0.921	0.360	1.7096	1.2144	0.772	0.789
50	0.767	0.571			0.945	0.373	1.7891	1.2226	0.812	0.827
70	0.794	0.580			0.927	0.403	1.7705	1.2058	0.861	0.872
85	0.776	0.549			0.904	0.416	1.6884	1.1875	0.861	0.871
90	0.770	0.535			0.896	0.414	1.6540	1.1832	0.844	0.854

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SMOCK	PROF	TOT	PROF
10	1.4	-6.7	10.9	44.8	0.516	0.093	0.	0.093	0.033	0.033
15	-0.8	-9.1	10.4	41.2	0.495	0.095	0.	0.095	0.033	0.033
30	-4.4	-12.3	9.4	35.6	0.440	0.092	0.	0.092	0.030	0.030
50	-2.8	-10.0	8.6	36.2	0.413	0.055	0.	0.055	0.016	0.016
70	-3.7	-10.1	8.3	35.9	0.409	0.040	0.	0.040	0.011	0.011
85	-4.5	-10.3	8.4	36.5	0.426	0.066	0.	0.066	0.017	0.017
90	-4.6	-10.3	8.4	37.0	0.436	0.088	0.	0.088	0.022	0.022

INLET CORR. WT FLOW 98.22  
 PRESS RATIO 1.7187  
 TEMP RATIO 1.2155  
 ADIA EFF 0.776  
 INLET CORR RPM 10676.9

C. 4

ATT FAN VEHICLE

(METRIC)

CORE-OGV

100 PERCENT SPEED

RDG 194

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,5	-5,7	0,889	0,890	50,0	19,4		
30	24,689	24,460	-1,4	-4,6	0,911	0,913	48,2	18,7		
50	23,673	23,597	0,1	-3,3	0,942	0,942	47,9	17,8		
70	22,682	22,784	1,6	-1,9	0,970	0,967	50,6	17,0		
85	21,971	22,174	3,1	-0,3	0,987	0,984	55,7	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	249,3	189,1			160,4	178,4	190,9	62,6		
30	258,5	184,1			172,4	174,4	192,6	58,9		
50	270,1	181,5			181,0	172,8	200,5	55,4		
70	270,7	172,3			172,1	164,8	209,2	50,5		
85	267,4	162,9			150,5	156,2	220,5	46,2		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,705	0,524			1,106	0,369	1,6671	1,1872	0,840	0,851
30	0,735	0,510			1,006	0,436	1,6604	1,1837	0,849	0,859
50	0,772	0,502			0,953	0,470	1,6464	1,1834	0,835	0,846
70	0,774	0,476			0,939	0,509	1,6038	1,1833	0,788	0,802
85	0,762	0,448			1,032	0,546	1,5649	1,1866	0,731	0,748

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	0,6	-3,3	8,5	30,5	0,420	0,065	0,	0,065	0,021	0,021
30	0,6	-2,9	7,9	29,4	0,462	0,068	0,	0,068	0,022	0,022
50	1,4	-1,6	7,5	30,1	0,501	0,094	0,	0,094	0,029	0,029
70	3,5	1,1	7,8	33,3	0,549	0,107	0,	0,107	0,032	0,032
85	6,8	5,1	9,7	38,8	0,587	0,101	0,	0,101	0,029	0,029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14,95	1,6324	1,1853	0,811	10676,9

ATT FAN VEHICLE

(METRIC)

ROTOR 100 PERCENT SPEED RDG 195

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-6,2	-6,8	0,061	0,059	0,	48,0	69,5	66,8
10	42,367	41,961	-5,7	-6,3	0,124	0,117	0,	45,0	67,7	65,1
15	40,996	40,742	-4,7	-5,4	0,189	0,178	0,	42,7	65,8	63,2
30	36,881	37,059	-0,3	-1,1	0,378	0,365	0,	43,4	61,0	57,0
50	31,394	32,131	6,8	6,4	0,608	0,603	0,	43,8	55,9	46,7
70	26,010	27,229	13,2	14,0	0,793	0,803	0,	45,8	52,4	40,0
85	21,717	23,647	18,3	14,1	0,909	0,918	0,	49,7	50,0	20,5
90	20,295	22,581	19,9	15,0	0,941	0,949	0,	50,3	49,4	13,7
95	18,796	21,463	20,9	16,6	0,971	0,979	0,	53,2	48,7	8,2

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	183,6	210,3	522,1	356,3	183,6	141,3	0,	155,7	488,7	482,8
10	195,5	211,4	512,4	353,6	195,5	149,9	0,	148,9	473,7	469,1
15	206,2	214,2	502,6	348,2	206,2	157,7	0,	145,0	458,3	455,5
30	228,8	229,1	471,5	305,8	228,8	166,2	0,	157,6	412,3	414,3
50	239,2	247,3	424,8	260,0	239,2	179,0	0,	170,7	351,0	359,2
70	230,1	237,4	370,8	216,6	230,1	168,0	0,	167,7	290,8	304,4
85	214,7	266,8	324,1	186,9	214,7	175,8	0,	200,8	242,8	264,4
90	207,0	276,9	307,1	185,2	207,0	180,3	0,	210,1	226,9	252,5
95	197,7	275,1	288,5	171,0	197,7	169,5	0,	216,8	210,1	240,0

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,556	0,568	1,581	0,963	0,770	0,351	1,7176	1,2595	0,644	0,670
10	0,594	0,576	1,558	0,963	0,771	0,383	1,7404	1,2404	0,714	0,735
15	0,630	0,587	1,535	0,955	0,770	0,415	1,7668	1,2276	0,776	0,793
30	0,705	0,632	1,453	0,844	0,729	0,499	1,8350	1,2256	0,840	0,853
50	0,740	0,691	1,315	0,726	0,749	0,574	1,8550	1,2115	0,913	0,920
70	0,709	0,672	1,143	0,613	0,733	0,609	1,7154	1,1773	0,940	0,944
85	0,658	0,761	0,993	0,533	0,836	0,590	1,7261	1,1831	0,922	0,928
90	0,632	0,794	0,938	0,531	0,901	0,545	1,7238	1,1835	0,917	0,923
95	0,602	0,789	0,878	0,491	0,902	0,474	1,6572	1,1800	0,863	0,872

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6,3	4,4	4,7	2,8	0,417	0,300	0,154	0,146	0,040	0,019
10	5,9	4,2	4,8	2,9	0,407	0,235	0,142	0,093	0,033	0,013
15	5,4	3,8	4,5	2,9	0,405	0,181	0,130	0,051	0,027	0,008
30	5,3	3,3	3,4	4,4	0,466	0,141	0,098	0,043	0,025	0,008
50	6,0	3,3	2,3	9,4	0,509	0,082	0,064	0,018	0,017	0,004
70	7,1	3,7	12,8	12,1	0,527	0,060	0,041	0,019	0,012	0,004
85	7,5	3,6	15,7	28,2	0,561	0,096	0,021	0,075	0,020	0,015
90	7,6	3,6	17,3	34,6	0,541	0,110	0,017	0,093	0,022	0,019
95	7,7	3,5	20,2	39,3	0,549	0,200	0,004	0,196	0,039	0,038

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
112,93	1,7805	1,2140	0,837	10676,4

ATT FAN VEHICLE

(METRIC)

BP-0GV

100 PERCENT SPEED

RDG 195

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0,6	0,5	0,077	0,082	46,8	0,		
15	41,605	41,554	0,0	1,1	0,117	0,122	43,2	0,		
30	39,192	39,218	0,3	1,6	0,250	0,253	37,4	0,		
50	35,763	35,852	1,1	2,2	0,450	0,451	37,8	0,		
70	32,487	32,639	2,7	3,3	0,634	0,638	36,7	0,		
85	30,124	30,302	3,2	3,3	0,752	0,755	37,1	0,		
90	29,312	29,489	3,4	3,0	0,789	0,792	37,5	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	212,9	152,6			145,6	152,6	155,0	0,		
15	220,1	159,8			160,4	159,8	150,3	0,		
30	241,0	177,2			191,5	177,2	146,3	0,		
50	268,9	202,5			212,6	202,5	164,7	0,		
70	275,9	203,9			221,2	203,9	164,9	0,		
85	264,8	189,6			211,5	189,6	159,4	0,		
90	260,1	183,8			206,7	183,8	158,0	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,577	0,407			1,040	0,394	1,6865	1,2533	0,636	0,662
15	0,601	0,429			0,988	0,397	1,7051	1,2408	0,684	0,707
30	0,669	0,482			0,923	0,380	1,7501	1,2214	0,783	0,799
50	0,753	0,553			0,952	0,383	1,8223	1,2275	0,822	0,837
70	0,782	0,563			0,923	0,395	1,7985	1,2067	0,883	0,893
85	0,754	0,526			0,898	0,418	1,7118	1,1851	0,897	0,904
90	0,742	0,510			0,892	0,426	1,6772	1,1786	0,891	0,899

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	3,2	-5,0	10,9	46,6	0,543	0,108	0,	0,108	0,038	0,038
15	1,0	-7,3	10,4	42,9	0,513	0,092	0,	0,092	0,032	0,032
30	-2,7	-10,5	9,4	37,4	0,463	0,094	0,	0,094	0,031	0,031
50	-1,2	-8,4	8,6	37,8	0,430	0,061	0,	0,061	0,018	0,018
70	-2,9	-9,3	8,3	36,7	0,423	0,069	0,	0,069	0,019	0,019
85	-3,9	-9,6	8,4	37,1	0,438	0,080	0,	0,080	0,021	0,021
90	-4,1	-9,8	8,4	37,5	0,445	0,086	0,	0,086	0,022	0,022

INLET CORR WTFLOW 97,61	PRESS RATIO 1,7531	TEMP RATIO 1,2188	ADIA EFF 0,795	INLET CORR RPM 10676,4
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ATT FAN VEHICLE

(METRIC)

CORE-OGV

100 PERCENT SPEED

RDG 195

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,5	-5,6	0,886	0,887	49,6	19,4		
30	24,689	24,460	-1,2	-4,4	0,908	0,911	47,6	18,7		
50	23,673	23,597	0,4	-3,0	0,940	0,941	47,8	17,8		
70	22,682	22,784	1,9	-1,7	0,969	0,966	50,1	17,0		
85	21,971	22,174	3,2	-0,2	0,987	0,984	54,7	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	249,6	193,5			162,0	162,6	189,9	64,1		
30	259,7	189,6			175,2	179,6	191,7	60,6		
50	270,9	183,7			181,9	174,9	200,9	56,0		
70	268,0	172,4			172,2	164,8	205,7	50,4		
85	262,4	163,2			151,3	156,5	213,7	46,3		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,706	0,537			1,121	0,348	1,6939	1,1862	0,873	0,882
30	0,719	0,526			1,020	0,414	1,6907	1,1829	0,885	0,893
50	0,774	0,509			0,960	0,445	1,6629	1,1836	0,852	0,862
70	0,766	0,477			0,940	0,491	1,6116	1,1805	0,809	0,822
85	0,748	0,450			1,029	0,532	1,5729	1,1810	0,763	0,778

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	0,1	-3,7	8,5	30,1	0,400	0,061	0,	0,061	0,020	0,020
30	0,0	-3,5	7,9	28,8	0,440	0,065	0,	0,065	0,021	0,021
50	1,4	-1,7	7,5	30,0	0,494	0,112	0,	0,112	0,034	0,034
70	3,0	0,6	7,8	32,9	0,541	0,120	0,	0,120	0,036	0,036
85	5,8	4,1	9,7	37,9	0,571	0,099	0,	0,099	0,028	0,028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15,32	1,6515	1,1836	0,840	10676,4

ATT FAN VEHICLE

(METRIC)

ROTOR

93 PERCENT SPEED

RDG 196

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.9	-6.3	0.061	0.061	0.	44.4	69.2	65.0
10	42.367	41.961	-5.2	-5.7	0.124	0.120	0.	41.9	67.4	63.5
15	40.996	40.742	-4.2	-4.8	0.189	0.181	0.	39.8	65.7	62.1
30	34.881	37.059	-0.0	-0.6	0.378	0.366	0.	39.3	61.1	56.2
50	31.394	32.131	6.7	6.2	0.608	0.602	0.	41.6	56.3	46.5
70	26.010	27.229	12.6	14.1	0.792	0.800	0.	43.8	52.6	37.7
85	21.717	23.647	17.4	14.1	0.908	0.914	0.	49.2	49.7	21.3
90	20.295	22.581	19.2	14.5	0.940	0.945	0.	47.0	48.9	14.8
95	18.796	21.463	20.5	16.3	0.971	0.976	0.	50.8	48.2	5.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	172.8	201.3	484.7	339.2	172.8	144.3	0.	140.4	452.9	447.3
10	183.1	201.6	475.6	336.1	183.1	150.5	0.	134.1	438.9	434.7
15	192.3	202.6	466.2	331.5	192.3	155.8	0.	129.4	424.7	422.1
30	211.3	214.5	436.6	298.3	211.3	165.8	0.	136.0	382.1	383.9
50	218.4	230.2	391.8	249.5	218.4	172.5	0.	152.5	325.2	332.9
70	211.2	229.3	342.3	210.1	211.2	168.1	0.	156.1	269.5	282.1
85	200.3	245.3	301.2	174.5	200.3	163.2	0.	183.2	225.0	245.0
90	194.3	261.1	286.2	186.9	194.3	181.2	0.	188.0	210.2	233.9
95	186.2	269.4	269.4	175.3	186.2	174.4	0.	205.3	194.7	222.4

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.522	0.552	1.463	0.931	0.835	0.334	1.5855	1.2169	0.649	0.671
10	0.554	0.557	1.440	0.929	0.824	0.365	1.6026	1.2009	0.718	0.736
15	0.584	0.563	1.416	0.921	0.814	0.396	1.6193	1.1882	0.784	0.799
30	0.647	0.601	1.336	0.836	0.787	0.479	1.6755	1.1804	0.881	0.889
50	0.670	0.650	1.202	0.704	0.790	0.551	1.6900	1.1751	0.924	0.929
70	0.646	0.654	1.047	0.599	0.794	0.596	1.6207	1.1525	0.970	0.972
85	0.610	0.703	0.918	0.500	0.824	0.605	1.6070	1.1556	0.933	0.937
90	0.590	0.754	0.870	0.540	0.955	0.569	1.6376	1.1520	0.996	0.996
95	0.564	0.779	0.817	0.507	0.977	0.502	1.6249	1.1567	0.949	0.953

PCT IMM	INCIDENCE		DEV	TURN	D*FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6.0	4.1	2.9	4.3	0.396	0.277	0.102	0.176	0.039	0.025
10	5.6	3.9	3.2	4.0	0.388	0.216	0.092	0.125	0.032	0.019
15	5.3	3.7	3.4	3.8	0.383	0.161	0.082	0.080	0.025	0.012
30	5.4	3.4	2.5	5.2	0.423	0.095	0.057	0.039	0.017	0.007
50	6.4	3.7	2.1	10.0	0.481	0.068	0.034	0.033	0.014	0.007
70	7.3	3.9	10.5	14.5	0.500	0.029	0.023	0.006	0.006	0.001
85	7.2	3.3	16.5	27.7	0.562	0.079	0.009	0.069	0.016	0.014
90	7.1	3.1	18.4	33.4	0.490	0.003	0.	0.003	0.001	0.001
95	7.2	3.0	17.7	41.2	0.496	0.074	0.	0.074	0.014	0.014

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
108.20	1.6441	1.1774	0.860	9892.8

ATT FAN VEHICLE

(METRIC)

BP-0GV

93 PERCENT SPEED

RDG 196

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0.9	0.2	0.080	0.084	43.0	0.		
15	41,605	41,554	-0.3	0.7	0.121	0.125	39.8	0.		
30	39,192	39,218	0.1	1.2	0.255	0.256	34.4	0.		
50	35,763	35,852	0.7	1.6	0.452	0.451	34.3	0.		
70	32,487	32,639	2.2	2.6	0.632	0.634	34.7	0.		
85	30,124	30,302	3.0	2.8	0.750	0.752	34.9	0.		
90	29,312	29,489	3.2	2.7	0.787	0.790	35.2	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	204.9	157.1			149.9	157.1	139.5	0.		
15	211.2	163.1			162.2	163.1	135.1	0.		
30	227.7	175.1			167.8	175.1	128.7	0.		
50	252.9	200.4			208.8	200.4	142.6	0.		
70	259.9	201.4			213.7	201.4	147.9	0.		
85	255.5	194.6			209.6	194.6	146.0	0.		
90	254.0	191.9			207.6	191.9	146.3	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.564	0.427			1.043	0.346	1.5671	1.2113	0.648	0.670
15	0.586	0.446			1.000	0.353	1.5826	1.2007	0.698	0.717
30	0.641	0.485			0.931	0.349	1.6121	1.1804	0.810	0.823
50	0.718	0.558			0.960	0.350	1.6820	1.1825	0.878	0.886
70	0.743	0.564			0.942	0.364	1.6599	1.1720	0.906	0.912
85	0.734	0.547			0.929	0.358	1.6028	1.1573	0.917	0.922
90	0.731	0.540			0.925	0.350	1.5786	1.1533	0.909	0.915

