

UNCLASSIFIED

AD NUMBER
ADB128861
NEW LIMITATION CHANGE
TO Approved for public release, distribution unlimited
FROM Distribution authorized to U.S. Gov't. agencies only; Critical Technology; OCT 1985. Other requests shall be referred to Air Force Wright Aeronautical Labs., Wright-Patterson AFB, OH 45433.
AUTHORITY
WRDC/AFSC ltr, 2 Nov 1990

THIS PAGE IS UNCLASSIFIED

THIS REPORT HAS BEEN DELIMITED
AND CLEARED FOR PUBLIC RELEASE
UNDER DOD DIRECTIVE S200.20 AND
NO RESTRICTIONS ARE IMPOSED UPON
ITS USE AND DISCLOSURE.

DISTRIBUTION STATEMENT A

APPROVED FOR PUBLIC RELEASE;
DISTRIBUTION UNLIMITED.

AD-B128 861

AFWAL-TR-88-2108

PARAMETRIC BLADE STUDY TEST REPORT
ROTOR CONFIGURATION NO. 2

C. Herbert Law
Steven L. Puterbaugh
Technology Branch
Turbine Engine Division



November 1988

Interim Report for Period 1 January 1987 - 31 May 1988

Auth
Distribution ~~limited~~ to U.S. government agencies only; critical technology; October 1985. Other requests for this document must be referred to ~~the Aero Propulsion Laboratory~~ (AFWAL/POTX), Wright-Patterson Air Force Base, Ohio 45433-6563.

WARNING - This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Section 2751 et seq.) or Executive Order 12470. Violation of these export laws is subject to severe criminal penalties.

DESTRUCTION NOTICE - Destroy by any method that will prevent disclosure of contents or reconstruction of the document.

AERO PROPULSION LABORATORY
AIR FORCE WRIGHT AERONAUTICAL LABORATORIES
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-6563

DTIC
ELECTE
JAN 19 1989
S D

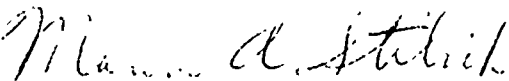
SH

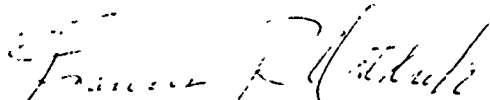
89 1 17 23 6

NOTICE

When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

This technical report has been reviewed and is approved for publication.


MARVIN A. STIBICH, TAM
Compressor Research Group
Technology Branch


FRANCIS R. OSTDIEK, Chief
Technology Branch
Turbine Engine Division

FOR THE COMMANDER


THOMAS J. SIMS, Director
Turbine Engine Division
Aero Propulsion Laboratory

If your address has changed, if you wish to be removed from our mailing list, or if the addressee is no longer employed by your organization please notify AFWAL/POTX, Wright-Patterson AFB, OH 45433-6563 to help maintain a current mailing list.

Copies of this report should not be returned unless return is required by security considerations, contractual obligations, or notice on a specific document.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

AD-13128 8611

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS Auth	
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Distribution limited to U.S. Government agencies only; critical technology; October 1985. (over)	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE				
4. PERFORMING ORGANIZATION REPORT NUMBER(S) AFWAL-TR-88-2108			5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION Aero Propulsion Laboratory		6b. OFFICE SYMBOL (If applicable) AFWAL/POTX	7a. NAME OF MONITORING ORGANIZATION	
6c. ADDRESS (City, State and ZIP Code) Wright-Patterson AFB, OH 45433-6563			7b. ADDRESS (City, State and ZIP Code)	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State and ZIP Code)			10. SOURCE OF FUNDING NOS.	
			PROGRAM ELEMENT NO. 61102F	PROJECT NO. 2307
			TASK NO. S1	WORK UNIT NO. 27
11. TITLE (Include Security Classification) Parametric Blade Study Test (over)				
12. PERSONAL AUTHOR(S) C.H. Law, S.L. Puterbaugh				
13a. TYPE OF REPORT Final Report		13b. TIME COVERED FROM 1 Jan 87 TO 31 May 88	14. DATE OF REPORT (Yr., Mo., Day) 1988 November	15. PAGE COUNT 289
16. SUPPLEMENTARY NOTATION Export Control Restrictions				
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB. GR.	Axial Compressor, Gas Turbine, Aircraft Turbine Engine. (JES)	
01	01			
01	03			
19. ABSTRACT (Continue on reverse if necessary and identify by block number)				
The results of an experimental evaluation of one compressor test of a series of design parameter investigations are presented. The purpose of the parametric blade design study was to investigate the effects of specific rotor blade design parameters on the performance of one compressor configuration of current interest with state-of-the-art performance. It was the intent of the program to vary only one design parameter at a time, keeping the other parameters as closely as possible to their original baseline design values. Design parameters investigated were the chordwise location of maximum blade thickness, suction surface blade shape, effective blade camber, and blade leading edge sweep. Experimental performance and detailed aerodynamic analysis results are presented.				
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS ☒			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED	
22a. NAME OF RESPONSIBLE INDIVIDUAL C. Herbert Law			22b. TELEPHONE NUMBER (Include Area Code) (513)255-4738	22c. OFFICE SYMBOL AFWAL/POTX

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

Block 3 (Continued)

Other requests for this document must be referred to the ~~Area Propulsion Laboratory~~ (AFWAL/POTX), Wright-Patterson Air Force Base, Ohio 45433-6563.

Block 11 (Continued)

Report Rotor Configuration No. 2

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

PREFACE

This report was prepared by Dr. C. Herbert Law and Steven L. Puterbaugh of the Technology Branch, Turbine Engine Division, Aero Propulsion Laboratory, Air Force Wright Aeronautical Laboratories, Wright-Patterson AFB, Ohio. The work was accomplished between 1 January 1987 and 31 May 1988. This work could not have been so successfully accomplished without the expert technical assistance of Dr. Arthur J. Wennerstrom, Mr. Robert D. DeRose and Mr. Robert Wirrig.

This report represents results from a portion of the effort of the Compressor Research Group, supervised by Dr. Arthur J. Wennerstrom, and was conducted under Work Unit 27, Task S1, of Project 2307, "Turbomachinery Fluid Mechanics."



Accession For	
NTIS GRA&I	☐
DTIC TAB	☒
Unannounced	☐
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
B-3	DT 57

TABLE OF CONTENTS

SECTION		PAGE
I	INTRODUCTION	1
II	DESIGN APPROACH	3
III	TEST APPARATUS	5
	1. FACILITY WFLOWPATH	5
	2. COMPRESSOR TEST VEHICLE	7
	3. COMPRESSOR INSTRUMENTATION	8
	a. Temperature Measurements	9
	(1) Location	9
	(2) Calibration	9
	b. Pressure Measurements	11
	(1) Location	11
	(2) Calibration	12
	c. Data Acquisition System	14
	4. TEST FACILITY INSTRUMENTATION	16
	a. Rotor Speed	16
	b. Mass Flow	16
	c. Inlet (Plenum) Total Pressure and Temperature	17
	d. Relative Humidity	17
IV	TEST PROCEDURE AND DATA REDUCTION	19
	1. TEST PROCEDURE	19
	2. DATA REDUCTION - PHASE I	22
	3. DATA REDUCTION - PHASE II	23
	a. Basic Program Description	23
	b. Across-Blade Analysis	25
	c. Thru-Blade Analysis	26

TABLE OF CONTENTS Continued

SECTION		PAGE
V	RESULTS	29
	1. OVER-ALL PERFORMANCE	29
	2. BLADE-ELEMENT PERFORMANCE (ACROSS-BLADE)..	29
	3. DESIGN SPEED DETAILED THRU-BLADE RESULTS..	30
	4. DESIGN POINT COMPARISON RESULTS	30
	5. BASELINE COMPARISON	31
VI	CONCLUSIONS	33
	APPENDIX A: SELECTED OUTPUTS FROM THE PHASE I ANALYSIS	141
	APPENDIX B: 870902002 - PBS ROTOR #2 AERODYNAMIC ANALYSIS - THRU-BLADE	204
	APPENDIX C: 870902007 - PBS ROTOR #2 AERODYNAMIC ANALYSIS - THRU-BLADE	239
	REFERENCES	274

LIST OF ILLUSTRATIONS

FIGURE		PAGE
1	Schematic of 2000 HP Compressor Test Facility	44
2	Cross-section of the Research Compressor	45
3	Vane Leading Edge and Discharge-plane Rake Instrumentation	46
4	Across-blade Analysis Computing Station Geometry	47
5	Thru-blade Analysis Computing Station Geometry	48
6	PBS Configuration #2 Rotor Performance	49
7	PBS Configuration #2 Stage Performance	50
8	Rotor Incidence Angle (100% N)	51
9	Rotor Relative Inlet Mach Number (100% N) ...	51
10	Rotor Loss Coefficient (100% N)	52
11	Rotor Diffusion Factor (100% N)	52
12	Rotor Deviation Angle (100% N)	53
13	Stator Incidence Angle (100% N)	53
14	Stator Absolute Inlet Mach Number (100% N) ..	54
15	Stator Diffusion Factor (100% N)	54
16	Stator Deviation Angle (100% N)	55
17	Stator Loss Coefficient (100% N)	55
18	Static Pressure Distribution (870902001)	56
19	Static Pressure Distribution (870902002)	57
20	Static Pressure Distribution (870902004)	58
21	Static Pressure Distribution (870902006)	59
22	Static Pressure Distribution (870902007)	60

LIST OF ILLUSTRATIONS Continued

FIGURE		PAGE
23	Static Pressure Distribution (870902008)	61
24	Static Pressure Distribution (870902009)	62
25	Rotor Incidence Angle (95% N)	63
26	Rotor Relative Inlet Mach Number (95% N)	63
27	Rotor Loss Coefficient (95% N)	64
28	Rotor Diffusion Factor (95% N)	64
29	Rotor Deviation Angle (95% N)	65
30	Stator Incidence Angle (95% N)	65
31	Stator Absolute Inlet Mach Number (95% N) ...	66
32	Stator Diffusion Factor (95% N)	66
33	Stator Deviation Angle (95% N)	67
34	Stator Loss Coefficient (95% N)	67
35	Static Pressure Distribution (870903003)	68
36	Static Pressure Distribution (870902010)	69
37	Static Pressure Distribution (870902012)	70
38	Static Pressure Distribution (870902014)	71
39	Static Pressure Distribution (870902016)	72
40	Static Pressure Distribution (870902017)	73
41	Static Pressure Distribution (870902018)	74
42	Rotor Incidence Angle (90% N)	75
43	Rotor Relative Inlet Mach Number (90% N)	75
44	Rotor Loss Coefficient (90% N)	76
45	Rotor Diffusion Factor (90% N)	76
46	Rotor Deviation Angle (90% N)	77
47	Stator Incidence Angle (90% N)	77

LIST OF ILLUSTRATIONS Continued

FIGURE		PAGE
48	Stator Absolute Inlet Mach Number (90% N) ...	78
49	Stator Diffusion Factor (90% N)	78
50	Stator Deviation Angle (90% N)	79
51	Stator Loss Coefficient (90% N)	79
52	Static Pressure Distribution (870903005)	80
53	Static Pressure Distribution (870903006)	81
54	Static Pressure Distribution (870902020)	82
55	Static Pressure Distribution (870902022)	83
56	Static Pressure Distribution (870902024)	84
57	Static Pressure Distribution (870902026)	85
58	Static Pressure Distribution (870902027)	86
59	Rotor Incidence Angle (80% N)	87
60	Rotor Relative Inlet Mach Number (80% N)	87
61	Rotor Loss Coefficient (80% N)	88
62	Rotor Diffusion Factor (80% N)	88
63	Rotor Deviation Angle (80% N)	89
64	Stator Incidence Angle (80% N)	89
65	Stator Absolute Inlet Mach Number (80% N) ...	90
66	Stator Diffusion Factor (80% N)	90
67	Stator Deviation Angle (80% N)	91
68	Stator Loss Coefficient (80% N)	91
69	Static Pressure Distribution (870903007)	92
70	Static Pressure Distribution (870903008)	93
71	Static Pressure Distribution (870902029)	94
72	Static Pressure Distribution (870902031)	95

LIST OF ILLUSTRATIONS Continued

FIGURE		PAGE
73	Static Pressure Distribution (870902033)	96
74	Static Pressure Distribution (870902035)	97
75	Static Pressure Distribution (870902036)	98
76	Rotor Incidence Angle (60% N)	99
77	Rotor Relative Inlet Mach Number (60% N)	99
78	Rotor Loss Coefficient (60% N)	100
79	Rotor Diffusion Factor (60% N)	100
80	Rotor Deviation Angle (60% N)	101
81	Stator Incidence Angle (60% N)	101
82	Stator Absolute Inlet Mach Number (60% N) ...	102
83	Stator Diffusion Factor (60% N)	102
84	Stator Deviation Angle (60% N)	103
85	Stator Loss Coefficient (60% N)	103
86	Static Pressure Distribution (870903009)	104
87	Static Pressure Distribution (870903010)	105
88	Static Pressure Distribution (870902038)	106
89	Static Pressure Distribution (870902040)	107
90	Static Pressure Distribution (870902042)	108
91	Static Pressure Distribution (870902043)	109
92	Static Pressure Distribution (870902044)	110
93	Rotor Incidence Angle (40% N)	111
94	Rotor Relative Inlet Mach Number (40% N)	111
95	Rotor Loss Coefficient (40% N)	112
96	Rotor Diffusion Factor (40% N)	112
97	Rotor Deviation Angle (40% N)	113

LIST OF ILLUSTRATIONS Continued

FIGURE		PAGE
98	Stator Incidence Angle (40% N)	113
99	Stator Absolute Inlet Mach Number (40% N) ...	114
100	Stator Diffusion Factor (40% N)	114
101	Stator Deviation Angle (40% N)	115
102	Stator Loss Coefficient (40% N)	115
103	Static Pressure Distribution (870903011)	116
104	Static Pressure Distribution (870902045)	117
105	Static Pressure Distribution (870902046)	118
106	Static Pressure Distribution (870902047)	119
107	Static Pressure Distribution (870902049)	120
108	Static Pressure Distribution (870902051)	121
109	Static Pressure Distribution (870902053)	122
110	Rotor Incidence Angle (Thru-Blade)	123
111	Rotor Relative Inlet Mach Number (Thru-Blade)	123
112	Rotor Loss Coefficient (Thru-Blade)	124
113	Rotor Diffusion Factor (Thru-Blade)	124
114	Rotor Deviation Angle (Thru-Blade)	125
115	Stator Incidence Angle (Thru-Blade)	125
116	Stator Absolute Inlet Mach Number (Thru-Blade)	126
117	Stator Diffusion Factor (Thru-Blade)	126
118	Stator Deviation Angle (Thru-Blade)	127
119	Stator Loss Coefficient (Thru-Blade)	127
120	Wake/Bloundary Layer Blockage Distribution (Thru-Blade/870902002)	128

LIST OF ILLUSTRATIONS Continued

FIGURE		PAGE
121	Chordal Distribution of Deviation (Thru-Blade/870902002)	128
122	Chordal Distribution of Work (Thru-Blade/870902002)	129
123	Static Pressure Distribution (Thru-Blade/870902002)	130
124	Wake/Bloundary Layer Blockage Distribution (Thru-Blade/870902007)	131
125	Chordal Distribution of Deviation (Thru-Blade/870902007)	131
126	Chordal Distribution of Work (Thru-Blade/870902007)	132
127	Static Pressure Distribution (Thru-Blade/870902007)	133
128	Comparison of Rotor Incidence Design and Experimental Distributions	134
129	Comparison of Rotor Relative Inlet Mach Number Design and Experimental Distributions	134
130	Comparison of Rotor Deviation Design and Experimental Distributions	135
131	Comparison of Stator Incidence Design and Experimental Distributions	135
132	Rotor Incidence Angle (PBS #2 and Baseline)	134
133	Rotor Relative Inlet Mach Number (PBS #2 and Baseline)	136
134	Rotor Loss Coefficient (PBS #2 and Baseline)	137
135	Rotor Diffusion Factor (PBS #2 and Baseline)	137
136	Rotor Deviation Angle (PBS #2 and Baseline)	138

LIST OF ILLUSTRATIONS Continued

FIGURE		PAGE
137	Stator Incidence Angle (PBS #2 and Baseline)	138
138	Stator Absolute Inlet Mach Number (PBS #2 and Baseline)	139
139	Stator Diffusion Factor (PBS #2 and Baseline)	139
140	Stator Deviation Angle (PBS #2 and Baseline)	140
141	Stator Loss Coefficient (PBS #2 and Baseline)	140

LIST OF TABLES

TABLE		PAGE
1	Instrumentation Details	34
2	Across-Blade Analysis Computing Station Geometry Definition	41
3	Across-Blade Analysis Computing Station Input Data Definition	41
4	Thru-Blade Analysis Computing Station Geometry Definition	42
5	Thru-Blade Analysis Computing Station Input Data Definition	42
6	Mass-Averaged PBS #2 Rotor and Stage Performance	43

SECTION I

INTRODUCTION

This report presents the results of an experimental evaluation of one compressor test of a series of design parameter investigations. In total, eight rotor design configurations (including one baseline and seven variations) and two stator design configurations (including one baseline and one variation) were included in the study. The rotor/stator configuration which was considered as the baseline compressor configuration was initially described in Reference 1 ("Redesign of a Rotor for a 1500 ft/sec Transonic, High-Through-Flow, Single-Stage Axial-Flow Compressor with Low Hub/Tip Ratio," September 1979). That compressor configuration was designated the "BASELINE" and subsequently referenced and compared with the other configuration designs and test results to determine specific design parameter effectiveness.

The primary purpose of the "Parametric Blade Study (PBS)" was to investigate the effects of specific rotor blade design parameters on the performance of one compressor configuration of current interest with state-of-the-art performance. It was the intent of the program to vary only one design parameter at a time, keeping the other parameters as closely as possible to their original baseline design values. Specifically, rotor configurations numbered 1 and 2 were designed to investigate the effectiveness of the chordwise location of maximum blade thickness on rotor performance. Rotor configurations numbered 3 and 4 were designed to investigate the effect of the suction surface shape ahead of the

leading edge passage shock on performance and to determine the interrelation of the suction surface shape and the cascade throat area. Rotor configuration number 5 was designed to determine the influence on performance of "effective camber" of the blade, or loosely to determine the circulation capacity of the cascade. Finally, rotor configurations numbered 6 and 7 were designed to investigate the potential gain in rotor performance through the introduction of effective aerodynamic leading edge sweep and accompanying reduced shock strength and associated losses.

The overall objective of this study was to perform the aerodynamic design of a series of seven transonic compressor rotors, all parametrically related, fabricate and test all of the rotors (plus re-test the original baseline rotor) and compare their performances to the baseline compressor rotor. The baseline rotor and each of the seven parametrically similar rotors are described as high-through-flow, high-aerodynamic-loading, low hub/tip ratio first stage compressor or fan rotors. The original baseline hub, case, and leading/trailing edge envelope was preserved to the maximum extent practical. All designs were accomplished using comparable computer design systems, all hardware was manufactured by the same contractor using identical fabrication specifications, and all experimental tests were conducted in the same test facility using the same instrumentation and data acquisition system, and under similar environmental conditions.

SECTION II

DESIGN APPROACH

In an attempt to define the effect of the location of airfoil maximum thickness on rotor blade performance, PBS rotor configurations numbered 1 and 2 were designed with maximum thickness locations at the tip different from the baseline rotor design. In all cases, maximum thickness at the hub was held at the original position of 55% chord and the changes were linearly distributed along the span to the new values defined at the rotor tip. PBS rotor configuration number 1 was designed with the maximum thickness located at 40% of meanline length (measured from the leading edge), whereas PBS #2 was designed with maximum thickness located at 55% and the baseline rotor had maximum thickness located at 70%, all referenced to the tip section. Early research by NASA generally indicated that it was desirable to move the location of maximum thickness aft as the relative inlet Mach number increased. However, there is an incentive to move the location of maximum thickness forward to minimize bird strike damage. Also, inasmuch as most modern fan tip sections and the baseline rotor have S-shaped camber lines at the tip, a shift of thickness (equals blockage) forward tends to straighten out the airfoil; there is less negative camber followed by less positive camber. This could conceivably improve the aerodynamic performance through reduced surface curvature and possibly deviation. In effect, no controlled tests had been made to-date (with state-of-the-art transonic airfoil shapes) to help the compressor designer optimize transonic rotor blade performance with respect to thickness distribution.

Using the "data match" baseline rotor design described in the Parametric Blade Study report introductory volume (Reference 2, "Transonic Fan/ Compressor Rotor Design Study," Volume I, February 1982) as the starting point for the new design, the annulus blockage at the internal blade stations was adjusted to be consistent with the modified airfoil thickness distribution. The chordwise distribution of work was adjusted to maintain a static pressure distribution similar to the baseline design, blade meanline departure angles were adjusted to maintain similar throat areas and flow induction capacity, and the hub contour was modified slightly to account for the modified blockage distribution and to maintain a similar static pressure distribution at the hub. Specific details concerning the design procedure, the design computer program, and blade aerodynamic and structural characteristics may be obtained from the design report (Reference 3, "Transonic Fan/Compressor Rotor Design Study," Volume III, February 1982).

SECTION III

TEST APPARATUS

1. FACILITY FLOWPATH

The test facility used is of the closed-loop variety shown schematically in Figure 1. In the loop, air passes through the 30-inch diameter inlet duct to a Universal Venturi Tube located six pipe diameters downstream of the return tube 90-degree elbow. Two pipe diameters further downstream, the air is turned 90 degrees with the aid of turning vanes. Screens are installed perpendicular to the pipe axis just above the elbow, and in the trailing edge plane of the turning vanes to prevent feedback related to flow separation on the turning vanes from reaching the venturi. Following the elbow, the flow passes through a tube bundle and subsequently enters a 48-inch diameter settling chamber. The settling chamber contains a perforated conical flow spreader and two screens. From the settling chamber, air enters the compressor through a direct-coupled bellmouth. Air leaving the compressor is deflected radially outward to a peripheral throttle. The throttle consists of one stationary and one rotating cylindrical ring, each with 16 circumferentially distributed matching holes. Throttling takes place at a diameter of approximately 47 inches. The throttle is designed to vary continuously from fully closed to fully open. Position indication varies linearly with throttle open area and has a resolution of one part in 200. Downstream of the throttle, the flow enters a collector, from which it is passed through a 24-inch diameter duct to the heat exchanger and filter. Cooling of the air

is accomplished using a circulating water, finned-tube heat exchanger. The air is filtered to remove five micron particles with a 99.5 percent efficiency. After passing through the heat exchanger and filter, the air returns to the facility through the 30-inch diameter inlet duct. The air is turned 90 degrees with the aid of turning vanes before entering the heat exchanger vessel and again before entering the inlet duct. Upstream of the heat exchanger a perforated conical flow spreader is installed to uniformly distribute the air across the entire heat exchanger/filter grid.

For this test, a modification was made to the facility throttle to increase the flow capacity and decrease the back-pressure at the wide-open throttle position. Eight large holes were drilled in the throttle plate to reduce the metal blockage area by 50% (wide-open position). Cover plates were fabricated to cover the holes when not needed. During this test, it was discovered that there was a slight gain in flow capacity with all (except one, which was difficult to remove and replace because of limited access) cover plates removed. However, with the throttle in this configuration, recovering from surge (by opening a surge valve to bypass the throttle) was slow or impossible at high rotating speeds without first opening the throttle some amount. A test procedure was hence adopted to obtain a compressor map in two phases. The first phase was conducted with one throttle cover plate installed to get the high-flow end of each speed line on the compressor performance map, being careful to avoid the surge-line at all speeds. The second phase was conducted with four throttle cover plates installed (distributed uniformly around the

circumference) to get the mid-flow and low-flow ends of each speed line and to determine the surge-line at all speeds. Data were taken at each speed line during both test phases to sufficiently map the compressor performance at each speed with some overlap of throttle settings to assure that continuous and consistent results were obtained. This test procedure was used for all PBS rotor configurations investigated.

2. COMPRESSOR TEST VEHICLE

A cross-section of the research compressor is shown in Figure 2. The design employs a cantilevered rotor supported by four 0.5-inch-thick bearing support struts with leading edges located about two stator chord lengths downstream of the stator trailing edge plane. The rotor tip diameter is nominally 17 inches. Cold radial tip clearance with the rotor at rest was nominally 0.030 to 0.045 inches, depending on the rotor configuration and axial location. Hot clearance was measured with an active, non-touching spark-gap type clearance measuring system at the rotor leading edge and mid-chord regions at two circumferential locations. The average hot clearance at design speed was found to be approximately 0.020 to 0.025 from leading to trailing edge for all rotor configurations, or about 0.6 percent of the rotor tip chord. The variation of rotor tip clearance with rpm is shown in Figure 2. The rotor shaft is mounted on an oil-damped roller bearing at the forward location and a ball bearing at the aft location; radial runout does not exceed 0.001 inch. Forward and aft buffer controlled gap carbon seals were used and no oil leakage into the flowpath was detected. This

configuration uses no inlet guide vanes. Surface finish on all surfaces adjacent to the flow upstream of the bearing support struts is 32 microinches or better. The rotors were all of integral construction, the blades and discs being machined from single forgings of 6Al-4V titanium (one forging per rotor configuration). The stator was fabricated as an integral ring machined from AMS 5616.

3. COMPRESSOR INSTRUMENTATION

Aerodynamic instrumentation in the compressor consists of measuring probes in the stator leading edges for total pressure and temperature, rakes downstream of the stators for total pressure and temperature, static pressure taps on the inner and outer flow paths, dynamic pressure measurements along the casing wall over the rotor tip, and dynamic strain gage measurements at several points on the rotor blades. Measurements of inlet total pressure and temperature, mass flow, relative humidity, and rotor speed are accomplished outside the compressor and are discussed below. The compressor research vehicle has a total of 276 sensors measuring aerodynamic parameters at various points throughout the stage. Some static pressures are sensed at more than one point around the circumference at the same axial location and are either manifolded together or mathematically averaged to obtain a single measurement at the axial station. The specific instrumentation used is summarized in Table 1.

a. Temperature Measurements

(1) Location

A total of eighty-nine thermocouples are used to sense aerodynamic temperature within the compressor. Nine are mounted in the vane leading edges and eighty are located in ten discharge-plane rakes. The vane leading edge and rake mounted thermocouples are of the slot vented type shown in Figure 3. The discharge-plane rakes each have eight sensors, spaced at centers of equal area radially, while the rakes are uniformly distributed around the circumference and spaced to divide a single exit vane passage into ten equal parts. The nine stator leading edge thermocouple probes are distributed on two vanes; one having four sensors and the other having five. The sensors are uniformly spaced to radially divide the area between the hub and case into nine equal parts and are aligned with the anticipated pitch angle of the flow.

(2) Calibration

All thermocouples were fabricated from shielded three-eighths percent chromel-constantan (type E) wire. Sample thermocouples, constructed in the same manner as those mounted in the rakes and probes, were sequentially taken along the wire rolls at the start, in between, and at the end of each length of wire

used. An initial calibration of these samples was made using as standards a water triple point apparatus and two metal melting point baths (one each of indium and tin).

The absolute accuracy of the temperature standards, manufactured by the Yellow Springs Instrument Company, Yellow Springs, Ohio, are 0 degrees Celcius for the water triple point and less than 0.0015 degrees Celcius for the two metal melting point furnaces. It should be noted that each of these values are "defining points" on the International Practical Temperature Scale of 1968. The small error associated with the metal melt points can be attributed to slight differences between the ones used at this facility and the similar systems employed at the National Bureau of Standards which uses the freeze points rather than the melting points of the same metals. Stem conduction errors for thermocouples calibrated in these furnaces are so small as to be immeasurable because the actual junction is located several hundred wire diameters within the furnace.

All thermocouples are connected to Kaye Co. electronic ice points used as the 0 degree Celcius reference and have no intermediate metals in the circuit. The individual outputs are carried to the computer input circuitry via copper twinax conductors.

During experimental data reduction, the calibration data are used to construct a potential difference (NBS potential minus observed potential at the calibration temperatures) verses

observed potential curve. The raw data are then converted into engineering units by utilizing the calibration curve to establish a corrected value of the potential with which to enter the NBS reference tables. Although the thermocouples were referenced to 32 degrees Fahrenheit, this value can vary as long as the reference temperature is stable during a data scan (a small fraction of one second). The accuracy of the temperature measurements have been determined to be no worse than approximately plus or minus 1/4 degree Fahrenheit, excluding any recovery factor correction.

b. Pressure Measurements

(1) Location

A total of one hundred and twenty-five pressures are measured in the vehicle flowpath; thirty-six static pressures and eighty-nine total pressures. All of the thirty-six static taps are distributed on the compressor flowpath liners; twenty-four taps are located on the case and twelve are located on the hub. In all, casing static pressure measurements are made at fifteen axial locations (some of the measurements are averaged from multiple taps distributed uniformly around the circumference); twelve of these are located over the rotor tip, starting approximately 0.50 inch axially forward of the leading edge and following at 0.25 inch axial increments downstream. The twelve hub static taps are distributed at three axial locations; one located in the gap between the rotor disc and the stator hub and the other two downstream of the stator exit.

Nine total pressure probes are mounted on the leading edge of two stator vanes, four probes on one vane and five on the other vane. The probes are located at the same radii as the stator leading edge total temperature probes and aligned with the anticipated pitch angle of the flow. All total pressure probes are of the Kiel stagnation tube design. The discharge-plane rakes each have eight probes, each at the same radius as the discharge-plane total temperature probes. discharge-plane total pressure rakes are also uniformly distributed around the circumference and spaced to divide a single exit vane passage into ten equal parts.

Located in conjunction with the static pressure taps placed over the rotor blade tips are twelve XTS-type Kulite dynamic pressure transducers. These transducers are recessed slightly in the METCO 601 (polyester aluminum) blade tip rub shroud on the casing adjacent to the rotor tip to prevent damage by a minor rotor rub. The transducers were referenced to local atmospheric pressure.

(2) Calibration

The pressure data acquisition system consists of ten ZOC modules ("ZOC" is an acronym of the Scanivalve Corporation, San Diego, California for "Zero, Operate, and Calibrate;" each containing sixteen individually accessible transducers), a calibration unit, and a system microprocessor. Each ZOC module contains a pneumatic switching device which permits the calibration pressure selected by the calibration unit to be supplied to all

transducers in the module simultaneously. Three accurately measured (through independent high-accuracy sensors described below) calibration pressures (nominally 9 psia, atmospheric, and 15 psig) are recorded by the system during each data scan. The non-atmospheric calibration pressures are supplied by Ametek Model PK-30 self-regulating, primary deadweight type, pressure standards. The 9 psia pressure standard is enclosed in a sealed container which is kept at 100-200 microns Hg absolute pressure. Atmospheric pressure is used to correct to 15 psig calibration pressure to an absolute value. The three calibration pressures are monitored and recorded using a SONIX (Pressure Systems Incorporated, Hampton, Virginia) transducer and display unit. The SONIX transducer, model PS1050, has a pressure range of 4-50 psi with an achievable accuracy of plus or minus 0.01 percent of full scale over the full pressure range and a temperature range of -25 to 70 degrees Celcius. During a pressure calibration data scan (for this test, every data scan included pressure calibration data), outputs from the SONIX system were recorded and used to create calibration curves for all ZOC transducers.

The basic ZOC pressure scanning system is different from the single transducer/multi-port scanning valve system used previously. The ZOC system dedicates a pressure transducer to each data channel and provides a sensor output to the host computer several times per second. A controller automatically switches all ZOC modules from "operate" to "calibrate" and switches the calibration pressures during each data scan. The time required to record a test point which includes pressure calibration data takes

less than one minute. Temperature stability of the ZOC modules is maintained thru use of individual warm water constant temperature insulating jackets. Since the calibration pressures, supplied by low-flow dead weight testers, are switched into a common manifold, the bulk of this time is spent waiting for pressure stabilization to occur. Stabilization is determined by the host computer based on calibration manifold pressure readings given by the SONIX transducers. The acquisition of experimental data (excluding pressure calibration data) takes less than 2 seconds and is done at the beginning of a scan. This allows the test article operating point to be changed before the entire data scan is completed. By combining the time required for calibration data collection with the time required for test article thermodynamic stabilization, a greater number of test points for a given length of time can be accomplished.

c. Data Acquisition System

Test article performance and calibration data are collected by the Data Acquisition System (DAS). The DAS is comprised of a MODCOMP MODACS digital and analog I/O subsystem, a MODCOMP ATC communications I/O subsystem, and a high frequency analog data recording subsystem, all controlled by a host computer. The host computer is a MODCOMP Classic II/15 16-bit microprocessor with 512 kbytes of memory. Additional peripherals include 40 MB of disk space, a magnetic tape drive, a high speed line printer, a system console, and two user consoles. The operating system is MODCOMP's real-time, multi-tasking MAX IV OS.

The MODACS is a modular I/O system configured for the facility's specific needs. The information which passes through the system includes thermocouple voltage input, test article rpm input, control I/O for the tape search unit and pulse processing unit of the analog recording subsystem, channel select for analog tape digitization, and voltage output for speed control and performance map display.

The ATC is a serial communications device for up to 12 RS-232 and 4 current loop terminal-type devices. Five devices are currently connected to the ATC, including two user consoles, the ZOC pressure data acquisition subsystem, the SONIX pressure data acquisition subsystem, and a local area network port.

The high frequency analog recording subsystem consists of a Bell and Howell model VR-3700B 14-track analog tape deck, a Datachron model 3030 tape search unit, a Honeywell model SAI-48 Correlator and Signal Averager, and a custom pulse processing box. This system is used to record and digitize output from Kulite dynamic pressure transducers and blade-mounted strain gages.

All DAS software was developed in-house and is comprised of a group of tasks, the vast majority of which was written in FORTRAN IV, with the remainder written in MODCOMP Assembler language. Capabilities include real-time update of test article performance parameters, automated data recording, and DAS health monitoring. The DAS, software, and all pressure and temperature

measurement systems employed in these tests are new and the subject of a detailed accuracy and reliability analysis and report to be published at a later date.

4. TEST FACILITY INSTRUMENTATION

a. Rotor Speed

A Bentley Model 306 transducer senses six grooves machined into the gearbox/rotor driveshaft coupling. The output is fed into a Model 3115 proximator for signal conditioning. The proximator signal is a train of pulses having a repetition rate corresponding to rotor RPM/10. This repetition rate is directly recorded by the DAS. An Airpax Model Tachtrol 3 tachometer (Airpax Division of North American Phillips, Ft. Lauderdale, Florida) provides a visual indication of rotor speed accurate to ten RPM. The tachometer also includes an adjustable speed limiting switch as a safety feature.

b. Mass Flow

The inlet flow is metered through a 30-inch Universal Venturi Tube manufactured by B.I.F. Industries with a 17.400-inch throat. Meter accuracy has been calibrated to plus or minus one-half percent by the manufacturer. Static pressure taps are located both in the throat and in the inlet cavity.

c. Inlet (Plenum) Total Pressure and Temperature

Compressor inlet total pressure is assumed equal to plenum static pressure just downstream of the last screen. Four static pressure taps are manifolded into two pressure sources and recorded on two separate ZOC channels. At maximum flow rate, the error is no worse than 0.003 psi, verified by calibration. Inlet total temperature is sensed by nine bare junction thermocouples located in the same axial plane as the pressure taps at three different radii in the plenum. The thermocouples are supported on two cables stretched across the inlet plenum.

d. Relative Humidity

A Foxboro Dewcel Model 2711TG-K222 was mounted in the inlet stack to monitor humidity. This device continuously measures the moisture content of the air by sensing the temperature at which the partial pressure of its water vapor is equal to the water vapor pressure of a saturated salt solution. The humidity is acquired by the DAS as a thermocouple output for every test point and subsequently treated in the data reduction program.

SECTION IV

TEST PROCEDURE AND DATA REDUCTION

1. TEST PROCEDURE

Test data were taken generally in order of decreasing speed, with several different compressor throttle settings being tested at each speed, generally in order of increasing throttle. Data were collected generally during two separate test periods (usually on two different days); one period with one throttle cover plate installed to get the high-flow end of the speed lines and another period with four throttle cover plates installed to get the mid-flow and low-flow end of the speed lines and the surge line (see the description of the facility throttle in the previous section). Data were usually taken at 100, 95, 90, 80, 60, and 40% of design speed; for some configurations, data were also taken at 70 and 50% of design speeds. Data were taken at the high speeds first to avoid the high cooling water temperatures experienced during periods of limited cooling facility capacity and the need to share cooling water with other facilities. Typical test periods were two to three hours in duration with as many as 50-60 data points being collected during the period.

For each speed line, test data were acquired at 10-12 throttle configurations (open, partially closed, with one or four throttle cover plates installed), some with an open surge valve. Although the open surge valve and/or one throttle cover plate configuration produced a slight asymmetry in throttling, the increased mass flow

this permitted expanded the operating range which could be mapped to a useful degree. For each speed line, the throttle setting (with four throttle cover plates installed) which induced stall was determined; several throttle settings in the operating range were then selected to complete the mapping of the speed line. Of the test data collected, seven test points which best described each speed line were selected after preliminary data reduction to be analyzed in more detail (and reported in this document). Multiple test points at the same conditions were acquired on different days to assure data integrity and repeatability; only one of the test points will be reported.

All test data were collected at some degree of depressed inlet pressure; however, all data were corrected to standard inlet conditions as reported herein. The degree to which the inlet pressure was depressed was based on two criteria: first, the ability of the depression system to keep up with small leaks into the many joints associated with the closed loop and second, the limited power output of the drive motor and maximum allowable time the motor could be operated with elevated motor winding temperatures. The elevated power requirements for the drive motor at 90-100% of design speed caused the motor windings to overheat. To permit adequate test time at these speeds to complete each survey, it was necessary to depress the inlet pressure to decrease the power requirements. More depression was required as the speed increased; minimum inlet pressure experienced was approximately 7-8 psia. Since the depression system is passive and operates by opening a bleed valve in the facility throttle, the amount of

depression achieved is determined by the length of time the bleed valve is open, the size of the bleed tube carrying the bleed air outside the test chamber, and the pressure difference between the throttle inlet pressure and atmospheric pressure. As the compressor speed decreases, the compressor total pressure ratio decreases (at constant throttle setting) and the inlet pressure increases until the exit pressure (at the throttle inlet) reaches a point where the bleed flow equals the combined air flow leaking into the facility flowpath joints (where outside atmospheric pressure is greater than the inside flowpath pressure). At the lower compressor speeds, however, the requirement for a depressed inlet pressure is not so great since the power requirements are reduced. A test procedure was adopted such that compressor inlet conditions and selected compressor instrumentation were monitored to assure that all test conditions had stabilized before data were collected, especially after any compressor speed change.

A nine-character test identification number was assigned by the DAS to each test point recorded in the format "XXYYZZAAA." Here "XX" is a two digit number indicating the year; "88" for 1988, etc. "YY" is a two digit number indicating the month; "01" for January, "02" for February, etc. "ZZ" is a two digit number indicating the day of the month; "01" for the first day, "02" for the second day, etc. "AAA" is a three digit number indicating the test point collected on that day; "001" for the first point, "002" for the second point, etc. Hence, for example, the thirteenth test point collected on 26 November 1987 would have a test point identification number as follows: 871126013. During each data scan,

a total of up to 950 data channels were scanned and recorded by the DAS (only 310 data channels were scanned and recorded if the data scan was a non-calibration scan).

2. DATA REDUCTION - PHASE I

Phase I data reduction was accomplished using the computer program similar to the one described in Reference 4 ("TESCOM Single-Stage Configuration Performance Data Reduction," April 1981). This computer program converts the raw data into engineering units, groups and displays the acquired data in a readable format, provides an initial analysis of compressor performance, and prepares an output of data required for the phase II aerodynamic analysis. Some of the features of the phase I data reduction program (named "DTREDIM") are as follows:

- a. On-line thermocouple calibration data were available and this data was utilized in the conversion of the thermocouple outputs into engineering units.
- b. On-line pressure transducer (steady state) calibration data were available and these data were utilized in the conversion of the transducer outputs into engineering units.
- c. Temperature effects were considered in calculating the gas mixture (air plus water vapor) thermodynamic properties.

- d. Corrections were made to measured compressor temperatures and pressures, facility flowrate, and rotor wheel speed to correspond to standard inlet conditions of temperature and pressure.
- e. Corrections were made to the stage exit measured temperatures and pressures to account for both recovery and Mach number effects.
- f. Completed arithmetic averages of various quantities (where multiple measurements of the same parameter existed), such as plenum pressure and temperature, venturi inlet and throat pressures, and some static pressures.
- g. Completed circumferential mass-averages of stage exit total pressures and temperatures at the same radii.

Selected phase I analysis outputs for the test points at 90, 95, and 100% speeds are presented in Appendix A.

3. DATA REDUCTION - PHASE II

a. Basic Program Description

Phase II reduction of the test data was performed using the computer program named "PERCH" and described in Reference 5 ("Multistage Compressor Test Data Analysis Computer Program," July

1983). This computer program provides a detailed aerodynamic analysis of the test compressor stage, utilizing the geometry of the stage and the phase I output data as inputs. Analysis of each test point is performed individually, although any number of test points may be analyzed in one computer execution.

The system of equations incorporated into the phase II computer program includes a full treatment of the axisymmetric equations of motion of an inviscid fluid, including blade-force terms, and the assumption of a thermally-perfect gas as the working fluid. The equations are solved in finite difference form by the streamline curvature method. Wake and boundary layer blockages, flow deviation, and/or work distributions within blade rows are either calculated or input as a user option in the computer program.

The phase II computer program was developed for the routine analysis of multi-stage variable geometry axial flow fan and compressor test data. The purpose of the program is to determine details of the flow within a compressor from test measurements, a description of the compressor geometry, and, when necessary, correlations of blade row performance. As a minimum, the program has the capability of analyzing up to 3 stages plus an inlet guide vane using up to 30 computing stations. However, the internal storage algorithm does not limit any individual quantity, so that more than 3 stages can be accommodated if needed. The program has the ability to:

(1) Read airfoil coordinates and compute basic airfoil parameters such as thickness, angles, etc., after resetting and/or cambering.

(2) Accept test data and other aerodynamic parameters in a wide variety of forms.

(3) Output details of the blade geometries, the flow field within the compressor, and blade and stage performance, plus data suitable for generating a wide variety of plots.

b. Across-Blade Analysis

Phase II across-blade analysis was performed for each test point on all speedlines. The computing station geometry for the across-blade analysis is shown in Figure 4. Note that computing stations may be radial, slanted, or curvilinear. The computing stations are defined in Table 2, and the conditions for analysis are defined in Table 3. Note in particular that the blockages were iteratively determined at the blade edges and in the exit where experimental casing static pressures could be matched by the calculated values. Elsewhere, blockages were either specified (input, constant valued) or linearly interpolated between the values calculated (or specified). Also, exit plane peak total pressures were used to determine the rotor exit total pressure distribution and exit plane total temperatures were used to

determine the rotor exit total temperature distribution, rather than using the measured stator leading edge total pressures and temperatures.

c. Thru-Blade Analysis

To obtain a more detailed picture of the flow within the compressor stage, two test points were chosen for thru-blade analysis, both at design speed: the test point nearest the design (operating) point and the test point with maximum stage efficiency and maximum stage pressure ratio. The more detailed analysis involved the introduction of four additional computing stations within the rotor. The thru-blade analysis computing station geometry is shown in Figure 5, the computing stations are defined in Table 4, and the conditions for analysis are defined in Table 5. Note in particular that the blockages were either calculated to match measured casing static pressures or linearly interpolated between calculated values at the rotor internal computing stations. The decision to interpolate blockage rather than match casing static pressure at some computing stations was made as the result of the calculated distributions of work, deviation, and blockage. Attempting to calculate blockages to match measured static pressures at every computing station produced implausible distributions of either or both blockage and deviation, unless unlikely work distributions were specified. The best overall result was to interpolate blockage at some rotor internal computing stations, which produced smooth distributions of the stated parameters. One possibility is that the casing static pressures may have been

disrupted by local disturbances, such as shock interactions with the casing or blade surface boundary layers; the casing static pressures might, therefore, not represent a true measure of the flow characteristics across the entire rotor annulus. Indeed, the degree of casing static pressure disruption varies with the amount of throttling (comparing the rotor casing static pressure distributions for the three test points analyzed, all at different throttle settings), which has some bearing on the location and strength of the rotor blade-to-blade passage shock at the rotor tip.

Convergence of the final thru-blade solutions were based on satisfying the following criteria:

- (1) The specified flow was passed through the stage.
- (2) Experimental casing static pressure values, linearly interpolated to determine the values at the computing station casing axial locations, were matched at the specified stations.
- (3) The computed distribution of the casing static pressure smoothly represented the measured casing static pressure distribution.
- (4) Reasonable axial distributions of axial distributions of blockage, work (total enthalpy for the rotor), and deviation were achieved.

The fourth criteria was achieved by analytically specifying a smooth distribution of work (total enthalpy) through (from leading to trailing edge) and across (from hub to tip) the rotor. The axial distribution of work along a streamline was specified as a combination of a quarter-sine wave function and a linear function (a coefficient value of 1.0 defines the function to be all quarter-sine wave and a value of 0.0 defines the function to be all linear). The coefficient was specified at three different exit radii; near the hub, mid, and tip streamlines. The program smoothly varies the coefficient in the radial direction between the specified values. The iteration began with a specified work distribution similar to the design intent; convergence was accomplished when reasonable axial distributions of deviation along the hub, mid, and tip streamlines were achieved.

SECTION V

RESULTS

1. OVER-ALL PERFORMANCE

The mass-averaged performance of the rotor and of the complete compressor stage is tabulated in Table 6 and plotted in Figures 6 and 7. The performance indicates that the design goals were achieved or exceeded. At 100% design corrected speed and near the operating design point, measured corrected flow was 61.62 lb./sec. (design flow was 61.36 lb./sec.), stage efficiency was 85.7% (design efficiency was 85.4%) and stage pressure ratio was 1.924 (design stage pressure ratio was 1.92). The compressor was throttled to stall at each corrected speed shown on the map. Seven test points were selected which best represented the full characteristic of each speed line, from full open throttle to near stall (the last test point plotted on each speed line represents the highest throttle setting that could be maintained without initiating compressor stall).

2. BLADE-ELEMENT PERFORMANCE (ACROSS-BLADE)

The radial distributions of incidence angle, relative (absolute for the stator) inlet Mach number, loss coefficient, diffusion factor, and deviation angle for both rotor and stator and the axial distributions of measured and computed static pressures for each test point are presented in Figures 8 through 109, for each data point shown on the compressor map and listed in Table 6.

The plots are grouped together according to speed and presented in order of decreasing speed; the rotor/stator parameters for all test points on the same speed line are plotted together.

3. DESIGN SPEED DETAILED THRU-BLADE RESULTS

Two test points at 100% corrected speed closest to the design (operating) point and maximum efficiency (and maximum pressure ratio) point were selected for detailed thru-blade analysis. The test point identification numbers for these points are 870902002 and 870902007 respectively. The radial distributions of incidence angle, relative (absolute for the stator) inlet Mach number, loss coefficient, diffusion factor, and deviation angle for both rotor and stator, the axial distributions of wake/boundary-layer blockage, the thru-blade distributions of deviation and work for the rotor, and the axial distributions of measured and computed static pressure for the two test points are presented in Figures 110 through 127. The rotor/stator inlet and exit parameters for the two test points are plotted together for easier comparison. Printed outputs of the thru-blade analysis for the two test points analyzed are also presented; test point 870902002 output is presented in Appendix B and test point 870902007 in Appendix C.

4. DESIGN POINT COMPARISON RESULTS

To obtain a comparison between design and experimental data, results for the thru-blade analysis of the test point closest to the design (operating) point (test point identification number

870902002) are compared with the design prediction values and are shown in Figures 128 through 131. Shown are the distributions of rotor incidence angle (Figure 128), rotor inlet relative Mach number (Figure 129), rotor exit deviation angle (Figure 130), and stator incidence angle (Figure 131).

5. BASELINE COMPARISON

To obtain a comparison between the PBS rotor configuration number 2 and the baseline performances, results for the thru-blade analyses of the test points at 100% corrected design speeds and maximum efficiency are compared in Figures 132 through 141. Shown are comparison plots of incidence angle, inlet relative (absolute for stator) Mach number, loss coefficient, diffusion factor, and deviation for both rotor and stator. For the PBS rotor configuration number 2, test point identification number 870902007 results are shown. For the baseline rotor configuration, the original test results (re-run through the same phase II thru-blade analysis as the PBS configurations) for test point identification number 780222026 (designated HTFC, for "High Thru-Flow Compressor," configuration number 7) are shown.

SECTION VI

CONCLUSIONS

There are obviously many differences between the design predictions and test results and between the baseline test results and PBS configuration number 2 test results. In other technical reports yet to be printed, there will also be many differences indicated between the test results for the other PBS configurations. The intent, however, of this report is to present the results of the investigation for PBS #2 as completely and comprehensively as possible without drawing any specific conclusions about the specific design or the overall study. Future reports will deal with summary comparisons and conclusions as the scientific community has had sufficient time to digest the wealth of information contained herein and to pass their thoughts and concerns on to the authors.

TABLE 1

PBS #2 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION	
						MEASUREMENT	LOCATION
1	1	-	-	-	-	Exit TT on R1	at 5.996
2	1	-	-	-	-	Exit TT on R1	at 6.387
3	1	-	-	-	-	Exit TT on R1	at 6.755
4	1	-	-	-	-	Exit TT on R1	at 7.104
5	1	-	-	-	-	Exit TT on R1	at 7.437
6	1	-	-	-	-	Exit TT on R1	at 7.756
7	1	-	-	-	-	Exit TT on R1	at 8.062
8	1	-	-	-	-	Exit TT on R1	at 8.356
9	1	-	-	-	-	Exit TT on R15	at 5.996
10	1	-	-	-	-	Exit TT on R15	at 6.387
11	1	-	-	-	-	Exit TT on R15	at 6.755
12	1	-	-	-	-	Exit TT on R15	at 7.104
13	1	-	-	-	-	Exit TT on R15	at 7.437
14	1	-	-	-	-	Exit TT on R15	at 7.756
19	1	-	-	-	-	Exit TT on R15	at 8.062
20	1	-	-	-	-	Exit TT on R15	at 8.356
21	1	-	-	-	-	32 degree ref. temp.	
22	1	-	-	-	-	313 degree ref. temp.	
23	1	-	-	-	-	450 degree ref. temp.	
26	2	-	-	-	-	Exit TT on R5	at 5.996
27	2	-	-	-	-	Exit TT on R5	at 6.387
28	2	-	-	-	-	Exit TT on R5	at 6.755
29	2	-	-	-	-	Exit TT on R5	at 7.104
30	2	-	-	-	-	Exit TT on R5	at 7.437
31	2	-	-	-	-	Exit TT on R5	at 7.756
32	2	-	-	-	-	Exit TT on R5	at 8.062
33	2	-	-	-	-	Exit TT on R5	at 8.356
34	2	-	-	-	-	Exit TT on R13	at 5.996
35	2	-	-	-	-	Exit TT on R13	at 6.387
36	2	-	-	-	-	Exit TT on R13	at 6.755
37	2	-	-	-	-	Exit TT on R13	at 7.104
38	2	-	-	-	-	Exit TT on R13	at 7.437
39	2	-	-	-	-	Exit TT on R13	at 7.756
40	2	-	-	-	-	Exit TT on R13	at 8.062
41	2	-	-	-	-	Exit TT on R13	at 8.356
42	2	-	-	-	-	Exit TT on R3	at 5.996
43	2	-	-	-	-	Exit TT on R3	at 6.387
44	2	-	-	-	-	Exit TT on R3	at 6.755
45	2	-	-	-	-	Exit TT on R3	at 7.104
46	2	-	-	-	-	Exit TT on R3	at 7.437
47	2	-	-	-	-	Exit TT on R3	at 7.756
48	2	-	-	-	-	Exit TT on R3	at 8.062
49	2	-	-	-	-	Exit TT on R3	at 8.356
51	2	-	-	-	-	Exit TT on R7	at 5.996

TABLE 1 Continued

PBS #2 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION	
52	2	-	-	-	-	Exit TT on R7	at 6.387
53	2	-	-	-	-	Exit TT on R7	at 6.755
54	2	-	-	-	-	Exit TT on R7	at 7.104
55	2	-	-	-	-	Exit TT on R7	at 7.437
56	2	-	-	-	-	Exit TT on R7	at 7.756
57	2	-	-	-	-	Exit TT on R7	at 8.062
58	2	-	-	-	-	Exit TT on R7	at 8.356
59	2	-	-	-	-	Exit TT on R11	at 5.996
60	2	-	-	-	-	Exit TT on R11	at 6.387
61	2	-	-	-	-	Exit TT on R11	at 6.755
62	2	-	-	-	-	Exit TT on R11	at 7.104
63	2	-	-	-	-	Exit TT on R11	at 7.437
64	2	-	-	-	-	Exit TT on R11	at 7.756
65	2	-	-	-	-	Exit TT on R11	at 8.356
66	2	-	-	-	-	Exit TT on R11	at 8.062
67	2	-	-	-	-	Exit TT on R9	at 5.996
68	2	-	-	-	-	Exit TT on R9	at 6.387
69	2	-	-	-	-	Exit TT on R9	at 6.755
70	2	-	-	-	-	Exit TT on R9	at 7.104
71	2	-	-	-	-	Exit TT on R9	at 7.437
72	2	-	-	-	-	Exit TT on R9	at 7.756
73	2	-	-	-	-	Exit TT on R9	at 8.062
74	2	-	-	-	-	Exit TT on R9	at 8.356
76	2	-	-	-	-	Exit TT on R17	at 5.996
77	2	-	-	-	-	Exit TT on R17	at 6.387
78	2	-	-	-	-	Exit TT on R17	at 6.755
79	2	-	-	-	-	Exit TT on R17	at 7.104
80	2	-	-	-	-	Exit TT on R17	at 7.437
81	2	-	-	-	-	Exit TT on R17	at 7.756
82	2	-	-	-	-	Exit TT on R17	at 8.062
83	2	-	-	-	-	Exit TT on R17	at 8.356
84	2	-	-	-	-	Stator LE TT	at 8.125
85	2	-	-	-	-	Exit TT on R19	at 8.062
86	2	-	-	-	-	Exit TT on R19	at 7.756
87	2	-	-	-	-	Exit TT on R19	at 7.437
88	2	-	-	-	-	Exit TT on R19	at 7.104
89	2	-	-	-	-	Exit TT on R19	at 6.755
90	2	-	-	-	-	Exit TT on R19	at 6.387
91	2	-	-	-	-	Exit TT on R19	at 5.996
92	2	-	-	-	-	Exit TT on R19	at 8.356
93	2	-	-	-	-	Stator LE TT	at 6.250
94	2	-	-	-	-	Stator LE TT	at 7.750
95	2	-	-	-	-	Stator LE TT	at 5.875
96	2	-	-	-	-	Stator LE TT	at 7.375

TABLE 1 Continued

PBS #2 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION
97	2	-	-	-	-	Stator LE TT at 7.000
98	2	-	-	-	-	Stator LE TT at 5.125
99	-	-	-	-	-	Rotor RPM
100	2	-	-	-	-	Stator LE TT at 6.625
101	2	-	-	-	-	Stator LE TT at 5.500
102	2	-	-	-	-	32 degree ref. temp.
103	2	-	-	-	-	313 degree ref. temp.
104	2	-	-	-	-	450 degree ref. temp.
105	3	-	-	-	-	Plenum temperature #1
106	3	-	-	-	-	Plenum temperature #2
108	3	-	-	-	-	Plenum temperature #3
109	3	-	-	-	-	Plenum temperature #4
110	3	-	-	-	-	Plenum temperature #5
111	3	-	-	-	-	Plenum temperature #6
112	3	-	-	-	-	Plenum temperature #7
113	3	-	-	-	-	Plenum temperature #8
117	3	-	-	-	-	Plenum temperature #9
118	3	-	-	-	-	Dewcel temperature #10
121	3	-	-	-	-	ZOC module #1 temp.
122	3	-	-	-	-	ZOC module #2 temp.
123	3	-	-	-	-	ZOC module #3 temp.
124	3	-	-	-	-	ZOC module #4 temp.
125	3	-	-	-	-	ZOC module #5 temp.
126	3	-	-	-	-	ZOC module #6 temp.
127	3	-	-	-	-	ZOC module #7 temp.
128	3	-	-	-	-	ZOC module #8 temp.
129	3	-	-	-	-	ZOC module #9 temp.
130	3	-	-	-	-	ZOC module #10 temp.
151	-	1A1	311	471	631	Exit PT on R2 at 5.996
152	-	2A1	312	472	632	OD PS at -0.900 (#1)
153	-	3A1	313	473	633	Exit PT on R6 at 5.996
154	-	4A1	314	474	634	Exit PT on R10 at 5.996
155	-	5A1	315	475	635	Exit PT on R14 at 5.996
156	-	6A1	316	476	636	Exit PT on R18 at 5.996
157	-	7A1	317	477	637	ID PS at -5.125 (#1)
158	-	8A1	318	478	638	OD PS at -8.571
159	-	9A1	319	479	639	Plenum pressure #1
160	-	10A1	320	480	640	Venturi throat #5
161	-	1A2	321	481	641	Exit PT on R2 at 6.387
162	-	2A2	322	482	642	OD PS at -9.000 (#2)
163	-	3A2	323	483	643	Exit PT on R6 at 6.387
164	-	4A2	324	484	644	Exit PT on R10 at 6.387
165	-	5A2	325	485	645	Exit PT on R14 at 6.387
166	-	6A2	326	486	646	Exit PT on R18 at 6.387

TABLE 1 Continued

PBS #2 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION
167	-	7A2	327	487	647	ID PS at -5.125 (#2)
168	-	8A2	328	488	648	OD PS at -8.318
169	-	9A2	329	489	649	Venturi throat (#1)
170	-	10A2	330	490	650	Venturi throat (#6)
171	-	1A3	331	491	651	Exit PT on R2 at 6.755
172	-	2A3	332	492	652	OD PS at -0.900 (#3)
173	-	3A3	333	493	653	Exit PT on R6 at 6.755
174	-	4A3	334	494	654	Exit PT on R10 at 6.755
175	-	5A3	335	495	655	Exit PT on R14 at 6.755
176	-	6A3	336	496	656	Exit PT on R18 at 6.755
177	-	7A3	337	497	657	ID PS at -5.125 (#3)
178	-	8A3	338	498	658	OD PS at -8.065
179	-	9A3	339	499	659	Venturi inlet (#3)
180	-	10A3	340	500	660	Venturi throat (#7)
181	-	1A4	341	501	661	Exit PT on R2 at 7.104
182	-	2A4	342	502	662	OD PS at -0.900 (#4)
183	-	3A4	343	503	663	Exit PT on R6 at 7.104
184	-	4A4	344	504	664	Exit PT on R10 at 7.104
185	-	5A4	345	505	665	Exit PT on R14 at 7.104
186	-	6A4	346	506	666	Exit PT on R18 at 7.104
187	-	7A4	347	507	667	ID PS at -5.125 (#4)
188	-	8A4	348	508	668	OD PS at -7.811
189	-	9A4	349	509	669	Venturi inlet (#1)
190	-	10A4	350	510	670	Venturi throat (#8)
191	-	1A5	351	511	671	Exit PT on R2 at 7.437
192	-	2A5	352	512	672	OD PS at -1.650 (#1)
193	-	3A5	353	513	673	Exit PT on R6 at 7.437
194	-	4A5	354	514	674	Exit PT on R10 at 7.437
195	-	5A5	355	515	675	Exit PT on R14 at 7.437
196	-	6A5	356	516	676	Exit PT on R18 at 7.437
197	-	7A5	357	517	677	Stator LE PT at 5.125
198	-	8A5	358	518	678	OD PS at -7.558
199	-	9A5	359	519	679	Atmos. pressure (#3)
200	-	10A5	360	520	680	Venturi throat (#9)
201	-	1A6	361	521	681	Exit PT on R2 at 7.756
202	-	2A6	362	522	682	OD PS at -1.650 (#2)
203	-	3A6	363	523	683	Exit PT on R6 at 7.756
204	-	4A6	364	524	684	Exit PT on R10 at 7.756
205	-	5A6	365	525	685	Exit PT on R14 at 7.756
206	-	6A6	366	526	686	Exit PT on R18 at 7.756
207	-	7A6	367	527	687	
208	-	8A6	368	528	688	OD PS at -7.304
209	-	9A6	369	529	689	Atmos. pressure (#1)
210	-	10A6	370	530	690	Venturi throat (#10)

TABLE 1 Continued

PBS #2 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION	
						MEASUREMENT	LOCATION
211	-	1A7	371	531	691	Exit PT on R2 at 8.062	
212	-	2A7	372	532	692	OD PS at -1.650 (#3)	
213	-	3A7	373	533	693	Exit PT on R6 at 8.062	
214	-	4A7	374	534	694	Exit PT on R10 at 8.062	
215	-	5A7	375	535	695	Exit PT on R14 at 8.062	
216	-	6A7	376	536	696	Exit PT on R18 at 8.062	
217	-	7A7	377	537	697		
218	-	8A7	378	538	698	OD PS at -7.051	
219	-	9A7	379	539	699	Venturi throat (#3)	
220	-	10A7	380	540	700	Venturi throat (#11)	
221	-	1A8	381	541	701	Exit PT on R2 at 8.356	
222	-	2A8	382	542	702	OD PS at -1.650 (#4)	
223	-	3A8	383	543	703	Exit PT on R6 at 8.356	
224	-	4A8	384	544	704	Exit PT on R10 at 8.356	
225	-	5A8	385	545	705	Exit PT on R14 at 8.356	
226	-	6A8	386	546	706	Exit PT on R18 at 8.356	
227	-	7A8	387	547	707		
228	-	8A8	388	548	708	OD PS at -6.798	
229	-	9A8	389	549	709	Atmos. pressure (#4)	
230	-	10A8	390	550	710	Venturi throat (#12)	
231	-	1B1	391	551	711	Exit PT on R20 at 5.996	
232	-	2B1	392	552	712	Stator LE PT at 8.125	
233	-	3B1	393	553	713	Exit PT on R4 at 5.996	
234	-	4B1	394	554	714	Exit PT on R8 at 5.996	
235	-	5B1	395	555	715	Exit PT on R12 at 5.996	
236	-	6B1	396	556	716	Exit PT on R16 at 5.996	
237	-	7B1	397	557	717	ID PS at -0.900 (#1)	
238	-	8B1	398	558	718	OD PS at -6.544	
239	-	9B1	399	559	719	Plenum pressure (#2)	
240	-	10B1	400	560	720	Atmos. pressure (#7)	
241	-	1B2	401	561	721	Exit PT on R20 at 6.387	
242	-	2B2	402	562	722	Stator LE PT at 7.750	
243	-	3B2	403	563	723	Exit PT on R4 at 6.387	
244	-	4B2	404	564	724	Exit PT on R8 at 6.387	
245	-	5B2	405	565	725	Exit PT on R12 at 6.387	
246	-	6B2	406	566	726	Exit PT on R16 at 6.387	
247	-	7B2	407	567	727	ID PS at -0.900 (#2)	
248	-	8B2	408	568	728	OD PS at -6.291	
249	-	9B2	409	569	729	Venturi throat (#2)	
250	-	10B2	410	570	730	Atmos. pressure (#8)	
251	-	1B3	411	571	731	Exit PT on R20 at 6.755	
252	-	2B3	412	572	732	Stator LE PT at 7.375	
253	-	3B3	413	573	733	Exit PT on R4 at 6.755	
254	-	4B3	414	574	734	Exit PT on R8 at 6.755	

TABLE 1 Continued

PBS #2 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC I..	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION
255	-	5B3	415	575	735	Exit PT on R12 at 6.755
256	-	6B3	416	576	736	Exit PT on R16 at 6.755
257	-	7B3	417	577	737	ID PS at -0.900 (#3)
258	-	8B3	418	578	738	OD PS at -6.037
259	-	9B3	419	579	739	Venturi throat (#4)
260	-	10B3	420	580	740	Atmos. pressure (#9)
261	-	1B4	421	581	741	Exit PT on R20 at 7.104
262	-	2B4	422	582	742	Stator LE PT at 7.000
263	-	3B4	423	583	743	Exit PT on R4 at 7.104
264	-	4B4	424	584	744	Exit PT on R8 at 7.104
265	-	5B4	425	585	745	Exit PT on R12 at 7.104
266	-	6B4	426	586	746	Exit PT on R16 at 7.104
267	-	7B4	427	587	747	ID PS at -0.900 (#4)
268	-	8B4	428	588	748	OD PS at -5.784
269	-	9B4	429	589	749	Venturi inlet (#2)
270	-	10B4	430	590	750	Atmos. pressure (#10)
271	-	1B5	431	591	751	Exit PT on R20 at 7.437
272	-	2B5	432	592	752	Stator LE PT at 6.625
273	-	3B5	433	593	753	Exit PT on R4 at 7.437
274	-	4B5	434	594	754	Exit PT on R8 at 7.437
275	-	5B5	435	595	755	Exit PT on R12 at 7.437
276	-	6B5	436	596	756	Exit PT on R16 at 7.437
277	-	7B5	437	597	757	ID PS at -1.650 (#1)
278	-	8B5	438	598	758	OD PS at -8.400 (#1)
279	-	9B5	439	599	759	Atmos. pressure (#5)
280	-	10B5	440	600	760	Atmos. pressure (#11)
281	-	1B6	441	601	761	Exit PT on R20 at 7.756
282	-	2B6	442	602	762	Stator LE PT at 6.250
283	-	3B6	443	603	763	Exit PT on R4 at 7.756
284	-	4B6	444	604	764	Exit PT on R8 at 7.756
285	-	5B6	445	605	765	Exit PT on R12 at 7.756
286	-	6B6	446	606	766	Exit PT on R16 at 7.756
287	-	7B6	447	607	767	ID PS at -1.650 (#2)
288	-	8B6	448	608	768	OD PS at -8.400 (#2)
289	-	9B6	449	609	769	Atmos. Pressure (#2)
290	-	10B6	450	610	770	Atmos. pressure (#12)
291	-	1B7	451	611	771	Exit PT on R20 at 8.062
292	-	2B7	452	612	772	Stator LE PT at 5.875
293	-	3B7	453	613	773	Exit PT on R4 at 8.062
294	-	4B7	454	614	774	Exit PT on R8 at 8.062
295	-	5B7	455	615	775	Exit PT on R12 at 8.062
296	-	6B7	456	616	776	Exit PT on R16 at 8.062
297	-	7B7	457	617	777	ID PS at -1.650 (#3)
298	-	8B7	458	618	778	OD PS at -8.400 (#3)

TABLE 1 Continued

PBS #2 - INSTRUMENTATION DETAILS

INST. CHAN.	THERMO. GROUP	ZOC ID.	CAL.1 CHAN.	CAL.2 CHAN.	CAL.3 CHAN.	INSTRUMENTATION MEASUREMENT LOCATION
299	-	9B7	459	619	779	Venturi throat (#4)
300	-	10B7	460	620	780	Atmos. pressure (#13)
301	-	1B8	461	621	781	Exit PT on R20 at 8.356
302	-	2B8	462	622	782	Stator LE PT at 5.500
303	-	3B8	463	623	783	Exit PT on R4 at 8.356
304	-	4B8	464	624	784	Exit PT on R8 at 8.356
305	-	5B8	465	625	785	Exit PT on R12 at 8.356
306	-	6B8	466	626	786	Exit PT on R16 at 8.356
307	-	7B8	467	627	787	ID PS at -1.650 (#4)
308	-	8B8	468	628	788	OD PS at -8.400 (#4)
309	-	9B8	469	629	789	Venturi throat (#6)
310	-	10B8	470	630	790	Atmos. pressure (#14)

NOTE: The following instrumentation channels were erroneous and interchanged as follows:

ERRONEOUS CHANNEL	REPLACEMENT CHANNEL	TEST POINT NOS. AFFECTED
192	202	870902001-53
200	210	870902001-53, 870903001-12
209	289	870902001-53, 870903001-12
219	169	870902001-53, 870903001-12
262	252	870902001-53, 870903001-12
276	207	870902001-53, 870903001-12
280	290	870902001-53, 870903001-12
282	292	870902001-53
299	249	870902001-53, 870903001-12

TABLE 2

ACROSS-BLADE ANALYSIS COMPUTING STATION GEOMETRY DEFINITION

STATION	1234567890123
ROTOR EXIT	X.....
STATOR OR IGV EXIT	X.....
INSIDE STATIONS	
COMPUTE STATION Z,R	XXXX....
APPLY AT -VT OPTION	X.....
APPLY AT -PT OPTION	X.....
FLOW (OR BLEED)	X.....
NAME (STATION)	XXXXXXXXXXXXXX
NO BLADES	X.X.....
PEAK PRESSURE-PT	X.....
TOTAL PRESSURE-PT	X.....
TOTAL PRESSURE-VT	X.....
TOTAL TEMPERATURE	X.....
USE AIRFOIL	X.X.....
USE CASE SEGMENT	X.X.....
USE HUB SEGMENT	X.X.....

TABLE 3

ACROSS-BLADE ANALYSIS COMPUTING STATION INPUT DATA DEFINITION

STAT -ION	BLOCKAGE WILL BE OBTAINED FROM	--PRESSURE-- CASE PITCH STATIC STATIC	PITCH BLOCK -AGE	HUB BK OVER PITCH	PITCH ADD. DEV.
----	-----	-----	-----	-----	-----
1	INPUT		0.000	1.000	
2	INPUT		0.000	1.000	
3	INPUT		0.000	1.000	
4	INPUT		0.000	1.000	
5	INPUT		0.000	1.000	
6	CASE STATIC	10.254		1.000	
7	CASE STATIC	22.566		1.000	
8	INTERPOLATION			1.000	
9	CASE STATIC	23.992		1.000	
10	CASE STATIC	24.221		1.000	
11	CASE STATIC	23.906		1.000	
12	CASE STATIC	23.591		1.000	
13	CASE STATIC	23.277		1.000	

TABLE 4

THRU-BLADE ANALYSIS COMPUTING STATION GEOMETRY DEFINITION

STATION	12345678901234567
ROTOR EXIT	X.....
STATOR OR IGV EXIT	X....
INSIDE STATIONS	XXXX.....
COMPUTE STATION Z,R	XXXXXXXX.....
APPLY AT -VT OPTION	X.....
APPLY AT -PT OPTION	X.....
FLOW (OR BLEED)	X.....
NAME (STATION)	XXXXXX...XXXXXXXX
NO BLADES	X.X....
PEAK PRESSURE-PT	X.....
TOTAL PRESSURE-PT	X.....
TOTAL PRESSURE-VT	X.....
TOTAL TEMPERATURE	X.....
USE AIRFOIL	X.X....
USE CASE SEGMENT	X.X....
USE HUB SEGMENT	X.X....

TABLE 5

THRU-BLADE ANALYSIS COMPUTING STATION INPUT DATA DEFINITION

STAT -ION	BLOCKAGE WILL BE OBTAINED FROM	--PRESSURE-- CASE PITCH STATIC STATIC	PITCH BLOCK -AGE	HUB BK OVER PITCH	PITCH ADD. DEV.
-----	-----	-----	-----	-----	-----
1	INPUT		0.000	1.000	
2	INPUT		0.000	1.000	
3	INPUT		0.000	1.000	
4	INPUT		0.000	1.000	
5	INPUT		0.000	1.000	
6	CASE STATIC	10.257		1.000	
7	INTERPOLATION			1.000	
8	INTERPOLATION			1.000	
9	CASE STATIC	19.016		1.000	
10	CASE STATIC	20.977		1.000	
11	CASE STATIC	22.566		1.000	
12	INTERPOLATION			1.000	
13	CASE STATIC	23.992		1.000	
14	CASE STATIC	24.221		1.000	
15	CASE STATIC	23.906		1.000	
16	CASE STATIC	23.591		1.000	
17	CASE STATIC	23.277		1.000	

TABLE 6

MASS-AVERAGED PBS #2 ROTOR AND STAGE PERFORMANCE

TEST ID #	% SPD	FLOW (LB/SEC)	-----ROTOR-----		-----STAGE-----	
			PRES RAT	EFFEN	PRES RAT	EFFEN
870902001	100	61.57	1.959	90.00	1.891	84.86
870902002	"	61.62	1.986	90.20	1.924	85.67
870902004	"	61.46	2.021	90.90	1.958	86.36
870902006	"	61.26	2.079	91.80	2.004	86.73
870902007	"	61.04	2.116	92.80	2.031	87.22
870902008	"	60.39	2.160	93.30	2.060	86.89
870902009	"	59.14	2.183	92.10	2.069	85.04
870903003	95	59.89	1.856	91.70	1.809	87.53
870902010	"	59.86	1.874	92.00	1.827	87.92
870902012	"	59.57	1.927	93.10	1.875	88.96
870902014	"	59.25	1.967	94.10	1.910	89.66
870902016	"	57.90	2.005	93.70	1.935	88.44
870902017	"	56.51	2.011	92.20	1.933	86.51
870902018	"	55.32	2.020	91.10	1.932	84.66
870903005	90	57.94	1.779	94.20	1.741	90.36
870903006	"	57.55	1.796	94.50	1.758	90.79
870902020	"	56.94	1.819	94.80	1.780	90.98
870902022	"	55.91	1.838	94.40	1.794	90.29
870902024	"	54.48	1.861	93.60	1.806	88.65
870902026	"	52.50	1.879	91.90	1.810	85.94
870902027	"	50.91	1.883	90.60	1.803	83.71
870903007	80	50.66	1.590	94.20	1.565	90.76
870903008	"	50.01	1.598	93.60	1.571	90.00
870902029	"	49.15	1.611	93.00	1.581	89.00
870902031	"	48.04	1.620	92.40	1.586	88.05
870902033	"	46.58	1.631	91.40	1.589	86.20
870902035	"	44.62	1.642	89.90	1.589	83.50
870902036	"	42.88	1.639	88.10	1.580	81.07
870903009	60	36.02	1.301	92.50	1.286	88.26
870903010	"	35.62	1.305	91.90	1.289	87.58
870902038	"	34.91	1.308	91.20	1.291	86.60
870902040	"	34.19	1.313	90.30	1.294	85.42
870902042	"	33.05	1.318	89.40	1.296	83.95
870902043	"	32.41	1.319	88.40	1.296	82.61
870902044	"	31.62	1.320	87.60	1.295	81.26
870903011	40	23.47	1.126	90.10	1.119	85.51
870902045	"	23.01	1.127	90.10	1.120	85.11
870902046	"	22.82	1.129	89.30	1.122	84.60
870902047	"	22.43	1.129	89.00	1.122	84.25
870902049	"	21.96	1.132	88.50	1.124	83.33
870902051	"	21.46	1.134	88.60	1.125	82.82
870902053	"	20.69	1.136	87.90	1.125	81.30

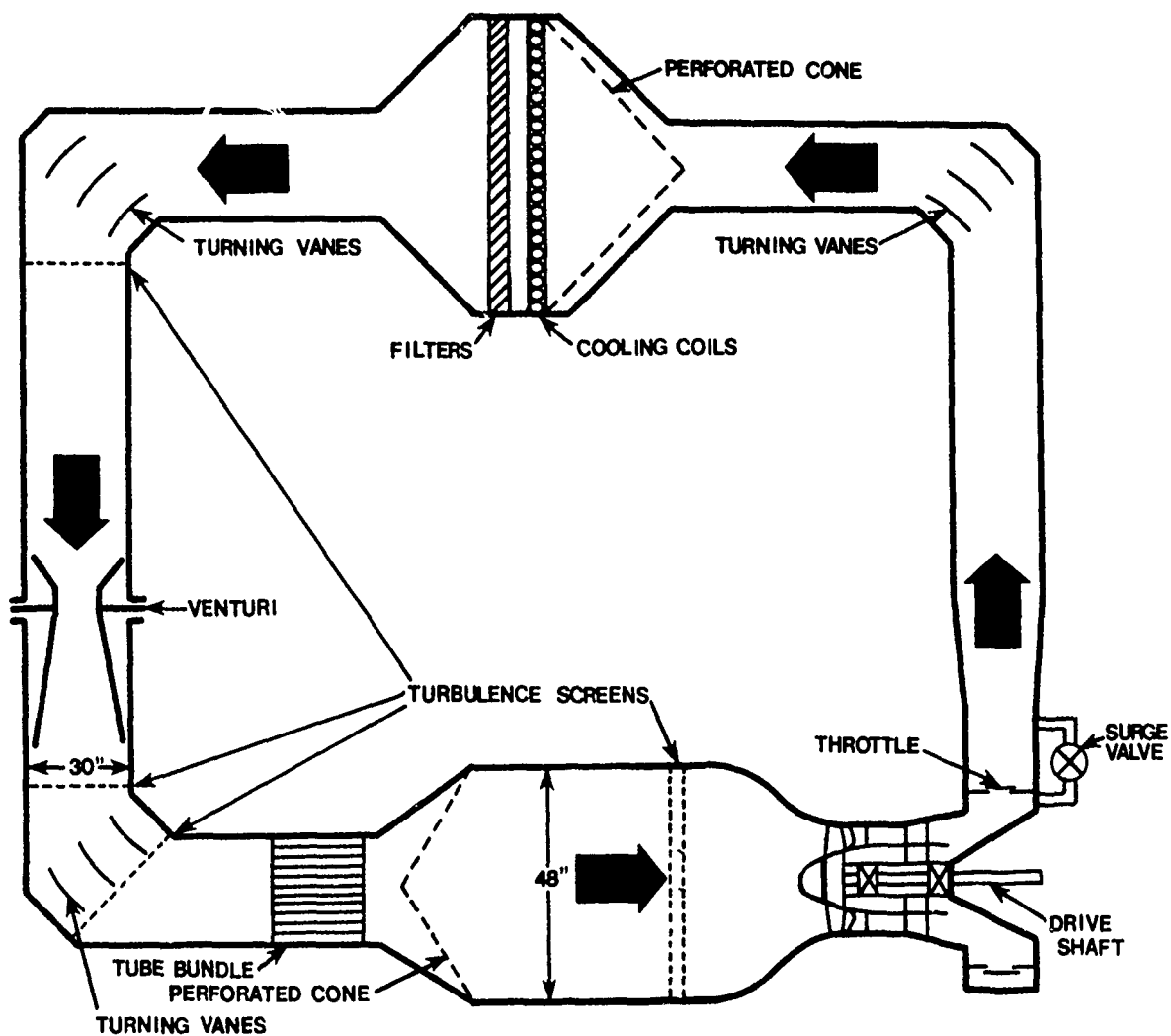


Figure 1. Schematic of 2000 HP Compressor Test Facility

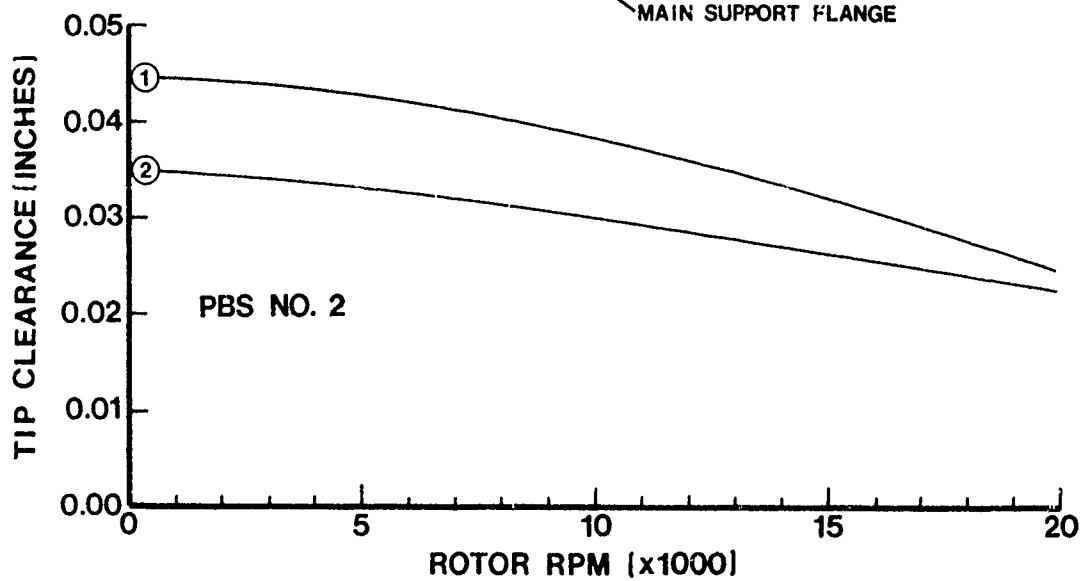
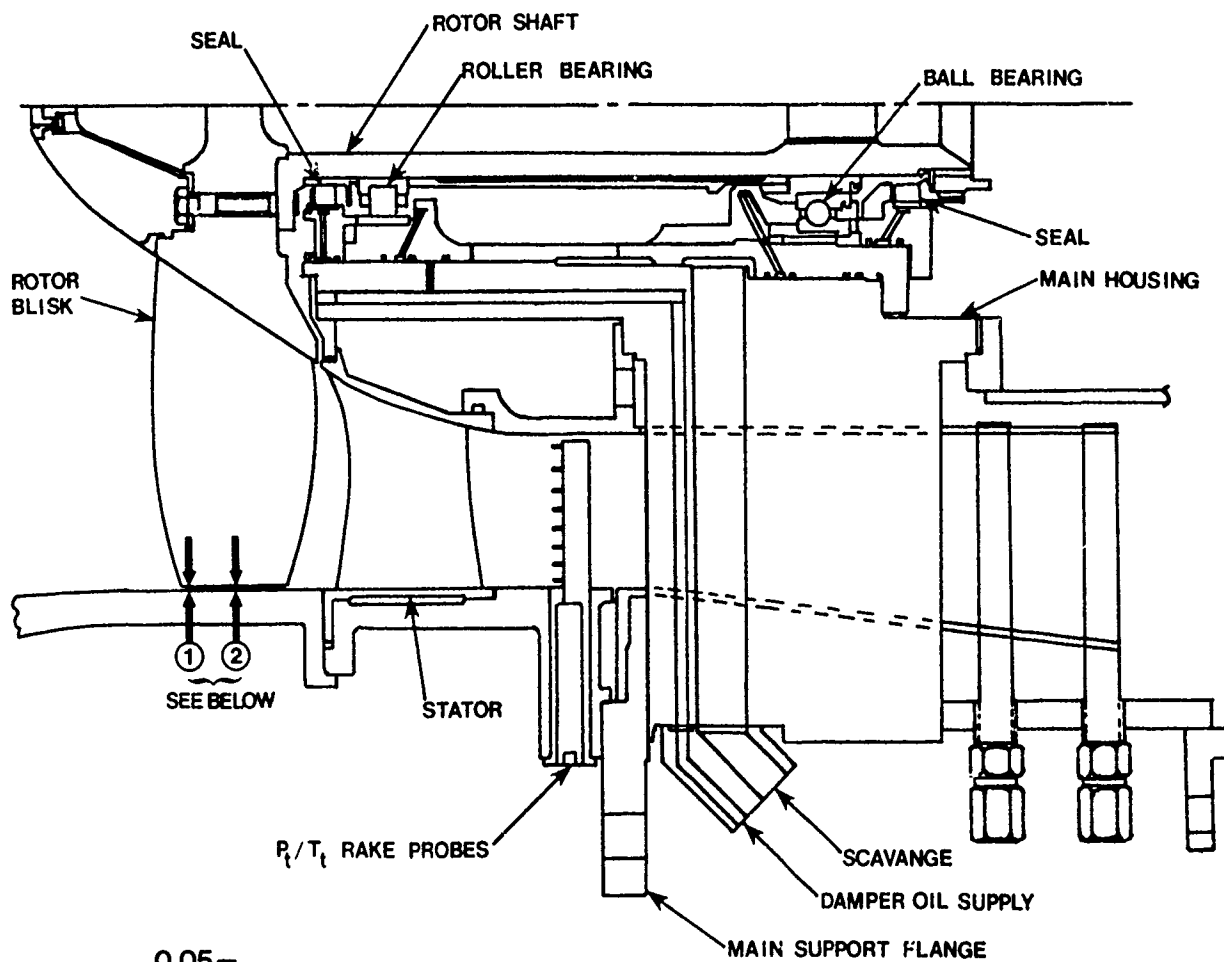


Figure 2. Cross-section of the Research Compressor

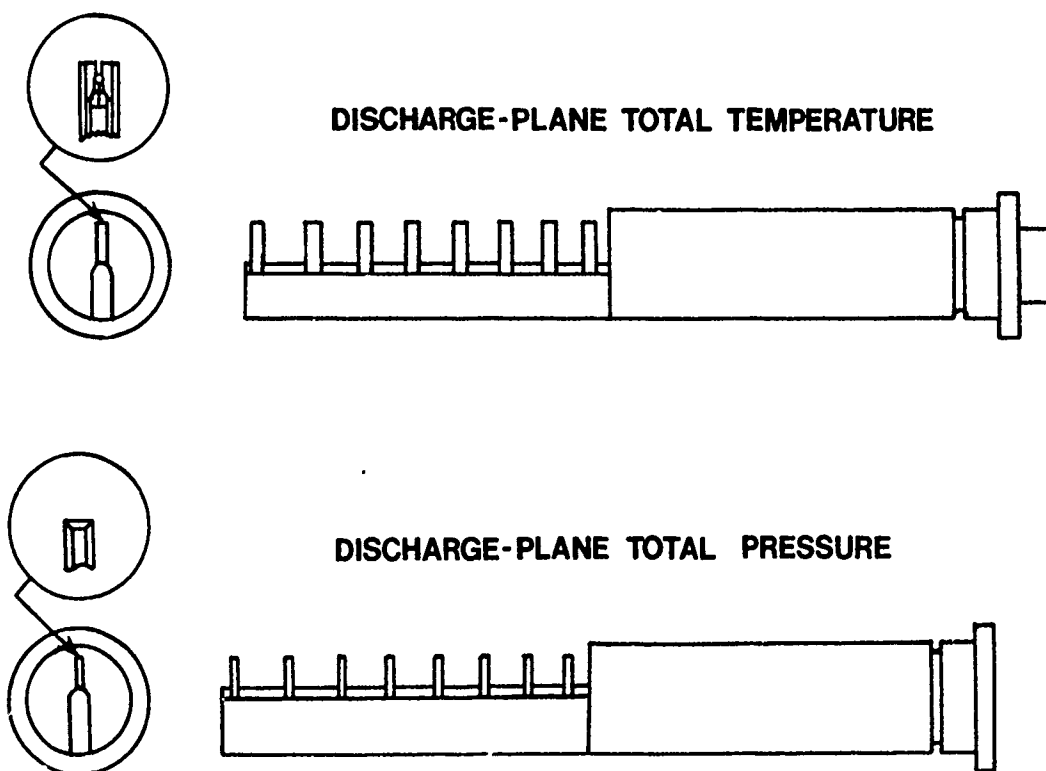
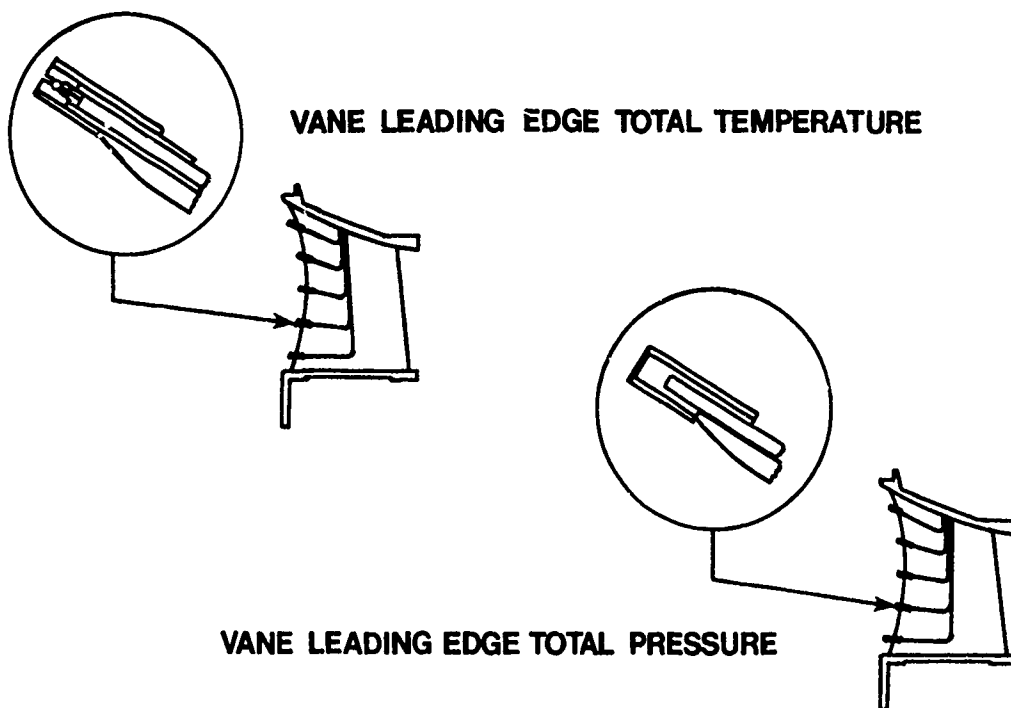


Figure 3. Vane Leading Edge and Discharge-plane Rake Instrumentation

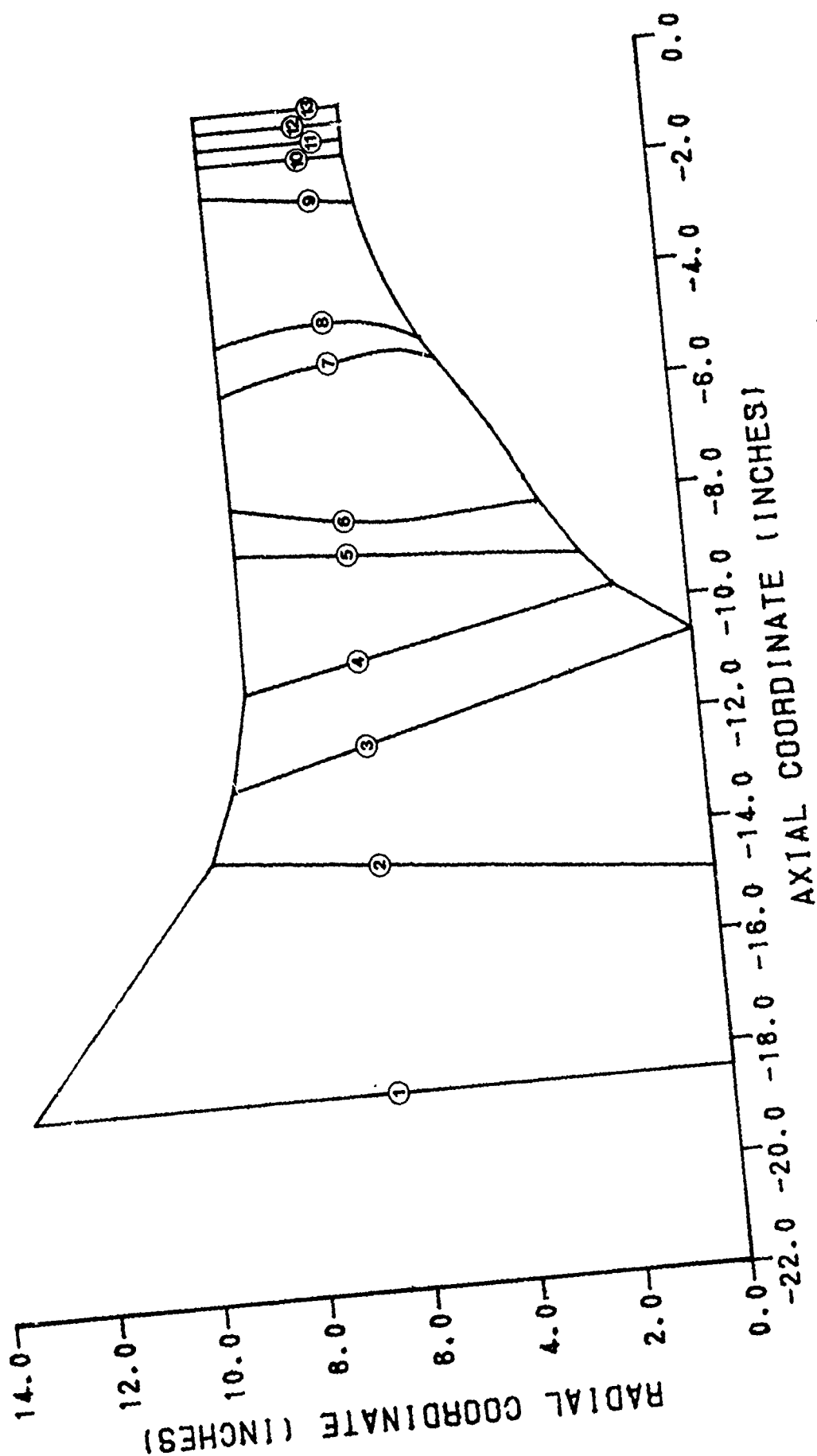


Figure 4. Across-blade Analysis Computing Station
Geometry

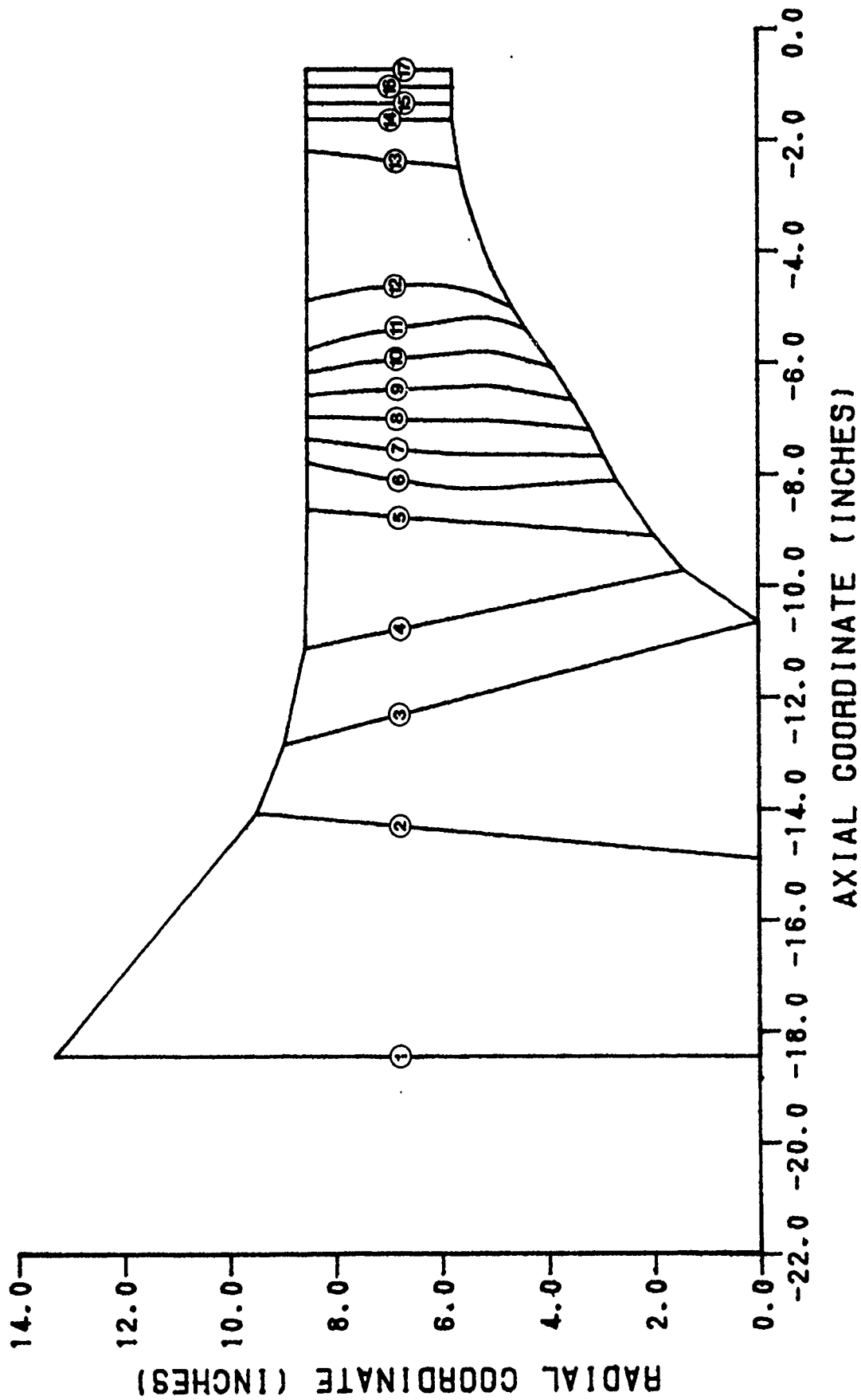


Figure 5. Thru-blade Analysis Computing Station Geometry

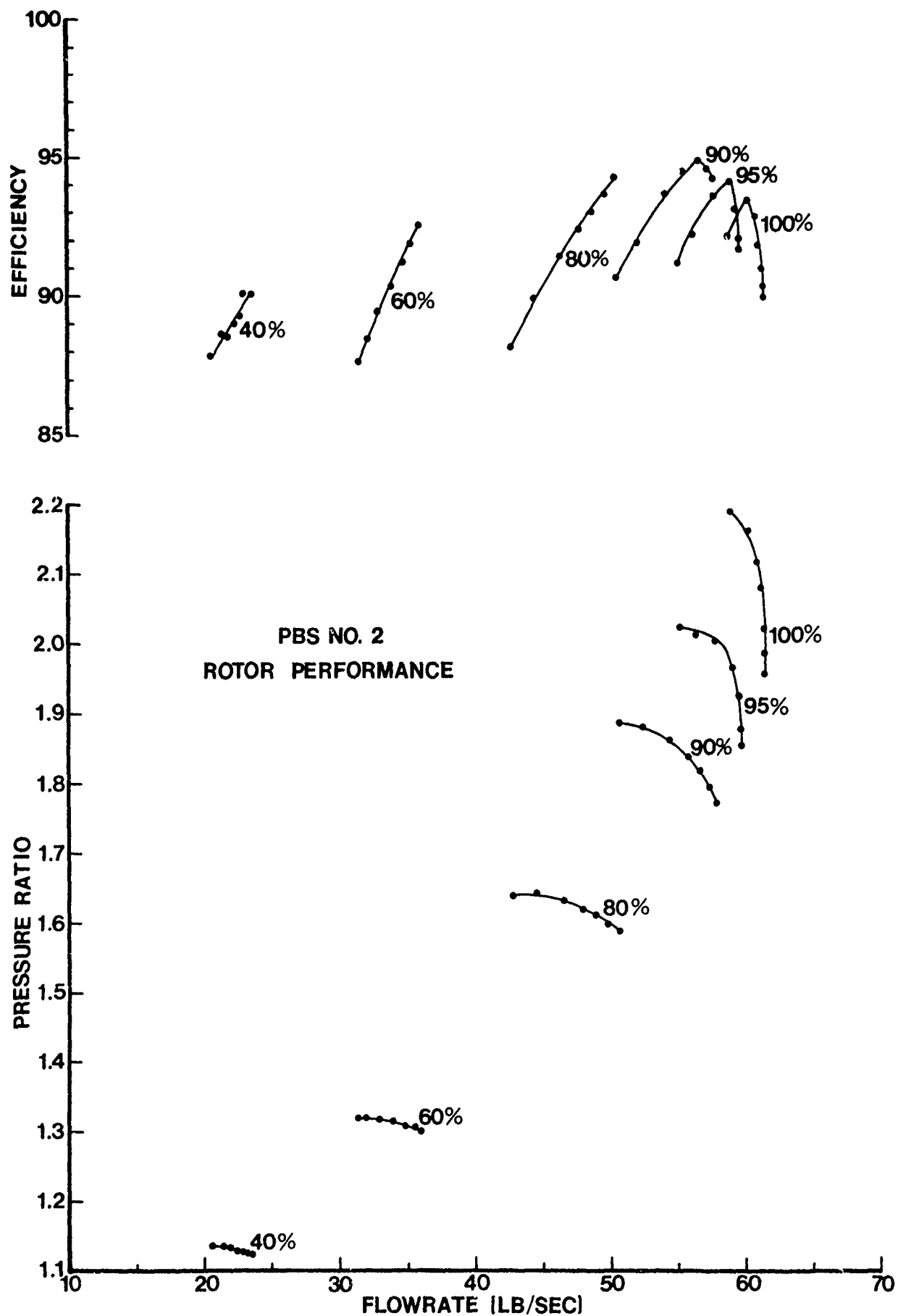


Figure 6. PBS Configuration #2 Rotor Performance

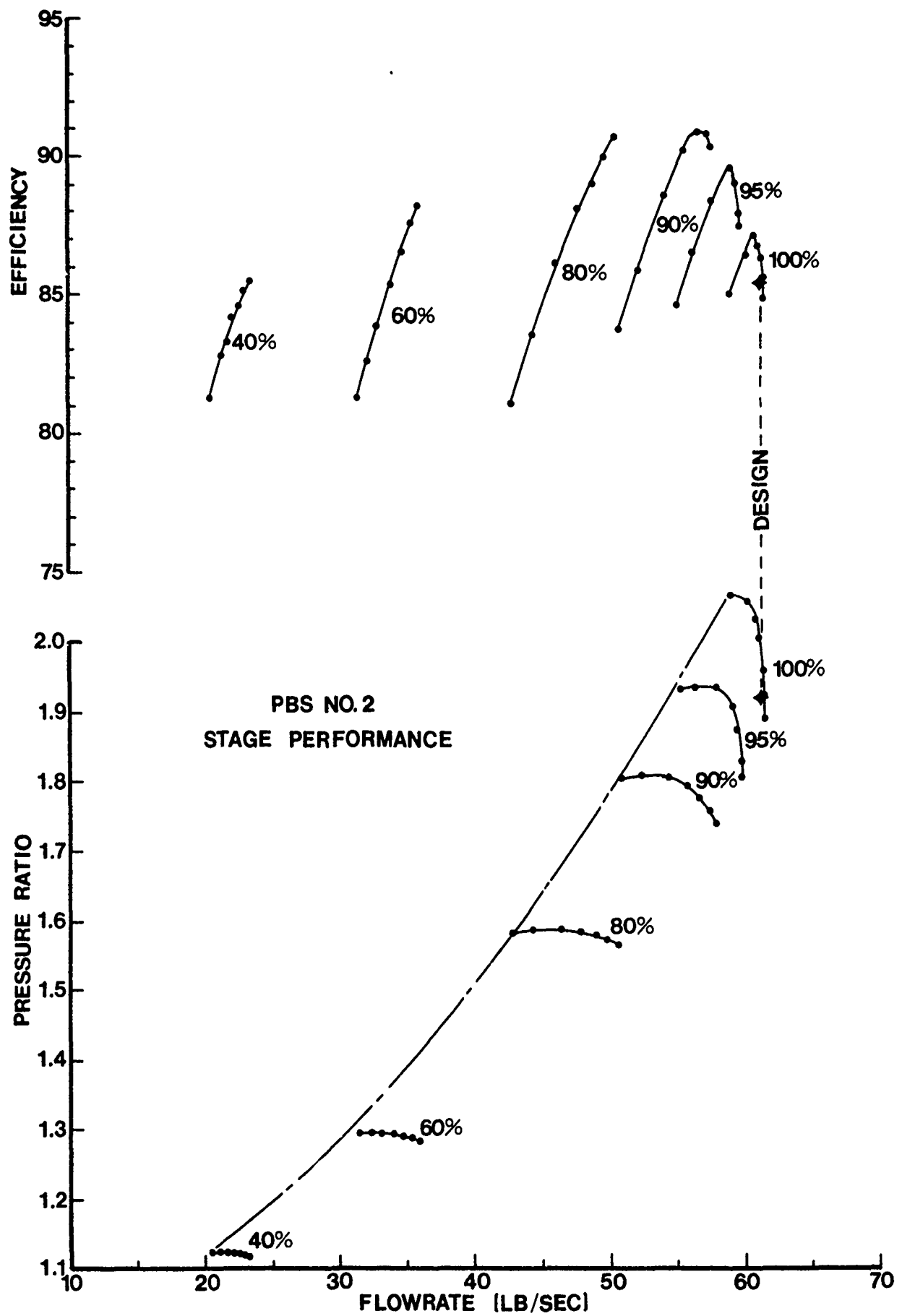


Figure 7. PBS Configuration #2 Stage Performance

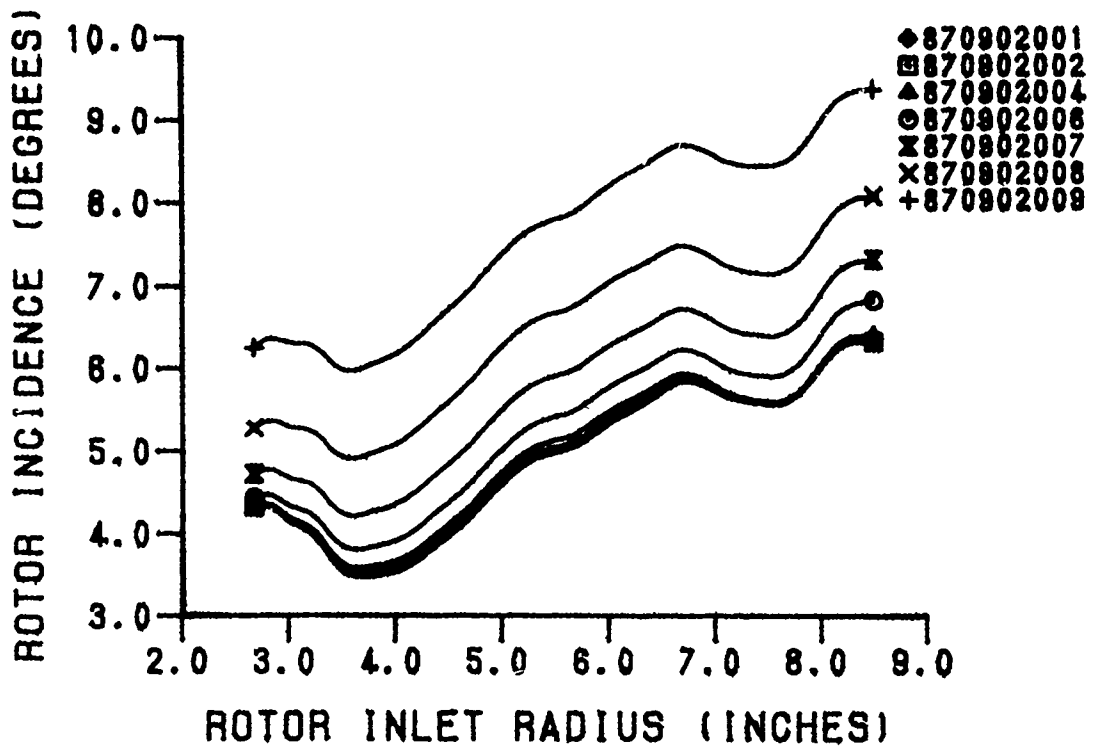


Figure 8. Rotor Incidence Angle (100% N)