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	HL	SS					SHOCK	PROF		
10	-0.7	-8.8	10.9	42.8	0.476	0.079	0.	0.079	0.028	0.028
15	-2.4	-10.7	10.4	39.7	0.451	0.061	0.	0.061	0.021	0.021
30	-5.6	-13.5	9.4	34.4	0.415	0.069	0.	0.069	0.022	0.022
50	-4.7	-11.9	8.6	34.3	0.375	0.026	0.	0.026	0.008	0.008
70	-4.9	-11.3	8.3	34.7	0.380	0.042	0.	0.042	0.012	0.012
85	-6.1	-11.8	8.4	34.9	0.385	0.072	0.	0.072	0.018	0.018
90	-6.4	-12.1	8.4	35.2	0.389	0.093	0.	0.093	0.024	0.024

INLET CORR WTFLOW 93.47	PRESS RATIO 1.6230	TEMP RATIO 1.1807	ADIA EFF 0.821	INLET CORR RPM 9892.8
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ATT FAN VEHICLE

(METRIC)

CORE-OGV

93 PERCENT SPEED

RDG 196

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,6	-5,7	0,884	0,885	50,1	19,5		
30	24,689	24,460	-1,2	-4,4	0,905	0,908	48,8	18,8		
50	23,673	23,597	0,4	-2,9	0,936	0,936	45,7	17,9		
70	22,682	22,784	1,9	-1,5	0,966	0,963	47,4	17,1		
85	21,971	22,174	3,4	-0,0	0,985	0,982	52,5	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	229,6	177,9			147,4	167,8	176,0	59,0		
30	235,7	173,4			155,4	164,2	177,3	55,8		
50	250,8	179,3			175,3	170,6	179,6	55,0		
70	259,3	181,5			175,6	173,4	190,8	53,4		
85	257,2	176,8			156,6	169,5	203,8	50,3		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,652	0,497			1,133	0,331	1,5858	1,1600	0,880	0,888
30	0,673	0,485			1,049	0,410	1,5802	1,1564	0,893	0,899
50	0,722	0,503			0,971	0,425	1,5946	1,1521	0,937	0,941
70	0,748	0,509			0,980	0,430	1,5869	1,1545	0,913	0,918
85	0,739	0,494			1,074	0,448	1,5561	1,1599	0,842	0,852

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	0,6	-3,2	8,5	30,6	0,401	0,078	0,	0,078	0,025	0,025
30	1,2	-2,3	8,0	29,8	0,439	0,060	0,	0,060	0,019	0,019
50	-0,8	-3,8	7,6	27,8	0,446	0,077	0,	0,077	0,023	0,023
70	0,3	-2,1	7,9	30,0	0,464	0,097	0,	0,097	0,029	0,029
85	3,6	1,9	9,8	35,7	0,493	0,097	0,	0,097	0,028	0,028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
14,73	1,5797	1,1566	0,891	9892,8

ATT FAN VEHICLE

(METRIC)

ROTOR

91 PERCENT SPEED

RDG 197

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE		REL IN	ANGLE OUT
	IN	OUT						OUT	OUT		
5	43.713	43.180	-5.5	-5.8	0.062	0.063	0.	32.8	67.8	63.3	
10	42.367	41.961	-4.3	-4.8	0.125	0.125	0.	30.6	66.1	62.0	
15	40.996	40.742	-3.3	-3.8	0.190	0.186	0.	31.8	64.5	61.1	
30	36.881	37.059	-0.3	-0.9	0.376	0.364	0.	34.3	60.1	55.8	
50	31.394	32.131	5.2	4.8	0.603	0.591	0.	34.6	54.6	47.0	
70	26.010	27.229	11.0	12.2	0.789	0.789	0.	38.5	50.0	36.8	
85	21.717	23.647	17.2	13.1	0.907	0.911	0.	42.8	47.2	20.3	
90	20.295	22.581	19.1	14.1	0.940	0.944	0.	43.4	46.7	15.0	
95	18.796	21.463	20.4	16.1	0.971	0.976	0.	46.7	46.1	7.8	

PCT IMM	ABS VEL		REL IN	VEL OUT	MERID IN	VEL OUT	TANG IN	VEL		BLADE IN	SPEED OUT
	IN	OUT						OUT	OUT		
5	182.0	199.1	479.7	371.2	182.0	167.7	0.	107.3	443.9	438.5	
10	191.4	200.8	470.8	367.5	191.4	173.0	0.	101.9	430.2	426.1	
15	198.7	200.6	461.3	352.1	198.7	170.5	0.	105.6	416.3	413.7	
30	215.5	211.3	432.1	311.2	215.5	174.7	0.	119.0	374.5	376.3	
50	227.4	225.6	391.6	271.7	227.4	185.8	0.	127.9	318.8	326.3	
70	225.6	232.2	347.3	227.1	225.6	183.3	0.	142.5	264.1	276.5	
85	213.5	256.0	307.0	202.2	213.5	190.2	0.	171.4	220.5	240.1	
90	205.7	264.5	291.2	201.2	205.7	194.8	0.	178.9	206.1	229.3	
95	196.2	270.2	273.7	190.7	196.2	189.1	0.	193.1	190.9	217.9	

PCT IMM	ABS MACH NO		REL IN	MACH NO OUT	AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT							ADIA	POLY
5	0.551	0.559	1.452	1.043	0.920	0.261	1.4126	1.1628	0.637	0.654
10	0.581	0.568	1.450	1.039	0.903	0.291	1.4380	1.1501	0.729	0.742
15	0.605	0.567	1.404	0.995	0.859	0.318	1.4474	1.1510	0.738	0.751
30	0.660	0.598	1.324	0.881	0.814	0.395	1.4982	1.1546	0.792	0.804
50	0.700	0.645	1.206	0.777	0.818	0.484	1.5415	1.1438	0.915	0.920
70	0.694	0.668	1.069	0.653	0.809	0.552	1.5400	1.1361	0.965	0.967
85	0.654	0.742	0.940	0.586	0.910	0.541	1.5736	1.1422	0.972	0.974
90	0.628	0.769	0.889	0.585	0.975	0.488	1.5657	1.1417	0.965	0.967
95	0.597	0.787	0.832	0.555	0.999	0.404	1.5373	1.1448	0.901	0.909

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	4.6	2.7	1.2	4.5	0.300	0.230	0.087	0.143	0.035	0.022
10	4.3	2.6	1.7	4.1	0.292	0.166	0.077	0.089	0.026	0.014
15	4.1	2.5	2.4	3.5	0.315	0.166	0.069	0.097	0.027	0.016
30	4.4	2.4	2.2	4.7	0.374	0.144	0.048	0.096	0.026	0.018
50	4.7	2.0	2.6	8.0	0.408	0.063	0.028	0.035	0.013	0.007
70	4.8	1.3	9.6	13.3	0.453	0.029	0.017	0.013	0.006	0.003
85	4.8	0.8	15.5	26.5	0.467	0.029	0.009	0.021	0.006	0.004
90	4.9	0.9	18.6	31.2	0.441	0.040	0.001	0.039	0.008	0.008
95	5.1	0.9	19.8	37.4	0.442	0.126	0.	0.126	0.024	0.024

INLET CORR  
WTFLOW  
111.33

PRESS  
RATIO  
1.5063

TEMP  
RATIO  
1.1484

ADIA  
EFF  
0.837

INLET CORR  
RPM  
9696.6

ATT FAN VEHICLE

(METRIC)

BP=OGV

91 PERCENT SPEED

RDG 197

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0.9	-0.2	0.087	0.090	30.9	0.		
15	41,605	41,554	-0.6	-0.0	0.130	0.131	28.7	0.		
30	39,192	39,218	-0.8	-0.1	0.260	0.256	29.5	0.		
50	35,763	35,852	0.5	0.7	0.446	0.443	28.6	0.		
70	32,487	32,639	1.6	1.4	0.620	0.618	28.4	0.		
85	30,124	30,302	2.4	1.7	0.736	0.735	29.3	0.		
90	29,312	29,489	2.8	1.8	0.773	0.773	29.8	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	206.1	190.9			176.9	190.9	105.5	0.		
15	213.1	187.4			186.8	187.4	102.4	0.		
30	227.6	204.2			198.1	204.2	112.0	0.		
50	253.6	229.2			222.6	229.2	121.5	0.		
70	263.4	233.5			231.8	233.5	125.1	0.		
85	265.7	239.5			231.9	239.5	129.8	0.		
90	266.9	244.5			231.7	244.5	132.6	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT		EFFICIENCY	
	IN	OUT	IN	OUT			RATIO	RATIO	ADIA	POLY
10	0.582	0.536			1.082	-0.042	1.3624	1.1567	0.589	0.607
15	0.605	0.528			1.004	-0.020	1.3520	1.1494	0.603	0.619
30	0.648	0.577			1.034	0.039	1.3989	1.1540	0.654	0.670
50	0.730	0.654			1.031	0.097	1.4753	1.1525	0.771	0.783
70	0.765	0.670			1.008	0.077	1.4590	1.1427	0.799	0.809
85	0.775	0.691			1.034	0.032	1.4424	1.1372	0.804	0.814
90	0.779	0.707			1.056	0.009	1.4437	1.1363	0.812	0.821

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-12.8	-20.9	10.9	30.8	0.253	0.203	0.	0.203	0.071	0.071
15	-13.5	-21.8	10.4	28.7	0.286	0.276	0.	0.276	0.095	0.095
30	-10.5	-18.4	9.4	29.5	0.260	0.175	0.	0.175	0.057	0.057
50	-10.4	-17.6	8.6	28.6	0.238	0.103	0.	0.103	0.031	0.031
70	-11.3	-17.6	8.3	28.4	0.243	0.167	0.	0.167	0.046	0.046
85	-11.7	-17.4	8.4	29.3	0.225	0.190	0.	0.190	0.049	0.049
90	-11.8	-17.5	8.4	29.8	0.210	0.188	0.	0.188	0.048	0.048

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
94.92	1.4284	1.1491	0.719	9696.6

ATT FAN VEHICLE

(METRIC)

CORE-OGV

91 PERCENT SPEED

ROE 197

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,8	-5,9	0,876	0,876	42,5	19,5		
30	24,689	24,460	-1,8	-4,8	0,900	0,901	40,8	18,8		
50	23,673	23,597	-0,2	-3,3	0,933	0,933	40,7	17,9		
70	22,682	22,784	1,9	-1,5	0,964	0,961	42,9	17,1		
85	21,971	22,174	3,6	0,2	0,984	0,981	47,0	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	243,9	221,3			179,9	208,8	164,7	73,4		
30	252,0	213,8			190,9	202,5	164,5	68,6		
50	261,6	214,9			198,5	204,6	170,5	65,8		
70	264,9	213,2			194,3	203,9	180,2	62,6		
85	262,2	207,3			179,0	198,8	191,3	58,9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,701	0,631			1,155	0,112	1,5578	1,1467	0,920	0,925
30	0,729	0,609			1,057	0,225	1,5471	1,1424	0,932	0,936
50	0,760	0,613			1,029	0,298	1,5522	1,1416	0,945	0,948
70	0,770	0,607			1,043	0,317	1,5271	1,1432	0,898	0,904
85	0,760	0,588			1,105	0,312	1,4825	1,1471	0,809	0,819

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	-6,9	-10,8	8,5	23,0	0,223	0,077	0,	0,077	0,025	0,025
30	-6,8	-10,3	8,0	21,9	0,280	0,066	0,	0,066	0,021	0,021
50	-5,8	-8,8	7,6	22,8	0,307	0,033	0,	0,033	0,010	0,010
70	-4,2	-6,6	7,9	25,6	0,333	0,045	0,	0,045	0,013	0,013
85	-2,0	-3,6	9,8	30,2	0,362	0,080	0,	0,080	0,023	0,023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
16,41	1,5325	1,1444	0,898	9696,6

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

90 PERCENT SPEED

RDG 198

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE		REL IN	ANGLE OUT
	IN	OUT						IN	OUT		
5	43,713	43,180	-5.7	-6.0	0.061	0.062	0.	35.7	68.5	63.8	
10	42,367	41,961	-4.8	-5.2	0.124	0.122	0.	33.9	66.8	62.4	
15	40,996	40,742	-3.9	-4.4	0.188	0.182	0.	33.9	65.1	61.5	
30	36,881	37,059	-0.7	-1.2	0.376	0.362	0.	35.4	60.5	54.9	
50	31,394	32,131	5.8	5.3	0.605	0.596	0.	35.9	55.2	46.0	
70	26,010	27,229	11.9	13.0	0.791	0.795	0.	40.7	51.2	36.1	
85	21,717	23,647	17.4	13.5	0.908	0.913	0.	46.0	48.4	18.6	
90	20,295	22,581	19.2	14.3	0.940	0.945	0.	44.8	47.7	13.5	
95	18,796	21,463	20.5	16.1	0.971	0.976	0.	47.1	47.0	6.5	

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG IN	VEL		BLADE IN	SPEED OUT
	IN	OUT	IN	OUT				IN	OUT		
5	174.0	194.7	472.2	357.5	174.0	158.4	0.	113.2	439.0	433.7	
10	183.3	196.9	463.3	352.2	183.3	163.6	0.	109.5	425.5	421.4	
15	191.2	197.0	454.0	341.2	191.2	163.6	0.	109.7	411.7	409.2	
30	209.9	213.4	425.8	303.6	209.9	173.9	0.	123.8	370.4	372.2	
50	220.4	227.5	384.7	264.6	220.4	184.6	0.	133.0	315.3	322.7	
70	214.7	230.3	338.1	216.7	214.7	176.5	0.	147.8	261.2	273.5	
85	203.3	252.4	298.2	187.1	203.3	177.7	0.	179.2	218.1	237.5	
90	196.5	263.6	283.1	195.0	196.5	190.0	0.	182.7	203.8	226.8	
95	187.7	271.0	266.2	189.3	187.7	188.3	0.	195.0	188.8	215.6	

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH <sup>2</sup>	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.525	0.545	1.426	1.000	0.910	0.269	1.4199	1.1696	0.621	0.639
10	0.555	0.553	1.403	0.990	0.892	0.299	1.4439	1.1593	0.694	0.710
15	0.581	0.555	1.378	0.961	0.857	0.328	1.4555	1.1550	0.730	0.744
30	0.642	0.604	1.302	0.859	0.833	0.411	1.5321	1.1592	0.814	0.825
50	0.677	0.650	1.181	0.756	0.838	0.492	1.5651	1.1479	0.923	0.928
70	0.658	0.661	1.036	0.622	0.820	0.537	1.5296	1.1395	0.925	0.930
85	0.620	0.728	0.909	0.540	0.893	0.521	1.5481	1.1466	0.907	0.913
90	0.598	0.766	0.861	0.566	0.992	0.469	1.5565	1.1435	0.939	0.943
95	0.569	0.789	0.807	0.551	1.043	0.380	1.5380	1.1442	0.907	0.913

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	5.3	3.4	1.8	4.7	0.322	0.252	0.082	0.170	0.037	0.025
10	5.0	3.3	2.1	4.4	0.319	0.199	0.073	0.126	0.031	0.019
15	4.7	3.1	2.8	3.8	0.331	0.176	0.065	0.112	0.028	0.018
30	4.3	2.8	1.3	6.1	0.387	0.135	0.044	0.091	0.025	0.017
50	5.2	2.6	1.6	9.5	0.418	0.059	0.025	0.034	0.012	0.007
70	5.9	2.5	8.9	14.9	0.470	0.067	0.016	0.051	0.014	0.010
85	5.9	2.0	13.8	29.1	0.506	0.105	0.005	0.100	0.022	0.021
90	5.9	1.9	17.1	33.7	0.453	0.072	0.	0.072	0.015	0.015
95	6.0	1.8	18.5	39.4	0.430	0.126	0.	0.126	0.024	0.024

INLET CORR W/FLOW 108.67 PRESS RATIO 1.5177 TEMP RATIO 1.1528 ADIA EFF 0.829 INLET CORR RPM 9590.8



ATT FAN VEHICLE

(METRIC)

BP=QGV

90 PERCENT SPEED

RDG 198

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.5	-0.5	0.083	0.084	34.4	0.		
15	41.605	41.554	-1.0	-0.2	0.125	0.125	32.1	0.		
30	39.192	39.218	-0.5	0.2	0.254	0.252	30.5	0.		
50	35.763	35.852	0.5	0.8	0.445	0.442	30.1	0.		
70	32.487	32.639	1.4	1.4	0.624	0.622	29.3	0.		
85	30.124	30.302	2.2	1.7	0.742	0.741	30.4	0.		
90	29.312	29.489	2.6	1.8	0.780	0.780	31.3	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	199.8	172.9			164.9	172.9	112.5	0.		
15	207.6	179.0			175.8	179.0	110.2	0.		
30	223.9	188.2			192.9	188.2	113.7	0.		
50	257.0	218.5			222.2	218.5	129.0	0.		
70	263.9	221.5			230.1	221.5	129.2	0.		
85	263.3	222.1			227.2	222.1	133.0	0.		
90	263.8	224.2			225.5	224.2	136.9	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.561	0.481			1.048	0.171	1.4039	1.1656	0.615	0.633
15	0.586	0.501			1.018	0.189	1.4217	1.1591	0.665	0.681
30	0.637	0.529			0.977	0.220	1.4453	1.1545	0.718	0.732
50	0.738	0.619			0.984	0.220	1.5313	1.1602	0.808	0.819
70	0.766	0.632			0.962	0.222	1.5163	1.1459	0.865	0.873
85	0.767	0.636			0.978	0.202	1.4851	1.1389	0.861	0.869
90	0.768	0.642			0.995	0.188	1.4768	1.1391	0.847	0.855

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-9.3	-17.4	10.9	34.3	0.335	0.092	0.	0.092	0.033	0.033
15	-10.1	-18.4	10.4	32.1	0.322	0.076	0.	0.076	0.026	0.026
30	-9.5	-17.4	9.4	30.5	0.323	0.083	0.	0.083	0.027	0.027
50	-8.9	-16.1	8.6	30.2	0.298	0.067	0.	0.067	0.020	0.020
70	-10.3	-16.7	8.3	29.3	0.295	0.090	0.	0.090	0.025	0.025
85	-10.6	-16.3	8.4	30.3	0.287	0.105	0.	0.105	0.027	0.027
90	-10.3	-16.0	8.4	31.3	0.281	0.110	0.	0.110	0.028	0.028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
93.24	1.4764	1.1537	0.766	9590.8

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE-UGV

90 PERCENT SPEED

RDG 198

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,7	-5,8	0,880	0,881	45,5	19,5		
30	24,689	24,460	-1,6	-4,7	0,902	0,904	43,7	18,8		
50	23,673	23,597	-0,0	-3,2	0,934	0,934	43,2	17,9		
70	22,682	22,784	1,7	-1,7	0,965	0,962	43,5	17,1		
85	21,971	22,174	3,2	-0,1	0,985	0,982	48,4	16,5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	239,0	203,3			167,7	191,8	170,3	67,4		
30	245,4	195,5			177,3	185,2	169,6	62,8		
50	257,6	197,3			187,9	187,8	176,2	60,5		
70	263,2	198,8			191,2	190,0	181,4	58,4		
85	262,6	195,9			174,3	187,8	195,7	55,7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,685	0,575			1,138	0,218	1,5363	1,1501	0,870	0,877
30	0,707	0,553			1,041	0,317	1,5234	1,1454	0,879	0,886
50	0,746	0,558			0,998	0,365	1,5272	1,1448	0,888	0,895
70	0,765	0,564			0,985	0,382	1,5187	1,1426	0,889	0,896
85	0,760	0,554			1,072	0,389	1,4910	1,1484	0,815	0,825

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-3,9	-7,8	8,5	26,0	0,299	0,069	0,	0,069	0,022	0,022
30	-3,8	-7,4	8,0	25,0	0,350	0,058	0,	0,058	0,018	0,018
50	-3,3	-6,3	7,6	25,3	0,379	0,058	0,	0,058	0,018	0,018
70	-3,6	-6,0	7,9	26,2	0,389	0,059	0,	0,059	0,017	0,017
85	-0,6	-2,2	9,8	31,4	0,413	0,068	0,	0,068	0,020	0,020

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15,43	1,5181	1,1472	0,860	9590,8

ATT FAN VEHICLE

(METRIC)

ROTOR

89 PERCENT SPEED

RDG 199

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,6	-5,8	0,062	0,063	0,	33,4	68,2	63,0
10	42,367	41,961	-4,4	-4,8	0,125	0,124	0,	30,7	66,5	61,5
15	40,996	40,742	-3,3	-3,9	0,189	0,186	0,	31,4	64,9	60,7
30	36,881	37,059	-0,2	-0,7	0,376	0,364	0,	34,0	60,6	55,3
50	31,394	32,131	5,4	5,1	0,604	0,593	0,	35,1	55,3	45,9
70	26,010	27,229	11,2	12,8	0,790	0,791	0,	38,8	51,0	35,6
85	21,717	23,647	17,1	13,5	0,908	0,911	0,	44,8	48,0	18,7
90	20,295	22,581	19,0	14,2	0,940	0,943	0,	44,4	47,4	13,1
95	18,796	21,463	20,3	16,0	0,971	0,975	0,	47,1	46,7	5,5

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	174,0	196,3	466,8	359,9	174,0	164,2	0,	107,6	433,2	427,9
10	183,2	199,0	458,1	358,0	183,2	171,2	0,	101,4	419,8	415,8
15	190,4	198,0	448,7	344,9	190,4	169,1	0,	103,0	406,3	403,7
30	206,2	208,8	419,6	304,7	206,2	173,2	0,	116,7	365,5	367,2
50	216,2	225,3	378,8	264,3	216,2	184,7	0,	129,1	311,1	318,4
70	213,1	231,5	334,4	222,2	213,1	182,2	0,	142,7	257,7	269,8
85	202,5	251,6	295,5	190,7	202,5	181,1	0,	174,7	215,2	234,3
90	195,7	263,1	280,6	195,6	195,7	190,9	0,	181,0	201,1	223,8
95	187,1	271,5	264,0	189,6	187,1	188,8	0,	195,1	186,3	212,7

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH <sup>1</sup>	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,525	0,552	1,409	1,012	0,942	0,247	1,3781	1,1592	0,603	0,620
10	0,555	0,563	1,387	1,014	0,934	0,277	1,4058	1,1457	0,702	0,716
15	0,578	0,561	1,362	0,977	0,889	0,304	1,4133	1,1437	0,723	0,736
30	0,630	0,593	1,281	0,865	0,843	0,378	1,4632	1,1481	0,776	0,787
50	0,663	0,645	1,161	0,756	0,854	0,457	1,5083	1,1417	0,879	0,886
70	0,652	0,667	1,024	0,640	0,850	0,514	1,5048	1,1330	0,931	0,935
85	0,617	0,728	0,901	0,552	0,911	0,505	1,5279	1,1414	0,911	0,916
90	0,595	0,765	0,853	0,569	1,001	0,452	1,5373	1,1400	0,934	0,938
95	0,567	0,791	0,801	0,553	1,043	0,364	1,5242	1,1428	0,896	0,902

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	5,0	3,1	0,9	5,2	0,306	0,253	0,074	0,179	0,038	0,027
10	4,7	3,0	1,2	5,0	0,292	0,183	0,066	0,117	0,029	0,019
15	4,5	2,9	2,0	4,3	0,309	0,172	0,058	0,115	0,028	0,019
30	4,9	2,9	1,7	5,7	0,369	0,154	0,038	0,116	0,029	0,022
50	5,4	2,7	1,5	9,8	0,408	0,092	0,022	0,070	0,019	0,014
70	5,7	2,3	8,4	15,3	0,445	0,060	0,014	0,045	0,012	0,009
85	5,6	1,6	13,9	28,9	0,488	0,099	0,004	0,095	0,020	0,020
90	5,6	1,6	16,7	33,9	0,443	0,077	0,	0,077	0,016	0,016
95	5,7	1,5	17,5	40,4	0,429	0,140	0,	0,140	0,027	0,027

INLET CORR W/FLOW 108,14 PRESS RATIO 1,4723 TEMP RATIO 1,1444 ADIA EFF 0,809 INLET CORR RPM 9463,0

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

BP=OGV

89 PERCENT SPEED

RDG 199

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,2	-0,4	0,086	0,088	31,2	0,		
15	41,605	41,554	-0,8	-0,1	0,129	0,130	28,7	0,		
30	39,192	39,218	-0,5	0,2	0,261	0,259	28,8	0,		
50	35,763	35,852	0,7	1,0	0,448	0,446	28,8	0,		
70	32,487	32,639	1,7	1,5	0,622	0,621	28,8	0,		
85	30,124	30,302	2,3	1,7	0,738	0,737	29,6	0,		
90	29,312	29,489	2,7	1,8	0,776	0,776	30,0	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	204,6	185,1			175,1	185,1	105,5	0,		
15	212,4	188,4			186,4	188,4	101,7	0,		
30	225,2	197,2			197,4	197,2	108,4	0,		
50	251,6	221,8			220,4	221,8	121,3	0,		
70	261,4	224,8			229,0	224,8	126,0	0,		
85	263,5	230,6			229,3	230,6	129,9	0,		
90	265,5	236,2			229,9	236,2	132,7	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,578	0,520			1,058	0,090	1,3600	1,1531	0,600	0,617
15	0,604	0,532			1,011	0,109	1,3706	1,1449	0,651	0,666
30	0,643	0,558			1,000	0,149	1,3934	1,1454	0,684	0,698
50	0,725	0,632			1,007	0,164	1,4596	1,1485	0,768	0,780
70	0,760	0,644			0,982	0,143	1,4390	1,1403	0,781	0,792
85	0,769	0,664			1,006	0,108	1,4254	1,1340	0,795	0,805
90	0,776	0,682			1,028	0,088	1,4297	1,1332	0,808	0,817

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-12,5	-20,6	10,9	31,1	0,278	0,105	0,	0,105	0,037	0,037
15	-13,6	-21,8	10,4	28,6	0,279	0,120	0,	0,120	0,041	0,041
30	-11,3	-19,1	9,4	28,8	0,280	0,095	0,	0,095	0,031	0,031
50	-10,2	-17,4	8,6	28,8	0,261	0,070	0,	0,070	0,021	0,021
70	-10,8	-17,2	8,3	28,8	0,272	0,142	0,	0,142	0,039	0,039
85	-11,4	-17,1	8,4	29,6	0,252	0,153	0,	0,153	0,040	0,040
90	-11,6	-17,3	8,4	30,0	0,237	0,149	0,	0,149	0,038	0,038

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
92,54	1,4168	1,1447	0,724	9463,0

ATT FAN VEHICLE

(METRIC)

CORE-OGV

89 PERCENT SPEED

RDG 199

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.7	-5.8	0.878	0.879	44.2	19.5		
30	24,689	24,460	-1.7	-4.7	0.901	0.903	43.2	18.8		
50	23,673	23,597	-0.0	-3.1	0.933	0.933	42.4	17.9		
70	22,682	22,784	2.0	-1.4	0.963	0.961	43.7	17.1		
85	21,971	22,174	3.6	0.2	0.983	0.981	47.6	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	238.5	208.6			171.2	196.8	166.1	69.2		
30	244.4	198.7			178.1	188.1	167.3	63.8		
50	256.5	202.2			189.4	192.5	173.0	62.0		
70	263.3	205.5			190.4	196.4	181.9	60.5		
85	262.5	203.2			177.2	194.8	193.5	57.8		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.685	0.593			1.144	0.177	1.5211	1.1444	0.882	0.888
30	0.705	0.564			1.092	0.283	1.5005	1.1414	0.869	0.877
50	0.744	0.575			1.015	0.338	1.5123	1.1403	0.894	0.900
70	0.765	0.584			1.029	0.350	1.5081	1.1411	0.883	0.889
85	0.761	0.576			1.096	0.344	1.4784	1.1453	0.814	0.824

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROP	TOT	PROP
15	-5.3	-9.1	8.5	24.7	0.267	0.069	0.	0.069	0.022	0.022
30	-4.4	-7.9	8.0	24.4	0.330	0.067	0.	0.067	0.021	0.021
50	-4.0	-7.1	7.6	24.5	0.351	0.048	0.	0.048	0.015	0.015
70	-3.4	-5.8	7.9	26.5	0.362	0.050	0.	0.050	0.015	0.015
85	-1.4	-3.0	9.8	30.8	0.381	0.071	0.	0.071	0.020	0.020

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
15.60	1.5024	1.1427	0.864	9463.0

ORIGINAL PAGE IS  
OF POOR QUALITY

**APPENDIX D**

**BLADE ELEMENT DATA**

**(e) Hybrid Inlet Aerodynamic Performance  
Test**

- **Approach Mode**

ATT FAN VEHICLE

(METRIC)

ROTOR

65 PERCENT SPEED

RDG 202

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,8	-6,0	0,059	0,060	0,	39,6	71,4	64,0
10	42,367	41,961	-5,0	-5,2	0,121	0,118	0,	35,9	69,8	62,6
15	40,996	40,742	-3,9	-4,3	0,184	0,179	0,	31,8	68,3	61,7
30	36,881	37,059	-0,2	-0,7	0,372	0,360	0,	28,8	64,5	58,0
50	31,394	32,131	5,0	4,5	0,600	0,587	0,	32,8	60,2	49,4
70	26,010	27,229	10,3	13,0	0,788	0,786	0,	37,3	55,8	38,3
85	21,717	23,647	16,3	13,8	0,907	0,907	0,	47,8	52,4	19,7
90	20,295	22,581	18,4	13,8	0,940	0,939	0,	46,6	51,6	12,1
95	18,796	21,463	20,1	15,5	0,971	0,972	0,	47,9	50,9	4,8

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	107,0	141,4	333,7	247,6	107,0	109,1	0,	89,9	316,0	312,2
10	113,0	141,6	326,5	248,8	113,0	114,9	0,	82,7	306,3	303,4
15	118,0	140,5	319,0	250,8	118,0	119,4	0,	73,9	296,4	294,6
30	127,0	142,0	295,3	235,3	127,0	124,6	0,	68,3	266,6	267,9
50	130,7	153,0	261,9	197,4	130,7	128,7	0,	82,7	227,0	232,3
70	129,7	162,2	228,4	164,2	129,7	130,2	0,	96,7	188,0	196,9
85	125,8	176,6	201,2	127,5	125,8	120,5	0,	129,2	157,0	171,0
90	122,5	189,7	191,1	135,1	122,5	132,3	0,	135,9	146,7	163,3
95	117,6	197,4	179,7	135,4	117,6	134,9	0,	144,1	135,9	155,2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	PULY
5	0,317	0,403	0,990	0,706	1,020	0,230	1,2000	1,0970	0,551	0,563
10	0,336	0,406	0,970	0,713	1,018	0,256	1,2070	1,0864	0,639	0,649
15	0,351	0,405	0,949	0,722	1,014	0,281	1,2107	1,0749	0,750	0,757
30	0,378	0,412	0,880	0,682	0,983	0,345	1,2212	1,0632	0,930	0,932
50	0,390	0,444	0,781	0,573	0,987	0,415	1,2384	1,0664	0,949	0,951
70	0,387	0,472	0,681	0,478	0,993	0,499	1,2553	1,0658	1,020	1,020
85	0,375	0,513	0,599	0,371	0,969	0,560	1,2816	1,0763	0,963	0,964
90	0,365	0,553	0,569	0,394	1,108	0,528	1,3029	1,0767	1,024	1,023
95	0,350	0,577	0,535	0,396	1,179	0,457	1,3043	1,0772	1,021	1,021

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PRUF		
5	8,2	6,3	1,9	7,4	0,347	0,280	0,004	0,276	0,041	0,041
10	8,0	6,3	2,3	7,3	0,322	0,211	0,003	0,208	0,032	0,032
15	7,9	6,3	3,0	6,8	0,291	0,132	0,002	0,130	0,021	0,021
30	8,9	6,8	4,4	6,8	0,284	0,038	0,001	0,037	0,007	0,007
50	10,2	7,6	5,0	11,2	0,347	0,033	0,	0,033	0,006	0,006
70	10,6	7,1	11,1	17,6	0,392	-0,017	0,	-0,017	-0,003	-0,003
85	10,0	6,0	14,9	32,8	0,513	0,043	0,	0,043	0,009	0,009
90	9,9	5,8	15,7	39,7	0,448	-0,034	0,	-0,034	-0,007	-0,007
95	9,9	5,7	16,8	45,9	0,413	-0,030	0,	-0,030	-0,006	-0,006