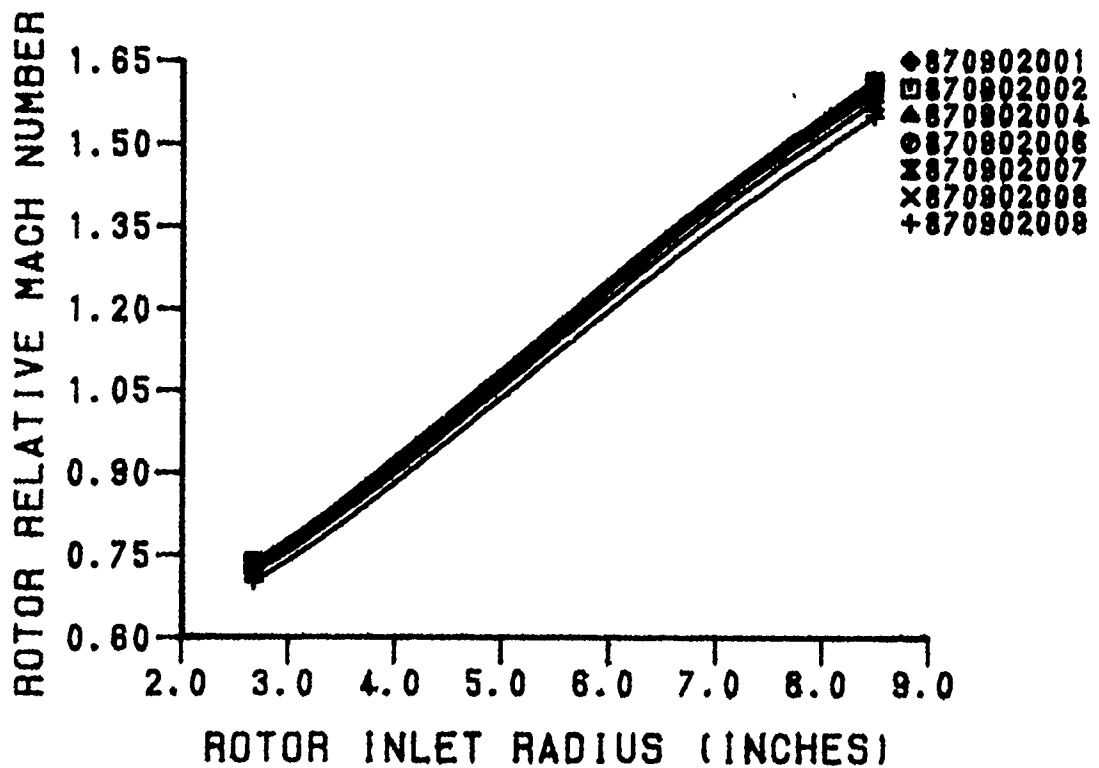


Figure 9. Rotor Relative Inlet Mach Number (100% N)

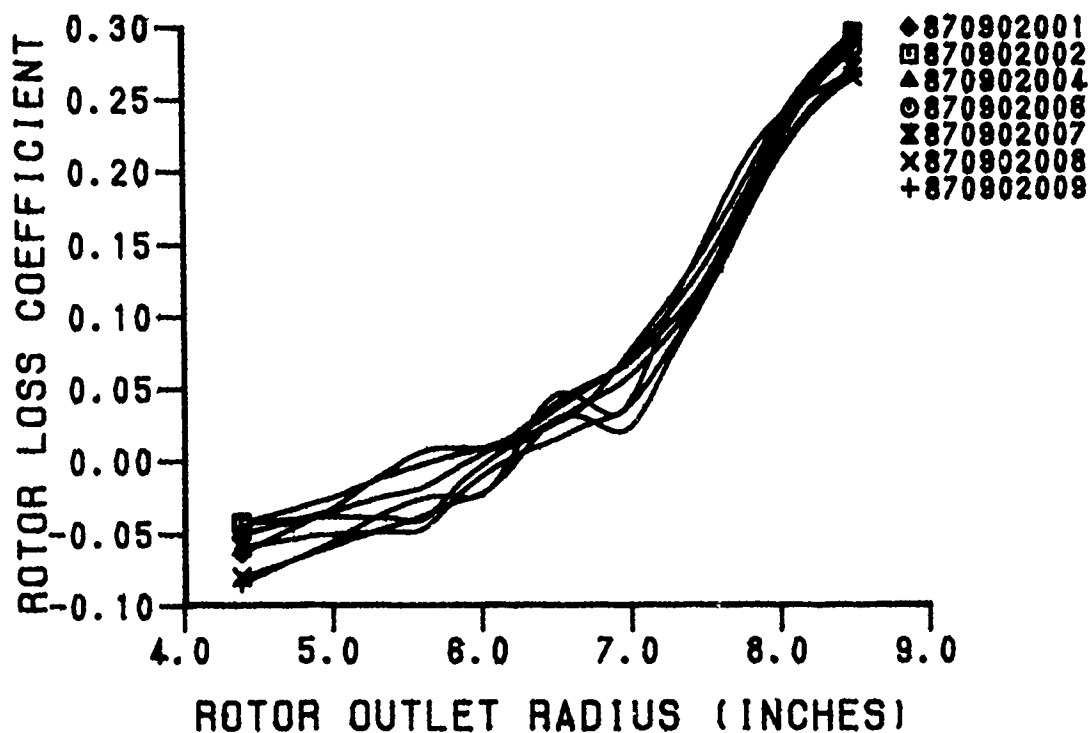


Figure 10. Rotor Loss Coefficient (100% N)

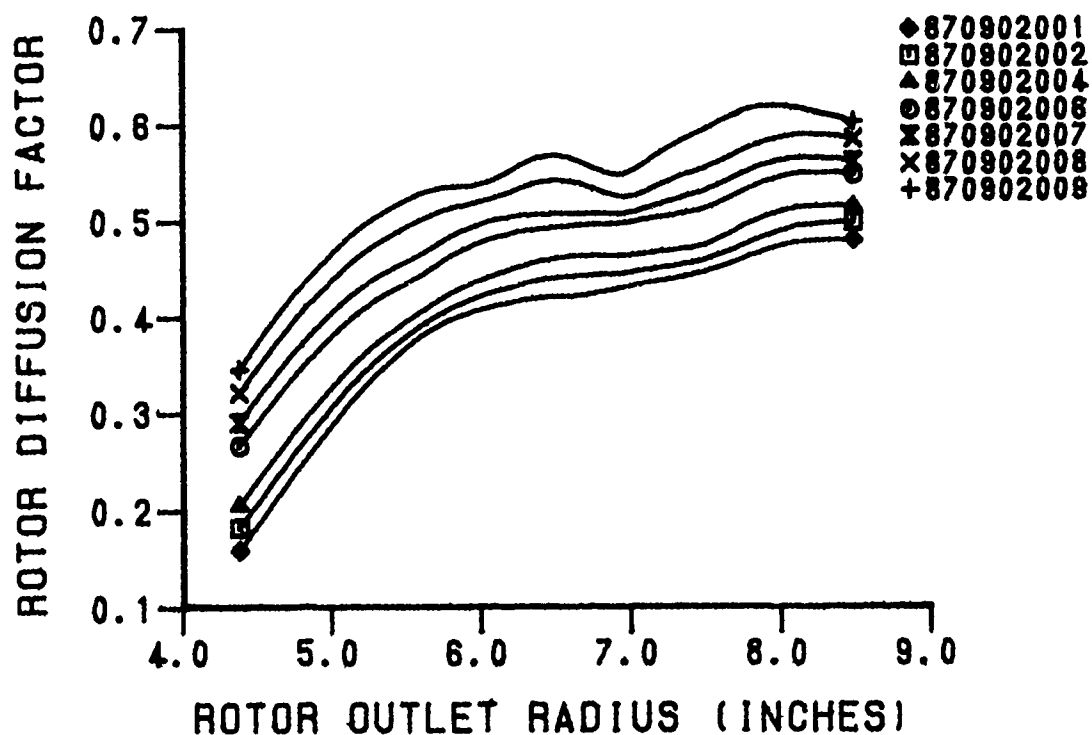


Figure 11. Rotor Diffusion Factor (100% N)

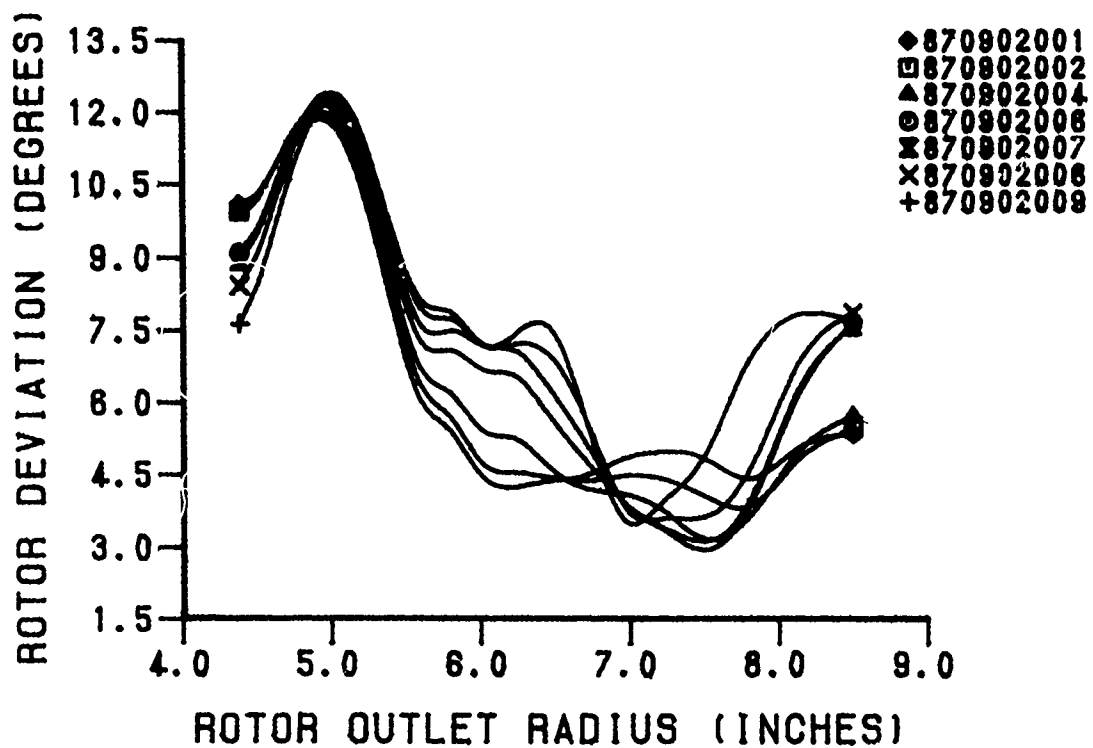


Figure 12. Rotor Deviation Angle (100% N)

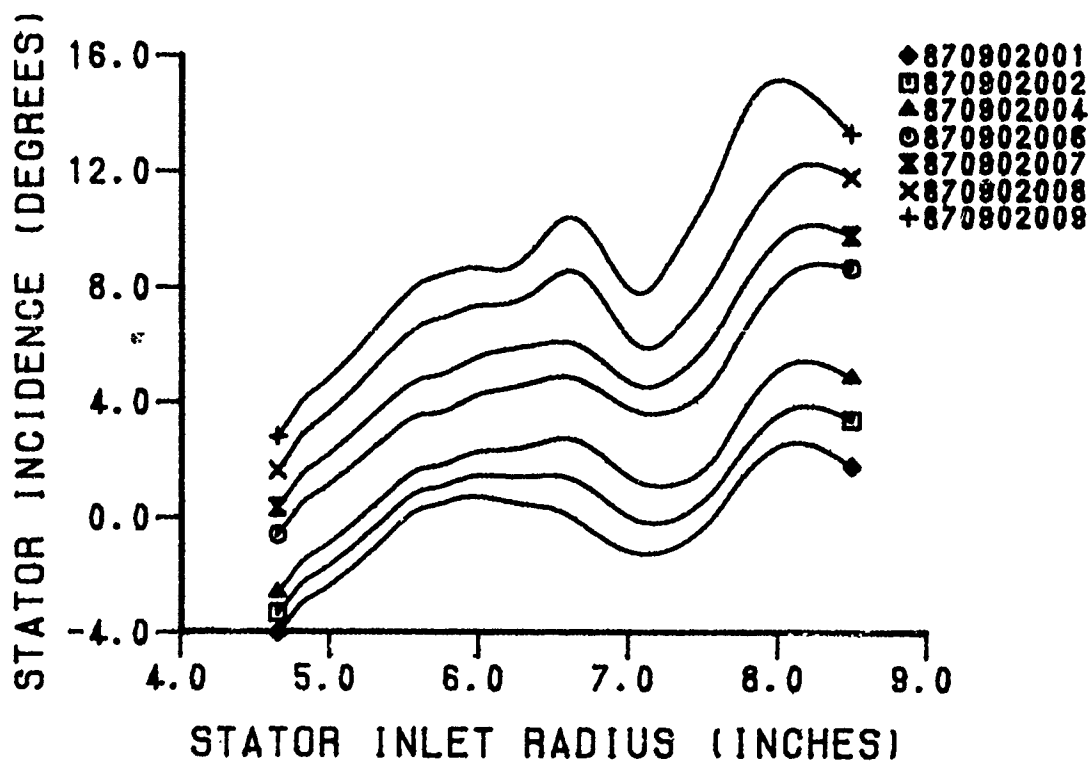


Figure 13. Stator Incidence Angle (100% N)

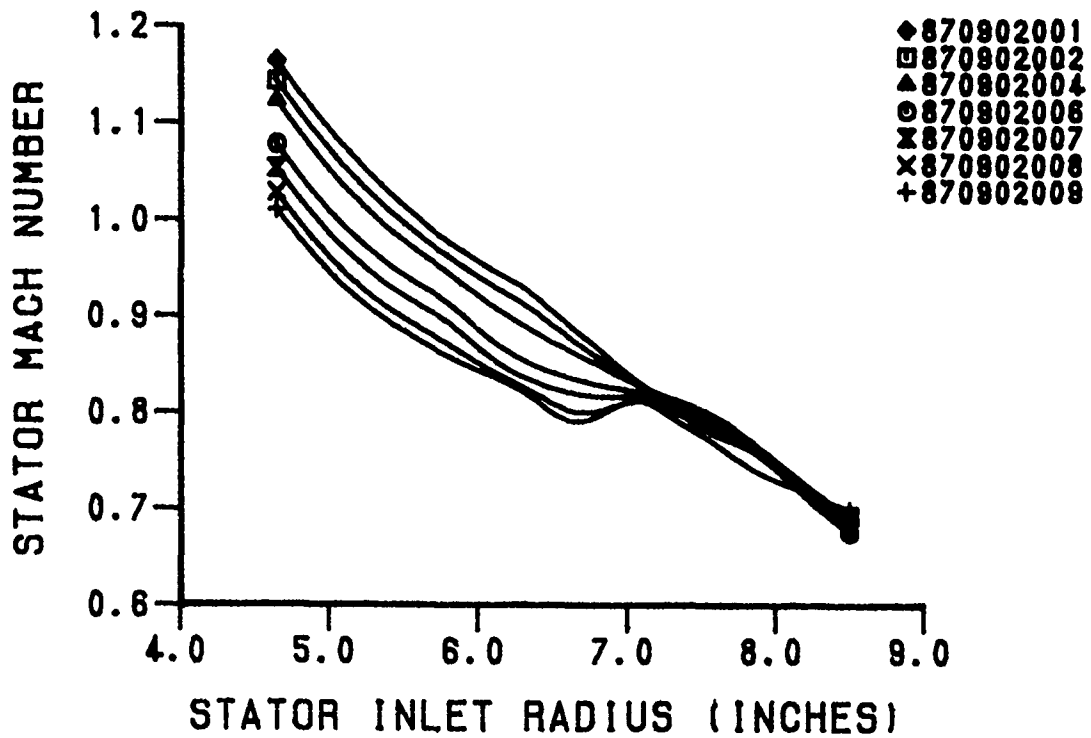


Figure 14. Stator Absolute Inlet Mach Number (100% N)

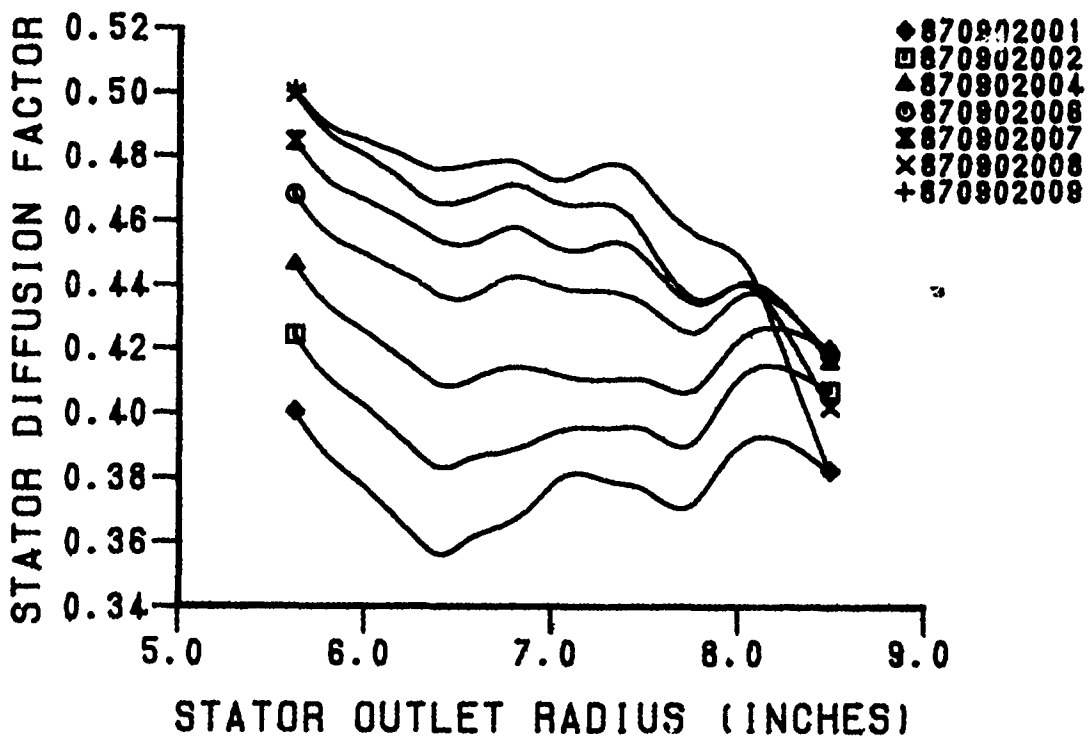


Figure 15. Stator Diffusion Factor (100% N)

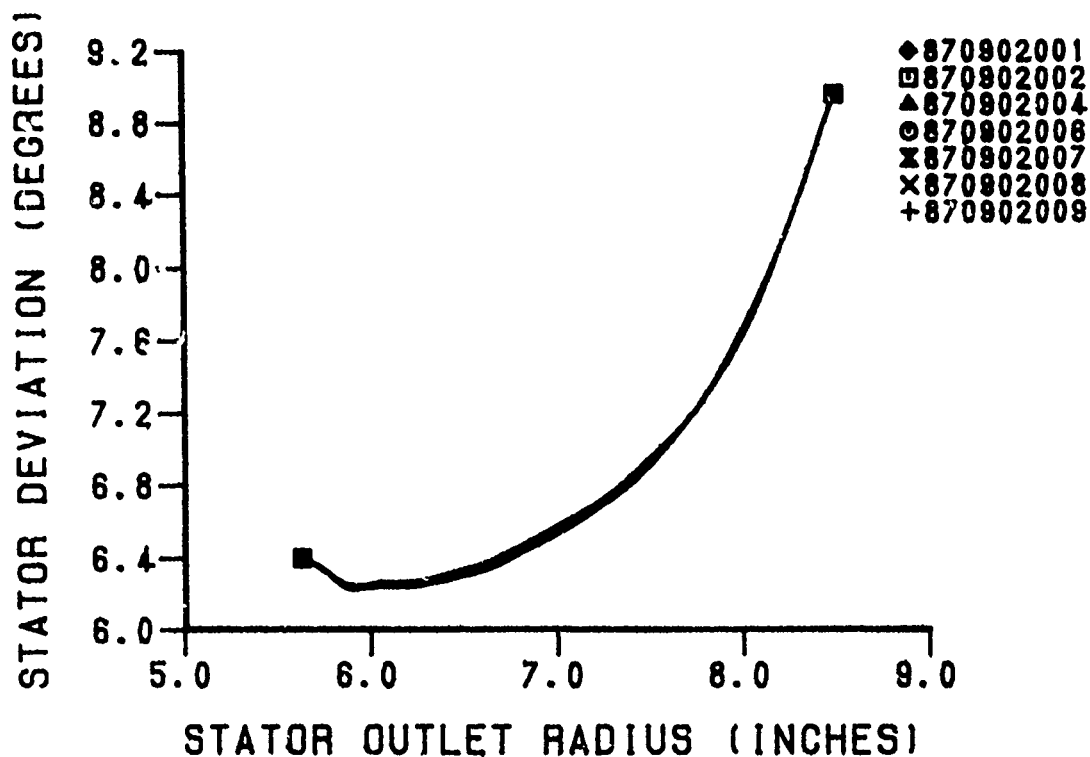


Figure 16. Stator Deviation Angle (100% N)

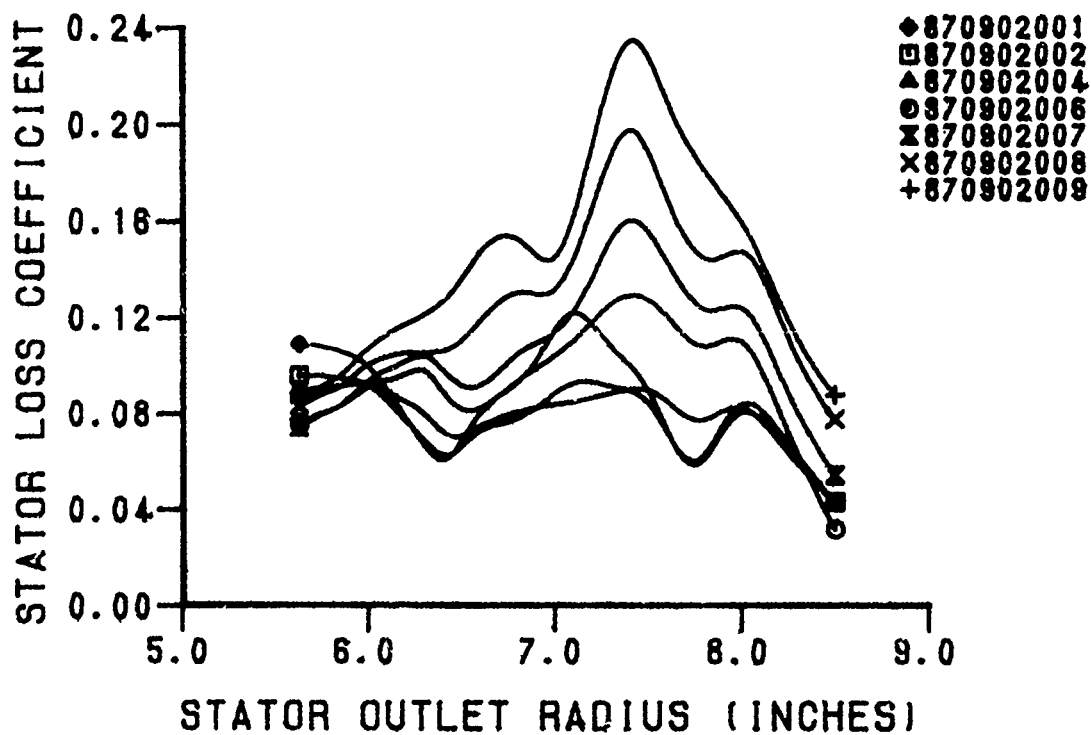


Figure 17. Stator Loss Coefficient (100% N)

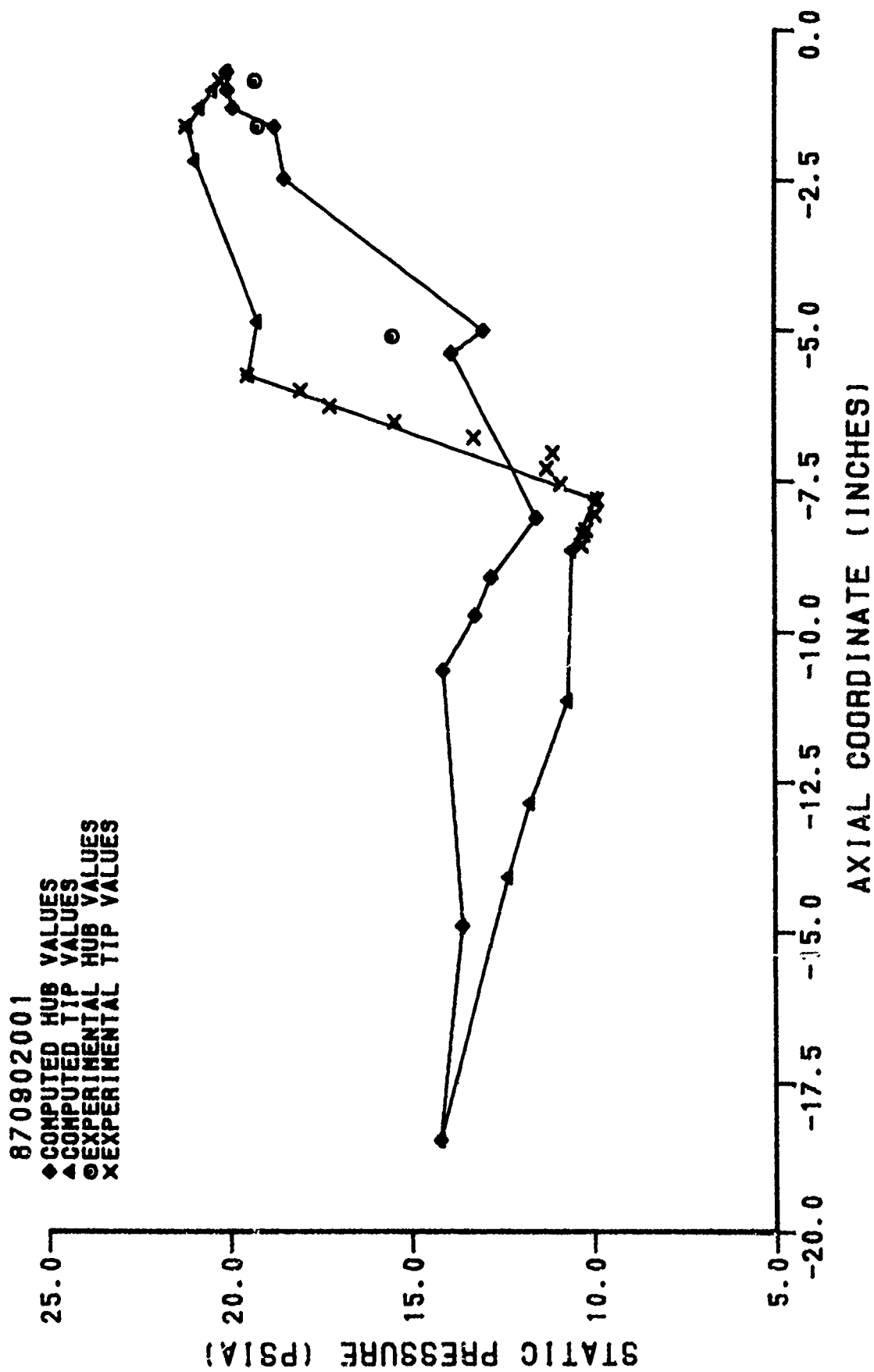


Figure 18. Static Pressure Distribution (870902001)

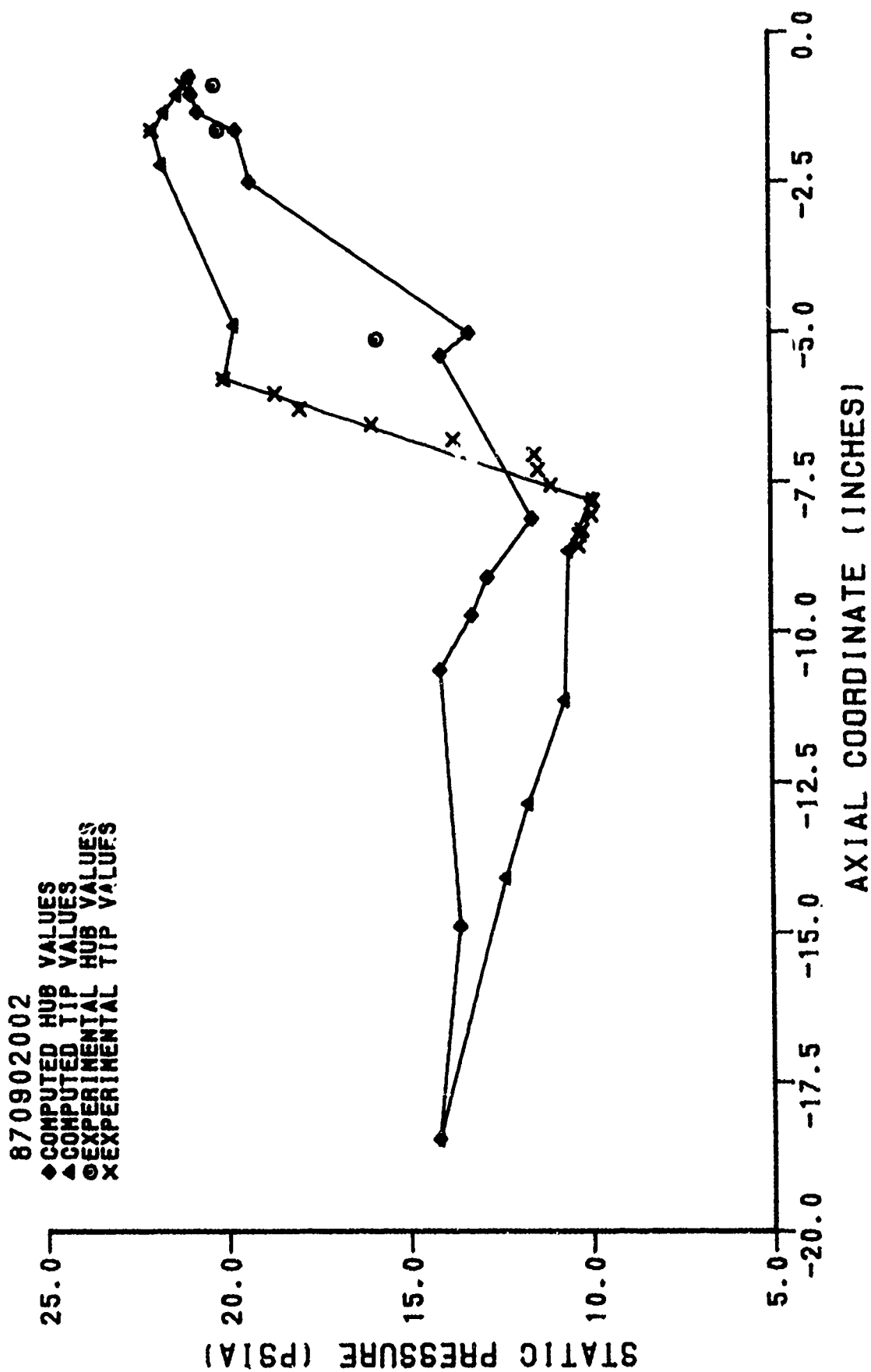


Figure 19. Static Pressure Distribution (870902002)

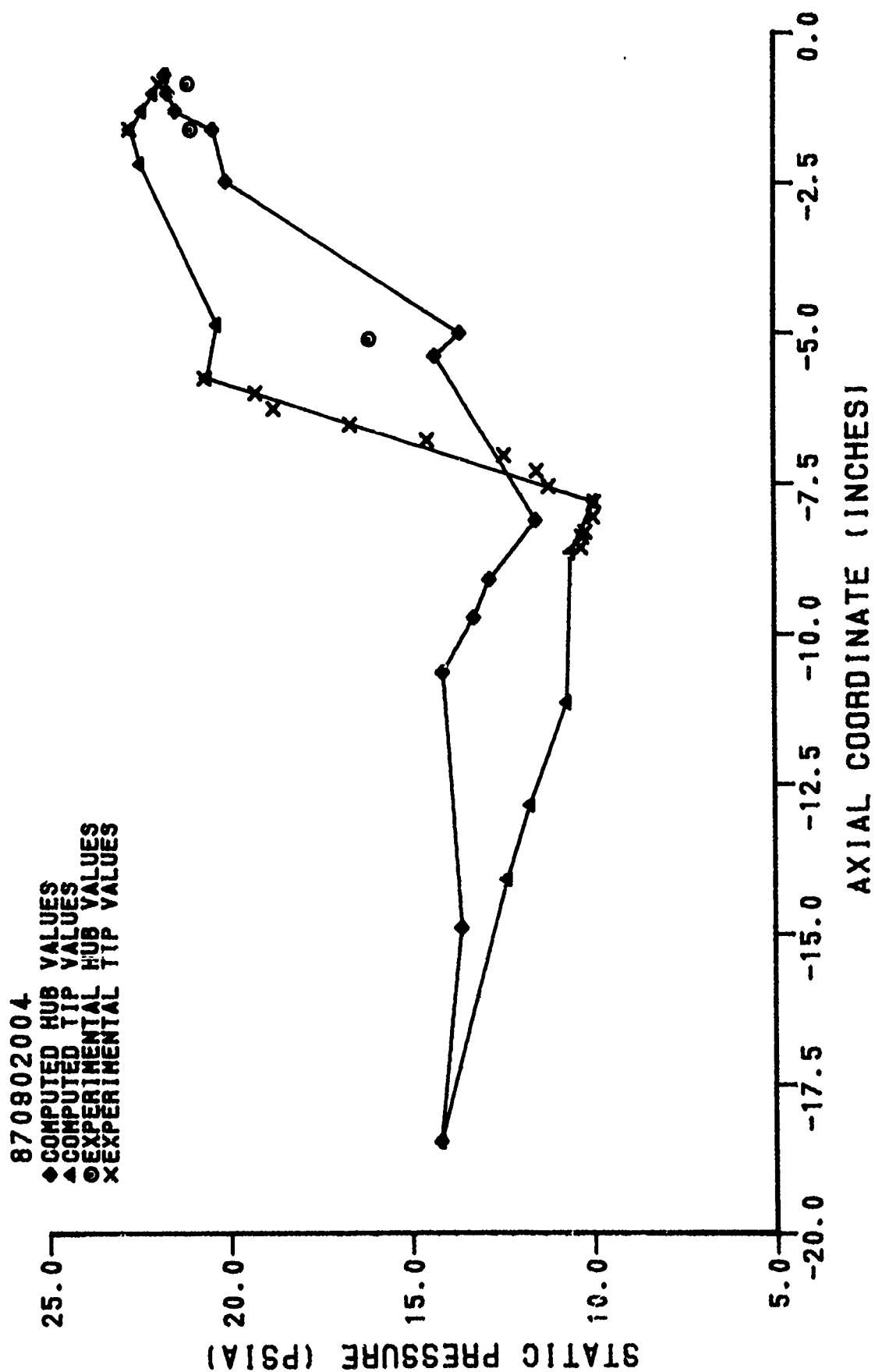


Figure 20. Static Pressure Distribution (870902004)

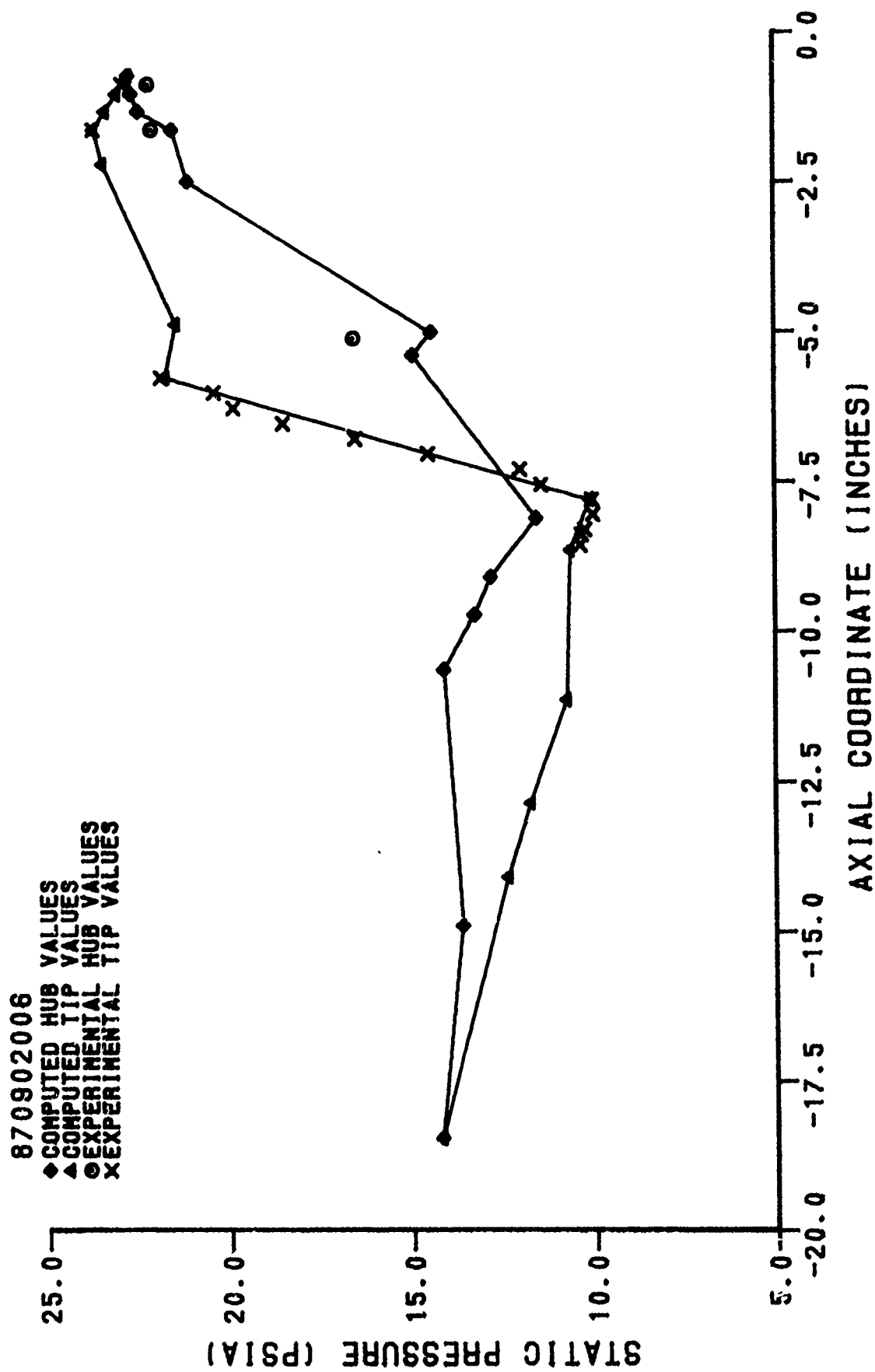
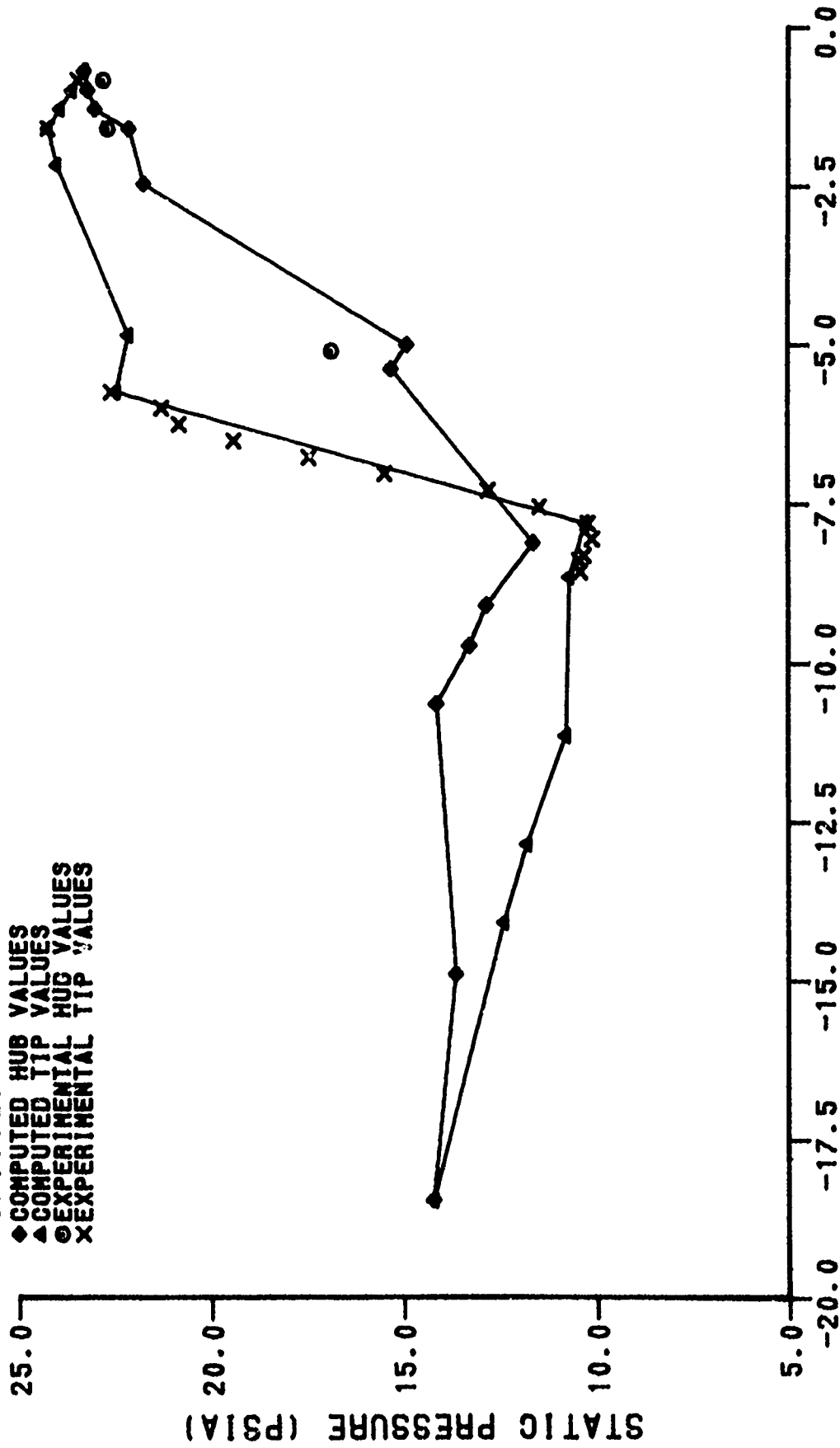


Figure 21. Static Pressure Distribution (870902006)

870902007

◆ COMPUTED HUB VALUES
▲ COMPUTED TIP VALUES
● EXPERIMENTAL HUB VALUES
X EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 22. Static Pressure Distribution (870902007)

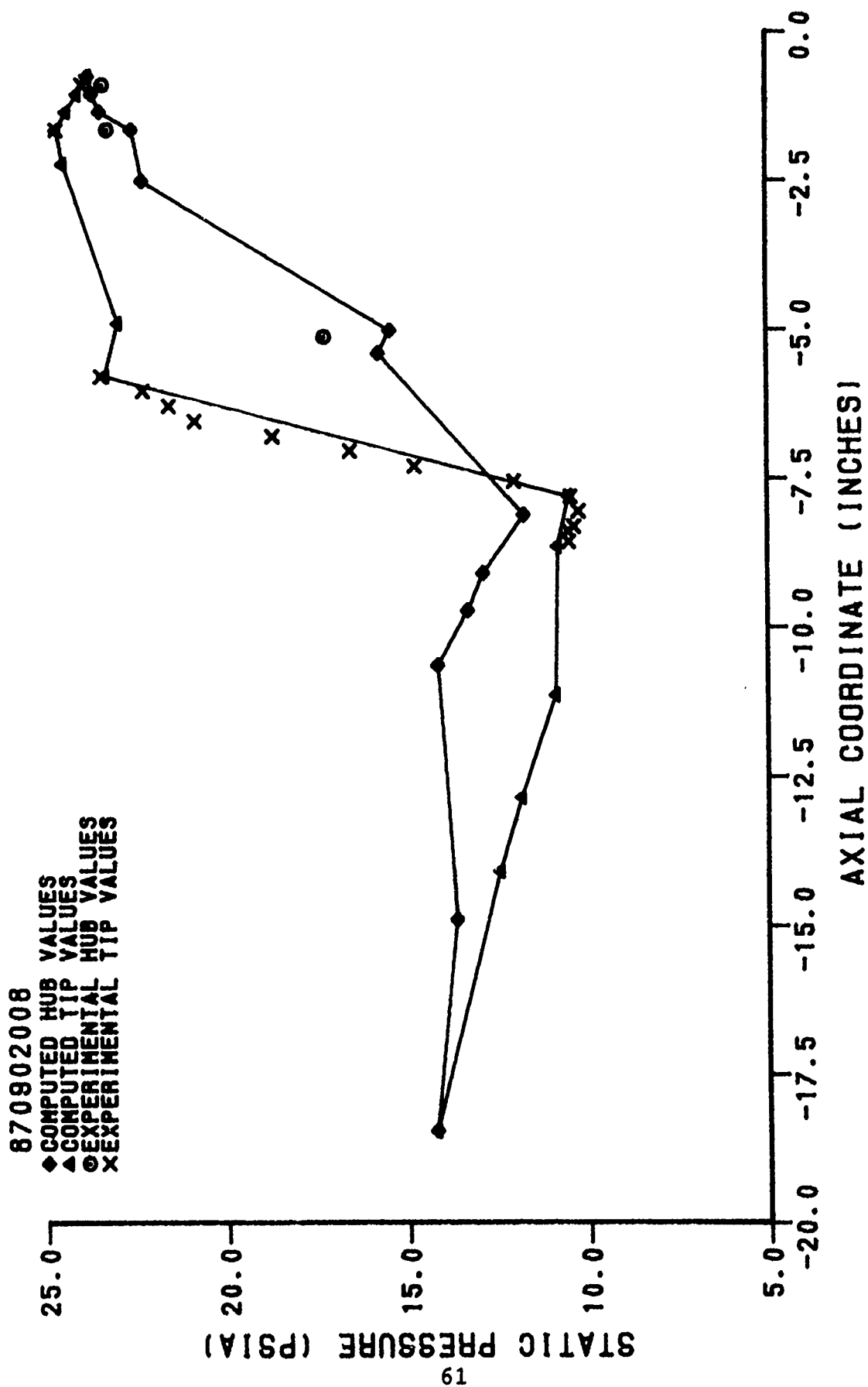


Figure 23. Static Pressure Distribution (870902008)

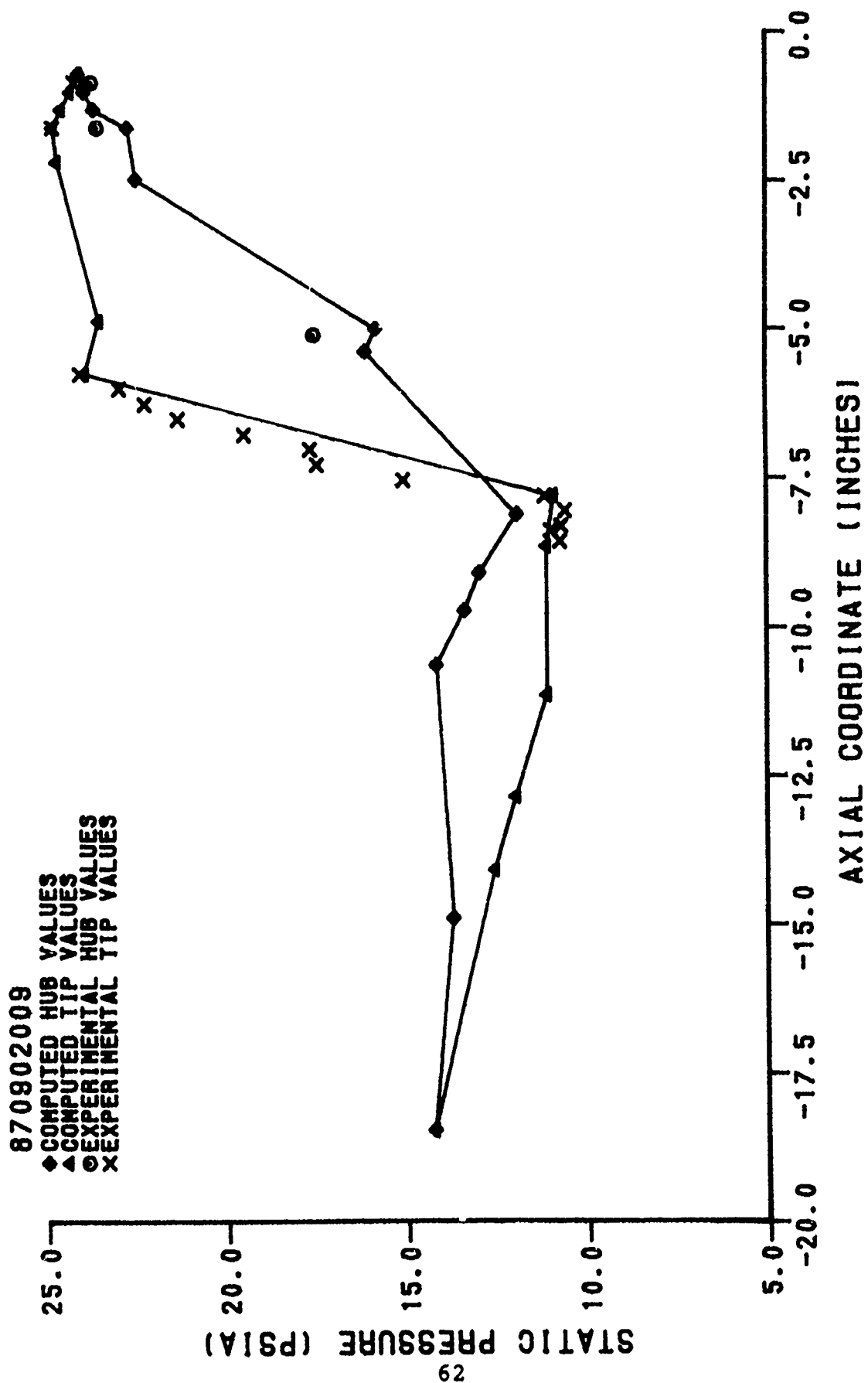


Figure 24. Static Pressure Distribution (870902009)

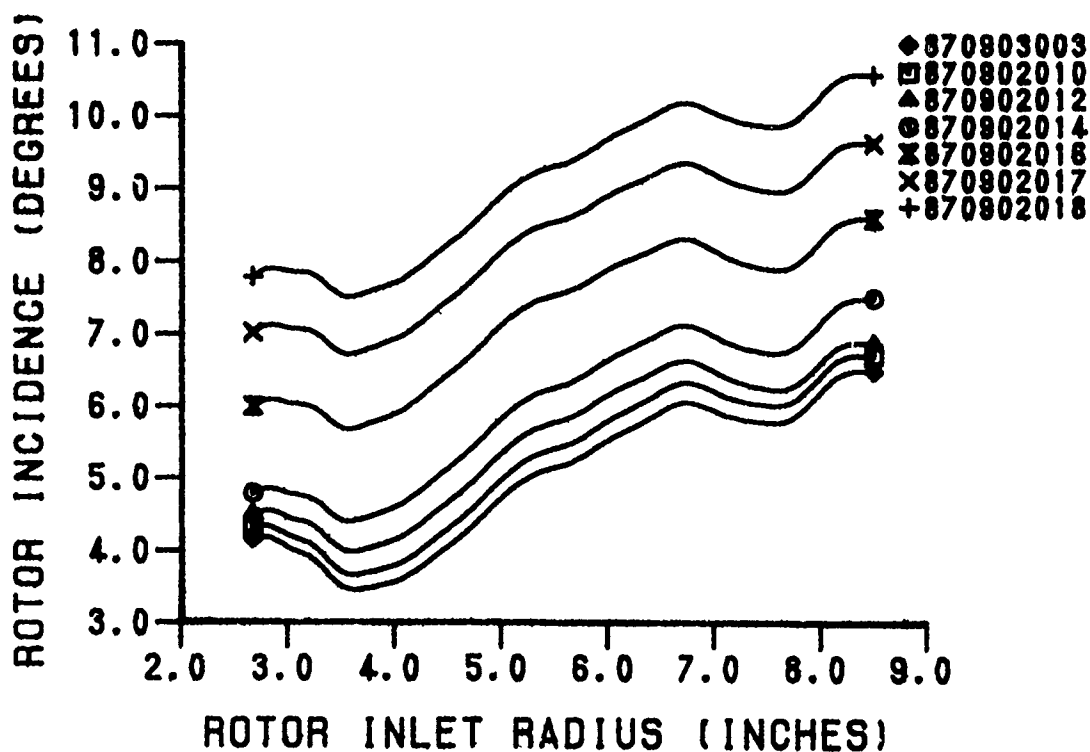


Figure 25. Rotor Incidence Angle (95% N)

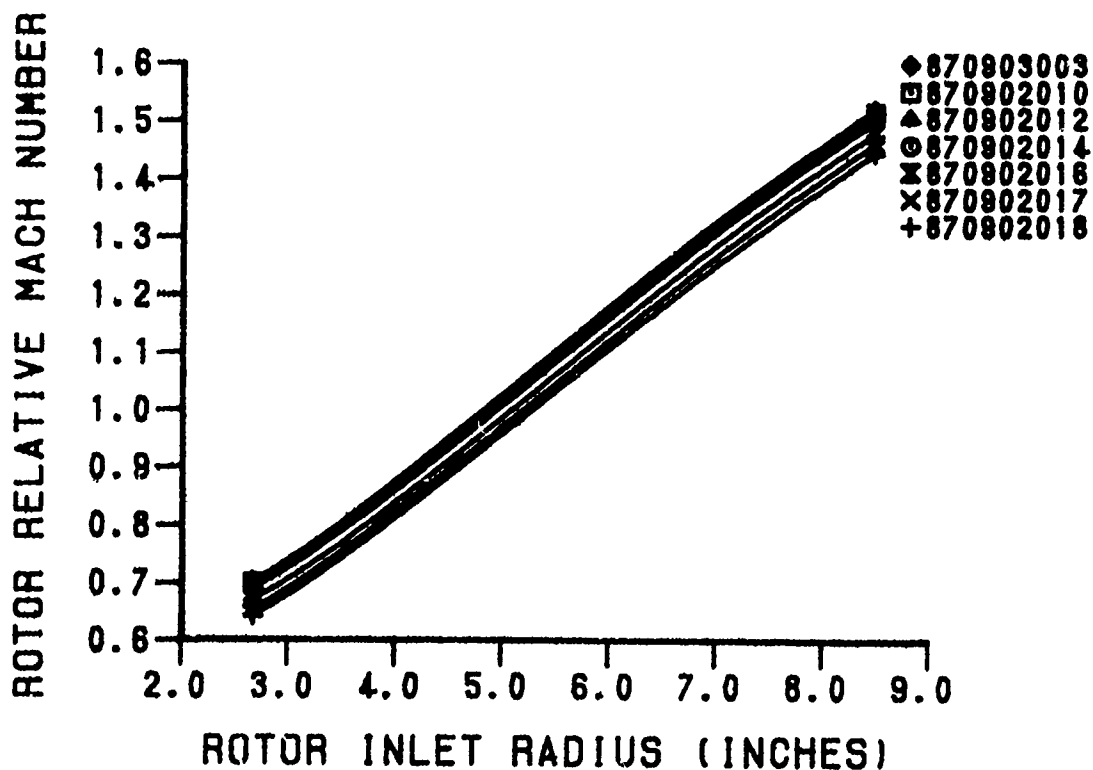


Figure 26. Rotor Relative Inlet Mach Number (95% N)

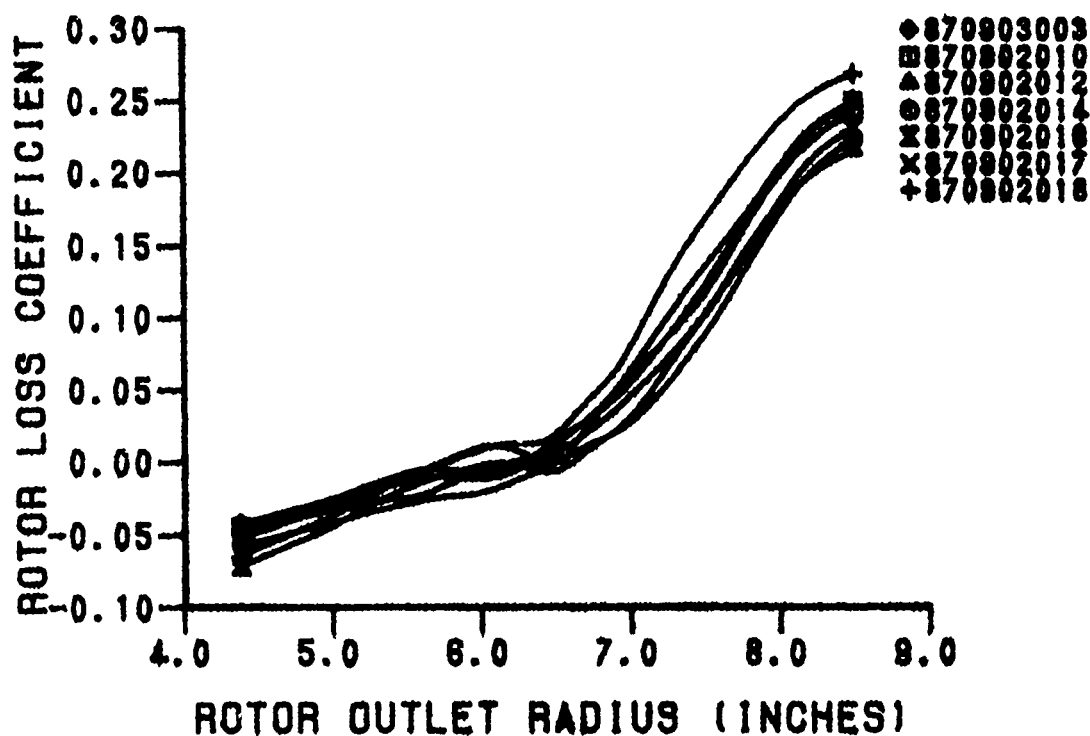


Figure 27. Rotor Loss Coefficient (95% N)

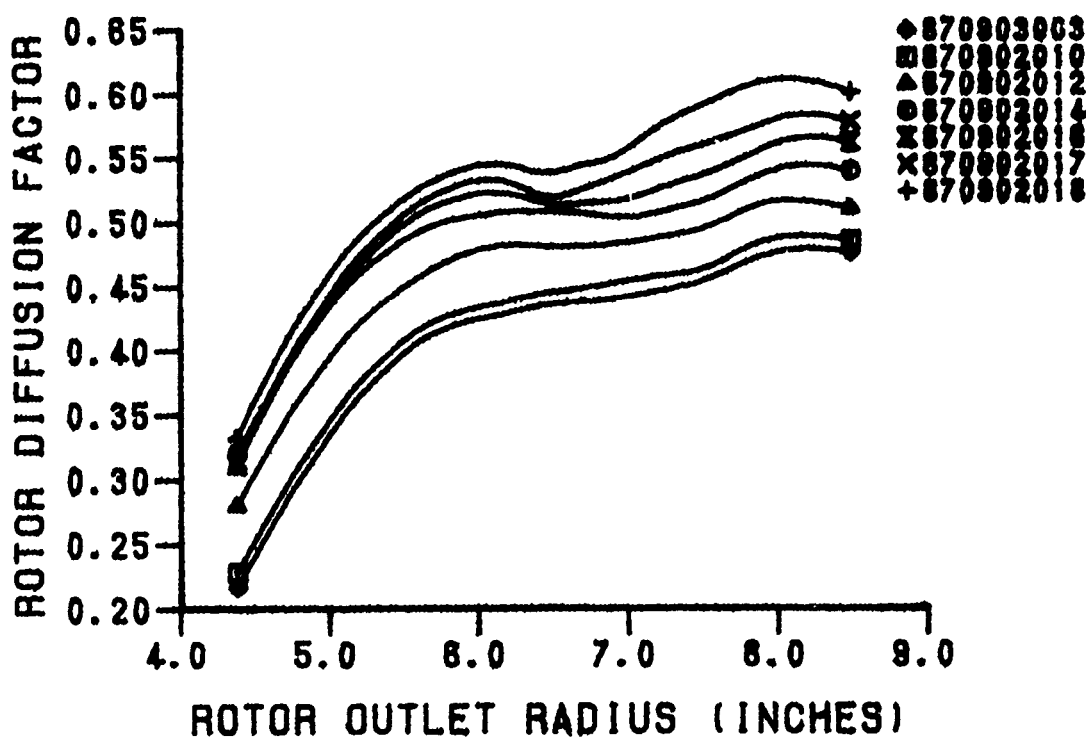


Figure 28. Rotor Diffusion Factor (95% N)

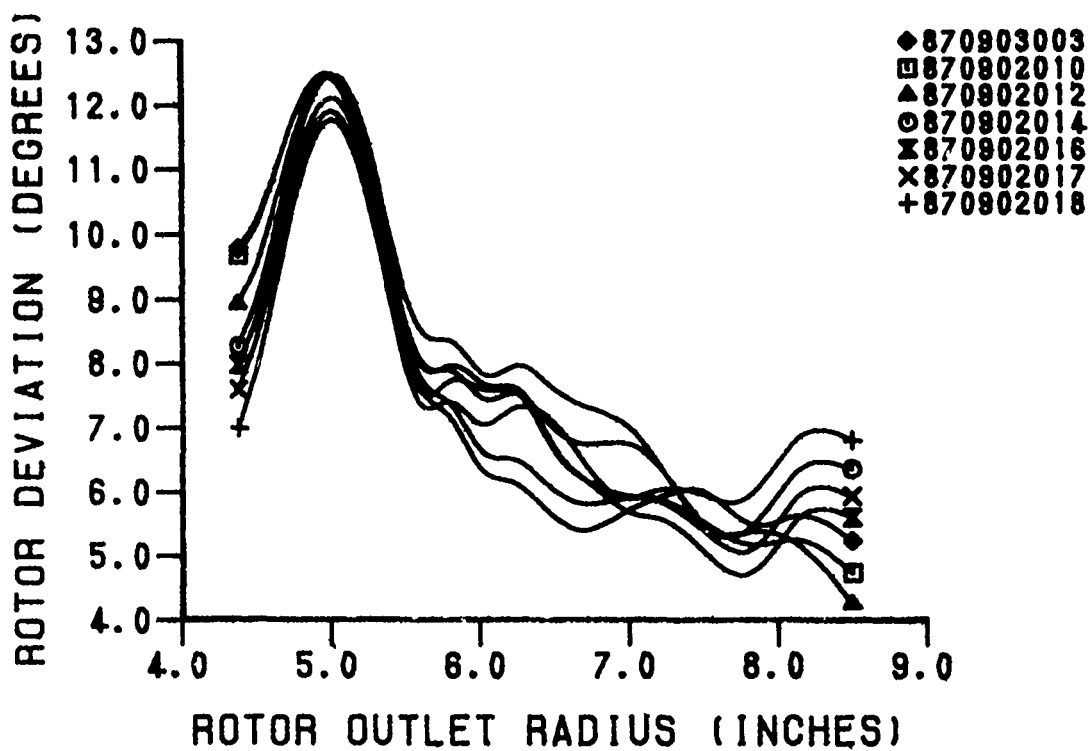


Figure 29. Rotor Deviation Angle (95% N)

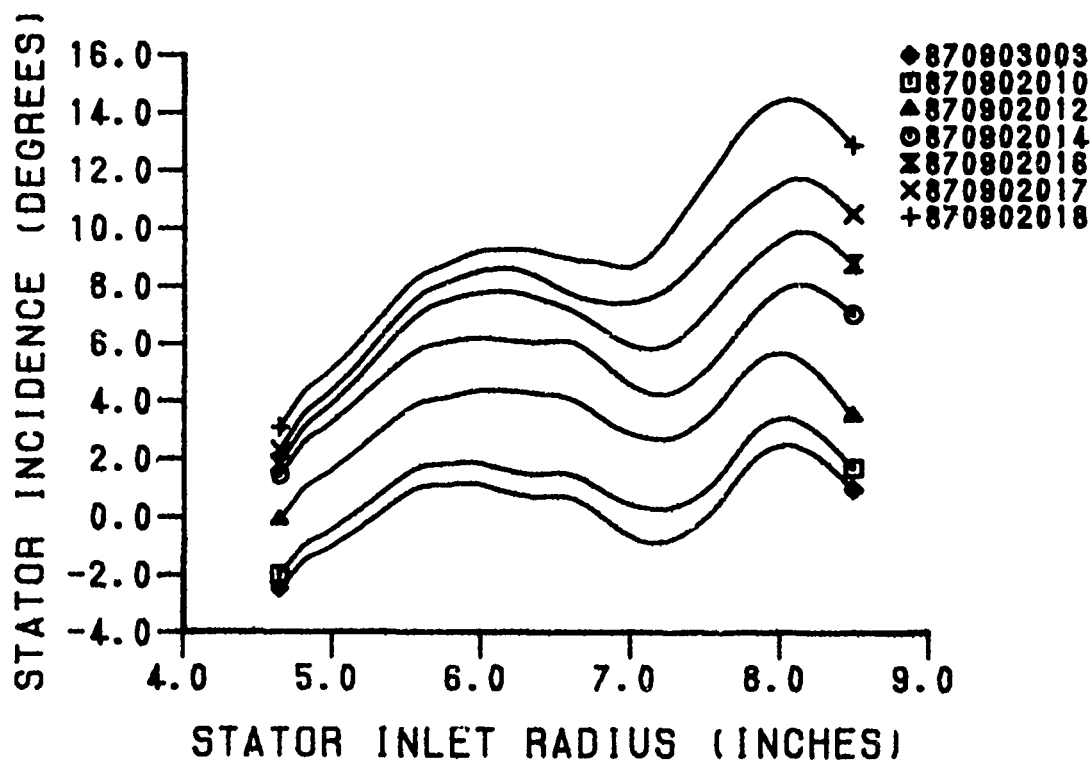


Figure 30. Stator Incidence Angle (95% N)

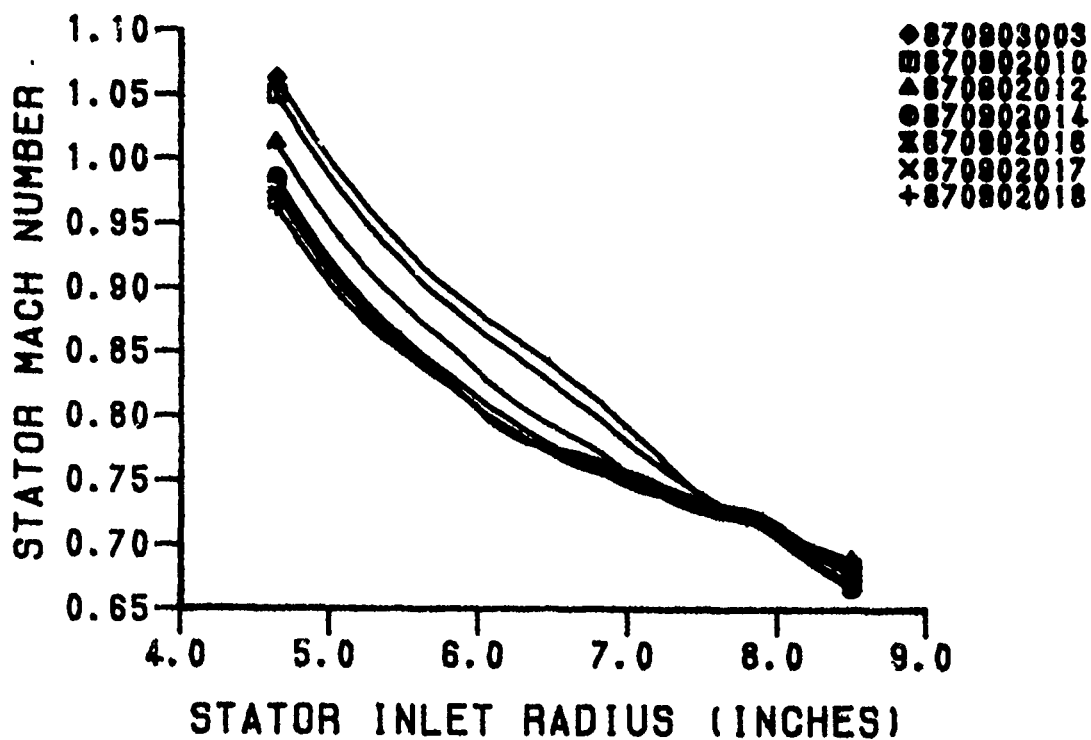


Figure 31. Stator Absolute Inlet Mach Number (95% N)

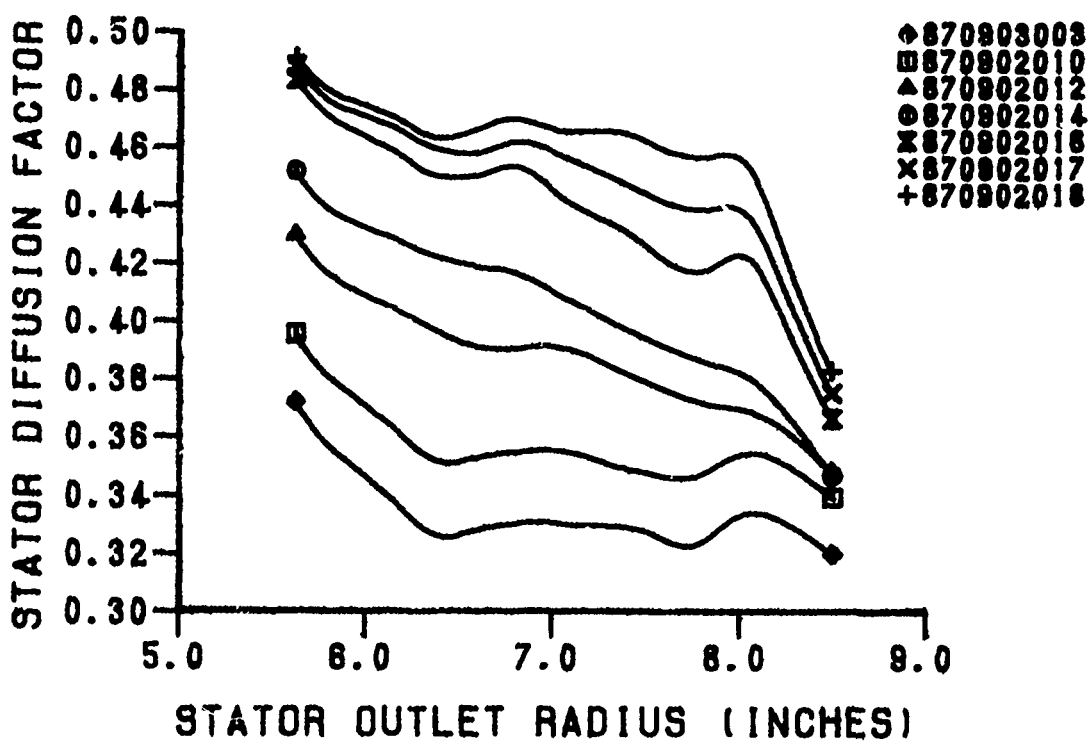


Figure 32. Stator Diffusion Factor (95% N)

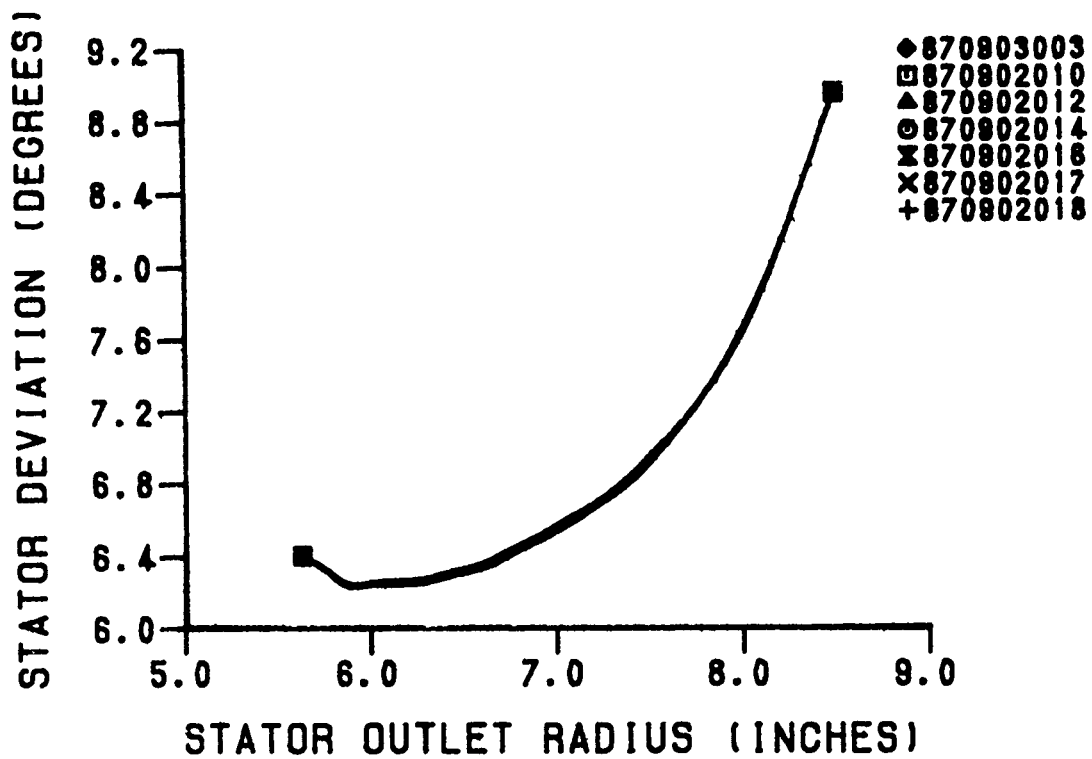


Figure 33. Stator Deviation Angle (95% N)

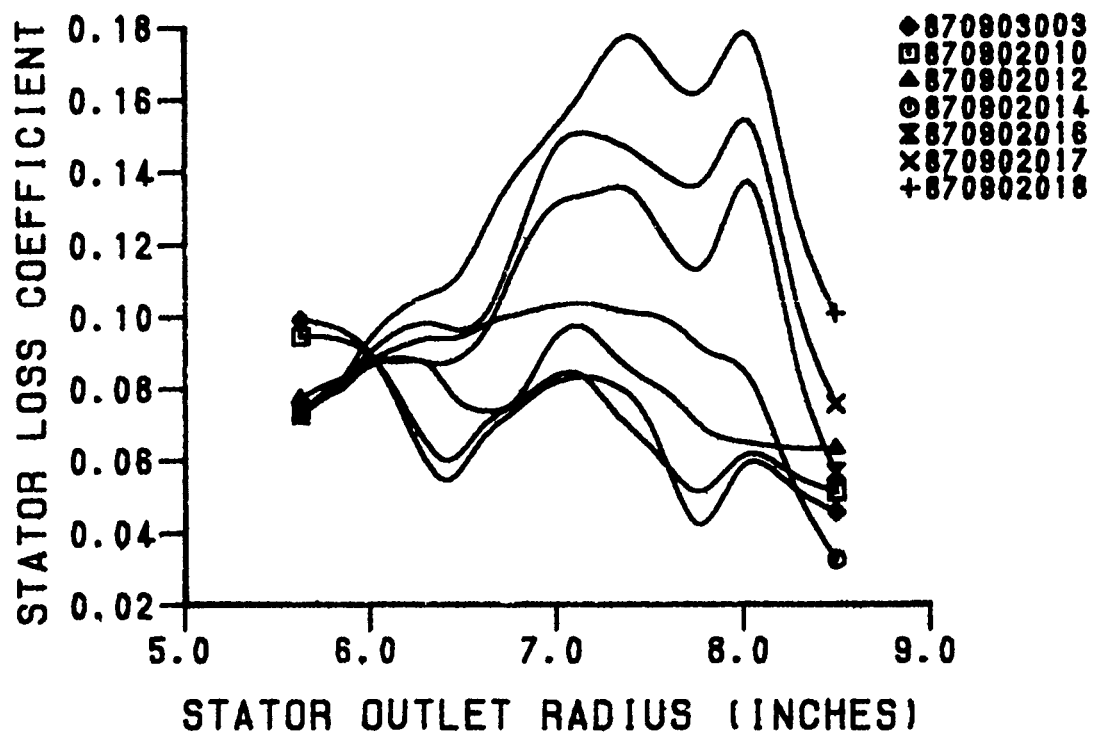
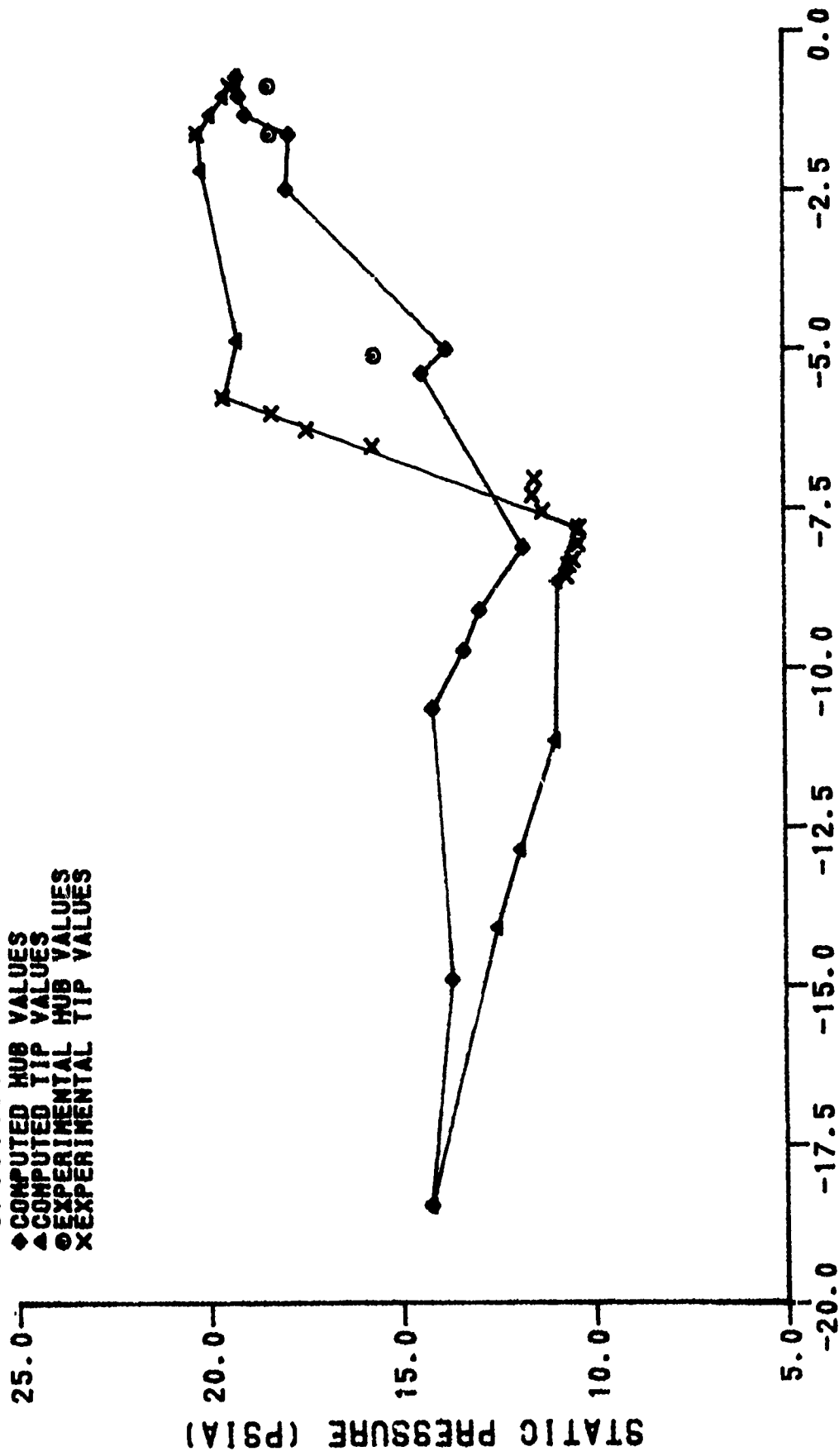


Figure 34. Stator Loss Coefficient (95% N)

870903003

◆ COMPUTED HUB VALUES
▲ COMPUTED TIP VALUES
○ EXPERIMENTAL HUB VALUES
x EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 35. Static Pressure Distribution (870903003)

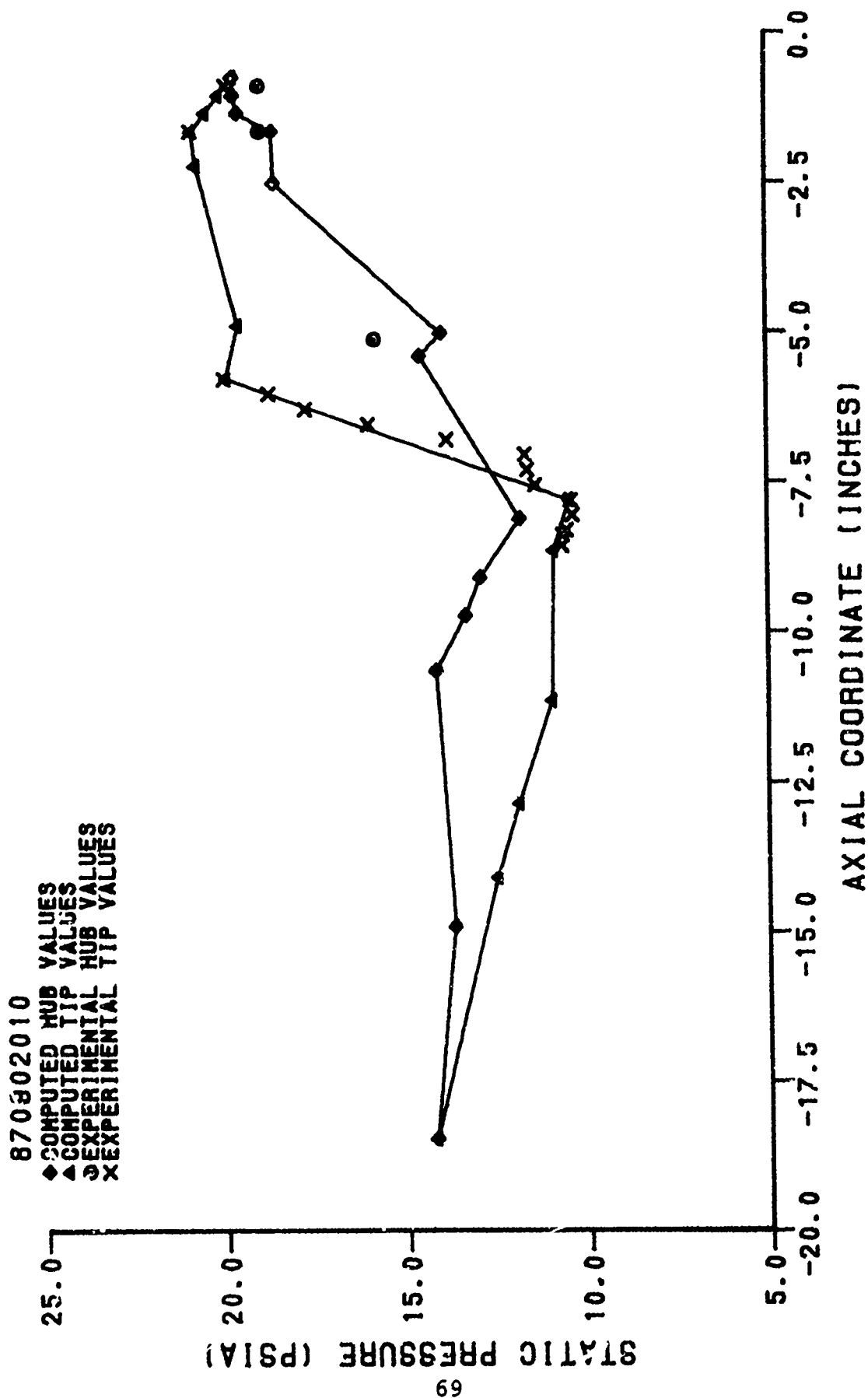
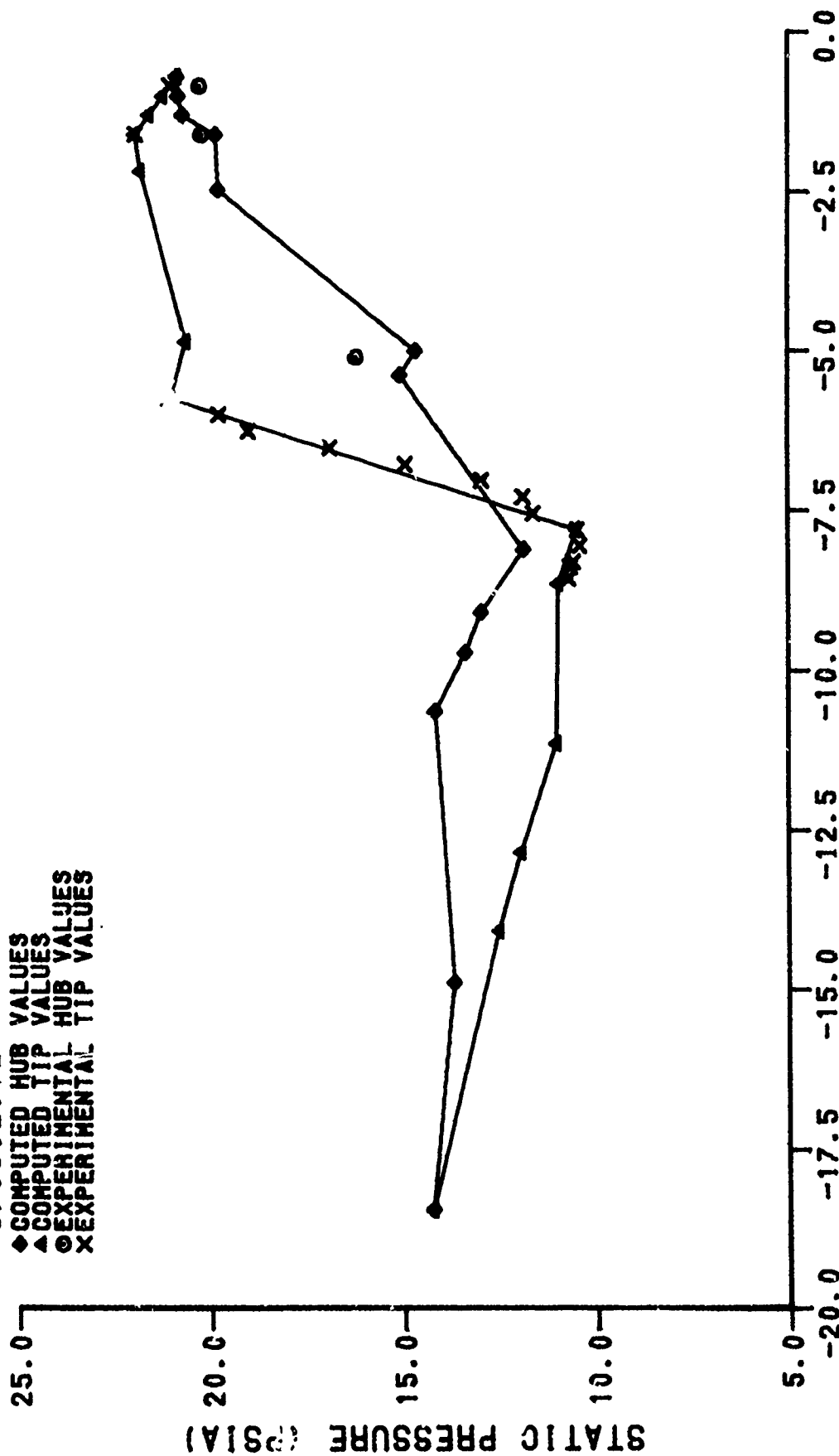


Figure 36. Static Pressure Distribution (870902010)

870902012

◆ COMPUTED HUB VALUES
▲ COMPUTED TIP VALUES
○ EXPERIMENTAL HUB VALUES
x EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 37. Static Pressure Distribution (870902012)