INLET CORR WTFLOW 74,61 PRESS RATIO 1,2364 TEMP RATIO 1,0716 ADIA EFF 0,873 INLET CORR RPM 6904,1

ATT FAN VEHICLE

(METRIC)

BP=OGV

65 PERCENT SPEED

RDG 202

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42,418	42,316	-0,6	0,2	0,081	0,085	37,5	0,		
15	41,605	41,554	0,1	0,8	0,122	0,126	33,8	0,		
30	39,192	39,218	0,6	1,2	0,253	0,255	25,9	0,		
50	35,763	35,852	0,5	0,9	0,441	0,439	26,1	0,		
70	32,487	32,639	1,3	1,2	0,614	0,611	27,7	0,		
85	30,124	30,302	2,2	1,6	0,733	0,731	28,7	0,		
90	29,312	29,489	2,7	1,8	0,772	0,772	29,0	0,		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE SPEED	
	IN	OUT	IN	OUT					IN	OUT
10	145,3	126,7			115,3	126,7	88,2	0,		
15	149,2	131,0			124,0	131,0	82,8	0,		
30	154,5	136,1			139,1	136,1	67,4	0,		
50	164,5	147,7			147,8	147,7	72,3	0,		
70	175,9	156,8			155,7	156,8	81,9	0,		
85	183,2	164,0			160,8	164,0	87,8	0,		
90	185,5	167,3			162,2	167,3	90,0	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,415	0,361			1,093	0,147	1,1889	1,0931	0,545	0,556
15	0,428	0,375			1,051	0,160	1,1961	1,0856	0,613	0,623
30	0,449	0,393			0,977	0,153	1,2018	1,0659	0,818	0,823
50	0,479	0,428			1,000	0,150	1,2184	1,0645	0,900	0,902
70	0,514	0,455			1,008	0,160	1,2299	1,0664	0,917	0,919
85	0,536	0,477			1,021	0,131	1,2334	1,0661	0,935	0,937
90	0,543	0,487			1,032	0,109	1,2340	1,0659	0,940	0,942

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-6,2	-14,3	10,9	37,3	0,345	0,104	0,	0,104	0,037	0,037
15	-8,5	-16,7	10,4	33,5	0,316	0,080	0,	0,080	0,028	0,028
30	-14,2	-22,0	9,4	25,8	0,261	0,078	0,	0,078	0,025	0,025
50	-12,9	-20,1	8,6	26,0	0,232	0,046	0,	0,046	0,014	0,014
70	-11,9	-18,3	8,3	27,7	0,235	0,049	0,	0,049	0,013	0,013
85	-12,3	-18,0	8,4	28,7	0,228	0,074	0,	0,074	0,019	0,019
90	-12,5	-18,3	8,4	29,0	0,221	0,086	0,	0,086	0,022	0,022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
63,82	1,2148	1,0710	0,805	6904,1



ATT FAN VEHICLE

(METRIC)

CORE-OGV

65 PERCENT SPEED

RDG 202

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-3,1	-6,2	0,877	0,877	44,2	19,5		
30	24,689	24,460	-2,0	-4,9	0,898	0,899	46,9	18,9		
50	23,673	23,597	0,3	-2,9	0,929	0,930	45,3	18,0		
70	22,682	22,784	2,6	-1,0	0,960	0,959	45,2	17,2		
85	21,971	22,174	4,2	0,6	0,982	0,980	48,1	16,6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	159,6	136,2			114,6	128,5	111,1	45,3		
30	167,8	138,3			114,6	130,9	122,6	44,7		
50	182,6	147,7			128,6	140,5	129,6	45,5		
70	191,3	153,0			134,7	146,2	135,8	45,2		
85	190,3	150,6			127,4	144,4	141,4	42,9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,463	0,393			1,117	0,187	1,2613	1,0705	0,973	0,974
30	0,487	0,398			1,138	0,288	1,2705	1,0757	0,935	0,937
50	0,532	0,426			1,091	0,320	1,2900	1,0767	0,984	0,985
70	0,558	0,442			1,085	0,306	1,2924	1,0769	0,989	0,989
85	0,555	0,434			1,132	0,287	1,2750	1,0775	0,927	0,929

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
15	-5,3	-9,1	8,6	24,6	0,290	0,091	0,	0,091	0,029	0,029
30	-0,6	-4,2	8,1	28,1	0,334	0,038	0,	0,038	0,012	0,012
50	-1,2	-4,2	7,7	27,3	0,341	0,029	0,	0,029	0,009	0,009
70	-1,9	-4,3	8,0	28,0	0,346	0,060	0,	0,060	0,018	0,018
85	-0,9	-2,5	9,8	31,4	0,364	0,098	0,	0,098	0,028	0,028

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
10,79	1,2762	1,0753	0,959	6904,1

ATT FAN VEHICLE

(METRIC)

ROTOR

50 PERCENT SPEED

RDG 203

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,4	-5,6	0,059	0,061	0,	32,7	71,9	65,3
10	42,367	41,961	-4,4	-4,7	0,121	0,121	0,	29,8	70,5	64,3
15	40,996	40,742	-3,4	-3,8	0,184	0,181	0,	26,9	69,2	63,3
30	36,881	37,059	-0,0	-0,6	0,370	0,359	0,	25,0	65,7	59,6
50	31,394	32,131	4,0	3,5	0,596	0,579	0,	30,6	61,4	51,7
70	26,010	27,229	9,0	9,6	0,784	0,774	0,	33,9	56,4	40,3
85	21,717	23,647	15,9	10,4	0,906	0,900	0,	42,9	53,1	20,4
90	20,295	22,581	18,2	11,9	0,939	0,935	0,	42,7	52,3	14,1
95	18,796	21,463	19,9	14,7	0,971	0,970	0,	44,4	51,7	8,0

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	79,9	101,7	256,0	204,4	79,9	85,8	0,	54,7	243,2	240,3
10	83,8	101,8	250,2	203,2	83,8	88,4	0,	50,5	235,7	233,5
15	87,0	102,1	244,1	202,2	87,0	91,0	0,	46,1	228,1	226,7
30	92,5	104,9	225,1	187,8	92,5	95,1	0,	44,3	205,2	206,2
50	95,4	111,8	199,0	155,3	95,4	96,3	0,	56,9	174,7	178,8
70	97,2	121,4	174,3	131,9	97,2	101,2	0,	67,0	144,7	151,5
85	94,2	139,1	153,2	109,3	94,2	102,6	0,	93,9	120,8	131,6
90	91,7	147,5	145,5	112,6	91,7	109,4	0,	98,9	112,9	125,6
95	88,0	151,9	136,7	111,3	88,0	110,3	0,	104,4	104,6	119,4

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,236	0,295	0,756	0,593	1,072	0,215	1,1038	1,0455	0,629	0,634
10	0,248	0,296	0,740	0,590	1,054	0,238	1,1072	1,0408	0,724	0,728
15	0,257	0,297	0,722	0,589	1,048	0,260	1,1101	1,0361	0,840	0,842
30	0,274	0,306	0,666	0,548	1,030	0,318	1,1168	1,0316	1,016	1,016
50	0,283	0,326	0,590	0,453	1,013	0,392	1,1250	1,0352	0,972	0,972
70	0,288	0,355	0,517	0,386	1,040	0,500	1,1409	1,0350	1,095	1,093
85	0,279	0,407	0,454	0,320	1,115	0,530	1,1637	1,0428	1,033	1,033
90	0,272	0,432	0,431	0,330	1,230	0,489	1,1715	1,0429	1,077	1,076
95	0,260	0,446	0,404	0,327	1,289	0,414	1,1691	1,0431	1,060	1,059

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
5	8,7	6,8	3,2	6,6	0,272	0,174	0,	0,174	0,024	0,024
10	8,7	7,0	4,0	6,2	0,255	0,121	0,	0,121	0,018	0,018
15	8,8	7,2	4,6	5,9	0,235	0,065	0,	0,065	0,010	0,010
30	10,1	8,0	5,9	6,4	0,235	-0,006	0,	-0,006	-0,001	-0,001
50	11,5	8,8	7,3	10,3	0,314	0,016	0,	0,016	0,003	0,003
70	11,2	7,7	13,1	16,8	0,350	-0,068	0,	-0,068	-0,013	-0,013
85	10,7	6,7	15,6	33,5	0,430	-0,037	0,	-0,037	-0,008	-0,008
90	10,6	6,5	17,7	38,8	0,375	-0,095	0,	-0,095	-0,019	-0,019
95	10,7	6,5	20,0	43,7	0,345	-0,082	0,	-0,082	-0,016	-0,016

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
WTFLOW	RATIO	RATIO	EFF	RPM
56,91	1,1271	1,0368	0,945	5313,3

ATT FAN VEHICLE

(METRIC)

BP=OGV

50 PERCENT SPEED

RDG 203

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-1,3	-0,5	0,082	0,083	31,3	0,		
15	41,605	41,554	-0,8	-0,1	0,123	0,124	28,5	0,		
30	39,192	39,218	-0,0	0,5	0,251	0,251	22,7	0,		
50	35,763	35,852	0,3	0,6	0,434	0,430	23,4	0,		
70	32,487	32,639	0,9	0,8	0,599	0,595	26,3	0,		
85	30,124	30,302	2,0	1,3	0,714	0,712	26,7	0,		
90	29,312	29,489	2,5	1,6	0,753	0,752	26,9	0,		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	103,6	95,5			88,5	95,5	53,8	0,		
15	106,6	99,2			93,7	99,2	50,7	0,		
30	112,5	104,8			103,8	104,8	43,4	0,		
50	119,3	110,1			109,4	110,1	47,4	0,		
70	127,7	116,8			114,5	116,8	56,5	0,		
85	135,2	125,4			120,8	125,4	60,8	0,		
90	137,7	128,9			122,8	128,9	62,3	0,		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0,301	0,277			1,078	0,041	1,0974	1,0438	0,615	0,620
15	0,310	0,288			1,058	0,067	1,1023	1,0406	0,696	0,700
30	0,329	0,306			1,009	0,081	1,1085	1,0327	0,913	0,914
50	0,349	0,322			1,007	0,084	1,1129	1,0325	0,954	0,955
70	0,374	0,341			1,022	0,104	1,1197	1,0353	0,930	0,931
85	0,397	0,367			1,039	0,082	1,1274	1,0352	0,990	0,990
90	0,404	0,378			1,050	0,059	1,1298	1,0351	1,011	1,010

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-12,3	-20,5	10,9	31,3	0,262	0,115	0,	0,115	0,041	0,041
15	-13,8	-22,0	10,4	28,4	0,235	0,071	0,	0,071	0,025	0,025
30	-17,4	-25,2	9,4	22,7	0,194	0,054	0,	0,054	0,018	0,018
50	-15,6	-22,8	8,6	23,4	0,194	0,066	0,	0,066	0,020	0,020
70	-13,3	-19,7	8,3	26,3	0,204	0,058	0,	0,058	0,016	0,016
85	-14,2	-20,0	8,4	26,7	0,188	0,061	0,	0,061	0,016	0,016
90	-14,6	-20,4	8,4	26,9	0,178	0,068	0,	0,068	0,017	0,017

INLET CORR WFLOW 47,58 PRESS RATIO 1,1137 TEMP RATIO 1,0359 ADIA EFF 0,871 INLET CORR RPM 5313,3

ATT FAN VEHICLE

(METRIC)

CORE-OGV

50 PERCENT SPEED

RDG 203

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2,9	-5,9	0,860	0,860	37,6	19,5		
30	24,689	24,460	-1,7	-4,7	0,885	0,887	39,7	18,9		
50	23,673	23,597	0,4	-2,8	0,920	0,921	39,7	17,9		
70	22,682	22,784	2,6	-0,9	0,955	0,953	40,1	17,2		
85	21,971	22,174	4,2	0,6	0,979	0,977	42,5	16,6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	127,8	125,9			101,4	118,8	77,8	41,9		
30	137,3	127,8			105,6	121,0	87,8	41,2		
50	147,9	133,6			113,8	127,1	94,4	41,1		
70	152,9	137,0			117,0	130,9	98,5	40,4		
85	151,7	136,1			111,9	130,5	102,3	38,8		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH <sup>2</sup>	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0,374	0,368			1,166	-0,010	1,1496	1,0380	1,069	1,067
30	0,402	0,373			1,139	0,110	1,1560	1,0418	1,011	1,011
50	0,433	0,390			1,114	0,166	1,1653	1,0430	1,040	1,039
70	0,449	0,401			1,119	0,155	1,1648	1,0429	1,037	1,037
85	0,445	0,398			1,166	0,116	1,1542	1,0432	0,968	0,969

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PRUF
	ML	SS					SHOCK	PRUF		
15	-11,9	-15,7	8,6	18,0	0,114	0,043	0,	0,043	0,014	0,014
30	-7,8	-11,4	8,1	20,9	0,188	0,033	0,	0,033	0,010	0,010
50	-6,8	-9,8	7,7	21,7	0,214	0,021	0,	0,021	0,007	0,007
70	-7,0	-9,4	7,9	22,9	0,221	0,045	0,	0,045	0,013	0,013
85	-6,5	-8,1	9,8	25,9	0,228	0,087	0,	0,087	0,025	0,025

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
9,33	1,1570	1,0417	1,021	5313,3

ATT FAN VEHICLE

(METRIC)

ROTOR 50 PERCENT SPEED RDG 206

PCT INM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.6	-5.7	0.059	0.061	0.	24.6	69.7	63.0
10	42.367	41.961	-4.5	-4.8	0.120	0.120	0.	20.2	68.1	62.2
15	40.996	40.742	-3.5	-4.0	0.183	0.179	0.	17.3	66.7	61.5
30	36.881	37.059	-0.7	-1.2	0.367	0.354	0.	16.5	63.0	58.3
50	31.394	32.131	3.1	2.8	0.592	0.571	0.	20.1	57.9	50.4
70	26.010	27.229	8.3	9.3	0.782	0.765	0.	26.6	52.5	38.9
85	21.717	23.647	15.6	10.3	0.905	0.897	0.	35.0	48.9	20.5
90	20.295	22.581	18.0	11.9	0.939	0.934	0.	36.1	48.2	14.5
95	18.796	21.463	19.9	14.8	0.970	0.970	0.	38.9	47.6	9.0

PCT INM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	90.6	109.5	259.4	218.7	90.6	99.6	0.	45.4	243.1	240.2
10	95.1	110.3	254.1	221.2	95.1	103.5	0.	37.9	235.6	233.4
15	98.4	110.7	248.3	220.7	98.4	105.6	0.	32.8	228.0	226.6
30	104.6	112.2	230.3	204.7	104.6	107.6	0.	31.9	205.1	206.1
50	109.5	120.9	206.1	178.0	109.5	113.5	0.	41.6	174.6	178.7
70	112.3	130.8	183.1	149.9	112.3	117.3	0.	58.0	144.7	151.4
85	109.4	151.3	163.0	132.7	109.4	124.6	0.	85.8	120.8	131.5
90	106.3	159.6	155.0	134.1	106.3	130.0	0.	92.7	112.9	125.6
95	101.6	162.3	145.8	129.4	101.6	128.0	0.	99.8	104.5	119.4

PCT INM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.268	0.319	0.768	0.637	1.098	0.112	1.0598	1.0378	0.443	0.447
10	0.282	0.323	0.753	0.647	1.089	0.136	1.0662	1.0306	0.605	0.609
15	0.292	0.324	0.736	0.647	1.074	0.158	1.0706	1.0256	0.768	0.770
30	0.310	0.330	0.683	0.601	1.031	0.212	1.0792	1.0227	0.969	0.969
50	0.325	0.355	0.612	0.523	1.042	0.289	1.0981	1.0259	1.046	1.045
70	0.334	0.384	0.544	0.440	1.040	0.403	1.1240	1.0305	1.112	1.111
85	0.325	0.445	0.484	0.390	1.165	0.428	1.1601	1.0392	1.106	1.104
90	0.315	0.470	0.460	0.395	1.256	0.371	1.1676	1.0403	1.123	1.120
95	0.301	0.478	0.432	0.381	1.293	0.273	1.1607	1.0412	1.056	1.055

PCT INM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	TOT	PROF	
5	6.4	4.6	1.0	6.6	0.215	0.213	0.	0.213	0.032	0.032
10	6.3	4.6	1.9	5.9	0.179	0.128	0.	0.128	0.020	0.020
15	6.3	4.7	2.8	5.3	0.156	0.065	0.	0.065	0.010	0.010
30	7.3	5.3	4.6	5.0	0.142	0.010	0.	0.010	0.002	0.002
50	8.0	5.3	6.0	8.3	0.208	-0.018	0.	-0.018	-0.003	-0.003
70	7.2	3.8	11.7	14.3	0.273	-0.064	0.	-0.064	-0.013	-0.013
85	6.4	2.5	15.7	29.3	0.309	-0.096	0.	-0.096	-0.020	-0.020
90	6.4	2.4	18.1	34.1	0.269	-0.126	0.	-0.126	-0.025	-0.025
95	6.6	2.4	21.0	38.7	0.256	-0.065	0.	-0.065	-0.013	-0.013

INLET CORR WFLOW 64.40 PRESS RATIO 1.0994 TEMP RATIO 1.0293 ADIA EFF 0.934 INLET CORR RPM 5211.0

ATT FAN VEHICLE

(METRIC)

BP=OGV

50 PERCENT SPEED

RDG 206

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.9	-0.3	0.083	0.086	22.3	0.		
15	41.609	41.554	-0.4	-0.0	0.124	0.126	18.8	0.		
30	39.192	39.218	-0.2	0.1	0.251	0.249	14.3	0.		
50	35.763	35.852	0.3	0.2	0.429	0.425	15.4	0.		
70	32.487	32.639	1.0	0.5	0.593	0.588	17.2	0.		
85	30.124	30.302	1.9	1.0	0.709	0.705	19.5	0.		
90	29.312	29.489	2.4	1.4	0.748	0.746	20.3	0.		

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT			IN	OUT	IN	OUT
10	113.3	114.1			104.8	114.1	42.8	0.		
15	116.8	114.7			110.5	114.7	37.7	0.		
30	122.5	120.8			118.7	120.8	30.3	0.		
50	129.8	129.2			125.2	129.2	34.4	0.		
70	141.4	138.6			135.1	138.6	42.0	0.		
85	150.5	150.0			141.9	150.0	50.2	0.		
90	153.2	155.1			143.7	155.1	53.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.331	0.333			1.089	-0.141	1.0518	1.0347	0.419	0.423
15	0.342	0.336			1.037	-0.122	1.0528	1.0300	0.499	0.498
30	0.361	0.355			1.018	-0.114	1.0606	1.0228	0.743	0.745
50	0.383	0.381			1.034	-0.098	1.0716	1.0237	0.843	0.845
70	0.417	0.409			1.030	-0.085	1.0835	1.0261	0.888	0.889
85	0.444	0.443			1.059	-0.108	1.0972	1.0290	0.926	0.927
90	0.453	0.459			1.081	-0.132	1.1030	1.0299	0.950	0.951

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-21.4	-29.5	10.9	22.2	0.127	0.135	0.	0.135	0.047	0.047
15	-23.4	-31.7	10.4	18.8	0.130	0.167	0.	0.167	0.058	0.058
30	-25.7	-33.6	9.4	14.3	0.094	0.147	0.	0.147	0.048	0.048
50	-23.6	-30.8	8.6	15.4	0.082	0.110	0.	0.110	0.033	0.033
70	-22.4	-28.8	8.3	17.2	0.097	0.126	0.	0.126	0.034	0.034
85	-21.5	-27.2	8.4	19.5	0.088	0.121	0.	0.121	0.031	0.031
90	-21.3	-27.0	8.4	20.3	0.075	0.115	0.	0.115	0.029	0.029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
53.54	1.0741	1.0274	0.753	5311.0

ATT FAN VEHICLE

(METRIC)

CORE=OGV 50 PERCENT SPEED RDG 206

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-2.8	-5.8	0.856	0.897	30.3	19.5		
30	24,689	24,460	-1.6	-4.5	0.881	0.884	32.3	18.9		
50	23,673	23,597	0.3	-2.8	0.919	0.920	32.6	17.9		
70	22,682	22,784	2.5	-1.0	0.955	0.953	34.4	17.1		
85	21,971	22,174	4.1	0.6	0.979	0.977	37.1	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	139.3	155.9			120.3	147.0	70.3	51.8		
30	150.1	157.0			126.9	148.7	80.2	50.6		
50	162.3	163.6			136.7	155.7	87.5	50.3		
70	165.9	166.3			136.9	158.9	93.6	49.0		
85	162.7	164.6			129.9	157.8	97.9	46.9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.409	0.460			1.216	-0.357	1.1322	1.0343	1.052	1.051
30	0.441	0.462			1.164	-0.180	1.1390	1.0382	0.992	0.992
50	0.478	0.482			1.136	-0.085	1.1522	1.0398	1.038	1.037
70	0.489	0.490			1.160	-0.094	1.1481	1.0408	0.987	0.987
85	0.479	0.485			1.215	-0.160	1.1317	1.0413	0.870	0.873

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROP	TOT	PARAM
15	-19.1	-23.0	8.6	10.8	-0.070	0.118	0.	0.118	0.038	0.038
30	-15.3	-18.8	8.1	13.5	0.026	0.103	0.	0.103	0.033	0.033
50	-13.9	-16.9	7.7	14.7	0.067	0.077	0.	0.077	0.024	0.024
70	-12.7	-15.1	7.9	17.2	0.081	0.100	0.	0.100	0.030	0.030
85	-11.9	-13.5	9.8	20.4	0.082	0.152	0.	0.152	0.044	0.044

INLET CORR WTFLOW	10.86	PRESS RATIO	1.1394	TEMP RATIO	1.0387	ADIA EFF	0.983	INLET CORR RPM	5311.0
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ATT FAN VEHICLE

(METRIC)

ROTOR

50 PERCENT SPEED

RDG 207

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT							IN	OUT
5	43.713	43.180	-5.0	-5.1	0.060	0.064	0.	45.1	74.2	65.7
10	42.367	41.961	-4.0	-4.1	0.122	0.124	0.	45.0	73.0	65.2
15	40.996	40.742	-3.0	-3.3	0.186	0.185	0.	41.2	71.8	64.0
30	36.881	37.059	0.6	0.1	0.374	0.366	0.	36.8	68.8	60.0
50	31.394	32.131	5.4	4.8	0.602	0.590	0.	40.0	65.2	53.1
70	26.010	27.229	9.9	12.5	0.788	0.784	0.	44.2	61.1	41.0
85	21.717	23.647	16.7	13.7	0.908	0.908	0.	48.2	57.7	22.7
90	20.295	22.581	19.0	14.0	0.941	0.942	0.	49.3	57.1	16.8
95	18.796	21.463	20.6	15.8	0.971	0.975	0.	52.6	56.6	11.2

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE SPEED	
	IN	OUT	IN	OUT					IN	OUT
5	68.8	105.9	252.4	181.1	68.8	74.9	0.	74.9	242.9	239.9
10	72.1	104.4	246.2	175.7	72.1	73.9	0.	73.7	235.4	233.1
15	74.9	103.2	239.7	176.4	74.9	77.5	0.	67.9	227.8	226.3
30	79.7	103.4	219.8	166.1	79.7	83.0	0.	61.9	204.9	205.9
50	81.0	107.6	192.3	137.2	81.0	82.6	0.	69.0	174.4	178.5
70	81.1	116.0	165.7	110.4	81.1	84.2	0.	79.8	144.5	151.3
85	79.5	129.9	144.5	95.0	79.5	88.0	0.	95.5	120.7	131.4
90	77.0	133.2	136.6	92.1	77.0	88.4	0.	99.6	112.7	125.4
95	73.6	132.3	127.7	83.7	73.6	82.3	0.	103.6	104.4	119.2

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.203	0.305	0.745	0.521	1.088	0.282	1.1462	1.0622	0.639	0.646
10	0.213	0.301	0.727	0.506	1.025	0.301	1.1448	1.0594	0.663	0.669
15	0.221	0.298	0.708	0.510	1.035	0.321	1.1436	1.0531	0.736	0.741
30	0.235	0.300	0.650	0.482	1.043	0.374	1.1427	1.0439	0.884	0.886
50	0.239	0.313	0.568	0.399	1.022	0.439	1.1414	1.0426	0.905	0.906
70	0.240	0.338	0.490	0.322	1.028	0.533	1.1485	1.0417	0.968	0.969
85	0.235	0.379	0.427	0.277	1.122	0.616	1.1671	1.0434	1.041	1.041
90	0.228	0.389	0.403	0.249	1.180	0.590	1.1655	1.0432	1.036	1.035
95	0.217	0.386	0.377	0.245	1.162	0.536	1.1550	1.0427	0.985	0.985

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SH					SHOCK	PROF	TOT	PROF
5	11.0	9.1	3.6	8.5	0.379	0.232	0.	0.232	0.032	0.032
10	11.2	9.5	4.9	7.8	0.386	0.217	0.	0.217	0.031	0.031
15	11.4	9.8	5.3	7.9	0.358	0.159	0.	0.159	0.023	0.023
30	13.1	11.1	6.4	8.9	0.340	0.070	0.	0.070	0.011	0.011
50	15.2	12.6	8.7	12.5	0.400	0.069	0.	0.069	0.012	0.012
70	15.8	12.4	13.8	20.3	0.461	0.029	0.	0.029	0.006	0.006
85	15.2	11.3	17.9	34.9	0.493	-0.052	0.	-0.052	-0.011	-0.011
90	15.4	11.3	20.4	40.2	0.484	-0.051	0.	-0.051	-0.010	-0.010
95	15.6	11.4	23.2	44.9	0.506	0.025	0.	0.025	0.005	0.005

INLET CORR WFLOW 48.86 PRESS RATIO 1.1467 TEMP RATIO 1.0466 ADIA EFF 0.855 INLET CORR RPM 5305.2



ATT FAN VEHICLE

(METRIC)

BP=OGV

50 PERCENT SPEED

RDG 207

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE IN	REL ANGLE OUT
	IN	OUT			IN	OUT		
10	42.418	42.316	-0.4	0.7	0.087	0.093	43.9	0.
15	41.605	41.554	0.6	1.5	0.130	0.138	42.3	0.
30	39.192	39.218	1.8	2.8	0.262	0.271	34.2	0.
50	35.763	35.852	1.9	2.7	0.451	0.455	33.6	0.
70	32.487	32.639	2.0	2.3	0.618	0.618	35.1	0.
85	30.124	30.302	2.6	2.3	0.732	0.732	35.8	0.
90	29.312	29.489	2.9	2.3	0.770	0.771	35.9	0.

PCT IMM	ABS VEL		REL VEL		MERID IN	VEL OUT	TANG IN	VEL OUT	BLADE SPEED	
	IN	OUT	IN	OUT					IN	OUT
10	108.6	88.0			78.2	88.0	73.4	0.		
15	109.7	89.1			81.2	89.1	73.9	0.		
30	111.3	91.5			92.1	91.5	62.6	0.		
50	114.0	93.7			94.9	93.7	63.1	0.		
70	118.4	96.3			96.8	96.3	68.2	0.		
85	124.4	102.0			101.0	102.0	72.7	0.		
90	126.8	104.3			102.7	104.3	74.3	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.313	0.253			1.120	0.270	1.1396	1.0612	0.622	0.629
15	0.317	0.256			1.093	0.292	1.1409	1.0588	0.651	0.658
30	0.323	0.265			0.990	0.293	1.1401	1.0469	0.814	0.818
50	0.332	0.272			0.987	0.274	1.1377	1.0433	0.868	0.870
70	0.345	0.279			0.995	0.283	1.1366	1.0425	0.877	0.879
85	0.363	0.296			1.010	0.264	1.1387	1.0421	0.899	0.901
90	0.370	0.303			1.015	0.248	1.1392	1.0418	0.907	0.909

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROP	TOT	PROP
10	0.3	-7.9	10.9	43.8	0.436	0.079	0.	0.079	0.028	0.028
15	0.1	-8.2	10.4	42.1	0.421	0.053	0.	0.053	0.018	0.018
30	-5.8	-13.7	9.4	34.1	0.361	0.034	0.	0.034	0.011	0.011
50	-5.4	-12.6	8.6	33.6	0.342	0.052	0.	0.052	0.015	0.015
70	-4.5	-10.9	8.3	35.1	0.344	0.057	0.	0.057	0.016	0.016
85	-5.2	-10.9	8.4	35.8	0.331	0.068	0.	0.068	0.018	0.018
90	-5.7	-11.4	8.4	35.9	0.326	0.081	0.	0.081	0.020	0.020

INLET CORR WTFLOW 41.69	PRESS RATIO 1.1390	TEMP RATIO 1.0473	ADIA EFF 0.801	INLET CORR RPM 5305.2
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ATT FAN VEHICLE

(METRIC)

CORE=OGV

50 PERCENT SPEED

RDG 207

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.6	-5.7	0.875	0.877	46.6	19.5		
30	24.689	24.460	-1.4	-4.5	0.899	0.902	46.7	18.8		
50	23.673	23.597	0.3	-3.1	0.933	0.933	47.1	17.8		
70	22.682	22.784	2.1	-1.5	0.964	0.961	49.4	17.1		
85	21.971	22.174	3.5	0.0	0.984	0.981	53.2	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	117.9	101.1			81.0	95.4	85.7	33.5		
30	124.7	101.7			85.6	96.4	90.7	32.6		
50	130.2	99.2			88.7	94.4	95.4	30.4		
70	129.4	95.3			84.3	91.1	98.2	28.0		
85	127.0	93.4			76.2	89.6	101.5	26.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.343	0.294			1.171	0.192	1.1561	1.0418	1.012	1.012
30	0.364	0.295			1.120	0.265	1.1586	1.0430	0.995	0.998
50	0.380	0.288			1.062	0.306	1.1536	1.0434	0.961	0.962
70	0.378	0.276			1.073	0.337	1.1449	1.0428	0.922	0.923
85	0.370	0.271			1.171	0.354	1.1394	1.0428	0.888	0.891

PCT IMM	INCIDENCE		DEV	TURN	D=FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM	
	ML	SS					SHOCK	PROF		TOT	PROF
15	-2.8	-6.7	8.5	27.1	0.297	0.078	0.	0.078	0.025	0.025	
30	-0.9	-4.4	8.0	27.9	0.343	0.076	0.	0.076	0.024	0.024	
50	0.6	-2.4	7.6	29.2	0.399	0.119	0.	0.119	0.036	0.036	
70	2.3	-0.1	7.9	32.2	0.433	0.130	0.	0.130	0.038	0.038	
85	4.2	2.6	9.8	36.4	0.441	0.110	0.	0.110	0.032	0.032	

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
7.17	1.1509	1.0428	0.957	5305.2

ATT FAN VEHICLE

(METRIC)

ROTOR 65 PERCENT SPEED RDG 210

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.1	-5.2	0.061	0.064	0.	28.0	69.6	62.1
10	42.367	41.961	-3.9	-4.1	0.123	0.126	0.	27.5	68.1	61.0
15	40.996	40.742	-2.8	-3.2	0.187	0.186	0.	24.4	66.7	60.9
30	36.881	37.059	0.1	-0.4	0.373	0.363	0.	24.3	63.1	57.5
50	31.394	32.131	4.3	3.9	0.598	0.582	0.	25.7	58.3	49.5
70	26.010	27.229	9.5	11.2	0.786	0.779	0.	31.8	53.4	38.7
85	21.717	23.647	16.3	12.1	0.906	0.904	0.	42.0	50.0	17.7
90	20.295	22.581	18.4	13.0	0.940	0.938	0.	43.2	49.2	11.2
95	18.796	21.463	20.0	15.3	0.971	0.971	0.	43.5	48.5	6.7

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	117.6	146.2	336.1	274.9	117.6	129.2	0.	68.4	314.9	311.0
10	123.0	146.7	329.0	268.5	123.0	130.3	0.	67.5	305.2	302.2
15	127.0	143.8	321.5	268.2	127.0	130.9	0.	59.3	295.3	293.5
30	134.5	144.5	297.8	245.6	134.5	131.6	0.	59.6	265.6	266.9
50	140.0	155.9	265.9	215.9	140.0	140.5	0.	67.5	226.1	231.4
70	141.2	164.8	234.6	179.0	141.2	140.8	0.	85.6	187.3	196.1
85	136.8	190.3	207.8	149.6	136.8	142.7	0.	125.7	156.4	170.3
90	132.8	199.1	197.5	149.7	132.8	147.0	0.	134.3	146.2	162.6
95	127.3	203.8	185.8	151.3	127.3	150.4	0.	137.5	135.4	154.6