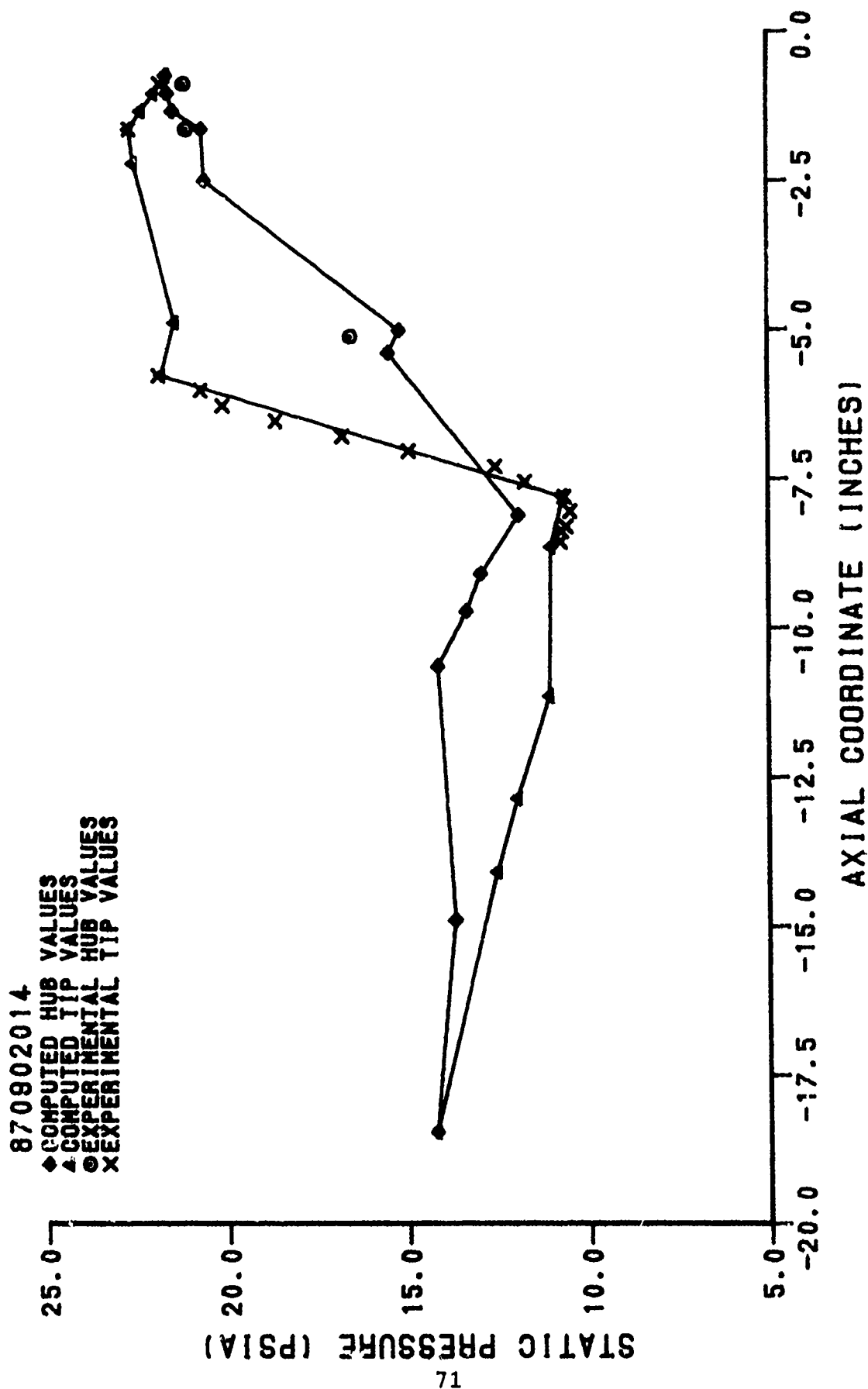
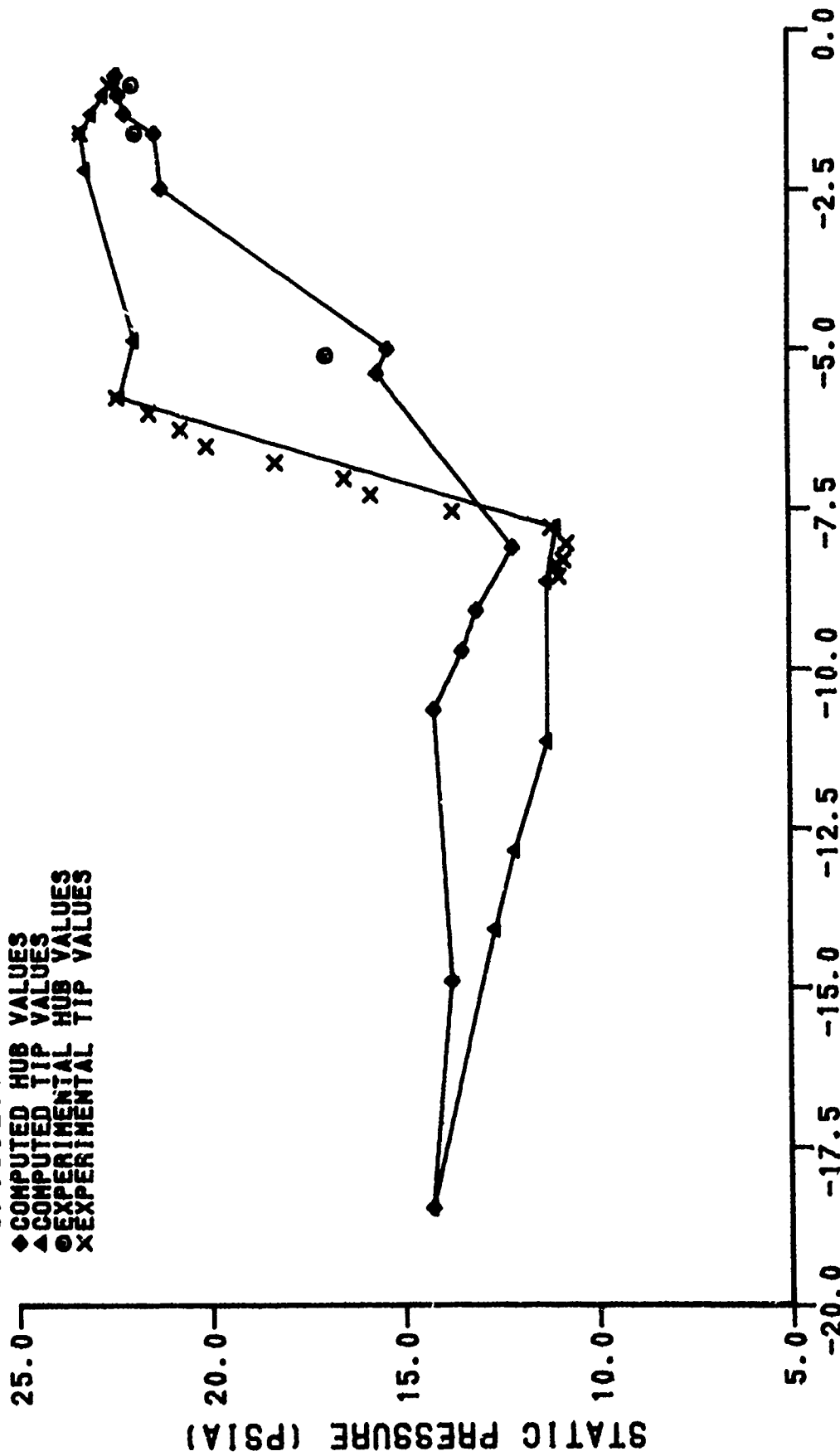


Figure 38. Static Pressure Distribution (870902014)

870902016

◆ COMPUTED HUB VALUES
▲ COMPUTED TIP VALUES
● EXPERIMENTAL HUB VALUES
X EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 39. Static Pressure Distribution (870902016)

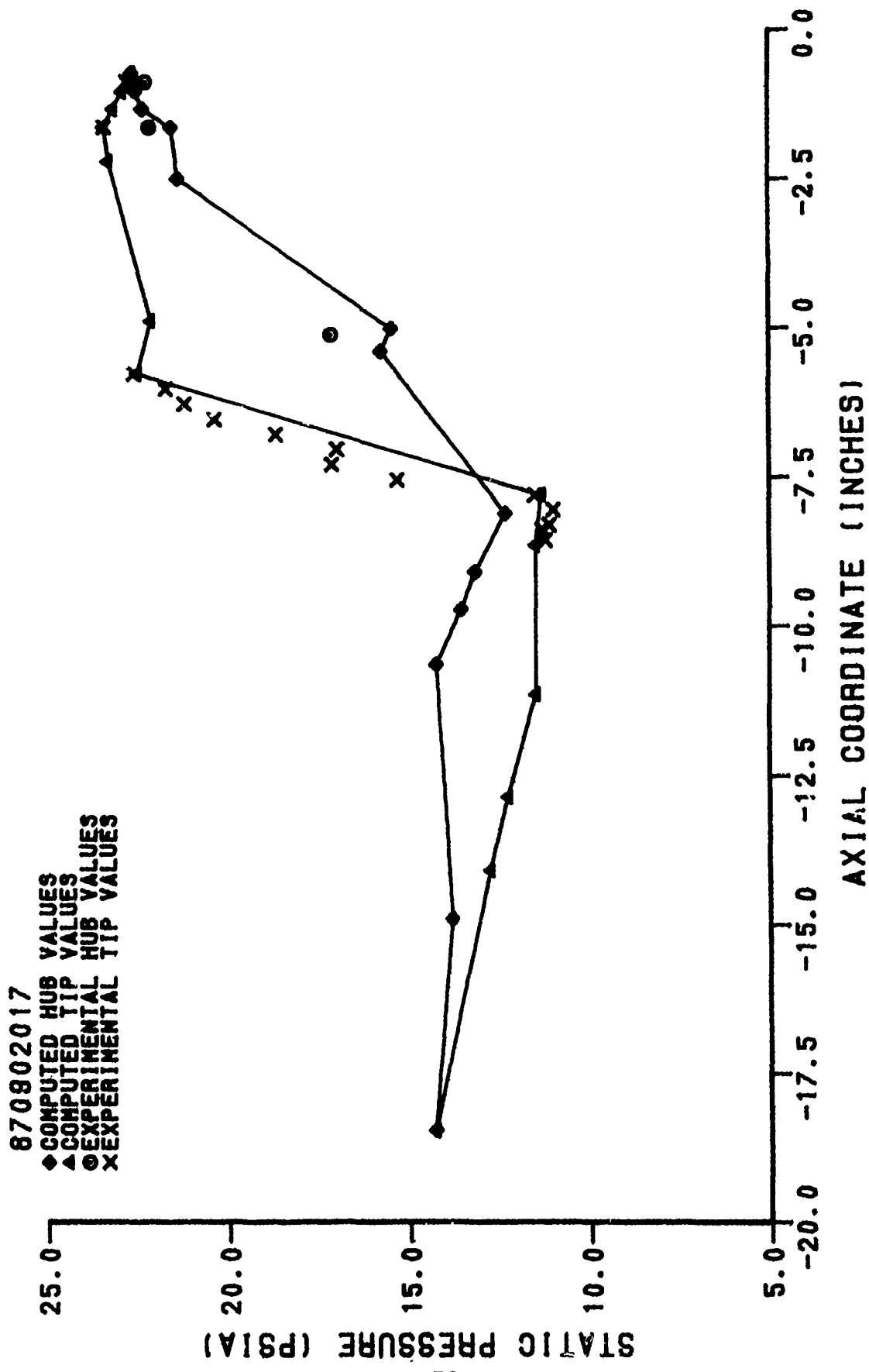
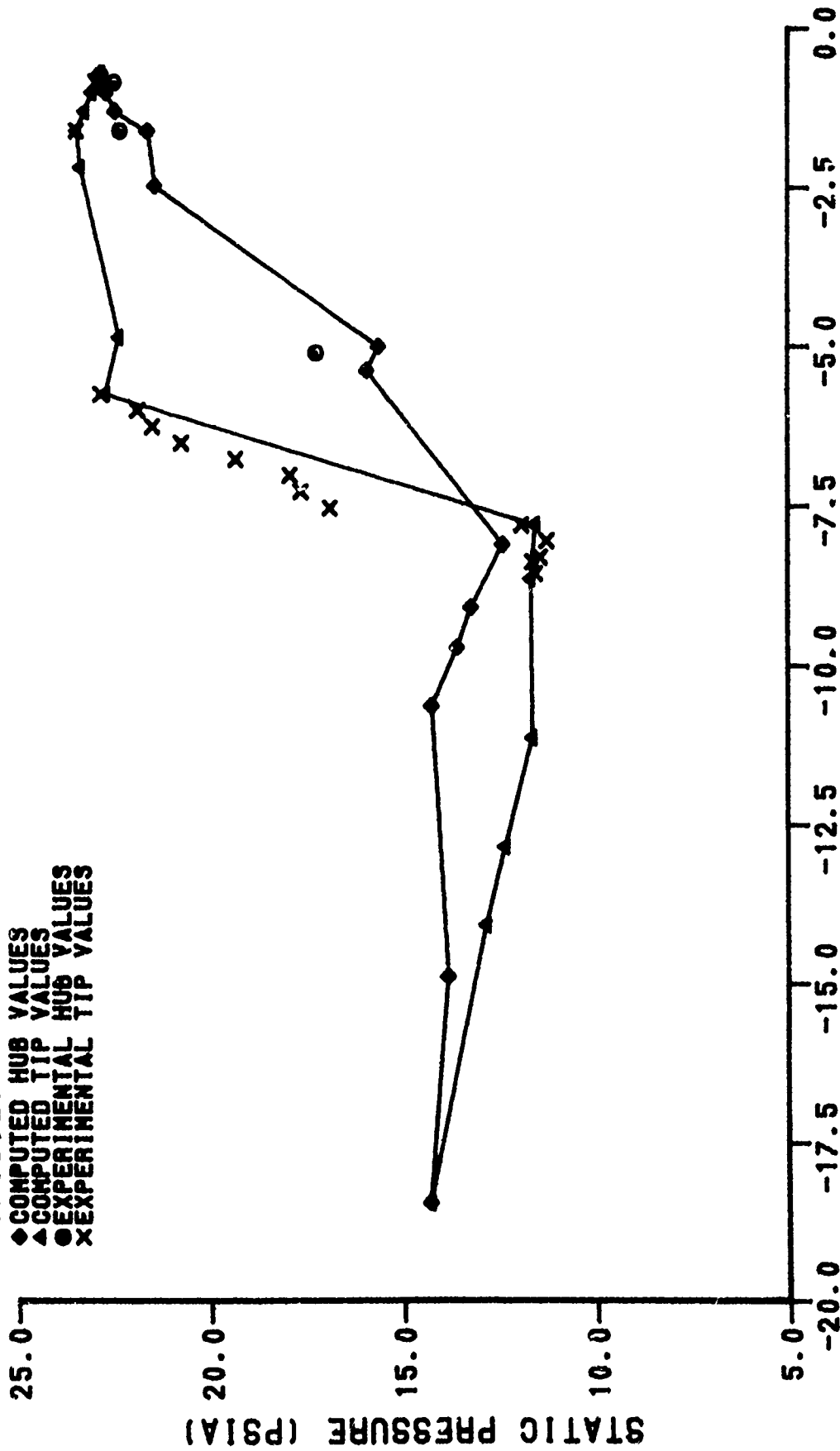


Figure 40. Static Pressure Distribution (870902017)

870902018

◆ COMPUTED HUB VALUES
 ▲ COMPUTED TIP VALUES
 ● EXPERIMENTAL HUB VALUES
 x EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 41. Static Pressure Distribution (870902018)

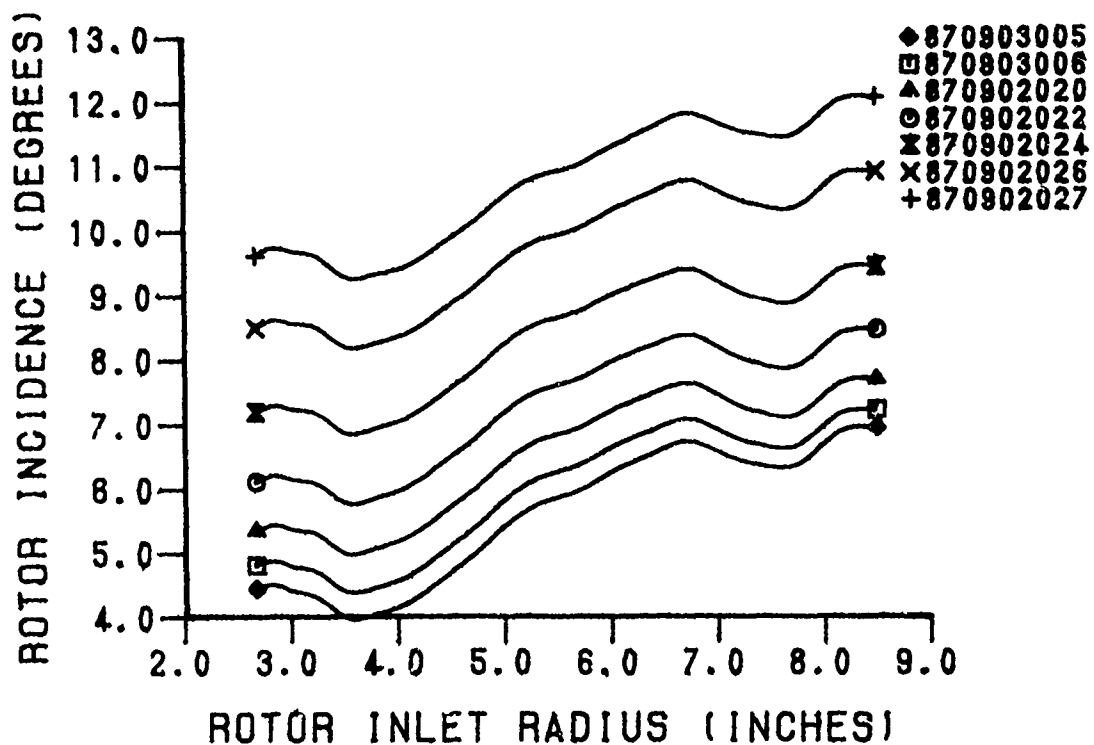


Figure 42. Rotor Incidence Angle (90% N)

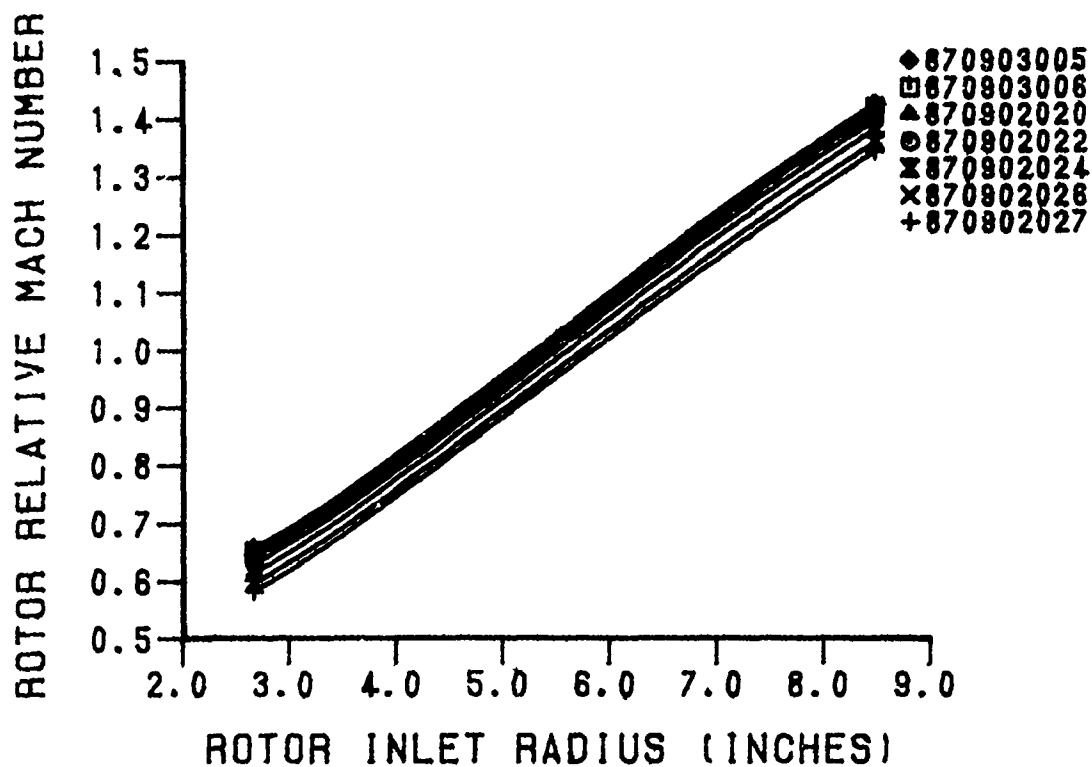


Figure 43. Rotor Relative Inlet Mach Number (90% N)

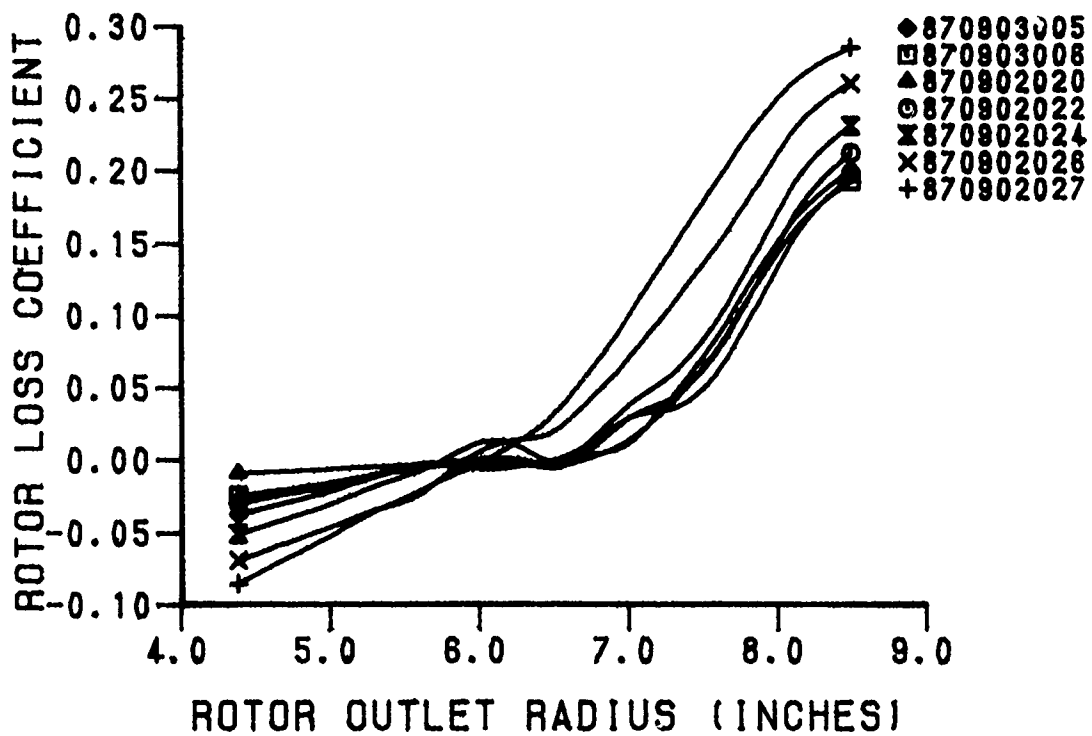


Figure 44. Rotor Loss Coefficient (90% N)

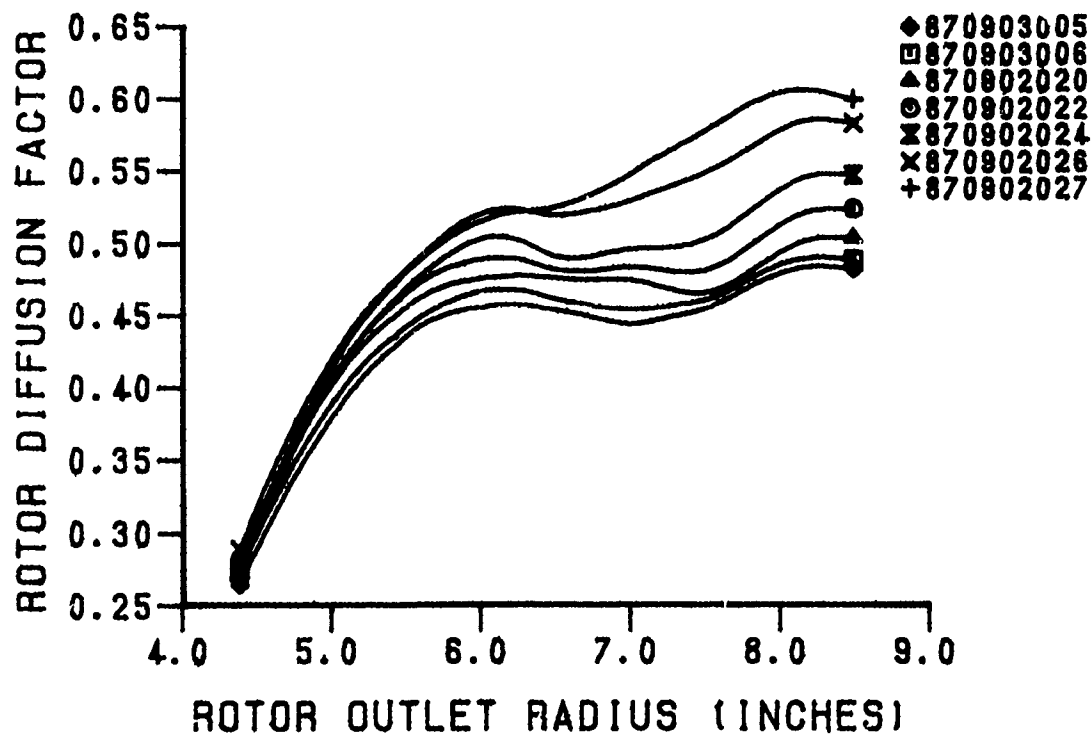


Figure 45. Rotor Diffusion Factor (90% N)

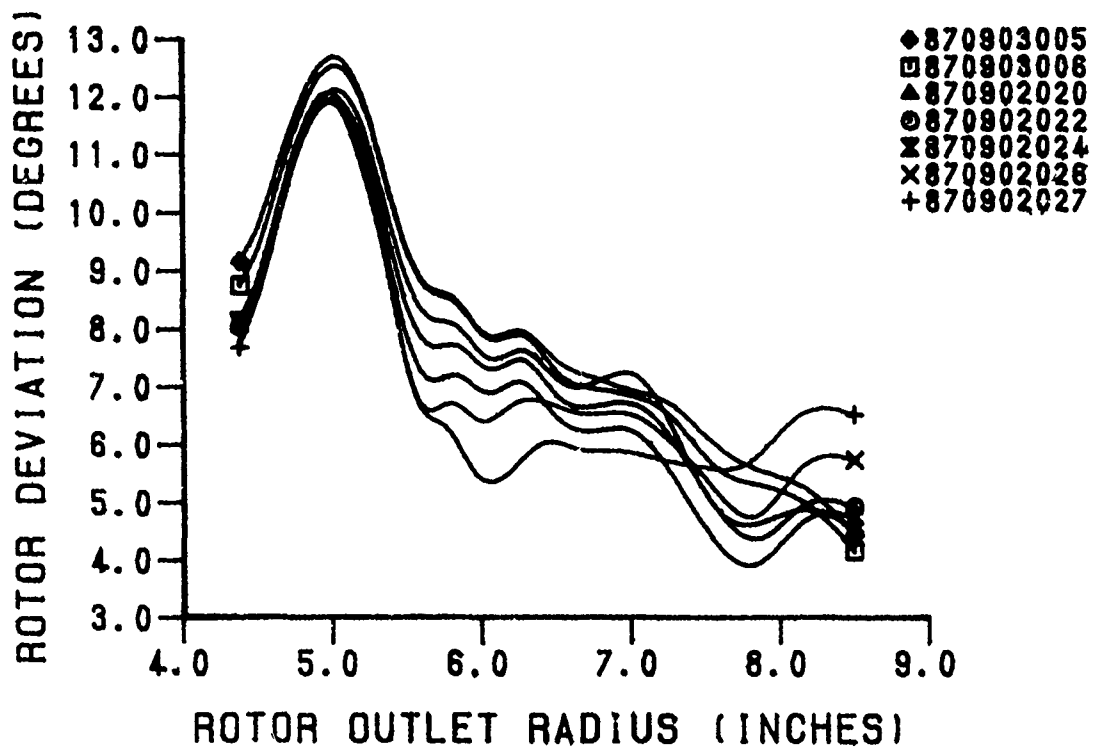


Figure 46. Rotor Deviation Angle (90% N)

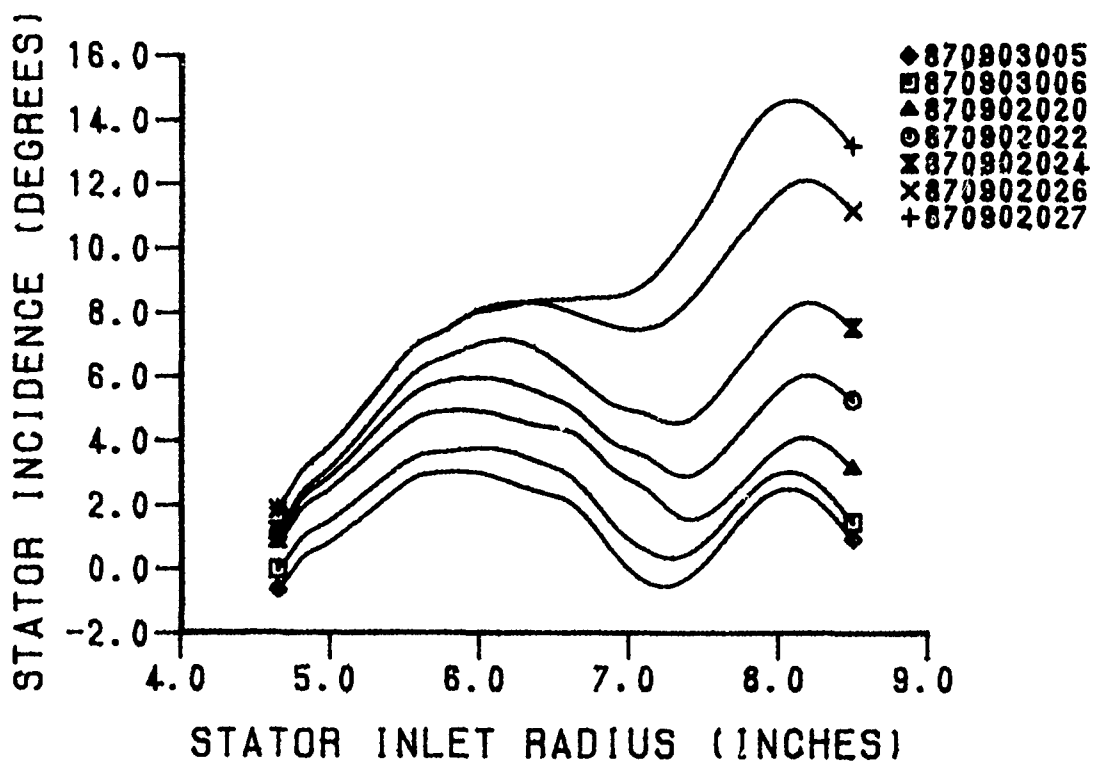


Figure 47. Stator Incidence Angle (90% N)

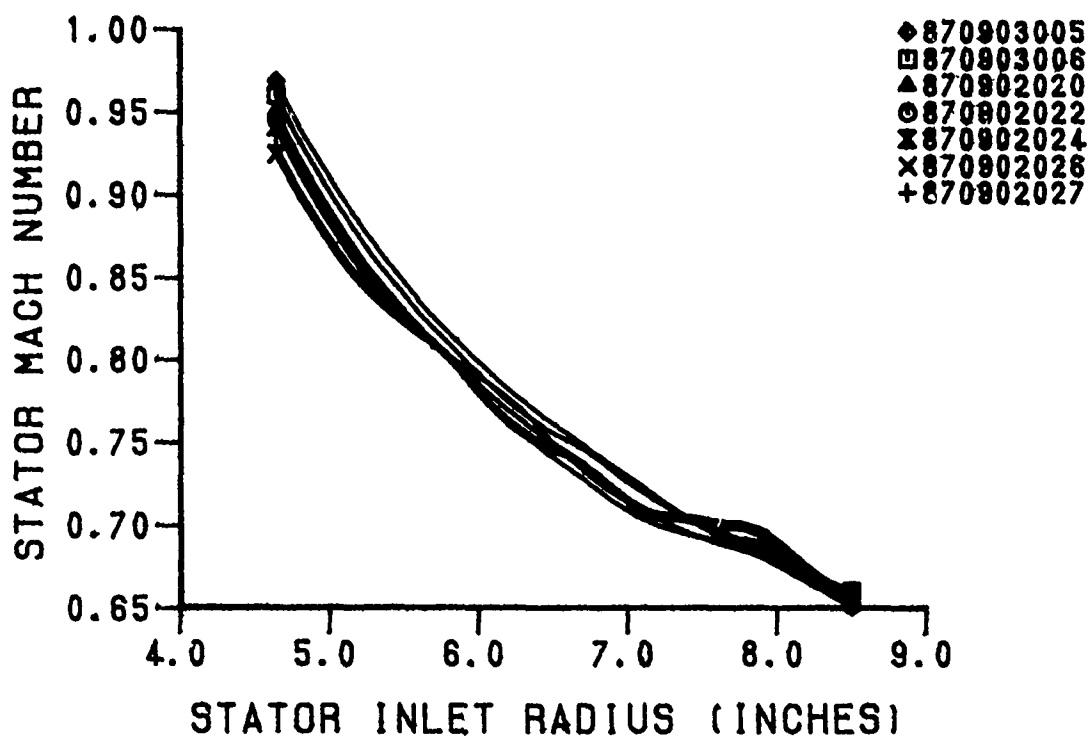


Figure 48. Stator Absolute Inlet Mach Number (90% N)

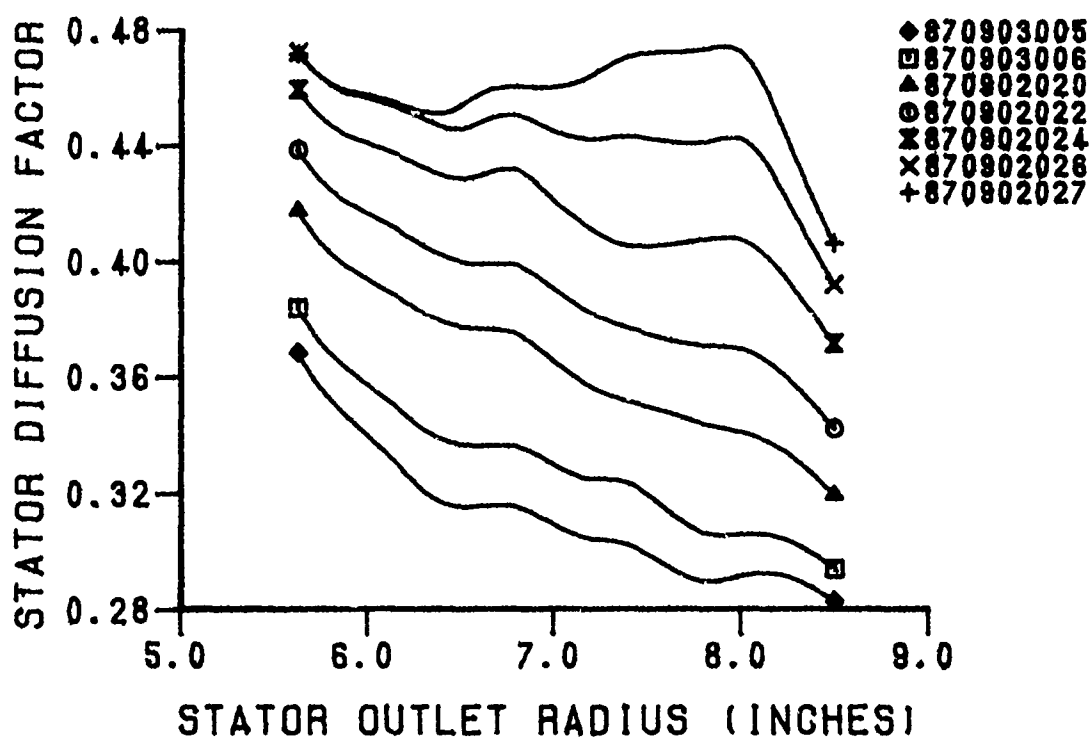


Figure 49. Stator Diffusion Factor (90% N)

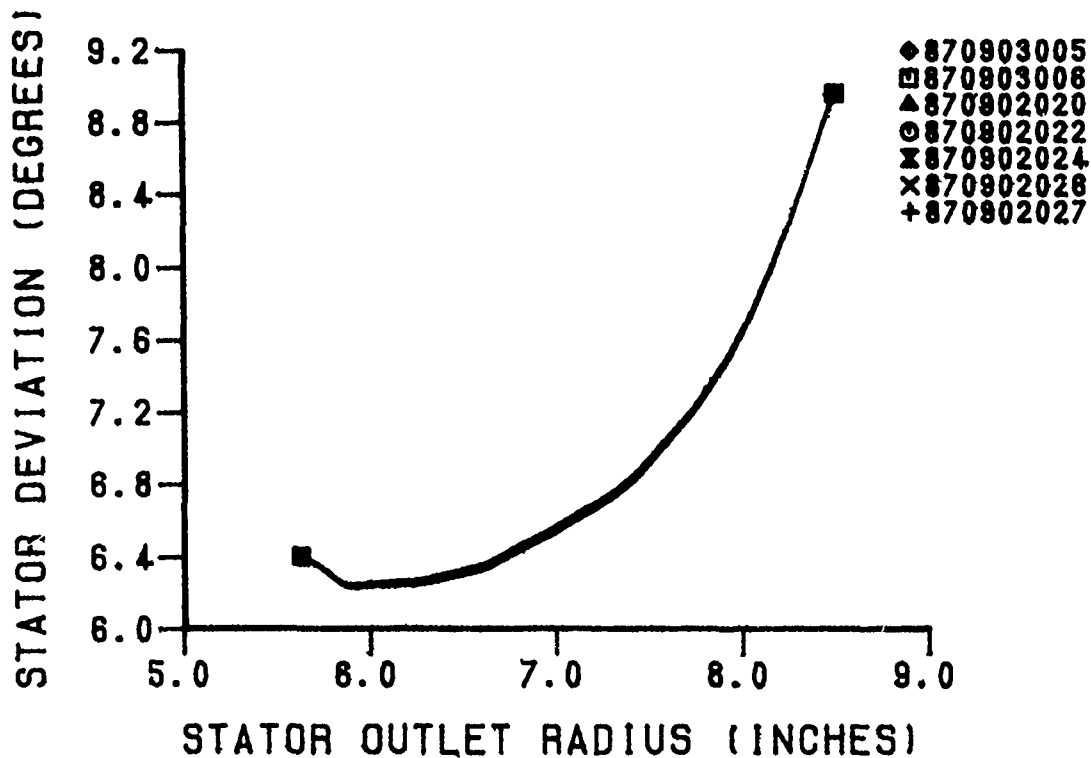


Figure 50. Stator Deviation Angle (90% N)

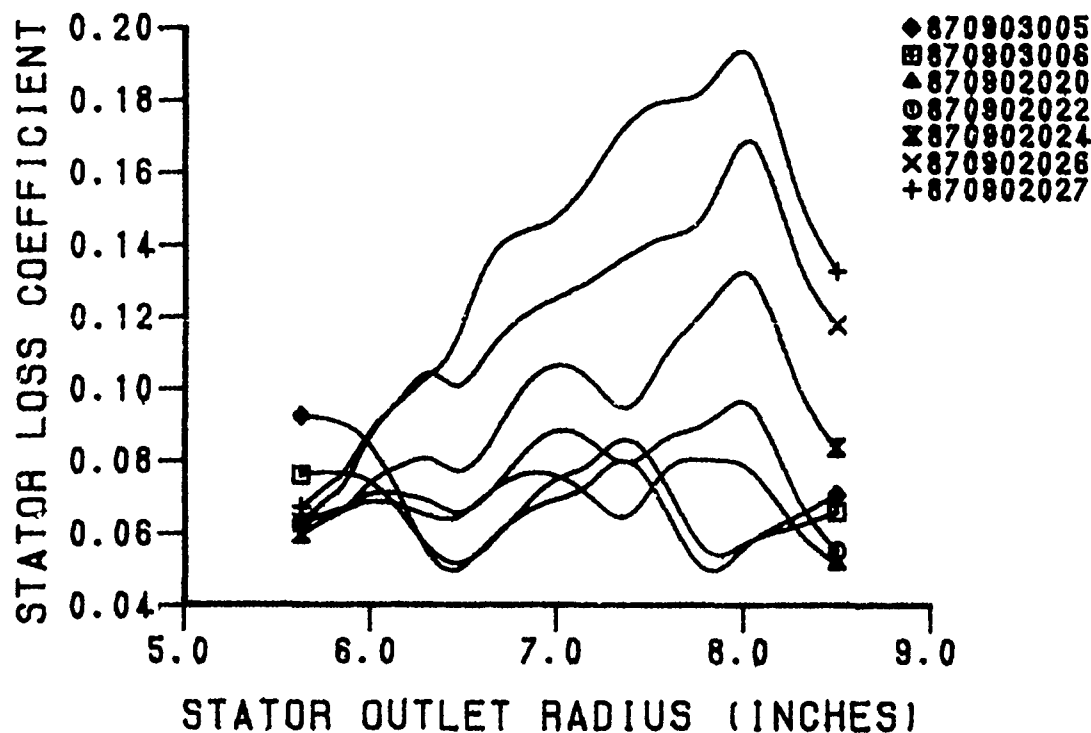


Figure 51. Stator Loss Coefficient (90% N)

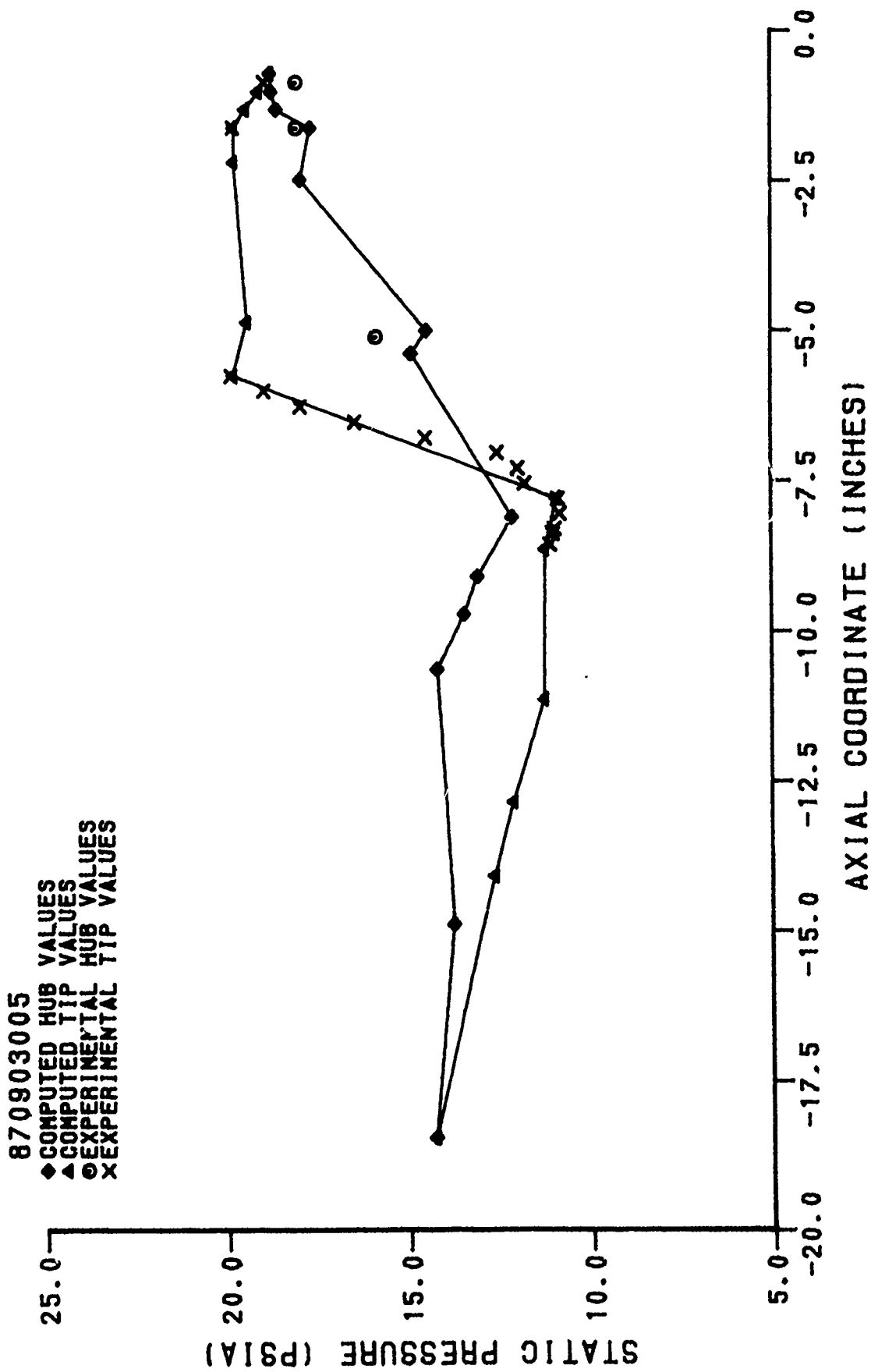


Figure 52. Static Pressure Distribution (870903005)

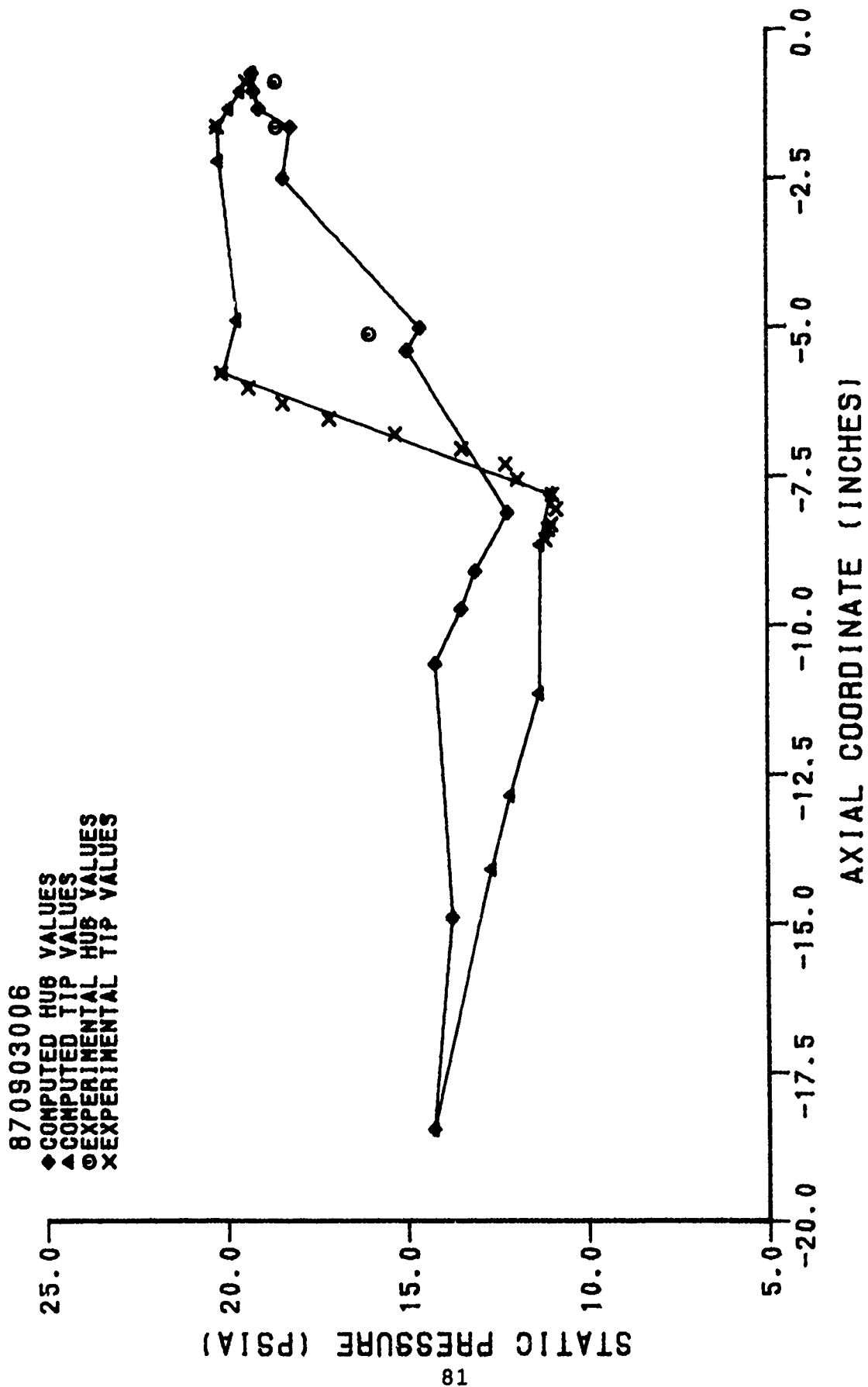


Figure 53. Static Pressure Distribution (870903006)

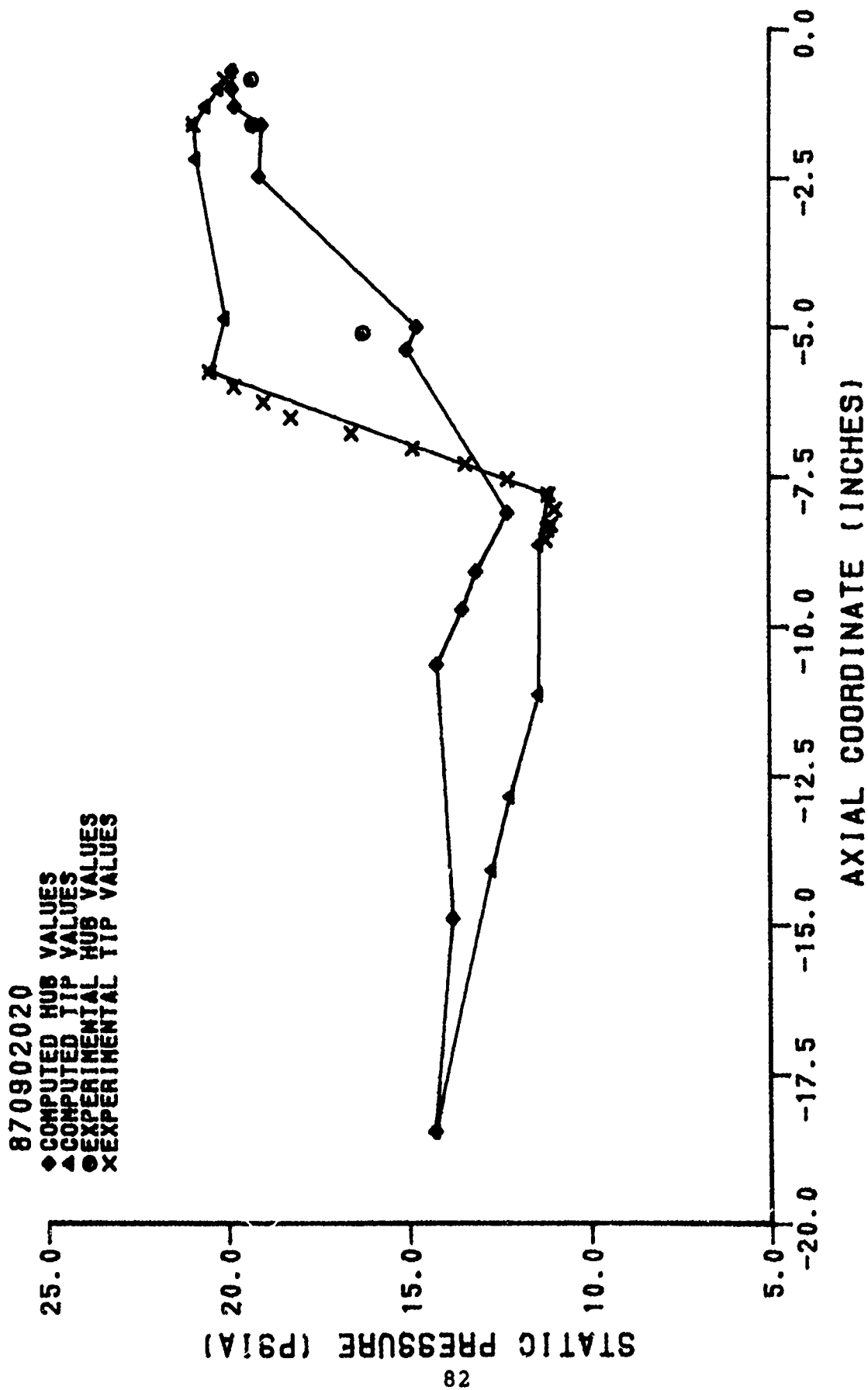


Figure 54. Static Pressure Distribution (870902020)

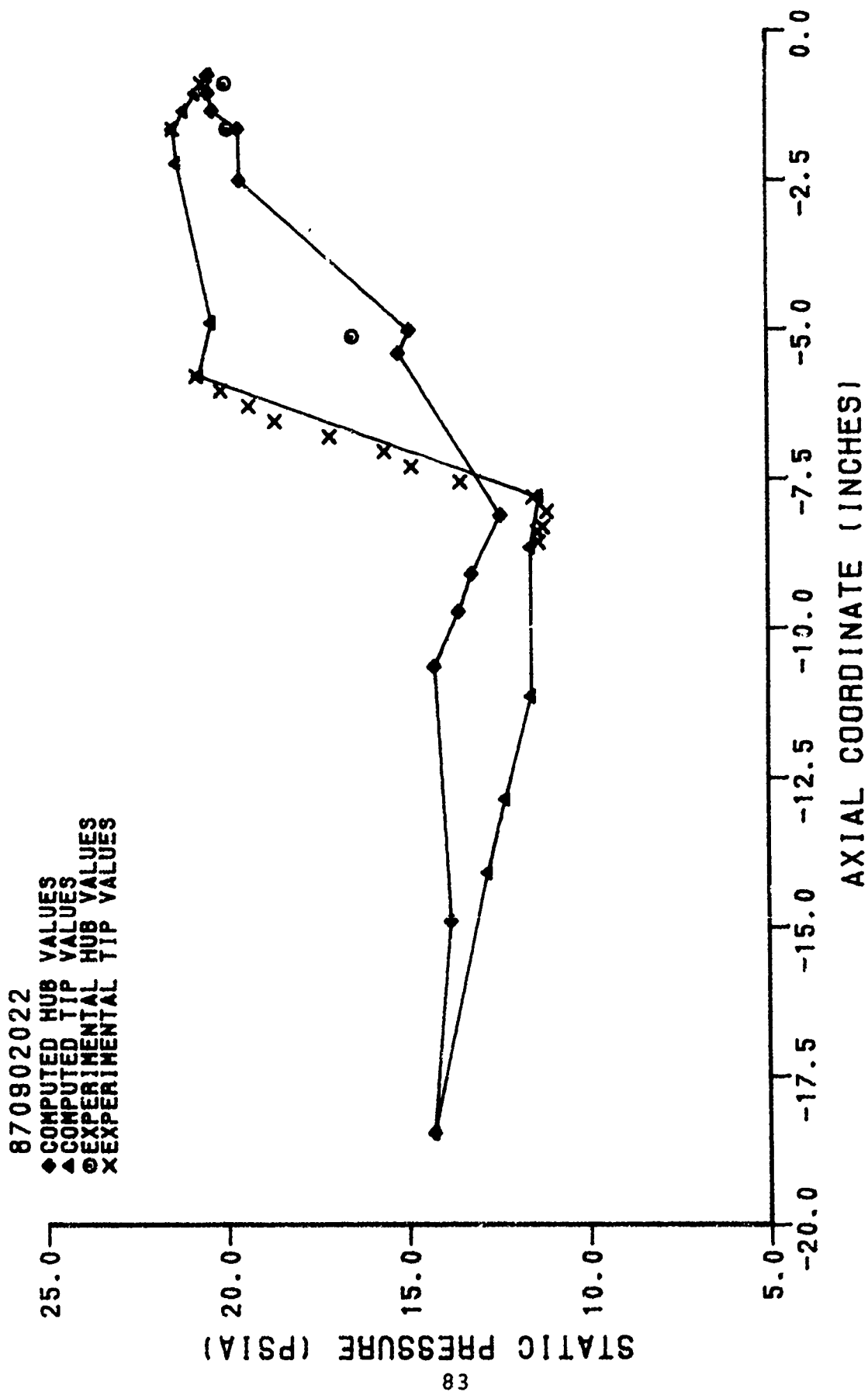


Figure 55. Static Pressure Distribution (870902022)

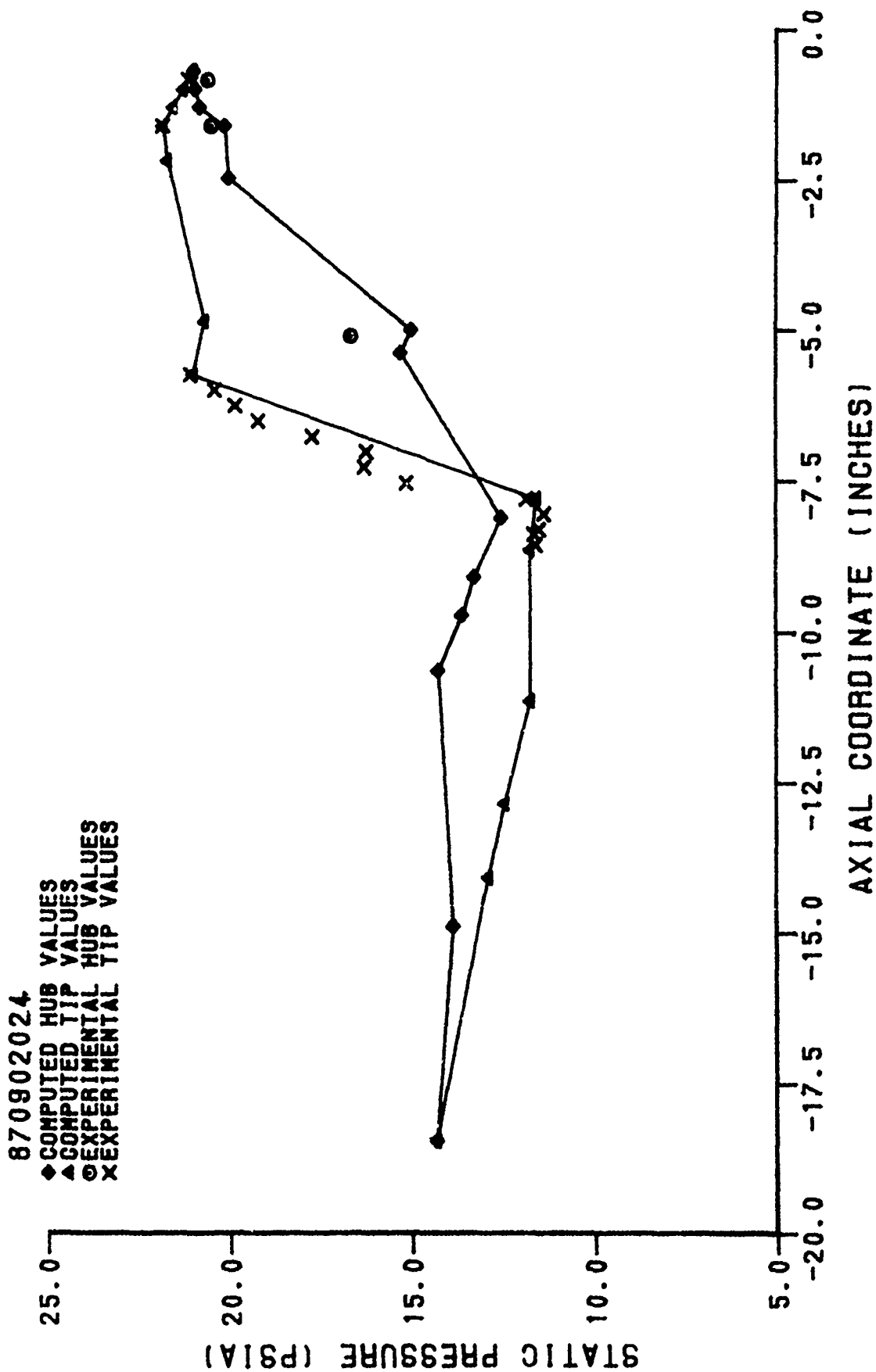


Figure 56. Static Pressure Distribution (870902024)

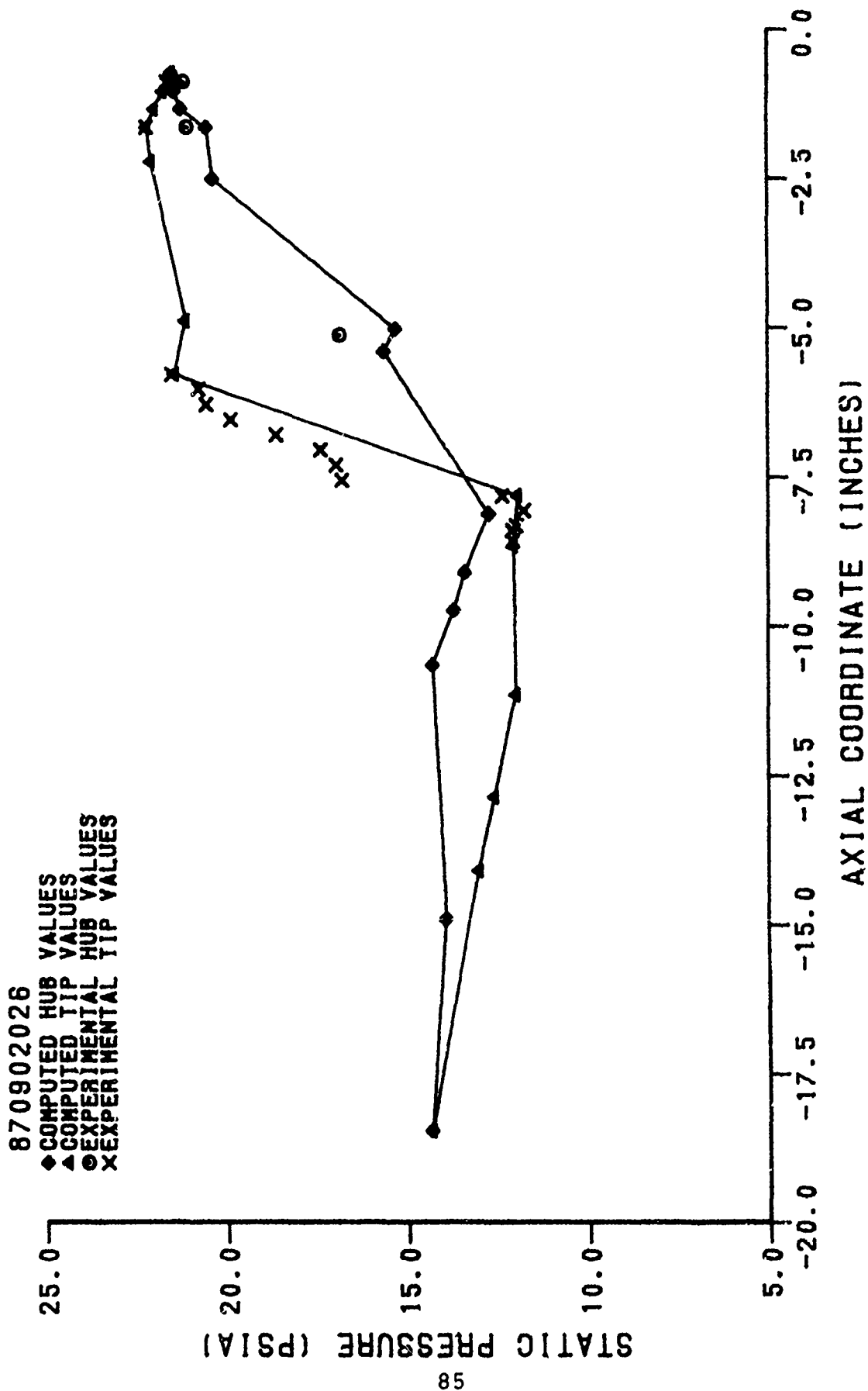


Figure 57. Static Pressure Distribution (870902026)

870902027
 ◆ COMPUTED HUB VALUES
 ▲ COMPUTED TIP VALUES
 ⊙ EXPERIMENTAL HUB VALUES
 x EXPERIMENTAL TIP VALUES

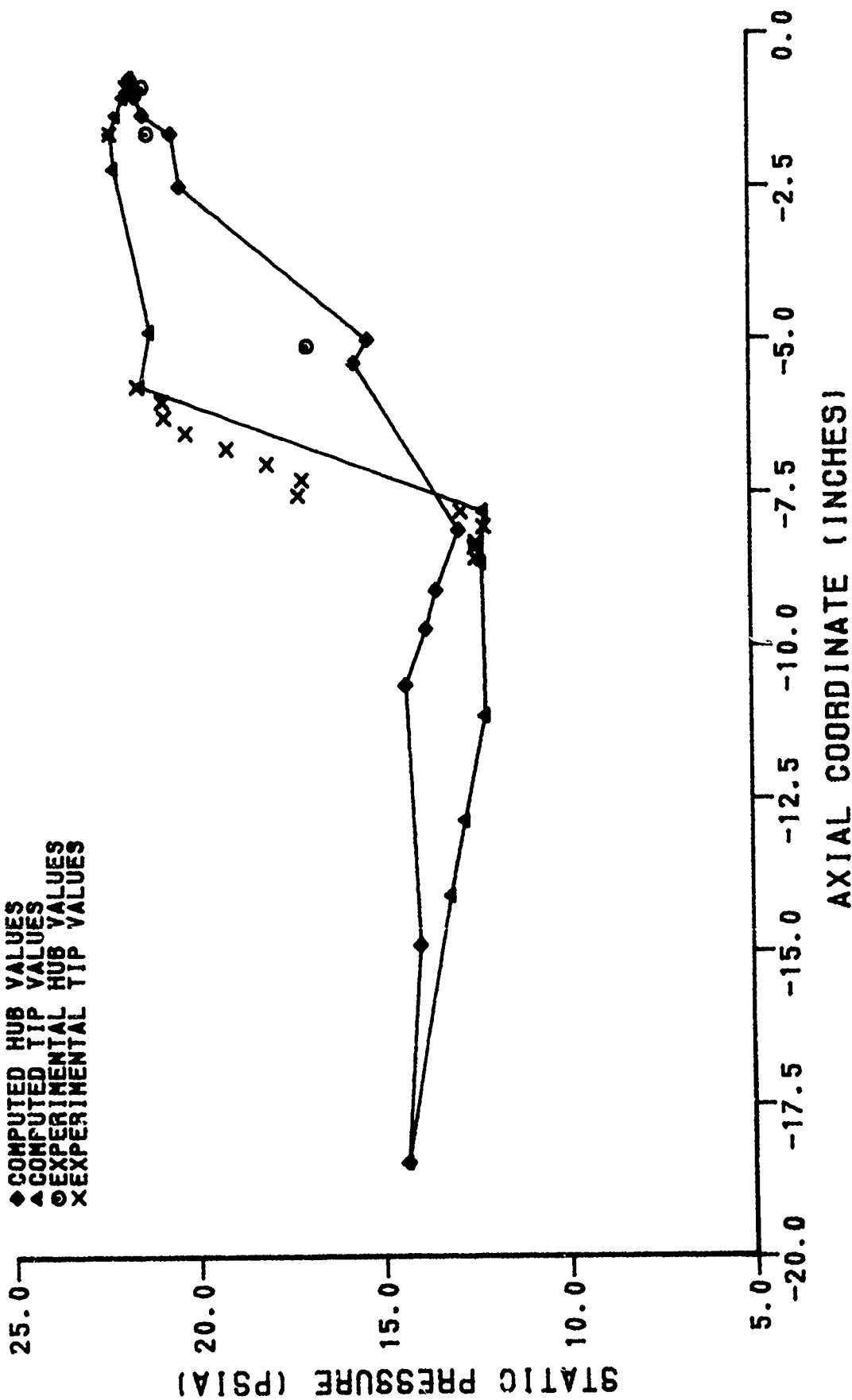


Figure 58. Static Pressure Distribution (870902027)

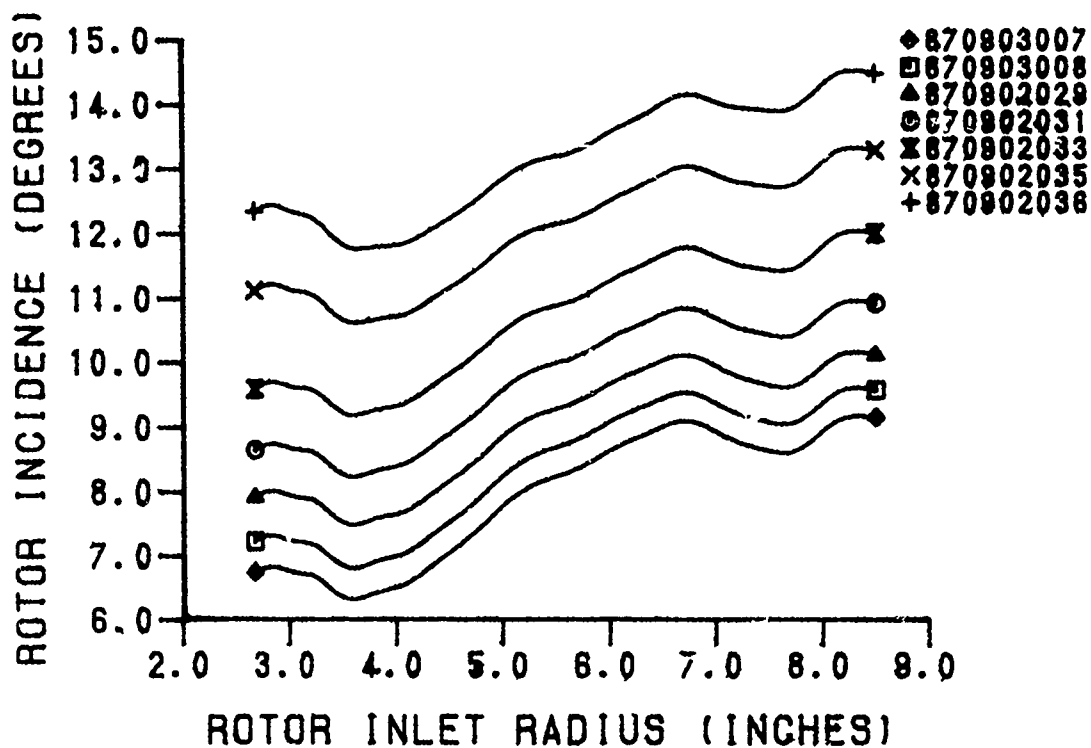


Figure 59. Rotor Incidence Angle (80% N)

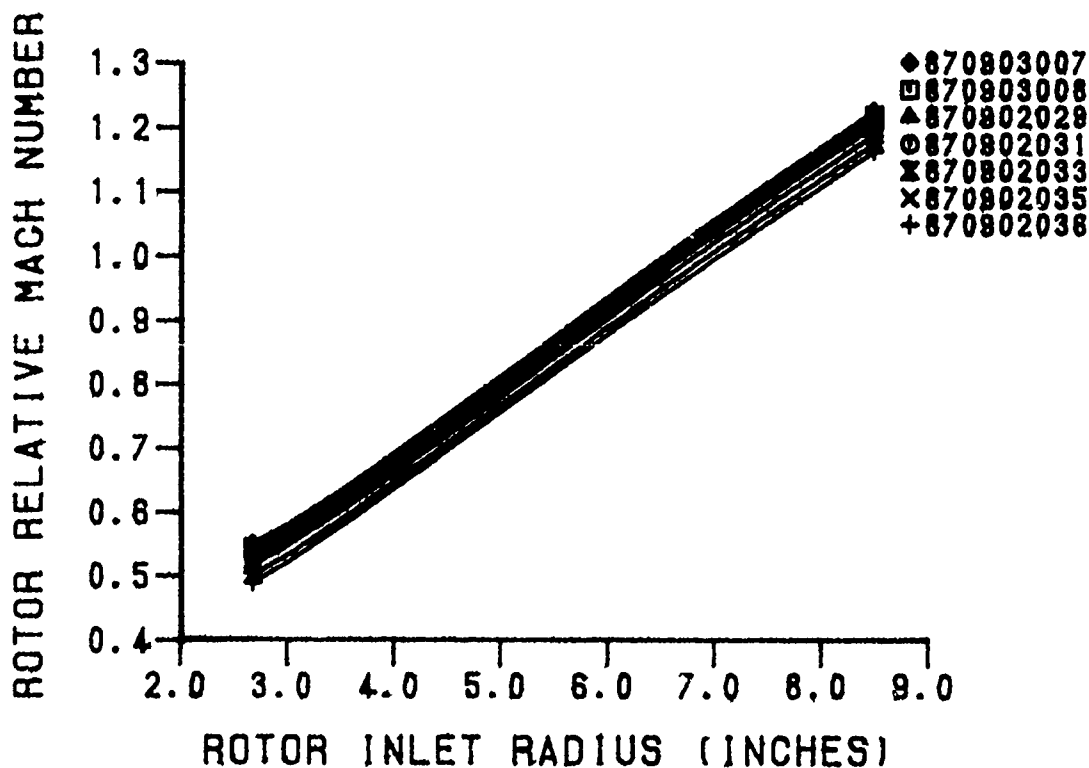


Figure 60. Rotor Relative Inlet Mach Number (80% N)

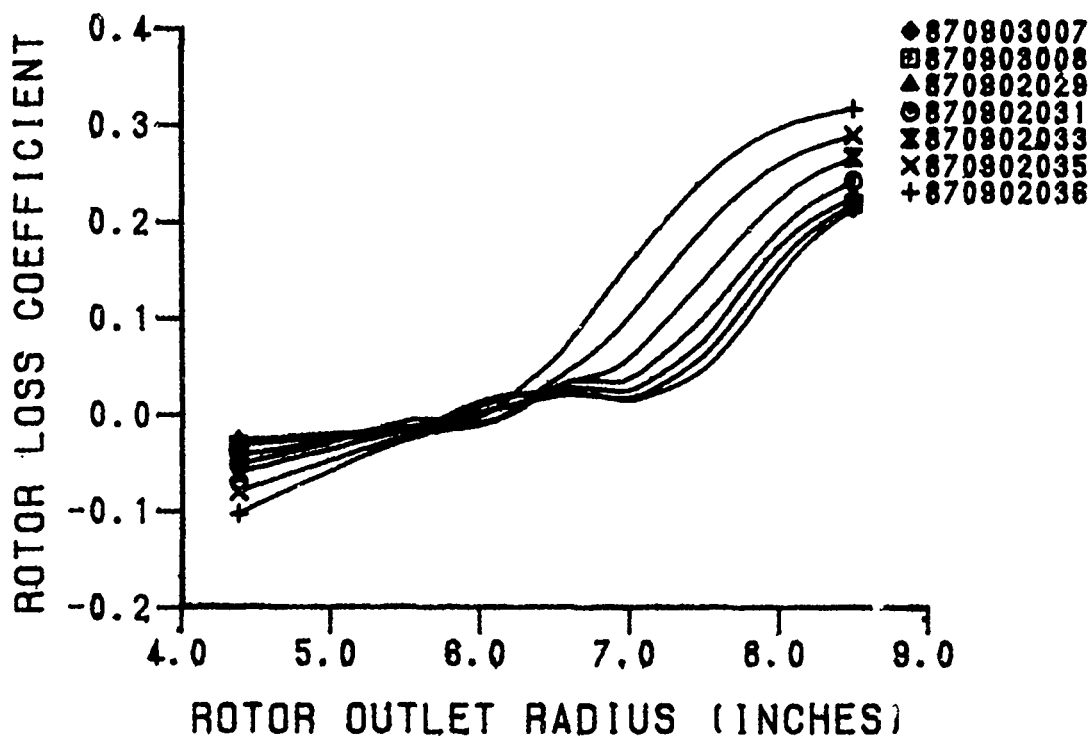


Figure 61. Rotor Loss Coefficient (80% N)

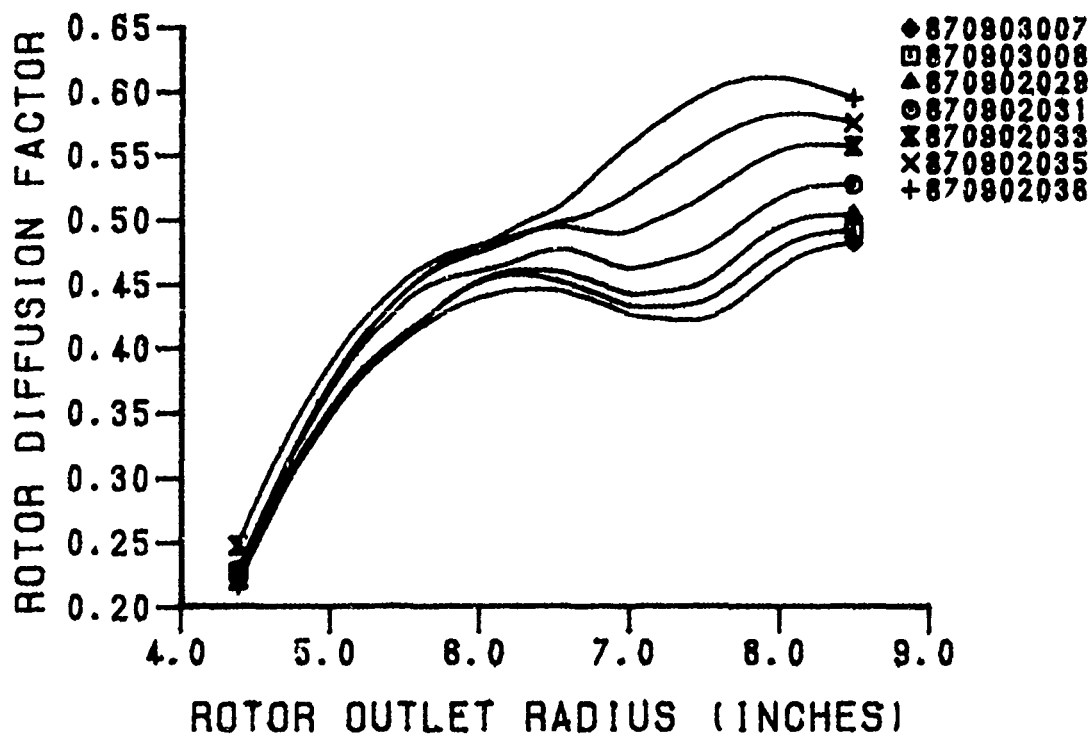


Figure 62. Rotor Diffusion Factor (80% N)

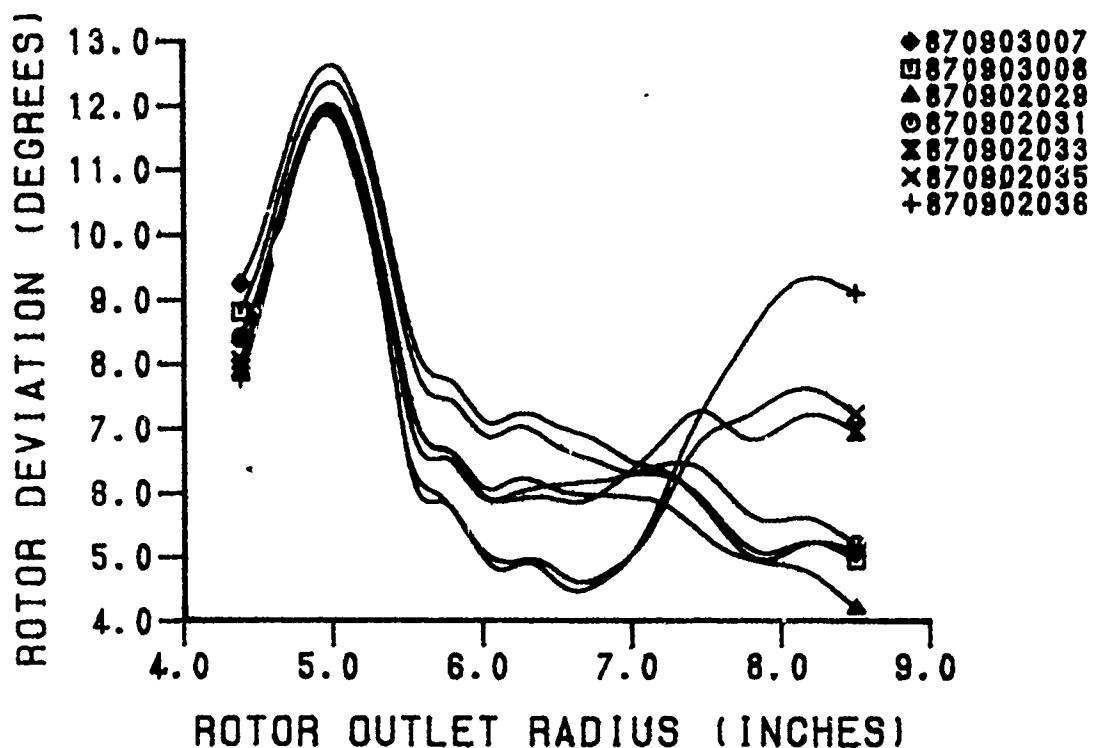


Figure 63. Rotor Deviation Angle (80% N)

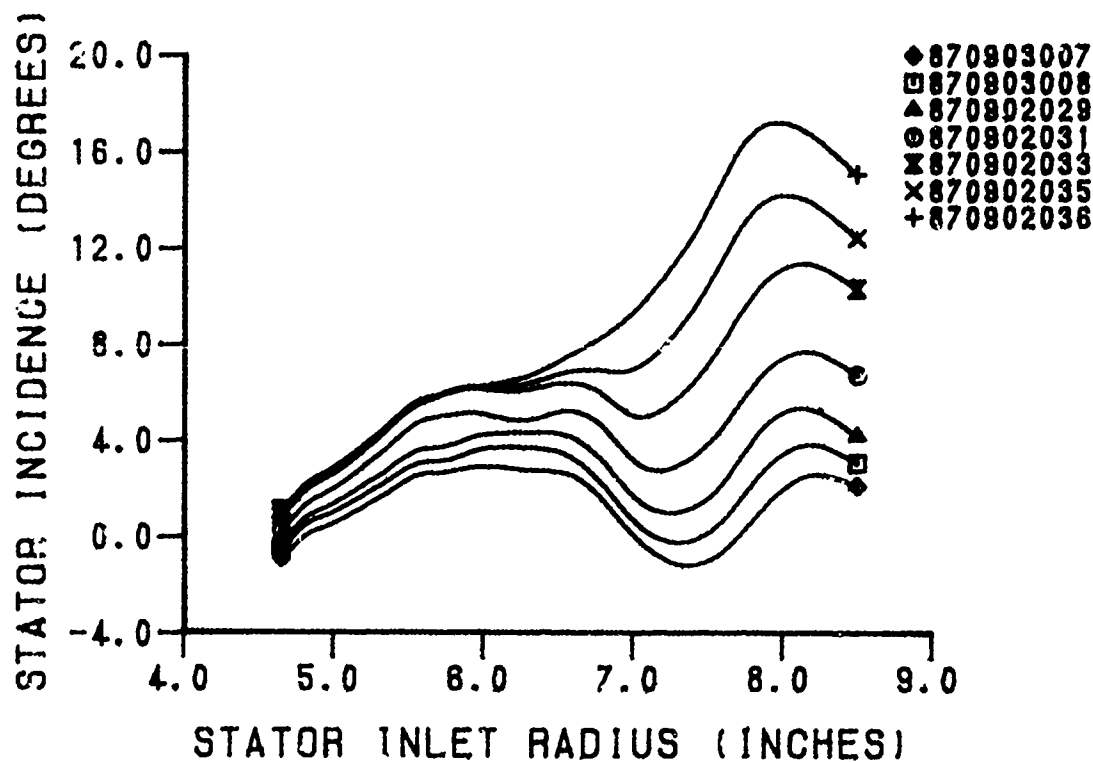


Figure 64. Stator Incidence Angle (80% N)

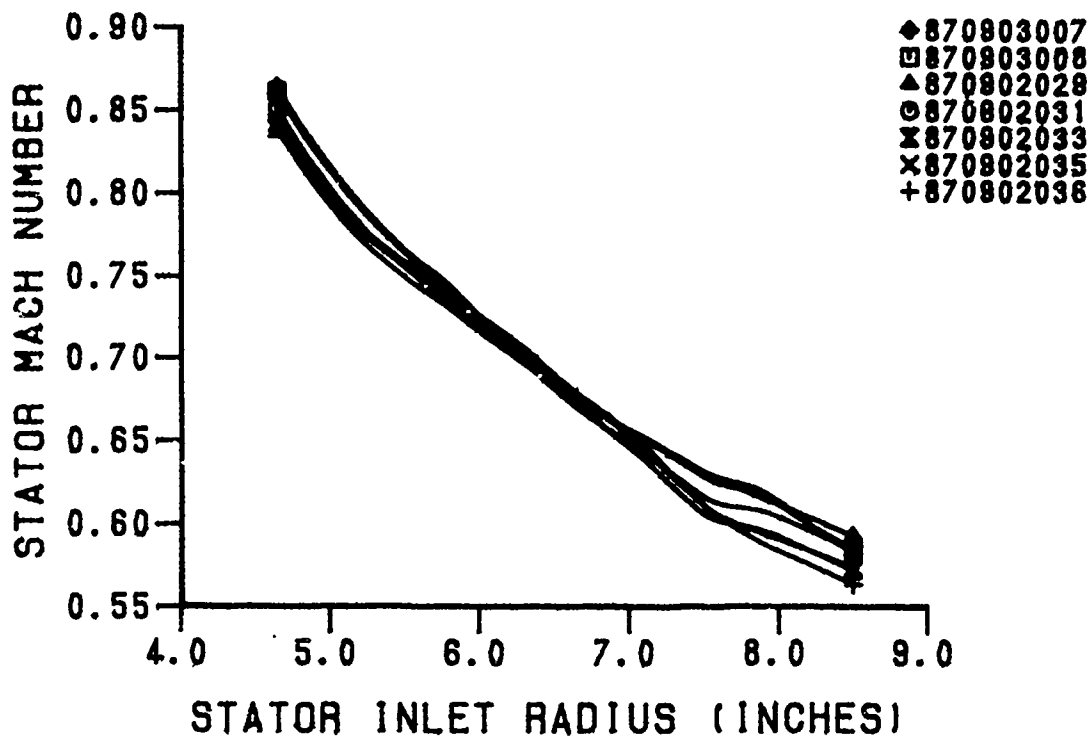


Figure 65. Stator Absolute Inlet Mach Number (80% N)

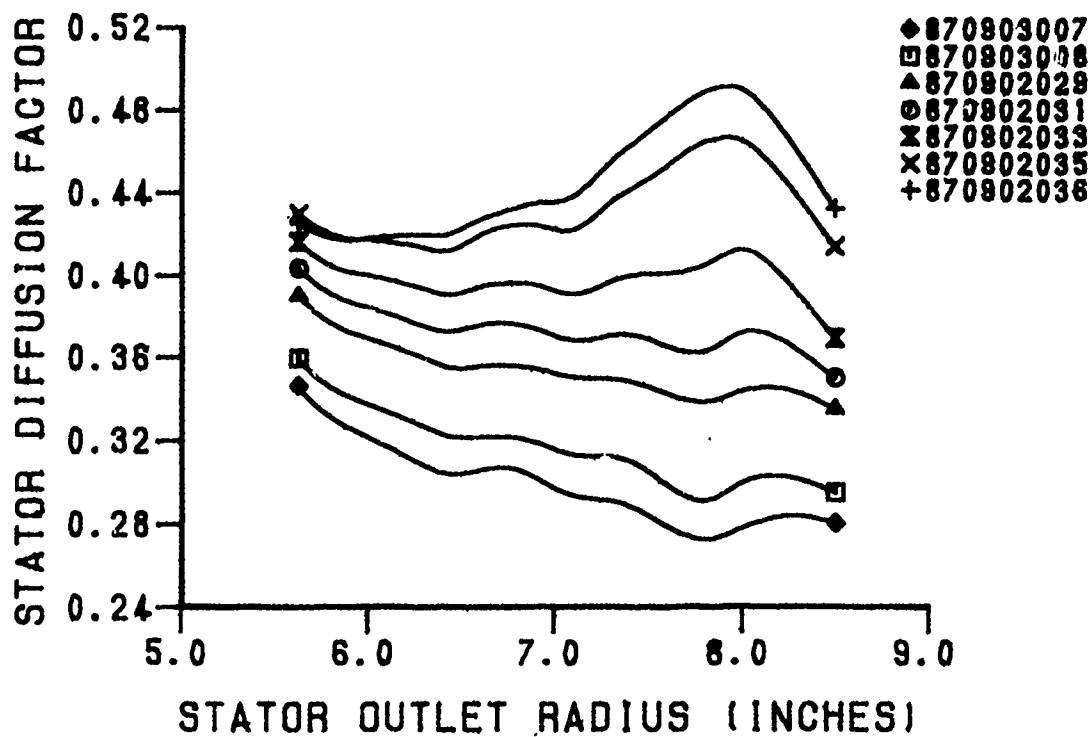


Figure 66. Stator Diffusion Factor (80% N)

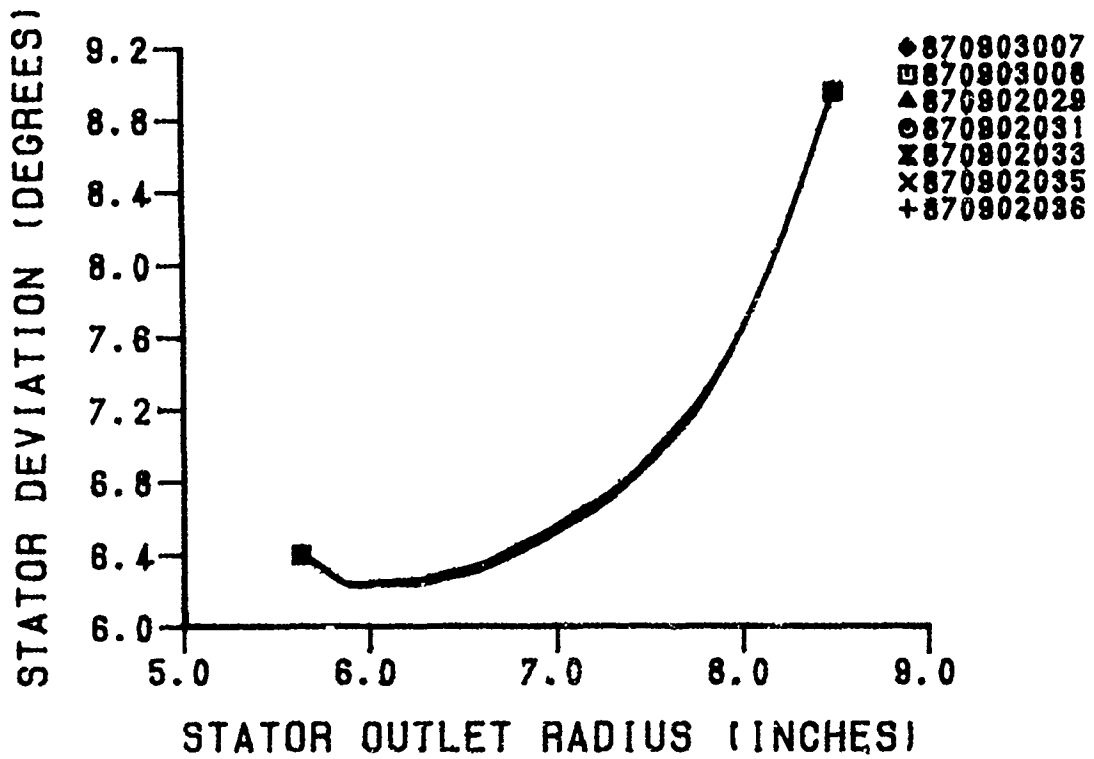


Figure 67. Stator Deviation Angle (80% N)

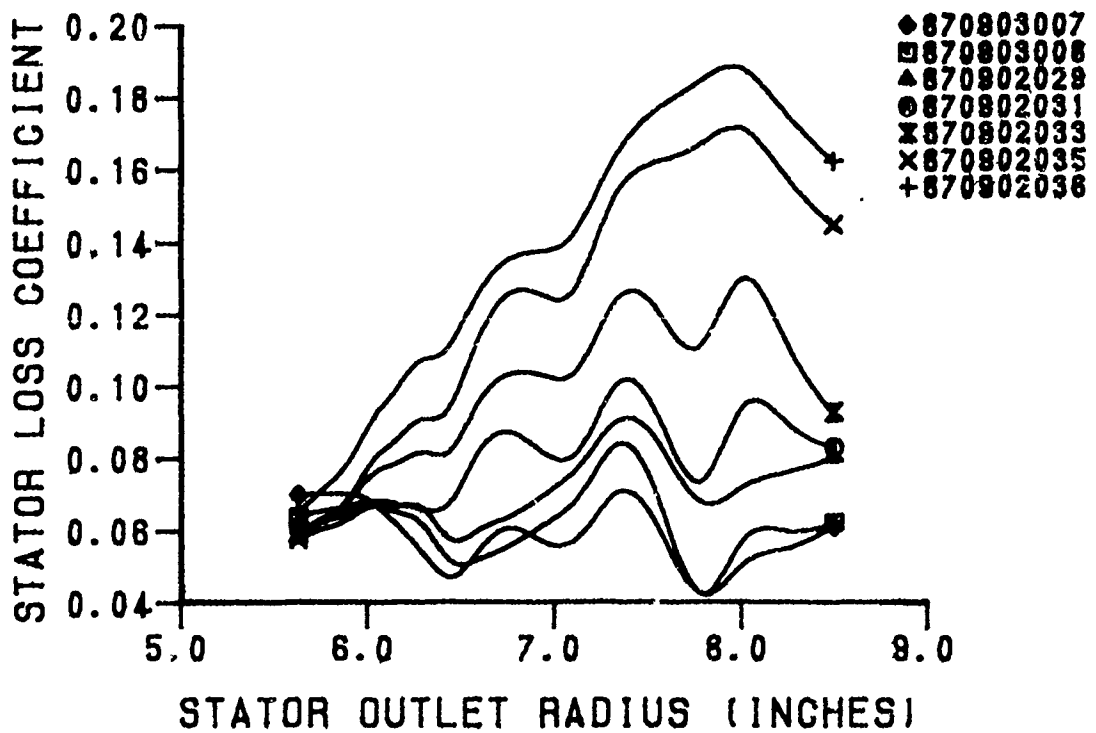


Figure 68. Stator Loss Coefficient (80% N)

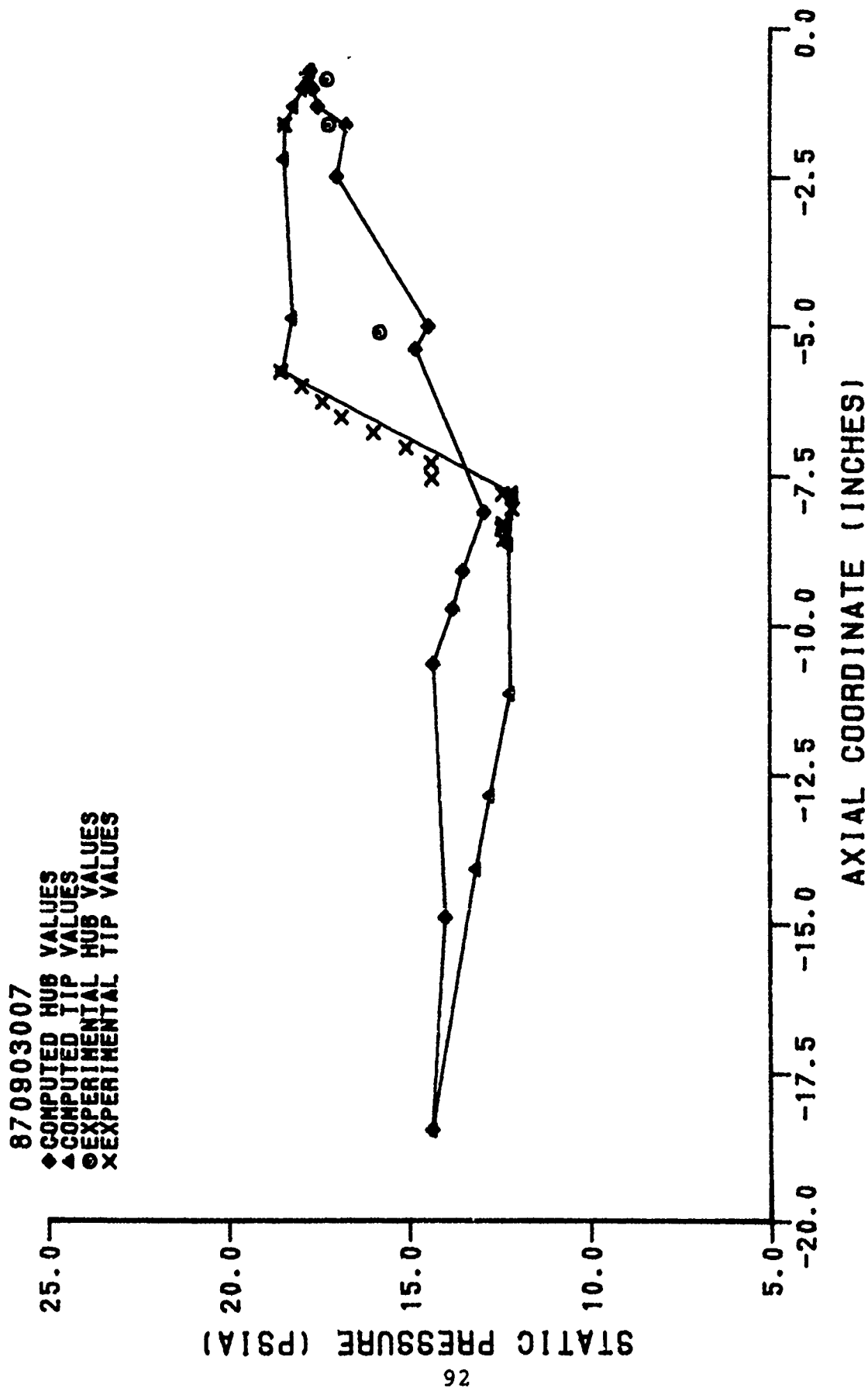


Figure 69. Static Pressure Distribution (870903007)

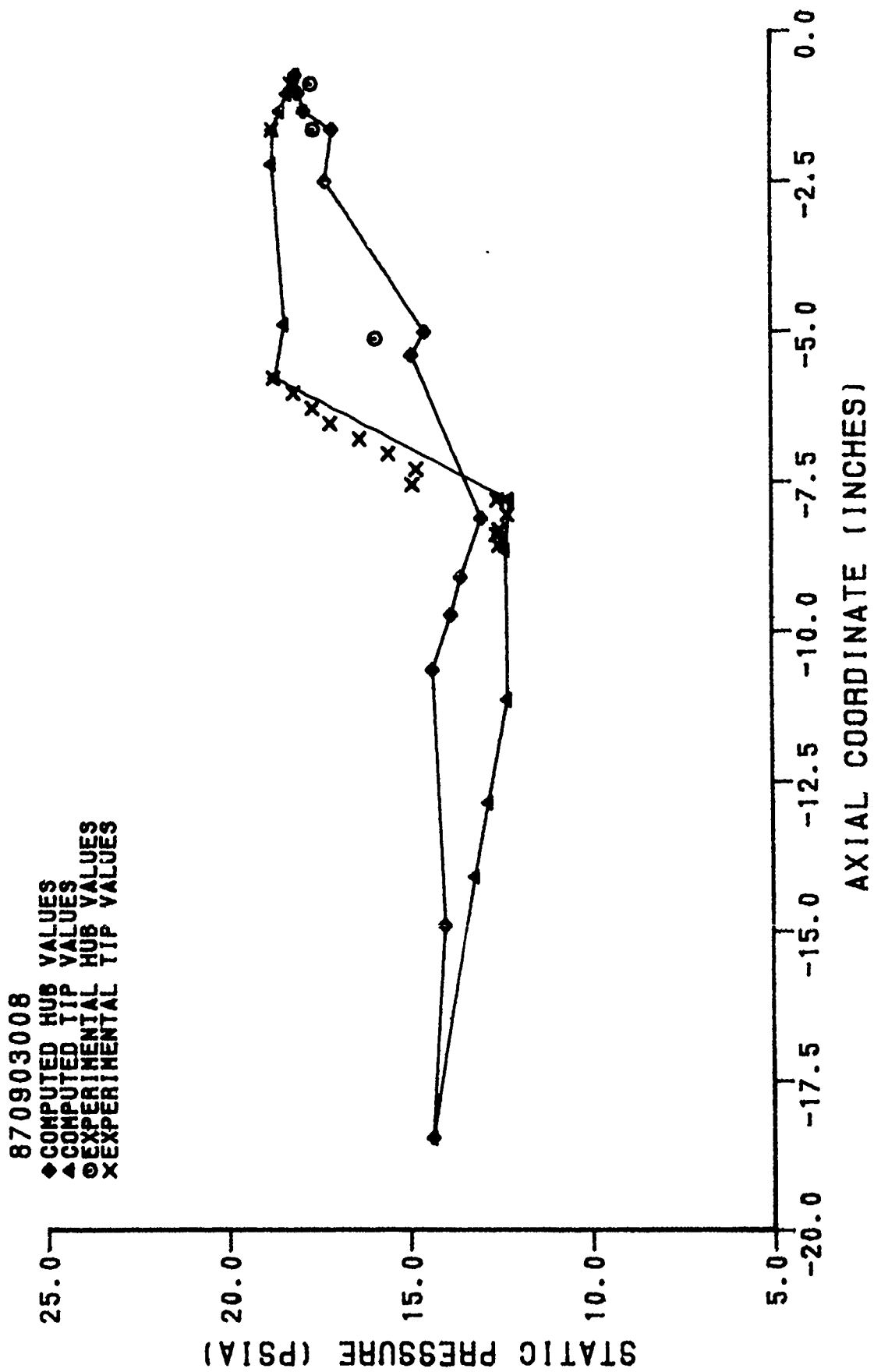


Figure 70. Static Pressure Distribution (870903008)

870902029

◆ COMPUTED HUB VALUES
 ▲ COMPUTED TIP VALUES
 ● EXPERIMENTAL HUB VALUES
 x EXPERIMENTAL TIP VALUES

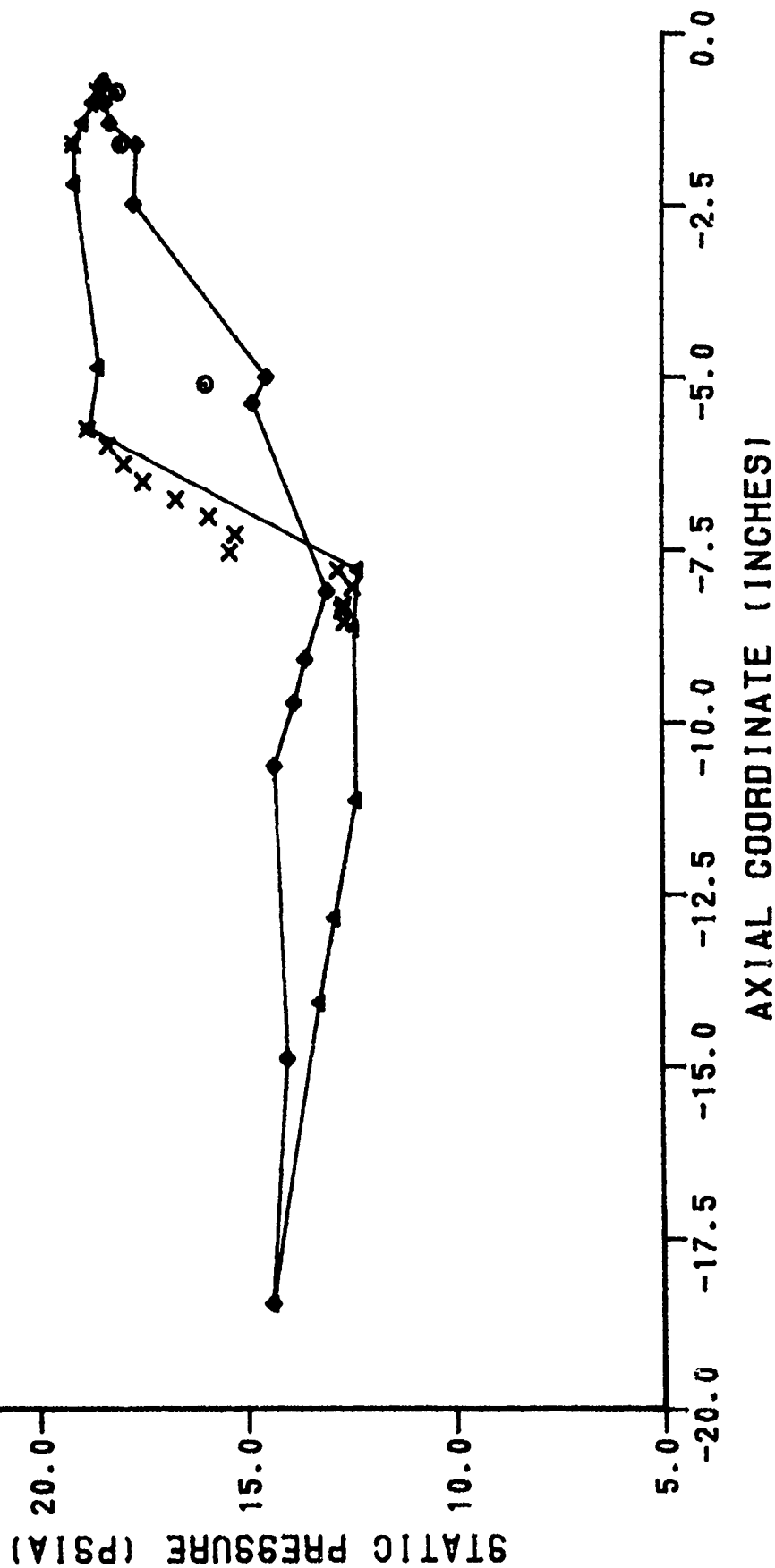


Figure 71. Static Pressure Distribution (870902029)

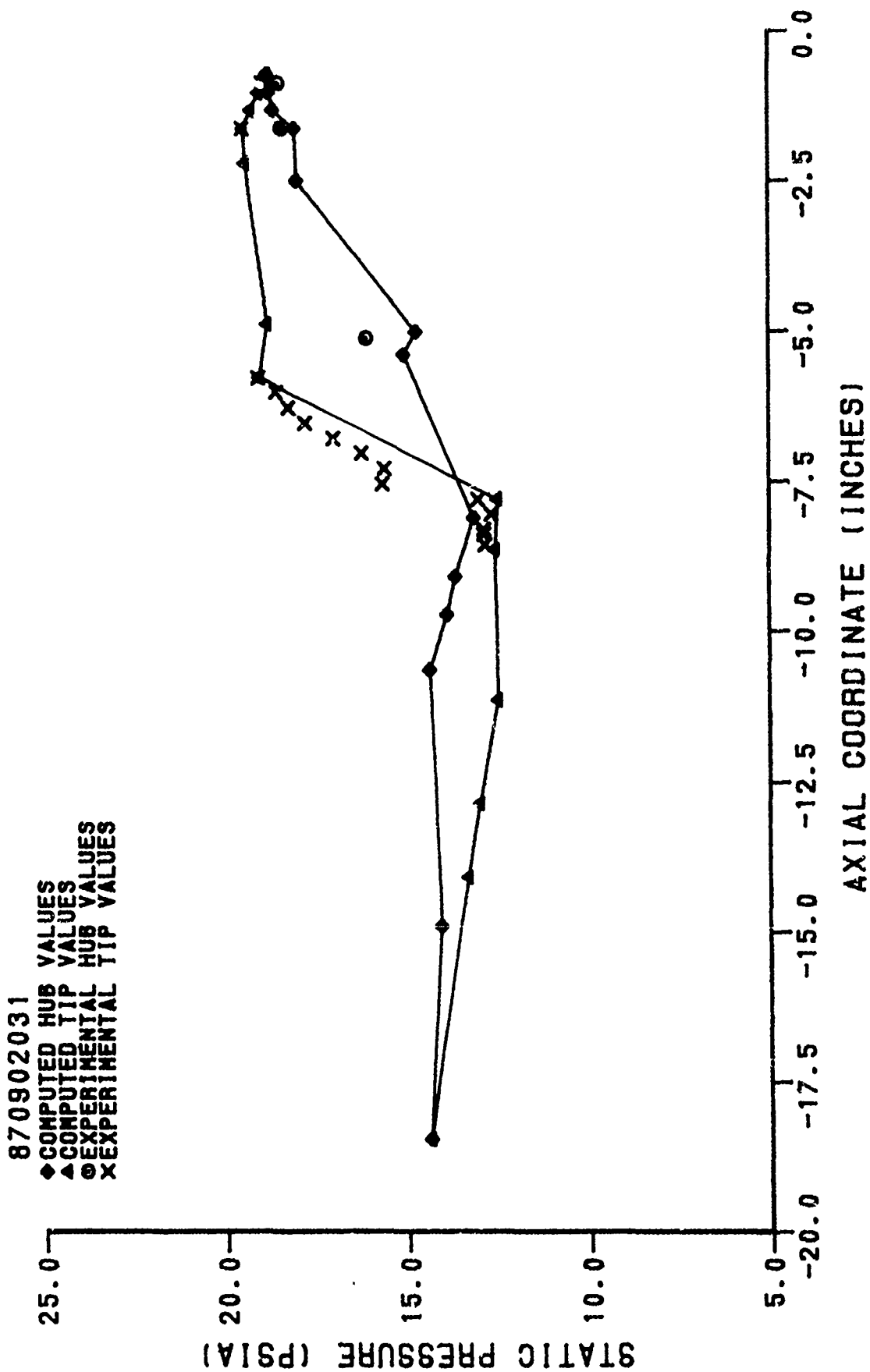
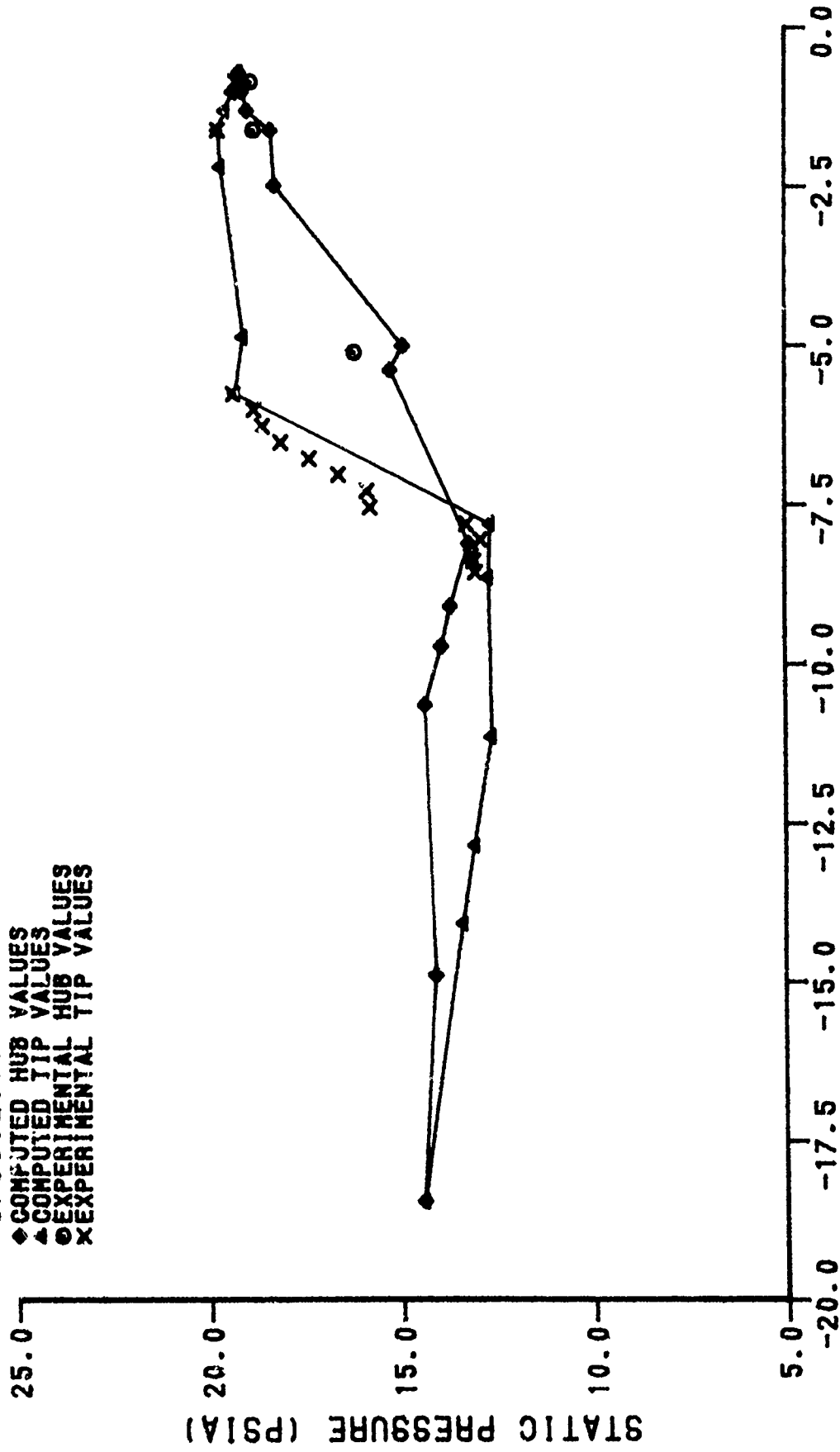


Figure 72. Static Pressure Distribution (870902031)

870902033

◆ COMPUTED HUB VALUES
 ▲ COMPUTED TIP VALUES
 ○ EXPERIMENTAL HUB VALUES
 x EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 73. Static Pressure Distribution (870902033)

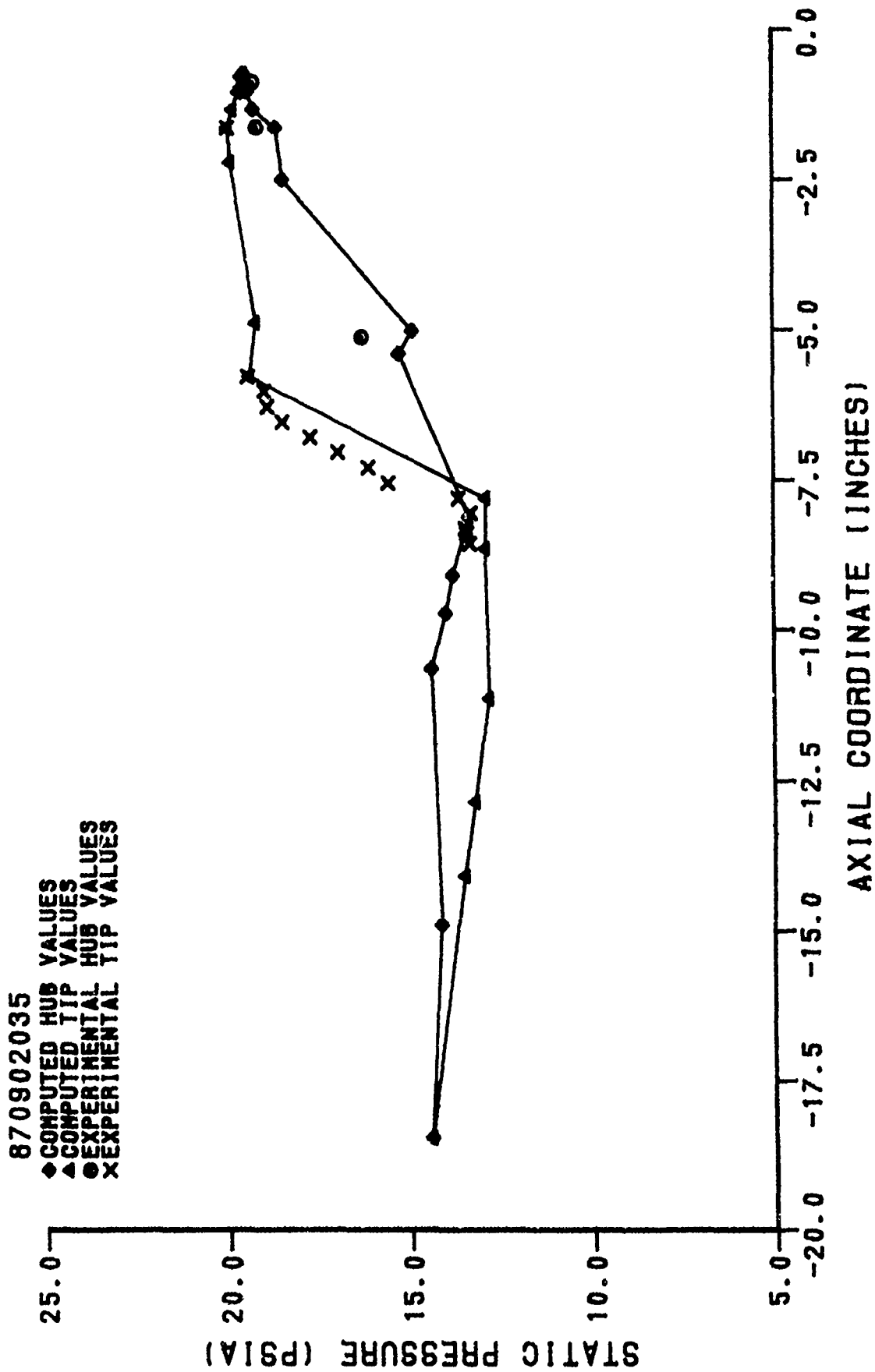


Figure 74. Static Pressure Distribution (870902035)

870902036

◆ COMPUTED HUB VALUES
▲ COMPUTED TIP VALUES
● EXPERIMENTAL HUB VALUES
x EXPERIMENTAL TIP VALUES

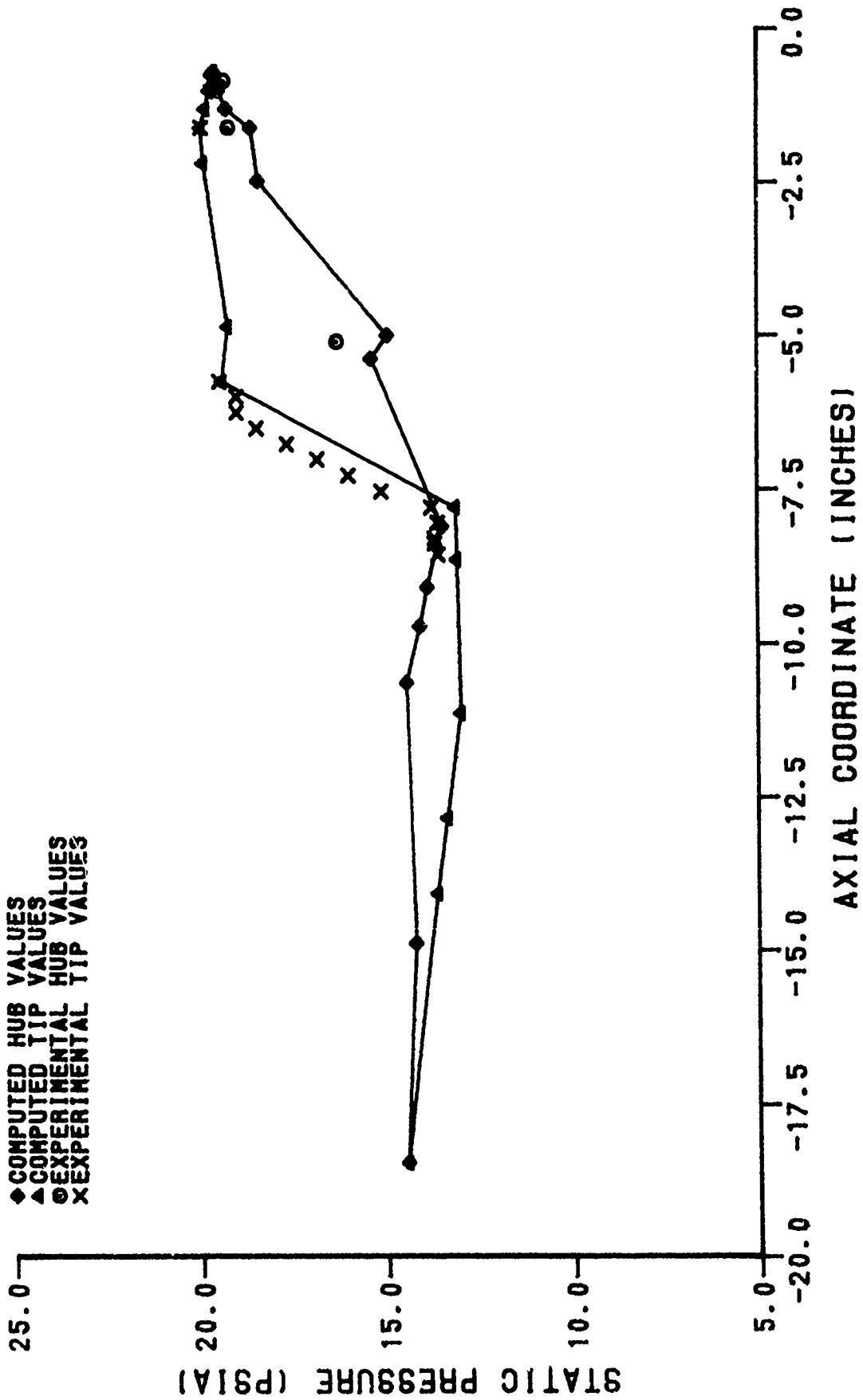


Figure 75. Static Pressure Distribution (870902036)

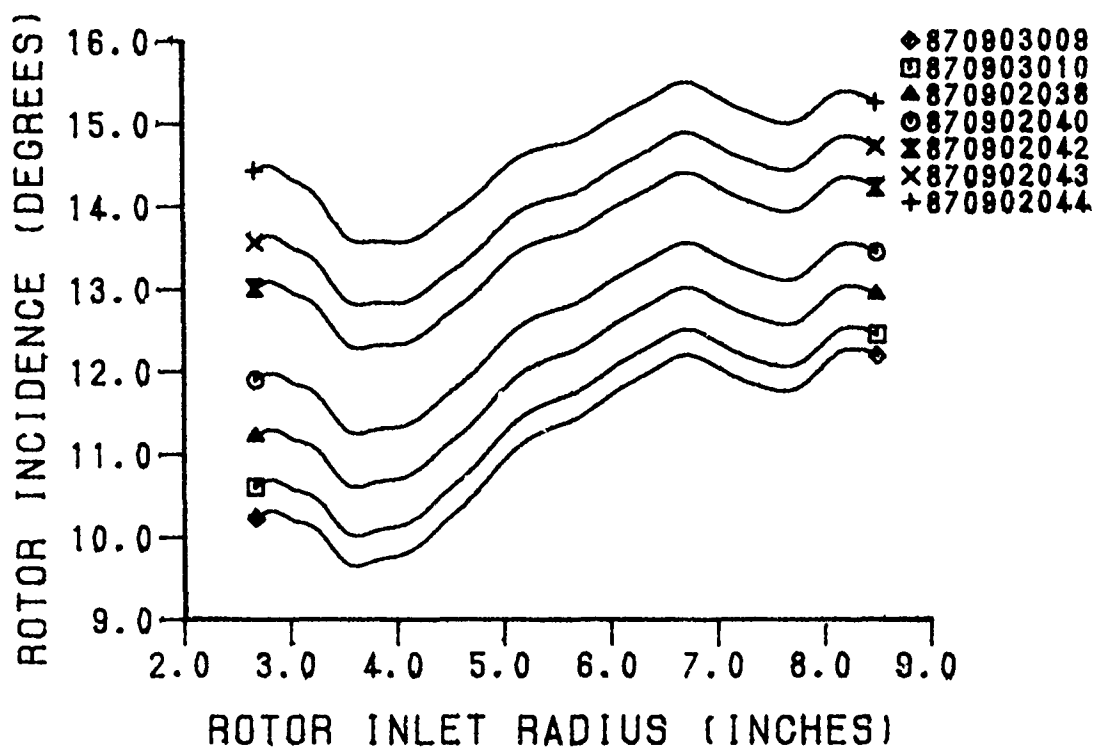


Figure 76. Rotor Incidence Angle (60% N)

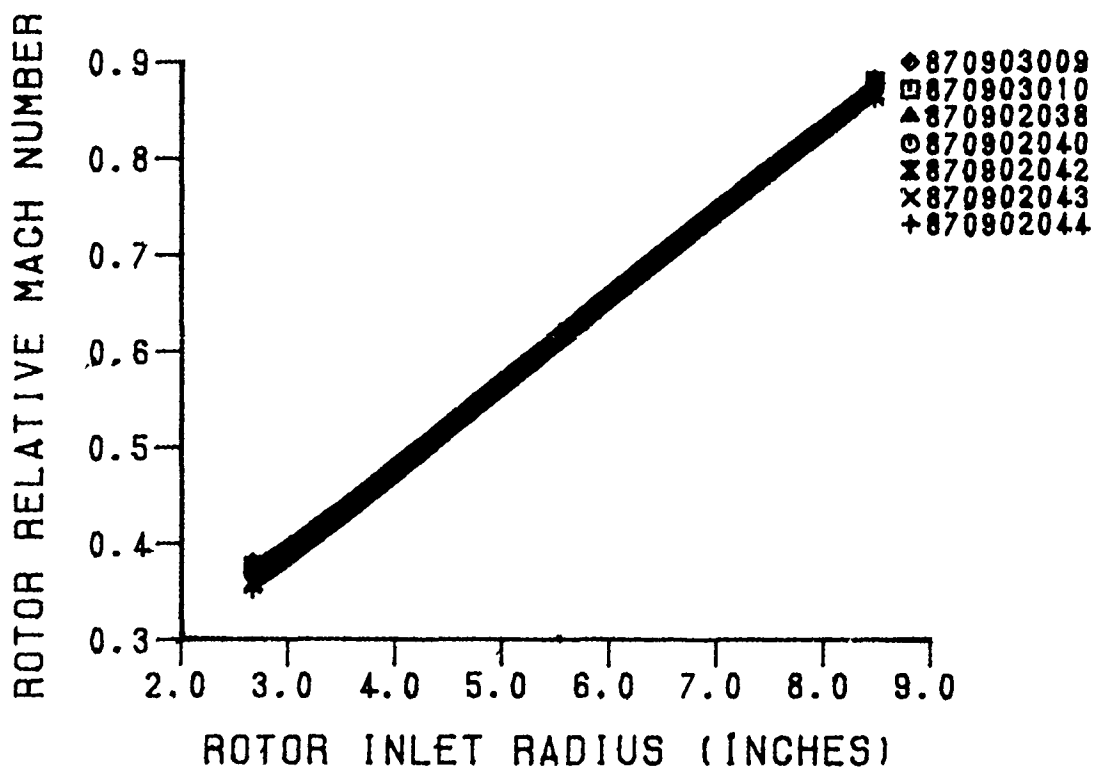


Figure 77. Rotor Relative Inlet Mach Number (60% N)

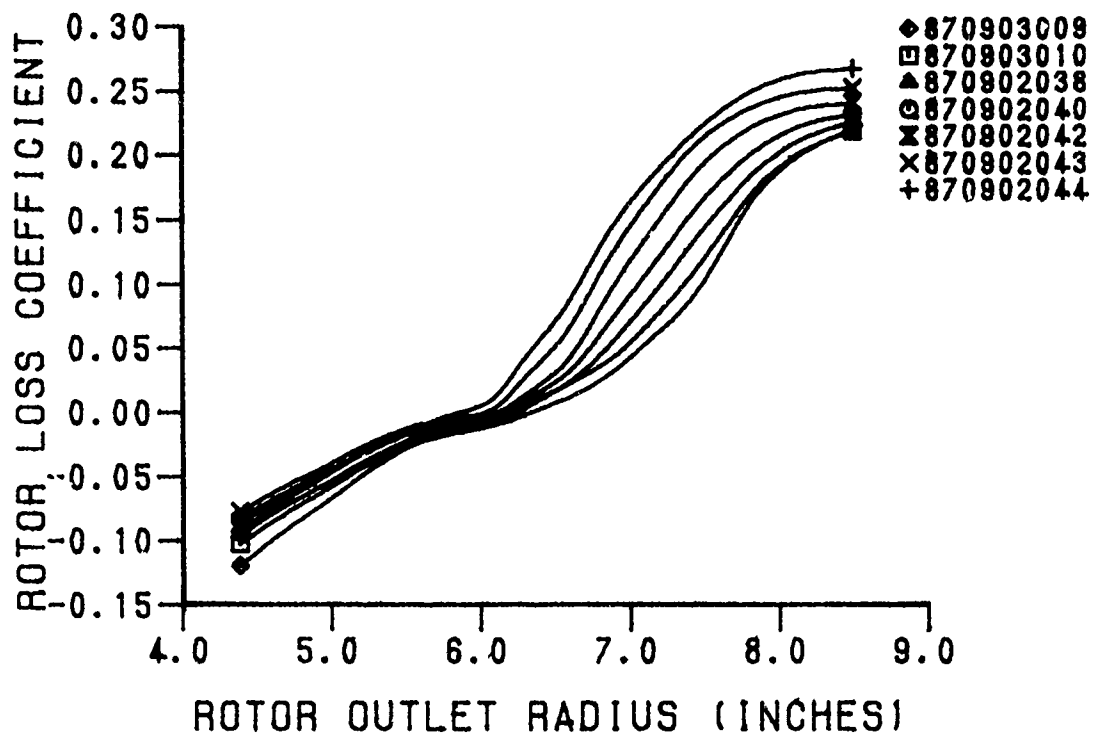


Figure 78. Rotor Loss Coefficient (60% N)

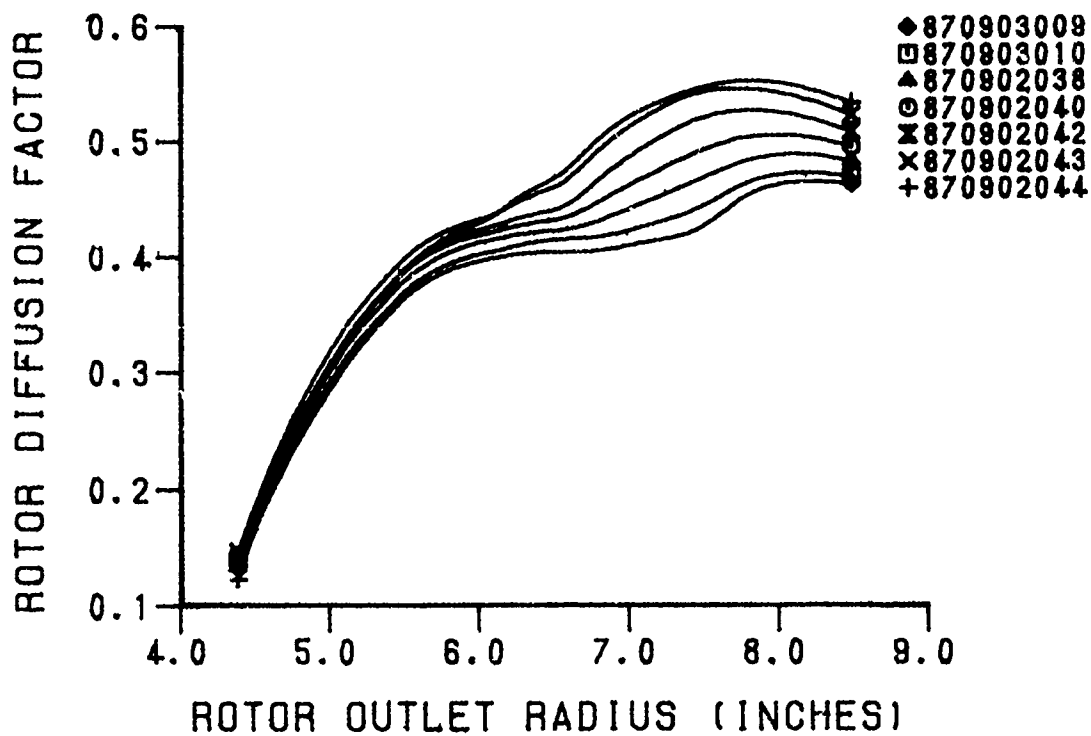


Figure 79. Rotor Diffusion Factor (60% N)

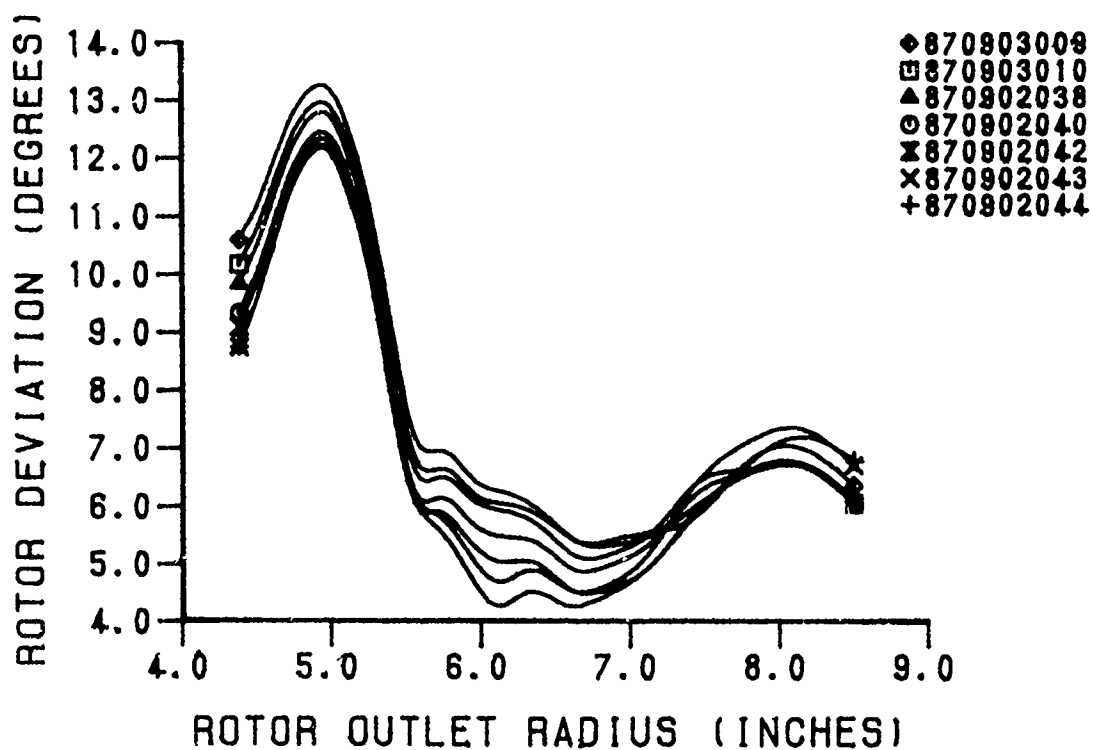


Figure 80. Rotor Deviation Angle (60% N)

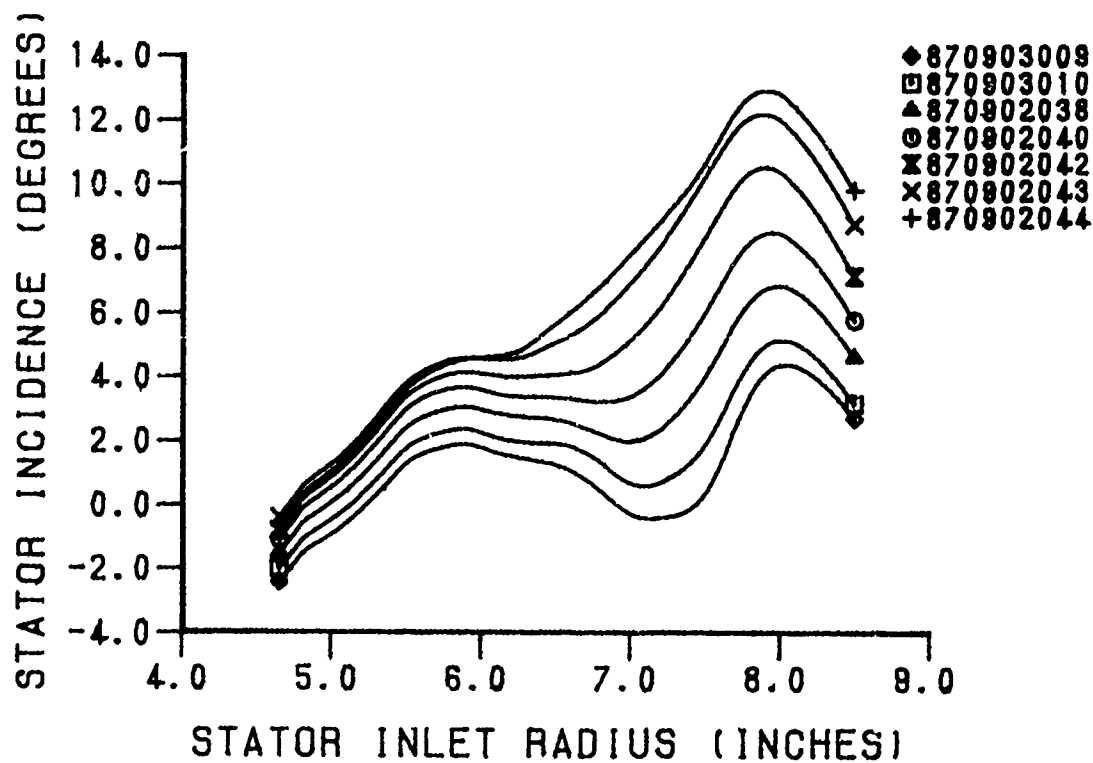


Figure 81. Stator Incidence Angle (60% N)

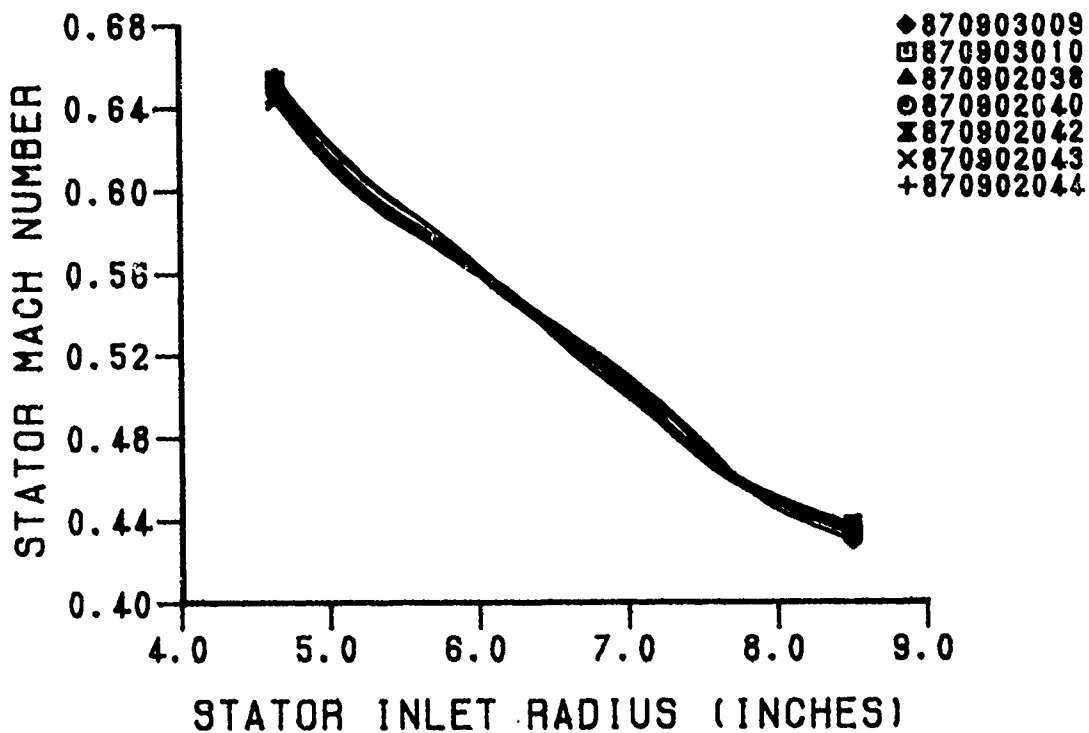


Figure 82. Stator Absolute Inlet Mach Number (60% N)

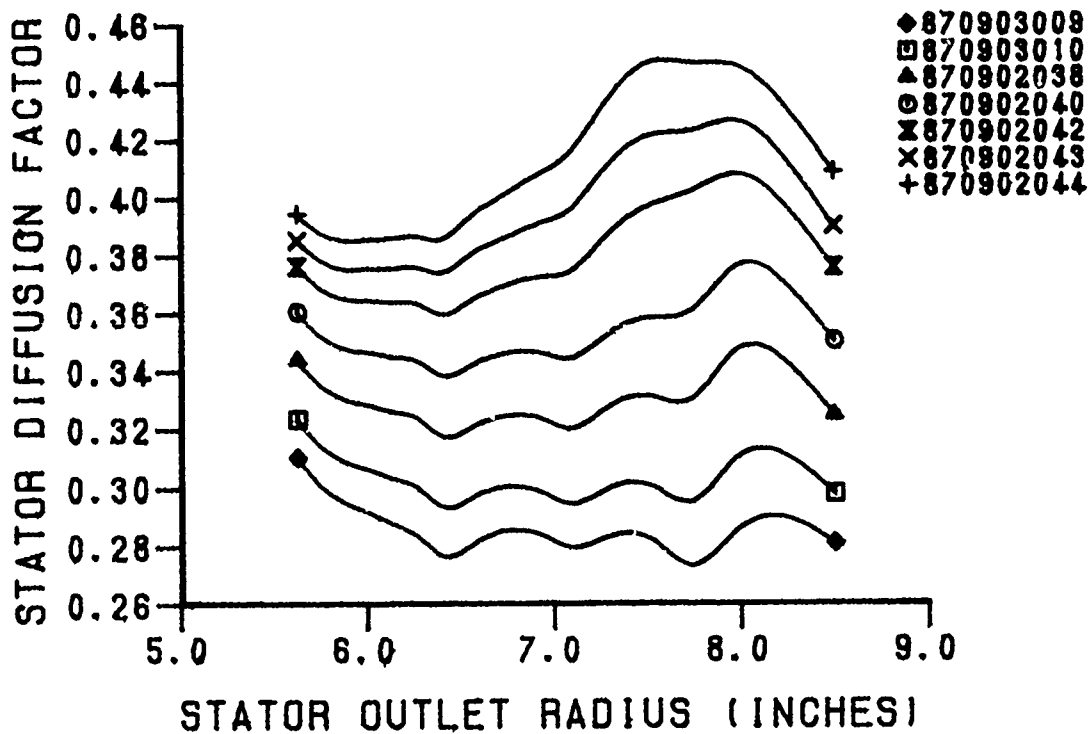
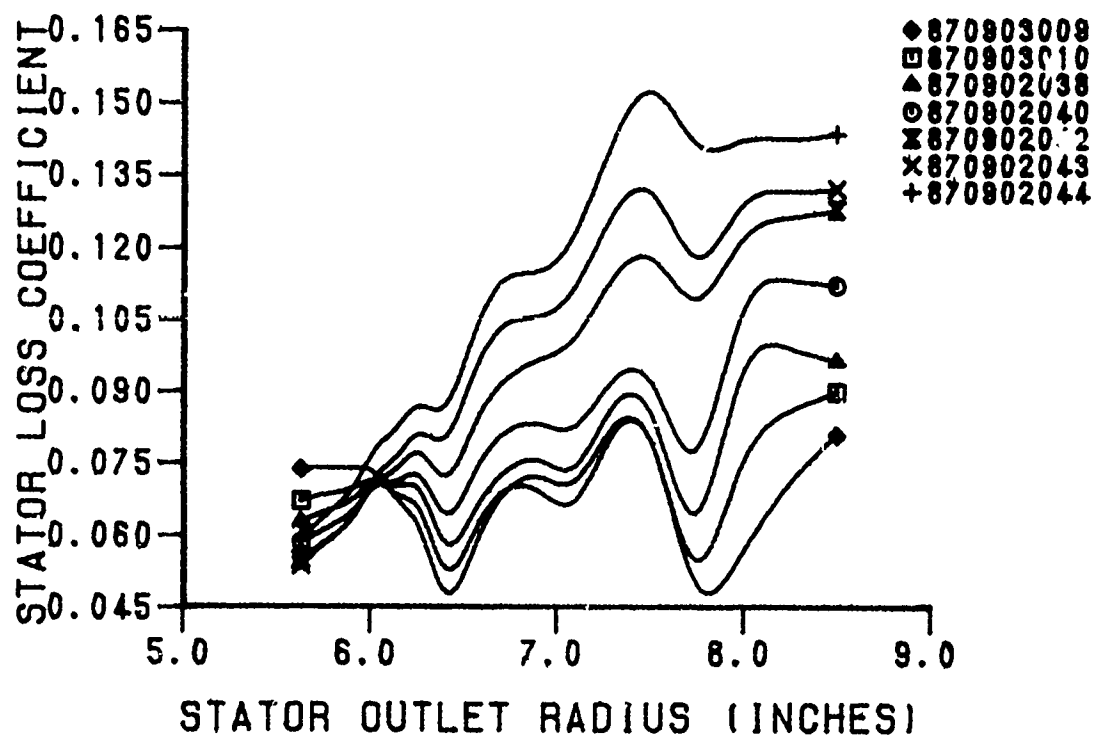
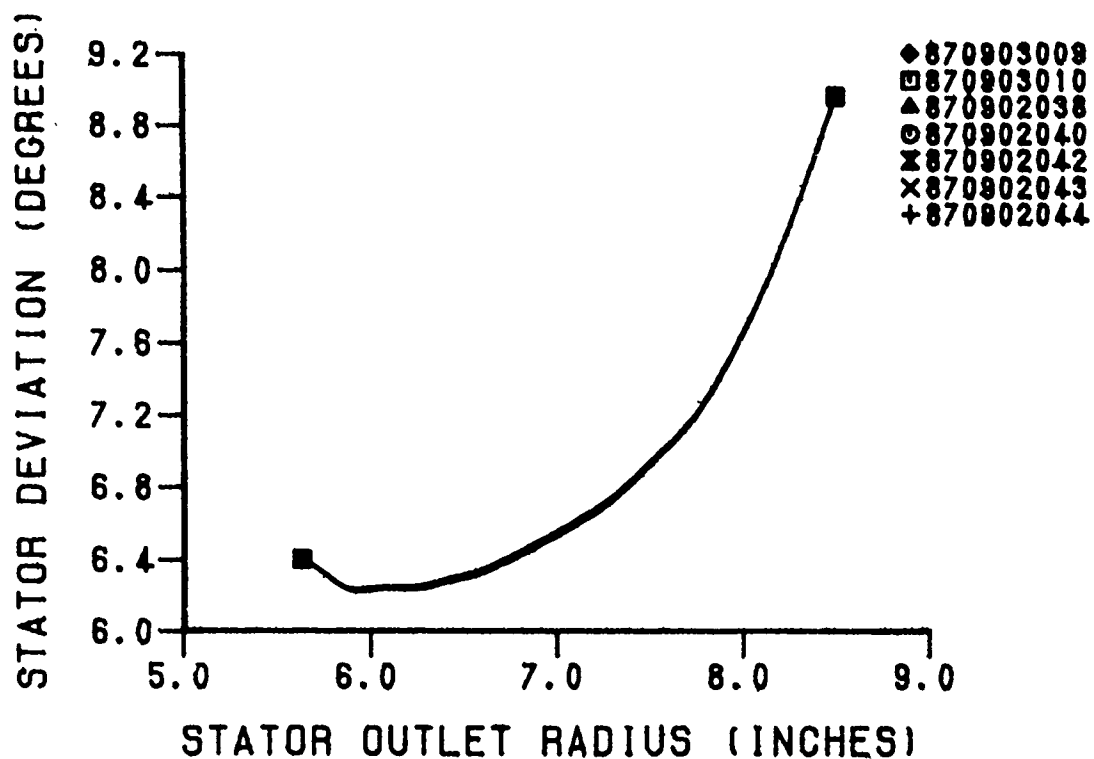


Figure 83. Stator Diffusion Factor (60% N)



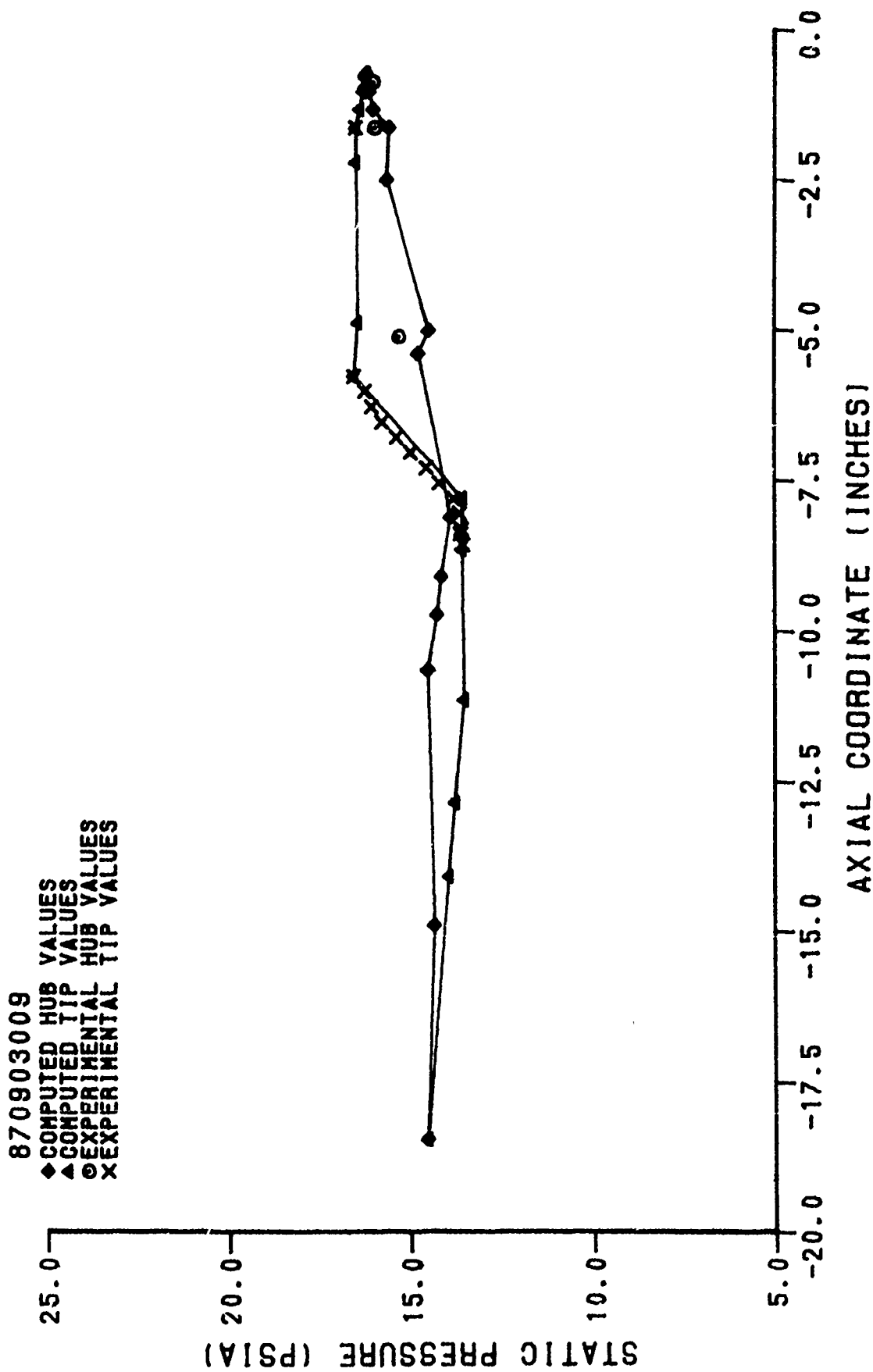


Figure 86. Static Pressure Distribution (870903009)

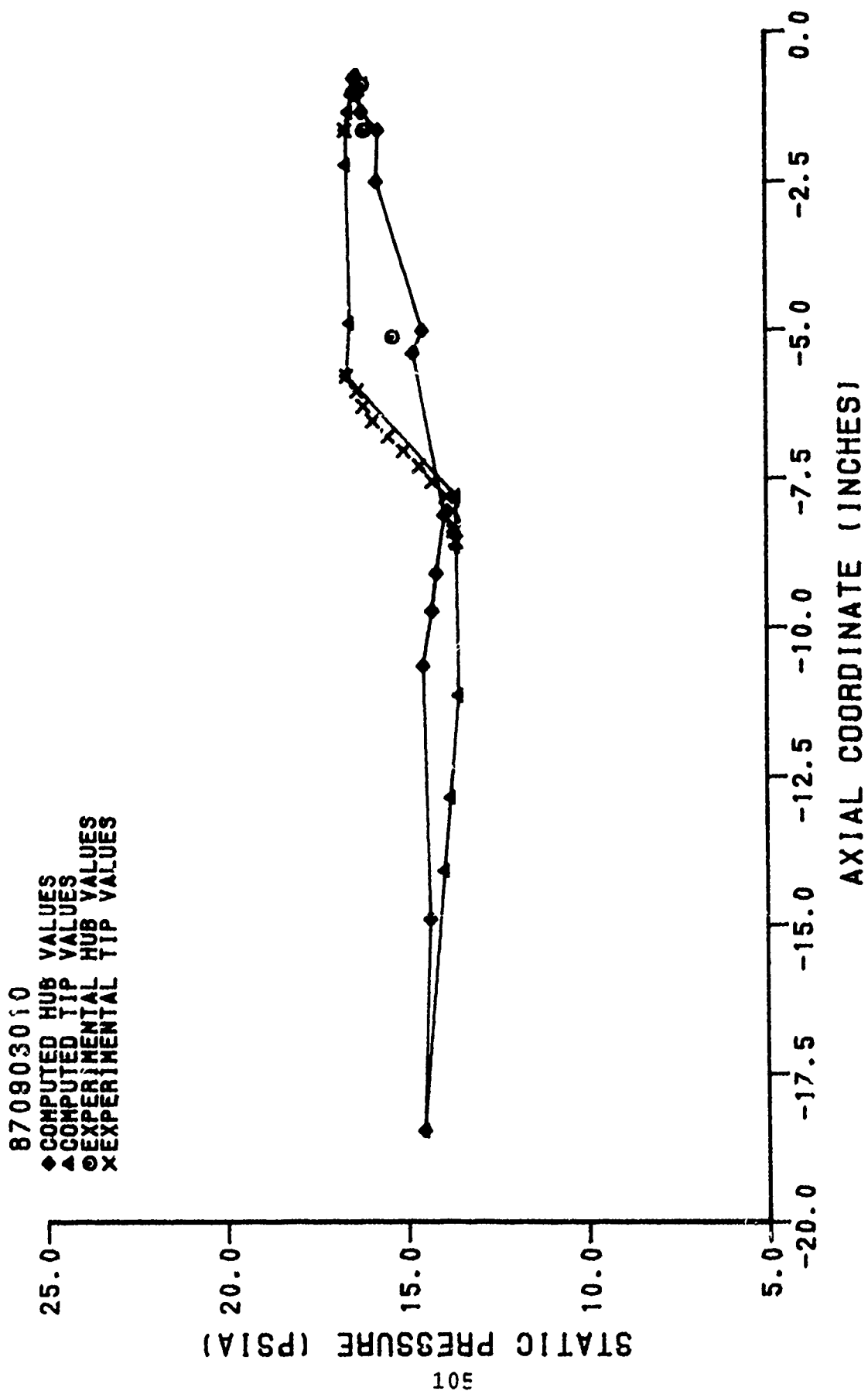
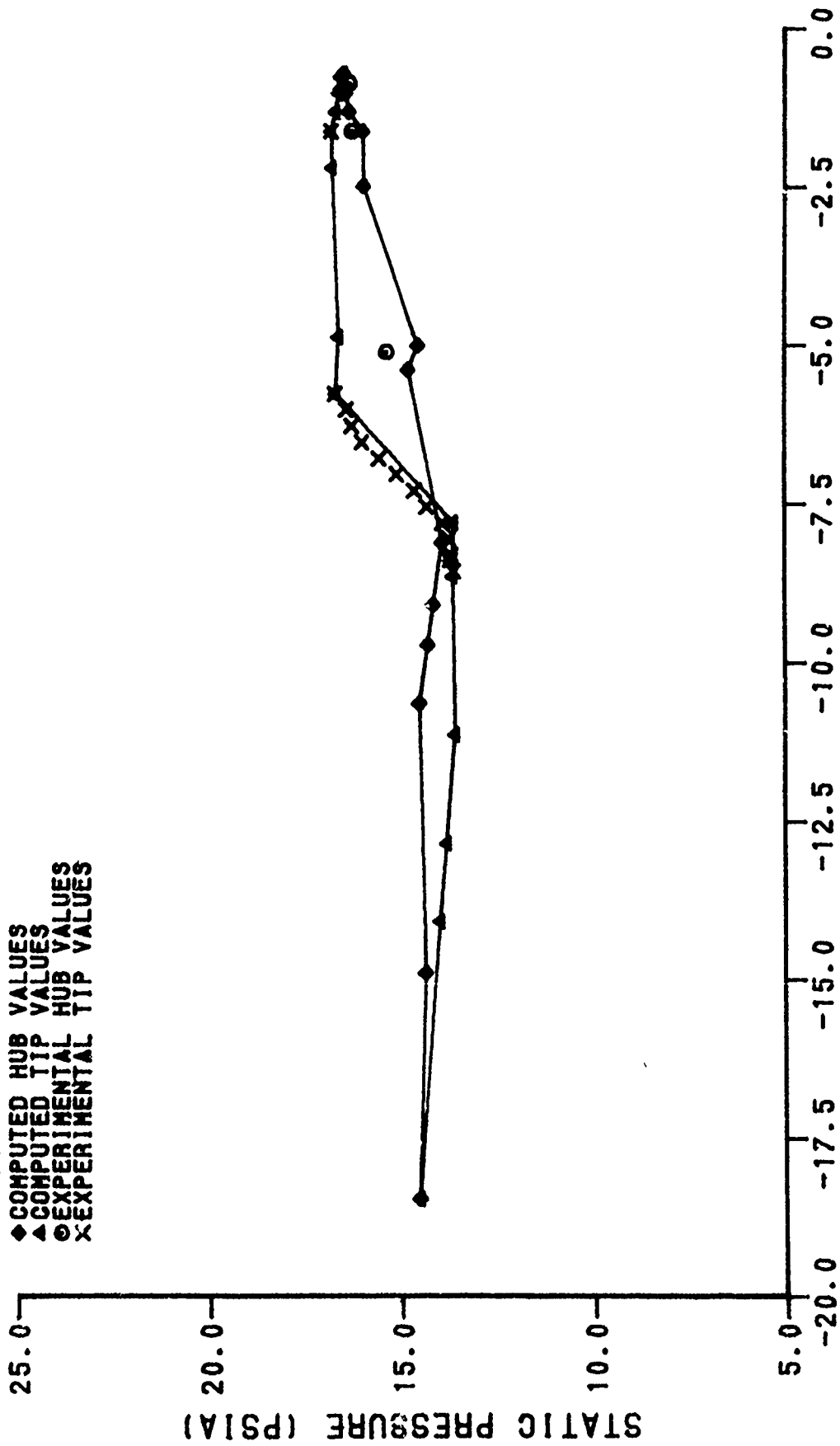


Figure 87. Static Pressure Distribution (870903010)

870902038
 ◆ COMPUTED HUB VALUES
 ▲ COMPUTED TIP VALUES
 ○ EXPERIMENTAL HUB VALUES
 X EXPERIMENTAL TIP VALUES



AXIAL COORDINATE (INCHES)

Figure 88. Static Pressure Distribution (870902038)

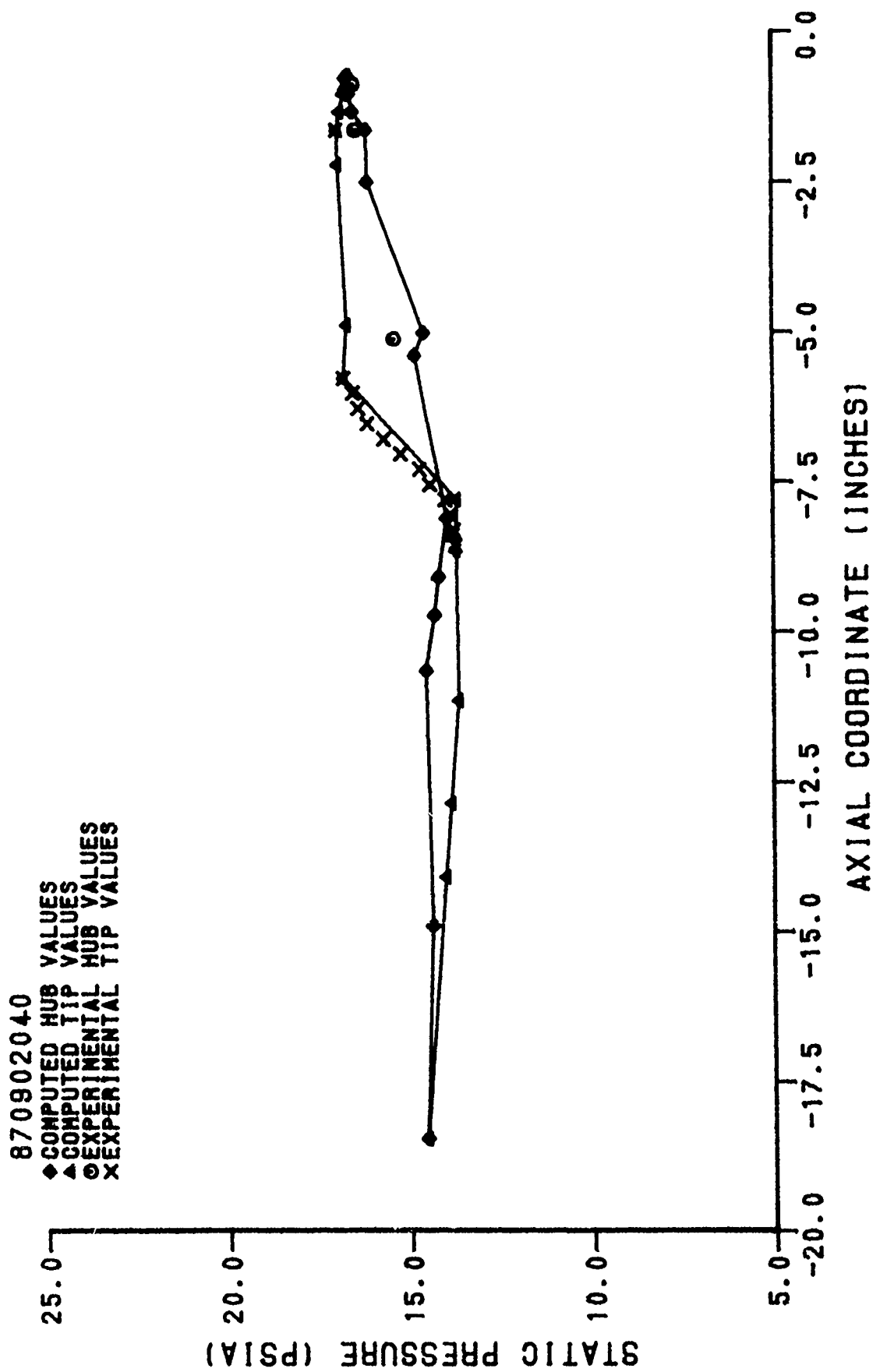


Figure 89. Static Pressure Distribution (870902040)

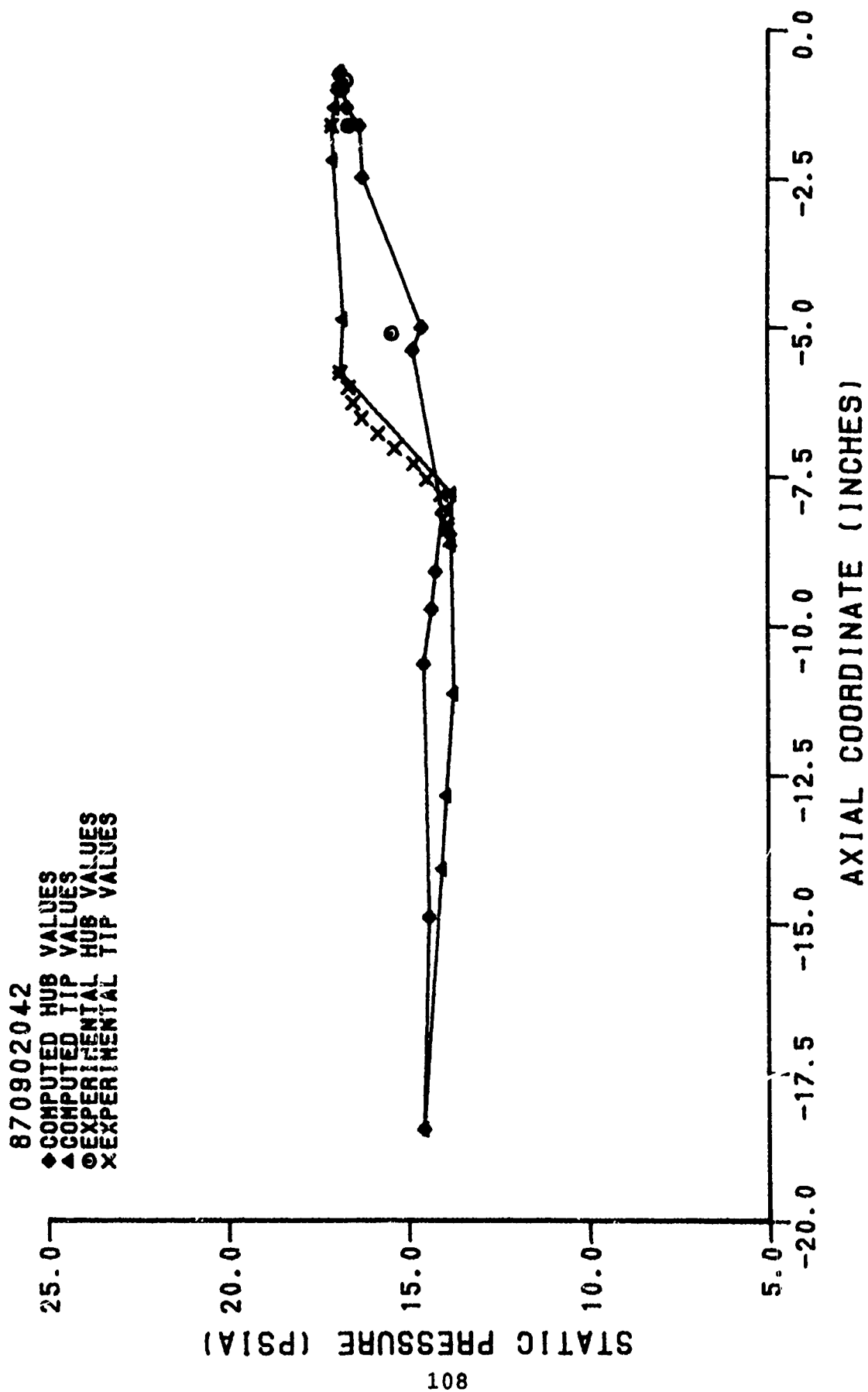


Figure 90. Static Pressure Distribution (870902042)

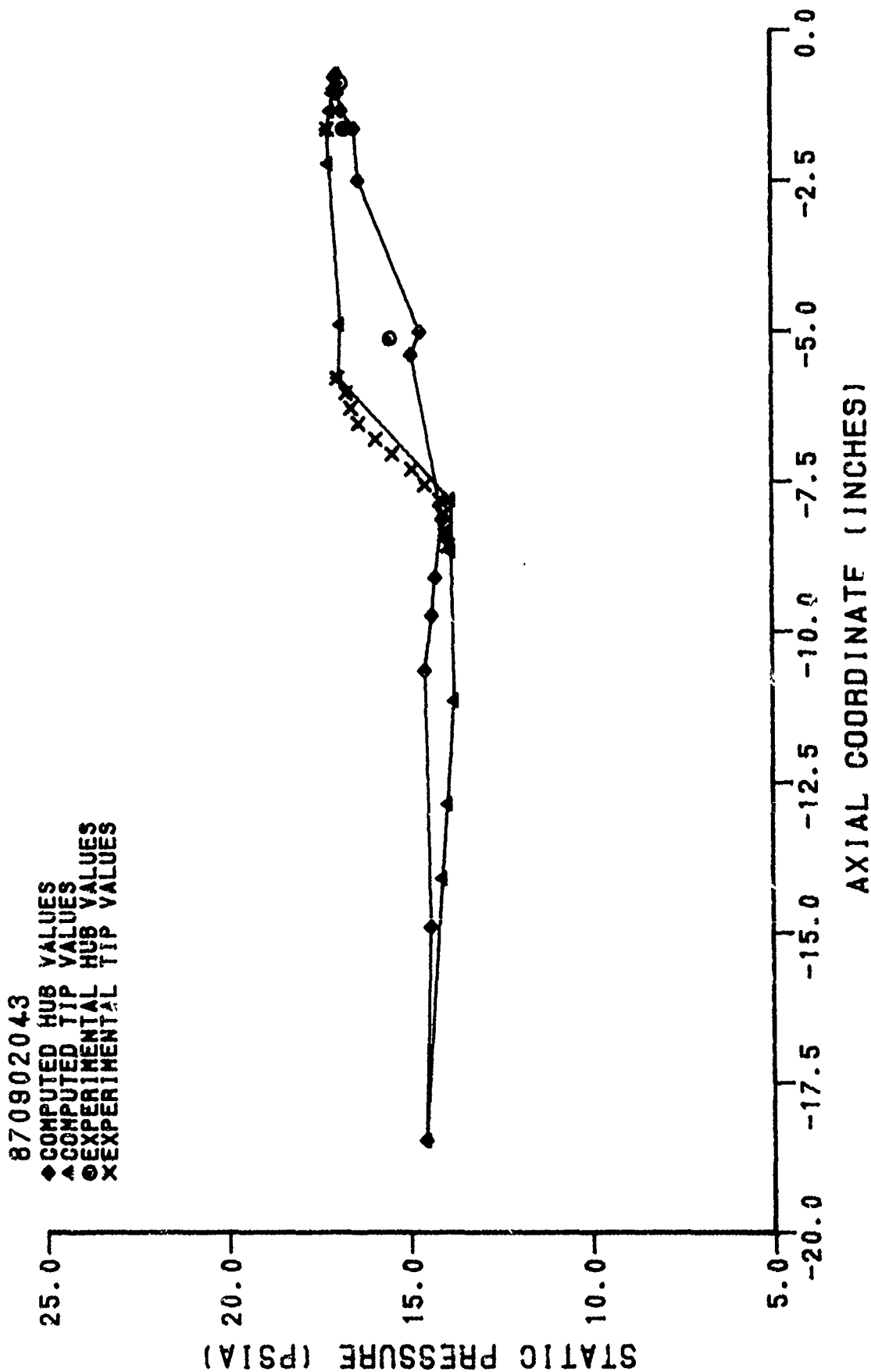


Figure 91. Static Pressure Distribution (870902043)

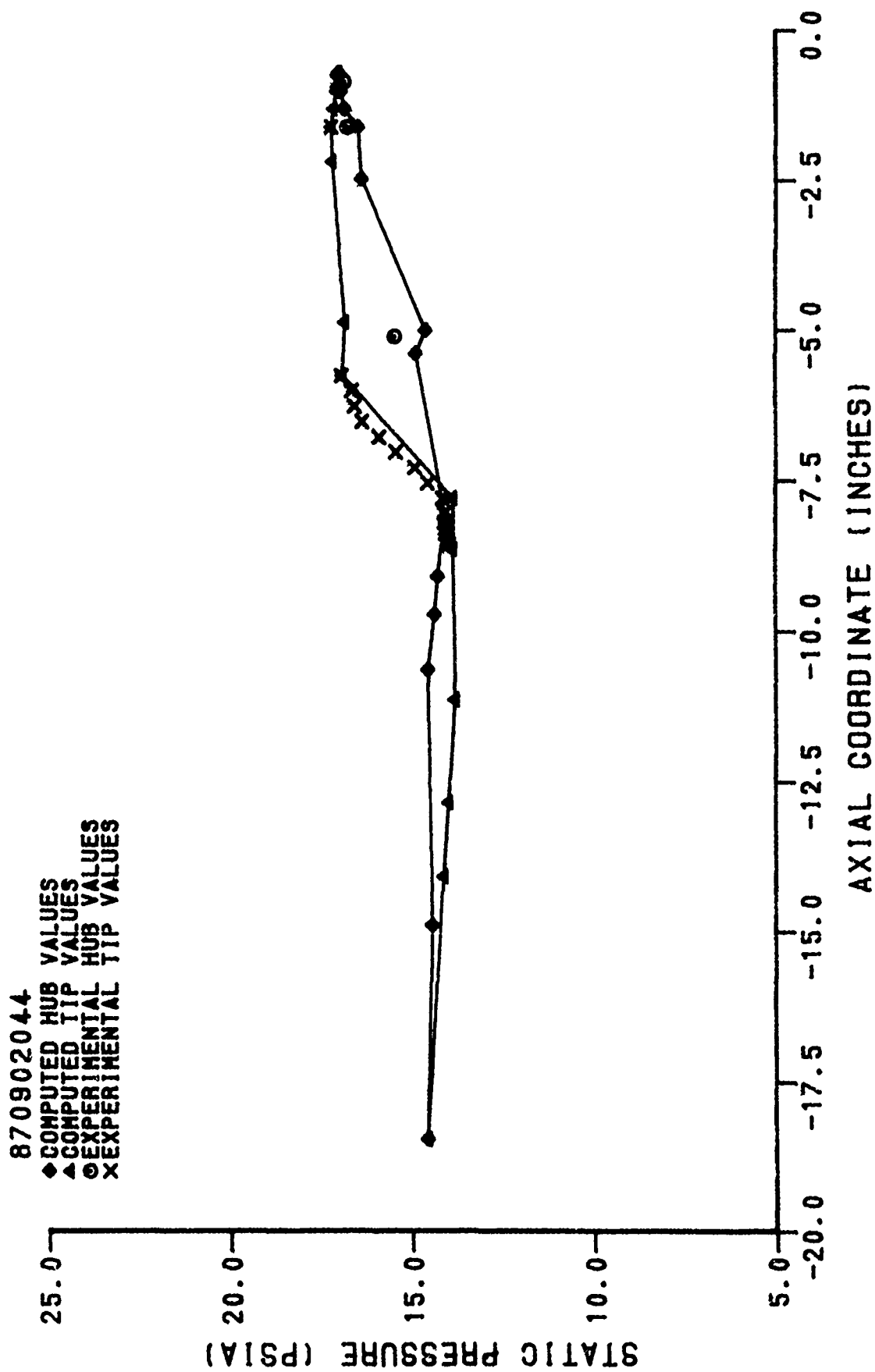


Figure 92. Static Pressure Distribution (870902044)

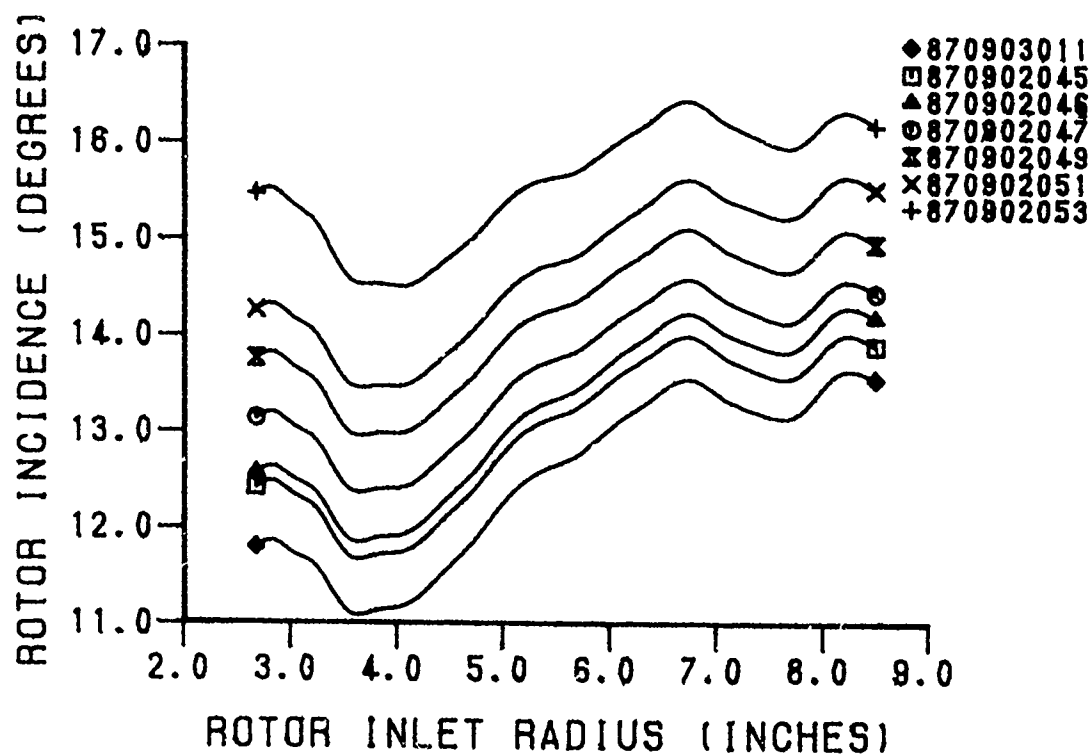


Figure 93. Rotor Incidence Angle (40% N)

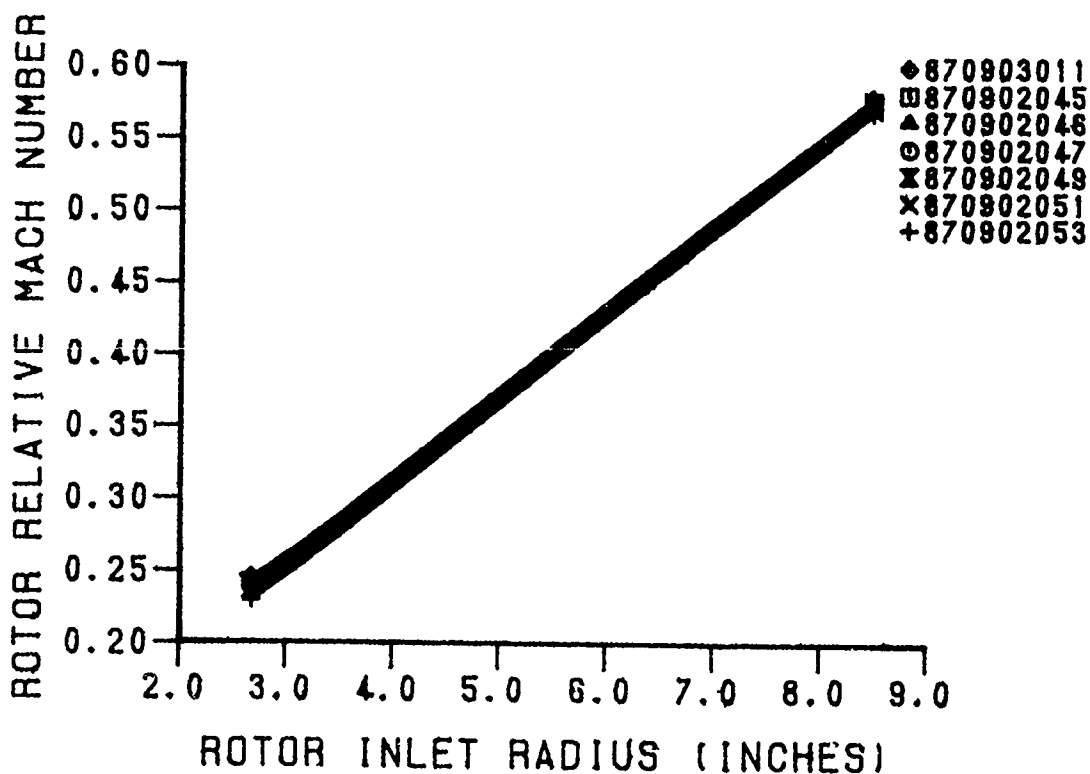


Figure 94. Rotor Relative Inlet Mach Number (40% N)

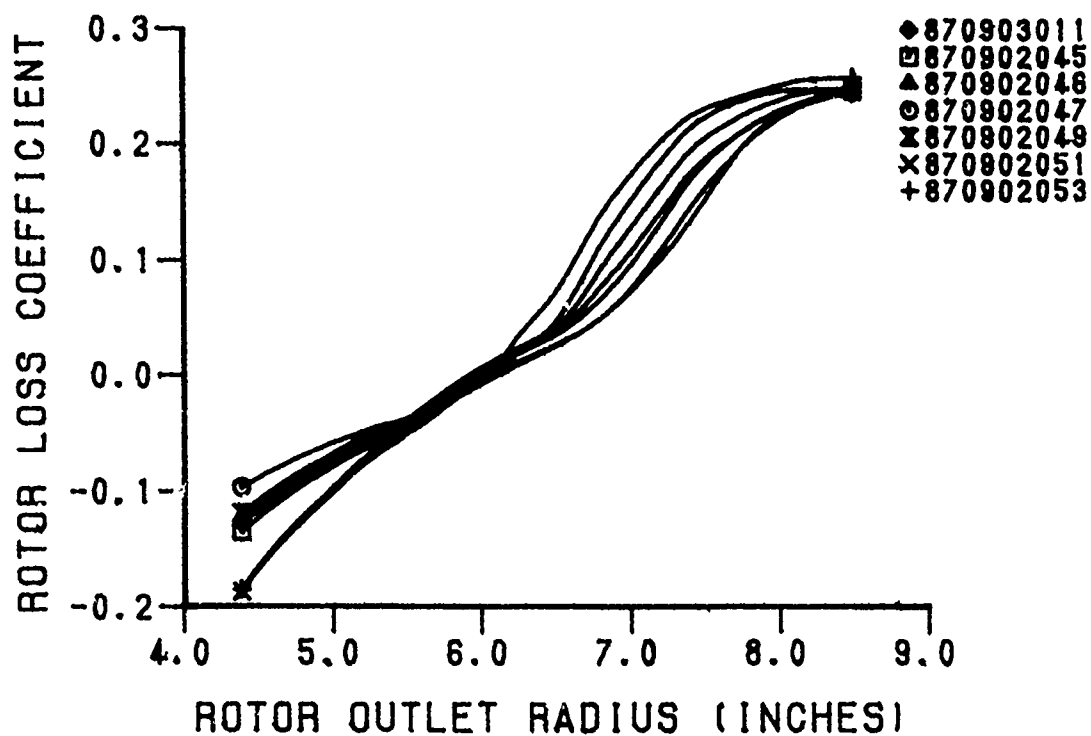


Figure 95. Rotor Loss Coefficient (40% N)

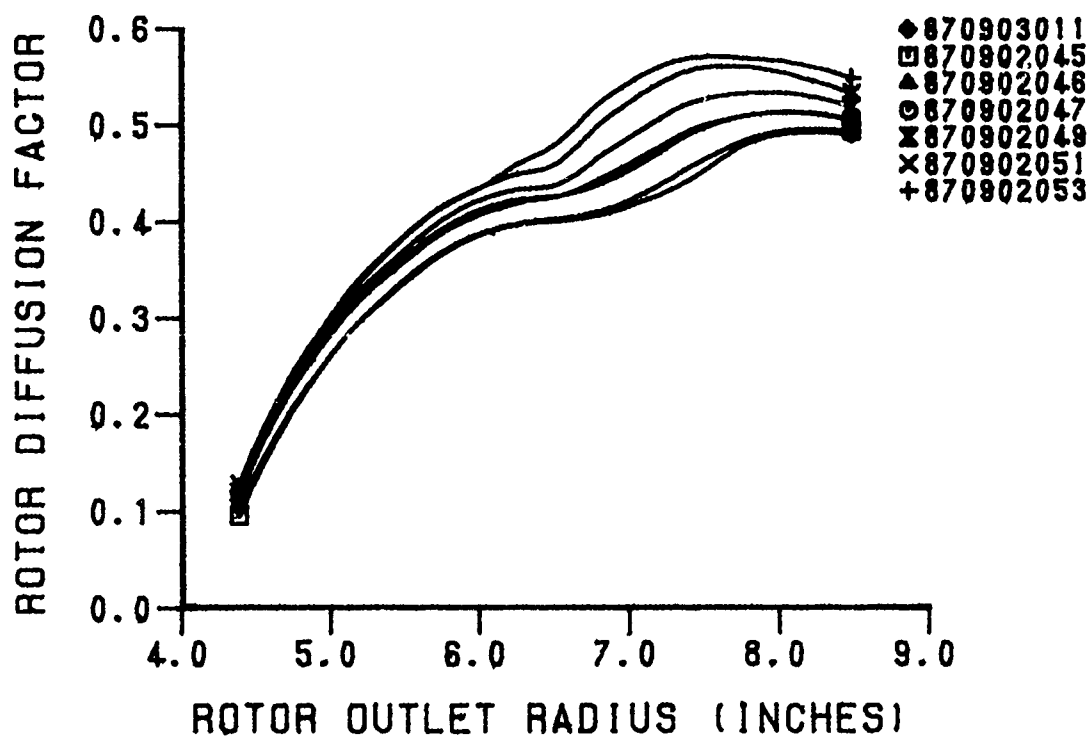


Figure 96. Rotor Diffusion Factor (40% N)

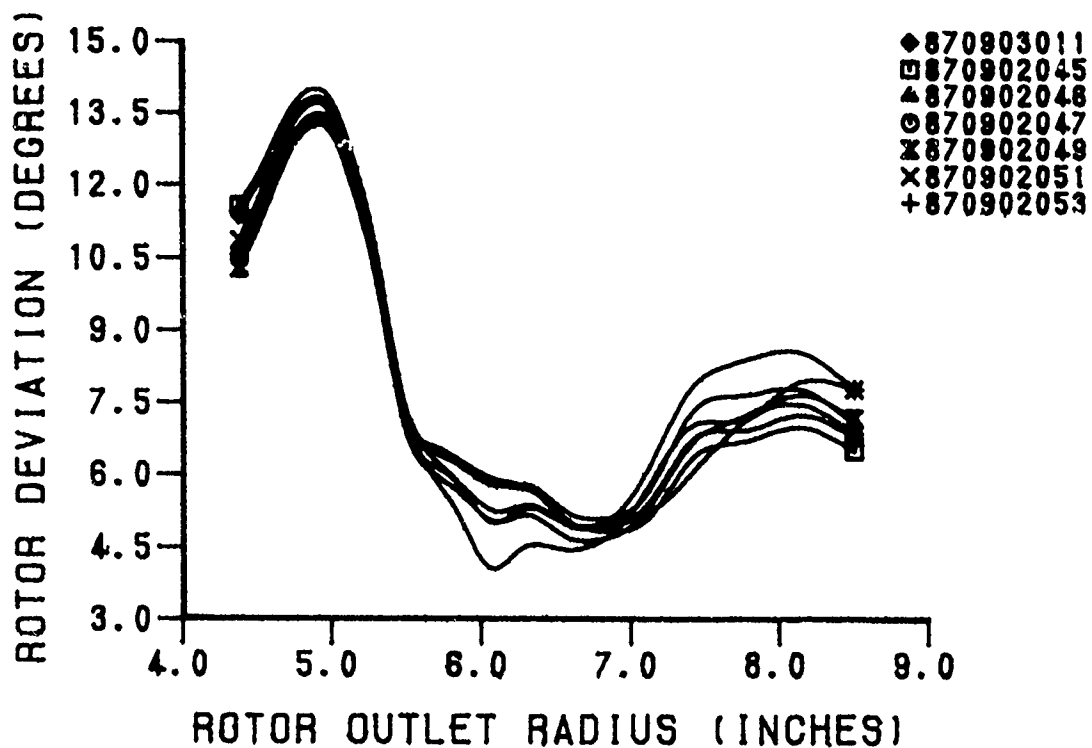


Figure 97. Rotor Deviation Angle (40% N)

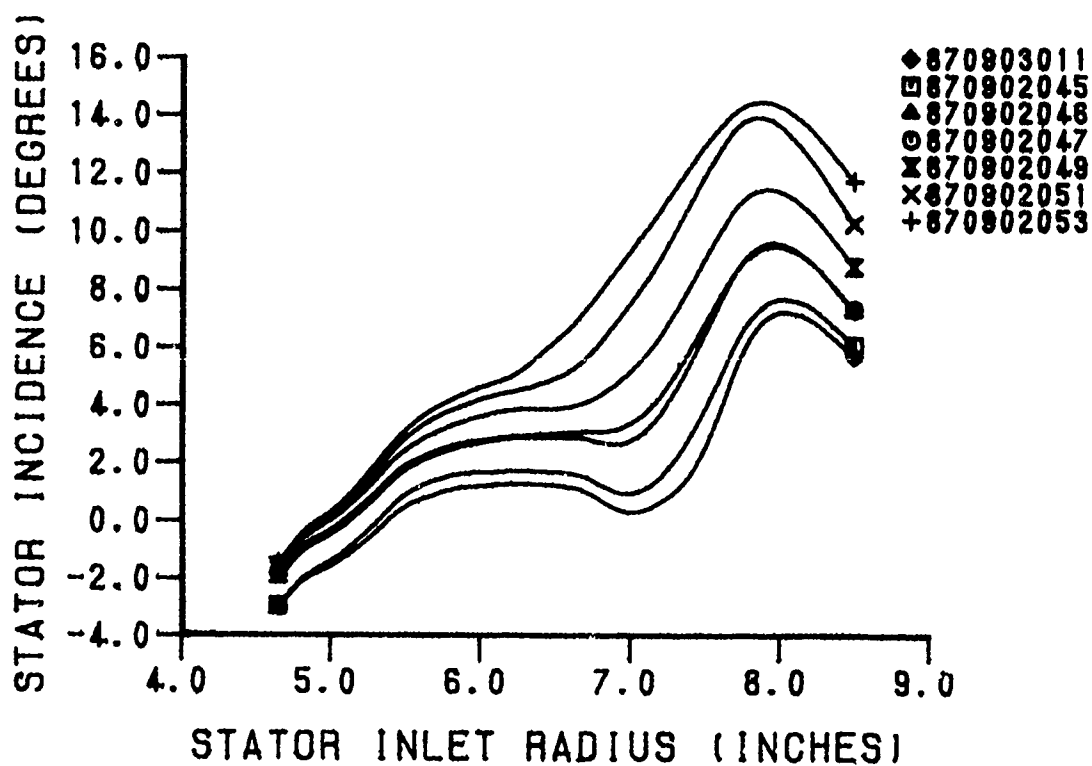


Figure 98. Stator Incidence Angle (40% N)

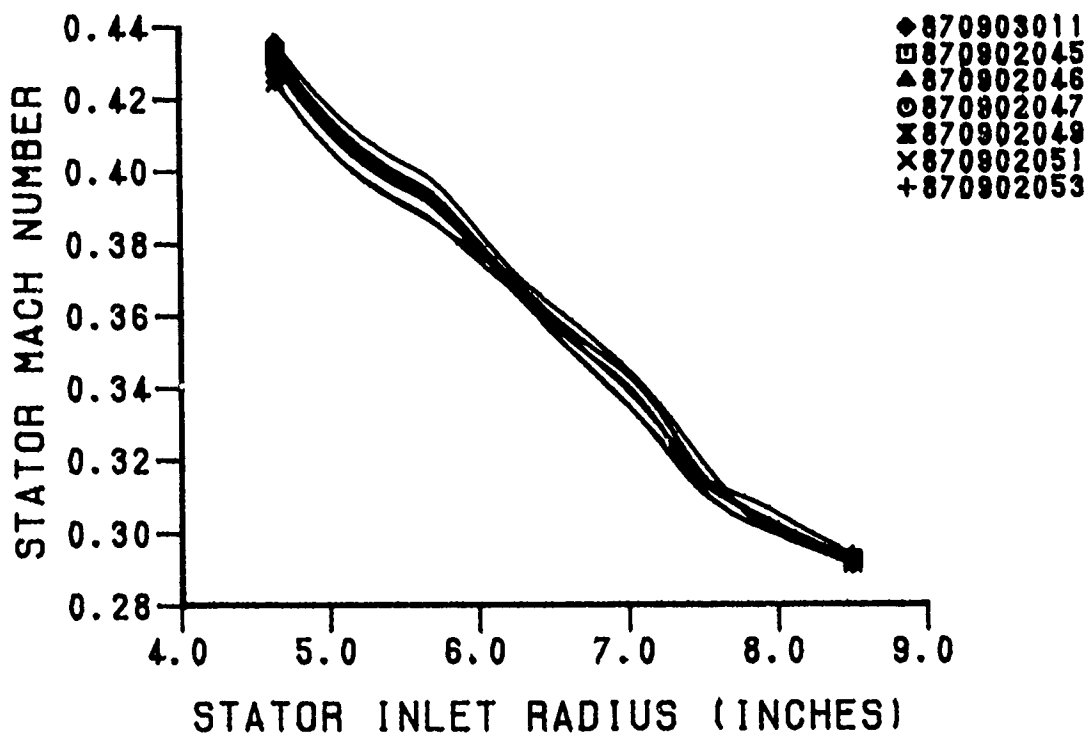


Figure 99. Stator Absolute Inlet Mach Number (40% N)

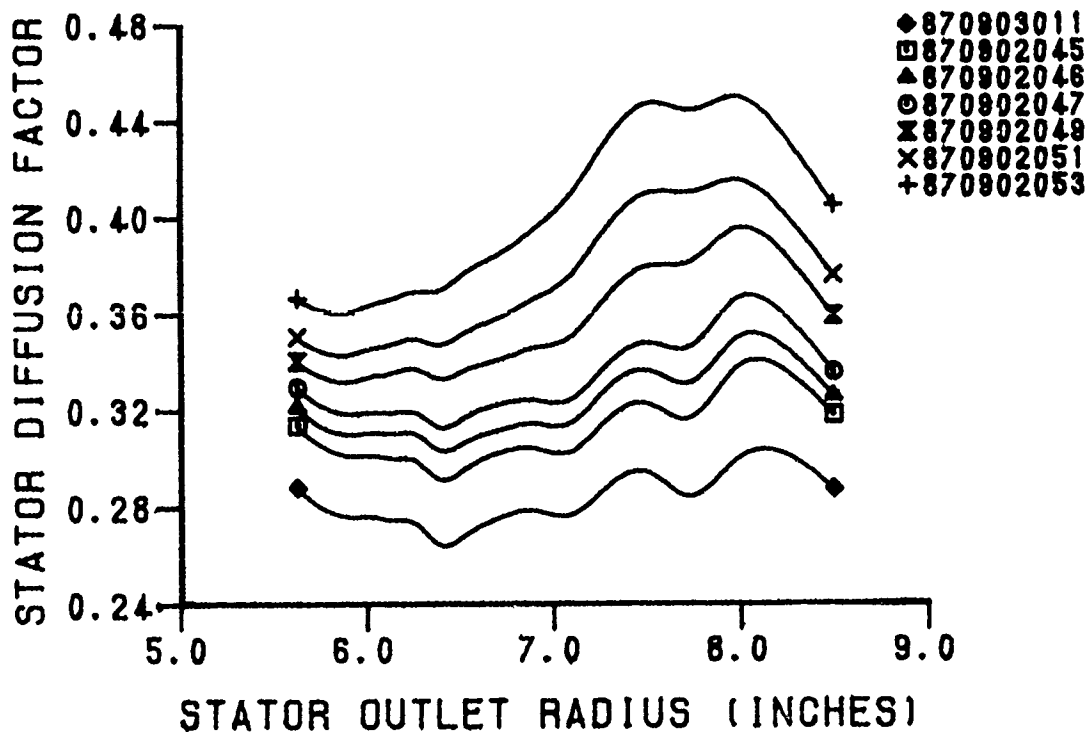


Figure 100. Stator Diffusion Factor (40% N)

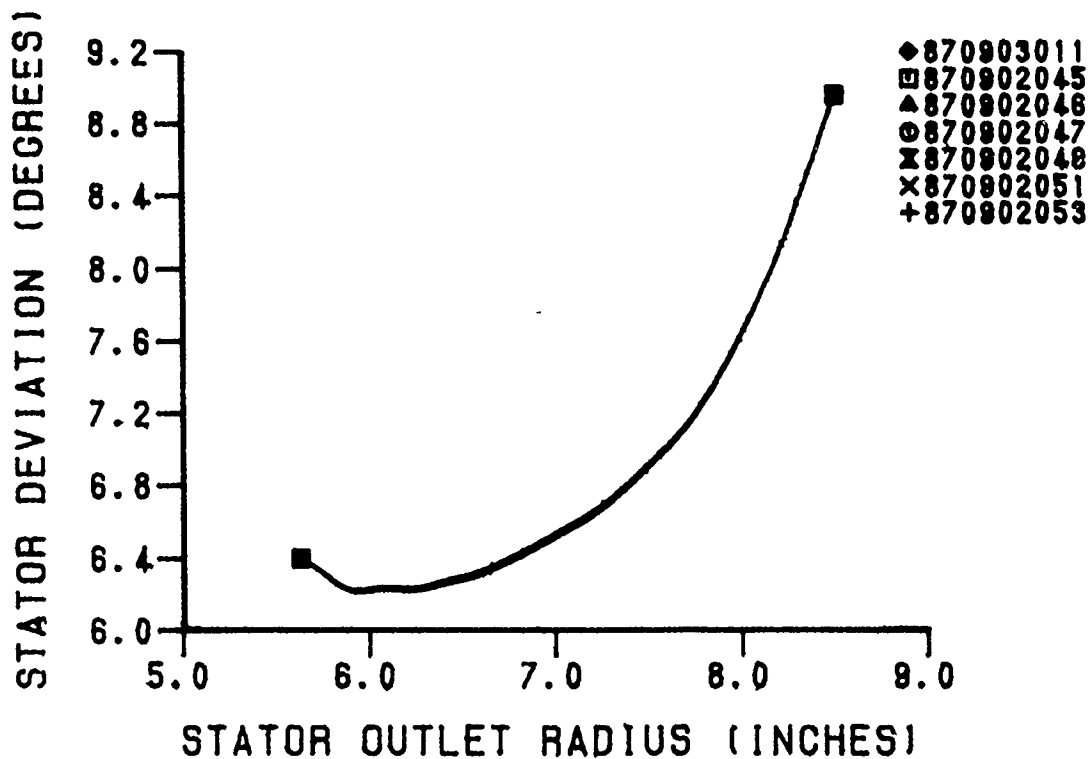


Figure 101. Stator Deviation Angle (40% N)