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.380	0.422	1.000	0.793	1.097	0.164	1.1477	1.0735	0.546	0.555
10	0.366	0.424	0.980	0.776	1.058	0.187	1.1558	1.0706	0.598	0.606
15	0.379	0.417	0.958	0.779	1.030	0.207	1.1555	1.0602	0.701	0.707
30	0.402	0.421	0.889	0.715	0.980	0.260	1.1638	1.0548	0.808	0.812
50	0.418	0.455	0.795	0.631	1.007	0.331	1.1905	1.0541	0.944	0.945
70	0.422	0.482	0.702	0.523	0.990	0.421	1.2163	1.0581	0.991	0.991
85	0.409	0.556	0.621	0.437	1.061	0.444	1.2711	1.0742	0.956	0.957
90	0.396	0.583	0.589	0.438	1.137	0.389	1.2785	1.0754	0.965	0.966
95	0.380	0.598	0.554	0.444	1.214	0.297	1.2712	1.0735	0.966	0.967

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
5	6.4	4.5	0.0	7.5	0.249	0.220	0.002	0.218	0.034	0.034
10	6.3	4.6	0.7	7.0	0.252	0.194	0.001	0.193	0.031	0.031
15	6.3	4.7	2.2	5.9	0.227	0.128	0.001	0.127	0.021	0.021
30	7.5	5.4	3.9	5.9	0.246	0.088	0.000	0.088	0.016	0.016
50	8.4	5.7	5.1	9.4	0.272	0.030	0.	0.030	0.006	0.006
70	8.1	4.7	11.5	15.1	0.337	0.006	0.	0.006	0.001	0.001
85	7.5	3.6	12.9	32.7	0.422	0.048	0.	0.048	0.010	0.010
90	7.5	3.4	14.8	38.2	0.391	0.042	0.	0.042	0.009	0.009
95	7.5	3.3	18.7	41.7	0.339	0.045	0.	0.045	0.009	0.009

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
79.64	1.1907	1.0610	0.838	6878.2

ATT FAN VEHICLE

(METRIC)

BP=OGV

65 PERCENT SPEED

RDG 210

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-1.3	-0.6	0.088	0.090	26.9	0.		
15	41.605	41.554	-0.8	-0.2	0.131	0.132	25.5	0.		
30	39.192	39.218	-0.1	0.3	0.262	0.260	20.1	0.		
50	35.763	35.852	0.6	0.6	0.442	0.439	22.0	0.		
70	32.487	32.639	1.1	0.8	0.609	0.604	21.8	0.		
85	30.124	30.302	1.9	1.2	0.724	0.721	23.7	0.		
90	29.312	29.489	2.4	1.5	0.762	0.761	24.4	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	152.7	148.3			136.2	148.3	69.1	0.		
15	156.8	150.2			141.5	150.2	67.6	0.		
30	158.7	152.4			149.0	152.4	54.7	0.		
50	169.1	161.9			156.8	161.9	63.4	0.		
70	181.1	171.4			168.1	171.4	67.4	0.		
85	189.3	182.6			173.3	182.6	76.1	0.		
90	191.8	188.2			174.7	188.2	79.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.442	0.428			1.088	-0.076	1.1307	1.0728	0.490	0.499
15	0.455	0.435			1.061	-0.047	1.1350	1.0700	0.527	0.535
30	0.464	0.445			1.023	-0.024	1.1387	1.0532	0.711	0.716
50	0.493	0.473			1.034	-0.020	1.1514	1.0565	0.728	0.733
70	0.533	0.503			1.021	-0.023	1.1635	1.0544	0.813	0.817
85	0.558	0.537			1.055	-0.051	1.1773	1.0571	0.837	0.840
90	0.565	0.554			1.079	-0.072	1.1844	1.0577	0.858	0.862

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROP
	ML	SS					SHOCK	PROP		
10	-16.8	-24.9	10.9	26.9	0.189	0.145	0.	0.145	0.051	0.051
15	-16.7	-25.0	10.4	25.5	0.191	0.141	0.	0.141	0.049	0.049
30	-19.9	-27.8	9.4	20.1	0.151	0.111	0.	0.111	0.036	0.036
50	-17.0	-24.2	8.6	22.0	0.154	0.112	0.	0.112	0.033	0.033
70	-17.8	-24.2	8.3	21.8	0.153	0.138	0.	0.138	0.038	0.038
85	-17.2	-23.0	8.4	23.7	0.138	0.132	0.	0.132	0.034	0.034
90	-17.2	-22.9	8.4	24.4	0.122	0.122	0.	0.122	0.031	0.031

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
67.25	1.1537	1.0590	0.707	6878.2

ATT FAN VEHICLE

(METRIC)

CORE=OGV 65 PERCENT SPEED RDG 210

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-3.1	-6.1	0.868	0.868	37.2	19.5		
30	24,689	24,460	-2.1	-5.0	0.892	0.893	38.7	18.9		
50	23,673	23,597	0.0	-3.1	0.926	0.926	40.5	17.9		
70	22,682	22,784	2.5	-1.0	0.958	0.956	40.6	17.1		
85	21,971	22,174	4.2	0.6	0.980	0.979	42.0	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	173.3	170.7			138.1	161.0	104.7	56.7		
30	184.5	171.8			144.1	162.6	115.2	55.4		
50	197.8	178.2			150.4	169.6	128.6	54.8		
70	202.1	181.3			153.5	173.2	131.5	53.4		
85	200.2	179.7			148.9	172.3	133.8	51.2		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.806	0.498			1.161	-0.060	1.2406	1.0662	0.960	0.961
30	0.539	0.500			1.124	0.079	1.2514	1.0709	0.933	0.935
50	0.579	0.518			1.127	0.159	1.2685	1.0757	0.928	0.931
70	0.593	0.528			1.128	0.158	1.2643	1.0743	0.933	0.935
85	0.587	0.524			1.158	0.116	1.2434	1.0731	0.878	0.882

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-12.2	-16.1	8.6	17.7	0.112	0.100	0.	0.100	0.032	0.032
30	-8.9	-12.4	8.1	19.8	0.181	0.064	0.	0.064	0.020	0.020
50	-5.9	-9.0	7.7	22.6	0.220	0.033	0.	0.033	0.010	0.010
70	-6.5	-8.9	7.9	23.5	0.222	0.043	0.	0.043	0.013	0.013
85	-6.9	-8.6	9.8	25.4	0.226	0.090	0.	0.090	0.026	0.026

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
12.39	1.2515	1.0720	0.919	6878.2

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

65 PERCENT SPEED

RDG 211

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT			IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.5	-5.6	0.060	0.062	0.	28.9	69.7	62.2
10	42.367	41.961	-4.5	-4.7	0.122	0.121	0.	27.3	68.1	60.9
15	40.996	40.742	-3.4	-3.8	0.185	0.182	0.	23.1	66.7	60.6
30	36.881	37.059	-0.3	-0.8	0.371	0.360	0.	19.9	62.9	58.1
50	31.394	32.131	4.1	3.8	0.597	0.581	0.	23.8	58.0	49.9
70	26.010	27.229	9.4	11.8	0.785	0.779	0.	30.9	53.1	38.7
85	21.717	23.647	16.2	12.8	0.906	0.904	0.	40.5	49.6	19.7
90	20.295	22.581	18.4	13.4	0.939	0.938	0.	41.4	48.8	13.2
95	18.796	21.463	20.0	15.5	0.971	0.972	0.	44.0	48.2	6.0

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	117.0	145.5	335.9	272.6	117.0	127.5	0.	70.1	314.9	311.1
10	122.9	147.2	329.0	268.9	122.9	130.9	0.	67.4	305.2	302.3
15	127.6	145.3	321.7	271.5	127.6	133.4	0.	57.0	295.3	293.5
30	136.0	143.9	298.5	256.6	136.0	135.4	0.	49.0	265.7	267.0
50	141.6	155.7	266.8	221.0	141.6	142.6	0.	62.7	226.2	231.5
70	142.7	166.0	235.5	182.0	142.7	143.2	0.	83.8	187.4	196.1
85	138.8	187.5	209.1	152.6	138.8	144.1	0.	120.1	156.4	170.3
90	134.6	197.6	198.7	153.9	134.6	150.1	0.	128.5	146.2	162.7
95	128.9	204.6	187.0	150.5	128.9	149.7	0.	139.4	135.4	154.6

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.348	0.419	0.999	0.786	1.089	0.139	1.1268	1.0753	0.461	0.470
10	0.366	0.426	0.980	0.777	1.064	0.164	1.1383	1.0703	0.536	0.545
15	0.380	0.422	0.959	0.790	1.047	0.186	1.1419	1.0576	0.671	0.677
30	0.406	0.421	0.891	0.751	0.997	0.243	1.1505	1.0451	0.907	0.909
50	0.424	0.456	0.798	0.647	1.010	0.316	1.1813	1.0505	0.966	0.967
70	0.427	0.486	0.705	0.532	0.993	0.409	1.2128	1.0569	0.996	0.996
85	0.415	0.548	0.625	0.446	1.055	0.452	1.2645	1.0708	0.980	0.981
90	0.402	0.579	0.593	0.451	1.143	0.401	1.2764	1.0723	0.999	0.999
95	0.384	0.600	0.557	0.442	1.193	0.309	1.2745	1.0744	0.965	0.966

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
5	6.5	4.6	0.2	7.4	0.257	0.265	0.002	0.263	0.041	0.041
10	6.3	4.6	0.6	7.2	0.251	0.222	0.001	0.220	0.036	0.036
15	6.3	4.7	1.9	6.1	0.214	0.133	0.001	0.133	0.022	0.022
30	7.2	5.2	4.5	5.0	0.200	0.037	0.000	0.037	0.006	0.006
50	8.1	5.4	5.5	8.8	0.251	0.017	0.	0.017	0.003	0.003
70	7.8	4.4	11.5	14.7	0.325	0.003	0.	0.003	0.001	0.001
85	7.1	3.2	14.9	30.1	0.403	0.020	0.	0.020	0.004	0.004
90	7.1	3.0	16.8	35.8	0.368	0.000	0.	0.000	0.000	0.000
95	7.2	3.0	18.0	42.0	0.349	0.047	0.	0.047	0.009	0.009

INLET CORR WTPLOW 80.21      PRESS RATIO 1.1807      TEMP RATIO 1.0575      ADIA EFF 0.846      INLET CORR RPM 6878.9

ATT FAN VEHICLE

(METRIC)

BP=OGV

65 PERCENT SPEED

RDG 211

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.9	-0.3	0.086	0.088	27.2	0.		
15	41.605	41.554	-0.3	0.2	0.128	0.130	25.2	0.		
30	39.192	39.218	0.3	0.6	0.258	0.258	17.4	0.		
50	38.763	35.852	0.6	0.6	0.441	0.438	18.3	0.		
70	32.487	32.639	1.1	0.7	0.608	0.604	20.2	0.		
85	30.124	30.302	2.0	1.2	0.725	0.722	22.5	0.		
90	29.312	29.489	2.5	1.5	0.764	0.763	23.3	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	153.1	150.2			136.2	150.2	70.0	0.		
15	158.0	152.7			143.1	152.7	67.2	0.		
30	160.7	155.4			153.4	155.4	48.1	0.		
50	168.7	164.9			160.2	164.9	53.0	0.		
70	183.4	177.2			172.1	177.2	63.3	0.		
85	193.2	189.8			178.6	189.8	73.8	0.		
90	195.5	194.5			179.6	194.5	77.3	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.443	0.434			1.101	-0.066	1.1158	1.0738	0.431	0.440
15	0.458	0.442			1.066	-0.043	1.1208	1.0694	0.477	0.486
30	0.472	0.455			1.012	-0.046	1.1245	1.0469	0.727	0.732
50	0.496	0.484			1.030	-0.058	1.1375	1.0471	0.795	0.799
70	0.541	0.522			1.032	-0.053	1.1571	1.0511	0.834	0.837
85	0.570	0.560			1.064	-0.081	1.1738	1.0553	0.847	0.850
90	0.577	0.574			1.084	-0.106	1.1780	1.0564	0.850	0.853

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
10	-16.4	-24.6	10.9	27.2	0.181	0.114	0.	0.114	0.040	0.040
15	-17.1	-25.3	10.4	25.1	0.181	0.122	0.	0.122	0.042	0.042
30	-22.6	-30.5	9.4	17.4	0.131	0.122	0.	0.122	0.040	0.040
50	-20.7	-27.9	8.6	18.3	0.115	0.112	0.	0.112	0.033	0.033
70	-19.4	-25.8	8.3	20.1	0.125	0.128	0.	0.128	0.035	0.035
85	-18.5	-24.2	8.4	22.5	0.115	0.130	0.	0.130	0.034	0.034
90	-18.3	-24.0	8.4	23.3	0.105	0.132	0.	0.132	0.033	0.033

INLET CORR WTFLOW 67.91	PRESS RATIO 1.1425	TEMP RATIO 1.0550	ADIA EFF 0.705	INLET CORR RPM 6878.9
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ATT FAN VEHICLE

(METRIC)

CORE=0GV

65 PERCENT SPEED

RDG 211

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-3.0	-6.1	0.870	0.870	37.0	19.5		
30	24.689	24.460	-2.0	-4.9	0.893	0.894	39.1	18.9		
50	23.673	23.597	0.0	-3.1	0.927	0.927	38.9	17.9		
70	22.682	22.784	2.3	-1.1	0.959	0.957	40.6	17.1		
85	21.971	22.174	4.1	0.5	0.981	0.979	43.5	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	171.5	170.0			137.0	160.3	103.1	56.5		
30	180.2	169.0			139.9	160.0	113.6	54.5		
50	193.8	176.3			150.9	167.7	121.8	54.2		
70	200.2	179.4			152.0	171.4	130.2	52.9		
85	200.0	178.5			145.2	171.1	137.5	50.8		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.500	0.496			1.166	-0.075	1.2403	1.0652	0.973	0.974
30	0.526	0.492			1.137	0.064	1.2453	1.0698	0.926	0.928
50	0.568	0.513			1.110	0.141	1.2641	1.0717	0.965	0.966
70	0.587	0.523			1.127	0.142	1.2606	1.0734	0.932	0.934
85	0.586	0.519			1.179	0.105	1.2422	1.0751	0.851	0.856

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	LOSS COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROP	TOT	PROP
15	-12.4	-16.3	8.6	17.5	0.104	0.102	0.	0.102	0.033	0.033
30	-8.5	-12.0	8.1	20.2	0.175	0.068	0.	0.068	0.021	0.021
50	-7.6	-10.6	7.7	21.0	0.203	0.037	0.	0.037	0.011	0.011
70	-6.5	-8.9	7.9	23.4	0.223	0.062	0.	0.062	0.018	0.018
85	-5.5	-7.1	9.8	26.9	0.237	0.112	0.	0.112	0.032	0.032

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
12.29	1.2489	1.0708	0.926	6878.9



ATT FAN VEHICLE

(METRIC)

ROTOR 65 PERCENT SPEED RDG 212

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.4	-5.5	0.060	0.063	0.	46.2	73.6	65.7
10	42.367	41.961	-4.4	-4.6	0.122	0.122	0.	44.8	72.2	64.9
15	40.996	40.742	-3.5	-3.7	0.186	0.183	0.	41.4	70.9	63.6
30	36.881	37.059	0.5	-0.0	0.375	0.367	0.	36.6	67.5	59.5
50	31.394	32.131	5.8	5.2	0.605	0.595	0.	40.4	63.8	52.3
70	26.010	27.229	11.0	13.4	0.791	0.792	0.	43.0	59.8	40.6
85	21.717	23.647	17.8	15.1	0.910	0.917	0.	48.9	56.8	21.7
90	20.295	22.581	20.1	15.6	0.942	0.951	0.	49.7	56.4	15.1
95	18.796	21.463	21.5	17.1	0.972	0.981	0.	55.9	56.0	9.4

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	93.4	138.3	328.5	232.1	93.4	95.9	0.	99.7	314.9	311.1
10	98.3	136.4	320.7	228.0	98.3	96.9	0.	96.0	305.2	302.3
15	102.5	135.4	312.6	228.1	102.5	101.6	0.	89.3	293.4	293.5
30	109.9	136.2	287.6	215.5	109.9	109.4	0.	81.3	265.7	267.0
50	111.8	142.0	252.3	176.8	111.8	108.3	0.	91.7	226.2	231.5
70	111.1	152.2	217.9	146.9	111.1	112.8	0.	102.2	187.4	196.2
85	107.3	170.4	189.7	122.3	107.3	114.2	0.	126.5	156.5	170.4
90	103.4	176.6	179.1	120.6	103.4	116.7	0.	132.5	146.2	162.7
95	98.2	170.2	167.3	99.6	98.2	98.3	0.	139.0	135.4	154.6