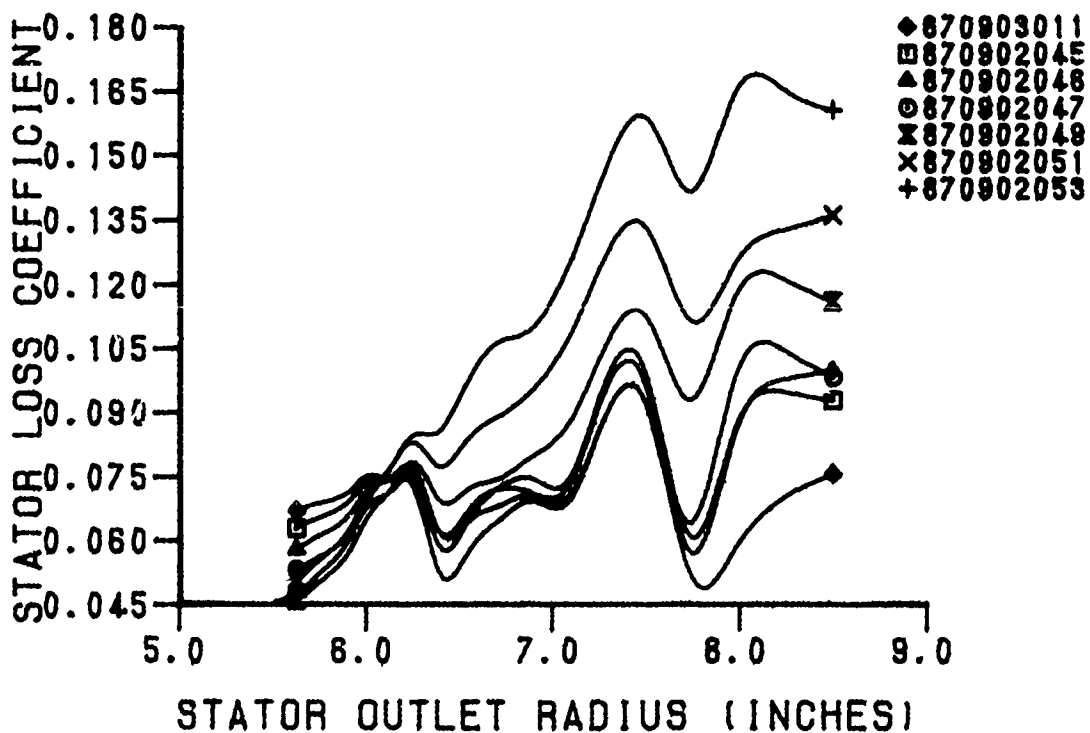


Figure 102. Stator Loss Coefficient (40% N)

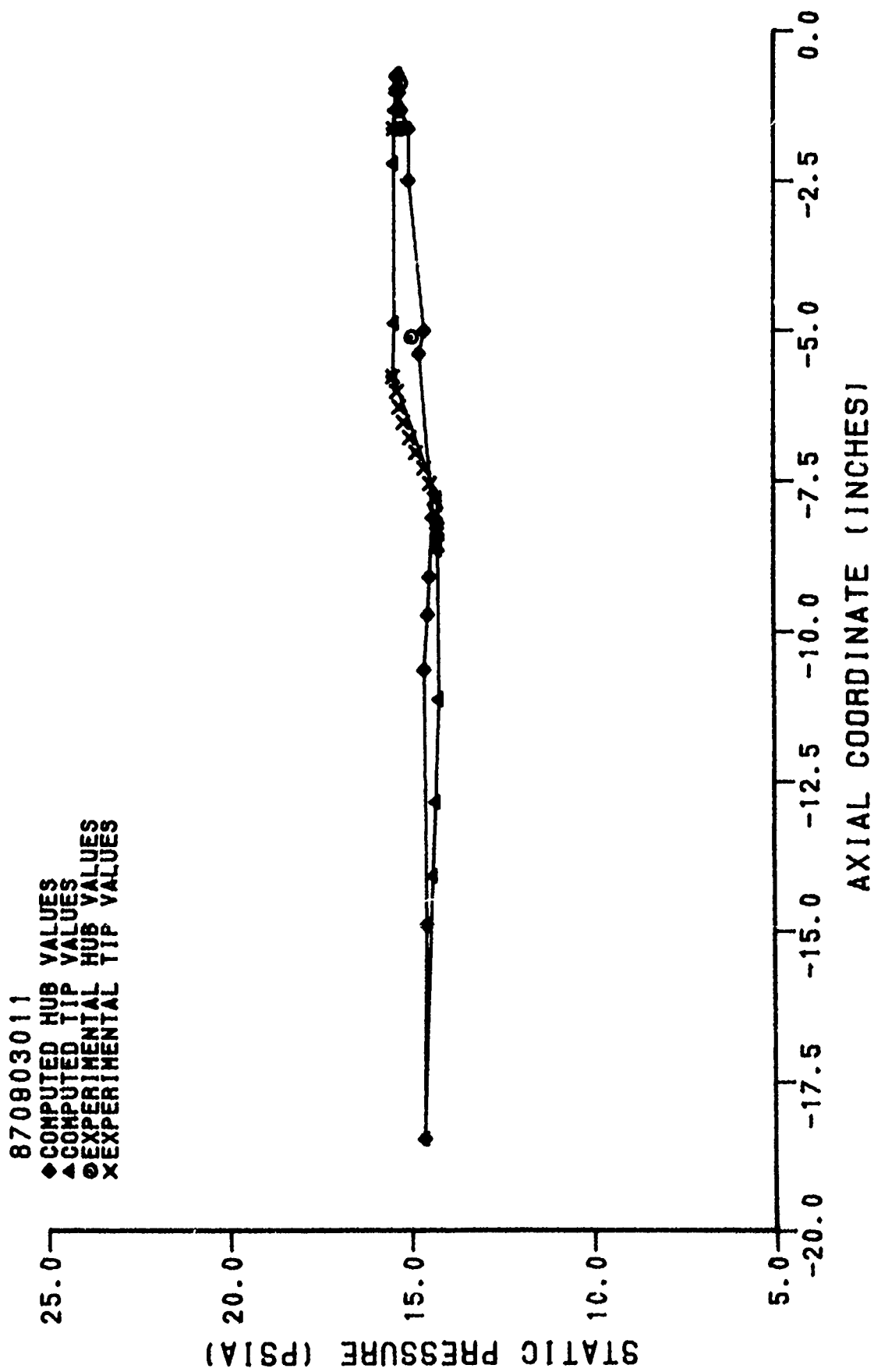


Figure 103. Static Pressure Distribution (870903011)

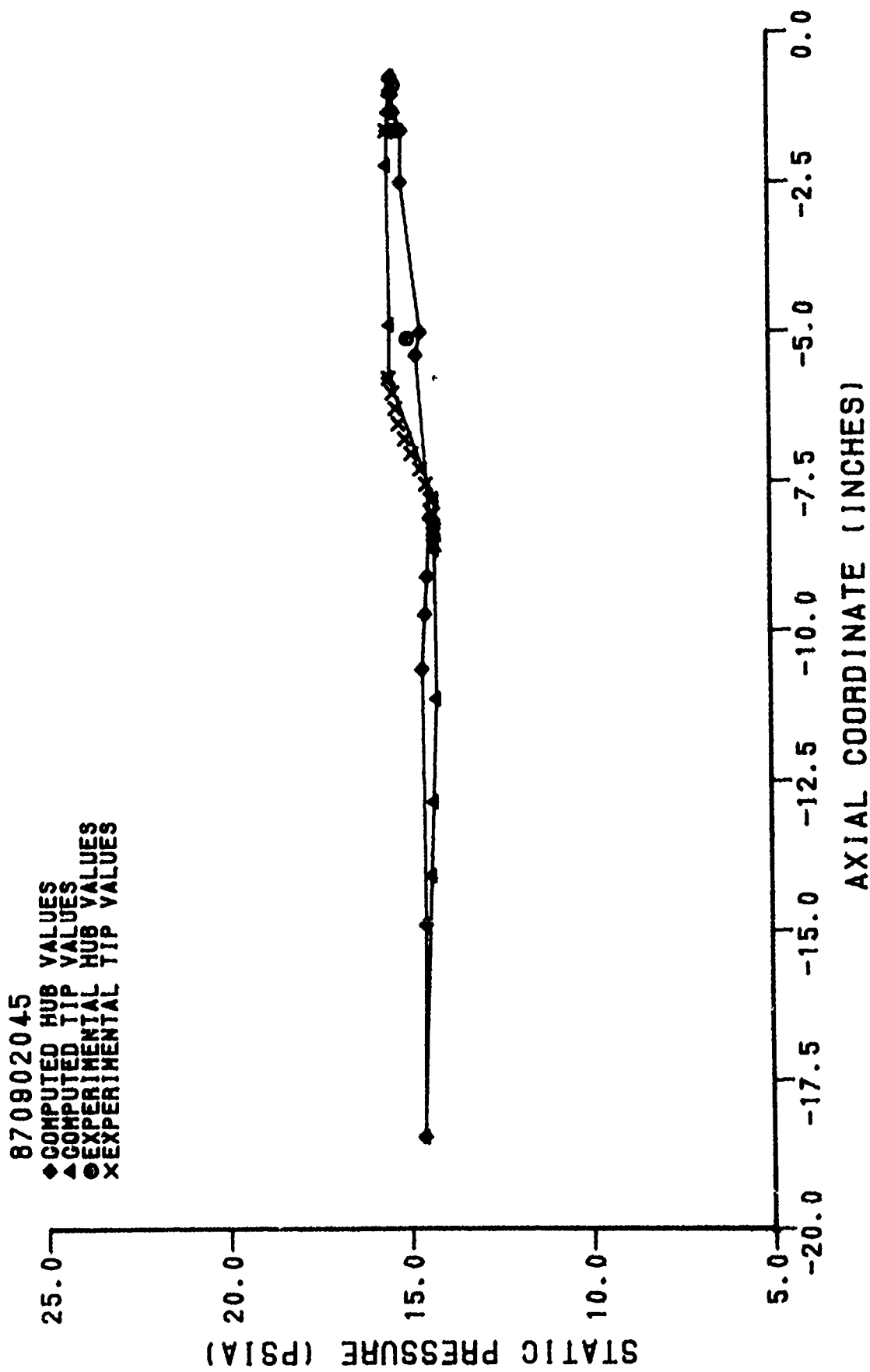


Figure 104. Static Pressure Distribution (870902045)

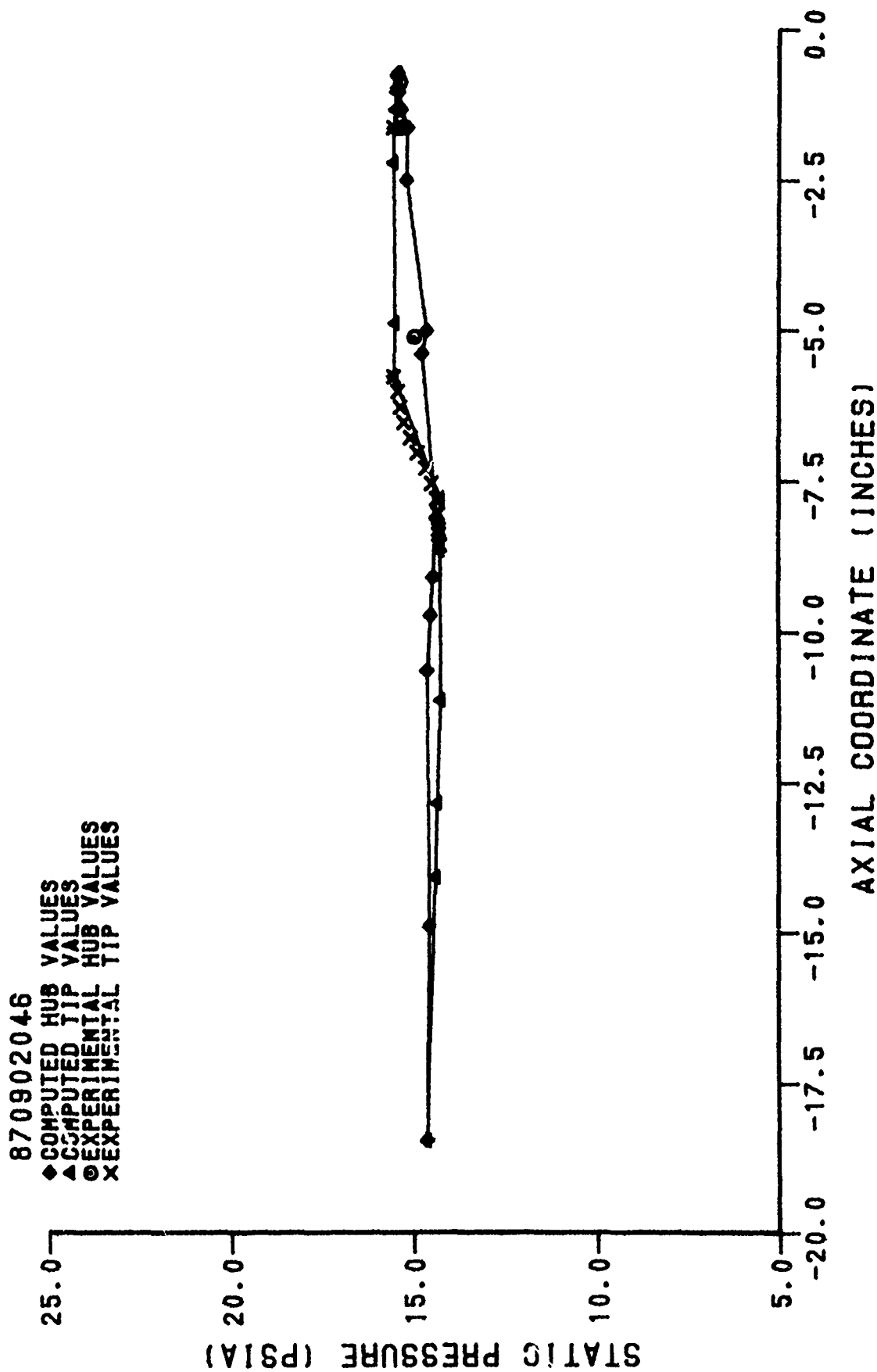


Figure 105. Static Pressure Distribution (870902046)

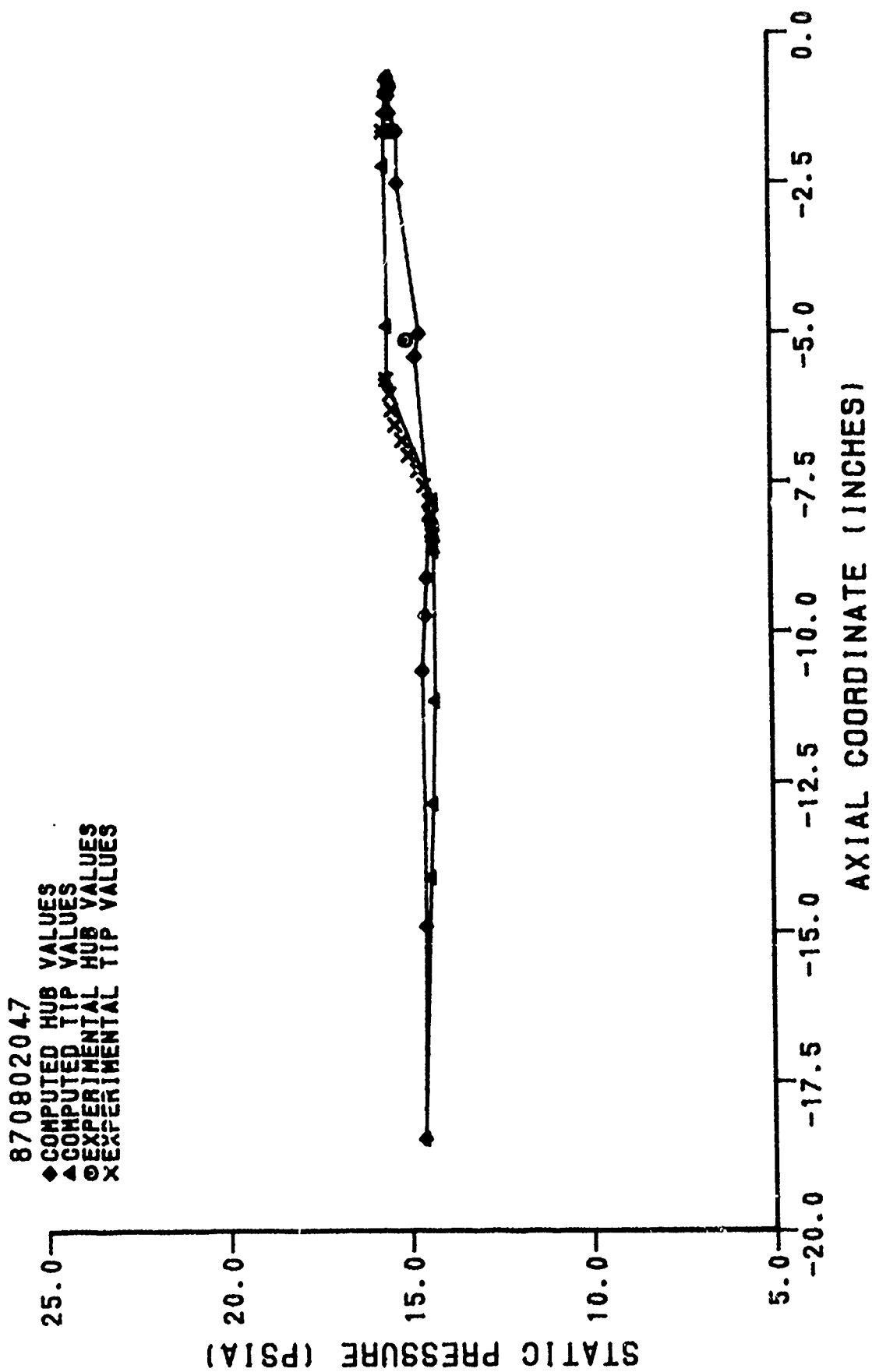


Figure 106. Static Pressure Distribution (870902047)

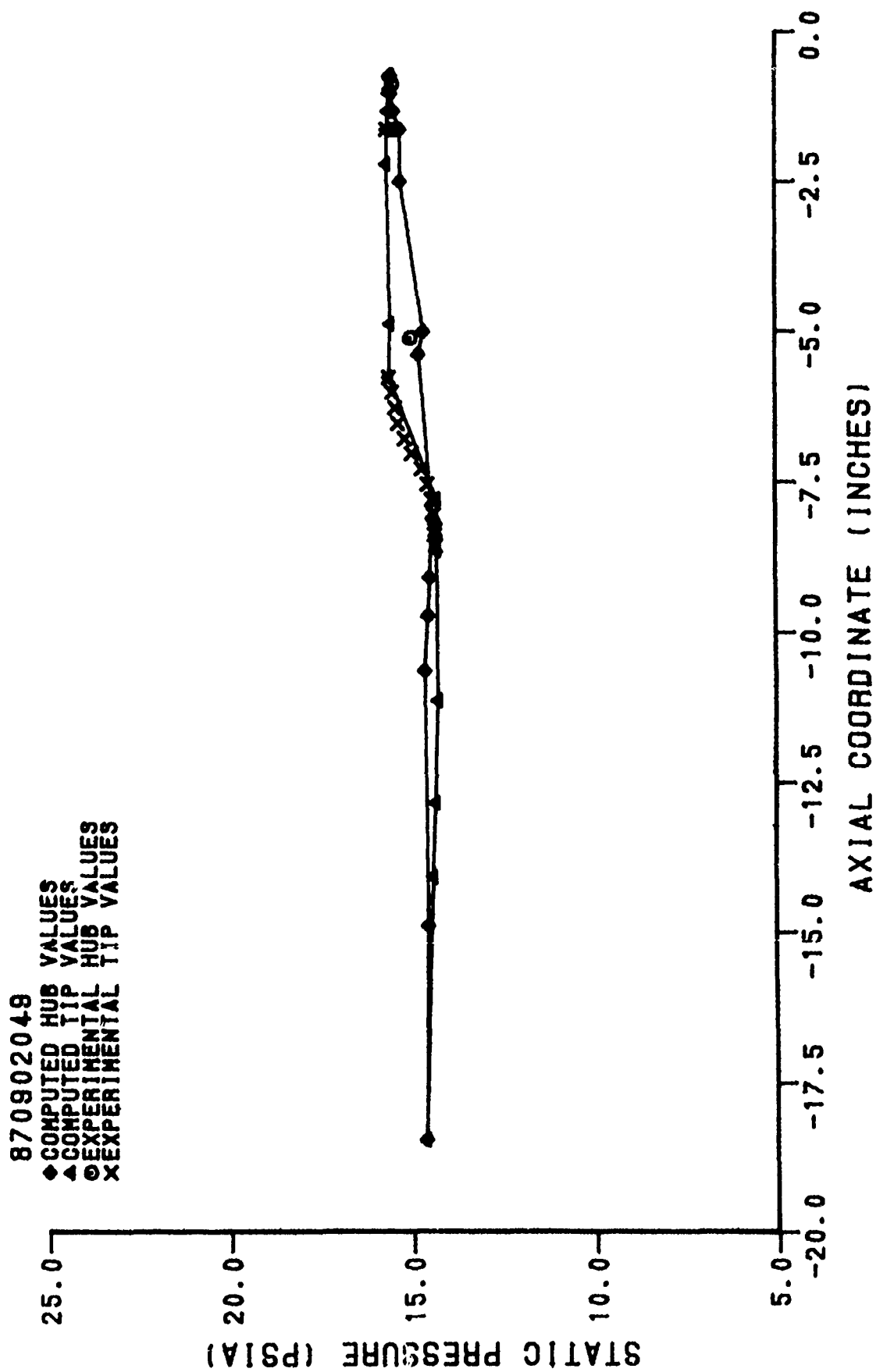


Figure 107. Static Pressure Distribution (870902049)

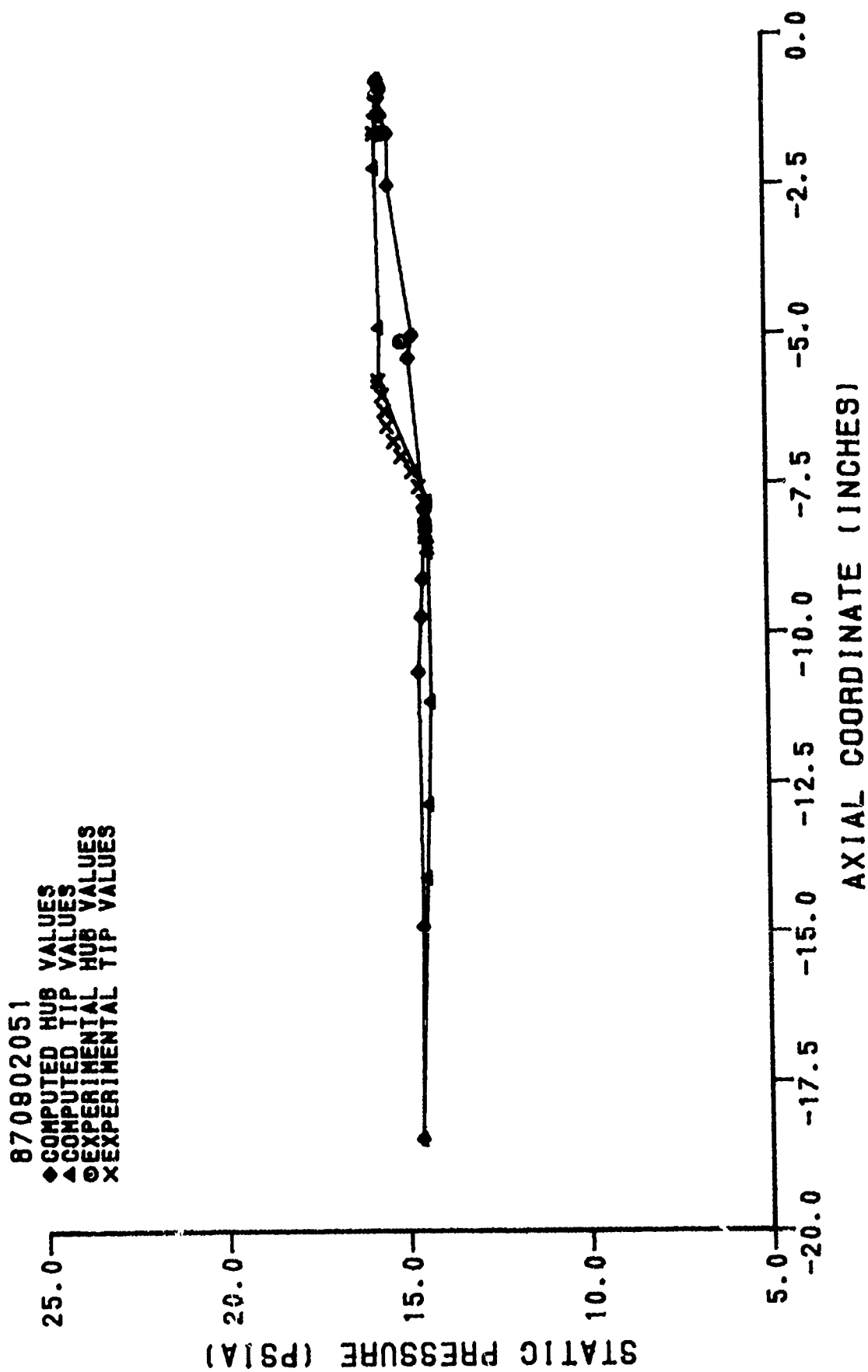


Figure 108. Static Pressure Distribution (870902051)

870902053

◆ COMPUTED HUB VALUES
▲ COMPUTED TIP VALUES
○ EXPERIMENTAL HUB VALUES
x EXPERIMENTAL TIP VALUES

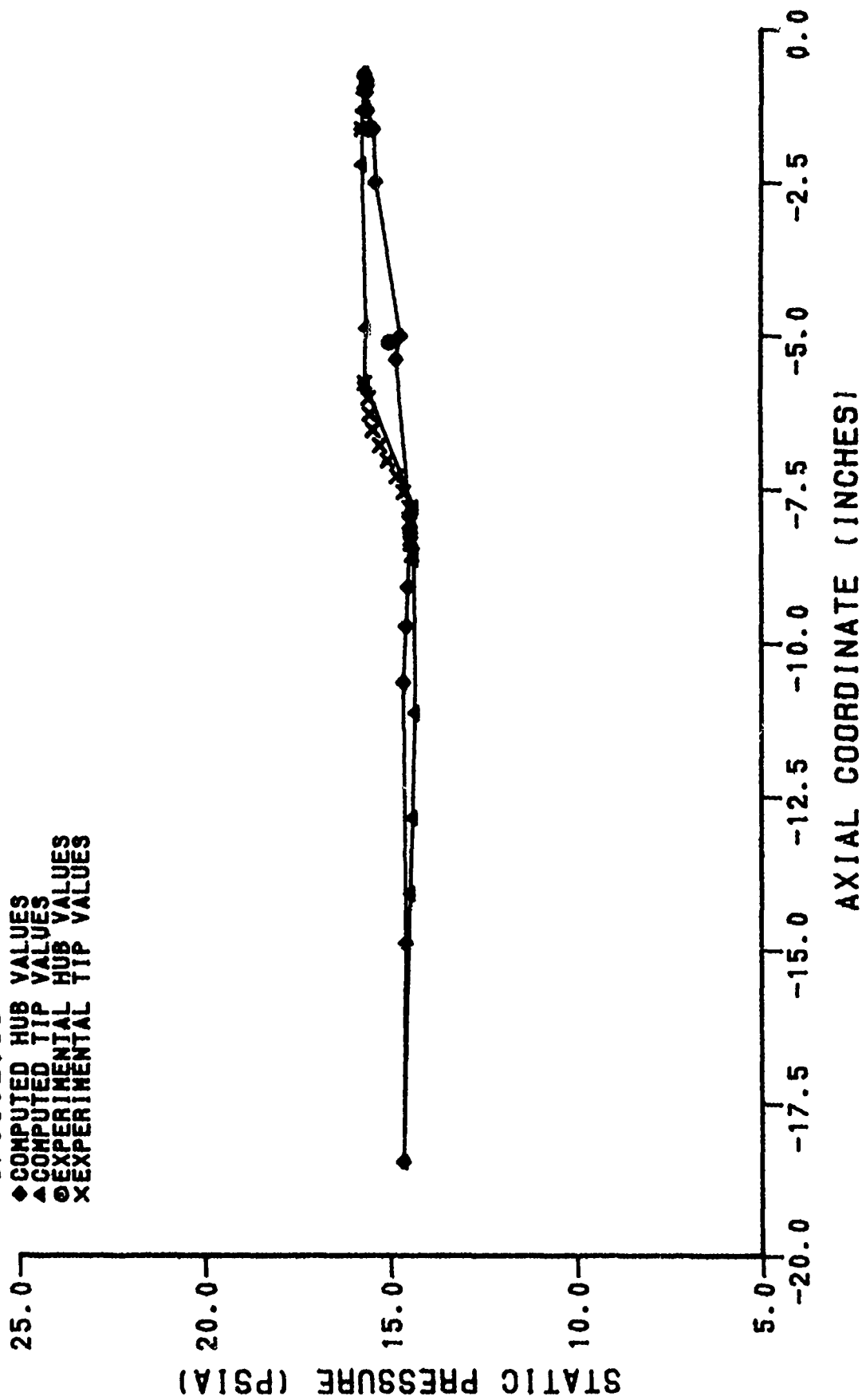


Figure 109. Static Pressure Distribution (870902053)

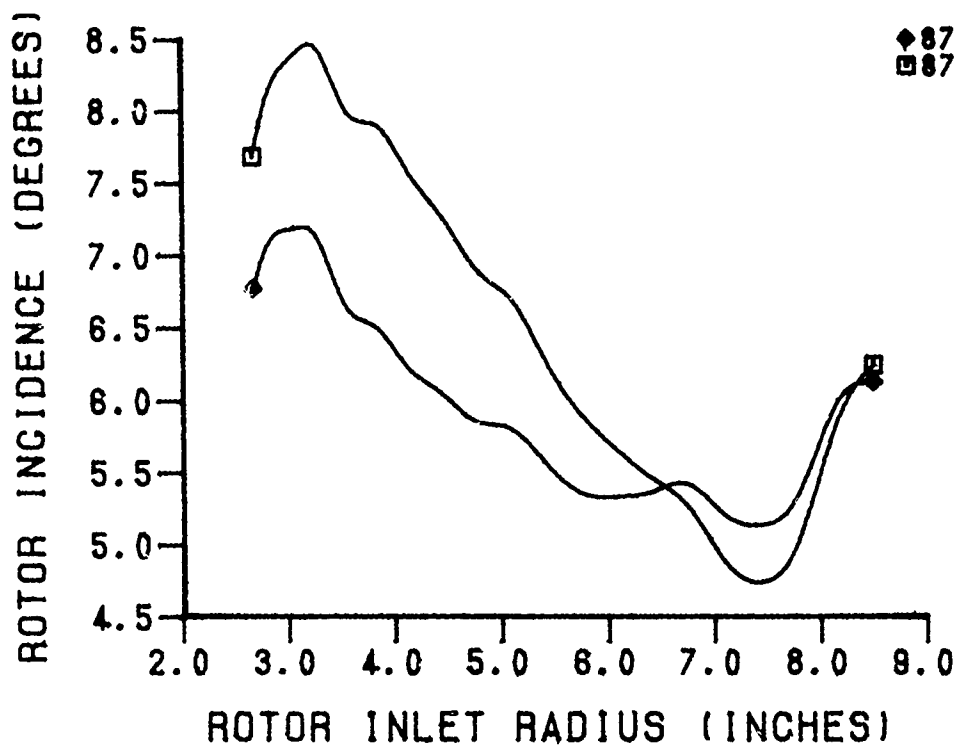


Figure 110. Rotor Incidence Angle (Thru-Blade)

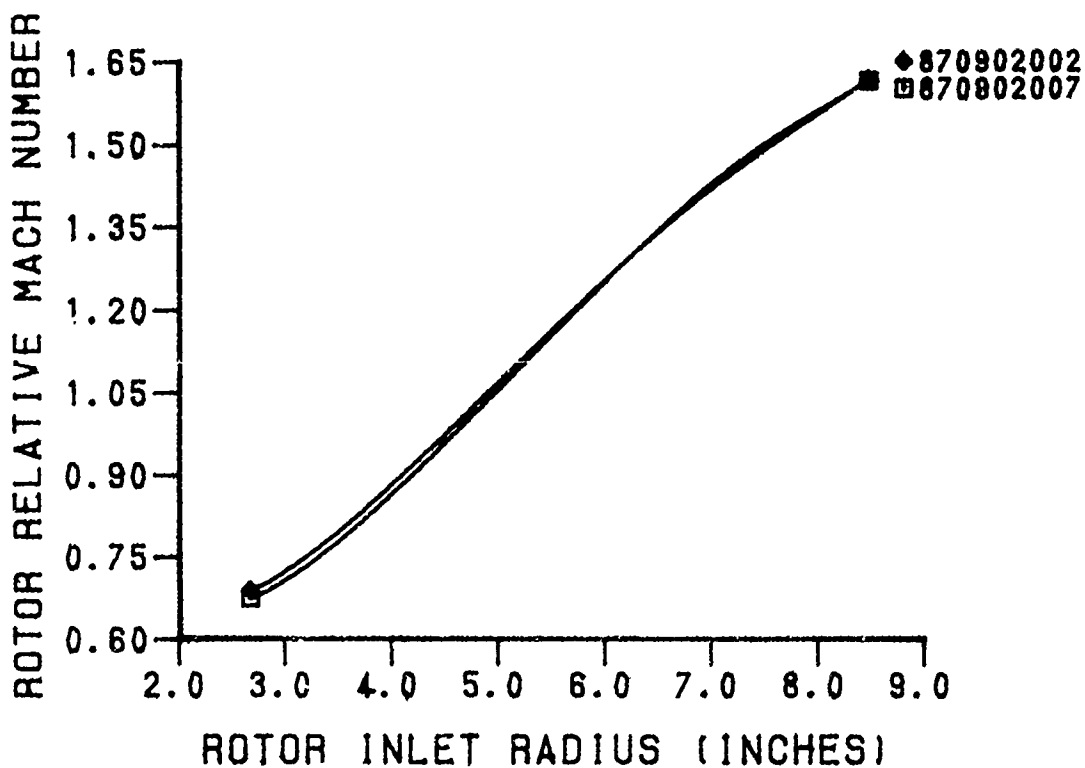


Figure 111. Rotor Relative Inlet Mach Number (Thru-Blade)

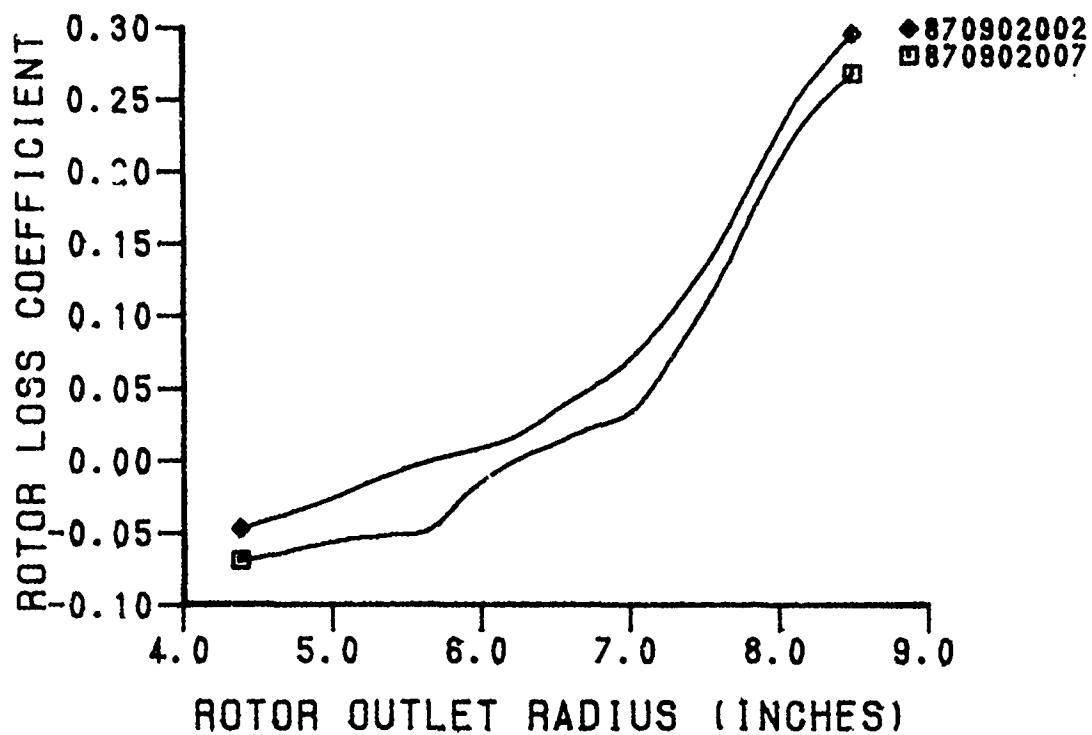


Figure 112. Rotor Loss Coefficient (Thru-Blade)

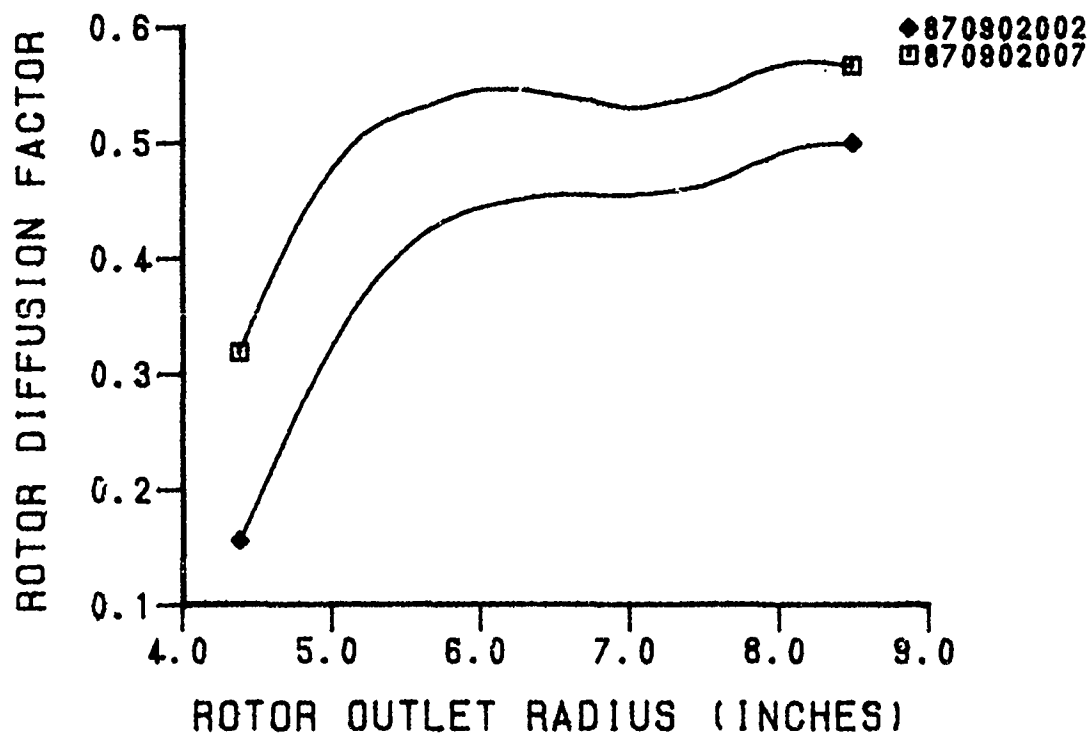


Figure 113. Rotor Diffusion Factor (Thru-Blade)

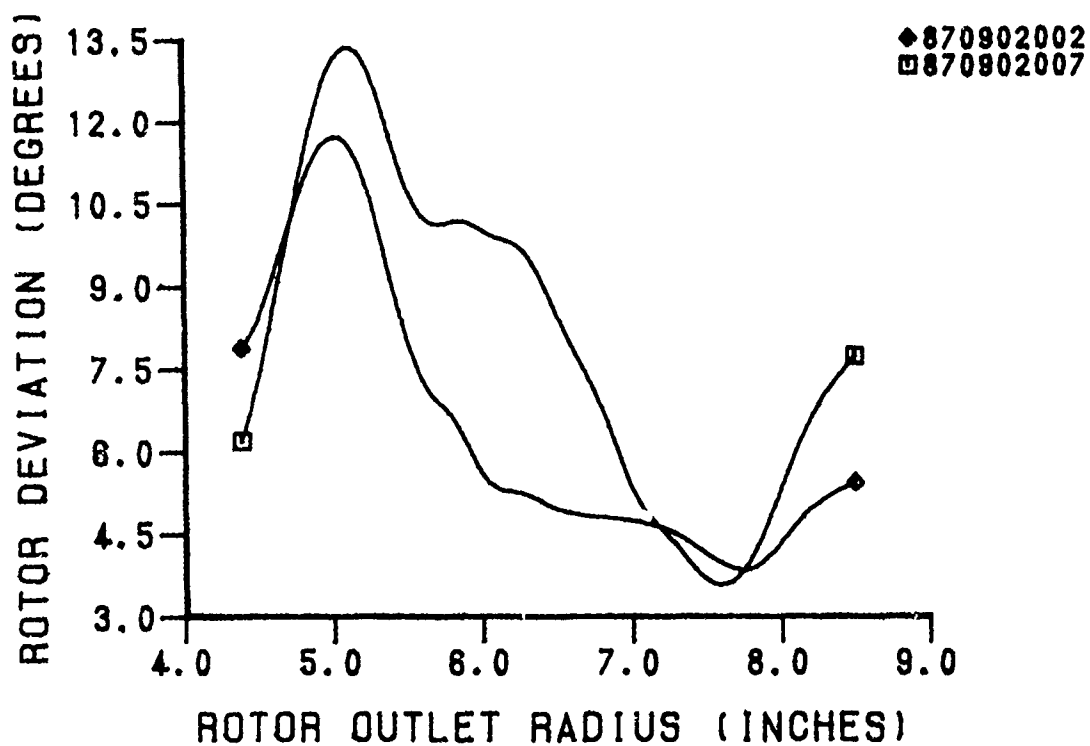


Figure 114. Rotor Deviation Angle (Thru-Blade)

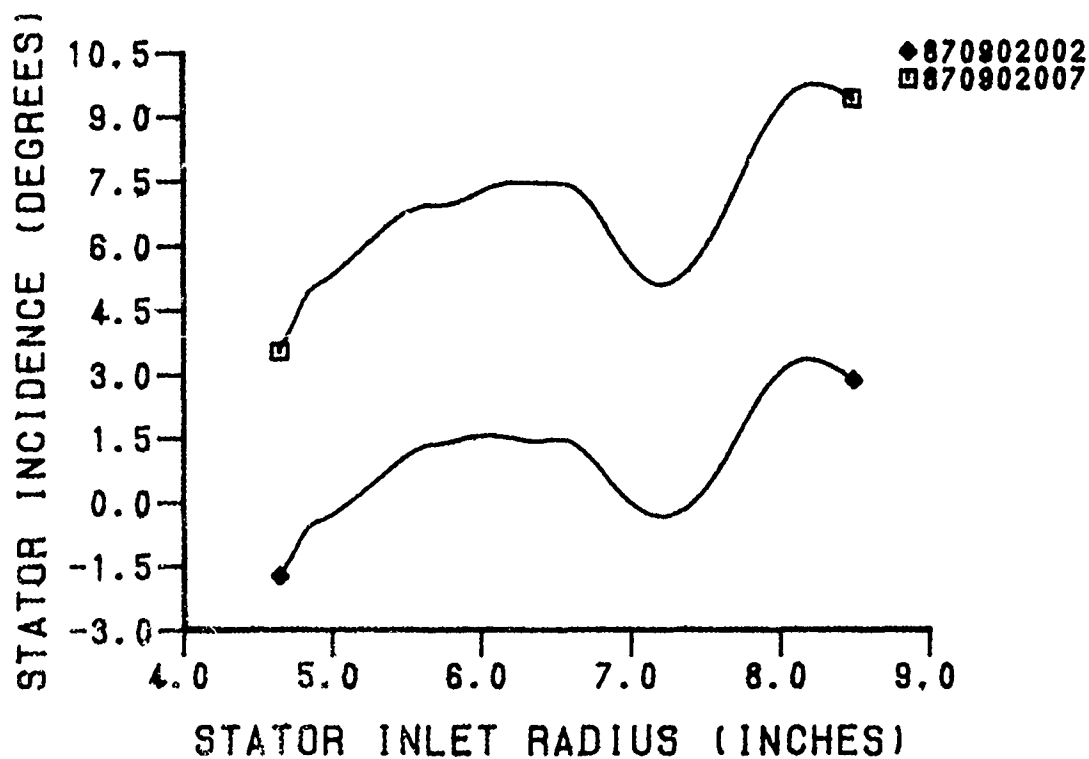


Figure 115. Stator Incidence Angle (Thru-Blade)

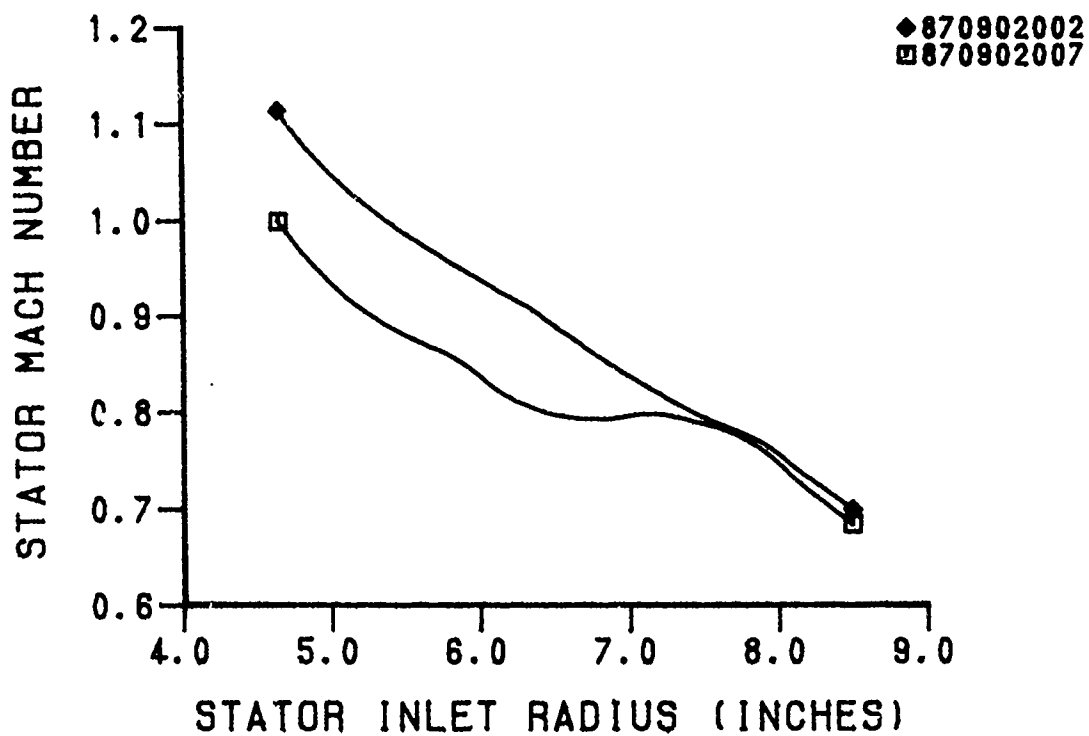


Figure 116. Stator Absolute Inlet Mach Number (Thru-Blade)

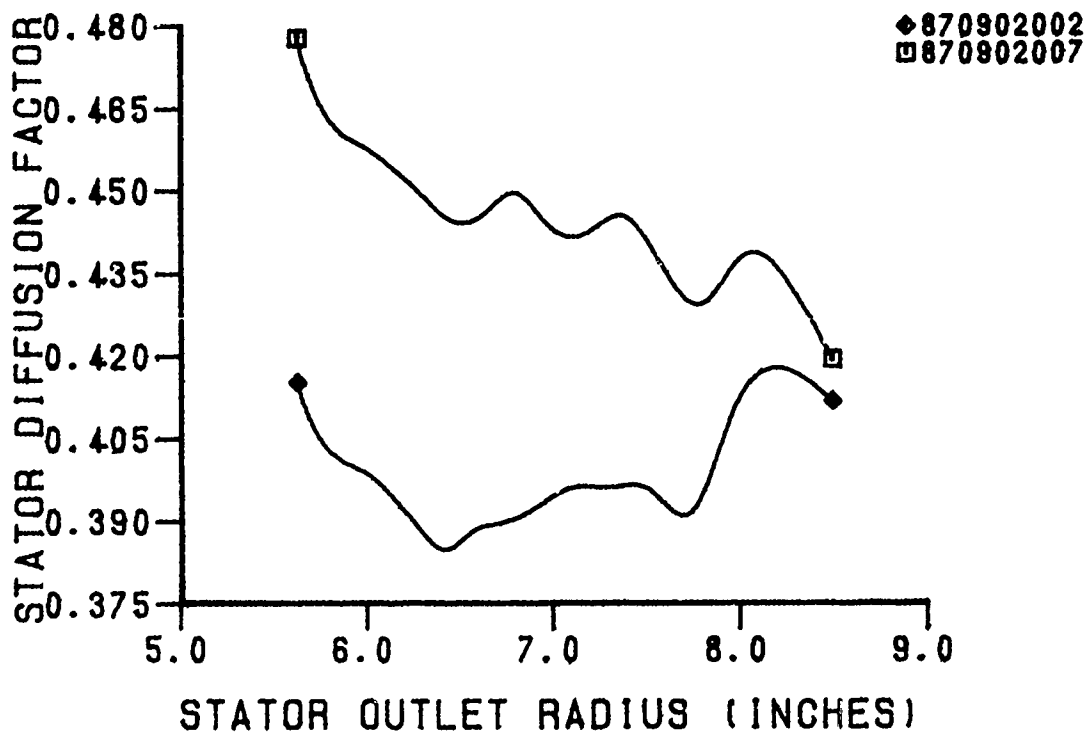


Figure 117. Stator Diffusion Factor (Thru-Blade)

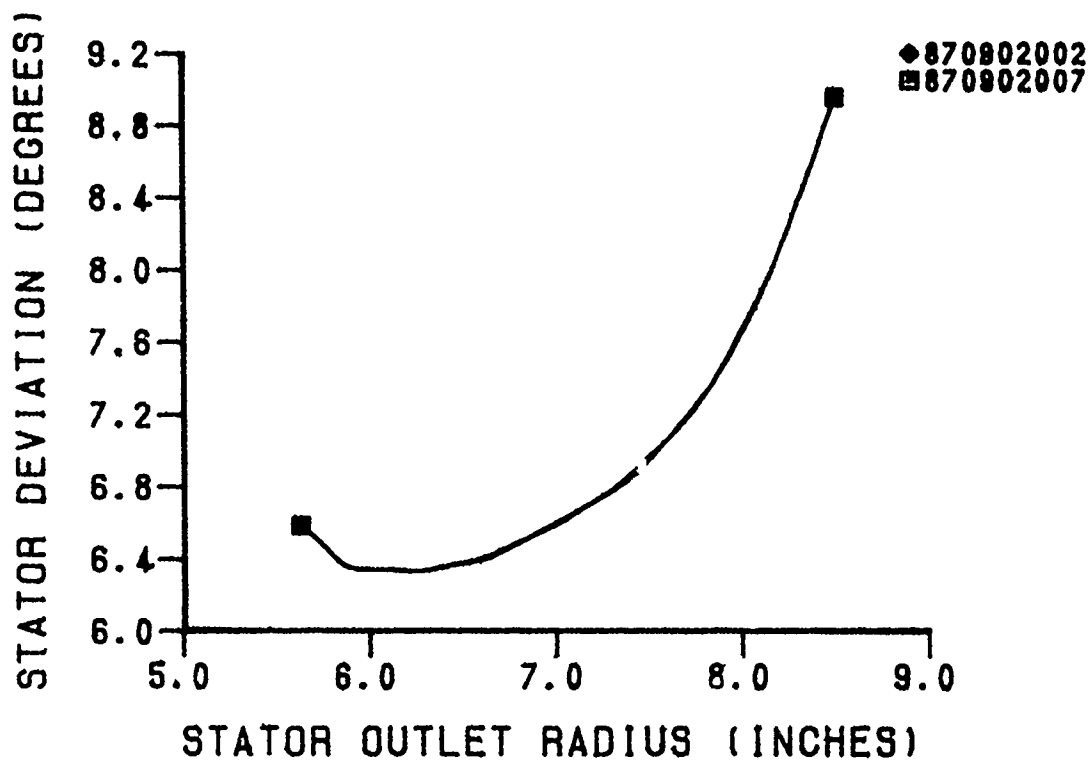


Figure 118. Stator Deviation Angle (Thru-Blade)

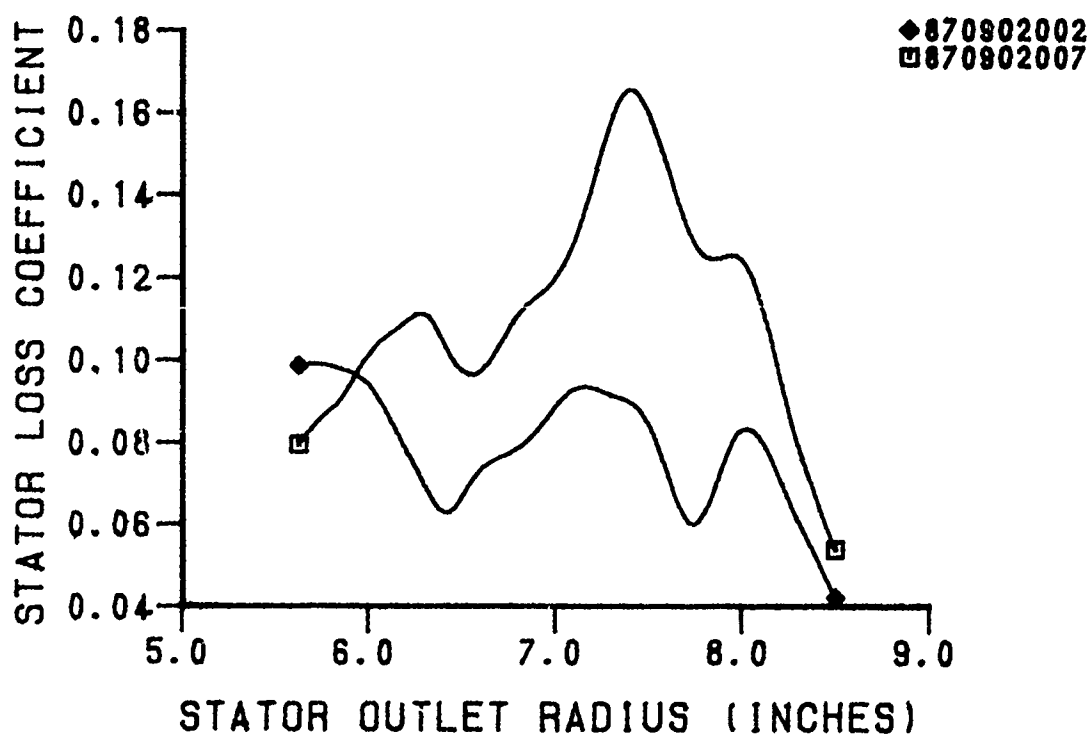


Figure 119. Stator Loss Coefficient (Thru-Blade)

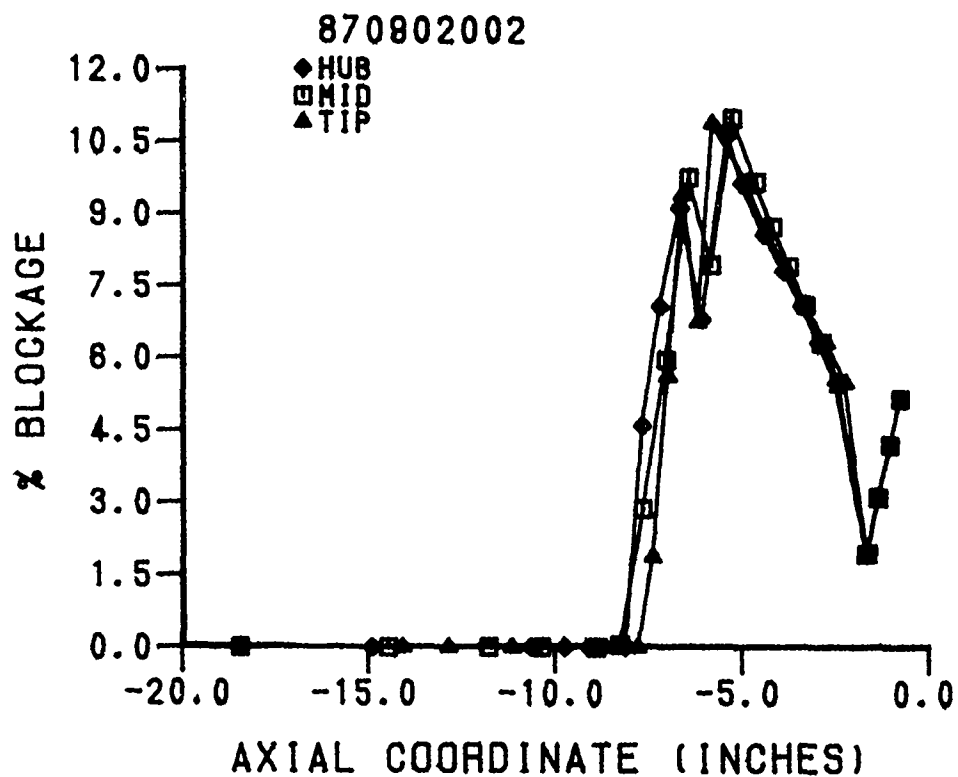


Figure 120. Wake/Bloundary Layer Blockage Distribution (Thru-Blade/870902002)

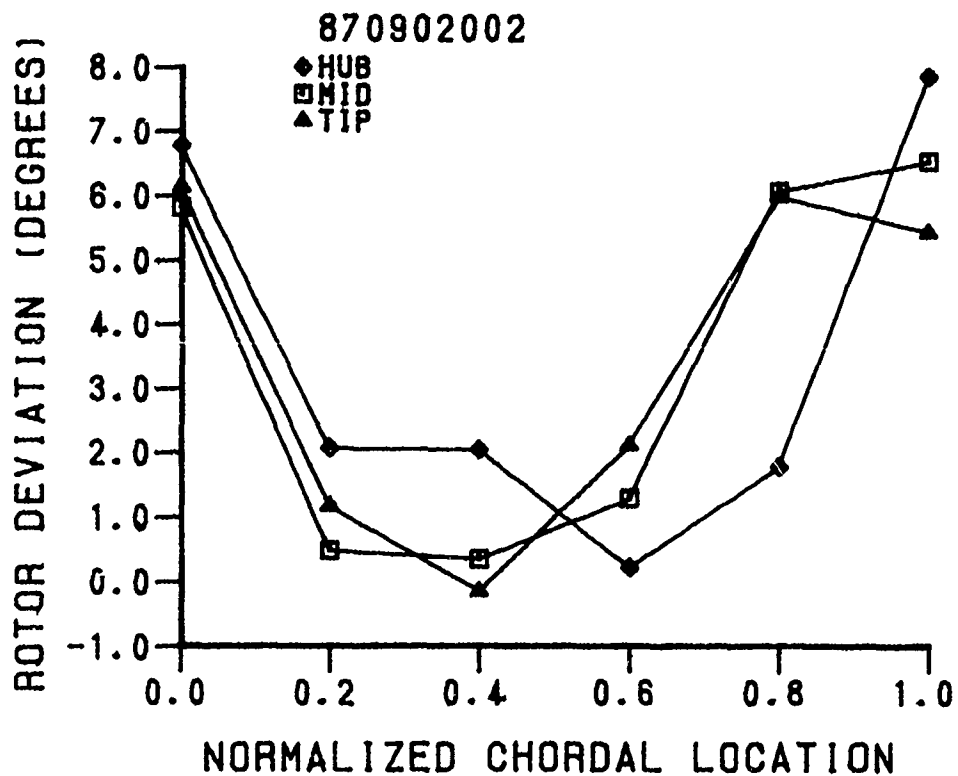


Figure 121. Chordal Distribution of Deviation (Thru-Blade/870902002)

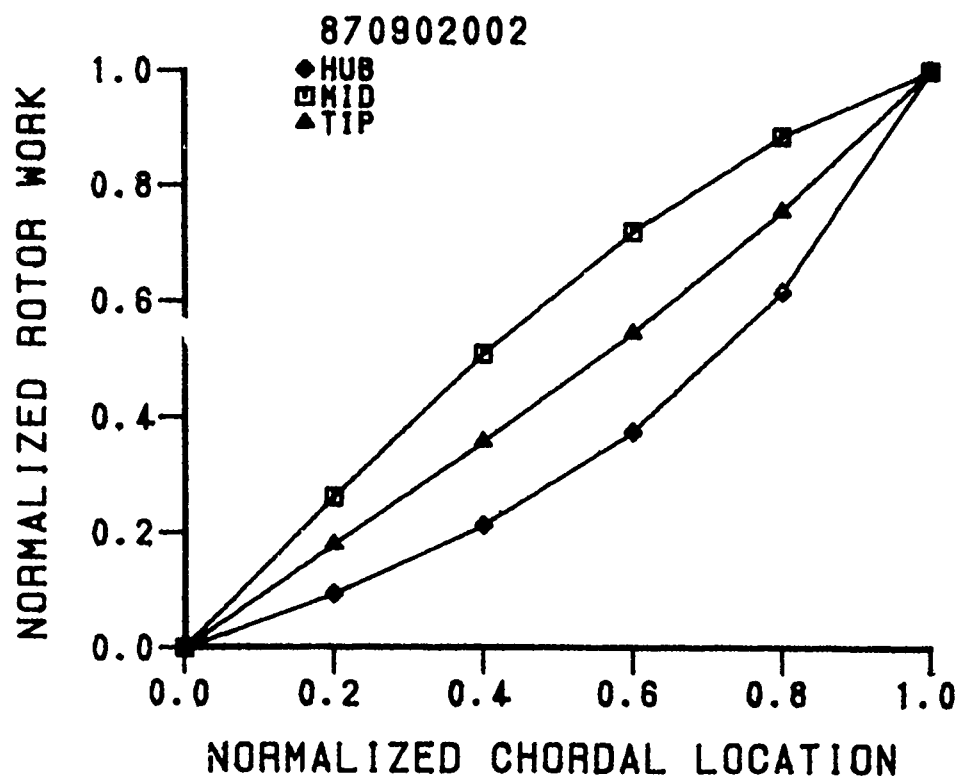


Figure 122. Chordal Distribution of Work
(Thru-Blade/870902002)

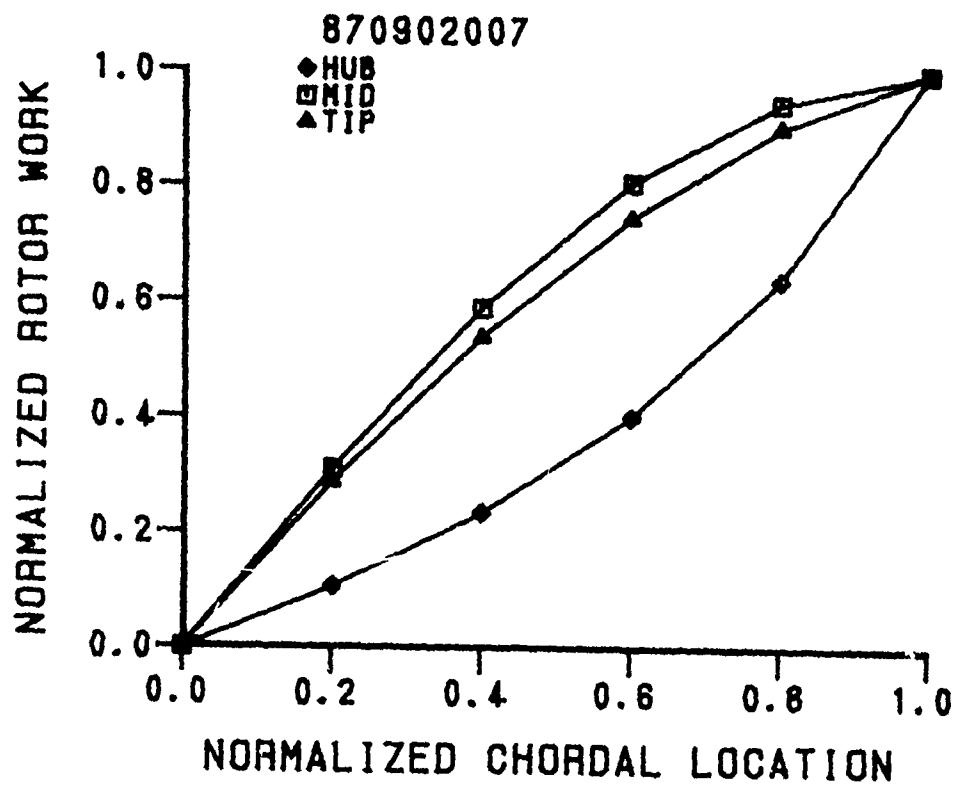


Figure 126. Chordal Distribution of Work
(Thru-Blade/870902007)

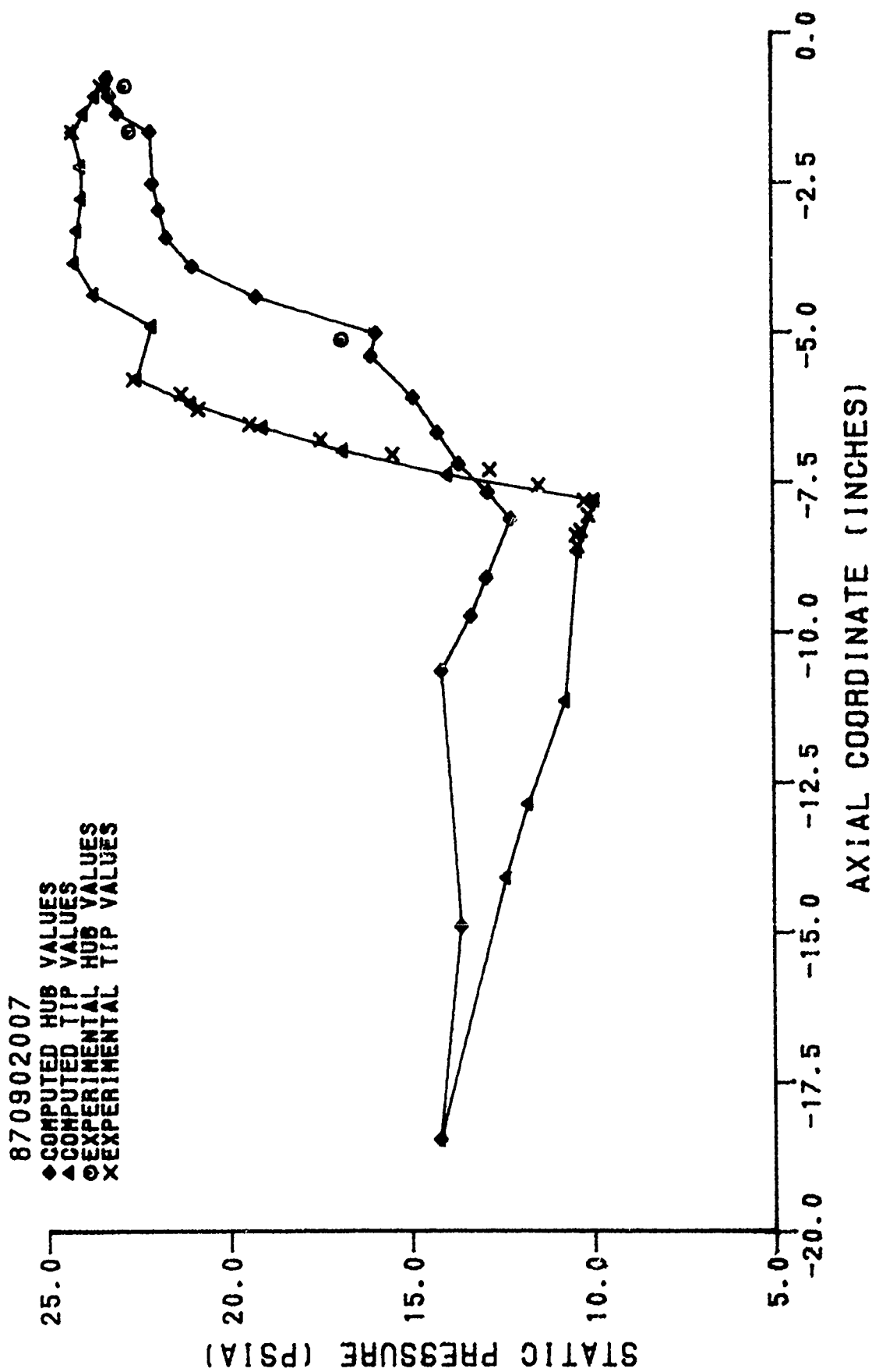


Figure 127. Static Pressure Distribution
(Thru-Blade/870902007)

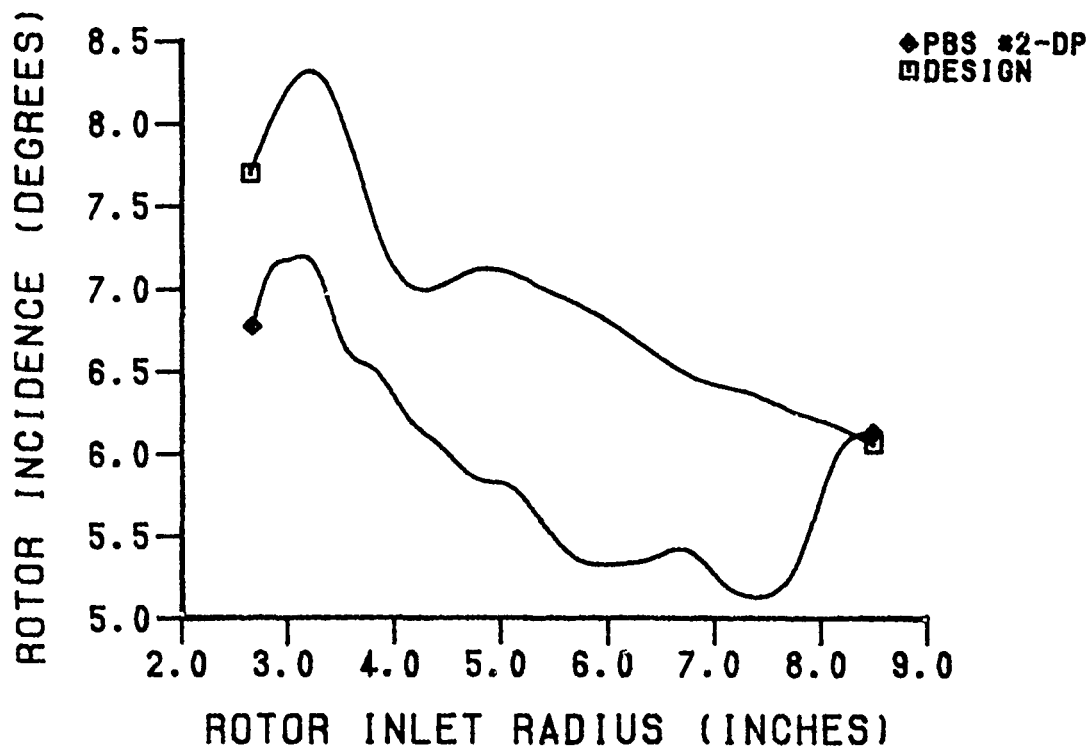


Figure 128. Comparison of Rotor Incidence Design and Experimental Distributions

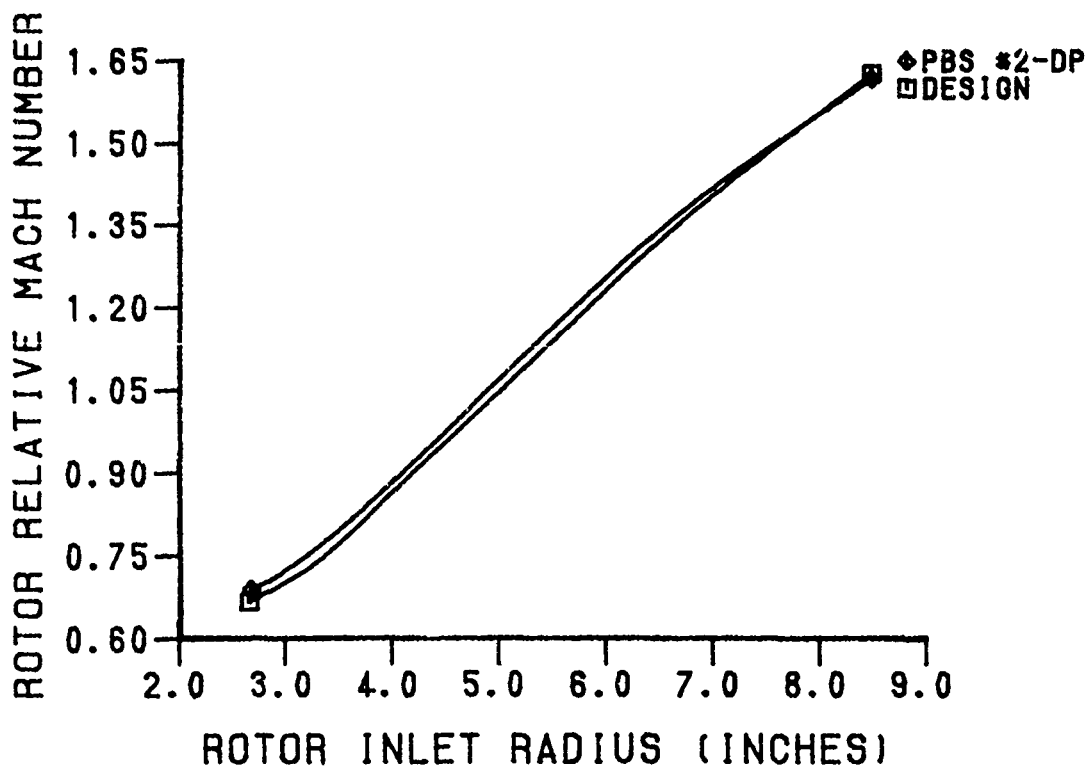


Figure 129. Comparison of Rotor Relative Inlet Mach Number Design and Experimental Distributions

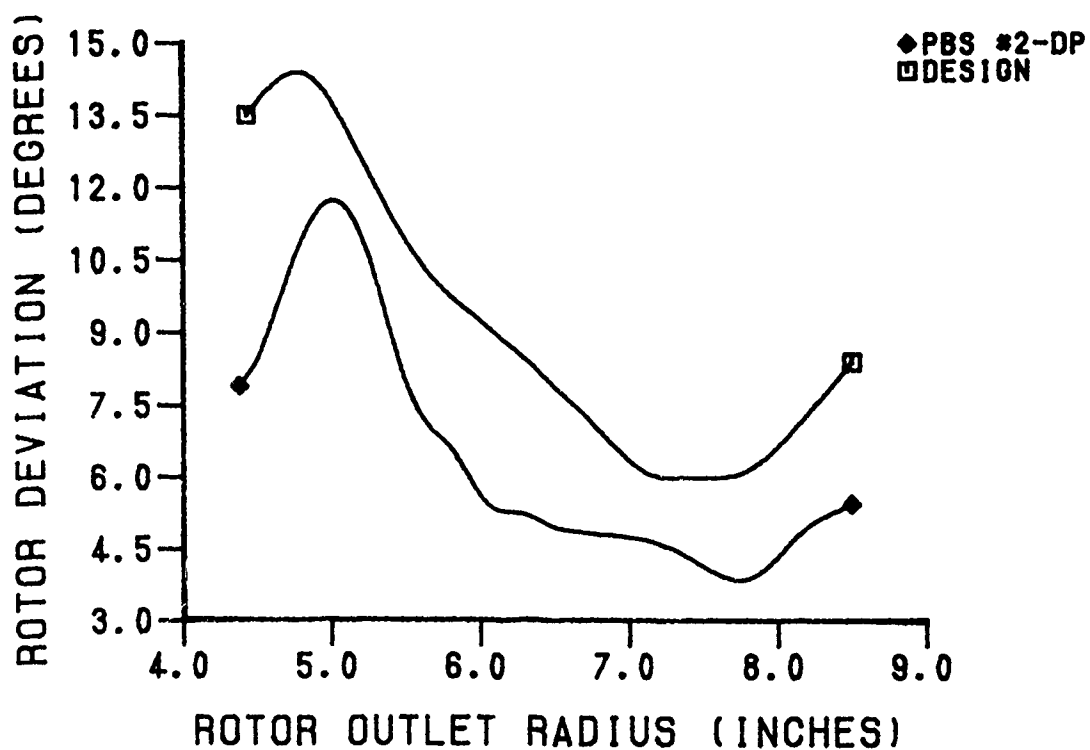


Figure 130. Comparison of Rotor Deviation Design and Experimental Distributions

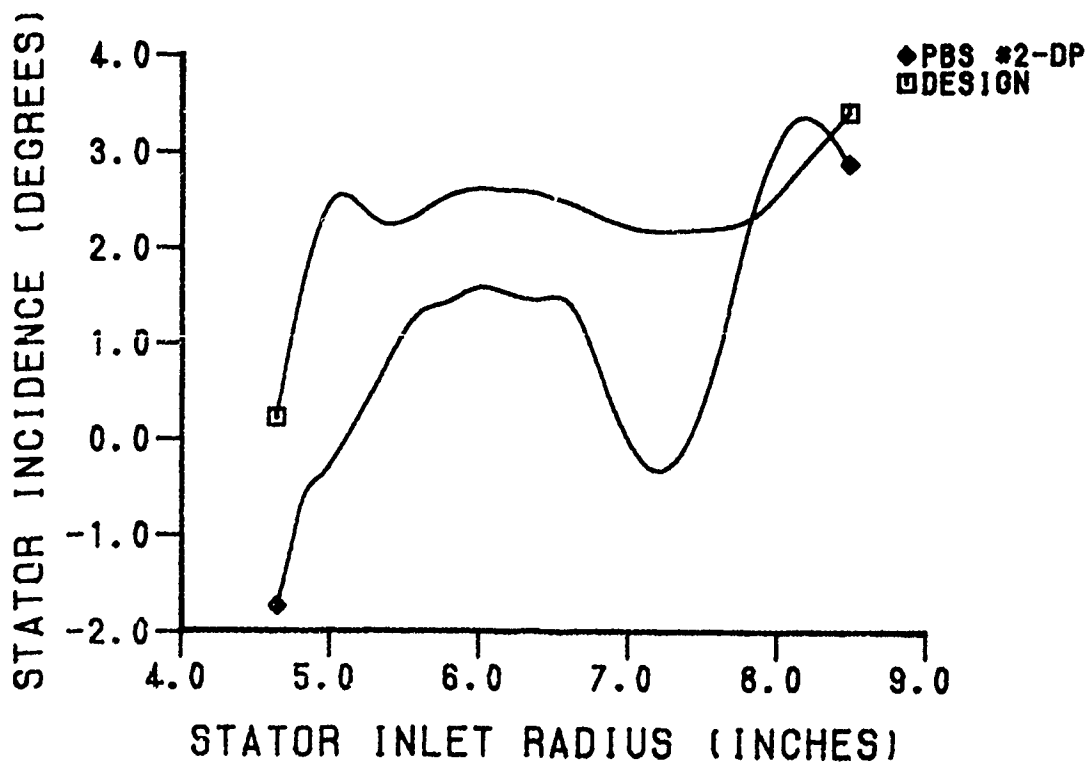


Figure 131. Comparison of Stator Incidence Design and Experimental Distributions

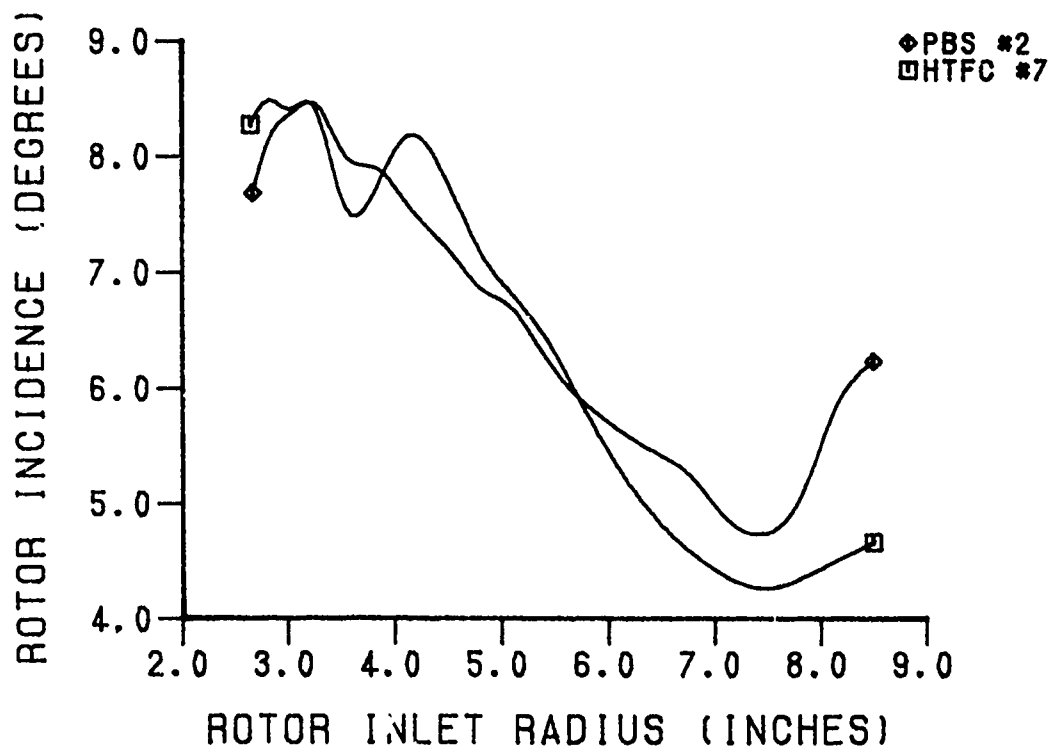


Figure 132. Rotor Incidence Angle (PBS #2 and Baseline)

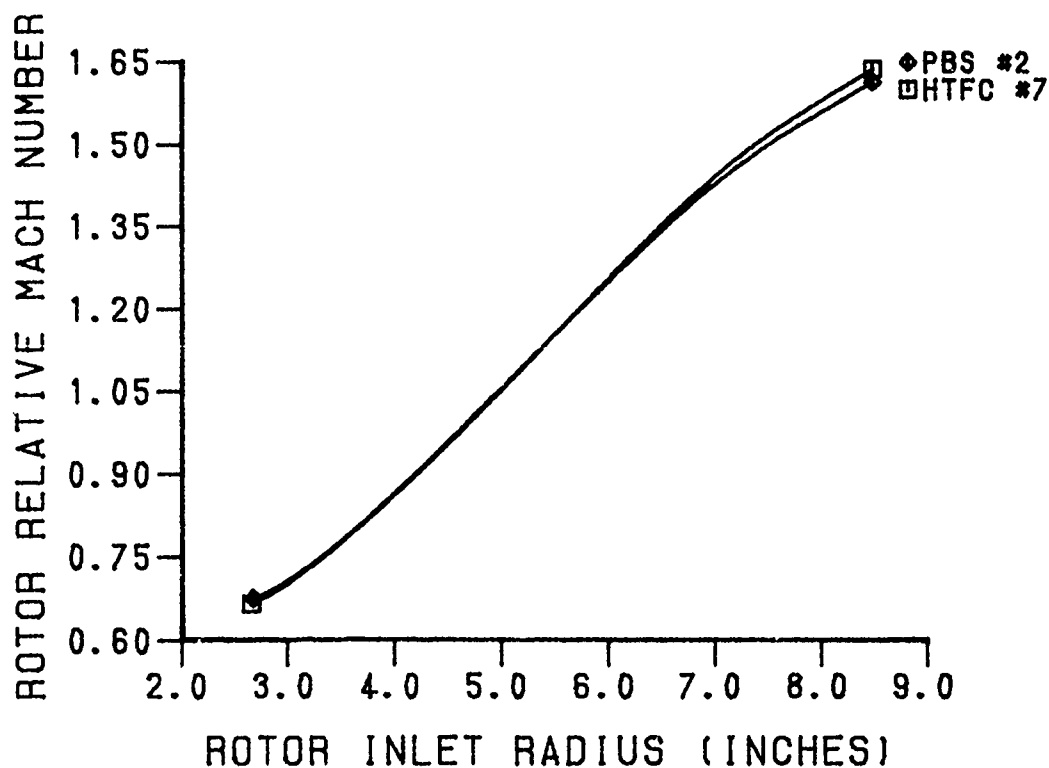


Figure 133. Rotor Relative Inlet Mach Number (PBS #2 and Baseline)

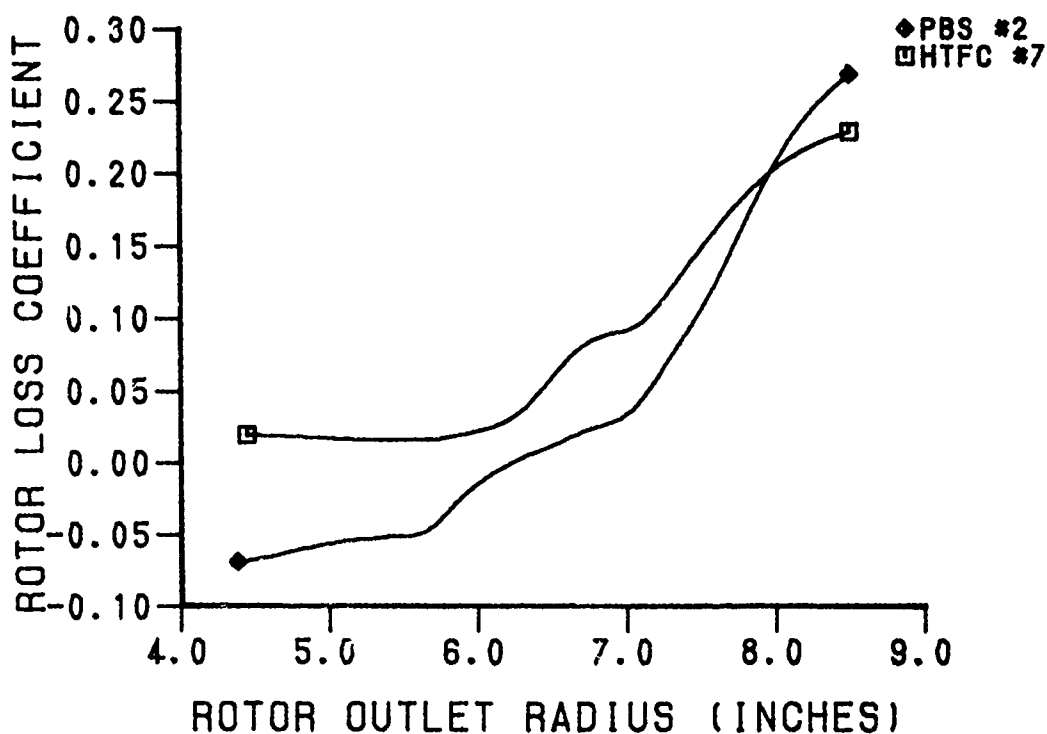


Figure 134. Rotor Loss Coefficient (PBS #2 and Baseline)

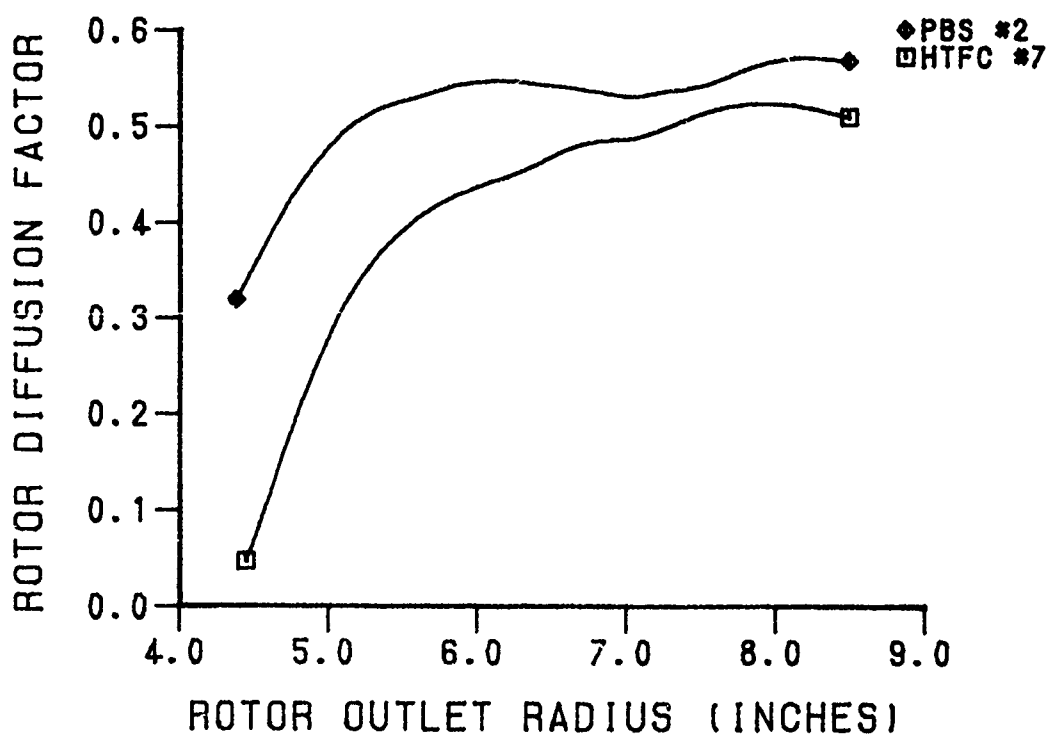


Figure 135. Rotor Diffusion Factor (PBS #2 and Baseline)

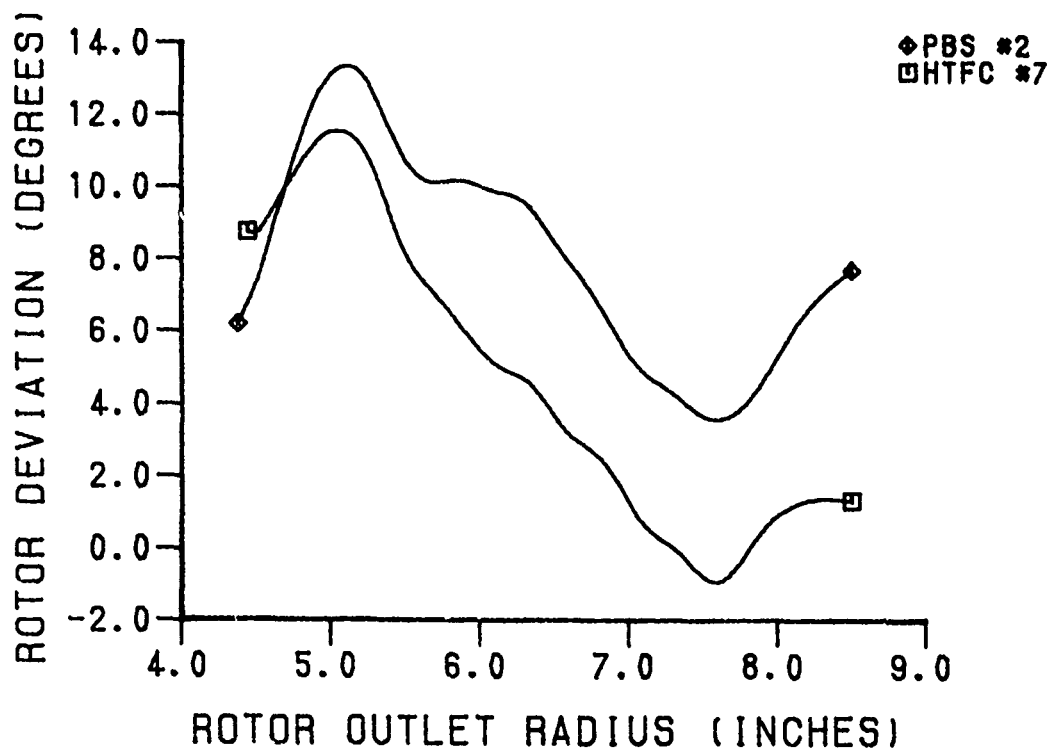


Figure 136. Rotor Deviation Angle (PBS #2 and Baseline)

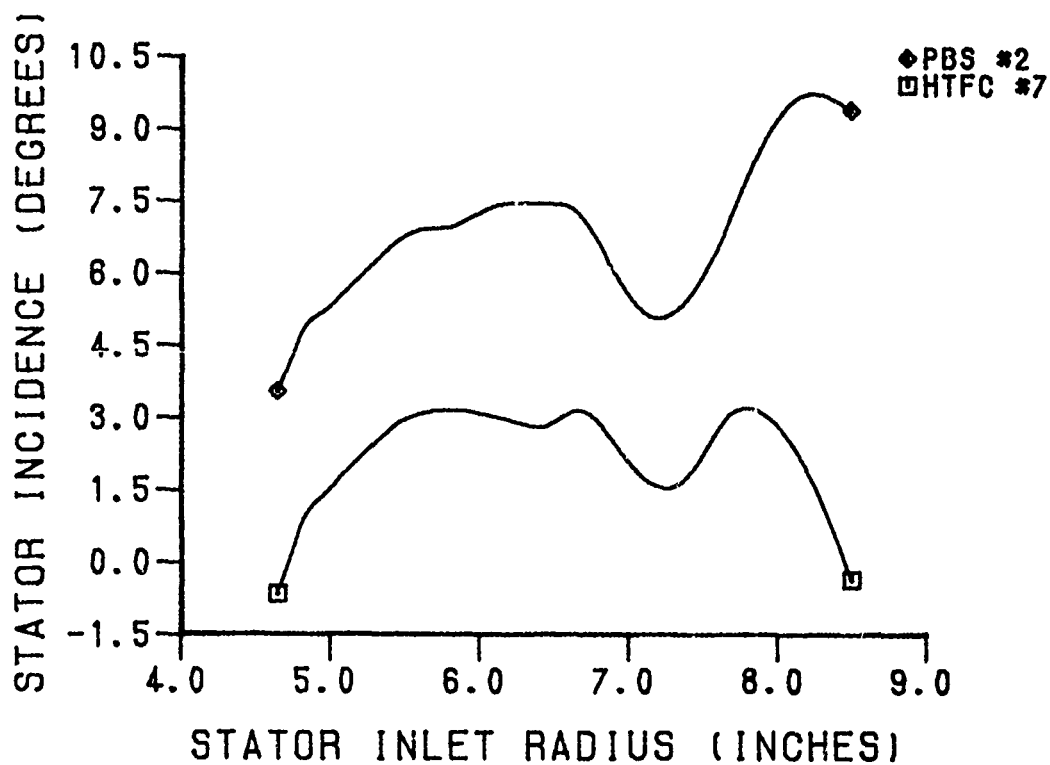


Figure 137. Stator Incidence Angle (PBS #2 and Baseline)

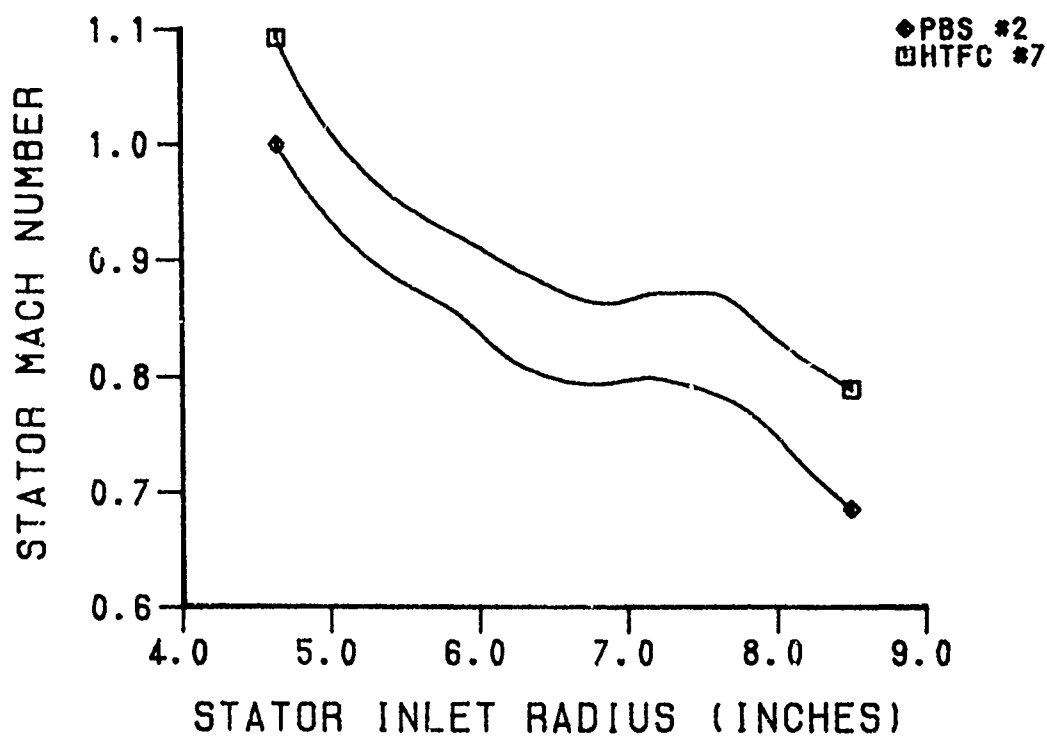


Figure 138. Stator Absolute Inlet Mach Number (PBS #2 and Easeline)

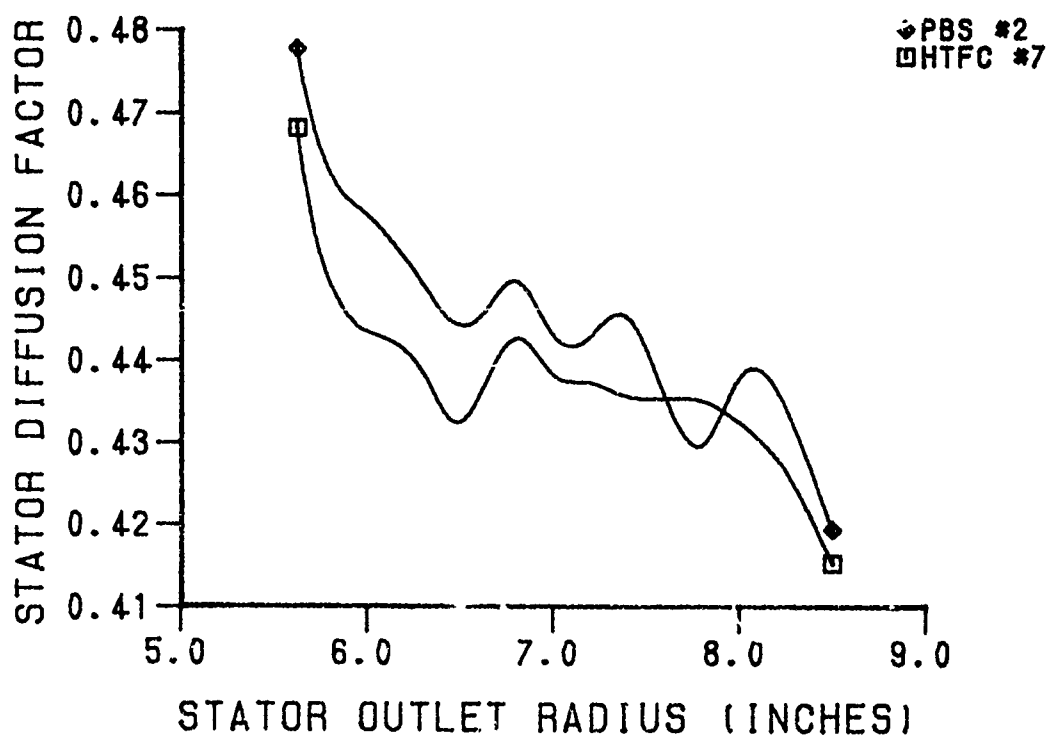


Figure 139. Stator Diffusion Factor (PBS #2 and Baseline)

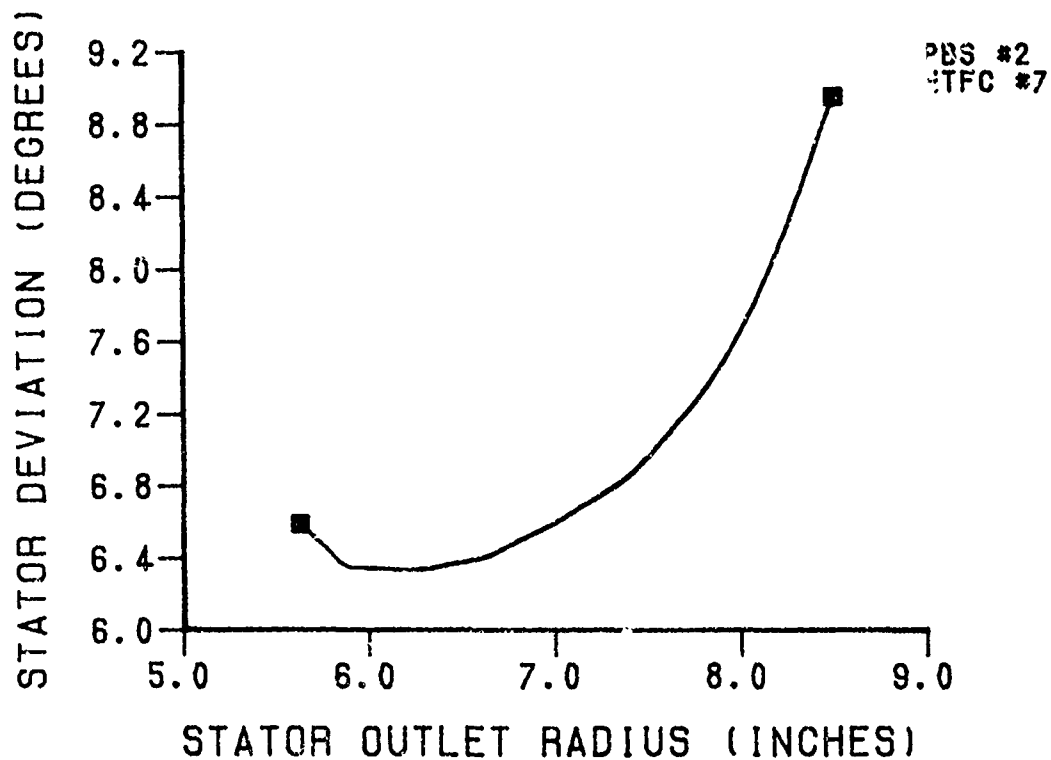


Figure 140. Stator Deviation Angle (PBS #2 and Baseline)

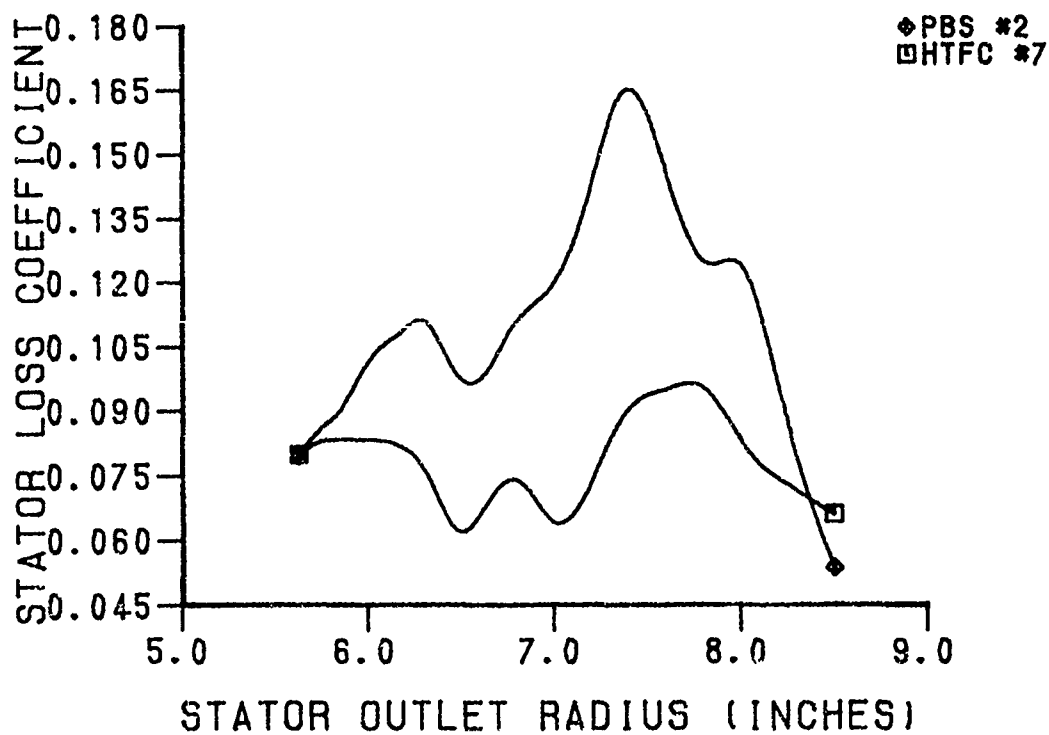


Figure 141. Stator Loss Coefficient (PBS #2 and Baseline)

APPENDIX A

SELECTED OUTPUTS FROM THE PHASE I ANALYSIS

COMPRESSOR CONFIGURATION:PBS

SCAN: 1

TEST ID:870902001

NOMINAL % DESIGN SPEED:100

THROTTLE:000

PERFORMANCE:

MEAS. WORK =1662.01 ISEN. EFFIC.= 83.442 POLYTROPIC EFFIC.=84.827
 MEAS. FLOWR.= 40.610 CORR. FLOWR.= 61.566 COMPUTED FLOWRATE=59.504
 MEASURED RPM=20482.0 CORR. RPM =20194.6 % DESIGN RPM = 99.86
 SPEC. HEAT = 1.401 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.865
 D.P. TEMP. =450.089 P. COR. FAC.= 1.495 TEMP. COR. FACT. = .972
 ATMOS. PRES.= 14.285 ATM.PRES.(S)= 14.286 REL. HUMIDITY = .034
 CALIBRATION PRESSURES (SONIX)= 9.0035 14.2864 29.2942

VENTURI PRESSURES:

INLET (AVG=10.991,SONIX=10.989)= 10.991 10.992 10.994 10.989
 THROAT (AVG= 9.720,SONIX= 9.722)= 9.720 9.718 9.720 9.718
 9.722 9.721 9.720 9.721
 9.720 9.720 9.722 9.722

PLENUM CONDITIONS:

PRESSURES (AVG= 9.830,SONIX= 9.819)= 9.826 9.835
 TEMPERATURES (AVG=533.58)= 533.46 534.05 533.05 533.46 534.46
 534.46 532.90 532.75 533.61

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 26.330 26.970 26.632 ***** 28.398 ***** 29.602
 29.776 29.506
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 663.63 637.98 ***** 641.95 643.01 *****
 637.64 640.17

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.309	-5.125	15.516
-8.400	10.251	-5.125	15.286
-8.400	10.272	-5.125	15.923
-8.400	10.282	-5.125	15.304
-8.400	10.245	-1.650	19.130
-8.318	10.185	-1.650	19.607
-8.065	9.938	-1.650	19.542
-7.811	9.868	-1.650	18.554
-7.558	10.889	-.900	18.894
-7.304	*****	-.900	19.497
-7.051	11.108	-.900	19.667
-6.98	*****	-.900	19.132
-6.544	15.456		
-6.291	17.234		
-6.037	18.037		
-5.784	19.493		
-1.650	21.371		
-1.650	21.371		
-1.650	21.288		
-1.650	20.684		
-.900	20.150		
-.900	20.694		
-.900	20.437		
-.900	19.749		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 1
THROTTLE:000

TEST ID:870902001

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	634.029	26.979	
1	2	5.996	1.16	630.681	25.220	
1	3	5.996	2.32	628.462	25.838	
1	4	5.996	3.48	633.889	28.266	
1	5	5.996	4.65	634.526	29.610	
1	6	5.996	5.81	635.146	29.862	
1	7	5.996	6.97	635.612	29.953	
1	8	5.996	8.13	636.342	29.908	
1	9	5.996	9.29	636.407	30.076	
1	10	5.996	10.45	636.938	28.025	
1	AVG			634.405	28.540	
2	1	6.387	0.00	635.070	26.914	
2	2	6.387	1.16	631.996	28.776	
2	3	6.387	2.32	635.825	29.176	
2	4	6.387	3.48	636.651	29.308	
2	5	6.387	4.65	637.706	29.386	
2	6	6.387	5.81	637.446	29.667	
2	7	6.387	6.97	636.535	29.778	
2	8	6.387	8.13	636.535	29.908	
2	9	6.387	9.29	637.200	29.935	
2	10	6.387	10.45	638.088	28.275	
2	AVG			636.328	29.153	
3	1	6.755	0.00	631.564	27.117	
3	2	6.755	1.16	630.912	28.296	
3	3	6.755	2.32	633.092	28.478	
3	4	6.755	3.48	637.296	28.662	
3	5	6.755	4.65	638.851	28.739	
3	6	6.755	5.81	640.357	29.203	
3	7	6.755	6.97	637.562	29.481	
3	8	6.755	8.13	639.429	29.767	
3	9	6.755	9.29	637.297	29.975	
3	10	6.755	10.45	640.583	27.572	
3	AVG			636.756	28.769	
4	1	7.104	0.00	631.569	26.560	
4	2	7.104	1.16	630.131	27.417	
4	3	7.104	2.32	630.954	27.642	
4	4	7.104	3.48	634.822	27.557	
4	5	7.104	4.65	634.939	27.504	
4	6	7.104	5.81	634.845	27.780	
4	7	7.104	6.97	635.935	27.916	
4	8	7.104	8.13	636.788	28.327	
4	9	7.104	9.29	637.949	29.189	
4	10	7.104	10.45	640.194	26.770	
4	AVG			634.843	27.696	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 1
THROTTLE:000

TEST ID:870902001

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	632.847	26.146	
5	2	7.437	1.16	631.108	27.253	
5	3	7.437	2.32	632.296	27.538	
5	4	7.437	3.48	635.238	27.441	
5	5	7.437	4.65	635.735	27.515	
5	6	7.437	5.81	637.215	27.611	
5	7	7.437	6.97	637.034	27.497	
5	8	7.437	8.13	638.938	27.868	
5	9	7.437	9.29	638.230	28.328	
5	10	7.437	10.45	640.564	26.487	
5	AVG			635.938	27.392	
6	1	7.756	0.00	640.249	25.533	
6	2	7.756	1.16	633.465	27.135	
6	3	7.756	2.32	636.301	27.690	
6	4	7.756	3.48	638.492	27.419	
6	5	7.756	4.65	640.239	27.376	
6	6	7.756	5.81	641.965	27.593	
6	7	7.756	6.97	643.147	27.287	
6	8	7.756	8.13	646.634	27.605	
6	9	7.756	9.29	646.041	27.725	
6	10	7.756	10.45	648.835	26.068	
6	AVG			641.490	27.179	
7	1	8.062	0.00	653.722	25.064	
7	2	8.062	1.16	640.859	26.888	
7	3	8.062	2.32	640.948	27.471	
7	4	8.062	3.48	643.687	26.966	
7	5	8.062	4.65	646.896	26.773	
7	6	8.062	5.81	650.456	27.119	
7	7	8.062	6.97	654.893	26.647	
7	8	8.062	8.13	658.290	26.955	
7	9	8.062	9.29	657.352	27.076	
7	10	8.062	10.45	661.556	25.690	
7	AVG			650.649	26.704	
8	1	8.356	0.00	660.385	25.442	
8	2	8.356	1.16	646.767	26.315	
8	3	8.356	2.32	650.871	26.595	
8	4	8.356	3.48	654.663	26.376	
8	5	8.356	4.65	657.814	26.070	
8	6	8.356	5.81	662.112	26.644	
8	7	8.356	6.97	666.339	26.309	
8	8	8.356	8.13	668.534	26.532	
8	9	8.356	9.29	668.482	26.697	
8	10	8.356	10.45	670.083	25.857	
8	AVG			660.549	26.295	

COMPRESSOR CONFIGURATION:PBS

SCAN: 2

TEST ID:870902002

NOMINAL % DESIGN SPEED:100

THROTTLE:005

PERFORMANCE:

MEAS. WORK =1657.81 ISEN. EFFIC.= 84.370 POLYTROPIC EFFIC.=85.717
 MEAS. FLOWR.= 39.503 CORR. FLOWR.= 61.615 COMPUTED FLOWRATE=59.499
 MEASURED RPM=20504.0 CORR. RPM =20187.5 % DESIGN RPM = 99.83
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.903
 D.P. TEMP. =450.089 P. COR. FAC.= 1.536 TEMP. COR. FACT. = .969
 ATMOS. PRES.= 14.287 ATM.PRES.(S)= 14.286 REL. HUMIDITY = .032
 CALIBRATION PRESSURES (SONIX)= 9.0031 14.2861 29.2923

VENTURI PRESSURES:

INLET (AVG=10.698,SONIX=10.694)= 10.699 10.701 10.694 10.697
 THROAT (AVG= 9.456,SONIX= 9.461)= 9.456 9.446 9.456 9.446
 9.459 9.459 9.459 9.459
 9.457 9.457 9.460 9.460

PLENUM CONDITIONS:

PRESSURES (AVG= 9.568,SONIX= 9.552)= 9.566 9.571
 TEMPERATURES (AVG=535.10)= 535.14 535.70 534.55 534.99 535.85
 535.85 534.40 534.14 535.26

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 27.239 27.723 27.542 ***** 29.097 ***** 29.576
 29.794 29.514
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 668.95 636.83 ***** 641.14 646.66 ***** *****
 636.71 644.00

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.300	-5.125	15.817
-8.400	10.249	-5.125	15.605
-8.400	10.292	-5.125	16.227
-8.400	10.295	-5.125	15.613
-8.400	10.225	-1.650	20.079
-8.318	10.186	-1.650	20.516
-8.065	9.942	-1.650	20.439
-7.811	9.884	-1.650	19.547
-7.558	11.036	-.900	19.840
-7.304	*****	-.900	20.496
-7.051	11.494	-.900	20.542
-6.798	*****	-.900	20.054
-6.544	15.945		
-6.291	17.944		
-6.037	18.619		
-5.784	20.013		
-1.650	22.130		
-1.650	22.130		
-1.650	22.093		
-1.650	21.479		
-.900	20.969		
-.900	21.463		
-.900	21.284		
-.900	20.620		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 2
THROTTLE:005

TEST ID:870902002

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	634.411	27.300	
1	2	5.996	1.16	631.294	25.632	
1	3	5.996	2.32	628.906	26.110	
1	4	5.996	3.48	634.327	28.264	
1	5	5.996	4.65	633.826	29.609	
1	6	5.996	5.81	634.899	29.877	
1	7	5.996	6.97	635.259	29.902	
1	8	5.996	8.13	635.830	29.860	
1	9	5.996	9.29	635.619	29.959	
1	10	5.996	10.45	636.070	28.247	
1	AVG			634.209	28.628	
2	1	6.387	0.00	635.245	26.993	
2	2	6.387	1.16	631.929	28.769	
2	3	6.387	2.32	634.936	29.306	
2	4	6.387	3.48	636.132	29.352	
2	5	6.387	4.65	637.184	29.433	
2	6	6.387	5.81	637.320	29.748	
2	7	6.387	6.97	636.608	29.809	
2	8	6.387	8.13	636.974	30.018	
2	9	6.387	9.29	637.450	30.042	
2	10	6.387	10.45	637.582	28.487	
2	AVG			636.165	29.240	
3	1	6.755	0.00	633.968	27.178	
3	2	6.755	1.16	634.312	28.804	
3	3	6.755	2.32	635.829	28.913	
3	4	6.755	3.48	639.233	28.890	
3	5	6.755	4.65	639.714	29.054	
3	6	6.755	5.81	640.714	29.396	
3	7	6.755	6.97	637.001	29.658	
3	8	6.755	8.13	638.575	29.956	
3	9	6.755	9.29	636.496	30.044	
3	10	6.755	10.45	638.993	27.909	
3	AVG			637.519	29.022	
4	1	7.104	0.00	635.489	26.848	
4	2	7.104	1.16	634.916	28.261	
4	3	7.104	2.32	634.581	28.462	
4	4	7.104	3.48	638.917	28.505	
4	5	7.104	4.65	638.303	28.441	
4	6	7.104	5.81	637.994	28.687	
4	7	7.104	6.97	638.828	28.580	
4	8	7.104	8.13	638.964	28.955	
4	9	7.104	9.29	639.491	29.487	
4	10	7.104	10.45	641.047	27.267	
4	AVG			637.869	28.383	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 2
THROTTLE:005

TEST ID:870902002

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	637.681	26.391	
5	2	7.437	1.16	635.645	27.922	
5	3	7.437	2.32	635.229	28.355	
5	4	7.437	3.48	638.499	28.331	
5	5	7.437	4.65	638.506	28.389	
5	6	7.437	5.81	640.192	28.497	
5	7	7.437	6.97	640.290	28.281	
5	8	7.437	8.13	641.846	28.635	
5	9	7.437	9.29	640.998	28.997	
5	10	7.437	10.45	643.191	27.159	
5	AVG			639.214	28.132	
6	1	7.756	0.00	647.417	26.015	
6	2	7.756	1.16	639.136	27.341	
6	3	7.756	2.32	638.850	28.479	
6	4	7.756	3.48	640.915	28.463	
6	5	7.756	4.65	643.346	28.437	
6	6	7.756	5.81	645.577	28.617	
6	7	7.756	6.97	647.353	28.412	
6	8	7.756	8.13	650.854	28.533	
6	9	7.756	9.29	649.732	28.520	
6	10	7.756	10.45	652.982	26.934	
6	AVG			645.541	28.028	
7	1	8.062	0.00	658.831	25.782	
7	2	8.062	1.16	646.159	27.287	
7	3	8.062	2.32	645.000	28.333	
7	4	8.062	3.48	647.533	27.898	
7	5	8.062	4.65	651.493	27.631	
7	6	8.062	5.81	654.969	28.017	
7	7	8.062	6.97	658.496	27.397	
7	8	8.062	8.13	661.893	27.849	
7	9	8.062	9.29	661.159	27.850	
7	10	8.062	10.45	665.851	26.441	
7	AVG			654.918	27.493	
8	1	8.356	0.00	664.565	26.025	
8	2	8.356	1.16	653.182	26.882	
8	3	8.356	2.32	656.715	27.430	
8	4	8.356	3.48	659.240	27.021	
8	5	8.356	4.65	662.395	26.749	
8	6	8.356	5.81	666.163	27.385	
8	7	8.356	6.97	669.629	27.029	
8	8	8.356	8.13	672.830	27.302	
8	9	8.356	9.29	673.078	27.413	
8	10	8.356	10.45	674.547	26.675	
8	AVG			665.213	27.006	

THROTTLE:025

PERFORMANCE:

MEAS. WORK	=1655.35	ISEN. EFFIC.=	85.157	POLYTROPIC EFFIC.=	86.473
MEAS. FLOWR.=	38.317	CORR. FLOWR.=	61.464	COMPUTED FLOWRATE=	59.512
MEASURED RPM=	20532.0	CORR. RPM	=20191.3	% DESIGN RPM	= 99.85
SPEC. HEAT	= 1.400	GAS CONSTANT=	53.351	PRESSURE RATIO	= 1.941
D.P. TEMP.	=449.968	P. COR. FAC.=	1.577	TEMP. COR. FACT.	= .967
ATMOS. PRES.=	14.283	ATM.PRES.(S)=	14.285	REL. HUMIDITY	= .030
CALIBRATION PRESSURES	(SONIX)=	9.0050	14.2852	29.2937	

VENTURI PRESSURES:

INLET (AVG=10.412,SONIX=10.409)=	10.412	10.412	10.409	10.417
THROAT (AVG= 9.209,SONIX= 9.210)=	9.206	9.209	9.206	9.209
	9.211	9.210	9.209	9.210
	9.209	9.209	9.210	9.211

PLENUM CONDITIONS:

```

PRESSURES      (AVG= 9.315,SONIX= 9.300)=      9.319      9.311
TEMPERATURES   (AVG=536.36)= 536.40 536.96 535.96 536.25 537.10
                                536.96 535.66 535.54 536.40

```

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS	=	8.125	7.750	7.375	7.000	6.625	6.250	5.875
		5.500	5.125					
PRESSURE	=	28.054	28.418	28.616	*****	29.488	*****	29.673
		29.818	29.590					
RADIUS	=	8.125	7.750	7.375	7.000	6.625	6.250	5.875
		5.500	5.125					
TEMPERATURE	=	675.42	637.29	*****	639.74	650.59	*****	*****
		635.93	644.86					

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.321	-5.125	16.101
-8.400	10.261	-5.125	15.925
-8.400	10.285	-5.125	16.563
-8.400	10.324	-5.125	15.928
-8.400	10.255	-1.650	20.967
-8.318	10.183	-1.650	21.360
-8.065	9.976	-1.650	21.300
-7.811	9.941	-1.650	20.460
-7.558	11.196	-.900	20.720
-7.304	*****	-.900	21.382
-7.051	12.418	-.900	21.376
-6.798	*****	-.900	20.927
-6.544	16.648		
-6.291	18.752		
-6.037	19.254		
-5.784	20.641		
-1.650	22.872		
-1.650	22.872		
-1.650	22.869		
-1.650	22.231		
-.900	21.762		
-.900	22.255		
-.900	22.138		
-.900	21.400		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 3
THROTTLE:025

TEST ID:870902004

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	634.378	27.627	
1	2	5.996	1.16	631.914	26.026	
1	3	5.996	2.32	629.915	26.621	
1	4	5.996	3.48	634.618	28.305	
1	5	5.996	4.65	633.288	29.634	
1	6	5.996	5.81	634.474	29.865	
1	7	5.996	6.97	634.923	29.847	
1	8	5.996	8.13	635.281	29.884	
1	9	5.996	9.29	635.389	30.051	
1	10	5.996	10.45	636.066	28.609	
1	AVG			634.145	28.779	
2	1	6.387	0.00	635.747	27.135	
2	2	6.387	1.16	631.455	28.386	
2	3	6.387	2.32	634.719	29.308	
2	4	6.387	3.48	635.666	29.507	
2	5	6.387	4.65	637.050	29.467	
2	6	6.387	5.81	637.233	29.860	
2	7	6.387	6.97	637.235	29.889	
2	8	6.387	8.13	637.258	30.173	
2	9	6.387	9.29	638.317	30.291	
2	10	6.387	10.45	637.214	28.830	
2	AVG			636.242	29.336	
3	1	6.755	0.00	635.635	27.345	
3	2	6.755	1.16	634.638	28.919	
3	3	6.755	2.32	635.693	28.998	
3	4	6.755	3.48	638.171	28.926	
3	5	6.755	4.65	638.658	29.037	
3	6	6.755	5.81	639.819	29.413	
3	7	6.755	6.97	636.457	29.614	
3	8	6.755	8.13	638.758	29.951	
3	9	6.755	9.29	636.188	30.052	
3	10	6.755	10.45	639.387	28.202	
3	AVG			637.352	29.084	
4	1	7.104	0.00	638.220	26.944	
4	2	7.104	1.16	637.744	28.753	
4	3	7.104	2.32	637.668	29.077	
4	4	7.104	3.48	642.767	29.185	
4	5	7.104	4.65	642.135	29.215	
4	6	7.104	5.81	641.599	29.524	
4	7	7.104	6.97	642.116	29.280	
4	8	7.104	8.13	642.291	29.596	
4	9	7.104	9.29	641.945	29.980	
4	10	7.104	10.45	642.980	27.926	
4	AVG			640.991	28.997	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 3
THROTTLE:025

TEST ID:870902004

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	643.949	26.899	
5	2	7.437	1.16	640.820	28.002	
5	3	7.437	2.32	639.107	29.105	
5	4	7.437	3.48	643.596	29.331	
5	5	7.437	4.65	642.593	29.357	
5	6	7.437	5.81	643.477	29.509	
5	7	7.437	6.97	643.432	29.148	
5	8	7.437	8.13	645.262	29.472	
5	9	7.437	9.29	644.501	29.804	
5	10	7.437	10.45	646.177	28.167	
5	AVG			643.288	28.931	
6	1	7.756	0.00	654.193	26.701	
6	2	7.756	1.16	645.099	27.197	
6	3	7.756	2.32	643.237	28.981	
6	4	7.756	3.48	645.532	29.572	
6	5	7.756	4.65	646.659	29.662	
6	6	7.756	5.81	649.703	29.758	
6	7	7.756	6.97	652.063	29.459	
6	8	7.756	8.13	654.631	29.546	
6	9	7.756	9.29	654.146	29.574	
6	10	7.756	10.45	657.952	28.013	
6	AVG			650.253	28.929	
7	1	8.062	0.00	662.735	26.469	
7	2	8.062	1.16	651.980	27.658	
7	3	8.062	2.32	651.346	29.124	
7	4	8.062	3.48	653.875	28.945	
7	5	8.062	4.65	656.059	28.560	
7	6	8.062	5.81	658.374	29.153	
7	7	8.062	6.97	661.952	28.414	
7	8	8.062	8.13	664.644	28.677	
7	9	8.062	9.29	664.516	28.678	
7	10	8.062	10.45	671.611	27.240	
7	AVG			659.511	28.349	
8	1	8.356	0.00	668.586	26.797	
8	2	8.356	1.16	659.170	27.667	
8	3	8.356	2.32	661.016	28.229	
8	4	8.356	3.48	663.698	27.834	
8	5	8.356	4.65	666.538	27.638	
8	6	8.356	5.81	669.550	28.219	
8	7	8.356	6.97	672.469	27.871	
8	8	8.356	8.13	676.259	28.105	
8	9	8.356	9.29	676.757	28.178	
8	10	8.356	10.45	680.397	27.370	
8	AVG			669.404	27.806	

COMPRESSOR CONFIGURATION:PBS

SCAN: 4

TEST ID:870902006

NOMINAL % DESIGN SPEED:100

THROTTLE:045

PERFORMANCE:

MEAS. WORK =1674.28 ISEN. EFFIC.= 85.589 POLYTROPIC EFFIC.=36.913
 MEAS. FLOWR.= 37.176 CORR. FLOWR.= 61.264 COMPUTED FLOWRATE=59.493
 MEASURED RPM=20560.0 CORR. RPM =20201.3 % DESIGN RPM = 99.90
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.992
 D.P. TEMP. =450.029 P. COR. FAC.= 1.619 TEMP. COR. FACT. = .965
 ATMOS. PRES.= 14.280 ATM.PRES.(S)= 14.284 REL. HUMIDITY = .030
 CALIBRATION PRESSURES (SONIX)= 9.0041 14.2852 29.2920

VENTURI PRESSURES:

INLET (AVG=10.140,SONIX=10.139)= 10.140 10.143 10.129 10.148
 THROAT (AVG= 8.975,SONIX= 8.976)= 8.972 8.970 8.972 8.970
 8.977 8.976 8.978 8.977
 8.976 8.976 8.978 8.377

PLENUM CONDITIONS:

PRESSURES (AVG= 9.075,SONIX= 9.061)= 9.069 9.081
 TEMPERATURES (AVG=537.29)= 537.35 537.94 537.05 537.20 537.94
 537.64 536.64 536.29 537.56

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 29.535 29.568 29.882 ***** 29.890 ***** 30.137
 29.939 29.770
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 684.16 639.26 ***** 640.21 655.58 ***** *****
 636.00 646.14

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.363	-5.125	16.491
-8.400	10.286	-5.125	16.384
-8.400	10.336	-5.125	16.940
-8.400	10.388	-5.125	16.369
-8.400	10.320	-1.650	22.045
-8.318	10.244	-1.650	22.390
-8.065	10.022	-1.650	22.349
-7.811	10.053	-1.650	21.564
-7.558	11.427	-.900	21.808
-7.304	*****	-.900	22.487
-7.051	14.527	-.900	22.455
-6.798	*****	-.900	22.017
-6.544	18.498		
-6.291	19.863		
-6.037	20.399		
-5.784	21.853		
-1.650	23.843		
-1.650	23.843		
-1.650	23.872		
-1.650	23.182		
-.900	22.743		
-.900	23.238		
-.900	23.184		
-.900	22.383		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 4
THROTTLE:045

TEST ID:870902006

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	634.761	28.079	
1	2	5.996	1.16	632.534	26.565	
1	3	5.996	2.32	631.601	27.478	
1	4	5.996	3.48	635.793	29.019	
1	5	5.996	4.65	634.013	29.673	
1	6	5.996	5.81	634.972	29.897	
1	7	5.996	6.97	635.537	29.828	
1	8	5.996	8.13	635.684	30.031	
1	9	5.996	9.29	635.549	30.185	
1	10	5.996	10.45	636.425	28.949	
1	AVG			634.782	29.073	
2	1	6.387	0.00	635.530	27.547	
2	2	6.387	1.16	632.736	28.314	
2	3	6.387	2.32	635.408	29.210	
2	4	6.387	3.48	637.179	29.771	
2	5	6.387	4.65	637.403	29.769	
2	6	6.387	5.81	638.201	30.081	
2	7	6.387	6.97	638.823	30.122	
2	8	6.387	8.13	639.125	30.470	
2	9	6.387	9.29	639.879	30.758	
2	10	6.387	10.45	637.889	29.279	
2	AVG			637.324	29.593	
3	1	6.755	0.00	638.528	27.484	
3	2	6.755	1.16	635.803	28.912	
3	3	6.755	2.32	635.738	29.218	
3	4	6.755	3.48	639.048	29.239	
3	5	6.755	4.65	638.662	29.268	
3	6	6.755	5.81	640.144	29.589	
3	7	6.755	6.97	637.498	29.772	
3	8	6.755	8.13	639.959	30.165	
3	9	6.755	9.29	637.532	30.300	
3	10	6.755	10.45	639.924	28.760	
3	AVG			638.286	29.313	
4	1	7.104	0.00	642.769	27.462	
4	2	7.104	1.16	639.246	28.784	
4	3	7.104	2.32	639.375	29.176	
4	4	7.104	3.48	643.503	29.508	
4	5	7.104	4.65	643.236	29.614	
4	6	7.104	5.81	644.117	29.966	
4	7	7.104	6.97	644.389	29.870	
4	8	7.104	8.13	645.279	30.297	
4	9	7.104	9.29	644.441	30.646	
4	10	7.104	10.45	645.410	28.820	
4	AVG			643.225	29.469	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 4
THROTTLE:045

TEST ID:870902006

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	651.261	27.842	
5	2	7.437	1.16	646.523	27.552	
5	3	7.437	2.32	646.263	28.841	
5	4	7.437	3.48	650.036	30.249	
5	5	7.437	4.65	648.990	30.371	
5	6	7.437	5.81	648.593	30.514	
5	7	7.437	6.97	649.500	30.290	
5	8	7.437	8.13	651.534	30.728	
5	9	7.437	9.29	651.261	31.126	
5	10	7.437	10.45	653.314	29.574	
5	AVG			649.791	29.807	
6	1	7.756	0.00	661.020	27.878	
6	2	7.756	1.16	653.817	27.072	
6	3	7.756	2.32	651.053	28.760	
6	4	7.756	3.48	653.537	30.762	
6	5	7.756	4.65	653.816	30.969	
6	6	7.756	5.81	656.078	31.290	
6	7	7.756	6.97	659.475	30.979	
6	8	7.756	8.13	660.864	31.108	
6	9	7.756	9.29	661.281	31.009	
6	10	7.756	10.45	665.323	29.464	
6	AVG			657.676	30.081	
7	1	8.062	0.00	668.559	27.563	
7	2	8.062	1.16	661.365	28.353	
7	3	8.062	2.32	659.683	29.890	
7	4	8.062	3.48	662.614	30.324	
7	5	8.062	4.65	663.668	29.827	
7	6	8.062	5.81	665.542	30.657	
7	7	8.062	6.97	668.667	29.721	
7	8	8.062	8.13	670.450	29.979	
7	9	8.062	9.29	670.264	29.998	
7	10	8.062	10.45	677.297	28.580	
7	AVG			666.706	29.556	
8	1	8.356	0.00	675.836	27.976	
8	2	8.356	1.16	668.766	28.687	
8	3	8.356	2.32	668.196	29.260	
8	4	8.356	3.48	670.012	29.004	
8	5	8.356	4.65	672.720	28.926	
8	6	8.356	5.81	677.157	29.419	
8	7	8.356	6.97	678.215	29.141	
8	8	8.356	8.13	682.094	29.416	
8	9	8.356	9.29	681.775	29.402	
8	10	8.356	10.45	685.311	28.677	
8	AVG			676.010	29.006	

COMPRESSOR CONFIGURATION:PBS

SCAN: 5

TEST ID:870902007

NOMINAL % DESIGN SPEED:100

THROTTLE:055

PERFORMANCE:

MEAS. WORK =1681.07 ISEN. EFFIC.= 86.122 POLYTROPIC EFFIC.=87.423
 MEAS. FLOWR.= 36.510 CORR. FLOWR.= 61.036 COMPUTED FLOWRATE=59.503
 MEASURED RPM=20556.0 CORR. RPM =20190.6 % DESIGN RPM = 99.84
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 2.022
 D.P. TEMP. =449.968 P. COR. FAC.= 1.642 TEMP. COR. FACT. = .965
 ATMOS. PRES.= 14.283 ATM.PRES.(S)= 14.285 REL. HUMIDITY = .029
 CALIBRATION PRESSURES (SONIX)= 9.0030 14.2858 29.2969

VENTURI PRESSURES:

INLET (AVG= 9.995,SONIX= 9.994)= 9.988 9.997 9.993 10.001
 THROAT (AVG= 8.855,SONIX= 8.856)= 8.844 8.855 8.844 8.855
 8.858 8.857 8.857 8.857
 8.856 8.856 8.858 8.859

PLENUM CONDITIONS:

PRESSURES (AVG= 8.949,SONIX= 8.936)= 8.949 8.948
 TEMPERATURES (AVG=537.65)= 537.96 538.23 537.52 537.37 538.23
 537.96 536.96 536.52 538.11

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 30.479 30.634 30.500 ***** 30.365 ***** 30.357
 29.894 29.834
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 687.74 637.69 ***** 641.46 658.15 ***** *****
 636.12 646.10

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.394	-5.125	16.807
-8.400	10.340	-5.125	16.685
-8.400	10.535	-5.125	17.226
-8.400	10.456	-5.125	16.661
-8.400	10.372	-1.650	22.625
-8.318	10.307	-1.650	22.936
-8.065	10.093	-1.650	22.968
-7.811	10.211	-1.650	22.127
-7.558	11.472	-.900	22.362
-7.304	*****	-.900	23.046
-7.051	15.467	-.900	23.062
-6.798	*****	-.900	22.604
-6.544	19.386		
-6.291	20.806		
-6.037	21.256		
-5.784	22.563		
-1.650	24.402		
-1.650	24.402		
-1.650	24.393		
-1.650	23.685		
-.900	23.279		
-.900	23.784		
-.900	23.727		
-.900	22.947		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 5
THROTTLE:055

TEST ID:870902007

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	634.382	28.248	
1	2	5.996	1.16	632.506	26.849	
1	3	5.996	2.32	630.802	27.781	
1	4	5.996	3.48	635.351	29.395	
1	5	5.996	4.65	634.222	29.643	
1	6	5.996	5.81	634.724	29.928	
1	7	5.996	6.97	635.649	29.842	
1	8	5.996	8.13	635.679	30.030	
1	9	5.996	9.29	635.755	30.279	
1	10	5.996	10.45	636.563	29.025	
1	AVG			634.669	29.195	
2	1	6.387	0.00	635.037	27.666	
2	2	6.387	1.16	633.287	28.591	
2	3	6.387	2.32	635.981	29.177	
2	4	6.387	3.48	639.219	29.885	
2	5	6.387	4.65	637.811	29.890	
2	6	6.387	5.81	638.510	30.229	
2	7	6.387	6.97	639.558	30.336	
2	8	6.387	8.13	639.593	30.581	
2	9	6.387	9.29	640.607	30.962	
2	10	6.387	10.45	638.770	29.378	
2	AVG			637.969	29.735	
3	1	6.755	0.00	639.750	27.690	
3	2	6.755	1.16	635.910	28.455	
3	3	6.755	2.32	637.292	29.182	
3	4	6.755	3.48	640.465	29.586	
3	5	6.755	4.65	640.052	29.575	
3	6	6.755	5.81	640.249	29.916	
3	7	6.755	6.97	638.450	30.031	
3	8	6.755	8.13	640.321	30.366	
3	9	6.755	9.29	639.207	30.596	
3	10	6.755	10.45	640.101	29.203	
3	AVG			639.209	29.514	
4	1	7.104	0.00	645.649	27.684	
4	2	7.104	1.16	638.940	28.787	
4	3	7.104	2.32	638.768	29.216	
4	4	7.104	3.48	644.065	29.845	
4	5	7.104	4.65	643.520	29.999	
4	6	7.104	5.81	643.455	30.482	
4	7	7.104	6.97	644.129	30.226	
4	8	7.104	8.13	646.122	30.567	
4	9	7.104	9.29	645.655	31.039	
4	10	7.104	10.45	648.780	29.427	
4	AVG			643.945	29.794	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 5
THROTTLE:055

TEST ID:870902007

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	655.797	28.334	
5	2	7.437	1.16	645.801	27.339	
5	3	7.437	2.32	644.801	28.251	
5	4	7.437	3.48	650.098	30.379	
5	5	7.437	4.65	649.373	30.728	
5	6	7.437	5.81	649.412	31.018	
5	7	7.437	6.97	651.460	30.858	
5	8	7.437	8.13	654.025	31.235	
5	9	7.437	9.29	654.479	31.867	
5	10	7.437	10.45	657.068	30.293	
5	AVG			651.419	30.183	
6	1	7.756	0.00	668.432	28.649	
6	2	7.756	1.16	655.444	26.776	
6	3	7.756	2.32	651.532	28.133	
6	4	7.756	3.48	655.323	31.100	
6	5	7.756	4.65	655.765	31.646	
6	6	7.756	5.81	653.017	32.034	
6	7	7.756	6.97	661.839	31.823	
6	8	7.756	8.13	662.709	31.791	
6	9	7.756	9.29	664.257	31.826	
6	10	7.756	10.45	671.173	30.296	
6	AVG			660.595	30.646	
7	1	8.062	0.00	673.760	28.231	
7	2	8.062	1.16	665.380	28.559	
7	3	8.062	2.32	662.231	30.179	
7	4	8.062	3.48	666.007	31.144	
7	5	8.062	4.65	667.077	30.715	
7	6	8.062	5.81	668.704	31.569	
7	7	8.062	6.97	672.063	30.755	
7	8	8.062	8.13	673.824	30.824	
7	9	8.062	9.29	674.461	30.865	
7	10	8.062	10.45	684.098	29.472	
7	AVG			670.659	30.315	
8	1	8.356	0.00	681.412	28.780	
8	2	8.356	1.16	673.666	29.522	
8	3	8.356	2.32	670.908	29.947	
8	4	8.356	3.48	674.345	29.742	
8	5	8.356	4.65	676.323	29.757	
8	6	8.356	5.81	680.505	30.335	
8	7	8.356	6.97	681.326	30.114	
8	8	8.356	8.13	685.297	30.269	
8	9	8.356	9.29	685.954	30.461	
8	10	8.356	10.45	691.563	29.520	
8	AVG			680.126	29.862	

COMPRESSOR CONFIGURATION:PBS
 NOMINAL % DESIGN SPEED:100
 PERFORMANCE:

SCAN: 6
 THROTTLE:065

TEST ID:870902008

MEAS. WORK =1700.03 ISEN. EFFIC.= 85.822 POLYTROPIC EFFIC.=87.178
 MEAS. FLOWR.= 35.622 CORR. FLOWR.= 60.387 COMPUTED FLOWRATE=59.369
 MEASURED RPM=20556.0 CORR. RPM =20190.9 % DESIGN RPM = 99.85
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 2.053
 D.P. TEMP. =450.089 P. COR. FAC.= 1.665 TEMP. COR. FACT. = .965
 ATMOS. PRES.= 14.287 ATM.PRES.(S)= 14.285 REL. HUMIDITY = .029
 CALIBRATION PRESSURES (SONIX)= 9.0043 14.2864 29.2962

VENTURI PRESSURES:

INLET (AVG= 9.842,SONIX= 9.845)= 9.849 9.832 9.840 9.845
 THROAT (AVG= 8.743,SONIX= 8.744)= 8.740 8.743 8.740 8.743
 8.745 8.743 8.743 8.744
 8.742 8.742 8.744 8.745

PLENUM CONDITIONS:

PRESSURES (AVG= 8.825,SONIX= 8.817)= 8.831 8.818
 TEMPERATURES (AVG=537.63)= 538.05 538.34 537.34 537.49 538.05
 538.05 536.90 536.58 537.93

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 31.647 31.934 31.028 ***** 31.011 ***** 30.657
 29.929 29.924
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 687.51 638.16 ***** 643.83 660.36 ***** *****
 635.97 647.06

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.500	-5.125	17.210
-8.400	10.434	-5.125	17.084
-8.400	10.478	-5.125	17.644
-8.400	10.625	-5.125	17.049
-8.400	10.562	-1.650	23.231
-8.318	10.357	-1.650	23.446
-8.065	10.238	-1.650	23.566
-7.811	10.452	-1.650	22.702
-7.558	12.029	-.900	22.945
-7.304	*****	-.900	23.597
-7.051	16.545	-.900	23.679
-6.798	*****	-.900	23.199
-6.544	20.833		
-6.291	21.542		
-6.037	22.265		
-5.784	23.437		
-1.650	24.859		
-1.650	24.859		
-1.650	24.794		
-1.650	24.072		
-.900	23.789		
-.900	24.304		
-.900	24.189		
-.900	23.395		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 6
THROTTLE:065

TEST ID:870902008

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	634.515	28.379	
1	2	5.996	1.16	633.120	27.133	
1	3	5.996	2.32	630.648	27.334	
1	4	5.996	3.48	634.231	29.631	
1	5	5.996	4.65	635.815	29.730	
1	6	5.996	5.81	635.684	29.933	
1	7	5.996	6.97	636.301	29.960	
1	8	5.996	8.13	636.533	30.015	
1	9	5.996	9.29	636.303	30.435	
1	10	5.996	10.45	636.819	29.256	
1	AVG			635.148	29.289	
2	1	6.387	0.00	637.272	28.016	
2	2	6.387	1.16	635.357	28.581	
2	3	6.387	2.32	634.989	28.960	
2	4	6.387	3.48	640.489	30.084	
2	5	6.387	4.65	640.779	30.311	
2	6	6.387	5.81	640.808	30.485	
2	7	6.387	6.97	641.521	30.585	
2	8	6.387	8.13	641.252	30.651	
2	9	6.387	9.29	641.534	31.098	
2	10	6.387	10.45	639.908	29.542	
2	AVG			639.548	29.904	
3	1	6.755	0.00	642.015	27.994	
3	2	6.755	1.16	638.351	27.891	
3	3	6.755	2.32	638.956	28.154	
3	4	6.755	3.48	641.677	30.024	
3	5	6.755	4.65	643.837	30.046	
3	6	6.755	5.81	642.161	30.525	
3	7	6.755	6.97	642.169	30.574	
3	8	6.755	8.13	642.777	30.836	
3	9	6.755	9.29	642.490	31.259	
3	10	6.755	10.45	641.925	29.619	
3	AVG			641.749	29.807	
4	1	7.104	0.00	650.429	28.170	
4	2	7.104	1.16	643.592	27.834	
4	3	7.104	2.32	641.920	28.267	
4	4	7.104	3.48	647.625	30.265	
4	5	7.104	4.65	646.149	30.347	
4	6	7.104	5.81	645.991	30.929	
4	7	7.104	6.97	647.548	30.463	
4	8	7.104	8.13	647.819	30.577	
4	9	7.104	9.29	649.622	31.345	
4	10	7.104	10.45	652.827	30.023	
4	AVG			647.463	29.938	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 6
THROTTLE:065

TEST ID:870902008

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	660.715	29.182	
5	2	7.437	1.16	649.569	27.024	
5	3	7.437	2.32	646.575	27.649	
5	4	7.437	3.48	653.593	30.536	
5	5	7.437	4.65	650.888	30.841	
5	6	7.437	5.81	648.965	31.187	
5	7	7.437	6.97	652.148	31.639	
5	8	7.437	8.13	658.960	31.925	
5	9	7.437	9.29	658.862	32.751	
5	10	7.437	10.45	660.148	31.154	
5	AVG			654.373	30.636	
6	1	7.756	0.00	675.422	29.291	
6	2	7.756	1.16	660.412	26.922	
6	3	7.756	2.32	651.130	27.623	
6	4	7.756	3.48	656.242	31.151	
6	5	7.756	4.65	656.593	31.885	
6	6	7.756	5.81	658.809	32.849	
6	7	7.756	6.97	664.526	32.688	
6	8	7.756	8.13	667.901	32.771	
6	9	7.756	9.29	668.961	32.865	
6	10	7.756	10.45	677.923	31.055	
6	AVG			664.071	31.248	
7	1	8.062	0.00	683.247	28.664	
7	2	8.062	1.16	667.554	28.717	
7	3	8.062	2.32	662.864	30.071	
7	4	8.062	3.48	666.962	31.295	
7	5	8.062	4.65	669.060	31.279	
7	6	8.062	5.81	671.613	32.521	
7	7	8.062	6.97	677.474	31.918	
7	8	8.062	8.13	679.058	31.841	
7	9	8.062	9.29	679.901	32.120	
7	10	8.062	10.45	689.854	30.366	
7	AVG			674.719	31.003	
8	1	8.356	0.00	691.870	29.275	
8	2	8.356	1.16	680.044	29.792	
8	3	8.356	2.32	676.253	30.545	
8	4	8.356	3.48	680.726	30.662	
8	5	8.356	4.65	681.012	30.990	
8	6	8.356	5.81	685.341	31.702	
8	7	8.356	6.97	687.785	31.678	
8	8	8.356	8.13	692.373	31.226	
8	9	8.356	9.29	693.504	31.699	
8	10	8.356	10.45	697.131	30.695	
8	AVG			686.629	30.869	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 7
THROTTLE:075

TEST ID:870902009

PERFORMANCE:

MEAS. WORK =1708.75 ISEN. EFFIC.= 83.846 POLYTROPIC EFFIC.=85.399
MEAS. FLOWR.= 34.673 CORR. FLOWR.= 59.141 COMPUTED FLOWRATE=58.270
MEASURED RPM=20564.0 CORR. RPM =20200.6 % DESIGN RPM = 99.89
SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 2.062
D.P. TEMP. =449.968 P. COR. FAC.= 1.676 TEMP. COR. FACT. = .965
ATMOS. PRES.= 14.287 ATM.PRES.(S)= 14.285 REL. HUMIDITY = .029
CALIBRATION PRESSURES (SONIX)= 9.0039 14.2861 29.2957

VENTURI PRESSURES:

INLET (AVG= 9.736,SONIX= 9.738)= 9.740 9.731 9.728 9.744
THROAT (AVG= 8.690,SONIX= 8.691)= 8.687 8.686 8.687 8.686
8.693 8.691 8.692 8.692
8.689 8.689 8.692 8.691

PLENUM CONDITIONS:

PRESSURES (AVG= 8.770,SONIX= 8.762)= 8.777 8.763
TEMPERATURES (AVG=537.54)= 537.89 538.15 537.45 537.45 537.89
537.74 536.86 536.48 537.95

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 32.135 31.869 31.040 ***** 31.494 ***** 30.825
30.078 30.024
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 691.44 641.98 ***** 645.98 664.47 ***** *****
636.58 650.85

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.722	-5.125	17.551
-8.400	10.842	-5.125	17.372
-8.400	10.962	-5.125	17.874
-8.400	11.099	-5.125	17.359
-8.400	10.999	-1.650	23.550
-8.318	10.688	-1.650	23.726
-8.065	10.584	-1.650	23.885
-7.811	11.142	-1.650	23.091
-7.558	15.070	-.900	23.339
-7.304	*****	-.900	23.920
-7.051	17.654	-.900	24.029
-6.798	*****	-.900	23.570
-6.544	21.318		
-6.291	22.237		
-6.037	22.947		
-5.784	24.049		
-1.650	25.015		
-1.650	25.015		
-1.650	24.892		
-1.650	24.294		
-.900	24.065		
-.900	24.585		
-.900	24.413		
-.900	23.739		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 7
THROTTLE:075

TEST ID:870902009

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	636.188	28.499	
1	2	5.996	1.16	634.696	26.946	
1	3	5.996	2.32	631.394	26.784	
1	4	5.996	3.48	634.344	29.600	
1	5	5.996	4.65	636.756	29.860	
1	6	5.996	5.81	637.021	29.937	
1	7	5.996	6.97	636.567	30.161	
1	8	5.996	8.13	636.940	30.157	
1	9	5.996	9.29	637.027	30.539	
1	10	5.996	10.45	637.290	29.241	
1	AVG			635.995	29.331	
2	1	6.387	0.00	641.243	28.092	
2	2	6.387	1.16	637.568	27.742	
2	3	6.387	2.32	633.999	27.948	
2	4	6.387	3.48	640.001	29.665	
2	5	6.387	4.65	643.305	30.505	
2	6	6.387	5.81	643.070	30.623	
2	7	6.387	6.97	642.961	30.816	
2	8	6.387	8.13	641.427	30.752	
2	9	6.387	9.29	641.795	31.184	
2	10	6.387	10.45	643.167	29.454	
2	AVG			641.076	29.813	
3	1	6.755	0.00	644.635	28.428	
3	2	6.755	1.16	641.232	27.649	
3	3	6.755	2.32	641.578	27.481	
3	4	6.755	3.48	643.190	30.021	
3	5	6.755	4.65	646.423	30.087	
3	6	6.755	5.81	645.944	30.545	
3	7	6.755	6.97	644.289	30.704	
3	8	6.755	8.13	642.961	30.944	
3	9	6.755	9.29	643.403	31.689	
3	10	6.755	10.45	644.787	30.061	
3	AVG			643.943	29.922	
4	1	7.104	0.00	652.479	28.215	
4	2	7.104	1.16	646.760	26.869	
4	3	7.104	2.32	643.566	27.265	
4	4	7.104	3.48	648.112	29.849	
4	5	7.104	4.65	652.353	30.353	
4	6	7.104	5.81	649.908	30.865	
4	7	7.104	6.97	650.068	31.189	
4	8	7.104	8.13	650.041	31.022	
4	9	7.104	9.29	650.825	31.519	
4	10	7.104	10.45	654.523	30.431	
4	AVG			650.120	29.994	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:100

SCAN: 7
THROTTLE:075

TEST ID:870902009

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	665.260	28.850	
5	2	7.437	1.16	654.063	26.526	
5	3	7.437	2.32	649.042	27.388	
5	4	7.437	3.48	654.719	29.858	
5	5	7.437	4.65	657.718	30.787	
5	6	7.437	5.81	653.650	31.477	
5	7	7.437	6.97	655.670	31.842	
5	8	7.437	8.13	661.425	32.339	
5	9	7.437	9.29	661.209	33.318	
5	10	7.437	10.45	670.809	31.082	
5	AVG			658.772	30.710	
6	1	7.756	0.00	682.667	29.094	
6	2	7.756	1.16	663.618	26.721	
6	3	7.756	2.32	654.829	27.587	
6	4	7.756	3.48	658.973	29.721	
6	5	7.756	4.65	662.527	31.496	
6	6	7.756	5.81	661.562	32.565	
6	7	7.756	6.97	668.712	32.632	
6	8	7.756	8.13	671.948	32.610	
6	9	7.756	9.29	674.540	33.183	
6	10	7.756	10.45	691.686	31.433	
6	AVG			669.626	31.088	
7	1	8.062	0.00	691.986	28.715	
7	2	8.062	1.16	673.627	28.209	
7	3	8.062	2.32	667.401	29.053	
7	4	8.062	3.48	671.983	30.589	
7	5	8.062	4.65	675.357	31.474	
7	6	8.062	5.81	673.406	32.617	
7	7	8.062	6.97	680.508	32.099	
7	8	8.062	8.13	681.877	32.121	
7	9	8.062	9.29	684.721	32.639	
7	10	8.062	10.45	698.062	31.677	
7	AVG			680.046	31.111	
8	1	8.356	0.00	703.632	29.836	
8	2	8.356	1.16	687.705	29.730	
8	3	8.356	2.32	681.782	30.855	
8	4	8.356	3.48	686.288	31.315	
8	5	8.356	4.65	687.557	31.519	
8	6	8.356	5.81	690.048	32.596	
8	7	8.356	6.97	693.707	32.485	
8	8	8.356	8.13	697.020	32.475	
8	9	8.356	9.29	698.771	32.592	
8	10	8.356	10.45	706.479	32.397	
8	AVG			693.384	31.655	

COMPRESSOR CONFIGURATION:PBS

SCAN: 1

TEST ID:870903003

NOMINAL % DESIGN SPEED:095

THROTTLE:000

PERFORMANCE:

MEAS. WORK =1518.86 ISEN. EFFIC.= 86.425 POLYTROPIC EFFIC.=87.488
 MEAS. FLOWR.= 40.936 CORR. FLOWR.= 59.891 COMPUTED FLOWRATE=58.080
 MEASURED RPM=19558.0 CORR. RPM =19185.7 % DESIGN RPM = 94.87
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.788
 D.P. TEMP. =449.968 P. COR. FAC.= 1.435 TEMP. COR. FACT. = .962
 ATMOS. PRES.= 14.361 ATM.PRES.(S)= 14.361 REL. HUMIDITY = .028
 CALIBRATION PRESSURES (SONIX)= 8.9999 14.3615 29.3658

VENTURI PRESSURES:

INLET (AVG=11.381,SONIX=11.384)= 11.383 11.379 11.374 11.389
 THROAT (AVG=10.128,SONIX=10.130)= 10.129 10.122 10.129 10.122
 10.131 10.129 10.127 10.128
 10.130 10.130 10.131 10.130

PLENUM CONDITIONS:

PRESSURES (AVG=10.238,SONIX=10.224)= 10.243 10.234
 TEMPERATURES (AVG=539.03)= 538.96 539.52 538.82 538.67 539.67
 539.67 538.37 537.96 539.67

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 25.373 25.987 25.612 ***** 27.244 ***** 27.743
 27.740 27.705
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 647.75 620.44 ***** 628.01 629.40 ***** *****
 624.71 629.16

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.682	-5.125	15.671
-8.400	10.610	-5.125	15.466
-8.400	10.708	-5.125	16.007
-8.400	10.635	-5.125	15.457
-8.400	10.534	-1.650	18.212
-8.318	10.509	-1.650	18.774
-8.065	10.361	-1.650	18.695
-7.811	10.346	-1.650	17.715
-7.558	11.293	-.900	17.958
-7.304	*****	-.900	18.620
-7.051	11.491	-.900	18.755
-6.798	*****	-.900	18.166
-6.544	15.708		
-6.291	17.417		
-6.037	18.323		
-5.784	19.576		
-1.650	20.039		
-1.650	20.518		
-1.650	20.462		
-1.650	19.879		
-.900	19.254		
-.900	19.784		
-.900	19.571		
-.900	18.872		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 1
THROTTLE:000

TEST ID:870903003

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	625.348	25.489	
1	2	5.996	1.16	622.576	23.898	
1	3	5.996	2.32	617.927	24.752	
1	4	5.996	3.48	622.905	26.815	
1	5	5.996	4.65	620.989	27.810	
1	6	5.996	5.81	622.171	27.998	
1	7	5.996	6.97	622.811	27.955	
1	8	5.996	8.13	623.583	28.009	
1	9	5.996	9.29	623.259	28.069	
1	10	5.996	10.45	623.331	26.922	
1	AVG			622.527	26.901	
2	1	6.387	0.00	620.012	25.660	
2	2	6.387	1.16	619.224	27.337	
2	3	6.387	2.32	621.725	27.449	
2	4	6.387	3.48	623.435	27.524	
2	5	6.387	4.65	624.468	27.624	
2	6	6.387	5.81	624.707	27.735	
2	7	6.387	6.97	624.078	27.812	
2	8	6.387	8.13	623.684	27.940	
2	9	6.387	9.29	623.600	27.955	
2	10	6.387	10.45	624.279	26.377	
2	AVG			622.954	27.369	
3	1	6.755	0.00	618.836	26.035	
3	2	6.755	1.16	619.177	27.097	
3	3	6.755	2.32	621.165	27.128	
3	4	6.755	3.48	623.487	27.122	
3	5	6.755	4.65	623.753	27.134	
3	6	6.755	5.81	625.451	27.531	
3	7	6.755	6.97	622.873	27.587	
3	8	6.755	8.13	623.649	27.751	
3	9	6.755	9.29	621.892	27.950	
3	10	6.755	10.45	624.310	25.889	
3	AVG			622.476	27.147	
4	1	7.104	0.00	620.338	25.943	
4	2	7.104	1.16	620.689	26.652	
4	3	7.104	2.32	620.823	26.652	
4	4	7.104	3.48	624.711	26.721	
4	5	7.104	4.65	625.244	26.851	
4	6	7.104	5.81	624.876	27.158	
4	7	7.104	6.97	625.268	27.162	
4	8	7.104	8.13	624.498	27.395	
4	9	7.104	9.29	625.083	27.702	
4	10	7.104	10.45	626.266	25.747	
4	AVG			623.799	26.819	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 1
THROTTLE:000

TEST ID:870903003

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	621.272	25.504	
5	2	7.437	1.16	620.324	26.594	
5	3	7.437	2.32	621.537	26.711	
5	4	7.437	3.48	625.555	26.687	
5	5	7.437	4.65	625.803	26.586	
5	6	7.437	5.81	625.949	26.759	
5	7	7.437	6.97	625.296	26.448	
5	8	7.437	8.13	626.205	26.752	
5	9	7.437	9.29	625.147	27.129	
5	10	7.437	10.45	626.934	25.456	
5	AVG			624.436	26.480	
6	1	7.756	0.00	626.323	25.364	
6	2	7.756	1.16	622.275	26.409	
6	3	7.756	2.32	623.575	26.389	
6	4	7.756	3.48	625.992	26.328	
6	5	7.756	4.65	626.602	26.309	
6	6	7.756	5.81	629.498	26.423	
6	7	7.756	6.97	629.350	26.214	
6	8	7.756	8.13	632.622	26.401	
6	9	7.756	9.29	632.553	26.495	
6	10	7.756	10.45	634.291	25.035	
6	AVG			628.256	26.154	
7	1	8.062	0.00	638.319	24.491	
7	2	8.062	1.16	630.254	26.130	
7	3	8.062	2.32	628.999	26.383	
7	4	8.062	3.48	631.079	26.272	
7	5	8.062	4.65	634.197	26.149	
7	6	8.062	5.81	636.639	26.405	
7	7	8.062	6.97	640.085	25.916	
7	8	8.062	8.13	642.791	26.209	
7	9	8.062	9.29	641.685	26.155	
7	10	8.062	10.45	645.036	24.833	
7	AVG			636.767	25.926	
8	1	8.356	0.00	647.058	25.026	
8	2	8.356	1.16	634.345	25.946	
8	3	8.356	2.32	636.548	26.043	
8	4	8.356	3.48	640.076	25.931	
8	5	8.356	4.65	644.146	25.540	
8	6	8.356	5.81	648.940	25.979	
8	7	8.356	6.97	653.508	25.580	
8	8	8.356	8.13	653.299	25.801	
8	9	8.356	9.29	652.718	25.902	
8	10	8.356	10.45	653.926	25.158	
8	AVG			646.340	25.700	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095
PERFORMANCE:

SCAN: 8
THROTTLE:000

TEST ID:870902010

MEAS. WORK =-1481.28 ISEN. EFFIC.= 86.889 POLYTROPIC EFFIC.=87.936
MEAS. FLOWR.= 39.316 CORR. FLOWR.= 59.860 COMPUTED FLOWRATE=58.014
MEASURED RPM=19550.0 CORR. RPM =-19182.0 % DESIGN RPM = 94.86
SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.809
D.P. TEMP. =-449.968 P. COR. FAC.= 1.494 TEMP. COR. FACT. = .963
ATMOS. PRES.= 14.285 ATM.PRES.(S)= 14.285 REL. HUMIDITY = .028
CALIBRATION PRESSURES (SONIX)= 9.0029 14.2851 29.2953

VENTURI PRESSURES:

INLET (AVG=10.936,SONIX=10.938)= 10.936 10.939 10.931 10.936
THROAT (AVG= 9.733,SONIX= 9.735)= 9.732 9.730 9.732 9.730
9.734 9.732 9.732 9.733
9.733 9.733 9.735 9.734

PLENUM CONDITIONS:

PRESSURES (AVG= 9.836,SONIX= 9.826)= 9.836 9.836
TEMPERATURES (AVG=538.80)= 539.12 539.53 538.53 538.53 539.42
539.27 538.12 537.65 539.03

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 26.119 26.442 26.116 ***** 27.397 ***** 27.773
27.802 27.731
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 650.65 620.75 ***** 627.52 630.51 *****
624.30 629.12

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.662	-5.125	15.812
-8.400	10.631	-5.125	15.632
-8.400	10.769	-5.125	16.171
-8.400	10.633	-5.125	15.641
-8.400	10.569	-1.650	18.825
-8.318	10.528	-1.650	19.401
-8.065	10.375	-1.650	19.252
-7.811	10.420	-1.650	18.328
-7.558	11.407	-.900	18.538
-7.304	*****	-.900	19.231
-7.051	11.692	-.900	19.306
-6.798	*****	-.900	18.762
-6.544	15.994		
-6.291	17.739		
-6.037	18.745		
-5.784	19.962		
-1.650	21.021		
-1.650	21.021		
-1.650	20.988		
-1.650	20.350		
-.900	19.743		
-.900	20.281		
-.900	20.082		
-.900	19.412		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 8
THROTTLE:000

TEST ID:870902010

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	625.451	25.650	
1	2	5.996	1.16	622.797	24.225	
1	3	5.996	2.32	618.566	25.054	
1	4	5.996	3.48	622.544	26.854	
1	5	5.996	4.65	620.637	27.789	
1	6	5.996	5.81	622.098	28.007	
1	7	5.996	6.97	622.660	28.012	
1	8	5.996	8.13	623.540	28.029	
1	9	5.996	9.29	623.325	28.098	
1	10	5.996	10.45	623.609	26.902	
1	AVG			622.541	26.980	
2	1	6.387	0.00	621.586	25.369	
2	2	6.387	1.16	618.873	27.269	
2	3	6.387	2.32	621.766	27.542	
2	4	6.387	3.48	623.345	27.571	
2	5	6.387	4.65	624.386	27.680	
2	6	6.387	5.81	625.028	27.856	
2	7	6.387	6.97	624.399	27.881	
2	8	6.387	8.13	624.145	28.067	
2	9	6.387	9.29	624.325	28.071	
2	10	6.387	10.45	624.455	26.605	
2	AVG			623.263	27.429	
3	1	6.755	0.00	619.983	26.056	
3	2	6.755	1.16	619.873	27.186	
3	3	6.755	2.32	621.059	27.235	
3	4	6.755	3.48	623.405	27.166	
3	5	6.755	4.65	623.406	27.183	
3	6	6.755	5.81	625.750	27.624	
3	7	6.755	6.97	623.180	27.613	
3	8	6.755	8.13	623.969	27.868	
3	9	6.755	9.29	622.351	28.043	
3	10	6.755	10.45	624.570	26.094	
3	AVG			622.772	27.232	
4	1	7.104	0.00	621.220	25.871	
4	2	7.104	1.16	621.134	26.819	
4	3	7.104	2.32	621.087	26.865	
4	4	7.104	3.48	625.374	26.789	
4	5	7.104	4.65	625.652	26.930	
4	6	7.104	5.81	624.779	27.270	
4	7	7.104	6.97	625.177	27.317	
4	8	7.104	8.13	625.070	27.565	
4	9	7.104	9.29	625.527	27.808	
4	10	7.104	10.45	626.634	25.887	
4	AVG			624.183	26.936	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 8
THROTTLE:000

TEST ID:870902010

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	623.979	25.642	
5	2	7.437	1.16	622.255	26.864	
5	3	7.437	2.32	624.116	27.073	
5	4	7.437	3.48	626.859	27.014	
5	5	7.437	4.65	627.499	27.077	
5	6	7.437	5.81	627.651	27.310	
5	7	7.437	6.97	627.226	26.919	
5	8	7.437	8.13	628.358	27.188	
5	9	7.437	9.29	627.197	27.358	
5	10	7.437	10.45	628.873	25.757	
5	AVG			626.409	26.843	
6	1	7.756	0.00	630.019	25.460	
6	2	7.756	1.16	625.827	27.036	
6	3	7.756	2.32	625.830	27.060	
6	4	7.756	3.48	628.525	26.859	
6	5	7.756	4.65	628.768	26.846	
6	6	7.756	5.81	631.228	26.987	
6	7	7.756	6.97	631.677	26.665	
6	8	7.756	8.13	634.682	26.874	
6	9	7.756	9.29	635.093	26.932	
6	10	7.756	10.45	638.672	25.398	
6	AVG			630.938	26.639	
7	1	8.062	0.00	643.257	24.909	
7	2	8.062	1.16	633.106	26.673	
7	3	8.062	2.32	630.852	26.915	
7	4	8.062	3.48	633.115	26.725	
7	5	8.062	4.65	635.828	26.748	
7	6	8.062	5.81	638.519	26.967	
7	7	8.062	6.97	643.565	26.503	
7	8	8.062	8.13	645.740	26.774	
7	9	8.062	9.29	645.237	26.741	
7	10	8.062	10.45	649.847	25.352	
7	AVG			639.711	26.466	
8	1	8.356	0.00	652.064	25.474	
8	2	8.356	1.16	637.122	26.527	
8	3	8.356	2.32	639.641	26.706	
8	4	8.356	3.48	643.169	26.567	
8	5	8.356	4.65	646.691	26.207	
8	6	8.356	5.81	651.708	26.673	
8	7	8.356	6.97	656.833	26.208	
8	8	8.356	8.13	656.579	26.454	
8	9	8.356	9.29	656.490	26.490	
8	10	8.356	10.45	658.552	25.730	
8	AVG			649.744	26.316	

COMPRESSOR CONFIGURATION:PBS

SCAN: 9

TEST ID:870902012

NOMINAL % DESIGN SPEED:095

THROTTLE:015

PERFORMANCE:

MEAS. WORK =1492.11 ISEN. EFFIC.= 88.095 POLYTROPIC EFFIC.=89.090
 MEAS. FLOWR.= 37.966 CORR. FLOWR.= 59.569 COMPUTED FLOWRATE=57.990
 MEASURED RPM=19544.0 CORR. RPM =19182.3 % DESIGN RPM = 94.86
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.863
 D.P. TEMP. =449.816 P. COR. FAC.= 1.540 TEMP. COR. FACT. = .963
 ATMOS. PRES.= 14.284 ATM.PRES.(S)= 14.284 REL. HUMIDITY = .028
 CALIBRATION PRESSURES (SONIX)= 9.0034 14.2841 29.2922

VENTURI PRESSURES:

INLET (AVG=10.599,SONIX=10.602)= 10.602 10.603 10.597 10.595
 THROAT (AVG= 9.444,SONIX= 9.447)= 9.436 9.446 9.436 9.446
 9.446 9.444 9.444 9.445
 9.444 9.444 9.445 9.446

PLENUM CONDITIONS:

PRESSURES (AVG= 9.542,SONIX= 9.529)= 9.544 9.539
 TEMPERATURES (AVG=538.45)= 538.82 539.26 538.23 538.23 538.97
 538.67 537.82 537.38 538.70

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 27.622 27.695 26.801 ***** 28.134 ***** 28.249
 27.859 27.831
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 656.73 622.01 ***** 626.69 633.19 ***** *****
 624.51 631.07

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.702	-5.125	16.217
-8.400	10.662	-5.125	16.048
-8.400	10.736	-5.125	16.553
-8.400	10.694	-5.125	16.030
-8.400	10.569	-1.650	20.115
-8.318	10.583	-1.650	20.603
-8.065	10.413	-1.650	20.494
-7.811	10.471	-1.650	19.616
-7.558	11.624	-.900	19.835
-7.304	*****	-.900	20.574
-7.051	12.959	-.900	20.543
-6.798	*****	-.900	20.040
-6.544	16.885		
-6.291	18.996		
-6.037	19.768		
-5.784	21.071		
-1.650	22.119		
-1.650	22.119		
-1.650	22.066		
-1.650	21.388		
-.900	20.888		
-.900	21.399		
-.900	21.255		
-.900	20.506		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 9
THROTTLE:015

TEST ID:870902012

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	625.146	26.192	
1	2	5.996	1.16	622.675	25.129	
1	3	5.996	2.32	620.197	26.083	
1	4	5.996	3.48	623.699	27.250	
1	5	5.996	4.65	621.295	27.796	
1	6	5.996	5.81	622.769	27.997	
1	7	5.996	6.97	623.672	27.968	
1	8	5.996	8.13	624.195	28.129	
1	9	5.996	9.29	624.063	28.241	
1	10	5.996	10.45	624.685	27.217	
1	AVG			623.262	27.274	
2	1	6.387	0.00	623.628	25.470	
2	2	6.387	1.16	620.178	26.799	
2	3	6.387	2.32	623.041	27.530	
2	4	6.387	3.48	624.512	27.782	
2	5	6.387	4.65	625.941	27.900	
2	6	6.387	5.81	627.106	28.159	
2	7	6.387	6.97	627.189	28.008	
2	8	6.387	8.13	626.358	28.342	
2	9	6.387	9.29	626.848	28.493	
2	10	6.387	10.45	624.930	27.048	
2	AVG			625.052	27.605	
3	1	6.755	0.00	624.748	25.984	
3	2	6.755	1.16	621.449	27.500	
3	3	6.755	2.32	621.838	27.583	
3	4	6.755	3.48	624.935	27.508	
3	5	6.755	4.65	625.327	27.500	
3	6	6.755	5.81	627.645	27.883	
3	7	6.755	6.97	625.534	28.017	
3	8	6.755	8.13	627.186	28.246	
3	9	6.755	9.29	625.919	28.295	
3	10	6.755	10.45	627.389	27.042	
3	AVG			625.211	27.585	
4	1	7.104	0.00	625.587	25.863	
4	2	7.104	1.16	624.630	27.307	
4	3	7.104	2.32	623.992	27.432	
4	4	7.104	3.48	627.373	27.203	
4	5	7.104	4.65	626.416	27.403	
4	6	7.104	5.81	626.717	27.673	
4	7	7.104	6.97	627.353	27.834	
4	8	7.104	8.13	628.255	28.185	
4	9	7.104	9.29	628.264	28.382	
4	10	7.104	10.45	629.332	26.602	
4	AVG			626.809	27.424	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 9
THROTTLE:015

TEST ID:870902012

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	628.440	26.119	
5	2	7.437	1.16	625.489	27.321	
5	3	7.437	2.32	625.642	27.448	
5	4	7.437	3.48	627.787	27.599	
5	5	7.437	4.65	630.317	27.857	
5	6	7.437	5.81	631.639	28.134	
5	7	7.437	6.97	631.099	27.686	
5	8	7.437	8.13	632.071	28.015	
5	9	7.437	9.29	631.152	28.147	
5	10	7.437	10.45	632.937	26.549	
5	AVG			629.675	27.518	
6	1	7.756	0.00	639.504	25.722	
6	2	7.756	1.16	629.716	27.886	
6	3	7.756	2.32	631.021	28.154	
6	4	7.756	3.48	632.967	28.043	
6	5	7.756	4.65	633.877	27.938	
6	6	7.756	5.81	635.842	28.306	
6	7	7.756	6.97	636.506	27.904	
6	8	7.756	8.13	638.952	28.089	
6	9	7.756	9.29	639.834	28.132	
6	10	7.756	10.45	649.070	26.471	
6	AVG			636.522	27.716	
7	1	8.062	0.00	652.431	25.824	
7	2	8.062	1.16	637.929	27.698	
7	3	8.062	2.32	634.616	28.271	
7	4	8.062	3.48	636.496	28.027	
7	5	8.062	4.65	640.787	28.053	
7	6	8.062	5.81	643.458	28.302	
7	7	8.062	6.97	648.562	27.792	
7	8	8.062	8.13	651.573	28.219	
7	9	8.062	9.29	652.166	28.253	
7	10	8.062	10.45	658.517	26.892	
7	AVG			645.394	27.778	
8	1	8.356	0.00	661.005	26.646	
8	2	8.356	1.16	645.284	27.775	
8	3	8.356	2.32	645.496	28.209	
8	4	8.356	3.48	648.552	27.905	
8	5	8.356	4.65	653.576	27.732	
8	6	8.356	5.81	658.098	28.328	
8	7	8.356	6.97	661.530	27.946	
8	8	8.356	8.13	663.028	27.997	
8	9	8.356	9.29	664.269	28.071	
8	10	8.356	10.45	666.899	27.567	
8	AVG			656.673	27.833	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095
PERFORMANCE:

SCAN: 10
THROTTLE:035

TEST ID:870902014

MEAS. WORK =1499.91 ISEN. EFFIC.= 88.859 POLYTROPIC EFFIC.=89.819
MEAS. FLOWR.= 37.076 CORR. FLOWR.= 59.254 COMPUTED FLOWRATE=57.814
MEASURED RPM=19542.0 CORR. RPM =19180.4 % DESIGN RPM = 94.85
SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.901
D.P. TEMP. =449.907 P. COR. FAC.= 1.569 TEMP. COR. FACT. = .963
ATMOS. PRES.= 14.282 ATM.PRES.(S)= 14.284 REL. HUMIDITY = .028
CALIBRATION PRESSURES (SONIX)= 9.0028 14.2842 29.2912

VENTURI PRESSURES:

INLET (AVG=10.403,SONIX=10.403)= 10.407 10.401 10.396 10.407
THROAT (AVG= 9.282,SONIX= 9.281)= 9.277 9.287 9.277 9.287
9.283 9.281 9.280 9.283
9.280 9.280 9.282 9.282

PLENUM CONDITIONS:

PRESSURES (AVG= 9.368,SONIX= 9.360)= 9.371 9.364
TEMPERATURES (AVG=538.45)= 538.98 539.28 538.25 538.25 538.84
538.69 537.69 537.31 538.75

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 28.581 28.689 27.747 ***** 28.276 ***** 28.209
27.974 27.912
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 662.61 625.83 ***** 628.87 636.81 ***** *****
624.22 631.99

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	10.769	-5.125	16.552
-8.400	10.741	-5.125	16.406
-8.400	10.780	-5.125	16.895
-8.400	10.790	-5.125	16.380
-8.400	10.653	-1.650	20.977
-8.318	10.621	-1.650	21.434
-8.065	10.509	-1.650	21.356
-7.811	10.661	-1.650	20.492
-7.558	11.746	-.900	20.710
-7.304	*****	-.900	21.451
-7.051	14.943	-.900	21.425
-6.798	*****	-.900	20.919
-6.544	18.636		
-6.291	20.091		
-6.037	20.699		
-5.784	21.866		
-1.650	22.867		
-1.650	22.867		
-1.650	22.792		
-1.650	22.088		
-.900	21.653		
-.900	22.180		
-.900	22.045		
-.900	21.278		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 10
THROTTLE:035

TEST ID:870902014

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	624.667	26.557	
1	2	5.996	1.16	622.252	25.313	
1	3	5.996	2.32	620.456	26.321	
1	4	5.996	3.48	624.157	27.690	
1	5	5.996	4.65	622.201	27.902	
1	6	5.996	5.81	623.730	28.112	
1	7	5.996	6.97	624.479	28.012	
1	8	5.996	8.13	624.777	28.216	
1	9	5.996	9.29	624.717	28.386	
1	10	5.996	10.45	625.343	27.488	
1	AVG			623.740	27.475	
2	1	6.387	0.00	623.757	25.687	
2	2	6.387	1.16	622.300	26.991	
2	3	6.387	2.32	625.277	27.686	
2	4	6.387	3.48	626.865	28.053	
2	5	6.387	4.65	627.418	28.029	
2	6	6.387	5.81	627.642	28.309	
2	7	6.387	6.97	627.873	28.194	
2	8	6.387	8.13	627.036	28.473	
2	9	6.387	9.29	627.546	28.725	
2	10	6.387	10.45	625.983	27.140	
2	AVG			626.264	27.786	
3	1	6.755	0.00	627.462	26.095	
3	2	6.755	1.16	622.892	26.939	
3	3	6.755	2.32	624.513	27.829	
3	4	6.755	3.48	626.176	27.955	
3	5	6.755	4.65	627.290	27.909	
3	6	6.755	5.81	630.295	28.154	
3	7	6.755	6.97	628.315	28.197	
3	8	6.755	8.13	628.007	28.597	
3	9	6.755	9.29	626.999	28.821	
3	10	6.755	10.45	628.740	27.619	
3	AVG			627.102	27.856	
4	1	7.104	0.00	630.491	26.080	
4	2	7.104	1.16	625.198	27.609	
4	3	7.104	2.32	624.732	27.897	
4	4	7.104	3.48	629.374	27.634	
4	5	7.104	4.65	628.690	27.986	
4	6	7.104	5.81	628.478	28.032	
4	7	7.104	6.97	629.954	28.287	
4	8	7.104	8.13	631.990	28.708	
4	9	7.104	9.29	631.155	28.869	
4	10	7.104	10.45	632.220	27.647	
4	AVG			629.239	27.917	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 10
THROTTLE:035

TEST ID:870902014

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	633.538	26.348	
5	2	7.437	1.16	628.062	27.813	
5	3	7.437	2.32	625.772	28.039	
5	4	7.437	3.48	628.862	28.144	
5	5	7.437	4.65	631.609	28.557	
5	6	7.437	5.81	635.023	28.942	
5	7	7.437	6.97	634.627	28.561	
5	8	7.437	8.13	635.238	28.749	
5	9	7.437	9.29	634.388	28.943	
5	10	7.437	10.45	637.206	27.172	
5	AVG			632.430	28.175	
6	1	7.756	0.00	645.015	26.289	
6	2	7.756	1.16	633.271	27.716	
6	3	7.756	2.32	632.511	28.599	
6	4	7.756	3.48	635.231	28.870	
6	5	7.756	4.65	637.934	28.898	
6	6	7.756	5.81	640.482	29.297	
6	7	7.756	6.97	641.267	28.897	
6	8	7.756	8.13	643.104	29.041	
6	9	7.756	9.29	644.011	29.065	
6	10	7.756	10.45	650.698	27.575	
6	AVG			640.221	28.486	
7	1	8.062	0.00	656.584	26.385	
7	2	8.062	1.16	643.395	27.765	
7	3	8.062	2.32	637.840	29.141	
7	4	8.062	3.48	641.257	28.992	
7	5	8.062	4.65	646.239	28.894	
7	6	8.062	5.81	648.559	29.325	
7	7	8.062	6.97	652.849	28.911	
7	8	8.062	8.13	654.724	29.148	
7	9	8.062	9.29	656.014	29.099	
7	10	8.062	10.45	660.909	28.073	
7	AVG			649.642	28.632	
8	1	8.356	0.00	662.560	27.513	
8	2	8.356	1.16	652.642	28.571	
8	3	8.356	2.32	649.275	28.879	
8	4	8.356	3.48	655.310	28.428	
8	5	8.356	4.65	658.501	28.387	
8	6	8.356	5.81	661.813	28.943	
8	7	8.356	6.97	665.456	28.821	
8	8	8.356	8.13	666.230	28.943	
8	9	8.356	9.29	668.161	28.890	
8	10	8.356	10.45	668.981	28.616	
8	AVG			660.876	28.612	

COMPRESSOR CONFIGURATION:PBS

SCAN: 11

TEST ID:870902016

NOMINAL % DESIGN SPEED:095

THROTTLE:055

PERFORMANCE:

MEAS. WORK =1508.00 ISEN. EFFIC.= 87.556 POLYTROPIC EFFIC.=88.650
 MEAS. FLOWR.= 35.734 CORR. FLOWR.= 57.902 COMPUTED FLOWRATE=56.727
 MEASURED RPM=19546.0 CORR. RPM =19186.8 % DESIGN RPM = 94.88
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.928
 D.P. TEMP. =449.968 P. COR. FAC.= 1.591 TEMP. COR. FACT. = .964
 ATMOS. PRES.= 14.282 ATM.PRES.(S)= 14.285 REL. HUMIDITY = .028
 CALIBRATION PRESSURES (SONIX)= 9.0042 14.2851 29.2933

VENTURI PRESSURES:

INLET (AVG=10.205,SONIX=10.205)= 10.205 10.201 10.207 10.204
 THROAT (AVG= 9.149,SONIX= 9.152)= 9.152 9.140 9.152 9.140
 9.152 9.150 9.149 9.151
 9.150 9.150 9.153 9.151

PLENUM CONDITIONS:

PRESSURES (AVG= 9.238,SONIX= 9.224)= 9.242 9.234
 TEMPERATURES (AVG=538.31)= 538.86 539.01 538.15 538.15 538.71
 538.42 537.56 537.24 538.71

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 29.736 29.426 28.154 ***** 29.077 ***** 28.530
 28.229 28.069
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 664.67 626.41 ***** 630.00 641.55 ***** *****
 624.29 634.12

STATIC PRESSURES (CORRECTED):

----CASING---- ----HUB-----

X	P	X	P
-8.571	10.962	-5.125	16.957
-8.400	10.962	-5.125	16.806
-8.400	10.972	-5.125	17.288
-8.400	11.110	-5.125	16.805
-8.400	11.026	-1.650	21.821
-8.318	10.840	-1.650	22.155
-8.065	10.750	-1.650	22.165
-7.811	11.163	-1.650	21.333
-7.558	13.696	-.900	21.569
-7.304	*****	-.900	22.221
-7.051	16.486	-.900	22.250
-6.798	*****	-.900	21.776
-6.544	20.048		
-6.291	20.723		
-6.037	21.524		
-5.784	22.367		
-1.650	23.494		
-1.650	23.494		
-1.650	23.397		
-1.650	22.722		
-.900	22.392		
-.900	22.880		
-.900	22.774		
-.900	22.037		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 11
THROTTLE:055

TEST ID:870902016

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	624.885	26.946	
1	2	5.996	1.16	623.232	25.685	
1	3	5.996	2.32	621.681	26.094	
1	4	5.996	3.48	623.840	27.960	
1	5	5.996	4.65	623.858	28.046	
1	6	5.996	5.81	624.943	28.334	
1	7	5.996	6.97	625.169	28.155	
1	8	5.996	8.13	625.185	28.236	
1	9	5.996	9.29	625.371	28.522	
1	10	5.996	10.45	625.957	27.606	
1	AVG			624.484	27.640	
2	1	6.387	0.00	626.959	26.406	
2	2	6.387	1.16	625.247	26.963	
2	3	6.387	2.32	626.719	27.393	
2	4	6.387	3.48	630.557	28.464	
2	5	6.387	4.65	629.630	28.492	
2	6	6.387	5.81	628.105	28.703	
2	7	6.387	6.97	629.154	28.534	
2	8	6.387	8.13	628.710	28.640	
2	9	6.387	9.29	629.346	28.930	
2	10	6.387	10.45	629.221	27.700	
2	AVG			628.442	28.078	
3	1	6.755	0.00	628.376	26.364	
3	2	6.755	1.16	625.511	26.264	
3	3	6.755	2.32	628.562	27.027	
3	4	6.755	3.48	630.007	28.233	
3	5	6.755	4.65	630.476	28.197	
3	6	6.755	5.81	632.753	28.587	
3	7	6.755	6.97	629.728	28.517	
3	8	6.755	8.13	629.535	28.775	
3	9	6.755	9.29	629.082	28.954	
3	10	6.755	10.45	630.172	27.895	
3	AVG			629.522	27.958	
4	1	7.104	0.00	634.566	26.606	
4	2	7.104	1.16	628.799	26.755	
4	3	7.104	2.32	629.853	27.190	
4	4	7.104	3.48	634.272	28.220	
4	5	7.104	4.65	631.654	28.415	
4	6	7.104	5.81	630.442	28.760	
4	7	7.104	6.97	632.868	28.837	
4	8	7.104	8.13	634.450	29.174	
4	9	7.104	9.29	632.744	29.530	
4	10	7.104	10.45	634.561	28.577	
4	AVG			632.474	28.284	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 11
THROTTLE:055

TEST ID:870902016

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	643.773	26.670	
5	2	7.437	1.16	633.707	27.452	
5	3	7.437	2.32	631.869	27.990	
5	4	7.437	3.48	635.130	28.512	
5	5	7.437	4.65	633.889	28.834	
5	6	7.437	5.81	637.473	29.282	
5	7	7.437	6.97	637.348	29.308	
5	8	7.437	8.13	640.249	29.530	
5	9	7.437	9.29	640.422	29.767	
5	10	7.437	10.45	643.354	28.405	
5	AVG			637.701	28.645	
6	1	7.756	0.00	654.118	26.697	
6	2	7.756	1.16	637.008	27.224	
6	3	7.756	2.32	633.775	28.373	
6	4	7.756	3.48	637.003	28.919	
6	5	7.756	4.65	641.580	29.404	
6	6	7.756	5.81	644.715	29.814	
6	7	7.756	6.97	647.135	29.598	
6	8	7.756	8.13	649.561	29.874	
6	9	7.756	9.29	649.957	29.872	
6	10	7.756	10.45	658.486	28.427	
6	AVG			645.294	28.912	
7	1	8.062	0.00	665.213	26.555	
7	2	8.062	1.16	648.903	26.903	
7	3	8.062	2.32	643.601	28.451	
7	4	8.062	3.48	646.212	29.041	
7	5	8.062	4.65	651.334	29.162	
7	6	8.062	5.81	654.053	29.792	
7	7	8.062	6.97	658.077	29.637	
7	8	8.062	8.13	659.501	29.995	
7	9	8.062	9.29	660.394	30.186	
7	10	8.062	10.45	668.660	28.845	
7	AVG			655.567	28.969	
8	1	8.356	0.00	673.856	27.815	
8	2	8.356	1.16	662.592	28.604	
8	3	8.356	2.32	655.947	29.505	
8	4	8.356	3.48	660.734	29.345	
8	5	8.356	4.65	665.112	29.282	
8	6	8.356	5.81	668.726	29.958	
8	7	8.356	6.97	671.021	29.661	
8	8	8.356	8.13	673.031	29.710	
8	9	8.356	9.29	674.784	29.925	
8	10	8.356	10.45	678.399	29.458	
8	AVG			668.394	29.355	

COMPRESSOR CONFIGURATION:PBS

SCAN: 12

TEST ID:870902017

NOMINAL % DESIGN SPEED:095

THROTTLE:065

PERFORMANCE:

MEAS. WORK =1500.55 ISEN. EFFIC.= 85.474 POLYTROPIC EFFIC.=86.748
 MEAS. FLOWR.= 34.767 CORR. FLOWR.= 56.510 COMPUTED FLOWRATE=55.411
 MEASURED RPM=19540.0 CORR. RPM =19190.1 % DESIGN RPM = 94.90
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.926
 D.P. TEMP. =450.089 P. COR. FAC.= 1.596 TEMP. COR. FACT. = .965
 ATMOS. PRES.= 14.281 ATM.PRES.(S)= 14.285 REL. HUMIDITY = .029
 CALIBRATION PRESSURES (SONIX)= 9.0040 14.2855 29.2926

VENTURI PRESSURES:

INLET (AVG=10.124,SONIX=10.129)= 10.119 10.123 10.129 10.125
 THROAT (AVG= 9.125,SONIX= 9.126)= 9.120 9.129 9.120 9.129
 9.126 9.125 9.124 9.125
 9.124 9.124 9.126 9.126

PLENUM CONDITIONS:

PRESSURES (AVG= 9.205,SONIX= 9.189)= 9.210 9.201
 TEMPERATURES (AVG=537.80)= 538.40 538.55 537.55 537.69 538.11
 537.99 537.10 536.69 538.11

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 29.862 29.589 28.380 ***** 28.910 ***** 28.647
 28.422 28.157
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 669.24 629.28 ***** 630.67 644.45 *****
 624.36 635.14

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.218	-5.125	17.132
-8.400	11.242	-5.125	16.982
-8.400	11.289	-5.125	17.401
-8.400	11.420	-5.125	16.946
-8.400	11.306	-1.650	22.103
-8.318	11.099	-1.650	22.346
-8.065	10.991	-1.650	22.410
-7.811	11.514	-1.650	21.628
-7.558	15.315	-.900	21.867
-7.304	*****	-.900	22.453
-7.051	16.955	-.900	22.505
-6.798	*****	-.900	22.104
-6.544	20.326		
-6.291	21.165		
-6.037	21.676		
-5.784	22.554		
-1.650	23.579		
-1.650	23.579		
-1.650	23.481		
-1.650	22.872		
-.900	22.612		
-.900	23.086		
-.900	22.961		
-.900	22.271		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 12
THROTTLE:065

TEST ID:870902017

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	625.485	26.860	
1	2	5.996	1.16	623.709	25.653	
1	3	5.996	2.32	621.945	25.804	
1	4	5.996	3.48	623.960	27.910	
1	5	5.996	4.65	624.905	28.115	
1	6	5.996	5.81	625.977	28.349	
1	7	5.996	6.97	625.587	28.235	
1	8	5.996	8.13	625.838	28.307	
1	9	5.996	9.29	625.695	28.543	
1	10	5.996	10.45	626.141	27.718	
1	AVG			625.021	27.651	
2	1	6.387	0.00	628.945	26.500	
2	2	6.387	1.16	626.900	26.587	
2	3	6.387	2.32	626.295	27.178	
2	4	6.387	3.48	630.819	28.386	
2	5	6.387	4.65	630.036	28.547	
2	6	6.387	5.81	629.710	28.738	
2	7	6.387	6.97	630.084	28.792	
2	8	6.387	8.13	631.251	28.759	
2	9	6.387	9.29	631.466	29.069	
2	10	6.387	10.45	631.280	27.620	
2	AVG			629.778	28.092	
3	1	6.755	0.00	629.949	26.475	
3	2	6.755	1.16	627.238	26.110	
3	3	6.755	2.32	629.708	26.390	
3	4	6.755	3.48	632.294	28.301	
3	5	6.755	4.65	632.868	28.333	
3	6	6.755	5.81	633.052	28.653	
3	7	6.755	6.97	630.866	28.739	
3	8	6.755	8.13	631.248	28.869	
3	9	6.755	9.29	630.504	29.020	
3	10	6.755	10.45	631.239	28.056	
3	AVG			631.016	28.001	
4	1	7.104	0.00	636.054	26.669	
4	2	7.104	1.16	630.284	26.010	
4	3	7.104	2.32	630.087	26.223	
4	4	7.104	3.48	634.215	28.308	
4	5	7.104	4.65	632.740	28.394	
4	6	7.104	5.81	633.067	28.845	
4	7	7.104	6.97	634.689	28.875	
4	8	7.104	8.13	634.490	29.099	
4	9	7.104	9.29	633.241	29.636	
4	10	7.104	10.45	636.089	28.504	
4	AVG			633.606	28.192	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 12
THROTTLE:065

TEST ID:870902017

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	647.411	27.027	
5	2	7.437	1.16	637.440	25.957	
5	3	7.437	2.32	633.381	26.387	
5	4	7.437	3.48	637.376	28.626	
5	5	7.437	4.65	637.054	28.792	
5	6	7.437	5.81	636.908	29.369	
5	7	7.437	6.97	638.912	29.338	
5	8	7.437	8.13	643.437	29.658	
5	9	7.437	9.29	642.957	29.747	
5	10	7.437	10.45	650.738	28.561	
5	AVG			640.639	28.535	
6	1	7.756	0.00	660.093	26.739	
6	2	7.756	1.16	639.069	26.221	
6	3	7.756	2.32	637.294	27.300	
6	4	7.756	3.48	641.611	28.752	
6	5	7.756	4.65	642.205	29.052	
6	6	7.756	5.81	645.107	29.693	
6	7	7.756	6.97	651.026	29.615	
6	8	7.756	8.13	654.141	29.865	
6	9	7.756	9.29	654.594	29.902	
6	10	7.756	10.45	668.179	28.768	
6	AVG			649.518	28.733	
7	1	8.062	0.00	669.035	26.653	
7	2	8.062	1.16	651.326	26.418	
7	3	8.062	2.32	647.714	27.812	
7	4	8.062	3.48	652.595	28.835	
7	5	8.062	4.65	653.148	29.189	
7	6	8.062	5.81	657.000	29.831	
7	7	8.062	6.97	661.454	29.690	
7	8	8.062	8.13	664.214	30.107	
7	9	8.062	9.29	665.163	30.312	
7	10	8.062	10.45	675.216	29.244	
7	AVG			659.648	28.955	
8	1	8.356	0.00	681.449	27.825	
8	2	8.356	1.16	668.435	28.145	
8	3	8.356	2.32	660.154	29.230	
8	4	8.356	3.48	665.651	29.122	
8	5	8.356	4.65	666.834	29.409	
8	6	8.356	5.81	669.700	30.214	
8	7	8.356	6.97	674.398	30.039	
8	8	8.356	8.13	677.230	30.025	
8	9	8.356	9.29	680.033	30.177	
8	10	8.356	10.45	683.576	29.868	
8	AVG			672.757	29.454	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095
PERFORMANCE:

SCAN: 13
THROTTLE:075

TEST ID:870902018

MEAS. WORK =1543.33 ISEN. EFFIC.= 83.457 POLYTROPIC EFFIC.=84.906
MEAS. FLOWR.= 35.165 CORR. FLOWR.= 55.323 COMPUTED FLOWRATE=53.994
MEASURED RPM=19514.0 CORR. RPM =19178.7 % DESIGN RPM = 94.84
SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.925
D.P. TEMP. =449.816 P. COR. FAC.= 1.546 TEMP. COR. FACT. = .966
ATMOS. PRES.= 14.287 ATM.PRES.(S)= 14.287 REL. HUMIDITY = .030
CALIBRATION PRESSURES (SONIX)= 9.0025 14.2878 29.2953

VENTURI PRESSURES:

INLET (AVG=10.407,SONIX=10.398)= 10.408 10.410 10.404 10.405
THROAT (AVG= 9.420,SONIX= 9.419)= 9.424 9.423 9.424 9.423
9.420 9.418 9.418 9.419
9.417 9.417 9.420 9.420

PLENUM CONDITIONS:

PRESSURES (AVG= 9.503,SONIX= 9.484)= 9.501 9.506
TEMPERATURES (AVG=537.00)= 537.10 537.40 536.69 536.69 537.55
537.55 536.25 536.25 537.55

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 29.851 29.629 28.457 ***** 28.834 ***** 29.053
28.371 28.276
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 675.06 632.21 ***** 632.21 646.94 ***** *****
624.58 633.83

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.573	-5.125	17.258
-8.400	11.601	-5.125	17.102
-8.400	11.625	-5.125	17.522
-8.400	11.747	-5.125	17.066
-8.400	11.632	-1.650	22.359
-8.318	11.453	-1.650	22.426
-8.065	11.275	-1.650	22.631
-7.811	11.930	-1.650	21.913
-7.558	16.887	-.900	22.163
-7.304	*****	-.900	22.675
-7.051	17.923	-.900	22.752
-6.798	*****	-.900	22.366
-6.544	20.744		
-6.291	21.502		
-6.037	21.877		
-5.784	22.832		
-1.650	23.646		
-1.650	23.646		
-1.650	23.543		
-1.650	23.015		
-.900	22.799		
-.900	23.287		
-.900	23.156		
-.900	22.525		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 13
THROTTLE:075