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.277	0.392	0.973	0.658	1.025	0.287	1.2524	1.1073	0.619	0.631
10	0.291	0.388	0.950	0.648	0.986	0.308	1.2510	1.1002	0.659	0.670
15	0.304	0.387	0.927	0.651	0.993	0.330	1.2512	1.0904	0.732	0.740
30	0.326	0.392	0.854	0.620	0.997	0.387	1.2527	1.0748	0.889	0.893
50	0.332	0.409	0.750	0.510	0.970	0.452	1.2503	1.0733	0.899	0.902
70	0.330	0.441	0.647	0.425	1.006	0.536	1.2606	1.0693	0.987	0.988
85	0.319	0.495	0.563	0.355	1.080	0.591	1.2884	1.0742	1.011	1.011
90	0.307	0.514	0.531	0.351	1.172	0.552	1.2906	1.0745	1.015	1.014
95	0.291	0.494	0.496	0.289	1.097	0.478	1.2605	1.0742	0.922	0.925

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	HL	SS				TOT	SHOCK	PROF	TOT	PROF
5	10.3	8.5	3.6	7.8	0.394	0.268	0.007	0.261	0.037	0.036
10	10.4	8.7	4.6	7.3	0.389	0.235	0.006	0.228	0.033	0.032
15	10.5	8.9	4.9	7.3	0.365	0.175	0.006	0.168	0.026	0.025
30	11.9	9.8	5.9	8.2	0.346	0.071	0.002	0.069	0.012	0.012
50	13.9	11.2	7.9	11.8	0.413	0.078	0.	0.078	0.014	0.014
70	14.5	11.1	13.4	19.2	0.447	0.011	0.	0.011	0.002	0.002
85	14.4	10.4	16.9	34.2	0.503	-0.015	0.	-0.015	-0.003	-0.003
90	14.7	10.6	18.7	40.4	0.478	-0.023	0.	-0.023	-0.005	-0.005
95	15.0	10.8	21.4	45.1	0.538	0.129	0.	0.129	0.025	0.025

INLET CORR	PRESS	TEMP	ADIA	INLET CORR
NTFLOW	RATIO	RATIO	EFF	RPM
65.20	1.2565	1.0796	0.847	6879.9

ATT FAN VEHICLE

(METRIC)

BP=OGV

65 PERCENT SPEED

RDG 212

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNC		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.3	0.8	0.035	0.092	44.4	0.		
15	41.605	41.554	0.7	1.6	0.128	0.136	42.0	0.		
30	39.192	39.218	1.9	2.8	0.261	0.270	34.3	0.		
50	36.763	35.852	1.8	2.6	0.454	0.457	33.1	0.		
70	32.487	32.639	2.1	2.4	0.625	0.625	33.1	0.		
85	30.124	30.302	2.7	2.4	0.740	0.741	35.2	0.		
90	29.312	29.489	3.0	2.4	0.779	0.781	35.0	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	141.9	113.3			101.5	113.3	99.3	0.		
15	143.8	115.7			106.9	115.7	96.1	0.		
30	147.4	119.5			121.8	119.5	83.0	0.		
50	151.6	123.8			127.1	123.8	82.7	0.		
70	157.1	127.5			128.5	127.5	90.4	0.		
85	163.6	133.2			133.7	133.2	94.3	0.		
90	166.5	136.1			136.4	136.1	95.4	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.403	0.320			1.109	0.291	1.2411	1.1044	0.610	0.621
15	0.410	0.328			1.075	0.310	1.2443	1.0990	0.651	0.662
30	0.424	0.342			0.977	0.300	1.2451	1.0806	0.802	0.808
50	0.438	0.356			0.973	0.280	1.2434	1.0736	0.873	0.877
70	0.455	0.367			0.992	0.292	1.2418	1.0731	0.874	0.878
85	0.475	0.384			0.996	0.270	1.2421	1.0707	0.903	0.906
90	0.484	0.393			0.997	0.250	1.2424	1.0696	0.919	0.921

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	0.7	-7.4	10.9	44.2	0.450	0.081	0.	0.081	0.029	0.029
15	-0.3	-8.5	10.4	41.7	0.427	0.049	0.	0.049	0.017	0.017
30	-3.8	-13.6	9.4	34.1	0.373	0.048	0.	0.048	0.016	0.016
50	-6.0	-13.1	8.6	33.1	0.346	0.057	0.	0.057	0.017	0.017
70	-4.5	-10.9	8.3	35.1	0.346	0.053	0.	0.053	0.015	0.015
85	-5.7	-11.5	8.4	35.2	0.335	0.074	0.	0.074	0.019	0.019
90	-6.6	-12.3	8.4	35.0	0.328	0.090	0.	0.090	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
56.24	1.2432	1.0805	0.797	6879.9

ATT PAN VEHICLE

(METRIC)

CORE=06V 65 PERCENT SPEED RDG 212

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCY		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	29.400	29.121	-2.7	-6.0	0.885	0.886	47.3	19.4		
30	24.689	24.460	-1.7	-5.0	0.908	0.910	47.5	18.7		
50	23.673	23.597	-0.7	-4.2	0.942	0.941	47.3	17.8		
70	22.682	22.784	0.1	-3.3	0.973	0.967	51.3	17.0		
85	21.971	22.174	1.9	-1.5	0.989	0.985	59.0	16.4		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	153.7	127.4			104.2	120.2	112.9	42.2		
30	163.4	127.7			110.5	121.0	120.4	40.8		
50	172.0	122.5			116.7	116.7	126.5	37.3		
70	167.8	114.4			105.0	109.4	131.3	33.4		
85	160.4	104.7			82.6	100.5	136.5	29.6		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.445	0.367			1.147	0.239	1.2671	1.0714	0.980	0.980
30	0.474	0.367			1.091	0.306	1.2709	1.0740	0.958	0.959
50	0.500	0.351			0.995	0.343	1.2587	1.0746	0.911	0.914
70	0.487	0.328			0.985	0.414	1.2404	1.0742	0.856	0.860
85	0.464	0.300			1.203	0.497	1.2230	1.0745	0.794	0.800

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOY	LOSS COEFFICIENT		LOSS PARAM	
	HL	SS					SHOCK	PROP	TOT	PROP
15	-2.1	-6.0	8.5	27.9	0.332	0.081	0.	0.081	0.026	0.026
30	-0.1	-3.6	7.9	28.7	0.383	0.091	0.	0.091	0.029	0.029
50	0.8	-2.2	7.5	29.5	0.456	0.162	0.	0.162	0.050	0.050
70	4.2	1.8	7.8	33.6	0.510	0.147	0.	0.147	0.044	0.044
85	10.0	8.4	9.7	41.6	0.560	0.102	0.	0.102	0.029	0.029

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
8.95	1.2538	1.0736	0.907	6879.9

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

ROTOR

70 PERCENT SPEED

RDG 214

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43,713	43,180	-5,2	-5,3	0,061	0,064	0,	40,8	71,6	63,9
10	42,367	41,961	-4,0	-4,2	0,124	0,126	0,	38,9	70,2	63,0
15	40,996	40,742	-2,8	-3,1	0,189	0,188	0,	36,0	68,8	62,0
30	36,881	37,059	1,3	0,8	0,379	0,374	0,	33,1	65,4	58,5
50	31,374	32,131	6,3	5,9	0,607	0,599	0,	37,0	61,6	51,1
70	26,010	27,229	11,1	15,1	0,790	0,794	0,	41,1	57,6	39,6
85	21,717	23,647	16,3	16,5	0,908	0,910	0,	48,4	53,8	23,3
90	20,295	22,581	18,7	15,5	0,940	0,943	0,	46,7	53,1	15,8
95	18,796	21,463	20,4	16,6	0,971	0,976	0,	50,9	52,5	6,9

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	113,4	153,3	358,8	263,3	113,4	116,2	0,	100,0	340,4	336,2
10	119,2	152,1	350,8	259,9	119,2	118,4	0,	95,4	329,9	326,7
15	123,8	150,7	342,4	259,1	123,8	121,8	0,	88,5	319,2	317,2
30	131,3	151,0	315,8	241,9	131,3	126,6	0,	82,4	287,2	288,6
50	132,9	157,8	278,2	200,3	132,9	126,3	0,	94,8	244,4	250,2
70	130,8	168,9	241,1	165,4	130,8	129,2	0,	108,8	202,5	212,0
85	128,7	181,6	212,5	133,4	128,7	123,3	0,	133,3	169,1	184,1
90	125,2	194,5	201,6	141,0	125,2	136,2	0,	138,9	158,0	175,8
95	119,9	199,2	189,2	129,6	119,9	128,7	0,	152,0	146,4	167,1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0,337	0,434	1,066	0,746	1,023	0,271	1,2786	1,1163	0,625	0,638
10	0,355	0,432	1,044	0,739	0,992	0,295	1,2813	1,1078	0,681	0,692
15	0,369	0,430	1,020	0,740	0,984	0,317	1,2826	1,0971	0,759	0,768
30	0,392	0,434	0,942	0,696	0,965	0,372	1,2843	1,0820	0,904	0,907
50	0,397	0,455	0,830	0,577	0,953	0,432	1,2842	1,0819	0,904	0,908
70	0,390	0,489	0,719	0,479	0,972	0,512	1,3016	1,0796	0,982	0,983
85	0,384	0,526	0,634	0,387	0,954	0,609	1,3306	1,0848	1,003	1,003
90	0,373	0,566	0,601	0,411	1,106	0,588	1,3527	1,0844	1,068	1,065
95	0,357	0,580	0,563	0,377	1,119	0,528	1,3454	1,0872	1,014	1,014

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK	TOT	PROF	
5	8,4	6,5	1,8	7,7	0,358	0,251	0,010	0,241	0,037	0,035
10	8,4	6,7	2,7	7,2	0,350	0,208	0,008	0,200	0,032	0,030
15	8,4	6,8	3,3	6,8	0,329	0,148	0,006	0,141	0,023	0,022
30	9,8	7,7	4,8	7,1	0,321	0,059	0,006	0,053	0,010	0,009
50	11,7	9,0	6,7	10,8	0,385	0,069	0,	0,069	0,013	0,013
70	12,4	8,9	12,4	17,8	0,428	0,016	0,	0,016	0,003	0,003
85	11,4	7,4	18,5	30,2	0,516	-0,004	0,	-0,004	-0,001	-0,001
90	11,4	7,3	19,6	36,9	0,451	-0,092	0,	-0,092	-0,018	-0,018
95	11,5	7,3	18,9	44,6	0,468	-0,020	0,	-0,020	-0,004	-0,004

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
76,44	1,2931	1,0885	0,861	7435,4

ATT FAN VEHICLE

(METRIC)

BP-DGV

70 PERCENT SPEED

RDG 214

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42,418	42,316	-0.9	0.1	0.088	0.092	38.7	0.		
15	41,605	41,554	-0.2	0.6	0.132	0.136	36.2	0.		
30	39,192	39,218	0.6	1.4	0.269	0.272	29.9	0.		
50	35,763	35,852	0.9	1.5	0.461	0.460	29.7	0.		
70	32,487	32,639	1.6	1.7	0.631	0.629	31.5	0.		
85	30,124	30,302	2.4	2.0	0.747	0.746	31.9	0.		
90	29,312	29,489	2.8	2.1	0.785	0.786	32.3	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	158.7	134.5			123.9	134.5	99.1	0.		
15	161.8	137.7			130.6	137.7	95.4	0.		
30	166.0	142.1			143.9	142.1	82.9	0.		
50	171.1	146.5			148.6	146.5	84.8	0.		
70	178.7	151.7			152.4	151.7	93.3	0.		
85	186.7	158.8			158.5	158.8	98.7	0.		
90	189.5	161.9			160.3	161.9	101.1	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.451	0.380			1.082	0.188	1.2626	1.1129	0.610	0.623
15	0.461	0.391			1.051	0.209	1.2688	1.1065	0.661	0.672
30	0.479	0.407			0.986	0.221	1.2739	1.0873	0.820	0.827
50	0.495	0.421			0.985	0.226	1.2745	1.0816	0.880	0.884
70	0.518	0.437			0.996	0.237	1.2760	1.0816	0.884	0.888
85	0.543	0.458			1.002	0.208	1.2782	1.0800	0.908	0.911
90	0.552	0.468			1.010	0.188	1.2782	1.0797	0.912	0.915

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
10	-5.0	-13.1	10.9	38.6	0.374	0.104	0.	0.104	0.037	0.037
15	-6.1	-14.3	10.4	36.0	0.353	0.074	0.	0.074	0.026	0.026
30	-10.1	-18.0	9.4	29.9	0.306	0.052	0.	0.052	0.017	0.017
50	-9.3	-16.5	8.6	29.7	0.291	0.045	0.	0.045	0.014	0.014
70	-8.1	-14.5	8.3	31.5	0.293	0.046	0.	0.046	0.013	0.013
85	-9.0	-14.8	8.4	31.9	0.286	0.077	0.	0.077	0.020	0.020
90	-9.3	-15.0	8.4	32.3	0.281	0.092	0.	0.092	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
66.31	1.2732	1.0889	0.803	7435.4

ORIGINAL PARTS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE-DGV

70 PERCENT SPEED

RDG 214

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM IN	FUNCT OUT	ABS ANGLE		REL ANGLE	
	IN	OUT					IN	OUT	IN	OUT
15	25,400	25,121	-2,6	-5,8	0,886	0,887	50,3	19,5		
30	24,689	24,460	-1,3	-4,5	0,906	0,909	49,2	18,9		
50	23,673	23,597	0,3	-3,1	0,937	0,937	46,4	17,9		
70	22,682	22,784	1,7	-1,8	0,967	0,964	48,4	17,1		
85	21,971	22,174	3,1	-0,4	0,986	0,982	54,6	16,5		

PCT IMM	ABS VEL		REL VEL IN	VEL OUT	MERID IN	VEL OUT	TANG VEL		BLADE SPEED	
	IN	OUT					IN	OUT	IN	OUT
15	158,3	125,2			101,2	118,1	121,7	41,6		
30	168,4	129,9			110,1	122,9	127,4	41,9		
50	183,1	135,5			126,3	128,9	132,7	41,6		
70	188,9	134,8			125,4	128,8	141,4	39,7		
85	186,8	130,4			108,3	125,0	152,0	37,1		

PCT IMM	ABS MACH NO		REL MACH NO IN	MACH NO OUT	AXIAL VEL R	CHI RATIO	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT							ADIA	POLY
15	0,456	0,358			1,159	0,295	1,3049	1,0832	0,950	0,952
30	0,486	0,371			1,106	0,352	1,3165	1,0847	0,965	0,966
50	0,531	0,388			1,018	0,358	1,3254	1,0845	0,992	0,992
70	0,548	0,386			1,011	0,370	1,3169	1,0860	0,952	0,954
85	0,541	0,372			1,142	0,397	1,3021	1,0895	0,875	0,880

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROF	TOT	PROF
15	0,8	-3,0	8,6	30,7	0,386	0,087	0,	0,087	0,028	0,028
30	1,6	-1,9	8,1	30,2	0,404	0,065	0,	0,065	0,020	0,020
50	-0,1	-3,1	7,7	28,5	0,421	0,104	0,	0,104	0,032	0,032
70	1,3	-1,1	7,9	31,0	0,455	0,137	0,	0,137	0,040	0,040
85	5,6	4,0	9,8	37,5	0,487	0,130	0,	0,130	0,037	0,037

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
10,13	1,3128	1,0855	0,945	7435,4

ATT FAN VEHICLE

(METRIC)

ROTOR 70 PERCENT SPEED RDG 215

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.5	-5.7	0.060	0.062	0.	40.7	71.3	63.4
10	42.367	41.961	-4.6	-4.8	0.122	0.121	0.	38.6	69.8	62.6
15	40.996	40.742	-3.6	-4.0	0.186	0.181	0.	34.8	68.3	61.6
30	36.881	37.059	0.2	-0.3	0.374	0.364	0.	31.3	64.5	57.6
50	31.394	32.131	5.5	5.0	0.602	0.591	0.	34.5	60.4	50.0
70	26.010	27.229	10.4	13.0	0.788	0.787	0.	38.5	56.1	40.0
85	21.717	23.647	16.2	13.5	0.907	0.906	0.	47.1	52.6	20.4
90	20.295	22.581	18.4	13.6	0.940	0.939	0.	44.3	51.7	13.3
95	18.796	21.463	20.1	15.5	0.971	0.972	0.	47.8	51.0	6.3