TEST ID:870902018

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	625.651	26.910	
1	2	5.996	1.16	624.248	25.604	
1	3	5.996	2.32	621.718	25.453	
1	4	5.996	3.48	624.053	27.864	
1	5	5.996	4.65	625.814	28.153	
1	6	5.996	5.81	626.884	28.390	
1	7	5.996	6.97	625.729	28.385	
1	8	5.996	8.13	626.605	28.301	
1	9	5.996	9.29	625.614	28.538	
1	10	5.996	10.45	626.043	27.586	
1	AVG			625.367	27.646	
2	1	6.387	0.00	629.008	26.532	
2	2	6.387	1.16	627.238	26.347	
2	3	6.387	2.32	625.630	26.926	
2	4	6.387	3.48	630.354	28.088	
2	5	6.387	4.65	631.649	28.653	
2	6	6.387	5.81	631.333	28.892	
2	7	6.387	6.97	631.375	29.136	
2	8	6.387	8.13	632.631	28.951	
2	9	6.387	9.29	631.729	29.196	
2	10	6.387	10.45	632.518	27.874	
2	AVG			630.518	28.160	
3	1	6.755	0.00	631.959	26.637	
3	2	6.755	1.16	629.173	25.903	
3	3	6.755	2.32	630.809	25.867	
3	4	6.755	3.48	632.434	28.061	
3	5	6.755	4.65	635.408	28.431	
3	6	6.755	5.81	635.350	28.752	
3	7	6.755	6.97	633.089	28.980	
3	8	6.755	8.13	633.779	29.004	
3	9	6.755	9.29	632.904	29.388	
3	10	6.755	10.45	634.054	28.186	
3	AVG			633.074	28.073	
4	1	7.104	0.00	637.160	26.846	
4	2	7.104	1.16	632.364	25.341	
4	3	7.104	2.32	630.002	25.567	
4	4	7.104	3.48	632.728	27.881	
4	5	7.104	4.65	636.318	28.368	
4	6	7.104	5.81	634.913	28.953	
4	7	7.104	6.97	636.158	29.059	
4	8	7.104	8.13	635.160	29.136	
4	9	7.104	9.29	634.761	29.571	
4	10	7.104	10.45	637.494	28.296	
4	AVG			634.906	28.110	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:095

SCAN: 13
THROTTLE:075

TEST ID:870902018

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	651.371	27.036	
5	2	7.437	1.16	641.132	25.390	
5	3	7.437	2.32	633.609	26.111	
5	4	7.437	3.48	637.471	28.192	
5	5	7.437	4.65	639.088	28.709	
5	6	7.437	5.81	637.698	29.385	
5	7	7.437	6.97	640.477	29.305	
5	8	7.437	8.13	645.765	29.593	
5	9	7.437	9.29	645.906	29.950	
5	10	7.437	10.45	655.341	28.553	
5	AVG			642.936	28.434	
6	1	7.756	0.00	664.797	26.688	
6	2	7.756	1.16	645.329	25.629	
6	3	7.756	2.32	640.507	26.548	
6	4	7.756	3.48	644.553	28.385	
6	5	7.756	4.65	644.090	28.927	
6	6	7.756	5.81	645.762	29.686	
6	7	7.756	6.97	652.279	29.472	
6	8	7.756	8.13	658.128	29.739	
6	9	7.756	9.29	660.624	30.014	
6	10	7.756	10.45	674.702	29.105	
6	AVG			653.414	28.626	
7	1	8.062	0.00	676.113	26.749	
7	2	8.062	1.16	657.120	26.088	
7	3	8.062	2.32	653.049	26.816	
7	4	8.062	3.48	657.381	28.384	
7	5	8.062	4.65	656.657	29.029	
7	6	8.062	5.81	658.621	29.769	
7	7	8.062	6.97	664.137	29.764	
7	8	8.062	8.13	668.672	30.151	
7	9	8.062	9.29	670.805	30.456	
7	10	8.062	10.45	680.722	29.747	
7	AVG			664.664	28.898	
8	1	8.356	0.00	687.762	27.901	
8	2	8.356	1.16	671.950	27.424	
8	3	8.356	2.32	668.240	28.305	
8	4	8.356	3.48	673.217	29.058	
8	5	8.356	4.65	671.682	29.569	
8	6	8.356	5.81	675.418	30.418	
8	7	8.356	6.97	677.640	30.366	
8	8	8.356	8.13	680.821	30.292	
8	9	8.356	9.29	682.664	30.487	
8	10	8.356	10.45	688.344	30.428	
8	AVG			677.923	29.521	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090
PERFORMANCE:

SCAN: 2
THROTTLE:000

TEST ID:870903005

MEAS. WORK =1347.04 ISEN. EFFIC.= 89.686 POLYTROPIC EFFIC.=90.449
MEAS. FLOWR.= 40.386 CORR. FLOWR.= 57.938 COMPUTED FLOWRATE=56.152
MEASURED RPM=18518.0 CORR. RPM =18179.7 % DESIGN RPM = 89.90
SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.727
D.P. TEMP. =450.211 P. COR. FAC.= 1.408 TEMP. COR. FACT. = .964
ATMOS. PRES.= 14.361 ATM.PRES.(S)= 14.361 REL. HUMIDITY = .029
CALIBRATION PRESSURES (SONIX)= 9.0022 14.3616 29.3699

VENTURI PRESSURES:

INLET (AVG=11.525,SONIX=11.522)= 11.514 11.531 11.532 11.525
THROAT (AVG=10.335,SONIX=10.336)= 10.332 10.331 10.332 10.331
10.338 10.337 10.340 10.336
10.336 10.336 10.336 10.337

PLENUM CONDITIONS:

PRESSURES (AVG=10.433,SONIX=10.424)= 10.431 10.435
TEMPERATURES (AVG=538.19)= 538.08 538.79 537.94 537.79 538.79
538.79 537.49 537.08 538.99

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 24.932 25.345 24.764 ***** 25.745 ***** 26.011
26.285 26.130
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 632.56 611.95 ***** 615.30 618.04 *****
612.35 611.59

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.104	-5.125	15.890
-8.400	11.054	-5.125	15.692
-8.400	11.073	-5.125	16.165
-8.400	11.061	-5.125	15.684
-8.400	10.923	-1.650	17.905
-8.318	10.975	-1.650	18.492
-8.065	10.835	-1.650	18.361
-7.811	10.885	-1.650	17.444
-7.558	11.792	-.900	17.619
-7.304	*****	-.900	18.343
-7.051	12.558	-.900	18.390
-6.798	*****	-.900	17.828
-6.544	16.445		
-6.291	17.954		
-6.037	18.942		
-5.784	19.836		
-1.650	19.599		
-1.650	20.074		
-1.650	20.026		
-1.650	19.432		
-.900	18.826		
-.900	19.312		
-.900	19.154		
-.900	18.451		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 2
THROTTLE:000

TEST ID:870903005

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	615.011	24.032	
1	2	5.996	1.16	612.321	23.088	
1	3	5.996	2.32	609.126	24.247	
1	4	5.996	3.48	612.149	25.772	
1	5	5.996	4.65	610.447	26.239	
1	6	5.996	5.81	612.248	26.373	
1	7	5.996	6.97	612.610	26.264	
1	8	5.996	8.13	612.617	26.369	
1	9	5.996	9.29	612.356	26.409	
1	10	5.996	10.45	612.257	25.322	
1	AVG			612.105	25.503	
2	1	6.387	0.00	610.093	24.068	
2	2	6.387	1.16	610.124	25.958	
2	3	6.387	2.32	610.505	26.088	
2	4	6.387	3.48	613.085	26.061	
2	5	6.387	4.65	612.823	26.081	
2	6	6.387	5.81	614.120	26.145	
2	7	6.387	6.97	613.361	26.209	
2	8	6.387	8.13	613.498	26.289	
2	9	6.387	9.29	612.445	26.300	
2	10	6.387	10.45	613.333	25.046	
2	AVG			612.366	25.855	
3	1	6.755	0.00	608.708	24.492	
3	2	6.755	1.16	609.935	25.762	
3	3	6.755	2.32	609.172	25.794	
3	4	6.755	3.48	612.248	25.700	
3	5	6.755	4.65	613.156	25.816	
3	6	6.755	5.81	615.216	26.114	
3	7	6.755	6.97	612.776	25.953	
3	8	6.755	8.13	612.670	26.239	
3	9	6.755	9.29	611.247	26.238	
3	10	6.755	10.45	612.317	24.604	
3	AVG			611.774	25.695	
4	1	7.104	0.00	609.602	24.695	
4	2	7.104	1.16	608.596	25.707	
4	3	7.104	2.32	610.797	25.773	
4	4	7.104	3.48	612.915	25.645	
4	5	7.104	4.65	614.009	25.754	
4	6	7.104	5.81	613.626	25.863	
4	7	7.104	6.97	613.388	25.857	
4	8	7.104	8.13	611.843	25.936	
4	9	7.104	9.29	611.344	26.219	
4	10	7.104	10.45	613.187	24.701	
4	AVG			611.937	25.631	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 2
THROTTLE:000

TEST ID:870903005

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	610.290	25.231	
5	2	7.437	1.16	610.236	25.581	
5	3	7.437	2.32	610.340	25.573	
5	4	7.437	3.48	612.916	25.532	
5	5	7.437	4.65	613.453	25.603	
5	6	7.437	5.81	614.746	25.824	
5	7	7.437	6.97	612.655	25.545	
5	8	7.437	8.13	613.729	25.917	
5	9	7.437	9.29	612.590	26.097	
5	10	7.437	10.45	614.409	24.566	
5	AVG			612.533	25.558	
6	1	7.756	0.00	614.500	25.274	
6	2	7.756	1.16	610.853	25.722	
6	3	7.756	2.32	612.776	25.725	
6	4	7.756	3.48	615.074	25.575	
6	5	7.756	4.65	616.522	25.722	
6	6	7.756	5.81	619.244	25.781	
6	7	7.756	6.97	618.330	25.739	
6	8	7.756	8.13	620.443	25.937	
6	9	7.756	9.29	620.798	25.765	
6	10	7.756	10.45	623.848	24.527	
6	AVG			617.187	25.588	
7	1	8.062	0.00	624.719	24.466	
7	2	8.062	1.16	619.847	25.738	
7	3	8.062	2.32	619.097	25.936	
7	4	8.062	3.48	621.573	25.787	
7	5	8.062	4.65	624.567	25.809	
7	6	8.062	5.81	626.760	25.993	
7	7	8.062	6.97	628.100	25.727	
7	8	8.062	8.13	629.336	25.883	
7	9	8.062	9.29	628.580	25.766	
7	10	8.062	10.45	632.003	24.588	
7	AVG			625.392	25.591	
8	1	8.356	0.00	636.533	24.487	
8	2	8.356	1.16	627.430	25.703	
8	3	8.356	2.32	628.094	25.923	
8	4	8.356	3.48	630.710	25.757	
8	5	8.356	4.65	634.691	25.421	
8	6	8.356	5.81	638.406	25.875	
8	7	8.356	6.97	641.149	25.487	
8	8	8.356	8.13	640.073	25.521	
8	9	8.356	9.29	640.737	25.524	
8	10	8.356	10.45	641.992	24.884	
8	AVG			635.889	25.473	

COMPRESSOR CONFIGURATION:PBS

SCAN: 3

TEST ID:870903006

NOMINAL % DESIGN SPEED:090

THROTTLE:002

PERFORMANCE:

MEAS. WORK =1346.99 ISEN. EFFIC.= 90.145 POLYTROPIC EFFIC.=90.888
 MEAS. FLOWR.= 39.650 CORR. FLOWR.= 57.545 COMPUTED FLOWRATE=55.922
 MEASURED RPM=18510.0 CORR. RPM =18173.7 % DESIGN RPM = 89.87
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.745
 D.P. TEMP. =450.241 P. COR. FAC.= 1.425 TEMP. COR. FACT. = .964
 ATMOS. PRES.= 14.361 ATM.PRES.(S)= 14.361 REL. HUMIDITY = .029
 CALIBRATION PRESSURES (SONIX)= 9.0002 14.3614 29.3693

VENTURI PRESSURES:

INLET (AVG=11.372,SONIX=11.375)= 11.372 11.368 11.369 11.378
 THROAT (AVG=10.211,SONIX=10.214)= 10.214 10.204 10.214 10.204
 10.212 10.212 10.212 10.212
 10.212 10.212 10.212 10.213

PLENUM CONDITIONS:

PRESSURES (AVG=10.312,SONIX=10.297)= 10.311 10.313
 TEMPERATURES (AVG=538.08)= 538.11 538.67 537.96 537.67 538.52
 538.37 537.52 536.96 538.96

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 25.479 25.673 25.115 ***** 26.077 ***** 26.081
 26.328 26.155
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 632.52 612.15 ***** 613.94 620.33 ***** *****
 612.02 613.05

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.142	-5.125	16.027
-8.400	11.073	-5.125	15.850
-8.400	11.115	-5.125	16.322
-8.400	11.105	-5.125	15.837
-8.400	10.976	-1.650	18.444
-8.318	10.995	-1.650	18.998
-8.065	10.857	-1.650	18.884
-7.811	10.964	-1.650	17.993
-7.558	11.928	-.900	18.197
-7.304	*****	-.900	18.916
-7.051	13.465	-.900	18.918
-6.798	*****	-.900	18.377
-6.544	17.114		
-6.291	18.406		
-6.037	19.359		
-5.784	20.116		
-1.650	20.018		
-1.650	20.511		
-1.650	20.483		
-1.650	19.833		
-.900	19.295		
-.900	19.770		
-.900	19.652		
-.900	18.910		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 3
THROTTLE:002

TEST ID:870903006

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	615.125	24.281	
1	2	5.996	1.16	612.619	23.568	
1	3	5.996	2.32	610.101	24.801	
1	4	5.996	3.48	612.471	25.937	
1	5	5.996	4.65	610.818	26.234	
1	6	5.996	5.81	612.627	26.400	
1	7	5.996	6.97	612.884	26.331	
1	8	5.996	8.13	612.757	26.377	
1	9	5.996	9.29	612.438	26.412	
1	10	5.996	10.45	612.846	25.451	
1	AVG			612.449	25.649	
2	1	6.387	0.00	611.141	24.031	
2	2	6.387	1.16	610.376	25.927	
2	3	6.387	2.32	611.434	26.164	
2	4	6.387	3.48	612.696	26.143	
2	5	6.387	4.65	612.961	26.157	
2	6	6.387	5.81	614.002	26.275	
2	7	6.387	6.97	614.394	26.246	
2	8	6.387	8.13	614.409	26.391	
2	9	6.387	9.29	613.430	26.408	
2	10	6.387	10.45	613.677	25.311	
2	AVG			612.881	25.940	
3	1	6.755	0.00	610.666	24.313	
3	2	6.755	1.16	611.491	26.054	
3	3	6.755	2.32	610.837	25.894	
3	4	6.755	3.48	613.924	25.928	
3	5	6.755	4.65	614.198	26.006	
3	6	6.755	5.81	616.026	26.276	
3	7	6.755	6.97	613.576	26.086	
3	8	6.755	8.13	613.700	26.243	
3	9	6.755	9.29	611.915	26.343	
3	10	6.755	10.45	613.049	24.859	
3	AVG			612.969	25.829	
4	1	7.104	0.00	610.871	24.811	
4	2	7.104	1.16	610.412	25.935	
4	3	7.104	2.32	611.073	25.947	
4	4	7.104	3.48	614.025	25.957	
4	5	7.104	4.65	615.295	25.807	
4	6	7.104	5.81	615.211	26.151	
4	7	7.104	6.97	615.599	26.087	
4	8	7.104	8.13	613.565	26.272	
4	9	7.104	9.29	613.190	26.490	
4	10	7.104	10.45	613.740	24.835	
4	AVG			613.316	25.850	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 3
THROTTLE:002

TEST ID:870903006

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	611.903	25.018	
5	2	7.437	1.16	613.073	25.807	
5	3	7.437	2.32	612.065	25.932	
5	4	7.437	3.48	615.119	25.745	
5	5	7.437	4.65	615.151	25.952	
5	6	7.437	5.81	615.931	26.051	
5	7	7.437	6.97	614.871	25.845	
5	8	7.437	8.13	615.784	25.948	
5	9	7.437	9.29	614.247	26.339	
5	10	7.437	10.45	616.175	24.806	
5	AVG			614.434	25.759	
6	1	7.756	0.00	616.820	25.387	
6	2	7.756	1.16	612.951	26.090	
6	3	7.756	2.32	614.222	25.956	
6	4	7.756	3.48	616.009	25.901	
6	5	7.756	4.65	617.834	26.046	
6	6	7.756	5.81	620.891	26.287	
6	7	7.756	6.97	620.877	26.186	
6	8	7.756	8.13	621.813	26.355	
6	9	7.756	9.29	622.664	26.346	
6	10	7.756	10.45	625.760	24.844	
6	AVG			618.945	25.955	
7	1	8.062	0.00	626.046	24.859	
7	2	8.062	1.16	620.831	26.083	
7	3	8.062	2.32	620.181	26.226	
7	4	8.062	3.48	622.933	26.136	
7	5	8.062	4.65	625.778	26.209	
7	6	8.062	5.81	628.318	26.411	
7	7	8.062	6.97	630.206	26.217	
7	8	8.062	8.13	631.166	26.408	
7	9	8.062	9.29	630.845	26.207	
7	10	8.062	10.45	634.446	25.023	
7	AVG			627.018	25.999	
8	1	8.356	0.00	638.464	24.898	
8	2	8.356	1.16	629.328	26.065	
8	3	8.356	2.32	629.251	26.375	
8	4	8.356	3.48	632.131	26.073	
8	5	8.356	4.65	636.519	25.767	
8	6	8.356	5.81	640.475	26.371	
8	7	8.356	6.97	642.863	26.001	
8	8	8.356	8.13	643.009	26.027	
8	9	8.356	9.29	642.825	26.176	
8	10	8.356	10.45	644.585	25.482	
8	AVG			637.875	25.938	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 14
THROTTLE:005

TEST ID:870902020

PERFORMANCE:

MEAS. WORK =1332.47 ISEN. EFFIC.= 90.354 POLYTROPIC EFFIC.=91.097
MEAS. FLOWR.= 37.943 CORR. FLOWR.= 56.944 COMPUTED FLOWRATE=55.371
MEASURED RPM=18588.0 CORR. RPM =18171.1 % DESIGN RPM = 89.86
SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.769
D.P. TEMP. =450.029 P. COR. FAC.= 1.467 TEMP. COR. FACT. = .956
ATMOS. PRES.= 14.288 ATM.PRES.(S)= 14.287 REL. HUMIDITY = .025
CALIBRATION PRESSURES (SONIX)= 9.0033 14.2875 29.2945

VENTURI PRESSURES:

INLET (AVG=11.028,SONIX=11.029)= 11.035 11.030 11.021 11.027
THROAT (AVG= 9.921,SONIX= 9.922)= 9.921 9.924 9.921 9.924
9.921 9.921 9.920 9.921
9.919 9.919 9.922 9.922

PLENUM CONDITIONS:

PRESSURES (AVG=10.015,SONIX=10.001)= 10.010 10.021
TEMPERATURES (AVG=542.79)= 542.62 542.88 542.47 542.62 543.47
543.32 542.47 542.03 543.20

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 26.296 26.368 25.683 ***** 26.287 ***** 26.206
26.433 26.233
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 637.83 612.99 ***** 614.96 623.05 *****
612.76 615.33

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.213	-5.125	16.244
-8.400	11.168	-5.125	16.110
-8.400	11.187	-5.125	16.538
-8.400	11.194	-5.125	16.090
-8.400	11.083	-1.650	19.201
-8.318	11.072	-1.650	19.669
-8.065	10.955	-1.650	19.589
-7.811	11.136	-1.650	18.738
-7.558	12.271	-.900	18.968
-7.304	*****	-.900	19.641
-7.051	14.888	-.900	19.627
-6.798	*****	-.900	19.142
-5.544	18.246		
-6.291	19.011		
-6.037	19.808		
-5.784	20.488		
-1.650	21.127		
-1.650	21.127		
-1.650	21.076		
-1.650	20.396		
-.900	19.939		
-.900	20.425		
-.900	20.286		
-.900	19.575		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 14
THROTTLE:005

TEST ID:870902020

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	615.706	24.743	
1	2	5.996	1.16	613.525	23.896	
1	3	5.996	2.32	611.411	25.165	
1	4	5.996	3.48	613.666	26.175	
1	5	5.996	4.65	611.833	26.264	
1	6	5.996	5.81	613.197	26.394	
1	7	5.996	6.97	613.306	26.238	
1	8	5.996	8.13	613.323	26.349	
1	9	5.996	9.29	612.884	26.461	
1	10	5.996	10.45	613.944	25.828	
1	AVG			613.257	25.806	
2	1	6.387	0.00	612.076	23.978	
2	2	6.387	1.16	611.235	25.629	
2	3	6.387	2.32	612.238	26.220	
2	4	6.387	3.48	614.699	26.379	
2	5	6.387	4.65	614.828	26.351	
2	6	6.387	5.81	616.160	26.532	
2	7	6.387	6.97	616.413	26.444	
2	8	6.387	8.13	616.166	26.574	
2	9	6.387	9.29	615.714	26.631	
2	10	6.387	10.45	614.897	25.598	
2	AVG			614.512	26.080	
3	1	6.755	0.00	614.475	24.351	
3	2	6.755	1.16	611.648	26.052	
3	3	6.755	2.32	613.227	26.186	
3	4	6.755	3.48	614.513	26.105	
3	5	6.755	4.65	615.283	26.096	
3	6	6.755	5.81	616.742	26.375	
3	7	6.755	6.97	615.184	26.293	
3	8	6.755	8.13	615.474	26.437	
3	9	6.755	9.29	614.145	26.675	
3	10	6.755	10.45	613.809	25.528	
3	AVG			614.458	26.041	
4	1	7.104	0.00	612.561	24.566	
4	2	7.104	1.16	612.192	26.341	
4	3	7.104	2.32	612.956	26.337	
4	4	7.104	3.48	615.917	26.253	
4	5	7.104	4.65	617.191	26.083	
4	6	7.104	5.81	618.080	26.647	
4	7	7.104	6.97	617.104	26.348	
4	8	7.104	8.13	616.230	26.536	
4	9	7.104	9.29	615.801	26.743	
4	10	7.104	10.45	618.101	25.175	
4	AVG			615.635	26.137	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 14
THROTTLE:005

TEST ID:870902020

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	615.495	25.056	
5	2	7.437	1.16	616.173	26.373	
5	3	7.437	2.32	615.126	26.321	
5	4	7.437	3.48	617.929	26.093	
5	5	7.437	4.65	617.295	26.399	
5	6	7.437	5.81	618.238	26.497	
5	7	7.437	6.97	617.820	26.217	
5	8	7.437	8.13	617.980	26.378	
5	9	7.437	9.29	616.542	26.512	
5	10	7.437	10.45	618.442	25.205	
5	AVG			617.116	26.125	
6	1	7.756	0.00	618.796	25.477	
6	2	7.756	1.16	617.831	26.453	
6	3	7.756	2.32	616.140	26.350	
6	4	7.756	3.48	618.607	26.358	
6	5	7.756	4.65	621.371	26.428	
6	6	7.756	5.81	622.516	26.799	
6	7	7.756	6.97	622.642	26.494	
6	8	7.756	8.13	623.058	26.936	
6	9	7.756	9.29	624.086	26.994	
6	10	7.756	10.45	627.794	25.286	
6	AVG			621.262	26.380	
7	1	8.062	0.00	629.716	25.011	
7	2	8.062	1.16	622.481	26.445	
7	3	8.062	2.32	622.280	26.746	
7	4	8.062	3.48	624.067	26.679	
7	5	8.062	4.65	628.076	26.520	
7	6	8.062	5.81	629.724	26.889	
7	7	8.062	6.97	631.415	26.776	
7	8	8.062	8.13	633.459	27.074	
7	9	8.062	9.29	634.160	26.992	
7	10	8.062	10.45	638.091	25.570	
7	AVG			629.282	26.502	
8	1	8.356	0.00	641.912	25.371	
8	2	8.356	1.16	632.089	26.603	
8	3	8.356	2.32	629.618	26.842	
8	4	8.356	3.48	634.509	26.583	
8	5	8.356	4.65	640.352	26.201	
8	6	8.356	5.81	643.230	26.750	
8	7	8.356	6.97	646.528	26.532	
8	8	8.356	8.13	647.397	26.582	
8	9	8.356	9.29	647.483	26.679	
8	10	8.356	10.45	648.001	26.224	
8	AVG			641.036	26.450	

COMPRESSOR CONFIGURATION:PBS

SCAN: 15

TEST ID:870902022

NOMINAL % DESIGN SPEED:090

THROTTLE:025

PERFORMANCE:

MEAS. WORK =1323.34 ISEN. EFFIC.= 89.550 POLYTROPIC EFFIC.=90.368
 MEAS. FLOWR.= 36.550 CORR. FLOWR.= 55.908 COMPUTED FLOWRATE=54.475
 MEASURED RPM=18612.0 CORR. RPM =18167.9 % DESIGN RPM = 89.84
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.785
 D.P. TEMP. =449.847 P. COR. FAC.= 1.493 TEMP. COR. FACT. = .953
 ATMOS. PRES.= 14.286 ATM.PRES.(S)= 14.285 REL. HUMIDITY = .023
 CALIBRATION PRESSURES (SONIX)= 9.0031 14.2861 29.2932

VENTURI PRESSURES:

INLET (AVG=10.807,SONIX=10.808)= 10.800 10.805 10.809 10.813
 THROAT (AVG= 9.759,SONIX= 9.759)= 9.753 9.764 9.753 9.764
 9.760 9.759 9.760 9.760
 9.757 9.757 9.760 9.759

PLENUM CONDITIONS:

PRESSURES (AVG= 9.841,SONIX= 9.830)= 9.837 9.845
 TEMPERATURES (AVG=544.38)= 544.34 544.49 544.07 544.19 545.07
 545.07 543.93 543.58 544.66

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 27.000 26.727 25.827 ***** 26.706 ***** 26.386
 26.516 26.338
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 642.98 614.74 ***** 616.01 624.01 ***** *****
 613.08 618.11

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.361	-5.125	16.489
-8.400	11.366	-5.125	16.316
-8.400	11.415	-5.125	16.750
-8.400	11.432	-5.125	16.305
-8.400	11.275	-1.650	19.815
-8.318	11.232	-1.650	20.275
-8.065	11.119	-1.650	20.165
-7.811	11.492	-1.650	19.398
-7.558	13.516	-.900	19.612
-7.304	*****	-.900	20.253
-7.051	15.598	-.900	20.202
-6.798	*****	-.900	19.778
-6.544	18.610		
-6.291	19.346		
-6.037	20.106		
-5.784	20.766		
-1.650	21.601		
-1.650	21.601		
-1.650	21.531		
-1.650	20.867		
-.900	20.484		
-.900	20.950		
-.900	20.824		
-.900	20.129		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 15
THROTTLE:025

TEST ID:870902022

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	614.947	25.128	
1	2	5.996	1.16	613.357	24.134	
1	3	5.996	2.32	611.464	25.188	
1	4	5.996	3.48	614.717	26.316	
1	5	5.996	4.65	612.239	26.266	
1	6	5.996	5.81	613.820	26.486	
1	7	5.996	6.97	613.542	26.280	
1	8	5.996	8.13	613.702	26.425	
1	9	5.996	9.29	613.333	26.585	
1	10	5.996	10.45	614.257	26.011	
1	AVG			613.545	25.933	
2	1	6.387	0.00	613.356	24.260	
2	2	6.387	1.16	612.351	25.715	
2	3	6.387	2.32	614.665	26.225	
2	4	6.387	3.48	616.267	26.580	
2	5	6.387	4.65	616.389	26.526	
2	6	6.387	5.81	616.692	26.751	
2	7	6.387	6.97	617.156	26.698	
2	8	6.387	8.13	617.857	26.831	
2	9	6.387	9.29	617.834	26.851	
2	10	6.387	10.45	616.493	25.761	
2	AVG			615.989	26.268	
3	1	6.755	0.00	615.703	24.442	
3	2	6.755	1.16	612.546	25.676	
3	3	6.755	2.32	615.287	26.314	
3	4	6.755	3.48	616.939	26.273	
3	5	6.755	4.65	615.822	26.343	
3	6	6.755	5.81	619.745	26.571	
3	7	6.755	6.97	616.994	26.555	
3	8	6.755	8.13	617.304	26.823	
3	9	6.755	9.29	615.516	26.833	
3	10	6.755	10.45	615.448	25.837	
3	AVG			616.096	26.206	
4	1	7.104	0.00	617.198	24.399	
4	2	7.104	1.16	613.304	26.237	
4	3	7.104	2.32	613.863	26.512	
4	4	7.104	3.48	617.211	26.477	
4	5	7.104	4.65	618.484	26.478	
4	6	7.104	5.81	619.040	26.703	
4	7	7.104	6.97	619.394	26.686	
4	8	7.104	8.13	617.656	26.765	
4	9	7.104	9.29	617.187	27.079	
4	10	7.104	10.45	617.294	25.669	
4	AVG			617.072	26.346	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 15
THROTTLE:025

TEST ID:870902022

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	619.547	24.826	
5	2	7.437	1.16	617.967	26.497	
5	3	7.437	2.32	617.474	26.635	
5	4	7.437	3.48	620.556	26.459	
5	5	7.437	4.65	620.816	26.515	
5	6	7.437	5.81	620.018	26.789	
5	7	7.437	6.97	619.217	26.570	
5	8	7.437	8.13	620.891	26.920	
5	9	7.437	9.29	619.404	26.895	
5	10	7.437	10.45	621.803	25.684	
5	AVG			619.758	26.411	
6	1	7.756	0.00	624.767	24.831	
6	2	7.756	1.16	618.332	26.648	
6	3	7.756	2.32	617.981	26.710	
6	4	7.756	3.48	621.245	26.462	
6	5	7.756	4.65	621.524	26.636	
6	6	7.756	5.81	623.818	27.043	
6	7	7.756	6.97	624.235	26.880	
6	8	7.756	8.13	626.894	27.097	
6	9	7.756	9.29	627.269	27.218	
6	10	7.756	10.45	634.078	25.583	
6	AVG			623.923	26.554	
7	1	8.062	0.00	637.743	25.026	
7	2	8.062	1.16	625.823	26.415	
7	3	8.062	2.32	623.255	26.679	
7	4	8.062	3.48	624.773	26.768	
7	5	8.062	4.65	629.316	26.903	
7	6	8.062	5.81	632.142	27.313	
7	7	8.062	6.97	636.532	27.187	
7	8	8.062	8.13	640.039	27.428	
7	9	8.062	9.29	638.969	27.485	
7	10	8.062	10.45	643.879	26.034	
7	AVG			633.176	26.766	
8	1	8.356	0.00	647.993	25.513	
8	2	8.356	1.16	636.604	26.649	
8	3	8.356	2.32	634.485	27.037	
8	4	8.356	3.48	639.276	26.974	
8	5	8.356	4.65	644.103	26.580	
8	6	8.356	5.81	647.777	27.185	
8	7	8.356	6.97	650.024	26.848	
8	8	8.356	8.13	651.982	26.865	
8	9	8.356	9.29	651.654	27.132	
8	10	8.356	10.45	652.503	26.465	
8	AVG			645.576	26.743	

COMPRESSOR CONFIGURATION:PBS

SCAN: 16

TEST ID:870902024

NOMINAL % DESIGN SPEED:090

THROTTLE:045

PERFORMANCE:

MEAS. WORK =1315.91 ISEN. EFFIC.= 87.754 POLYTROPIC EFFIC.=88.722
 MEAS. FLOWR.= 35.290 CORR. FLOWR.= 54.479 COMPUTED FLOWRATE=53.162
 MEASURED RPM=18562.0 CORR. RPM =18173.4 % DESIGN RPM = 89.87
 SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.798
 D.P. TEMP. =449.816 P. COR. FAC.= 1.511 TEMP. COR. FACT. = .959
 ATMOS. PRES.= 14.285 ATM.PRES.(S)= 14.287 REL. HUMIDITY = .026
 CALIBRATION PRESSURES (SONIX)= 9.0031 14.2869 29.2947

VENTURI PRESSURES:

INLET (AVG=10.628,SONIX=10.631)= 10.627 10.626 10.631 10.630
 THROAT (AVG= 9.650,SONIX= 9.650)= 9.648 9.651 9.648 9.651
 9.651 9.650 9.647 9.650
 9.649 9.649 9.651 9.651

PLENUM CONDITIONS:

PRESSURES (AVG= 9.722,SONIX= 9.713)= 9.728 9.716
 TEMPERATURES (AVG=541.13)= 541.39 541.68 540.95 540.65 541.54
 541.39 540.39 540.18 541.98

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 PRESSURE = 27.232 27.070 26.041 ***** 26.839 ***** 26.751
 26.664 26.410
 RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
 5.500 5.125
 TEMPERATURE= 648.74 616.44 ***** 619.26 625.99 ***** *****
 613.20 619.02

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	11.627	-5.125	16.691
-8.400	11.668	-5.125	16.543
-8.400	11.686	-5.125	16.932
-8.400	11.764	-5.125	16.520
-8.400	11.565	-1.650	20.475
-8.318	11.534	-1.650	20.815
-8.065	11.379	-1.650	20.754
-7.811	11.875	-1.650	20.050
-7.558	15.169	-.900	20.271
-7.304	*****	-.900	20.882
-7.051	16.258	-.900	20.848
-6.798	*****	-.900	20.443
-6.544	19.225		
-6.291	19.863		
-6.037	20.405		
-5.784	21.072		
-1.650	22.037		
-1.650	22.037		
-1.650	21.982		
-1.650	21.367		
-.900	21.017		
-.900	21.459		
-.900	21.395		
-.900	20.717		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 16
THROTTLE:045

TEST ID:870902024

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	614.694	25.351	
1	2	5.996	1.16	612.566	24.343	
1	3	5.996	2.32	612.154	25.054	
1	4	5.996	3.48	614.553	26.367	
1	5	5.996	4.65	612.760	26.377	
1	6	5.996	5.81	614.335	26.581	
1	7	5.996	6.97	613.818	26.513	
1	8	5.996	8.13	614.198	26.562	
1	9	5.996	9.29	613.667	26.705	
1	10	5.996	10.45	614.396	26.172	
1	AVG			613.747	26.058	
2	1	6.387	0.00	615.722	24.627	
2	2	6.387	1.16	612.666	25.586	
2	3	6.387	2.32	617.011	25.866	
2	4	6.387	3.48	618.907	26.801	
2	5	6.387	4.65	617.991	26.754	
2	6	6.387	5.81	618.151	26.887	
2	7	6.387	6.97	618.148	26.869	
2	8	6.387	8.13	618.692	27.062	
2	9	6.387	9.29	618.508	27.118	
2	10	6.387	10.45	617.512	26.081	
2	AVG			617.420	26.418	
3	1	6.755	0.00	618.424	24.589	
3	2	6.755	1.16	613.750	25.053	
3	3	6.755	2.32	618.385	25.822	
3	4	6.755	3.48	620.402	26.599	
3	5	6.755	4.65	618.431	26.568	
3	6	6.755	5.81	621.050	26.676	
3	7	6.755	6.97	619.126	26.703	
3	8	6.755	8.13	619.430	26.887	
3	9	6.755	9.29	617.423	27.022	
3	10	6.755	10.45	617.702	26.101	
3	AVG			618.482	26.258	
4	1	7.104	0.00	620.259	24.800	
4	2	7.104	1.16	615.034	25.563	
4	3	7.104	2.32	616.922	26.271	
4	4	7.104	3.48	620.355	26.506	
4	5	7.104	4.65	620.370	26.571	
4	6	7.104	5.81	618.905	27.052	
4	7	7.104	6.97	619.149	26.940	
4	8	7.104	8.13	620.098	27.177	
4	9	7.104	9.29	619.675	27.372	
4	10	7.104	10.45	620.723	26.199	
4	AVG			619.173	26.496	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 16
THROTTLE:045

TEST ID:870902024

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	625.893	24.792	
5	2	7.437	1.16	618.994	26.346	
5	3	7.437	2.32	618.168	26.697	
5	4	7.437	3.48	621.144	26.741	
5	5	7.437	4.65	621.792	26.841	
5	6	7.437	5.81	623.651	27.280	
5	7	7.437	6.97	624.039	26.818	
5	8	7.437	8.13	624.823	27.123	
5	9	7.437	9.29	623.684	27.221	
5	10	7.437	10.45	626.697	26.219	
5	AVG			622.838	26.652	
6	1	7.756	0.00	635.537	24.780	
6	2	7.756	1.16	622.872	26.155	
6	3	7.756	2.32	619.575	26.789	
6	4	7.756	3.48	622.388	26.711	
6	5	7.756	4.65	625.346	26.796	
6	6	7.756	5.81	628.676	27.260	
6	7	7.756	6.97	629.108	27.068	
6	8	7.756	8.13	631.710	27.389	
6	9	7.756	9.29	633.650	27.662	
6	10	7.756	10.45	640.537	26.199	
6	AVG			628.809	26.737	
7	1	8.062	0.00	644.646	24.854	
7	2	8.062	1.16	633.545	25.972	
7	3	8.062	2.32	627.307	26.777	
7	4	8.062	3.48	629.594	26.804	
7	5	8.062	4.65	634.403	26.858	
7	6	8.062	5.81	638.701	27.769	
7	7	8.062	6.97	643.076	27.571	
7	8	8.062	8.13	642.294	27.748	
7	9	8.062	9.29	645.855	27.958	
7	10	8.062	10.45	649.972	26.373	
7	AVG			638.909	26.942	
8	1	8.356	0.00	656.156	25.749	
8	2	8.356	1.16	644.964	26.514	
8	3	8.356	2.32	639.250	27.182	
8	4	8.356	3.48	644.830	27.110	
8	5	8.356	4.65	648.515	27.008	
8	6	8.356	5.81	652.195	27.727	
8	7	8.356	6.97	656.272	27.230	
8	8	8.356	8.13	655.942	27.355	
8	9	8.356	9.29	658.257	27.519	
8	10	8.356	10.45	659.004	26.935	
8	AVG			651.508	27.057	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090
PERFORMANCE:

SCAN: 17
THROTTLE:065

TEST ID:870902026

MEAS. WORK =1310.10 ISEN. EFFIC.= 84.797 POLYTROPIC EFFIC.=86.003
MEAS. FLOWR.= 33.900 CORR. FLOWR.= 52.501 COMPUTED FLOWRATE=51.233
MEASURED RPM=18528.0 CORR. RPM =18172.1 % DESIGN RPM = 89.86
SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.803
D.P. TEMP. =449.998 P. COR. FAC.= 1.519 TEMP. COR. FACT. = .962
ATMOS. PRES.= 14.284 ATM.PRES.(S)= 14.288 REL. HUMIDITY = .028
CALIBRATION PRESSURES (SONIX)= 9.0037 14.2881 29.2948

VENTURI PRESSURES:

INLET (AVG=10.507,SONIX=10.508)= 10.509 10.504 10.509 10.507
THROAT (AVG= 9.605,SONIX= 9.608)= 9.606 9.606 9.606 9.606
9.606 9.605 9.604 9.606
9.604 9.604 9.606 9.606

PLENUM CONDITIONS:

PRESSURES (AVG= 9.674,SONIX= 9.663)= 9.675 9.672
TEMPERATURES (AVG=539.22)= 539.62 539.77 539.48 538.77 539.33
539.21 538.62 537.92 540.27

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 27.272 27.147 26.351 ***** 26.989 ***** 27.162
26.595 26.499
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 657.78 619.52 ***** 620.16 627.97 ***** *****
613.43 622.10

STATIC PRESSURES (CORRECTED):

-----CASING----- -----HUB-----

X	P	X	P
-8.571	12.083	-5.125	16.890
-8.400	12.071	-5.125	16.736
-8.400	12.107	-5.125	17.100
-8.400	12.194	-5.125	16.705
-8.400	11.994	-1.650	21.036
-8.318	11.980	-1.650	21.253
-8.065	11.778	-1.650	21.281
-7.811	12.373	-1.650	20.648
-7.558	16.800	-.900	20.864
-7.304	*****	-.900	21.385
-7.051	17.381	-.900	21.386
-6.798	*****	-.900	21.023
-6.544	19.856		
-6.291	20.529		
-6.037	20.752		
-5.784	21.500		
-1.650	22.338		
-1.650	22.338		
-1.650	22.264		
-1.650	21.735		
-.900	21.504		
-.900	21.904		
-.900	21.803		
-.900	21.230		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 17
THROTTLE:065

TEST ID:870902026

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	614.209	25.447	
1	2	5.996	1.16	613.127	24.415	
1	3	5.996	2.32	611.581	24.590	
1	4	5.996	3.48	613.545	26.304	
1	5	5.996	4.65	613.328	26.493	
1	6	5.996	5.81	614.140	26.702	
1	7	5.996	6.97	614.007	26.696	
1	8	5.996	8.13	614.525	26.653	
1	9	5.996	9.29	613.708	26.801	
1	10	5.996	10.45	614.719	26.174	
1	AVG			613.739	26.105	
2	1	6.387	0.00	617.186	25.116	
2	2	6.387	1.16	616.426	25.157	
2	3	6.387	2.32	616.615	25.344	
2	4	6.387	3.48	619.736	26.843	
2	5	6.387	4.65	620.071	27.155	
2	6	6.387	5.81	619.822	27.247	
2	7	6.387	6.97	618.143	27.293	
2	8	6.387	8.13	620.751	27.342	
2	9	6.387	9.29	619.142	27.509	
2	10	6.387	10.45	619.874	26.120	
2	AVG			618.882	26.596	
3	1	6.755	0.00	619.852	24.995	
3	2	6.755	1.16	616.850	24.550	
3	3	6.755	2.32	619.655	25.136	
3	4	6.755	3.48	622.313	26.781	
3	5	6.755	4.65	622.960	26.835	
3	6	6.755	5.81	621.084	27.119	
3	7	6.755	6.97	622.507	27.058	
3	8	6.755	8.13	621.881	27.234	
3	9	6.755	9.29	621.097	27.481	
3	10	6.755	10.45	620.879	26.485	
3	AVG			621.054	26.471	
4	1	7.104	0.00	622.935	25.350	
4	2	7.104	1.16	618.962	24.709	
4	3	7.104	2.32	618.751	24.975	
4	4	7.104	3.48	622.741	26.560	
4	5	7.104	4.65	622.528	26.772	
4	6	7.104	5.81	622.606	27.121	
4	7	7.104	6.97	623.389	27.091	
4	8	7.104	8.13	623.158	27.241	
4	9	7.104	9.29	621.219	27.530	
4	10	7.104	10.45	624.598	26.602	
4	AVG			622.205	26.489	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 17
THROTTLE:065

TEST ID:870902026

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	634.584	25.321	
5	2	7.437	1.16	623.415	24.946	
5	3	7.437	2.32	620.749	25.463	
5	4	7.437	3.48	624.421	26.676	
5	5	7.437	4.65	623.806	26.822	
5	6	7.437	5.81	625.425	27.255	
5	7	7.437	6.97	625.980	27.001	
5	8	7.437	8.13	628.098	27.316	
5	9	7.437	9.29	629.019	27.518	
5	10	7.437	10.45	634.473	26.442	
5	AVG			627.009	26.552	
6	1	7.756	0.00	644.092	24.991	
6	2	7.756	1.16	626.487	24.934	
6	3	7.756	2.32	623.805	25.889	
6	4	7.756	3.48	626.017	26.707	
6	5	7.756	4.65	628.457	26.852	
6	6	7.756	5.81	630.661	27.385	
6	7	7.756	6.97	634.483	27.269	
6	8	7.756	8.13	640.078	27.578	
6	9	7.756	9.29	642.116	27.765	
6	10	7.756	10.45	652.253	26.666	
6	AVG			634.931	26.696	
7	1	8.062	0.00	652.320	25.060	
7	2	8.062	1.16	637.286	24.789	
7	3	8.062	2.32	634.220	25.908	
7	4	8.062	3.48	635.941	26.808	
7	5	8.062	4.65	638.993	27.032	
7	6	8.062	5.81	642.305	27.754	
7	7	8.062	6.97	647.201	27.610	
7	8	8.062	8.13	651.328	27.918	
7	9	8.062	9.29	653.168	28.240	
7	10	8.062	10.45	658.731	27.085	
7	AVG			645.408	26.944	
8	1	8.356	0.00	665.945	25.895	
8	2	8.356	1.16	652.868	25.755	
8	3	8.356	2.32	650.265	26.552	
8	4	8.356	3.48	654.148	26.858	
8	5	8.356	4.65	653.913	27.351	
8	6	8.356	5.81	657.496	28.191	
8	7	8.356	6.97	659.932	27.868	
8	8	8.356	8.13	662.934	27.755	
8	9	8.356	9.29	664.528	28.077	
8	10	8.356	10.45	665.848	27.752	
8	AVG			658.907	27.269	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090
PERFORMANCE:

SCAN: 18
THROTTLE:075

TEST ID:870902027

MEAS. WORK =1294.02 ISEN. EFFIC.= 82.315 POLYTROPIC EFFIC.=83.706
MEAS. FLOWR.= 32.962 CORR. FLOWR.= 50.906 COMPUTED FLOWRATE=49.491
MEASURED RPM=18514.0 CORR. RPM =18170.1 % DESIGN RPM = 89.85
SPEC. HEAT = 1.400 GAS CONSTANT= 53.351 PRESSURE RATIO = 1.794
D.P. TEMP. =449.847 P. COR. FAC.= 1.516 TEMP. COR. FACT. = .963
ATMOS. PRES.= 14.289 ATM.PRES.(S)= 14.287 REL. HUMIDITY = .028
CALIBRATION PRESSURES (SONIX)= 9.0026 14.2885 29.2957

VENTURI PRESSURES:

INLET (AVG=10.484,SONIX=10.483)= 10.487 10.481 10.486 10.484
THROAT (AVG= 9.637,SONIX= 9.637)= 9.637 9.639 9.637 9.639
9.638 9.636 9.637 9.636
9.636 9.636 9.639 9.636

PLENUM CONDITIONS:

PRESSURES (AVG= 9.695,SONIX= 9.686)= 9.696 9.693
TEMPERATURES (AVG=538.53)= 538.82 539.11 538.67 537.96 538.67
538.52 537.96 537.52 539.52

ROTOR 1 DISCHARGE CONDITIONS (CORRECTED):

RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
PRESSURE = 27.745 27.090 26.385 ***** 27.209 ***** 27.151
26.572 26.506
RADIUS = 8.125 7.750 7.375 7.000 6.625 6.250 5.875
5.500 5.125
TEMPERATURE= 662.03 622.03 ***** 620.64 632.64 *****
613.62 625.16

STATIC PRESSURES (CORRECTED):

-----CASING-----		-----HUB-----	
X	P	X	P
-8.571	12.437	-5.125	17.000
-8.400	12.435	-5.125	16.827
-8.400	12.516	-5.125	17.177
-8.400	12.518	-5.125	16.798
-8.400	12.361	-1.650	21.236
-8.318	12.420	-1.650	21.363
-8.065	12.217	-1.650	21.439
-7.811	12.828	-1.650	20.859
-7.558	17.211	-.900	21.098
-7.304	*****	-.900	21.546
-7.051	18.040	-.900	21.541
-6.798	*****	-.900	21.247
-6.544	20.237		
-6.291	20.817		
-6.037	20.868		
-5.784	21.539		
-1.650	22.393		
-1.650	22.393		
-1.650	22.284		
-1.650	21.786		
-.900	21.657		
-.900	22.042		
-.900	21.939		
-.900	21.413		

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 18
THROTTLE:075

TEST ID:870902027

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
1	1	5.996	0.00	614.615	25.303	
1	2	5.996	1.16	613.933	24.380	
1	3	5.996	2.32	611.524	24.411	
1	4	5.996	3.48	613.504	26.444	
1	5	5.996	4.65	613.942	26.620	
1	6	5.996	5.81	614.502	26.761	
1	7	5.996	6.97	614.134	26.884	
1	8	5.996	8.13	615.051	26.629	
1	9	5.996	9.29	613.999	26.899	
1	10	5.996	10.45	615.364	26.216	
1	AVG			614.112	26.154	
2	1	6.387	0.00	618.127	25.060	
2	2	6.387	1.16	617.116	25.067	
2	3	6.387	2.32	615.612	25.271	
2	4	6.387	3.48	619.009	26.820	
2	5	6.387	4.65	620.415	27.241	
2	6	6.387	5.81	619.768	27.227	
2	7	6.387	6.97	618.624	27.397	
2	8	6.387	8.13	620.723	27.173	
2	9	6.387	9.29	618.498	27.489	
2	10	6.387	10.45	620.557	26.188	
2	AVG			618.942	26.586	
3	1	6.755	0.00	621.701	25.005	
3	2	6.755	1.16	618.419	24.357	
3	3	6.755	2.32	619.647	24.510	
3	4	6.755	3.48	621.963	26.598	
3	5	6.755	4.65	625.755	26.961	
3	6	6.755	5.81	624.061	27.314	
3	7	6.755	6.97	624.571	27.366	
3	8	6.755	8.13	623.547	27.382	
3	9	6.755	9.29	622.328	27.883	
3	10	6.755	10.45	623.879	26.572	
3	AVG			622.815	26.555	
4	1	7.104	0.00	626.103	25.380	
4	2	7.104	1.16	622.278	24.203	
4	3	7.104	2.32	617.970	24.182	
4	4	7.104	3.48	622.355	26.228	
4	5	7.104	4.65	624.011	26.599	
4	6	7.104	5.81	623.229	27.093	
4	7	7.104	6.97	625.498	27.049	
4	8	7.104	8.13	624.061	27.155	
4	9	7.104	9.29	623.961	27.630	
4	10	7.104	10.45	626.636	26.628	
4	AVG			623.792	26.369	

COMPRESSOR CONFIGURATION:PBS
NOMINAL % DESIGN SPEED:090

SCAN: 18
THROTTLE:075

TEST ID:870902027

DISCHARGE CONDITIONS (CORRECTED):

PROBE	RAKE	RADIUS	ANGLE	TOTAL TEMP.	TOTAL PRES.	FLOW ANGLE
5	1	7.437	0.00	639.307	25.373	
5	2	7.437	1.16	630.479	24.398	
5	3	7.437	2.32	621.309	24.483	
5	4	7.437	3.48	625.800	26.255	
5	5	7.437	4.65	625.345	26.491	
5	6	7.437	5.81	625.612	27.067	
5	7	7.437	6.97	627.078	26.912	
5	8	7.437	8.13	630.914	27.189	
5	9	7.437	9.29	632.150	27.650	
5	10	7.437	10.45	642.769	26.403	
5	AVG			630.119	26.351	
6	1	7.756	0.00	651.945	24.802	
6	2	7.756	1.16	633.322	24.301	
6	3	7.756	2.32	627.001	24.611	
6	4	7.756	3.48	630.384	26.084	
6	5	7.756	4.65	629.330	26.498	
6	6	7.756	5.81	631.369	27.190	
6	7	7.756	6.97	635.104	27.225	
6	8	7.756	8.13	642.467	27.365	
6	9	7.756	9.29	646.239	27.779	
6	10	7.756	10.45	662.944	26.685	
6	AVG			639.205	26.414	
7	1	8.062	0.00	661.774	24.977	
7	2	8.062	1.16	646.538	24.349	
7	3	8.062	2.32	637.745	24.710	
7	4	8.062	3.48	640.438	26.017	
7	5	8.062	4.65	638.057	26.580	
7	6	8.062	5.81	642.863	27.301	
7	7	8.062	6.97	647.114	27.285	
7	8	8.062	8.13	652.545	27.574	
7	9	8.062	9.29	654.451	28.056	
7	10	8.062	10.45	668.250	27.542	
7	AVG			649.270	26.615	
8	1	8.356	0.00	670.433	26.020	
8	2	8.356	1.16	659.549	25.356	
8	3	8.356	2.32	655.144	25.833	
8	4	8.356	3.48	659.030	26.529	
8	5	8.356	4.65	655.214	27.006	
8	6	8.356	5.81	658.199	27.740	
8	7	8.356	6.97	661.105	27.860	
8	8	8.356	8.13	663.213	27.751	
8	9	8.356	9.29	664.620	28.143	
8	10	8.356	10.45	674.513	28.015	
8	AVG			662.244	27.114	

APPENDIX B

870902002 - PBS ROTOR #2 AERODYNAMIC ANALYSIS - THRU-BLADE

FREE STATION 1.000 IS INDEX 1

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	13.300	-18.450	184.1	244.6	0.0	244.6	518.71	513.72
2	12.536	-18.450	190.1	244.6	0.0	244.6	518.71	513.72
3	11.791	-18.450	195.9	244.6	0.0	244.6	518.71	513.72
4	11.061	-18.450	201.5	244.6	0.0	244.6	518.71	513.72
5	10.347	-18.450	206.9	244.6	0.0	244.6	518.71	513.72
6	9.646	-18.450	211.9	244.6	0.0	244.6	518.71	513.72
7	8.957	-18.450	216.6	244.6	0.0	244.6	518.71	513.72
8	8.280	-18.450	221.0	244.6	0.0	244.6	518.71	513.72
9	7.612	-18.450	224.9	244.6	0.0	244.6	518.71	513.72
10	6.953	-18.450	228.4	244.6	0.0	244.6	518.71	513.72
11	6.301	-18.450	231.6	244.6	0.0	244.6	518.71	513.72
12	5.655	-18.450	234.3	244.6	0.0	244.6	518.71	513.72
13	5.015	-18.450	236.7	244.6	0.0	244.6	518.71	513.72
14	4.379	-18.450	238.7	244.6	0.0	244.6	518.71	513.72
15	3.748	-18.450	240.4	244.6	0.0	244.6	518.71	513.72
16	3.119	-18.450	241.7	244.6	0.0	244.6	518.71	513.72
17	2.492	-18.450	242.8	244.6	0.0	244.6	518.71	513.72
18	1.868	-18.450	243.6	244.6	0.0	244.6	518.71	513.72
19	1.244	-18.450	244.1	244.6	0.0	244.6	518.71	513.72
20	.622	-18.450	244.5	244.6	0.0	244.6	518.71	513.72
21	.000	-18.450	244.6	244.6	0.0	244.6	518.71	513.72

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	13.300	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
2	12.536	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
3	11.791	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
4	11.061	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
5	10.347	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
6	9.646	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
7	8.957	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
8	8.280	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
9	7.612	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
10	6.953	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
11	6.301	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
12	5.655	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
13	5.015	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
14	4.379	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
15	3.748	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
16	3.119	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
17	2.492	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
18	1.868	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
19	1.244	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
20	.622	14.69	14.21	1.0000	1.0000	244.6	.220	.2201
21	.000	14.69	14.21	1.0000	1.0000	244.6	.220	.2201

FREE STATION 1.000 IS INDEX 1

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- PAGE
1	13.300	-18.450	0.00	-41.16	0.0000	.0746	0.0000
2	12.536	-18.450	0.00	-39.00	0.0000	.0746	0.0000
3	11.791	-18.450	0.00	-36.79	0.0000	.0746	0.0000
4	11.061	-18.450	0.00	-34.53	0.0000	.0746	0.0000
5	10.347	-18.450	0.00	-32.25	0.0000	.0746	0.0000
6	9.646	-18.450	0.00	-29.95	0.0000	.0746	0.0000
7	8.957	-18.450	0.00	-27.67	0.0000	.0746	0.0000
8	8.280	-18.450	0.00	-25.40	0.0000	.0746	0.0000
9	7.612	-18.450	0.00	-23.15	0.0000	.0746	0.0000
10	6.953	-18.450	0.00	-20.94	0.0000	.0746	0.0000
11	6.301	-18.450	0.00	-18.78	0.0000	.0746	0.0000
12	5.655	-18.450	0.00	-16.66	0.0000	.0746	0.0000
13	5.015	-18.450	0.00	-14.60	0.0000	.0746	0.0000
14	4.379	-18.450	0.00	-12.59	0.0000	.0746	0.0000
15	3.748	-18.450	0.00	-10.65	0.0000	.0746	0.0000
16	3.119	-18.450	0.00	-8.76	0.0000	.0746	0.0000
17	2.492	-18.450	0.00	-6.93	0.0000	.0746	0.0000
18	1.868	-18.450	0.00	-5.16	0.0000	.0746	0.0000
19	1.244	-18.450	0.00	-3.42	0.0000	.0746	0.0000
20	.622	-18.450	0.00	-1.71	0.0000	.0746	0.0000
21	.000	-18.450	0.00	0.00	0.0000	.0746	0.0000

FREE STATION 2.000 IS INDEX 2

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	9.480	-14.081	461.2	549.7	0.0	549.7	518.71	493.53
2	9.029	-14.120	464.3	539.3	0.0	539.3	518.71	494.47
3	8.581	-14.158	464.4	527.4	0.0	527.4	518.71	495.53
4	8.135	-14.197	462.2	514.7	0.0	514.7	518.71	496.63
5	7.688	-14.235	458.4	501.9	0.0	501.9	518.71	497.71
6	7.239	-14.274	453.5	489.2	0.0	489.2	518.71	498.77
7	6.789	-14.313	447.8	476.7	0.0	476.7	518.71	499.77
8	6.335	-14.352	441.6	464.7	0.0	464.7	518.71	500.71
9	5.877	-14.392	434.9	453.2	0.0	453.2	518.71	501.60
10	5.415	-14.432	428.0	442.1	0.0	442.1	518.71	502.42
11	4.949	-14.472	421.0	431.7	0.0	431.7	518.71	503.18
12	4.477	-14.513	413.9	421.8	0.0	421.8	518.71	503.88
13	4.001	-14.554	406.9	412.5	0.0	412.5	518.71	504.53
14	3.519	-14.596	399.9	403.8	0.0	403.8	518.71	505.12
15	3.031	-14.638	393.2	395.7	0.0	395.7	518.71	505.66
16	2.538	-14.681	386.8	388.3	0.0	388.3	518.71	506.14
17	2.039	-14.724	380.9	381.7	0.0	381.7	518.71	506.57
18	1.535	-14.767	375.6	376.0	0.0	375.9	518.71	506.93
19	1.027	-14.811	371.2	371.3	0.0	371.3	518.71	507.22
20	.515	-14.856	368.1	368.2	0.0	368.2	518.71	507.41
21	.000	-14.900	366.9	366.9	0.0	366.9	518.71	507.49

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	9.480	14.69	12.35	1.0000	1.0000	549.7	.505	.5046
2	9.029	14.69	12.43	1.0000	1.0000	539.3	.495	.4946
3	8.581	14.69	12.52	1.0000	1.0000	527.4	.483	.4832
4	8.135	14.69	12.62	1.0000	1.0000	514.7	.471	.4711
5	7.688	14.69	12.72	1.0000	1.0000	501.9	.459	.4588
6	7.239	14.69	12.81	1.0000	1.0000	489.2	.447	.4467
7	6.789	14.69	12.90	1.0000	1.0000	476.7	.435	.4347
8	6.335	14.69	12.99	1.0000	1.0000	464.7	.424	.4235
9	5.877	14.69	13.07	1.0000	1.0000	453.2	.413	.4126
10	5.415	14.69	13.14	1.0000	1.0000	442.1	.402	.4023
11	4.949	14.69	13.21	1.0000	1.0000	431.7	.392	.3905
12	4.477	14.69	13.28	1.0000	1.0000	421.8	.383	.3832
13	4.001	14.69	13.34	1.0000	1.0000	412.5	.375	.3745
14	3.519	14.69	13.39	1.0000	1.0000	403.8	.366	.3664
15	3.031	14.69	13.44	1.0000	1.0000	395.7	.357	.3589
16	2.538	14.69	13.49	1.0000	1.0000	388.3	.352	.3520
17	2.039	14.69	13.53	1.0000	1.0000	381.7	.346	.3459
18	1.535	14.69	13.56	1.0000	1.0000	375.9	.341	.3405
19	1.027	14.69	13.59	1.0000	1.0000	371.3	.336	.3362
20	.515	14.69	13.61	1.0000	1.0000	368.2	.333	.3333
21	.000	14.69	13.61	1.0000	1.0000	366.9	.332	.3321

FREE STATION 2.000 IS INDEX 2

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	9.480	-14.081	0.00	-32.97	.0952	.0675	0.0000
2	9.029	-14.120	0.00	-30.56	.0982	.0679	0.0000
3	8.581	-14.158	0.00	-28.29	.0984	.0682	0.0000
4	8.135	-14.197	0.00	-26.12	.0966	.0686	0.0000
5	7.688	-14.235	0.00	-24.03	.0935	.0690	0.0000
6	7.239	-14.274	0.00	-22.01	.0894	.0693	0.0000
7	6.789	-14.313	0.00	-20.05	.0846	.0697	0.0000
8	6.335	-14.352	0.00	-18.15	.0795	.0700	0.0000
9	5.877	-14.392	0.00	-16.30	.0741	.0703	0.0000
10	5.415	-14.432	0.00	-14.51	.0686	.0706	0.0000
11	4.949	-14.472	0.00	-12.77	.0631	.0709	0.0000
12	4.477	-14.513	0.00	-11.09	.0576	.0711	0.0000
13	4.001	-14.554	0.00	-9.47	.0523	.0714	0.0000
14	3.519	-14.596	0.00	-7.91	.0470	.0716	0.0000
15	3.031	-14.638	0.00	-6.42	.0418	.0718	0.0000
16	2.538	-14.681	0.00	-5.01	.0365	.0719	0.0000
17	2.039	-14.724	0.00	-3.69	.0311	.0721	0.0000
18	1.535	-14.767	0.00	-2.48	.0252	.0722	0.0000
19	1.027	-14.811	0.00	-1.42	.0186	.0723	0.0000
20	.515	-14.856	0.00	-.59	.0102	.0724	0.0000
21	.000	-14.900	0.00	0.00	0.0000	.0724	0.0000

FREE STATION 3.000 IS INDEX 3

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.960	-12.851	593.2	624.9	0.0	624.9	518.71	486.16
2	8.518	-12.742	590.0	614.2	0.0	614.2	518.71	487.26
3	8.081	-12.635	585.7	604.3	0.0	604.3	518.71	488.28
4	7.646	-12.528	580.6	594.7	0.0	594.8	518.71	489.23
5	7.215	-12.422	574.8	585.4	0.0	585.4	518.71	490.14
6	6.785	-12.316	568.4	576.1	0.0	576.2	518.71	491.04
7	6.356	-12.211	561.3	566.7	0.0	566.7	518.71	491.94
8	5.928	-12.106	553.4	556.9	0.0	556.9	518.71	492.86
9	5.500	-12.001	544.5	546.7	0.0	546.7	518.71	493.80
10	5.073	-11.896	534.7	535.8	0.0	535.8	518.71	494.78
11	4.644	-11.791	523.7	524.1	0.0	524.0	518.71	495.82
12	4.214	-11.685	511.2	511.3	0.0	511.2	518.71	496.93
13	3.783	-11.579	497.1	497.2	0.0	497.1	518.71	498.11
14	3.348	-11.472	481.0	481.5	0.0	481.4	518.71	499.39
15	2.909	-11.365	462.4	463.8	0.0	463.7	518.71	500.79
16	2.465	-11.255	440.6	443.5	0.0	443.4	518.71	502.32
17	2.013	-11.144	414.5	419.8	0.0	419.7	518.71	504.03
18	1.549	-11.030	382.2	391.4	0.0	391.3	518.71	505.95
19	1.067	-10.912	340.0	356.3	0.0	356.3	518.71	508.13
20	.552	-10.786	282.3	312.3	0.0	312.2	518.71	510.59
21	.000	-10.650	207.4	262.7	0.0	262.7	518.71	512.96

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.960	14.69	11.72	1.0000	1.0000	624.9	.578	.5780
2	8.518	14.69	11.81	1.0000	1.0000	614.2	.567	.5675
3	8.081	14.69	11.90	1.0000	1.0000	604.3	.558	.5577
4	7.646	14.69	11.98	1.0000	1.0000	594.8	.548	.5484
5	7.215	14.69	12.05	1.0000	1.0000	585.4	.539	.5393
6	6.785	14.69	12.13	1.0000	1.0000	576.2	.530	.5303
7	6.356	14.69	12.21	1.0000	1.0000	566.7	.521	.5211
8	5.928	14.69	12.29	1.0000	1.0000	556.9	.512	.5116
9	5.500	14.69	12.37	1.0000	1.0000	546.7	.502	.5017
10	5.073	14.69	12.46	1.0000	1.0000	535.8	.491	.4912
11	4.644	14.69	12.55	1.0000	1.0000	524.0	.480	.4800
12	4.214	14.69	12.65	1.0000	1.0000	511.2	.468	.4677
13	3.783	14.69	12.75	1.0000	1.0000	497.1	.454	.4543
14	3.348	14.69	12.87	1.0000	1.0000	481.4	.439	.4394
15	2.909	14.69	12.99	1.0000	1.0000	463.7	.423	.4226
16	2.465	14.69	13.13	1.0000	1.0000	443.4	.404	.4035
17	2.013	14.69	13.29	1.0000	1.0000	419.7	.381	.3813
18	1.549	14.69	13.47	1.0000	1.0000	391.3	.355	.3548
19	1.067	14.69	13.67	1.0000	1.0000	356.3	.322	.3223
20	.552	14.69	13.91	1.0000	1.0000	312.2	.282	.2818
21	.000	14.69	14.13	1.0000	1.0000	262.7	.237	.2365

FREE STATION 3.000 IS INDEX 3

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.960	-12.851	0.00	-10.32	.1267	.0650	0.0000
2	8.518	-12.742	0.00	-16.15	.0946	.0654	0.0000
3	8.081	-12.635	0.00	-14.24	.0852	.0659	0.0000
4	7.646	-12.528	0.00	-12.51	.0802	.0661	0.0000
5	7.215	-12.422	0.00	-10.51	.0757	.0664	0.0000
6	6.785	-12.316	0.00	-9.39	.0711	.0667	0.0000
7	6.356	-12.211	0.00	-7.93	.0713	.0670	0.0000
8	5.928	-12.106	0.00	-6.49	.0764	.0673	0.0000
9	5.500	-12.001	0.00	-5.06	.0715	.0675	0.0000
10	5.073	-11.896	0.00	-3.63	.0711	.0682	0.0000
11	4.644	-11.791	0.00	-2.17	.0727	.0683	0.0000
12	4.214	-11.685	0.00	-.67	.0711	.0667	0.0000
13	3.783	-11.579	0.00	.50	.0821	.0691	0.0000
14	3.348	-11.472	0.00	2.57	.0893	.0693	0.0000
15	2.909	-11.365	0.00	4.41	.0993	.0702	0.0000
16	2.465	-11.255	0.00	6.52	.1137	.0706	0.0000
17	2.013	-11.144	0.00	9.09	.1344	.0712	0.0000
18	1.549	-11.030	0.00	12.47	.1651	.0719	0.0000
19	1.067	-10.912	0.00	17.39	.2102	.0725	0.0000
20	.552	-10.786	0.00	25.30	.2686	.0735	0.0000
21	.000	-10.650	0.00	37.65	.2963	.0744	0.0000

FREE STATION 4.000 IS INDEX 4

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.550	-11.138	732.7	738.9	0.0	738.9	518.71	473.20
2	8.169	-11.063	712.7	717.1	0.0	717.1	518.71	475.84
3	7.786	-10.988	694.6	697.6	0.0	697.6	518.71	478.14
4	7.402	-10.912	678.1	679.9	0.0	679.9	518.71	480.17
5	7.017	-10.837	662.7	663.7	0.0	663.7	518.71	481.99
6	6.631	-10.761	648.0	648.4	0.0	648.4	518.71	483.67
7	6.245	-10.685	633.6	633.6	0.0	633.7	518.71	485.24
8	5.858	-10.609	619.0	619.1	0.0	619.1	518.71	486.76
9	5.471	-10.532	604.0	604.4	0.0	604.4	518.71	488.26
10	5.084	-10.456	588.0	589.3	0.0	589.3	518.71	489.77
11	4.697	-10.380	570.9	573.5	0.0	573.5	518.71	491.29
12	4.310	-10.304	552.5	557.0	0.0	557.0	518.71	492.85
13	3.924	-10.228	532.5	539.6	0.0	539.6	518.71	494.45
14	3.539	-10.152	510.7	521.3	0.0	521.3	518.71	496.06
15	3.156	-10.077	486.8	502.2	0.0	502.2	518.71	497.69
16	2.778	-10.003	460.3	482.5	0.0	482.4	518.71	499.31
17	2.410	-9.930	430.7	462.7	0.0	462.6	518.71	500.87
18	2.062	-9.862	397.2	443.9	0.0	443.9	518.71	502.29
19	1.751	-9.801	359.4	429.0	0.0	428.9	518.71	503.38
20	1.517	-9.754	316.6	421.7	0.0	421.7	518.71	503.89
21	1.421	-9.736	266.5	421.6	0.0	421.5	518.71	503.90

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.550	14.69	10.66	1.0000	1.0000	738.9	.693	.6928
2	8.169	14.69	10.87	1.0000	1.0000	717.1	.670	.6704
3	7.786	14.69	11.06	1.0000	1.0000	697.6	.651	.6506
4	7.402	14.69	11.22	1.0000	1.0000	679.9	.633	.6328
5	7.017	14.69	11.37	1.0000	1.0000	663.7	.617	.6165
6	6.631	14.69	11.51	1.0000	1.0000	648.4	.601	.6013
7	6.245	14.69	11.64	1.0000	1.0000	633.7	.587	.5867
8	5.858	14.69	11.77	1.0000	1.0000	619.1	.572	.5723
9	5.471	14.69	11.89	1.0000	1.0000	604.4	.558	.5579
10	5.084	14.69	12.02	1.0000	1.0000	589.3	.543	.5431
11	4.697	14.69	12.15	1.0000	1.0000	573.5	.528	.5277
12	4.310	14.69	12.29	1.0000	1.0000	557.0	.512	.5117
13	3.924	14.69	12.43	1.0000	1.0000	539.6	.495	.4949
14	3.539	14.69	12.57	1.0000	1.0000	521.3	.477	.4773
15	3.156	14.69	12.72	1.0000	1.0000	502.2	.459	.4591
16	2.778	14.69	12.86	1.0000	1.0000	482.4	.440	.4403
17	2.410	14.69	13.00	1.0000	1.0000	462.6	.422	.4216
18	2.062	14.69	13.13	1.0000	1.0000	443.9	.404	.4039
19	1.751	14.69	13.23	1.0000	1.0000	428.9	.390	.3899
20	1.517	14.69	13.28	1.0000	1.0000	421.7	.383	.3831
21	1.421	14.69	13.28	1.0000	1.0000	421.5	.383	.3830

FREE STATION 4.000 IS INDEX 4

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.550	-11.138	0.00	-7.39	.1018	.0608	0.0000
2	8.169	-11.063	0.00	-6.32	.0939	.0617	0.0000
3	7.786	-10.988	0.00	-5.24	.0874	.0624	0.0000
4	7.402	-10.912	0.00	-4.15	.0821	.0631	0.0000
5	7.017	-10.837	0.00	-3.01	.0781	.0637	0.0000
6	6.631	-10.761	0.00	-1.82	.0753	.0642	0.0000
7	6.245	-10.685	0.00	-.56	.0738	.0647	0.0000
8	5.858	-10.609	0.00	.79	.0734	.0652	0.0000
9	5.471	-10.532	0.00	2.23	.0742	.0658	0.0000
10	5.084	-10.456	0.00	3.77	.0760	.0663	0.0000
11	4.697	-10.380	0.00	5.45	.0787	.0668	0.0000
12	4.310	-10.304	0.00	7.27	.0822	.0673	0.0000
13	3.924	-10.228	0.00	9.29	.0863	.0678	0.0000
14	3.539	-10.152	0.00	11.57	.0910	.0684	0.0000
15	3.156	-10.077	0.00	14.23	.0958	.0690	0.0000
16	2.778	-10.003	0.00	17.43	.0998	.0695	0.0000
17	2.410	-9.930	0.00	21.41	.0999	.0701	0.0000
18	2.062	-9.862	0.00	26.51	.0883	.0706	0.0000
19	1.751	-9.801	0.00	33.09	.0460	.0709	0.0000
20	1.517	-9.754	0.00	41.34	-.0569	.0711	0.0000
21	1.421	-9.736	0.00	50.79	-.2152	.0711	0.0000

FREE STATION 5.000 IS INDEX 5

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-8.650	760.7	760.8	0.0	760.9	518.71	470.44
2	8.137	-8.676	756.5	756.5	0.0	756.6	518.71	470.98
3	7.775	-8.701	751.7	751.7	0.0	751.8	518.71	471.59
4	7.416	-8.726	745.7	745.8	0.0	745.8	518.71	472.34
5	7.057	-8.752	737.8	738.2	0.0	738.2	518.71	473.28
6	6.701	-8.777	727.6	728.5	0.0	728.5	518.71	474.47
7	6.345	-8.802	714.6	716.5	0.0	716.4	518.71	475.92
8	5.990	-8.827	698.6	701.8	0.0	701.8	518.71	477.66
9	5.635	-8.852	679.4	684.5	0.0	684.4	518.71	479.66
10	5.280	-8.876	657.0	664.7	0.0	664.7	518.71	481.89
11	4.923	-8.901	632.2	643.1	0.0	643.0	518.71	484.24
12	4.566	-8.927	605.8	620.4	0.0	620.4	518.71	486.63
13	4.208	-8.952	578.4	597.5	0.0	597.6	518.71	488.95
14	3.850	-8.977	550.7	575.1	0.0	575.2	518.71	491.14
15	3.495	-9.002	522.9	553.8	0.0	553.9	518.71	493.14
16	3.147	-9.026	495.1	534.3	0.0	534.3	518.71	494.92
17	2.812	-9.050	467.4	517.1	0.0	517.2	518.71	496.42
18	2.503	-9.071	439.7	503.2	0.0	503.2	518.71	497.60
19	2.240	-9.090	413.0	493.4	0.0	493.4	518.71	498.42
20	2.053	-9.103	390.5	488.1	0.0	488.1	518.71	498.85
21	1.984	-9.108	380.3	486.6	0.0	486.7	518.71	498.97

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	14.69	10.45	1.0000	1.0000	760.9	.715	.7155
2	8.137	14.69	10.49	1.0000	1.0000	756.6	.711	.7111
3	7.775	14.69	10.54	1.0000	1.0000	751.8	.706	.7060
4	7.416	14.69	10.59	1.0000	1.0000	745.8	.700	.6999
5	7.057	14.69	10.67	1.0000	1.0000	738.2	.692	.6920
6	6.701	14.69	10.76	1.0000	1.0000	728.5	.682	.6821
7	6.345	14.69	10.88	1.0000	1.0000	716.4	.670	.6698
8	5.990	14.69	11.02	1.0000	1.0000	701.8	.655	.6549
9	5.635	14.69	11.18	1.0000	1.0000	684.4	.637	.6374
10	5.280	14.69	11.36	1.0000	1.0000	664.7	.618	.6175
11	4.923	14.69	11.56	1.0000	1.0000	643.0	.596	.5960
12	4.566	14.69	11.76	1.0000	1.0000	620.4	.574	.5736
13	4.208	14.69	11.95	1.0000	1.0000	597.6	.551	.5511
14	3.850	14.69	12.14	1.0000	1.0000	575.2	.529	.5293
15	3.495	14.69	12.31	1.0000	1.0000	553.9	.509	.5087
16	3.147	14.69	12.47	1.0000	1.0000	534.3	.490	.4898
17	2.812	14.69	12.60	1.0000	1.0000	517.2	.473	.4734
18	2.503	14.69	12.71	1.0000	1.0000	503.2	.460	.4601
19	2.240	14.69	12.78	1.0000	1.0000	493.4	.451	.4507
20	2.053	14.69	12.82	1.0000	1.0000	488.1	.446	.4457
21	1.984	14.69	12.83	1.0000	1.0000	486.7	.444	.4443

FREE STATION 5.000 IS INDEX 5

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-8.650	0.00	-.58	.0120	.0599	0.0000
2	8.137	-8.676	0.00	-.24	.0115	.0601	0.0000
3	7.775	-8.701	0.00	.27	.0123	.0603	0.0000
4	7.416	-8.726	0.00	.96	.0145	.0605	0.0000
5	7.057	-8.752	0.00	1.83	.0182	.0608	0.0000
6	6.701	-8.777	0.00	2.87	.0230	.0612	0.0000
7	6.345	-8.802	0.00	4.08	.0289	.0617	0.0000
8	5.990	-8.827	0.00	5.46	.0359	.0622	0.0000
9	5.635	-8.852	0.00	7.01	.0439	.0629	0.0000
10	5.280	-8.876	0.00	8.71	.0520	.0636	0.0000
11	4.923	-8.901	0.00	10.53	.0591	.0644	0.0000
12	4.566	-8.927	0.00	12.46	.0639	.0652	0.0000
13	4.208	-8.952	0.00	14.52	.0660	.0660	0.0000
14	3.850	-8.977	0.00	16.76	.0648	.0667	0.0000
15	3.495	-9.002	0.00	19.25	.0592	.0674	0.0000
16	3.147	-9.026	0.00	22.06	.0474	.0680	0.0000
17	2.812	-9.050	0.00	25.33	.0270	.0685	0.0000
18	2.503	-9.071	0.00	29.08	-.0046	.0689	0.0000
19	2.240	-9.090	0.00	33.17	-.0473	.0692	0.0000
20	2.053	-9.103	0.00	36.85	-.0925	.0694	0.0000
21	1.984	-9.108	0.00	38.60	-.1172	.0694	0.0000

FREE STATION 6.000 IS INDEX 6

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-7.802	811.3	810.8	0.0	811.2	518.71	463.84
2	8.141	-7.878	824.2	823.7	0.0	824.2	518.71	462.07
3	7.786	-7.953	838.0	837.6	0.0	838.2	518.71	460.14
4	7.435	-8.019	847.8	847.6	0.0	848.3	518.71	458.72
5	7.087	-8.077	851.1	851.5	0.0	852.2	518.71	458.17
6	6.743	-8.129	846.9	848.5	0.0	849.2	518.71	458.59
7	6.401	-8.176	835.4	839.0	0.0	839.7	518.71	459.93
8	6.062	-8.217	817.0	823.4	0.0	824.0	518.71	462.11
9	5.725	-8.249	792.1	802.3	0.0	802.9	518.71	464.97
10	5.392	-8.264	761.5	776.7	0.0	777.2	518.71	468.35
11	5.064	-8.259	727.3	748.3	0.0	748.7	518.71	471.98
12	4.743	-8.239	691.9	719.1	0.0	719.5	518.71	475.56
13	4.426	-8.214	657.0	690.6	0.0	690.8	518.71	478.93
14	4.115	-8.191	623.9	663.8	0.0	664.0	518.71	481.96
15	3.812	-8.173	594.0	640.5	0.0	640.6	518.71	484.50
16	3.523	-8.158	568.4	622.1	0.0	622.1	518.71	486.46
17	3.255	-8.146	547.8	609.6	0.0	609.5	518.71	487.75
18	3.021	-8.136	532.5	603.5	0.0	603.3	518.71	488.38
19	2.836	-8.128	522.0	602.7	0.0	602.4	518.71	488.46
20	2.716	-8.122	515.5	604.7	0.0	604.3	518.71	488.27
21	2.675	-8.120	513.2	605.8	0.0	605.5	518.71	488.15

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	14.69	9.94	1.0000	1.0000	1702.9	.768	1.6125
2	8.141	14.69	9.81	1.0000	1.0000	1653.9	.782	1.5691
3	7.786	14.69	9.67	1.0000	1.0000	1607.1	.797	1.5280
4	7.435	14.69	9.56	1.0000	1.0000	1560.1	.808	1.4856
5	7.087	14.69	9.52	1.0000	1.0000	1511.3	.812	1.4399
6	6.743	14.69	9.55	1.0000	1.0000	1459.8	.809	1.3903
7	6.401	14.69	9.65	1.0000	1.0000	1405.5	.798	1.3366
8	6.062	14.69	9.81	1.0000	1.0000	1348.4	.782	1.2793
9	5.725	14.69	10.03	1.0000	1.0000	1288.7	.759	1.2189
10	5.392	14.69	10.28	1.0000	1.0000	1227.0	.732	1.1563
11	5.064	14.69	10.57	1.0000	1.0000	1164.4	.703	1.0931
12	4.743	14.69	10.85	1.0000	1.0000	1102.4	.673	1.0309
13	4.426	14.69	11.12	1.0000	1.0000	1041.6	.644	.9707
14	4.115	14.69	11.37	1.0000	1.0000	983.0	.617	.9132
15	3.812	14.69	11.58	1.0000	1.0000	928.1	.594	.8599
16	3.523	14.69	11.74	1.0000	1.0000	878.7	.575	.8125
17	3.255	14.69	11.85	1.0000	1.0000	836.9	.563	.7728
18	3.021	14.69	11.90	1.0000	1.0000	804.6	.557	.7425
19	2.836	14.69	11.91	1.0000	1.0000	782.9	.556	.7224
20	2.716	14.69	11.89	1.0000	1.0000	771.1	.558	.7117
21	2.675	14.69	11.88	1.0000	1.0000	767.5	.559	.7085

FREE STATION 6.000 IS INDEX 6

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-7.802	0.00	0.00	0.0000	.0579	.0242
2	8.141	-7.878	0.00	-.07	-.0196	.0573	.0248
3	7.786	-7.953	0.00	.43	-.0208	.0567	.0255
4	7.435	-8.019	0.00	1.35	-.0122	.0563	.0262
5	7.087	-8.077	0.00	2.56	.0007	.0561	.0268
6	6.743	-8.129	0.00	4.00	.0149	.0562	.0275
7	6.401	-8.176	0.00	5.61	.0279	.0566	.0280
8	6.062	-8.217	0.00	7.39	.0392	.0573	.0284
9	5.725	-8.249	0.00	9.35	.0507	.0582	.0288
10	5.392	-8.264	0.00	11.51	.0643	.0593	.0298
11	5.064	-8.259	0.00	13.75	.0762	.0604	.0314
12	4.743	-8.239	0.00	15.94	.0817	.0616	.0340
13	4.426	-8.214	0.00	18.05	.0801	.0627	.0371
14	4.115	-8.191	0.00	20.07	.0706	.0637	.0408
15	3.812	-8.173	0.00	22.06	.0540	.0645	.0476
16	3.523	-8.158	0.00	24.06	.0308	.0651	.0558
17	3.255	-8.146	0.00	26.10	.0007	.0656	.0665
18	3.021	-8.136	0.00	28.15	-.0359	.0658	.0775
19	2.836	-8.128	0.00	30.07	-.0748	.0658	.0881
20	2.716	-8.122	0.00	31.57	-.1068	.0658	.0957
21	2.675	-8.120	0.00	32.16	-.1196	.0657	.0985

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED
1	-55.21	7.33	1497.4
2	-54.10	8.07	1434.1
3	-53.38	7.16	1371.6
4	-52.26	5.40	1309.8
5	-50.96	3.60	1248.6
6	-49.63	2.54	1187.9
7	-48.70	1.62	1127.7
8	-47.81	.57	1067.9
9	-46.94	-.83	1008.5
10	-45.93	-2.16	949.9
11	-44.96	-3.19	892.1
12	-44.14	-3.24	835.5
13	-43.13	-2.92	779.7
14	-42.03	-2.37	725.0
15	-40.64	-1.23	671.6
16	-39.13	.02	620.6
17	-37.08	1.64	573.4
18	-35.28	3.06	532.2
19	-33.65	4.18	499.6
20	-32.60	4.90	478.5
21	-32.23	5.16	471.2

STATION----- 6.200 IS INSIDE OF A ROTOR WITH INDEX 7

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-7.381	707.1	706.7	106.1	714.3	545.16	502.66
2	8.137	-7.421	729.9	729.5	115.8	738.4	546.36	500.94
3	7.786	-7.462	752.7	752.3	123.4	762.3	546.91	498.50
4	7.445	-7.500	770.7	770.5	129.2	781.4	546.94	496.07
5	7.112	-7.532	787.8	788.1	138.0	800.4	547.50	494.13
6	6.785	-7.562	802.1	803.8	148.8	817.9	548.32	492.60
7	6.464	-7.590	812.5	816.6	162.2	833.0	549.47	491.66
8	6.147	-7.614	818.1	825.7	177.3	845.0	550.69	491.20
9	5.836	-7.632	818.5	831.1	193.5	853.8	551.84	491.12
10	5.531	-7.645	810.7	830.0	208.0	856.1	552.47	491.41
11	5.229	-7.651	781.1	807.7	200.5	832.6	549.47	491.71
12	4.927	-7.653	747.7	782.0	188.1	804.7	545.90	491.95
13	4.625	-7.656	713.9	756.0	175.9	776.5	542.58	492.34
14	4.326	-7.657	681.4	730.8	165.7	749.7	539.75	492.92
15	4.033	-7.658	651.1	707.1	157.7	724.8	537.37	493.60
16	3.751	-7.662	624.0	686.0	150.9	702.7	535.32	494.18
17	3.490	-7.667	601.8	669.1	144.5	684.7	533.50	494.44
18	3.260	-7.673	585.1	656.8	138.2	671.3	531.93	494.38
19	3.078	-7.678	574.4	649.5	132.6	662.9	530.69	494.07
20	2.960	-7.681	568.9	646.3	128.6	658.9	529.89	493.70
21	2.919	-7.682	567.3	645.6	127.2	657.9	529.60	493.54

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	16.61	12.51	1.1305	1.0510	1560.6	.650	1.4196
2	8.137	16.85	12.44	1.1464	1.0533	1506.2	.673	1.3724
3	7.786	17.08	12.36	1.1627	1.0544	1457.4	.696	1.3313
4	7.445	17.26	12.27	1.1747	1.0544	1411.3	.715	1.2922
5	7.112	17.45	12.19	1.1874	1.0555	1365.4	.734	1.2527
6	6.785	17.64	12.12	1.2003	1.0571	1319.7	.752	1.2126
7	6.464	17.83	12.09	1.2132	1.0593	1273.0	.766	1.1708
8	6.147	18.02	12.08	1.2262	1.0616	1225.6	.778	1.1278
9	5.836	18.20	12.11	1.2387	1.0639	1177.9	.786	1.0840
10	5.531	18.30	12.15	1.2453	1.0651	1129.7	.788	1.0393
11	5.229	17.97	12.19	1.2229	1.0593	1082.5	.766	.9956
12	4.927	17.58	12.22	1.1963	1.0524	1036.2	.740	.9528
13	4.625	17.21	12.26	1.1715	1.0460	989.8	.714	.9098
14	4.326	16.91	12.31	1.1507	1.0406	943.2	.689	.8665
15	4.033	16.65	12.37	1.1333	1.0360	897.6	.665	.8239
16	3.751	16.43	12.42	1.1183	1.0320	854.8	.645	.7842
17	3.490	16.24	12.45	1.1050	1.0285	817.8	.628	.7501
18	3.260	16.07	12.44	1.0936	1.0255	788.4	.616	.7232
19	3.078	15.94	12.41	1.0846	1.0231	767.9	.608	.7046
20	2.960	15.85	12.38	1.0788	1.0215	756.4	.605	.6943
21	2.919	15.82	12.36	1.0767	1.0210	752.7	.604	.6910

STATION---- 6.200 IS INSIDE OF A ROTOR WITH INDEX 7

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-7.381	8.53	0.00	0.0000	.0672	.0546
2	8.137	-7.421	9.02	-.39	.0023	.0670	.0566
3	7.786	-7.462	9.32	.06	.0002	.0669	.0613
4	7.445	-7.500	9.52	1.11	-.0016	.0668	.0676
5	7.112	-7.532	9.93	2.51	-.0039	.0666	.0757
6	6.785	-7.562	10.48	4.17	-.0055	.0664	.0880
7	6.464	-7.590	11.23	6.01	-.0053	.0663	.1012
8	6.147	-7.614	12.12	7.99	-.0044	.0664	.1134
9	5.836	-7.633	13.11	10.16	-.0047	.0665	.1239
10	5.531	-7.645	14.07	12.50	-.0089	.0667	.1338
11	5.229	-7.651	13.94	14.88	-.0147	.0669	.1404
12	4.927	-7.653	13.53	17.15	-.0182	.0670	.1474
13	4.625	-7.656	13.10	19.29	-.0173	.0672	.1548
14	4.326	-7.657	12.78	21.26	-.0128	.0674	.1632
15	4.033	-7.658	12.57	23.04	-.0080	.0677	.1726
16	3.751	-7.662	12.40	24.62	-.0058	.0679	.1828
17	3.490	-7.667	12.18	25.99	-.0080	.0679	.1939
18	3.260	-7.673	11.88	27.09	-.0149	.0679	.2060
19	3.078	-7.678	11.54	27.91	-.0255	.0678	.2168
20	2.960	-7.681	11.26	28.41	-.0364	.0677	.2248
21	2.919	-7.682	11.14	28.58	-.0412	.0676	.2278

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-59.91	-.96	1497.4	.0647
2	-58.45	-.09	1433.5	.0590
3	-56.70	.48	1371.7	.0454
4	-54.78	.53	1311.6	.0302
5	-52.64	-.25	1252.9	.0172
6	-50.66	-1.49	1195.3	.0051
7	-48.71	-2.71	1138.7	-.0052
8	-46.79	-3.65	1082.9	-.0159
9	-44.63	-3.78	1028.1	-.0280
10	-42.38	-3.52	974.4	-.0390
11	-40.19	-2.99	921.2	-.0493
12	-38.26	-2.69	868.0	-.0580
13	-36.92	-2.83	814.8	-.0652
14	-35.72	-2.27	762.1	-.0716
15	-34.56	-1.38	710.5	-.0773
16	-32.91	.81	660.9	-.0817
17	-31.52	2.84	614.8	-.0846
18	-30.42	4.23	574.3	-.0859
19	-29.63	5.34	542.3	-.0858
20	-29.13	5.82	521.5	-.0852
21	-28.94	5.91	514.3	-.0849

STATION---- 6.400 IS INSIDE OF A ROTOR WITH INDEX 8

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.983	644.7	644.4	211.2	677.8	571.36	533.12
2	8.135	-6.986	669.1	668.8	228.3	706.4	573.18	531.64
3	7.787	-6.994	696.7	696.4	241.1	736.8	573.78	528.59
4	7.454	-7.002	717.5	717.4	250.4	759.8	573.47	525.41
5	7.134	-7.009	738.4	738.9	265.4	785.2	574.25	522.92
6	6.824	-7.016	757.7	759.4	284.0	811.0	575.56	520.82
7	6.522	-7.024	774.4	778.4	307.4	837.1	577.51	519.18
8	6.228	-7.032	788.7	796.0	333.1	863.1	579.55	517.53
9	5.942	-7.037	800.4	812.3	360.6	889.0	581.55	515.76
10	5.664	-7.036	805.3	823.2	387.1	909.9	583.02	514.09
11	5.389	-7.035	783.4	807.9	378.8	892.5	578.59	512.27
12	5.113	-7.039	756.4	788.3	363.3	868.2	573.18	510.42
13	4.832	-7.055	726.8	766.8	345.3	841.2	567.65	508.73
14	4.548	-7.079	695.3	743.9	327.4	813.0	562.39	507.35
15	4.267	-7.103	664.8	721.9	312.4	786.8	557.82	506.26
16	3.996	-7.126	636.9	701.8	300.3	763.6	553.91	505.35
17	3.741	-7.149	612.4	683.8	289.6	742.8	550.49	504.53
18	3.515	-7.171	592.4	668.8	279.5	725.0	547.54	503.75
19	3.333	-7.188	577.9	657.3	270.7	711.0	545.18	503.07
20	3.215	-7.200	569.1	650.1	264.3	701.9	543.64	502.60
21	3.173	-7.204	566.3	647.6	262.0	698.7	543.10	502.43

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	18.65	14.63	1.2692	1.1015	1438.7	.599	1.2707
2	8.135	19.11	14.69	1.3004	1.1050	1378.0	.625	1.2188
3	7.787	19.58	14.70	1.3328	1.1062	1328.0	.654	1.1780
4	7.454	19.93	14.68	1.3566	1.1056	1282.3	.676	1.1409
5	7.134	20.31	14.63	1.3819	1.1071	1236.5	.700	1.1028
6	6.824	20.68	14.58	1.4076	1.1096	1191.5	.725	1.0648
7	6.522	21.07	14.51	1.4336	1.1134	1146.4	.749	1.0261
8	6.228	21.45	14.43	1.4595	1.1173	1103.4	.774	.9892
9	5.942	21.82	14.33	1.4849	1.1211	1063.4	.798	.9549
10	5.664	22.07	14.21	1.5018	1.1240	1025.0	.818	.9219
11	5.389	21.52	14.06	1.4647	1.1154	989.1	.804	.8912
12	5.113	20.86	13.90	1.4193	1.1050	954.1	.784	.8613
13	4.832	20.18	13.75	1.3734	1.0944	918.7	.761	.8307
14	4.548	19.55	13.64	1.3303	1.0842	882.0	.736	.7986
15	4.267	19.01	13.54	1.2934	1.0754	845.1	.713	.7660
16	3.996	18.55	13.46	1.2622	1.0679	809.6	.693	.7345
17	3.741	18.15	13.38	1.2351	1.0613	777.2	.674	.7057
18	3.515	17.81	13.30	1.2119	1.0556	750.1	.659	.6816
19	3.333	17.54	13.24	1.1936	1.0510	729.6	.647	.6634
20	3.215	17.36	13.20	1.1817	1.0481	716.8	.639	.6521
21	3.173	17.30	13.18	1.1775	1.0470	712.5	.636	.6483

STATION----- 6.400 IS INSIDE OF A ROTOR WITH INDEX 8

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.983	18.14	0.00	0.0000	.0741	.0723
2	8.133	-6.986	18.85	-.30	.0051	.0746	.0736
3	7.787	-6.994	19.10	.17	.0077	.0750	.0782
4	7.454	-7.002	19.24	1.20	.0085	.0754	.0855
5	7.134	-7.009	19.76	2.56	.0081	.0755	.0960
6	6.824	-7.016	20.51	4.18	.0064	.0756	.1097
7	6.522	-7.024	21.55	5.97	.0036	.0755	.1263
8	6.228	-7.032	22.71	7.90	-.0012	.0753	.1398
9	5.942	-7.037	23.94	9.94	-.0079	.0750	.1535
10	5.664	-7.036	25.19	12.07	-.0157	.0746	.1662
11	5.389	-7.035	25.12	14.23	-.0213	.0741	.1788
12	5.113	-7.039	24.74	16.42	-.0217	.0735	.1910
13	4.832	-7.055	24.24	18.65	-.0178	.0730	.2030
14	4.548	-7.079	23.75	20.88	-.0091	.0725	.2155
15	4.267	-7.103	23.40	22.99	.0044	.0722	.2290
16	3.996	-7.126	23.16	24.88	.0200	.0719	.2439
17	3.741	-7.149	22.95	26.47	.0353	.0716	.2591
18	3.515	-7.171	22.68	27.69	.0487	.0713	.2744
19	3.333	-7.188	22.38	28.51	.0590	.0710	.2880
20	3.215	-7.200	22.12	28.94	.0651	.0709	.2977
21	3.173	-7.204	22.02	29.07	.0671	.0708	.3012

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-60.30	-7.70	1497.4	.1233
2	-57.89	-4.83	1433.1	.1114
3	-55.20	-2.38	1371.8	.0855
4	-52.35	-.52	1313.2	.0568
5	-49.21	-.42	1256.8	.0322
6	-46.06	-.82	1202.2	.0090
7	-42.88	-1.56	1149.0	-.0111
8	-39.92	-2.28	1097.2	-.0323
9	-37.11	-2.80	1046.8	-.0561
10	-34.56	-2.69	997.8	-.0783
11	-32.21	-2.49	949.5	-.1001
12	-30.09	-2.12	900.7	-.1204
13	-28.04	-1.99	851.2	-.1383
14	-26.34	-2.01	801.3	-.1536
15	-25.06	-.64	751.8	-.1671
16	-23.93	.96	703.9	-.1777
17	-23.04	2.73	659.0	-.1847
18	-22.39	4.30	619.2	-.1875
19	-21.88	4.85	587.2	-.1869
20	-21.56	5.17	566.3	-.1848
21	-21.46	5.28	559.0	-.1837

STATION---- 6.600 IS INSIDE OF A ROTOR WITH INDEX 9

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.592	582.1	582.0	322.3	665.1	599.04	562.26
2	8.133	-6.558	609.9	609.7	342.7	699.3	600.42	559.75
3	7.789	-6.534	643.0	642.9	356.4	735.0	600.10	555.17
4	7.466	-6.514	666.4	666.6	365.2	760.1	598.65	550.60
5	7.158	-6.496	689.4	690.4	382.0	789.0	598.89	547.10
6	6.864	-6.481	710.1	712.5	403.8	819.0	599.97	544.18
7	6.581	-6.470	727.5	732.0	431.7	849.9	602.00	541.92
8	6.307	-6.463	742.8	750.1	462.3	881.2	604.19	539.60
9	6.043	-6.454	756.4	767.4	494.7	913.2	606.34	536.98
10	5.788	-6.441	763.6	779.3	526.5	940.6	608.05	534.46
11	5.539	-6.428	747.5	768.4	522.4	929.3	603.55	531.70
12	5.290	-6.422	727.4	754.8	511.7	912.0	598.08	528.88
13	5.039	-6.431	704.3	739.5	498.6	892.0	592.37	526.16
14	4.782	-6.462	676.9	721.4	482.9	868.2	586.42	523.69
15	4.522	-6.505	646.4	701.1	466.8	842.4	580.62	521.55
16	4.268	-6.549	616.0	681.1	454.1	818.7	575.55	519.76
17	4.027	-6.588	587.5	662.4	444.2	797.6	571.19	518.22
18	3.811	-6.624	561.9	645.2	435.7	778.6	567.43	516.95
19	3.636	-6.654	541.3	630.7	428.4	762.5	564.41	516.00
20	3.519	-6.673	527.8	620.7	423.2	751.3	562.40	515.40
21	3.478	-6.680	523.0	617.1	421.2	747.2	561.69	515.20