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	115.7	155.5	359.5	263.1	115.7	118.1	0.	101.1	340.3	336.2
10	121.9	153.4	351.6	260.5	121.9	120.0	0.	95.5	329.8	326.7
15	127.1	152.1	343.6	262.1	127.1	124.8	0.	86.7	319.2	317.2
30	136.7	154.3	318.0	246.5	136.7	131.9	0.	80.3	287.1	288.5
50	139.7	161.9	281.5	207.4	139.7	133.6	0.	91.5	244.4	250.2
70	138.3	168.5	245.2	172.0	138.3	133.2	0.	103.2	202.5	212.0
85	134.8	189.0	216.3	138.9	134.8	130.6	0.	136.7	169.1	184.1
90	131.3	201.4	205.4	145.0	131.3	141.4	0.	143.4	158.0	175.8
95	126.1	208.5	193.1	143.8	126.1	143.0	0.	151.8	146.3	167.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.344	0.441	1.069	0.745	1.020	0.250	1.2589	1.1176	0.578	0.592
10	0.363	0.436	1.047	0.741	0.985	0.274	1.2606	1.1076	0.635	0.647
15	0.379	0.435	1.024	0.750	0.984	0.299	1.2639	1.0947	0.731	0.739
30	0.408	0.445	0.950	0.711	0.967	0.362	1.2756	1.0798	0.902	0.905
50	0.417	0.468	0.842	0.599	0.958	0.427	1.2817	1.0790	0.930	0.933
70	0.413	0.489	0.733	0.499	0.954	0.508	1.2897	1.0755	0.998	0.998
85	0.403	0.549	0.646	0.403	0.981	0.571	1.3328	1.0870	0.984	0.984
90	0.392	0.587	0.613	0.423	1.104	0.540	1.3526	1.0871	1.035	1.033
95	0.376	0.609	0.576	0.420	1.167	0.473	1.3507	1.0875	1.025	1.024

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROP	TOT	PROP
5	8.1	6.2	1.4	7.8	0.361	0.282	0.009	0.273	0.042	0.041
10	8.0	6.3	2.3	7.2	0.350	0.234	0.007	0.227	0.033	0.035
15	7.9	6.3	2.9	6.8	0.321	0.159	0.006	0.154	0.025	0.024
30	8.9	6.8	4.0	7.1	0.311	0.058	0.005	0.054	0.010	0.009
50	10.4	7.8	5.6	10.7	0.368	0.048	0.	0.048	0.009	0.009
70	10.9	7.4	12.8	16.2	0.408	0.001	0.	0.001	0.000	0.000
85	10.1	6.2	15.6	32.2	0.503	0.019	0.	0.019	0.004	0.004
90	10.0	5.9	16.9	38.5	0.446	-0.047	0.	-0.047	-0.009	-0.009
95	10.0	5.8	18.3	44.5	0.417	-0.035	0.	-0.035	-0.007	-0.007

INLET CORR W/FLOW 79.23 PRESS RATIO 1.2847 TEMP RATIO 1.0866 ADIA EFF 0.887 INLET CORR RPM 7434.5

ATT FAN VEHICLE

(METRIC)

BP=OGV

70 PERCENT SPEED

RDG 215

PCT IMM	RADIUS		MERID IN	ANGLE OUT	STREAM		ABS IN	ANGLE OUT	REL ANGLE	
	IN	OUT			IN	OUT			IN	OUT
10	42,418	42,316	-0.8	0.2	0.084	0.088	38.8	0.		
15	41,605	41,554	-0.0	0.8	0.126	0.130	36.0	0.		
30	39,192	39,218	0.9	1.6	0.258	0.262	28.3	0.		
50	35,763	35,852	1.0	1.5	0.448	0.448	28.1	0.		
70	32,487	32,639	1.6	1.6	0.620	0.618	29.2	0.		
85	30,124	30,302	2.4	1.8	0.735	0.734	29.8	0.		
90	29,312	29,489	2.7	2.0	0.773	0.774	30.2	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	159.6	136.0			124.4	136.0	100.0	0.		
15	162.4	139.7			131.3	139.7	95.5	0.		
30	167.3	145.6			148.2	145.6	79.8	0.		
50	176.8	154.2			155.9	154.2	83.4	0.		
70	183.9	159.7			160.5	159.7	89.8	0.		
85	189.0	165.3			164.0	165.3	93.9	0.		
90	190.9	168.0			165.0	168.0	96.0	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.453	0.384			1.089	0.189	1.2438	1.1138	0.565	0.578
15	0.463	0.396			1.059	0.209	1.2507	1.1065	0.620	0.632
30	0.486	0.418			0.980	0.204	1.2586	1.0840	0.809	0.815
50	0.513	0.444			0.989	0.186	1.2668	1.0802	0.872	0.876
70	0.535	0.461			0.996	0.192	1.2688	1.0785	0.896	0.900
85	0.551	0.479			1.008	0.166	1.2676	1.0761	0.921	0.924
90	0.557	0.487			1.019	0.146	1.2668	1.0757	0.924	0.927

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT			LOSS PARAM	
	ML	SS				TOT	SHOCK	PROF	TOT	PROF
10	-4.8	-13.0	10.9	38.7	0.370	0.095	0.	0.095	0.034	0.034
15	-6.2	-14.5	10.4	35.9	0.344	0.059	0.	0.059	0.020	0.020
30	-11.8	-19.6	9.4	28.3	0.289	0.054	0.	0.054	0.017	0.017
50	-10.9	-18.1	8.6	28.1	0.268	0.058	0.	0.058	0.017	0.017
70	-10.4	-16.8	8.3	29.2	0.265	0.059	0.	0.059	0.016	0.016
85	-11.1	-16.9	8.4	29.8	0.253	0.077	0.	0.077	0.020	0.020
90	-11.4	-17.1	8.4	30.2	0.247	0.088	0.	0.088	0.022	0.022

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
67.68	1.2615	1.0867	0.792	7434.5



ATT FAN VEHICLE

(METRIC)

CORE=OGV

70 PERCENT SPEED

RDG 215

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25,400	25,121	-3.0	-6.1	0.875	0.875	45.5	19.5		
30	24,689	24,460	-1.8	-4.8	0.897	0.898	46.0	18.9		
50	23,673	23,597	0.3	-2.9	0.929	0.929	44.9	18.0		
70	22,682	22,784	2.6	-1.0	0.960	0.959	45.0	17.2		
85	21,971	22,174	4.1	0.5	0.982	0.980	48.1	16.6		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	168.3	142.5			118.1	134.4	119.9	47.4		
30	179.5	147.1			124.6	139.2	129.2	47.5		
50	194.5	157.1			137.8	149.5	137.3	48.4		
70	202.0	160.5			143.0	153.3	142.7	47.3		
85	201.1	157.5			134.4	150.9	149.5	44.9		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.487	0.409			1.133	0.200	1.3014	1.0819	0.954	0.956
30	0.530	0.422			1.110	0.288	1.3166	1.0859	0.952	0.954
50	0.565	0.452			1.083	0.321	1.3392	1.0874	0.995	0.996
70	0.589	0.462			1.070	0.313	1.3367	1.0871	0.993	0.993
85	0.586	0.453			1.121	0.295	1.3159	1.0883	0.925	0.927

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-3.9	-7.8	8.6	25.9	0.303	0.090	0.	0.090	0.029	0.029
30	-1.5	-5.1	8.1	27.1	0.337	0.050	0.	0.050	0.016	0.016
50	-1.5	-4.6	7.7	26.9	0.340	0.030	0.	0.030	0.009	0.009
70	-2.1	-4.5	7.9	27.8	0.352	0.064	0.	0.064	0.019	0.019
85	-0.9	-2.5	9.8	31.4	0.373	0.104	0.	0.104	0.030	0.030

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
11.55	1.3204	1.0861	0.960	7434.5

ATT FAN VEHICLE

(METRIC)

ROTOR

70 PERCENT SPEED

RDG 216

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	43.713	43.180	-5.2	-5.3	0.061	0.064	0.	45.1	72.7	64.5
10	42.367	41.961	-4.1	-4.3	0.124	0.126	0.	43.5	71.3	63.6
15	40.996	40.742	-2.9	-3.2	0.189	0.188	0.	40.5	70.0	62.5
30	36.881	37.059	1.2	0.6	0.380	0.374	0.	37.3	66.7	58.8
50	31.394	32.131	6.5	5.8	0.609	0.601	0.	39.7	62.9	51.4
70	26.010	27.229	12.0	14.2	0.794	0.799	0.	43.9	59.1	39.0
85	21.717	23.647	18.3	16.0	0.911	0.921	0.	50.7	56.3	18.7
90	20.295	22.581	20.4	16.1	0.943	0.952	0.	53.7	55.8	11.5
95	18.796	21.463	21.4	17.1	0.972	0.980	0.	58.2	55.3	5.6

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
5	106.4	153.9	356.5	251.9	106.4	108.8	0.	108.9	340.2	336.1
10	111.9	152.2	348.2	247.9	111.9	110.5	0.	104.7	329.8	326.6
15	116.3	150.6	339.6	247.5	116.3	114.4	0.	97.7	319.1	317.1
30	123.8	150.4	312.6	230.7	123.8	119.6	0.	91.2	287.1	288.4
50	125.9	156.6	274.9	192.8	125.9	120.8	0.	99.7	244.4	250.1
70	124.0	168.7	237.4	156.8	124.0	123.2	0.	115.1	202.4	211.9
85	118.9	189.4	206.6	129.1	118.9	122.8	0.	144.2	169.0	184.1
90	114.4	192.5	195.1	119.1	114.4	116.9	0.	152.9	158.0	175.8
95	108.9	187.8	182.4	102.8	108.9	102.3	0.	157.5	146.3	167.1

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
5	0.316	0.434	1.058	0.711	1.021	0.287	1.3014	1.1266	0.617	0.631
10	0.332	0.431	1.035	0.702	0.986	0.308	1.3012	1.1182	0.661	0.673
15	0.346	0.428	1.010	0.704	0.984	0.329	1.3003	1.1070	0.728	0.738
30	0.369	0.431	0.931	0.661	0.967	0.383	1.2980	1.0907	0.853	0.858
50	0.375	0.450	0.819	0.555	0.962	0.442	1.2941	1.0861	0.887	0.891
70	0.369	0.487	0.707	0.453	0.987	0.508	1.3050	1.0842	0.939	0.941
85	0.354	0.548	0.615	0.374	1.037	0.535	1.3367	1.0910	0.951	0.953
90	0.340	0.558	0.580	0.345	1.071	0.485	1.3285	1.0929	0.910	0.913
95	0.323	0.544	0.542	0.298	1.003	0.404	1.2937	1.0913	0.836	0.842

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS COEFFICIENT		LOSS PARAM		
	ML	SS				TOT	SHOCK PROF	TOT	PROF	
5	9.5	7.6	2.5	8.1	0.394	0.278	0.012	0.266	0.040	0.038
10	9.5	7.8	3.3	7.7	0.388	0.241	0.010	0.231	0.036	0.034
15	9.6	8.0	3.8	7.5	0.367	0.183	0.008	0.175	0.028	0.027
30	11.0	9.0	5.1	8.0	0.360	0.099	0.009	0.091	0.017	0.015
50	12.9	10.3	7.0	11.7	0.409	0.087	0.	0.087	0.016	0.016
70	13.8	10.4	11.8	19.8	0.462	0.060	0.	0.060	0.012	0.012
85	13.8	9.9	13.9	36.0	0.522	0.067	0.	0.067	0.014	0.014
90	14.1	10.0	15.1	43.0	0.545	0.137	0.	0.137	0.028	0.028
95	14.3	10.1	17.6	48.3	0.595	0.277	0.	0.277	0.054	0.054

INLET CORR WFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
72.26	1.3016	1.0954	0.820	7432.8

ATT FAN VEHICLE

(METRIC)

BP=0GV

70 PERCENT SPEED

RDG 216

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	42.418	42.316	-0.6	0.5	0.088	0.093	43.0	0.		
15	41.605	41.554	0.2	1.2	0.132	0.138	40.6	0.		
30	39.192	39.218	1.4	2.3	0.269	0.276	34.0	0.		
50	35.763	35.852	1.6	2.4	0.462	0.465	33.5	0.		
70	32.487	32.639	2.0	2.3	0.633	0.633	34.2	0.		
85	30.124	30.302	2.6	2.3	0.749	0.749	34.9	0.		
90	29.312	29.489	2.9	2.3	0.787	0.789	35.5	0.		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
10	158.7	127.4			116.0	127.4	108.3	0.		
15	161.1	130.7			122.4	130.7	104.7	0.		
30	164.0	133.4			136.0	133.4	91.8	0.		
50	167.9	136.5			140.0	136.5	92.6	0.		
70	173.8	140.4			143.7	140.4	97.7	0.		
85	180.8	146.0			148.3	146.0	103.5	0.		
90	183.9	148.6			149.7	148.6	106.7	0.		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CHI	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
10	0.449	0.358			1.092	0.279	1.2869	1.1231	0.607	0.621
15	0.487	0.369			1.062	0.299	1.2926	1.1167	0.652	0.664
30	0.470	0.380			0.979	0.305	1.2925	1.0965	0.788	0.796
50	0.484	0.390			0.974	0.299	1.2878	1.0890	0.842	0.848
70	0.502	0.402			0.977	0.306	1.2853	1.0854	0.870	0.875
85	0.524	0.419			0.984	0.283	1.2841	1.0838	0.884	0.888
90	0.534	0.427			0.993	0.267	1.2834	1.0841	0.879	0.883

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS PARAM	
	ML	SS					SHOCK	PROP	TOT	PROP
10	-0.6	-8.8	10.9	42.9	0.440	0.087	0.	0.087	0.031	0.031
15	-1.7	-9.9	10.4	40.4	0.414	0.049	0.	0.049	0.017	0.017
30	-6.0	-13.9	9.4	34.0	0.368	0.037	0.	0.037	0.012	0.012
50	-5.5	-12.7	8.6	33.5	0.351	0.044	0.	0.044	0.013	0.013
70	-5.4	-11.8	8.3	34.2	0.346	0.045	0.	0.045	0.013	0.013
85	-6.0	-11.8	8.4	34.9	0.340	0.072	0.	0.072	0.019	0.019
90	-6.1	-11.8	8.4	35.5	0.339	0.090	0.	0.090	0.023	0.023

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
62.82	1.2878	1.0961	0.780	7432.8

ORIGINAL PAGE IS  
OF POOR QUALITY

ATT FAN VEHICLE

(METRIC)

CORE=OGV

70 PERCENT SPEED

RDG 216

PCT IMM	RADIUS		MERID ANGLE		STREAM FUNCT		ABS ANGLE		REL ANGLE	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	25.400	25.121	-2.8	-6.1	0.891	0.891	48.5	19.4		
30	24.689	24.460	-1.9	-5.2	0.914	0.915	49.0	18.7		
50	23.673	23.597	-0.6	-4.1	0.946	0.944	51.3	17.8		
70	22.682	22.784	1.0	-2.6	0.973	0.969	55.3	17.0		
85	21.971	22.174	2.7	-0.8	0.988	0.985	60.3	16.5		

PCT IMM	ABS VEL		REL VEL		MERID VEL		TANG VEL		BLADE SPEED	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
15	169.5	134.2			112.5	126.6	126.8	44.4		
30	181.2	138.4			118.9	128.3	136.7	43.2		
50	186.9	124.4			116.9	118.5	146.0	37.8		
70	182.3	114.6			103.9	109.7	150.0	33.5		
85	177.2	108.4			87.8	104.0	153.6	30.7		

PCT IMM	ABS MACH NO		REL MACH NO		AXIAL VEL R	CH	ACC PT RATIO	ACC TT RATIO	EFFICIENCY	
	IN	OUT	IN	OUT					ADIA	POLY
15	0.489	0.384			1.120	0.304	1.3102	1.0866	0.926	0.929
30	0.524	0.386			1.075	0.363	1.3168	1.0909	0.900	0.904
50	0.541	0.354			1.006	0.419	1.2935	1.0929	0.821	0.828
70	0.527	0.326			1.029	0.494	1.2719	1.0917	0.776	0.784
85	0.511	0.308			1.168	0.556	1.2583	1.0908	0.748	0.756

PCT IMM	INCIDENCE		DEV	TURN	D-FACT	LOSS TOT	COEFFICIENT		LOSS TOT	PARAM PROF
	ML	SS					SHOCK	PROF		
15	-1.0	-4.8	8.5	29.0	0.377	0.076	0.	0.076	0.025	0.025
30	1.4	-2.1	7.9	30.3	0.427	0.087	0.	0.087	0.027	0.027
50	4.8	1.8	7.5	33.5	0.523	0.152	0.	0.152	0.046	0.046
70	8.2	5.8	7.8	38.0	0.575	0.129	0.	0.129	0.038	0.038
85	11.3	9.7	9.7	43.4	0.601	0.083	0.	0.083	0.024	0.024

INLET CORR WTFLOW	PRESS RATIO	TEMP RATIO	ADIA EFF	INLET CORR RPM
9.44	1.2927	1.0904	0.842	7432.8

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