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	20.96	16.78	1.4261	1.1549	1311.3	.572	1.1279
2	8.133	21.59	16.89	1.4693	1.1575	1249.0	.603	1.0767
3	7.789	22.25	16.94	1.5143	1.1569	1202.1	.636	1.0405
4	7.466	22.71	16.95	1.5458	1.1541	1160.6	.661	1.0087
5	7.158	23.21	16.91	1.5794	1.1546	1117.7	.688	.9746
6	6.864	23.71	16.85	1.6136	1.1567	1075.3	.716	.9401
7	6.581	24.22	16.76	1.6480	1.1606	1032.1	.745	.9042
8	6.307	24.72	16.64	1.6821	1.1648	991.7	.774	.8707
9	6.043	25.21	16.47	1.7155	1.1690	955.9	.804	.8413
10	5.788	25.54	16.26	1.7383	1.1722	922.3	.830	.8136
11	5.539	24.94	16.01	1.6976	1.1636	892.2	.822	.7891
12	5.290	24.21	15.74	1.6475	1.1530	863.9	.809	.7661
13	5.039	23.45	15.48	1.5956	1.1420	835.6	.793	.7430
14	4.782	22.66	15.25	1.5420	1.1305	806.0	.774	.7183
15	4.522	21.90	15.05	1.4905	1.1194	774.9	.752	.6920
16	4.268	21.25	14.87	1.4459	1.1096	743.4	.732	.6650
17	4.027	20.69	14.72	1.4079	1.1012	713.6	.715	.6393
18	3.811	20.21	14.59	1.3756	1.0939	686.9	.698	.6162
19	3.636	19.84	14.50	1.3500	1.0881	665.4	.685	.5974
20	3.519	19.59	14.44	1.3331	1.0842	651.1	.675	.5849
21	3.478	19.50	14.42	1.3272	1.0829	646.1	.671	.5805

STATION----- 6.600 IS INSIDE OF A ROTOR WITH INDEX 9

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.592	28.98	0.00	0.0000	.0806	.0647
2	8.133	-6.558	29.34	.10	.0279	.0814	.0669
3	7.789	-6.534	29.00	.76	.0375	.0824	.0718
4	7.466	-6.514	28.72	1.88	.0398	.0831	.0787
5	7.158	-6.496	28.96	3.24	.0379	.0834	.0881
6	6.864	-6.481	29.54	4.77	.0320	.0836	.0999
7	6.581	-6.470	30.53	6.40	.0232	.0835	.1146
8	6.307	-6.463	31.65	8.09	.0125	.0832	.1275
9	6.043	-6.454	32.81	9.81	.0003	.0828	.1402
10	5.788	-6.441	34.04	11.57	-.0130	.0821	.1520
11	5.539	-6.428	34.21	13.43	-.0237	.0812	.1643
12	5.290	-6.422	34.14	15.51	-.0287	.0803	.1773
13	5.039	-6.431	33.99	17.80	-.0284	.0794	.1915
14	4.782	-6.462	33.80	20.27	-.0233	.0786	.2072
15	4.522	-6.505	33.65	22.82	-.0132	.0779	.2249
16	4.268	-6.549	33.69	25.29	.0030	.0772	.2435
17	4.027	-6.588	33.85	27.55	.0247	.0767	.2631
18	3.811	-6.624	34.03	29.46	.0495	.0762	.2816
19	3.636	-6.654	34.19	30.90	.0737	.0758	.2981
20	3.519	-6.673	34.29	31.78	.0925	.0756	.3100
21	3.478	-6.680	34.32	32.08	.0997	.0755	.3143

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-57.22	-13.45	1497.4	.1798
2	-54.90	-7.73	1432.7	.1602
3	-52.07	-2.63	1372.2	.1218
4	-48.96	1.55	1315.2	.0801
5	-45.21	2.69	1261.1	.0443
6	-41.57	2.74	1209.2	.0107
7	-37.96	1.72	1159.3	-.0186
8	-34.69	.78	1111.1	-.0495
9	-31.65	-.11	1064.6	-.0840
10	-28.67	-.39	1019.7	-.1164
11	-25.58	-.57	975.8	-.1495
12	-23.09	-.43	932.0	-.1829
13	-20.49	-.23	887.6	-.2156
14	-18.36	.04	842.4	-.2459
15	-16.66	.32	796.7	-.2725
16	-15.67	1.47	751.9	-.2946
17	-14.84	2.61	709.5	-.3107
18	-14.43	3.41	671.5	-.3194
19	-14.18	4.03	640.5	-.3209
20	-14.04	4.44	619.9	-.3185
21	-14.01	4.53	612.6	-.3170

STATION---- 6.800 IS INSIDE OF A ROTOR WITH INDEX 10

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.194	594.3	594.3	446.8	743.4	629.99	584.08
2	8.136	-6.125	624.0	624.0	463.8	777.4	629.28	579.08
3	7.799	-6.069	666.4	666.6	471.9	816.7	626.57	571.15
4	7.487	-6.023	697.0	697.8	474.1	843.6	622.73	563.57
5	7.192	-5.983	724.7	726.7	486.8	874.6	621.32	557.72
6	6.913	-5.949	748.4	752.1	505.6	906.3	621.16	552.87
7	6.646	-5.922	766.6	772.5	532.0	938.0	622.32	549.17
8	6.389	-5.900	781.1	790.0	561.1	969.0	623.76	545.69
9	6.142	-5.880	793.2	805.6	591.7	999.6	625.21	542.14
10	5.906	-5.857	797.4	814.0	621.6	1024.2	626.28	539.06
11	5.677	-5.832	786.9	808.4	627.2	1023.2	623.05	536.00
12	5.453	-5.813	773.0	801.2	628.9	1018.6	619.21	532.93
13	5.232	-5.809	756.0	792.9	629.2	1012.3	615.19	529.96
14	5.011	-5.824	734.3	782.2	627.9	1003.1	610.95	527.24
15	4.788	-5.865	707.0	767.9	624.2	989.7	606.33	524.84
16	4.566	-5.920	675.3	750.8	620.6	974.1	601.79	522.83
17	4.355	-5.974	642.5	733.0	619.7	959.9	597.83	521.15
18	4.166	-6.020	611.7	716.4	620.8	948.0	594.53	519.74
19	4.012	-6.058	586.1	702.5	622.2	938.4	591.91	518.61
20	3.910	-6.082	569.0	693.0	623.0	931.9	590.14	517.86
21	3.874	-6.091	563.0	689.6	623.3	929.5	589.51	517.59

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	23.73	18.20	1.6147	1.2145	1207.1	.627	1.0186
2	8.136	24.43	18.25	1.6625	1.2132	1153.0	.659	.9772
3	7.799	25.16	18.19	1.7124	1.2080	1121.6	.697	.9571
4	7.487	25.61	18.05	1.7427	1.2005	1095.8	.725	.9413
5	7.192	26.09	17.87	1.7753	1.1978	1066.2	.755	.9208
6	6.913	26.57	17.67	1.8085	1.1975	1035.8	.786	.8984
7	6.646	27.07	17.47	1.8420	1.1997	1002.5	.816	.8724
8	6.389	27.55	17.25	1.8752	1.2025	970.9	.846	.8477
9	6.142	28.02	17.01	1.9072	1.2053	943.1	.876	.8260
10	5.906	28.31	16.74	1.9265	1.2074	915.4	.900	.8041
11	5.677	27.87	16.45	1.8970	1.2012	890.2	.901	.7842
12	5.453	27.34	16.17	1.8608	1.1938	867.2	.900	.7661
13	5.232	26.78	15.89	1.8226	1.1860	845.2	.897	.7487
14	5.011	26.19	15.63	1.7821	1.1778	822.7	.891	.7307
15	4.788	25.53	15.41	1.7376	1.1689	798.6	.881	.7109
16	4.566	24.89	15.21	1.6936	1.1602	772.9	.869	.6894
17	4.355	24.32	15.04	1.6552	1.1525	747.7	.858	.6680
18	4.166	23.86	14.90	1.6237	1.1462	725.3	.848	.6488
19	4.012	23.49	14.79	1.5988	1.1411	707.5	.840	.6336
20	3.910	23.25	14.72	1.5821	1.1377	696.1	.835	.6238
21	3.874	23.16	14.69	1.5762	1.1365	692.1	.833	.6205

STATION---- 6.800 IS INSIDE OF A ROTOR WITH INDEX 10

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.194	36.94	0.00	0.0000	.0841	.1161
2	8.136	-6.125	36.62	.50	.0038	.0851	.1179
3	7.799	-6.069	35.30	1.52	.0195	.0859	.1219
4	7.487	-6.023	34.19	2.85	.0292	.0864	.1266
5	7.192	-5.983	33.82	4.27	.0315	.0865	.1318
6	6.913	-5.949	33.91	5.70	.0289	.0863	.1384
7	6.646	-5.922	34.55	7.15	.0244	.0858	.1468
8	6.389	-5.900	35.38	8.62	.0203	.0853	.1544
9	6.142	-5.880	36.30	10.10	.0172	.0847	.1615
10	5.906	-5.857	37.36	11.61	.0152	.0838	.1686
11	5.677	-5.832	37.81	13.27	.0146	.0829	.1757
12	5.453	-5.813	38.13	15.25	.0150	.0819	.1838
13	5.232	-5.809	38.43	17.57	.0161	.0809	.1939
14	5.011	-5.824	38.76	20.16	.0176	.0800	.2048
15	4.788	-5.865	39.11	22.99	.0210	.0792	.2211
16	4.566	-5.920	39.58	25.93	.0275	.0785	.2390
17	4.355	-5.974	40.21	28.79	.0360	.0779	.2572
18	4.166	-6.020	40.91	31.38	.0450	.0774	.2750
19	4.012	-6.058	41.53	33.46	.0532	.0770	.2907
20	3.910	-6.082	41.96	34.81	.0583	.0767	.3012
21	3.874	-6.091	42.11	35.28	.0600	.0766	.3050

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-54.40	-19.05	1497.4	.2372
2	-52.09	-10.93	1433.3	.2065
3	-49.42	-2.47	1374.0	.1539
4	-46.52	4.70	1318.9	.0985
5	-42.45	7.84	1267.1	.0515
6	-38.57	8.66	1217.9	.0079
7	-34.70	6.94	1170.8	-.0299
8	-30.99	6.10	1125.5	-.0694
9	-27.56	5.93	1082.0	-.1130
10	-23.87	5.69	1040.4	-.1539
11	-19.73	5.38	1000.1	-.1969
12	-15.93	4.90	960.7	-.2430
13	-13.04	3.99	921.7	-.2921
14	-10.04	3.09	882.9	-.3428
15	-7.62	3.37	843.6	-.3917
16	-5.61	3.64	804.4	-.4346
17	-4.42	3.87	767.1	-.4698
18	-3.60	4.06	733.9	-.4952
19	-2.99	4.22	706.8	-.5089
20	-2.88	4.24	688.8	-.5135
21	-2.85	4.25	682.4	-.5141

ROTOR 1 STATION 7.000 FLOW 61.62 ASPECT RATIO 1.47
 STA NO. 11 RPM 20188. TIP SPEED 1497. NO. OF BLADES 20

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-5.778	569.8	569.6	591.7	821.3	665.98	610.02
2	8.140	-5.673	610.8	610.6	596.4	853.6	660.88	600.42
3	7.814	-5.590	658.1	658.5	590.1	884.3	653.76	588.84
4	7.515	-5.522	687.2	688.6	577.6	898.9	645.86	578.76
5	7.235	-5.464	709.8	712.7	578.9	918.3	641.41	571.36
6	6.970	-5.416	727.8	732.7	588.1	939.7	638.82	565.46
7	6.718	-5.376	739.9	747.2	606.2	962.3	638.03	561.08
8	6.477	-5.342	749.1	759.2	627.2	984.9	637.73	557.11
9	6.246	-5.312	756.0	769.7	649.4	1007.2	637.56	553.25
10	6.026	-5.281	754.7	772.4	670.4	1022.9	637.08	550.12
11	5.817	-5.248	750.6	773.3	691.4	1037.5	636.55	547.09
12	5.618	-5.219	746.1	775.4	712.7	1053.3	636.03	543.80
13	5.428	-5.200	741.1	778.8	733.8	1070.2	635.42	540.20
14	5.247	-5.195	735.5	783.7	755.6	1088.8	634.87	536.32
15	5.073	-5.207	728.0	789.2	778.2	1108.5	634.38	532.23
16	4.906	-5.237	716.9	793.7	802.6	1128.9	634.09	528.12
17	4.747	-5.281	701.5	796.2	828.3	1149.0	633.92	524.13
18	4.604	-5.328	683.0	796.5	853.0	1167.2	633.78	520.50
19	4.489	-5.367	664.4	795.0	874.2	1181.7	633.69	517.55
20	4.413	-5.393	650.3	792.8	888.8	1191.1	633.63	515.63
21	4.386	-5.402	644.9	791.8	894.1	1194.4	633.61	514.97

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	27.21	19.99	1.8517	1.2839	1070.0	.678	.8835
2	8.140	27.79	19.84	1.8911	1.2741	1036.6	.710	.8628
3	7.814	28.40	19.67	1.9325	1.2604	1025.8	.743	.8621
4	7.515	28.61	19.47	1.9469	1.2451	1015.5	.762	.8609
5	7.235	28.87	19.24	1.9644	1.2366	996.0	.783	.8498
6	6.970	29.14	19.00	1.9831	1.2316	972.7	.806	.8343
7	6.718	29.43	18.75	2.0027	1.2300	944.2	.829	.8130
8	6.477	29.71	18.50	2.0222	1.2295	916.7	.851	.7921
9	6.246	29.98	18.24	2.0406	1.2291	892.1	.873	.7735
10	6.026	30.04	17.96	2.0446	1.2282	865.8	.889	.7529
11	5.817	30.04	17.67	2.0445	1.2272	842.1	.905	.7343
12	5.618	30.04	17.35	2.0441	1.2262	823.4	.921	.7201
13	5.428	30.01	16.99	2.0423	1.2250	810.0	.939	.7107
14	5.247	29.99	16.61	2.0408	1.2239	801.7	.959	.7060
15	5.073	29.97	16.20	2.0394	1.2230	797.6	.980	.7051
16	4.906	29.95	15.79	2.0385	1.2224	796.1	1.002	.7065
17	4.747	29.95	15.38	2.0380	1.2221	796.3	1.024	.7093
18	4.604	29.94	15.02	2.0377	1.2219	797.6	1.043	.7130
19	4.489	29.94	14.73	2.0374	1.2217	799.3	1.059	.7166
20	4.413	29.93	14.55	2.0372	1.2216	800.6	1.070	.7190
21	4.386	29.93	14.48	2.0372	1.2215	801.0	1.073	.7199

ROTOR 1 STATION 7.000 FLOW 61.62 ASPECT RATIO 1.47
 STA NO. 11 RPM 20188. TIP SPEED 1497. NO. OF BLADES 20

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE	D- FACTOR
1	8.500	-5.778	46.09	0.00	0.0000	.0885	.1235	.5000
2	8.140	-5.673	44.32	1.07	.0279	.0892	.1238	.4966
3	7.814	-5.590	41.86	2.48	.0372	.0902	.1244	.4808
4	7.515	-5.522	39.99	3.96	.0370	.0908	.1248	.4648
5	7.235	-5.464	39.08	5.39	.0344	.0909	.1248	.4590
6	6.970	-5.416	38.75	6.75	.0318	.0907	.1247	.4559
7	6.718	-5.376	39.05	8.09	.0293	.0902	.1247	.4564
8	6.477	-5.342	39.56	9.47	.0274	.0896	.1247	.4559
9	6.246	-5.312	40.16	10.88	.0264	.0890	.1249	.4519
10	6.026	-5.281	40.96	12.36	.0271	.0881	.1250	.4462
11	5.817	-5.248	41.80	13.99	.0263	.0872	.1254	.4368
12	5.618	-5.219	42.59	15.86	.0191	.0861	.1258	.4224
13	5.428	-5.200	43.29	17.94	.0047	.0849	.1273	.4022
14	5.247	-5.195	43.95	20.24	-.0155	.0836	.1299	.3781
15	5.073	-5.207	44.60	22.74	-.0398	.0822	.1326	.3475
16	4.906	-5.237	45.32	25.44	-.0617	.0807	.1434	.3121
17	4.747	-5.281	46.13	28.25	-.0740	.0792	.1590	.2760
18	4.604	-5.328	46.96	30.99	-.0759	.0779	.1738	.2416
19	4.489	-5.367	47.72	33.33	-.0707	.0768	.1874	.2145
20	4.413	-5.393	48.27	34.92	-.0637	.0761	.2006	.1980
21	4.386	-5.402	48.47	35.48	-.0603	.0759	.2053	.1926

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	INCID- ENCE	DEVIA- TION	LOSS COEF.	ADIAB. EFFIC.	POLYT. EFFIC.
1	-52.31	-21.32	1497.4	-6.359	-5.520	.2971	67.70	70.35
2	-49.08	-13.97	1434.1	-6.031	-4.829	.2527	72.76	75.07
3	-46.25	-1.73	1376.6	-5.205	-3.814	.1916	79.46	81.26
4	-43.35	7.90	1323.9	-4.828	-3.956	.1358	85.46	86.75
5	-39.95	13.72	1274.6	-4.743	-4.362	.0965	89.87	90.79
6	-36.61	15.63	1228.0	-4.827	-4.524	.0667	93.24	93.85
7	-33.09	13.94	1183.5	-4.655	-4.606	.0482	95.34	95.77
8	-29.31	13.34	1141.0	-4.558	-4.779	.0322	97.06	97.33
9	-25.29	14.34	1100.4	-4.554	-5.080	.0166	98.57	98.71
10	-21.49	15.25	1061.7	-4.796	-5.374	.0090	99.27	99.34
11	-16.84	15.86	1024.8	-5.052	-6.491	.0036	99.72	99.74
12	-12.43	16.44	989.7	-5.142	-7.229	-.0022	100.13	100.12
13	-7.14	16.67	956.3	-5.344	-8.808	-.0086	100.52	100.47
14	-1.34	16.62	924.3	-5.495	-10.814	-.0157	100.87	100.79
15	3.55	16.57	893.7	-5.717	-11.880	-.0234	101.19	101.08
16	7.27	17.03	864.3	-5.801	-11.710	-.0296	101.39	101.25
17	10.10	17.74	836.3	-6.169	-10.684	-.0346	101.50	101.36
18	12.38	18.38	811.1	-6.123	-9.377	-.0390	101.59	101.44
19	14.34	18.77	790.8	-6.004	-8.345	-.0423	101.65	101.49
20	15.91	18.49	777.4	-5.762	-7.911	-.0443	101.69	101.53
21	16.46	18.39	772.7	-5.648	-7.741	-.0450	101.70	101.54

FREE STATION 8.000 IS INDEX 12

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-4.889	605.9	605.6	591.7	846.7	665.98	606.50
2	8.164	-4.817	653.9	654.0	594.7	884.0	660.88	596.03
3	7.860	-4.762	702.2	703.2	586.6	915.9	653.76	584.11
4	7.581	-4.712	729.8	732.2	572.5	929.6	645.86	574.08
5	7.319	-4.670	750.6	754.6	572.2	947.2	641.41	566.86
6	7.070	-4.642	768.0	774.1	579.8	967.3	638.82	561.06
7	6.833	-4.622	782.0	790.5	596.0	990.2	638.03	556.55
8	6.606	-4.610	795.0	806.5	615.0	1014.4	637.73	552.21
9	6.388	-4.606	806.5	821.9	635.0	1038.8	637.56	547.87
10	6.179	-4.611	810.5	830.5	653.8	1057.2	637.08	544.19
11	5.978	-4.625	811.5	837.1	672.8	1074.2	636.55	540.63
12	5.784	-4.647	810.8	843.4	692.2	1091.3	636.03	537.02
13	5.598	-4.678	808.3	848.9	711.6	1107.9	635.42	533.37
14	5.420	-4.719	804.2	854.1	731.5	1124.7	634.87	529.69
15	5.251	-4.768	798.7	859.2	751.8	1142.0	634.38	525.95
16	5.094	-4.823	791.9	864.6	773.1	1160.0	634.09	522.18
17	4.951	-4.879	784.2	871.0	794.1	1178.9	633.92	518.34
18	4.828	-4.934	776.1	878.3	813.4	1197.3	633.78	514.56
19	4.732	-4.978	768.6	885.4	829.3	1213.3	633.69	511.25
20	4.670	-5.006	763.0	890.7	839.8	1224.3	633.63	508.95
21	4.649	-5.016	760.9	892.7	843.5	1228.3	633.61	508.12

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	27.21	19.59	1.8517	1.2839	846.7	.701	.7012
2	8.164	27.79	19.34	1.8911	1.2741	884.0	.738	.7385
3	7.860	28.40	19.13	1.9325	1.2604	915.9	.773	.7729
4	7.581	28.61	18.93	1.9469	1.2451	929.6	.791	.7913
5	7.319	28.87	18.72	1.9644	1.2366	947.2	.811	.8114
6	7.070	29.14	18.49	1.9831	1.2316	967.3	.833	.8329
7	6.833	29.43	18.23	2.0027	1.2300	990.2	.856	.8560
8	6.606	29.71	17.94	2.0222	1.2295	1014.4	.880	.8804
9	6.388	29.98	17.63	2.0406	1.2291	1038.8	.905	.9051
10	6.179	30.04	17.29	2.0446	1.2282	1057.2	.924	.9242
11	5.978	30.04	16.95	2.0445	1.2272	1074.2	.942	.9422
12	5.784	30.04	16.60	2.0441	1.2262	1091.3	.960	.9604
13	5.598	30.01	16.25	2.0423	1.2250	1107.9	.978	.9783
14	5.420	29.99	15.90	2.0408	1.2239	1124.7	.997	.9966
15	5.251	29.97	15.54	2.0394	1.2230	1142.0	1.016	1.0155
16	5.094	29.95	15.17	2.0385	1.2224	1160.0	1.035	1.0353
17	4.951	29.95	14.80	2.0380	1.2221	1178.9	1.056	1.0560
18	4.828	29.94	14.43	2.0377	1.2219	1197.3	1.076	1.0765
19	4.732	29.94	14.12	2.0374	1.2217	1213.3	1.094	1.0944
20	4.670	29.93	13.90	2.0372	1.2216	1224.3	1.107	1.1068
21	4.649	29.93	13.82	2.0372	1.2215	1228.3	1.111	1.1113

FREE STATION 8.000 IS INDEX 12

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-4.889	44.34	0.00	0.0000	.0872	.1084
2	8.164	-4.817	42.28	1.90	.0157	.0876	.1079
3	7.860	-4.762	39.83	3.53	.0186	.0884	.1077
4	7.581	-4.712	38.02	4.93	.0147	.0890	.1076
5	7.317	-4.670	37.17	6.18	.0077	.0891	.1076
6	7.071	-4.642	36.83	7.34	-.0001	.0889	.1077
7	6.833	-4.622	37.02	8.53	-.0064	.0884	.1078
8	6.606	-4.610	37.33	9.81	-.0100	.0877	.1080
9	6.388	-4.606	37.69	11.19	-.0110	.0868	.1083
10	6.179	-4.611	38.21	12.68	-.0107	.0858	.1086
11	5.978	-4.625	38.79	14.30	-.0102	.0846	.1090
12	5.784	-4.647	39.38	16.03	-.0103	.0834	.1095
13	5.598	-4.678	39.97	17.84	-.0124	.0822	.1101
14	5.420	-4.719	40.58	19.73	-.0176	.0810	.1107
15	5.251	-4.768	41.19	21.68	-.0270	.0798	.1114
16	5.094	-4.823	41.80	23.71	-.0445	.0784	.1122
17	4.951	-4.879	42.36	25.84	-.0727	.0771	.1129
18	4.828	-4.934	42.80	27.95	-.1069	.0757	.1135
19	4.732	-4.978	43.13	29.80	-.1390	.0745	.1141
20	4.670	-5.006	43.31	31.09	-.1620	.0737	.1144
21	4.649	-5.016	43.38	31.56	-.1705	.0734	.1145

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE
1	41.51	5.73
2	38.98	3.78
3	37.47	2.00
4	37.38	.41
5	37.46	-1.00
6	37.05	-2.23
7	36.42	-3.67
8	35.95	-5.23
9	36.30	-7.19
10	36.74	-9.22
11	37.28	-11.31
12	38.02	-13.64
13	38.73	-16.03
14	39.76	-19.07
15	40.86	-22.21
16	41.87	-25.62
17	42.73	-28.99
18	43.38	-31.74
19	44.27	-33.78
20	44.81	-35.03
21	45.00	-35.45

STATOR 1	STATION	9.000	FLOW	61.62	ASPECT RATIO	1.40		
STA NO. 13					NO VANES	31		
STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-2.220	690.1	690.2	0.0	690.1	665.98	626.49
2	8.232	-2.243	707.2	707.3	0.0	707.3	660.88	619.39
3	7.980	-2.266	728.4	728.7	0.0	728.7	653.76	609.70
4	7.744	-2.290	747.0	747.6	0.0	747.5	645.86	599.47
5	7.520	-2.313	748.6	749.6	0.0	749.5	641.41	594.76
6	7.305	-2.335	759.3	760.7	0.0	760.7	638.82	590.77
7	7.101	-2.357	775.3	777.3	0.0	777.3	638.03	587.85
8	6.911	-2.377	797.5	800.3	0.0	800.2	637.73	584.54
9	6.735	-2.394	817.7	821.3	0.0	821.3	637.56	581.53
10	6.571	-2.410	829.8	834.3	0.0	834.3	637.08	579.26
11	6.419	-2.425	842.0	847.7	0.0	847.7	636.55	576.86
12	6.279	-2.438	845.2	852.1	0.0	852.1	636.03	575.71
13	6.150	-2.450	846.5	854.6	0.0	854.6	635.42	574.75
14	6.033	-2.462	848.4	857.8	0.0	857.8	634.87	573.74
15	5.929	-2.472	852.7	863.4	0.0	863.4	634.38	572.45
16	5.840	-2.481	857.9	869.9	0.0	869.9	634.09	571.22
17	5.765	-2.490	862.6	875.8	0.0	875.8	633.92	570.19
18	5.707	-2.497	866.4	880.7	0.0	880.7	633.78	569.34
19	5.664	-2.503	869.3	884.4	0.0	884.4	633.69	568.70
20	5.639	-2.506	871.0	886.7	0.0	886.7	633.63	568.30
21	5.630	-2.507	871.6	887.5	0.0	887.5	633.61	568.17

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.89	21.69	.9882	1.0000	690.1	.562	.5623
2	8.232	27.21	21.67	.9792	1.0000	707.3	.580	.5796
3	7.980	27.64	21.63	.9732	1.0000	728.7	.602	.6018
4	7.744	28.03	21.58	.9797	1.0000	747.5	.623	.6227
5	7.520	28.02	21.50	.9709	1.0000	749.5	.627	.6266
6	7.305	28.17	21.41	.9666	1.0000	760.7	.638	.6383
7	7.101	28.39	21.30	.9647	1.0000	777.3	.654	.6538
8	6.911	28.74	21.17	.9671	1.0000	800.2	.675	.6750
9	6.735	29.03	21.03	.9683	1.0000	821.3	.695	.6946
10	6.571	29.13	20.87	.9696	1.0000	834.3	.707	.7070
11	6.419	29.22	20.69	.9727	1.0000	847.7	.720	.7198
12	6.279	29.07	20.50	.9679	1.0000	852.1	.724	.7242
13	6.150	28.87	20.31	.9620	1.0000	854.6	.727	.7270
14	6.033	28.69	20.11	.9566	1.0000	857.8	.730	.7303
15	5.929	28.58	19.93	.9536	1.0000	863.4	.736	.7360
16	5.840	28.51	19.77	.9516	1.0000	869.9	.742	.7423
17	5.765	28.45	19.62	.9499	1.0000	875.8	.748	.7480
18	5.707	28.40	19.50	.9485	1.0000	880.7	.753	.7528
19	5.664	28.37	19.41	.9476	1.0000	884.4	.756	.7564
20	5.639	28.35	19.36	.9470	1.0000	886.7	.759	.7586
21	5.630	28.34	19.34	.9468	1.0000	887.5	.759	.7593

STATOR 1 STATION 9.000 FLOW 61.62 ASPECT RATIO 1.40
STA NO. 13 NO VANES 31

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE	D- FACTOR
1	8.500	-2.220	0.00	0.00	0.0000	.0935	.0621	.4125
2	8.232	-2.243	0.00	.75	-.0054	.0944	.0621	.4186
3	7.980	-2.266	0.00	1.46	-.0098	.0958	.0620	.4115
4	7.744	-2.290	0.00	2.16	-.0161	.0972	.0620	.3925
5	7.520	-2.313	0.00	2.84	-.0234	.0976	.0621	.3966
6	7.305	-2.335	0.00	3.47	-.0296	.0978	.0621	.3971
7	7.101	-2.357	0.00	4.09	-.0360	.0978	.0622	.3970
8	6.911	-2.377	0.00	4.71	-.0435	.0978	.0623	.3934
9	6.735	-2.394	0.00	5.34	-.0524	.0976	.0624	.3907
10	6.571	-2.410	0.00	5.99	-.0621	.0972	.0626	.3890
11	6.419	-2.425	0.00	6.64	-.0725	.0968	.0628	.3856
12	6.279	-2.438	0.00	7.29	-.0828	.0961	.0630	.3897
13	6.150	-2.450	0.00	7.90	-.0919	.0954	.0632	.3949
14	6.033	-2.462	0.00	8.49	-.0998	.0946	.0634	.3985
15	5.929	-2.472	0.00	9.03	-.1066	.0940	.0636	.4003
16	5.840	-2.481	0.00	9.53	-.1125	.0934	.0637	.4018
17	5.765	-2.490	0.00	9.97	-.1174	.0929	.0638	.4040
18	5.707	-2.497	0.00	10.34	-.1213	.0925	.0638	.4072
19	5.664	-2.503	0.00	10.62	-.1241	.0921	.0638	.4104
20	5.639	-2.506	0.00	10.79	-.1258	.0919	.0638	.4129
21	5.630	-2.507	0.00	10.85	-.1264	.0919	.0638	.4138

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	INCID- ENCE	DEVI- ATION	LOSS COEF.	ADIAB. EFFIC.	POLYT. EFFIC.
1	-8.96	-.02	2.826	8.960	.0423	66.27	68.99
2	-8.19	-.01	3.300	8.194	.0684	70.14	72.59
3	-7.64	-.01	2.362	7.636	.0820	75.88	77.92
4	-7.23	.00	.641	7.232	.0600	82.58	84.08
5	-6.99	.00	-.288	6.992	.0828	85.57	86.81
6	-6.79	.00	-.214	6.792	.0914	88.17	89.20
7	-6.66	-.00	.601	6.662	.0928	89.93	90.81
8	-6.56	-.00	1.379	6.556	.0830	91.99	92.71
9	-6.47	-.00	1.393	6.468	.0769	93.68	94.25
10	-6.40	-.00	1.473	6.400	.0715	94.56	95.06
11	-6.37	-.01	1.509	6.368	.0628	95.46	95.88
12	-6.34	-.01	1.361	6.338	.0719	95.09	95.54
13	-6.34	-.01	1.241	6.340	.0830	94.52	95.01
14	-6.35	-.01	.819	6.346	.0924	93.98	94.52
15	-6.35	-.01	.323	6.347	.0965	93.78	94.33
16	-6.38	-.02	-.067	6.383	.0980	93.64	94.20
17	-6.46	-.02	-.372	6.461	.0990	93.46	94.04
18	-6.52	-.03	-.580	6.518	.0993	93.32	93.91
19	-6.56	-.04	-1.142	6.556	.0992	93.22	93.81
20	-6.58	-.04	-1.497	6.578	.0990	93.15	93.75
21	-6.59	-.04	-1.618	6.585	.0989	93.13	93.74

FREE STATION 10.000 IS INDEX 14

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.650	670.8	670.8	0.0	670.7	665.98	628.68
2	8.239	-1.650	687.2	687.2	0.0	687.2	660.88	621.72
3	7.994	-1.650	707.5	707.6	0.0	707.5	653.76	612.22
4	7.765	-1.650	724.9	725.2	0.0	725.2	645.86	602.21
5	7.548	-1.650	724.7	725.2	0.0	725.1	641.41	597.76
6	7.340	-1.650	733.6	734.4	0.0	734.3	638.82	594.04
7	7.144	-1.650	748.3	749.3	0.0	749.2	638.03	591.41
8	6.961	-1.650	769.8	771.0	0.0	771.0	637.73	588.36
9	6.792	-1.650	789.7	791.2	0.0	791.2	637.56	585.57
10	6.636	-1.650	801.6	803.3	0.0	803.3	637.08	583.48
11	6.492	-1.650	814.3	816.3	0.0	816.3	636.55	581.20
12	6.359	-1.650	818.2	820.4	0.0	820.4	636.03	580.12
13	6.238	-1.650	821.0	823.2	0.0	823.3	635.42	579.12
14	6.128	-1.650	825.3	827.7	0.0	827.7	634.87	577.95
15	6.031	-1.650	833.2	835.6	0.0	835.7	634.38	576.37
16	5.948	-1.650	842.8	845.2	0.0	845.3	634.09	574.73
17	5.880	-1.650	852.2	854.7	0.0	854.7	633.92	573.23
18	5.826	-1.650	860.6	863.1	0.0	863.1	633.78	571.89
19	5.788	-1.650	867.3	869.8	0.0	869.8	633.69	570.83
20	5.765	-1.650	871.7	874.1	0.0	874.1	633.63	570.15
21	5.757	-1.650	873.2	875.6	0.0	875.6	633.61	569.91

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.89	21.96	1.8298	1.2839	670.7	.546	.5455
2	8.239	27.21	21.96	1.8518	1.2741	687.2	.562	.5621
3	7.994	27.64	21.95	1.8807	1.2604	707.5	.583	.5832
4	7.765	28.03	21.93	1.9074	1.2451	725.2	.603	.6027
5	7.548	28.02	21.89	1.9072	1.2366	725.1	.605	.6049
6	7.340	28.17	21.83	1.9169	1.2316	734.3	.614	.6144
7	7.144	28.39	21.76	1.9320	1.2300	749.2	.628	.6283
8	6.961	28.74	21.66	1.9557	1.2295	771.0	.648	.6483
9	6.792	29.03	21.55	1.9759	1.2291	791.2	.667	.6668
10	6.636	29.13	21.40	1.9825	1.2282	803.3	.678	.6782
11	6.492	29.22	21.24	1.9886	1.2272	816.3	.691	.6906
12	6.359	29.07	21.05	1.9784	1.2262	820.4	.695	.6947
13	6.238	28.87	20.85	1.9646	1.2250	823.3	.698	.6977
14	6.128	28.69	20.64	1.9522	1.2239	827.7	.702	.7022
15	6.031	28.58	20.42	1.9447	1.2230	835.7	.710	.7099
16	5.948	28.51	20.20	1.9399	1.2224	845.3	.719	.7191
17	5.880	28.45	19.99	1.9360	1.2221	854.7	.728	.7280
18	5.826	28.40	19.81	1.9328	1.2219	863.1	.736	.7361
19	5.788	28.37	19.67	1.9306	1.2217	869.8	.742	.7425
20	5.765	28.35	19.58	1.9292	1.2216	874.1	.747	.7466
21	5.757	28.34	19.55	1.9287	1.2215	875.6	.748	.7480

FREE STATION 10.000 IS INDEX 14

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.650	0.00	0.00	0.0000	.0943	.0194
2	8.239	-1.650	0.00	.65	-.0015	.0953	.0194
3	7.994	-1.650	0.00	1.22	-.0062	.0968	.0194
4	7.765	-1.650	0.00	1.72	-.0133	.0983	.0194
5	7.548	-1.650	0.00	2.17	-.0208	.0988	.0194
6	7.340	-1.650	0.00	2.58	-.0282	.0992	.0194
7	7.144	-1.650	0.00	2.95	-.0366	.0993	.0194
8	6.961	-1.650	0.00	3.28	-.0469	.0994	.0194
9	6.792	-1.650	0.00	3.55	-.0593	.0993	.0194
10	6.636	-1.650	0.00	3.79	-.0734	.0990	.0194
11	6.492	-1.650	0.00	3.99	-.0891	.0986	.0194
12	6.359	-1.650	0.00	4.16	-.1063	.0980	.0194
13	6.238	-1.650	0.00	4.28	-.1250	.0972	.0194
14	6.128	-1.650	0.00	4.36	-.1452	.0964	.0194
15	6.031	-1.650	0.00	4.39	-.1667	.0956	.0194
16	5.948	-1.650	0.00	4.39	-.1883	.0948	.0194
17	5.880	-1.650	0.00	4.37	-.2090	.0941	.0194
18	5.826	-1.650	0.00	4.32	-.2272	.0935	.0194
19	5.788	-1.650	0.00	4.28	-.2415	.0930	.0194
20	5.765	-1.650	0.00	4.25	-.2507	.0927	.0194
21	5.757	-1.650	0.00	4.24	-.2539	.0926	.0194

FREE STATION 11.000 IS INDEX 15

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.350	696.0	696.0	0.0	696.0	665.98	625.81
2	8.243	-1.350	711.8	711.8	0.0	711.8	660.88	618.87
3	8.000	-1.350	731.3	731.4	0.0	731.3	653.76	609.38
4	7.773	-1.350	747.9	748.1	0.0	748.1	645.86	599.41
5	7.558	-1.350	747.1	747.5	0.0	747.4	641.41	595.03
6	7.352	-1.350	755.1	755.5	0.0	755.5	638.82	591.42
7	7.157	-1.350	768.4	769.0	0.0	768.9	638.03	588.93
8	6.975	-1.350	788.0	788.7	0.0	788.7	637.73	586.07
9	6.806	-1.350	805.6	806.3	0.0	806.2	637.56	583.57
10	6.650	-1.350	814.6	815.2	0.0	815.2	637.08	581.88
11	6.505	-1.350	823.5	824.1	0.0	824.1	636.55	580.14
12	6.372	-1.350	822.4	823.0	0.0	823.0	636.03	579.77
13	6.250	-1.350	819.0	819.4	0.0	819.4	635.42	579.64
14	6.139	-1.350	815.8	816.1	0.0	816.1	634.87	579.55
15	6.040	-1.350	814.8	815.1	0.0	815.0	634.38	579.20
16	5.955	-1.350	814.7	814.9	0.0	814.9	634.09	578.93
17	5.885	-1.350	814.2	814.3	0.0	814.3	633.92	578.84
18	5.829	-1.350	813.3	813.3	0.0	813.3	633.78	578.84
19	5.789	-1.350	812.3	812.3	0.0	812.3	633.69	578.88
20	5.765	-1.350	811.5	811.5	0.0	811.5	633.63	578.93
21	5.757	-1.350	811.2	811.2	0.0	811.2	633.61	578.95

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.89	21.61	1.8298	1.2839	696.0	.567	.5674
2	8.243	27.21	21.60	1.8518	1.2741	711.8	.583	.5835
3	8.000	27.64	21.59	1.8807	1.2604	731.3	.604	.6042
4	7.773	28.03	21.57	1.9074	1.2451	748.1	.623	.6231
5	7.558	28.02	21.54	1.9072	1.2366	747.4	.625	.6249
6	7.352	28.17	21.49	1.9169	1.2316	755.5	.634	.6336
7	7.157	28.39	21.44	1.9320	1.2300	768.9	.646	.6462
8	6.975	28.74	21.37	1.9557	1.2295	788.7	.664	.6644
9	6.806	29.03	21.29	1.9759	1.2291	806.2	.681	.6807
10	6.650	29.13	21.20	1.9825	1.2282	815.2	.689	.6892
11	6.505	29.22	21.11	1.9886	1.2272	824.1	.698	.6978
12	6.372	29.07	21.01	1.9784	1.2262	823.0	.697	.6971
13	6.250	28.87	20.92	1.9646	1.2250	819.4	.694	.6941
14	6.139	28.69	20.84	1.9522	1.2239	816.1	.691	.6913
15	6.040	28.58	20.77	1.9447	1.2230	815.0	.691	.6907
16	5.955	28.51	20.72	1.9399	1.2224	814.9	.691	.6907
17	5.885	28.45	20.68	1.9360	1.2221	814.3	.690	.6902
18	5.829	28.40	20.67	1.9328	1.2219	813.3	.689	.6894
19	5.789	28.37	20.66	1.9306	1.2217	812.3	.689	.6885
20	5.765	28.35	20.66	1.9292	1.2216	811.5	.688	.6878
21	5.757	28.34	20.66	1.9287	1.2215	811.2	.688	.6876

FREE STATION 11.000 IS INDEX 15

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.350	0.00	0.00	0.0000	.0932	.0313
2	8.243	-1.350	0.00	.59	-.0042	.0942	.0313
3	8.000	-1.350	0.00	1.06	-.0084	.0956	.0313
4	7.773	-1.350	0.00	1.43	-.0129	.0971	.0313
5	7.558	-1.350	0.00	1.73	-.0179	.0977	.0313
6	7.352	-1.350	0.00	1.99	-.0233	.0981	.0313
7	7.157	-1.350	0.00	2.18	-.0290	.0982	.0313
8	6.975	-1.350	0.00	2.29	-.0347	.0984	.0313
9	6.806	-1.350	0.00	2.32	-.0401	.0985	.0313
10	6.650	-1.350	0.00	2.29	-.0451	.0983	.0313
11	6.505	-1.350	0.00	2.19	-.0493	.0982	.0313
12	6.372	-1.350	0.00	2.05	-.0520	.0978	.0313
13	6.250	-1.350	0.00	1.85	-.0528	.0974	.0313
14	6.139	-1.350	0.00	1.60	-.0509	.0970	.0313
15	6.040	-1.350	0.00	1.31	-.0460	.0968	.0313
16	5.955	-1.350	0.00	.99	-.0384	.0966	.0313
17	5.885	-1.350	0.00	.69	-.0286	.0964	.0313
18	5.829	-1.350	0.00	.41	-.0182	.0964	.0313
19	5.789	-1.350	0.00	.19	-.0089	.0963	.0313
20	5.765	-1.350	0.00	.05	-.0023	.0963	.0313
21	5.757	-1.350	0.00	0.00	0.0000	.0963	.0313

FREE STATION 12.000 IS INDEX 16

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.050	720.7	720.7	0.0	720.7	665.98	622.91
2	8.246	-1.050	735.6	735.6	0.0	735.6	660.88	616.00
3	8.005	-1.050	753.9	754.0	0.0	754.0	653.76	606.59
4	7.780	-1.050	769.1	769.3	0.0	769.3	645.86	596.73
5	7.566	-1.050	767.4	767.7	0.0	767.7	641.41	592.47
6	7.361	-1.050	774.0	774.3	0.0	774.3	638.82	589.03
7	7.167	-1.050	785.4	785.8	0.0	785.8	638.03	586.75
8	6.985	-1.050	802.8	803.2	0.0	803.2	637.73	584.15
9	6.817	-1.050	817.7	818.1	0.0	818.1	637.56	581.96
10	6.660	-1.050	823.9	824.3	0.0	824.3	637.08	580.64
11	6.515	-1.050	829.7	830.1	0.0	830.1	636.55	579.32
12	6.381	-1.050	825.5	825.8	0.0	825.8	636.03	579.38
13	6.257	-1.050	818.8	819.0	0.0	819.0	635.42	579.70
14	6.145	-1.050	812.5	812.6	0.0	812.6	634.87	580.02
15	6.045	-1.050	808.8	808.9	0.0	808.9	634.38	580.03
16	5.959	-1.050	806.5	806.6	0.0	806.6	634.09	580.05
17	5.887	-1.050	804.4	804.5	0.0	804.5	633.92	580.16
18	5.831	-1.050	802.6	802.7	0.0	802.7	633.78	580.27
19	5.790	-1.050	801.2	801.3	0.0	801.2	633.69	580.36
20	5.765	-1.050	800.4	800.4	0.0	800.4	633.63	580.42
21	5.757	-1.050	800.0	800.1	0.0	800.0	633.61	580.44

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.89	21.26	1.8298	1.2839	720.7	.589	.5889
2	8.246	27.21	21.26	1.8518	1.2741	735.6	.604	.6044
3	8.005	27.64	21.25	1.8807	1.2604	754.0	.624	.6243
4	7.780	28.03	21.23	1.9074	1.2451	769.3	.642	.6423
5	7.566	28.02	21.21	1.9072	1.2366	767.7	.643	.6432
6	7.361	28.17	21.19	1.9169	1.2316	774.3	.651	.6506
7	7.167	28.39	21.16	1.9320	1.2300	785.8	.662	.6616
8	6.985	28.74	21.12	1.9557	1.2295	803.2	.678	.6777
9	6.817	29.03	21.08	1.9759	1.2291	818.1	.692	.6916
10	6.660	29.13	21.04	1.9825	1.2282	824.3	.698	.6976
11	6.515	29.22	21.00	1.9886	1.2272	830.1	.703	.7033
12	6.381	29.07	20.96	1.9784	1.2262	825.8	.700	.6997
13	6.257	28.87	20.92	1.9646	1.2250	819.0	.694	.6938
14	6.145	28.69	20.90	1.9522	1.2239	812.6	.688	.6881
15	6.045	28.58	20.87	1.9447	1.2230	808.9	.685	.6850
16	5.959	28.51	20.86	1.9399	1.2224	806.6	.683	.6830
17	5.887	28.45	20.85	1.9360	1.2221	804.5	.681	.6812
18	5.831	28.40	20.84	1.9328	1.2219	802.7	.680	.6796
19	5.790	28.37	20.84	1.9306	1.2217	801.2	.678	.6783
20	5.765	28.35	20.84	1.9292	1.2216	800.4	.678	.6775
21	5.757	28.34	20.84	1.9287	1.2215	800.0	.677	.6772

FREE STATION 12.000 IS INDEX 16 .

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.050	0.00	0.00	0.0000	.0921	.0420
2	8.246	-1.050	0.00	.53	-.0030	.0931	.0420
3	8.005	-1.050	0.00	.94	-.0056	.0945	.0420
4	7.780	-1.050	0.00	1.25	-.0090	.0960	.0420
5	7.566	-1.050	0.00	1.49	-.0104	.0966	.0420
6	7.361	-1.050	0.00	1.68	-.0130	.0971	.0420
7	7.167	-1.050	0.00	1.79	-.0155	.0973	.0420
8	6.985	-1.050	0.00	1.84	-.0177	.0975	.0420
9	6.817	-1.050	0.00	1.81	-.0194	.0978	.0420
10	6.660	-1.050	0.00	1.72	-.0206	.0978	.0420
11	6.515	-1.050	0.00	1.59	-.0211	.0978	.0420
12	6.381	-1.050	0.00	1.42	-.0208	.0976	.0420
13	6.257	-1.050	0.00	1.23	-.0196	.0974	.0420
14	6.145	-1.050	0.00	1.01	-.0174	.0972	.0420
15	6.045	-1.050	0.00	.79	-.0144	.0971	.0420
16	5.959	-1.050	0.00	.57	-.0110	.0971	.0420
17	5.887	-1.050	0.00	.38	-.0075	.0970	.0420
18	5.831	-1.050	0.00	.22	-.0044	.0970	.0420
19	5.790	-1.050	0.00	.10	-.0020	.0969	.0420
20	5.765	-1.050	0.00	.02	-.0005	.0969	.0420
21	5.757	-1.050	0.00	0.00	0.0000	.0969	.0420

FREE STATION 13.200 IS INDEX 17

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-.750	744.9	744.9	0.0	744.9	665.98	619.97
2	8.248	-.750	758.8	758.8	0.0	758.8	660.88	613.12
3	8.010	-.750	775.7	775.8	0.0	775.8	653.76	603.81
4	7.786	-.750	789.3	789.5	0.0	789.5	645.86	594.11
5	7.573	-.750	786.4	786.6	0.0	786.6	641.41	590.02
6	7.369	-.750	791.2	791.5	0.0	791.5	638.82	586.79
7	7.176	-.750	800.6	800.9	0.0	800.9	638.03	584.75
8	6.994	-.750	815.5	815.8	0.0	815.8	637.73	582.44
9	6.825	-.750	827.9	828.2	0.0	828.2	637.56	580.58
10	6.668	-.750	831.6	831.9	0.0	831.9	637.08	579.59
11	6.522	-.750	835.0	835.2	0.0	835.2	636.55	578.60
12	6.387	-.750	828.5	828.7	0.0	828.7	636.03	578.97
13	6.262	-.750	819.8	819.9	0.0	819.9	635.42	579.57
14	6.149	-.750	811.7	811.8	0.0	811.8	634.87	580.12
15	6.048	-.750	806.7	806.8	0.0	806.8	634.38	580.32
16	5.961	-.750	803.5	803.6	0.0	803.6	634.09	580.45
17	5.889	-.750	800.9	800.9	0.0	800.9	633.92	580.63
18	5.832	-.750	798.8	798.8	0.0	798.8	633.78	580.78
19	5.790	-.750	797.3	797.3	0.0	797.3	633.69	580.89
20	5.765	-.750	796.4	796.4	0.0	796.4	633.63	580.95
21	5.757	-.750	796.0	796.0	0.0	796.0	633.61	580.97

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	26.89	20.91	1.8298	1.2839	744.9	.610	.6101
2	8.248	27.21	20.91	1.8518	1.2741	758.8	.625	.6250
3	8.010	27.64	20.91	1.8807	1.2604	775.8	.644	.6439
4	7.786	28.03	20.91	1.9074	1.2451	789.5	.661	.6606
5	7.573	28.02	20.91	1.9072	1.2366	786.6	.660	.6605
6	7.369	28.17	20.91	1.9169	1.2316	791.5	.666	.6664
7	7.176	28.39	20.91	1.9320	1.2300	800.9	.675	.6755
8	6.994	28.74	20.91	1.9557	1.2295	815.8	.689	.6894
9	6.825	29.03	20.91	1.9759	1.2291	828.2	.701	.7010
10	6.668	29.13	20.91	1.9825	1.2282	831.9	.705	.7047
11	6.522	29.22	20.91	1.9886	1.2272	835.2	.708	.7082
12	6.387	29.07	20.91	1.9784	1.2262	828.7	.702	.7024
13	6.262	28.87	20.91	1.9646	1.2250	819.9	.695	.6946
14	6.149	28.69	20.91	1.9522	1.2239	811.8	.687	.6874
15	6.048	28.58	20.91	1.9447	1.2230	806.8	.683	.6830
16	5.961	28.51	20.91	1.9399	1.2224	803.6	.680	.6802
17	5.889	28.45	20.91	1.9360	1.2221	800.9	.678	.6779
18	5.832	28.40	20.91	1.9328	1.2219	798.8	.676	.6760
19	5.790	28.37	20.91	1.9306	1.2217	797.3	.675	.6746
20	5.765	28.35	20.91	1.9292	1.2216	796.4	.674	.6738
21	5.757	28.34	20.91	1.9287	1.2215	796.0	.674	.6736

FREE STATION 13.000 IS INDEX 17

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-.750	0.00	0.00	0.0000	.0910	.0515
2	8.248	-.750	0.00	.50	0.0000	.0920	.0515
3	8.010	-.750	0.00	.90	0.0000	.0935	.0515
4	7.786	-.750	0.00	1.18	0.0000	.0950	.0515
5	7.573	-.750	0.00	1.40	0.0000	.0957	.0515
6	7.369	-.750	0.00	1.56	0.0000	.0962	.0515
7	7.176	-.750	0.00	1.66	0.0000	.0965	.0515
8	6.994	-.750	0.00	1.69	0.0000	.0969	.0515
9	6.825	-.750	0.00	1.64	0.0000	.0972	.0515
10	6.668	-.750	0.00	1.54	0.0000	.0974	.0515
11	6.522	-.750	0.00	1.41	0.0000	.0975	.0515
12	6.387	-.750	0.00	1.24	0.0000	.0975	.0515
13	6.262	-.750	0.00	1.06	0.0000	.0974	.0515
14	6.149	-.750	0.00	.86	0.0000	.0973	.0515
15	6.048	-.750	0.00	.66	0.0000	.0973	.0515
16	5.961	-.750	0.00	.48	0.0000	.0972	.0515
17	5.889	-.750	0.00	.31	0.0000	.0972	.0515
18	5.832	-.750	0.00	.18	0.0000	.0972	.0515
19	5.790	-.750	0.00	.08	0.0000	.0972	.0515
20	5.765	-.750	0.00	.02	0.0000	.0971	.0515
21	5.757	-.750	0.00	0.00	0.0000	.0971	.0515

870902002 - PBS ROTOR #2 AERODYNAMIC ANALYSIS - THRU BLADE

THE MAXIMUM ROTOR D-FACTOR .500 OCCURED AT STAGE 1 ON STREAMLINE 1.
 THE MAXIMUM VANE D-FACTOR .419 OCCURED AT STAGE 1 ON STREAMLINE 2.

THE MAXIMUM MERIDINAL MACH NO. .865 OCCURED AT STATION 13 ON
 STREAMLINE 21.

PERFORMANCE SUMMARY FOR 870902002:

	SPEC FLOW IN	FLOW RATE IN	CORR FLOW IN	-----S T A G E-----			---CUMULATIVE---			
				P/P	ADIA EFF.	POLY EFF.	VANE TO VANE	P/P	ADIA EFF.	POLY EFF.
REFERENCE		61.62	61.63							
ROTOR 1	43.33	61.62	61.63	1.986	90.2	91.1	91.1	1.986	90.2	91.1
STAGE 1	31.26	61.62	34.56	1.924	85.7	86.9		1.924	85.7	86.9

	ENTROPY RISE	MASS AVERAGED TOTAL PRESS -URE	MASS AVERAGED TOTAL TEMP -ATURE	ROTOR TIP MACH NO.	VANE HUB MACH NO.	RESET ANGLE
REFERENCE		14.69	518.71			
ROTOR 1	1.9	29.18	643.06	.88		
STAGE 1	2.8	28.27	543.07		.76	

CORRECTED RPM 20187.
 LOSS COEF. .257
 OVERALL ADIA. EFF. 85.69
 ST COEF. .709
 CORR COEF. .827
 FLOW 61.62
 RPM 20187.5
 PRESSURE RATIO 1.924
 EFFICIENCY 85.69

APPENDIX C

870902007 - PBS ROTOR #2 AERODYNAMIC ANALYSIS - THRU-BLADE

FREE STATION 1.000 IS INDEX 1

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	13.300	-18.450	182.3	242.1	0.0	242.1	518.71	513.82
2	12.536	-18.450	188.2	242.1	0.0	242.1	518.71	513.82
3	11.790	-18.450	193.9	242.1	0.0	242.1	518.71	513.82
4	11.061	-18.450	199.5	242.1	0.0	242.1	518.71	513.82
5	10.346	-18.450	204.8	242.1	0.0	242.1	518.71	513.82
6	9.646	-18.450	209.8	242.1	0.0	242.1	518.71	513.82
7	8.957	-18.450	214.5	242.1	0.0	242.1	518.71	513.82
8	8.280	-18.450	218.8	242.1	0.0	242.1	518.71	513.82
9	7.612	-18.450	222.7	242.1	0.0	242.1	518.71	513.82
10	6.953	-18.450	226.2	242.1	0.0	242.1	518.71	513.82
11	6.301	-18.450	229.3	242.1	0.0	242.1	518.71	513.82
12	5.655	-18.450	232.0	242.1	0.0	242.1	518.71	513.82
13	5.015	-18.450	234.4	242.1	0.0	242.1	518.71	513.82
14	4.380	-18.450	236.3	242.1	0.0	242.1	518.71	513.82
15	3.748	-18.450	238.0	242.1	0.0	242.1	518.71	513.82
16	3.119	-18.450	239.3	242.1	0.0	242.1	518.71	513.82
17	2.493	-18.450	240.4	242.1	0.0	242.1	518.71	513.82
18	1.868	-18.450	241.1	242.1	0.0	242.1	518.71	513.82
19	1.245	-18.450	241.7	242.1	0.0	242.1	518.71	513.82
20	.622	-18.450	242.0	242.1	0.0	242.1	518.71	513.82
21	.000	-18.450	242.1	242.1	0.0	242.1	518.71	513.82

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	13.300	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
2	12.536	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
3	11.790	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
4	11.061	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
5	10.346	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
6	9.646	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
7	8.957	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
8	8.280	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
9	7.612	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
10	6.953	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
11	6.301	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
12	5.655	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
13	5.015	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
14	4.380	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
15	3.748	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
16	3.119	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
17	2.493	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
18	1.868	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
19	1.245	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
20	.622	14.69	14.22	1.0000	1.0000	242.1	.218	.2178
21	.000	14.69	14.22	1.0000	1.0000	242.1	.218	.2178

FREE STATION 1.000 IS INDEX 1

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	13.300	-18.450	0.00	-41.16	0.0000	.0747	0.0000
2	12.536	-18.450	0.00	-39.00	0.0000	.0747	0.0000
3	11.790	-18.450	0.00	-36.78	0.0000	.0747	0.0000
4	11.061	-18.450	0.00	-34.51	0.0000	.0747	0.0000
5	10.346	-18.450	0.00	-32.22	0.0000	.0747	0.0000
6	9.646	-18.450	0.00	-29.93	0.0000	.0747	0.0000
7	8.957	-18.450	0.00	-27.63	0.0000	.0747	0.0000
8	8.280	-18.450	0.00	-25.36	0.0000	.0747	0.0000
9	7.612	-18.450	0.00	-23.11	0.0000	.0747	0.0000
10	6.953	-18.450	0.00	-20.90	0.0000	.0747	0.0000
11	6.301	-18.450	0.00	-18.73	0.0000	.0747	0.0000
12	5.655	-18.450	0.00	-16.61	0.0000	.0747	0.0000
13	5.015	-18.450	0.00	-14.55	0.0000	.0747	0.0000
14	4.380	-18.450	0.00	-12.55	0.0000	.0747	0.0000
15	3.748	-18.450	0.00	-10.61	0.0000	.0747	0.0000
16	3.119	-18.450	0.00	-8.72	0.0000	.0747	0.0000
17	2.493	-18.450	0.00	-6.90	0.0000	.0747	0.0000
18	1.868	-18.450	0.00	-5.13	0.0000	.0747	0.0000
19	1.245	-18.450	0.00	-3.41	0.0000	.0747	0.0000
20	.622	-18.450	0.00	-1.70	0.0000	.0747	0.0000
21	.000	-18.450	0.00	0.00	0.0000	.0747	0.0000

FREE STATION 2.000 IS INDEX 2

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	9.480	-14.081	456.1	543.6	0.0	543.6	518.71	494.08
2	9.030	-14.120	459.2	533.3	0.0	533.3	518.71	495.01
3	8.582	-14.158	459.3	521.5	0.0	521.5	518.71	496.04
4	8.136	-14.197	457.1	509.0	0.0	509.0	518.71	497.12
5	7.690	-14.235	453.4	496.3	0.0	496.3	518.71	498.18
6	7.242	-14.274	448.5	483.7	0.0	483.7	518.71	499.21
7	6.791	-14.313	442.8	471.3	0.0	471.3	518.71	500.20
8	6.338	-14.352	436.6	459.3	0.0	459.3	518.71	501.12
9	5.880	-14.392	430.0	447.9	0.0	447.9	518.71	501.99
10	5.418	-14.432	423.1	436.9	0.0	436.9	518.71	502.80
11	4.952	-14.472	416.1	426.5	0.0	426.5	518.71	503.55
12	4.481	-14.513	409.0	416.7	0.0	416.7	518.71	504.24
13	4.004	-14.554	401.9	407.4	0.0	407.4	518.71	504.88
14	3.522	-14.596	395.0	397.7	0.0	398.7	518.71	505.46
15	3.034	-14.638	388.3	390.7	0.0	390.7	518.71	505.99
16	2.541	-14.680	381.9	383.4	0.0	383.3	518.71	506.46
17	2.042	-14.724	376.0	376.8	0.0	376.8	518.71	506.88
18	1.537	-14.767	370.7	371.1	0.0	371.1	518.71	507.23
19	1.028	-14.811	366.4	366.5	0.0	366.5	518.71	507.52
20	.515	-14.855	363.3	363.3	0.0	363.3	518.71	507.71
21	.000	-14.900	362.1	362.1	0.0	362.1	518.71	507.78

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	9.480	14.69	12.40	1.0000	1.0000	543.6	.499	.4987
2	9.030	14.69	12.48	1.0000	1.0000	533.3	.489	.4888
3	8.582	14.69	12.57	1.0000	1.0000	521.5	.478	.4775
4	8.136	14.69	12.66	1.0000	1.0000	509.0	.466	.4656
5	7.690	14.69	12.76	1.0000	1.0000	496.3	.453	.4535
6	7.242	14.69	12.85	1.0000	1.0000	483.7	.441	.4415
7	6.791	14.69	12.94	1.0000	1.0000	471.3	.430	.4298
8	6.338	14.69	13.03	1.0000	1.0000	459.3	.418	.4185
9	5.880	14.69	13.10	1.0000	1.0000	447.9	.408	.4077
10	5.418	14.69	13.18	1.0000	1.0000	436.9	.397	.3974
11	4.952	14.69	13.25	1.0000	1.0000	426.5	.388	.3876
12	4.481	14.69	13.31	1.0000	1.0000	416.7	.378	.3784
13	4.004	14.69	13.37	1.0000	1.0000	407.4	.370	.3698
14	3.522	14.69	13.42	1.0000	1.0000	398.7	.362	.3617
15	3.034	14.69	13.47	1.0000	1.0000	390.7	.354	.3542
16	2.541	14.69	13.52	1.0000	1.0000	383.3	.347	.3474
17	2.042	14.69	13.56	1.0000	1.0000	376.8	.341	.3413
18	1.537	14.69	13.59	1.0000	1.0000	371.1	.336	.3360
19	1.028	14.69	13.62	1.0000	1.0000	366.5	.332	.3318
20	.515	14.69	13.63	1.0000	1.0000	363.3	.329	.3289
21	.000	14.69	13.64	1.0000	1.0000	362.1	.328	.3277

FREE STATION 2.000 IS INDEX 2

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	9.480	-14.081	0.00	-32.97	.0952	.0677	0.0000
2	9.030	-14.120	0.00	-30.56	.0982	.0680	0.0000
3	8.582	-14.158	0.00	-28.28	.0984	.0684	0.0000
4	8.136	-14.197	0.00	-26.10	.0967	.0688	0.0000
5	7.690	-14.235	0.00	-24.00	.0936	.0691	0.0000
6	7.242	-14.274	0.00	-21.98	.0895	.0695	0.0000
7	6.791	-14.313	0.00	-20.01	.0849	.0698	0.0000
8	6.338	-14.352	0.00	-18.10	.0797	.0702	0.0000
9	5.880	-14.392	0.00	-16.25	.0743	.0705	0.0000
10	5.418	-14.432	0.00	-14.45	.0688	.0707	0.0000
11	4.952	-14.472	0.00	-12.71	.0633	.0710	0.0000
12	4.481	-14.513	0.00	-11.03	.0579	.0712	0.0000
13	4.004	-14.554	0.00	-9.41	.0525	.0715	0.0000
14	3.522	-14.596	0.00	-7.85	.0472	.0717	0.0000
15	3.034	-14.638	0.00	-6.37	.0420	.0719	0.0000
16	2.541	-14.680	0.00	-4.96	.0367	.0720	0.0000
17	2.042	-14.724	0.00	-3.65	.0312	.0722	0.0000
18	1.537	-14.767	0.00	-2.45	.0253	.0723	0.0000
19	1.028	-14.811	0.00	-1.40	.0186	.0724	0.0000
20	.515	-14.855	0.00	-.58	.0102	.0725	0.0000
21	.000	-14.900	0.00	0.00	0.0000	.0725	0.0000

FREE STATION 3.000 IS INDEX 3

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.960	-12.851	586.5	617.8	0.0	617.8	518.71	486.89
2	8.519	-12.742	583.3	607.3	0.0	607.3	518.71	487.97
3	8.082	-12.635	579.1	597.4	0.0	597.4	518.71	488.96
4	7.649	-12.529	574.1	587.9	0.0	587.9	518.71	489.90
5	7.218	-12.423	568.3	578.6	0.0	578.6	518.71	490.80
6	6.789	-12.318	561.8	569.3	0.0	569.3	518.71	491.69
7	6.361	-12.212	554.6	559.8	0.0	559.8	518.71	492.59
8	5.934	-12.108	546.6	550.0	0.0	550.0	518.71	493.50
9	5.507	-12.003	537.6	539.6	0.0	539.6	518.71	494.44
10	5.080	-11.898	527.5	528.5	0.0	528.5	518.71	495.43
11	4.652	-11.793	516.3	516.6	0.0	516.6	518.71	496.47
12	4.222	-11.687	503.7	503.7	0.0	503.7	518.71	497.57
13	3.791	-11.581	489.4	489.5	0.0	489.5	518.71	498.74
14	3.356	-11.474	473.3	473.8	0.0	473.8	518.71	500.00
15	2.917	-11.366	454.8	456.2	0.0	456.2	518.71	501.37
16	2.472	-11.257	433.2	436.1	0.0	436.1	518.71	502.86
17	2.019	-11.146	407.5	412.7	0.0	412.7	518.71	504.52
18	1.554	-11.032	375.6	384.7	0.0	384.7	518.71	506.37
19	1.070	-10.913	334.3	350.3	0.0	350.3	518.71	508.49
20	.554	-10.786	277.6	307.0	0.0	306.9	518.71	510.86
21	.000	-10.650	203.9	258.2	0.0	258.2	518.71	513.15

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.960	14.69	11.78	1.0000	1.0000	617.8	.571	.5710
2	8.519	14.69	11.87	1.0000	1.0000	607.3	.561	.5607
3	8.082	14.69	11.95	1.0000	1.0000	597.4	.551	.5510
4	7.649	14.69	12.03	1.0000	1.0000	587.9	.542	.5417
5	7.218	14.69	12.11	1.0000	1.0000	578.6	.533	.5327
6	6.789	14.69	12.19	1.0000	1.0000	569.3	.524	.5236
7	6.361	14.69	12.27	1.0000	1.0000	559.8	.514	.5144
8	5.934	14.69	12.35	1.0000	1.0000	550.0	.505	.5049
9	5.507	14.69	12.43	1.0000	1.0000	539.6	.495	.4949
10	5.080	14.69	12.52	1.0000	1.0000	528.5	.484	.4843
11	4.652	14.69	12.61	1.0000	1.0000	516.6	.473	.4729
12	4.222	14.69	12.70	1.0000	1.0000	503.7	.461	.4605
13	3.791	14.69	12.81	1.0000	1.0000	489.5	.447	.4470
14	3.356	14.69	12.92	1.0000	1.0000	473.8	.432	.4321
15	2.917	14.69	13.05	1.0000	1.0000	456.2	.415	.4155
16	2.472	14.69	13.18	1.0000	1.0000	436.1	.397	.3966
17	2.019	14.69	13.34	1.0000	1.0000	412.7	.375	.3747
18	1.554	14.69	13.51	1.0000	1.0000	384.7	.349	.3487
19	1.070	14.69	13.71	1.0000	1.0000	350.3	.317	.3168
20	.554	14.69	13.93	1.0000	1.0000	306.9	.277	.2770
21	.000	14.69	14.15	1.0000	1.0000	258.2	.232	.2325

FREE STATION 3.000 IS INDEX 3

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.960	-12.851	0.00	-18.32	.1067	.0653	0.0000
2	8.519	-12.742	0.00	-16.14	.0947	.0657	0.0000
3	8.082	-12.635	0.00	-14.21	.0864	.0660	0.0000
4	7.649	-12.529	0.00	-12.47	.0806	.0663	0.0000
5	7.218	-12.423	0.00	-10.85	.0765	.0666	0.0000
6	6.789	-12.318	0.00	-9.32	.0737	.0669	0.0000
7	6.361	-12.212	0.00	-7.83	.0721	.0672	0.0000
8	5.934	-12.108	0.00	-6.38	.0713	.0675	0.0000
9	5.507	-12.003	0.00	-4.94	.0715	.0678	0.0000
10	5.080	-11.898	0.00	-3.49	.0726	.0682	0.0000
11	4.652	-11.793	0.00	-2.03	.0748	.0685	0.0000
12	4.222	-11.687	0.00	-.53	.0781	.0689	0.0000
13	3.791	-11.581	0.00	1.03	.0830	.0693	0.0000
14	3.356	-11.474	0.00	2.69	.0899	.0698	0.0000
15	2.917	-11.366	0.00	4.51	.0997	.0702	0.0000
16	2.472	-11.257	0.00	6.59	.1137	.0708	0.0000
17	2.019	-11.146	0.00	9.13	.1342	.0713	0.0000
18	1.554	-11.032	0.00	12.48	.1647	.0720	0.0000
19	1.070	-10.913	0.00	17.37	.2097	.0728	0.0000
20	.554	-10.786	0.00	25.28	.2683	.0736	0.0000
21	.000	-10.650	0.00	37.85	.2963	.0744	0.0000

FREE STATION 4.000 IS INDEX 4

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.550	-11.138	724.4	730.5	0.0	730.5	518.71	474.23
2	8.170	-11.063	704.9	709.1	0.0	709.1	518.71	476.79
3	7.789	-10.988	687.2	690.0	0.0	690.0	518.71	479.02
4	7.406	-10.913	670.9	672.6	0.0	672.6	518.71	481.01
5	7.023	-10.838	655.6	656.4	0.0	656.4	518.71	482.80
6	6.639	-10.762	640.7	641.0	0.0	641.0	518.71	484.46
7	6.254	-10.686	626.0	626.0	0.0	626.0	518.71	486.04
8	5.868	-10.611	611.1	611.2	0.0	611.2	518.71	487.58
9	5.483	-10.535	595.5	596.0	0.0	596.0	518.71	489.10
10	5.096	-10.459	578.9	580.4	0.0	580.4	518.71	490.63
11	4.710	-10.383	561.3	564.1	0.0	564.1	518.71	492.18
12	4.323	-10.306	542.3	547.1	0.0	547.1	518.71	493.76
13	3.936	-10.230	522.0	529.3	0.0	529.3	518.71	495.36
14	3.550	-10.154	500.0	510.8	0.0	510.8	518.71	496.96
15	3.166	-10.079	476.3	491.8	0.0	491.7	518.71	498.56
16	2.786	-10.004	450.3	472.3	0.0	472.3	518.71	500.12
17	2.416	-9.931	421.5	452.8	0.0	452.8	518.71	501.62
18	2.066	-9.862	389.0	434.6	0.0	434.6	518.71	502.97
19	1.754	-9.801	352.1	420.1	0.0	420.1	518.71	504.00
20	1.518	-9.755	310.2	413.0	0.0	413.0	518.71	504.49
21	1.421	-9.736	261.0	412.9	0.0	412.9	518.71	504.50

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.550	14.69	10.74	1.0000	1.0000	730.5	.684	.6841
2	8.170	14.69	10.95	1.0000	1.0000	709.1	.662	.6623
3	7.789	14.69	11.13	1.0000	1.0000	690.0	.643	.6430
4	7.406	14.69	11.29	1.0000	1.0000	672.6	.625	.6254
5	7.023	14.69	11.44	1.0000	1.0000	656.4	.609	.6092
6	6.639	14.69	11.57	1.0000	1.0000	641.0	.594	.5939
7	6.254	14.69	11.71	1.0000	1.0000	626.0	.579	.5791
8	5.868	14.69	11.84	1.0000	1.0000	611.2	.564	.5645
9	5.483	14.69	11.97	1.0000	1.0000	596.0	.550	.5496
10	5.096	14.69	12.10	1.0000	1.0000	580.4	.534	.5344
11	4.710	14.69	12.23	1.0000	1.0000	564.1	.519	.5186
12	4.323	14.69	12.37	1.0000	1.0000	547.1	.502	.5021
13	3.936	14.69	12.51	1.0000	1.0000	529.3	.485	.4850
14	3.550	14.69	12.65	1.0000	1.0000	510.8	.467	.4673
15	3.166	14.69	12.79	1.0000	1.0000	491.7	.449	.4492
16	2.786	14.69	12.93	1.0000	1.0000	472.3	.431	.4307
17	2.416	14.69	13.07	1.0000	1.0000	452.8	.412	.4123
18	2.066	14.69	13.19	1.0000	1.0000	434.6	.395	.3952
19	1.754	14.69	13.29	1.0000	1.0000	420.1	.382	.3816
20	1.518	14.69	13.33	1.0000	1.0000	413.0	.375	.3750
21	1.421	14.69	13.33	1.0000	1.0000	412.9	.375	.3749

FREE STATION 4.000 IS INDEX 4

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.550	-11.138	0.00	-7.39	.1018	.0611	0.0000
2	8.170	-11.063	0.00	-6.28	.0942	.0620	0.0000
3	7.789	-10.988	0.00	-5.17	.0860	.0627	0.0000
4	7.406	-10.913	0.00	-4.03	.0831	.0633	0.0000
5	7.023	-10.838	0.00	-2.86	.0795	.0639	0.0000
6	6.639	-10.762	0.00	-1.62	.0771	.0645	0.0000
7	6.254	-10.686	0.00	-.32	.0759	.0650	0.0000
8	5.868	-10.611	0.00	1.06	.0759	.0655	0.0000
9	5.483	-10.535	0.00	2.53	.0769	.0660	0.0000
10	5.096	-10.459	0.00	4.09	.0789	.0665	0.0000
11	4.710	-10.383	0.00	5.77	.0816	.0671	0.0000
12	4.323	-10.306	0.00	7.58	.0850	.0676	0.0000
13	3.936	-10.230	0.00	9.57	.0888	.0682	0.0000
14	3.550	-10.154	0.00	11.80	.0929	.0687	0.0000
15	3.166	-10.079	0.00	14.40	.0971	.0693	0.0000
16	2.786	-10.004	0.00	17.52	.1003	.0698	0.0000
17	2.416	-9.931	0.00	21.44	.0998	.0703	0.0000
18	2.066	-9.862	0.00	26.49	.0879	.0708	0.0000
19	1.754	-9.801	0.00	33.05	.0459	.0712	0.0000
20	1.518	-9.755	0.00	41.31	-.0565	.0713	0.0000
21	1.421	-9.736	0.00	50.79	-.2152	.0713	0.0000

FREE STATION 5.000 IS INDEX 5

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-8.650	760.9	761.0	0.0	761.0	518.71	470.43
2	8.140	-8.676	756.9	756.9	0.0	756.9	518.71	470.95
3	7.782	-8.701	752.0	752.0	0.0	752.1	518.71	471.56
4	7.426	-8.726	745.4	745.6	0.0	745.6	518.71	472.37
5	7.072	-8.751	736.4	737.0	0.0	737.0	518.71	473.43
6	6.718	-8.775	724.5	725.8	0.0	725.8	518.71	474.80
7	6.365	-8.800	709.5	711.9	0.0	711.9	518.71	476.47
8	6.013	-8.825	691.2	695.2	0.0	695.2	518.71	478.42
9	5.659	-8.850	669.7	675.9	0.0	675.9	518.71	480.63
10	5.305	-8.875	645.3	654.3	0.0	654.3	518.71	483.03
11	4.949	-8.900	618.6	630.9	0.0	630.9	518.71	485.53
12	4.590	-8.925	590.6	606.8	0.0	606.8	518.71	488.02
13	4.230	-8.950	562.2	582.8	0.0	582.8	518.71	490.40
14	3.869	-8.976	534.1	559.7	0.0	559.7	518.71	492.60
15	3.511	-9.001	506.6	538.3	0.0	538.3	518.71	494.56
16	3.158	-9.025	479.9	519.2	0.0	519.2	518.71	496.25
17	2.820	-9.049	453.8	503.0	0.0	502.9	518.71	497.63
18	2.508	-9.071	428.1	490.3	0.0	490.3	518.71	498.68
19	2.242	-9.090	403.2	481.7	0.0	481.7	518.71	499.37
20	2.054	-9.103	382.0	477.4	0.0	477.4	518.71	499.71
21	1.984	-9.108	372.3	476.4	0.0	476.4	518.71	499.80

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	14.69	10.44	1.0000	1.0000	761.0	.716	.7156
2	8.140	14.69	10.48	1.0000	1.0000	756.9	.711	.7114
3	7.782	14.69	10.53	1.0000	1.0000	752.1	.706	.7063
4	7.426	14.69	10.60	1.0000	1.0000	745.6	.700	.6997
5	7.072	14.69	10.68	1.0000	1.0000	737.0	.691	.6908
6	6.718	14.69	10.79	1.0000	1.0000	725.8	.679	.6793
7	6.365	14.69	10.92	1.0000	1.0000	711.9	.665	.6651
8	6.013	14.69	11.08	1.0000	1.0000	695.2	.648	.6482
9	5.659	14.69	11.26	1.0000	1.0000	675.9	.629	.6288
10	5.305	14.69	11.45	1.0000	1.0000	654.3	.607	.6071
11	4.949	14.69	11.66	1.0000	1.0000	630.9	.584	.5840
12	4.590	14.69	11.87	1.0000	1.0000	606.8	.560	.5602
13	4.230	14.69	12.08	1.0000	1.0000	582.8	.537	.5367
14	3.869	14.69	12.27	1.0000	1.0000	559.7	.514	.5143
15	3.511	14.69	12.44	1.0000	1.0000	538.3	.494	.4937
16	3.158	14.69	12.59	1.0000	1.0000	519.2	.475	.4753
17	2.820	14.69	12.71	1.0000	1.0000	502.9	.460	.4598
18	2.508	14.69	12.80	1.0000	1.0000	490.3	.448	.4478
19	2.242	14.69	12.87	1.0000	1.0000	481.7	.440	.4396
20	2.054	14.69	12.90	1.0000	1.0000	477.4	.436	.4356
21	1.984	14.69	12.91	1.0000	1.0000	476.4	.435	.4346

FREE STATION 5.000 IS INDEX 5

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-8.650	0.00	-.58	.0120	.0599	0.0000
2	8.140	-8.676	0.00	-.19	.0115	.0601	0.0000
3	7.782	-8.701	0.00	.42	.0133	.0603	0.0000
4	7.426	-8.726	0.00	1.24	.0172	.0605	0.0000
5	7.072	-8.751	0.00	2.24	.0228	.0609	0.0000
6	6.718	-8.775	0.00	3.42	.0296	.0613	0.0000
7	6.365	-8.800	0.00	4.74	.0373	.0619	0.0000
8	6.013	-8.825	0.00	6.20	.0456	.0625	0.0000
9	5.659	-8.850	0.00	7.80	.0545	.0632	0.0000
10	5.305	-8.875	0.00	9.53	.0633	.0640	0.0000
11	4.949	-8.900	0.00	11.36	.0710	.0648	0.0000
12	4.590	-8.925	0.00	13.27	.0760	.0657	0.0000
13	4.230	-8.950	0.00	15.28	.0778	.0665	0.0000
14	3.869	-8.976	0.00	17.41	.0757	.0672	0.0000
15	3.511	-9.001	0.00	19.76	.0687	.0679	0.0000
16	3.158	-9.025	0.00	22.42	.0553	.0685	0.0000
17	2.820	-9.049	0.00	25.53	.0330	.0689	0.0000
18	2.508	-9.071	0.00	29.17	-.0005	.0693	0.0000
19	2.242	-9.090	0.00	33.18	-.0451	.0695	0.0000
20	2.054	-9.103	0.00	36.85	-.0919	.0697	0.0000
21	1.984	-9.108	0.00	38.60	-.1172	.0697	0.0000

FREE STATION 6.000 IS INDEX 6

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-7.802	795.1	795.1	0.0	795.1	518.71	466.01
2	8.145	-7.877	814.9	814.9	0.0	814.9	518.71	463.35
3	7.795	-7.951	833.2	833.3	0.0	833.4	518.71	460.81
4	7.450	-8.016	844.2	844.7	0.0	844.8	518.71	459.21
5	7.109	-8.074	844.8	846.6	0.0	846.6	518.71	458.95
6	6.770	-8.125	835.3	839.1	0.0	839.1	518.71	460.01
7	6.432	-8.172	817.4	823.9	0.0	824.0	518.71	462.11
8	6.096	-8.213	793.2	803.3	0.0	803.3	518.71	464.91
9	5.761	-8.246	764.2	778.5	0.0	778.5	518.71	468.19
10	5.430	-8.263	730.8	750.4	0.0	750.4	518.71	471.77
11	5.103	-8.260	694.2	719.8	0.0	719.8	518.71	475.52
12	4.780	-8.242	656.5	688.4	0.0	688.4	518.71	479.21
13	4.462	-8.217	619.6	657.7	0.0	657.7	518.71	482.65
14	4.148	-8.194	585.2	629.1	0.0	629.2	518.71	485.72
15	3.840	-8.174	555.0	604.6	0.0	604.6	518.71	488.24
16	3.544	-8.159	530.2	585.6	0.0	585.6	518.71	490.13
17	3.269	-8.147	511.5	573.3	0.0	573.4	518.71	491.31
18	3.029	-8.137	498.8	568.3	0.0	568.3	518.71	491.79
19	2.840	-8.128	491.3	569.1	0.0	569.1	518.71	491.72
20	2.717	-8.122	487.4	572.4	0.0	572.4	518.71	491.40
21	2.675	-8.120	486.1	574.2	0.0	574.2	518.71	491.23

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	14.69	10.11	1.0000	1.0000	1695.6	.751	1.6019
2	8.145	14.69	9.91	1.0000	1.0000	1650.3	.772	1.5636
3	7.795	14.69	9.72	1.0000	1.0000	1606.6	.792	1.5263
4	7.450	14.69	9.60	1.0000	1.0000	1561.0	.804	1.4857
5	7.109	14.69	9.58	1.0000	1.0000	1511.8	.806	1.4392
6	6.770	14.69	9.66	1.0000	1.0000	1458.4	.798	1.3867
7	6.432	14.69	9.81	1.0000	1.0000	1401.2	.782	1.3293
8	6.096	14.69	10.02	1.0000	1.0000	1341.3	.760	1.2687
9	5.761	14.69	10.27	1.0000	1.0000	1279.3	.734	1.2058
10	5.430	14.69	10.55	1.0000	1.0000	1215.9	.705	1.1417
11	5.103	14.69	10.84	1.0000	1.0000	1151.7	.673	1.0771
12	4.780	14.69	11.14	1.0000	1.0000	1087.8	.641	1.0135
13	4.462	14.69	11.42	1.0000	1.0000	1025.0	.611	.9516
14	4.148	14.69	11.68	1.0000	1.0000	964.3	.582	.8924
15	3.840	14.69	11.89	1.0000	1.0000	907.3	.558	.8374
16	3.544	14.69	12.05	1.0000	1.0000	856.0	.539	.7885
17	3.269	14.69	12.16	1.0000	1.0000	812.7	.528	.7478
18	3.029	14.69	12.20	1.0000	1.0000	779.6	.523	.7170
19	2.840	14.69	12.19	1.0000	1.0000	757.8	.523	.6969
20	2.717	14.69	12.16	1.0000	1.0000	746.2	.527	.6865
21	2.675	14.69	12.15	1.0000	1.0000	742.8	.528	.6835

FREE STATION 6.000 IS INDEX 6

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-7.802	0.00	0.00	0.0000	.0585	.0143
2	8.145	-7.877	0.00	.12	-.0123	.0577	.0149
3	7.795	-7.951	0.00	.87	-.0074	.0569	.0156
4	7.450	-8.016	0.00	2.12	.0095	.0564	.0163
5	7.109	-8.074	0.00	3.68	.0305	.0563	.0170
6	6.770	-8.125	0.00	5.43	.0509	.0567	.0177
7	6.432	-8.172	0.00	7.24	.0657	.0573	.0182
8	6.096	-8.213	0.00	9.07	.0736	.0582	.0186
9	5.761	-8.246	0.00	11.01	.0788	.0592	.0189
10	5.430	-8.263	0.00	13.10	.0858	.0604	.0199
11	5.103	-8.260	0.00	15.32	.0948	.0616	.0214
12	4.780	-8.242	0.00	17.52	.1015	.0628	.0239
13	4.462	-8.217	0.00	19.61	.1020	.0639	.0270
14	4.148	-8.194	0.00	21.54	.0937	.0649	.0307
15	3.840	-8.174	0.00	23.35	.0768	.0657	.0373
16	3.544	-8.159	0.00	25.11	.0518	.0664	.0454
17	3.269	-8.147	0.00	26.86	.0182	.0668	.0564
18	3.029	-8.137	0.00	28.63	-.0232	.0669	.0678
19	2.840	-8.128	0.00	30.30	-.0680	.0669	.0787
20	2.717	-8.122	0.00	31.63	-.1048	.0668	.0865
21	2.675	-8.120	0.00	32.16	-.1196	.0668	.0894

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED
1	-55.19	7.33	1497.7
2	-54.08	8.08	1435.1
3	-53.36	7.19	1373.5
4	-52.25	5.49	1312.7
5	-50.93	3.67	1252.5
6	-49.58	2.62	1192.8
7	-48.57	1.70	1133.3
8	-47.65	.71	1074.1
9	-46.76	-.68	1015.1
10	-45.78	-2.01	956.7
11	-44.78	-3.18	899.1
12	-43.97	-3.23	842.3
13	-42.95	-2.99	786.2
14	-41.84	-2.43	730.8
15	-40.47	-1.34	676.6
16	-39.04	-.11	624.4
17	-36.99	1.56	576.0
18	-35.23	3.01	533.7
19	-33.61	4.16	500.3
20	-32.57	4.90	478.8
21	-32.21	5.16	471.3

STATION----- 6.200 IS INSIDE OF A ROTOR WITH INDEX 7

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-7.381	647.2	647.1	186.2	673.4	565.14	527.39
2	8.144	-7.420	668.6	668.5	193.5	696.0	564.94	524.60
3	7.802	-7.460	694.6	694.5	199.1	722.6	564.29	520.81
4	7.471	-7.497	714.5	714.9	201.2	742.8	562.81	516.86
5	7.149	-7.529	729.6	731.3	204.8	759.6	561.66	513.62
6	6.833	-7.558	740.1	744.1	209.2	773.1	560.64	510.86
7	6.519	-7.585	742.7	750.1	215.3	780.5	559.89	509.16
8	6.206	-7.610	743.0	754.4	222.9	786.8	559.31	507.75
9	5.897	-7.630	741.5	757.9	233.1	793.1	559.04	506.66
10	5.592	-7.643	736.3	759.1	243.0	797.2	558.58	505.66
11	5.290	-7.650	715.3	745.5	237.8	782.6	555.62	504.62
12	4.988	-7.653	685.0	722.9	222.7	756.5	551.31	503.63
13	4.684	-7.655	651.2	696.7	206.7	726.7	547.12	503.13
14	4.381	-7.656	619.0	671.4	193.1	698.7	543.53	502.86
15	4.080	-7.658	589.9	648.2	182.2	673.4	540.53	502.75
16	3.789	-7.661	564.9	628.0	173.1	651.5	537.96	502.60
17	3.517	-7.667	545.3	612.1	164.8	634.0	535.72	502.23
18	3.277	-7.673	531.6	601.0	156.7	621.2	533.78	501.63
19	3.086	-7.678	523.8	594.8	149.5	613.4	532.26	500.91
20	2.962	-7.681	520.6	592.4	144.4	609.8	531.26	500.28
21	2.919	-7.682	519.9	592.0	142.5	608.9	530.92	500.02

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	18.44	14.48	1.2552	1.0895	1462.4	.598	1.2987
2	8.144	18.64	14.38	1.2685	1.0891	1410.1	.620	1.2555
3	7.802	18.88	14.26	1.2848	1.0879	1365.3	.646	1.2201
4	7.471	19.02	14.12	1.2941	1.0850	1324.7	.666	1.1883
5	7.149	19.10	13.97	1.2997	1.0828	1283.6	.684	1.1551
6	6.833	19.14	13.83	1.3027	1.0808	1242.2	.698	1.1209
7	6.519	19.10	13.70	1.3001	1.0794	1197.3	.705	1.0822
8	6.206	19.08	13.61	1.2986	1.0783	1152.0	.712	1.0427
9	5.897	19.09	13.53	1.2991	1.0778	1106.3	.719	1.0024
10	5.592	19.08	13.47	1.2984	1.0769	1061.7	.723	.9629
11	5.290	18.77	13.41	1.2776	1.0712	1018.7	.710	.9248
12	4.988	18.30	13.34	1.2453	1.0628	976.3	.688	.8873
13	4.684	17.80	13.28	1.2114	1.0548	931.7	.661	.8472
14	4.381	17.38	13.24	1.1828	1.0479	886.5	.635	.8062
15	4.080	17.03	13.22	1.1593	1.0421	841.6	.613	.7655
16	3.789	16.74	13.20	1.1395	1.0371	799.3	.593	.7271
17	3.517	16.49	13.16	1.1225	1.0328	762.6	.577	.6940
18	3.277	16.28	13.10	1.1080	1.0291	733.5	.566	.6680
19	3.086	16.11	13.03	1.0966	1.0261	713.5	.559	.6502
20	2.962	16.01	12.97	1.0893	1.0242	702.5	.556	.6405
21	2.919	15.97	12.95	1.0868	1.0235	699.1	.555	.6376

STATION----- 6.200 IS INSIDE OF A MOTOR WITH INDEX 7

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-7.381	16.05	0.00	0.0000	.0741	.0553
2	8.144	-7.420	16.14	-.11	-.0008	.0740	.0574
3	7.802	-7.460	16.00	.66	-.0059	.0739	.0618
4	7.471	-7.497	15.72	2.15	-.0095	.0737	.0678
5	7.149	-7.529	15.64	4.01	-.0135	.0734	.0755
6	6.833	-7.558	15.70	6.05	-.0173	.0731	.0868
7	6.519	-7.585	16.02	8.07	-.0194	.0726	.0999
8	6.206	-7.610	16.46	10.01	-.0209	.0723	.1117
9	5.897	-7.630	17.09	11.98	-.0237	.0721	.1227
10	5.592	-7.643	17.75	14.11	-.0296	.0719	.1325
11	5.290	-7.650	17.69	16.38	-.0375	.0717	.1397
12	4.988	-7.653	17.12	18.66	-.0429	.0715	.1467
13	4.684	-7.655	16.52	20.84	-.0422	.0712	.1540
14	4.381	-7.656	16.04	22.81	-.0351	.0711	.1622
15	4.080	-7.658	15.70	24.51	-.0253	.0710	.1717
16	3.789	-7.661	15.41	25.93	-.0175	.0709	.1820
17	3.517	-7.667	15.07	27.04	-.0144	.0707	.1933
18	3.277	-7.673	14.62	27.83	-.0174	.0705	.2057
19	3.086	-7.678	14.11	28.30	-.0257	.0702	.2169
20	2.962	-7.681	13.70	28.52	-.0362	.0700	.2253
21	2.919	-7.682	13.53	28.58	-.0412	.0699	.2285

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-59.90	-.96	1497.7	.0918
2	-58.46	-.10	1435.0	.0791
3	-56.74	.46	1374.6	.0571
4	-54.86	.59	1316.4	.0324
5	-52.75	-.16	1259.6	.0120
6	-50.74	-1.30	1203.9	-.0063
7	-48.73	-2.55	1148.6	-.0170
8	-46.80	-3.47	1093.6	-.0280
9	-44.71	-3.82	1039.0	-.0394
10	-42.47	-3.58	985.3	-.0526
11	-40.28	-3.10	932.1	-.0671
12	-38.15	-2.66	878.9	-.0797
13	-36.76	-2.80	825.4	-.0857
14	-35.50	-2.43	771.8	-.0905
15	-34.34	-1.52	718.9	-.0946
16	-32.78	.51	667.6	-.0975
17	-31.42	2.68	619.6	-.0988
18	-30.34	4.13	577.3	-.0981
19	-29.58	5.29	543.7	-.0960
20	-29.10	5.81	521.9	-.0937
21	-28.93	5.91	514.4	-.0928

STATION---- 6.400 IS INSIDE OF A ROTOR WITH INDEX 8

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.983	584.7	584.6	348.8	680.9	605.65	567.11
2	8.143	-6.986	606.1	605.9	362.3	706.1	605.21	563.76
3	7.806	-6.993	639.9	639.7	372.0	740.1	603.86	558.30
4	7.488	-7.002	665.3	665.5	374.7	763.9	600.99	552.46
5	7.184	-7.008	683.8	684.8	380.0	783.4	598.76	547.71
6	6.887	-7.015	697.2	700.1	386.6	799.9	596.79	543.56
7	6.595	-7.022	700.1	705.5	396.2	809.3	595.35	540.86
8	6.305	-7.030	704.1	712.7	408.2	821.5	594.19	538.04
9	6.018	-7.036	710.0	722.7	424.7	838.4	593.66	535.18
10	5.738	-7.037	717.3	735.0	443.3	858.5	593.31	531.99
11	5.463	-7.035	708.1	731.7	439.6	853.8	589.14	528.48
12	5.187	-7.037	687.4	717.7	420.9	832.1	582.74	525.11
13	4.906	-7.049	657.8	695.5	398.2	801.5	576.02	522.53
14	4.619	-7.073	626.0	671.7	375.0	769.3	569.52	520.24
15	4.330	-7.098	595.3	648.9	354.7	739.6	563.78	518.23
16	4.048	-7.122	568.1	628.9	338.4	714.2	558.90	516.42
17	3.780	-7.146	545.0	611.5	324.4	692.3	554.69	514.77
18	3.540	-7.168	526.4	596.9	311.3	673.2	551.05	513.30
19	3.346	-7.187	513.4	585.6	299.8	658.0	548.14	512.09
20	3.218	-7.200	506.0	578.5	291.5	647.9	546.24	511.28
21	3.173	-7.204	503.6	576.1	288.5	644.4	545.58	510.99

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	22.16	17.60	1.5081	1.1676	1289.0	.583	1.1039
2	8.143	22.58	17.61	1.5368	1.1668	1231.8	.606	1.0581
3	7.806	23.09	17.55	1.5717	1.1642	1190.0	.639	1.0271
4	7.488	23.40	17.42	1.5924	1.1586	1155.6	.663	1.0027
5	7.184	23.58	17.26	1.6046	1.1543	1119.6	.683	.9757
6	6.887	23.67	17.07	1.6111	1.1505	1083.5	.700	.9478
7	6.595	23.59	16.86	1.6054	1.1478	1041.3	.710	.9131
8	6.305	23.54	16.63	1.6017	1.1455	1000.9	.722	.8800
9	6.018	23.55	16.38	1.6026	1.1445	962.6	.739	.8486
10	5.738	23.60	16.11	1.6061	1.1438	928.8	.759	.8212
11	5.463	23.13	15.81	1.5743	1.1358	899.3	.757	.7978
12	5.187	22.34	15.52	1.5203	1.1234	870.7	.741	.7749
13	4.906	21.42	15.23	1.4577	1.1105	837.3	.715	.7471
14	4.619	20.55	14.98	1.3988	1.0980	802.3	.688	.7174
15	4.330	19.81	14.75	1.3482	1.0869	766.6	.663	.6868
16	4.048	19.20	14.56	1.3065	1.0775	732.1	.641	.6570
17	3.780	18.68	14.39	1.2714	1.0694	700.5	.622	.6296
18	3.540	18.25	14.24	1.2417	1.0623	673.7	.606	.6064
19	3.346	17.90	14.11	1.2184	1.0567	653.4	.593	.5888
20	3.218	17.68	14.03	1.2033	1.0531	640.7	.584	.5779
21	3.173	17.60	14.00	1.1980	1.0518	636.5	.581	.5742

STATION---- 6.400 IS INSIDE OF A ROTOR WITH INDEX 8

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.983	30.83	0.00	0.0000	.0838	.0824
2	8.143	-6.986	30.98	-.24	-.0095	.0843	.0836
3	7.806	-6.993	30.18	.42	-.0120	.0848	.0879
4	7.488	-7.002	29.38	1.78	-.0165	.0851	.0944
5	7.184	-7.008	29.02	3.48	-.0219	.0850	.1041
6	6.887	-7.015	28.91	5.34	-.0276	.0848	.1161
7	6.595	-7.022	29.32	7.22	-.0327	.0841	.1316
8	6.305	-7.030	29.80	9.03	-.0375	.0834	.1456
9	6.018	-7.036	30.44	10.82	-.0434	.0826	.1593
10	5.738	-7.037	31.10	12.68	-.0512	.0817	.1718
11	5.463	-7.035	31.00	14.65	-.0582	.0808	.1848
12	5.187	-7.037	30.39	16.76	-.0608	.0798	.1964
13	4.906	-7.049	29.79	19.01	-.0582	.0787	.2087
14	4.619	-7.073	29.17	21.29	-.0492	.0777	.2208
15	4.330	-7.098	28.66	23.48	-.0331	.0768	.2343
16	4.048	-7.122	28.29	25.43	-.0113	.0761	.2491
17	3.780	-7.146	27.94	27.02	.0123	.0754	.2647
18	3.540	-7.168	27.54	28.15	.0346	.0749	.2805
19	3.346	-7.187	27.11	28.79	.0524	.0744	.2947
20	3.218	-7.200	26.75	29.03	.0635	.0741	.3050
21	3.173	-7.204	26.60	29.07	.0671	.0740	.3088

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-60.30	-7.70	1497.7	.1614
2	-57.94	-4.90	1434.8	.1397
3	-55.35	-2.51	1375.4	.1016
4	-52.66	-.53	1319.4	.0579
5	-49.65	-.43	1265.7	.0210
6	-46.63	-.67	1213.5	-.0127
7	-43.52	-1.39	1162.1	-.0330
8	-40.51	-2.09	1110.9	-.0540
9	-37.63	-2.78	1060.4	-.0760
10	-35.09	-2.72	1011.1	-.1021
11	-32.59	-2.58	962.5	-.1318
12	-30.52	-2.22	913.9	-.1603
13	-28.33	-1.99	864.4	-.1771
14	-26.51	-2.01	813.8	-.1904
15	-25.12	-1.01	763.0	-.2015
16	-23.96	.65	713.2	-.2101
17	-23.02	2.46	666.0	-.2147
18	-22.37	4.13	623.7	-.2139
19	-21.86	4.82	589.5	-.2090
20	-21.56	5.16	567.0	-.2033
21	-21.46	5.28	559.1	-.2009

STATION----- 6.600 IS INSIDE OF A ROTOR WITH INDEX 9

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.592	532.4	532.1	483.6	719.2	639.16	596.21
2	8.140	-6.559	562.1	561.9	501.0	752.9	638.21	591.14
3	7.808	-6.535	605.1	604.9	512.0	792.7	635.87	583.68
4	7.502	-6.516	636.4	636.5	513.1	817.7	631.50	575.95
5	7.212	-6.499	656.9	657.8	517.2	836.9	628.03	569.83
6	6.933	-6.484	671.2	673.5	522.9	852.8	624.97	564.53
7	6.660	-6.473	670.9	675.0	532.8	860.1	622.71	561.22
8	6.388	-6.465	672.8	679.2	545.6	871.4	620.89	557.77
9	6.121	-6.457	677.8	687.1	564.1	889.1	619.93	554.21
10	5.862	-6.445	686.4	699.1	586.3	912.6	619.46	550.21
11	5.609	-6.431	683.3	700.2	587.6	914.2	615.32	545.82
12	5.359	-6.422	670.8	692.9	574.0	900.0	608.90	541.54
13	5.107	-6.427	646.9	675.5	556.3	875.2	602.02	538.30
14	4.849	-6.452	619.0	655.4	536.2	846.9	594.96	535.28
15	4.585	-6.494	587.9	633.4	515.1	816.5	587.98	532.50
16	4.322	-6.540	556.9	612.0	497.4	788.7	581.76	529.99
17	4.070	-6.581	527.9	592.4	483.5	764.8	576.45	527.76
18	3.841	-6.619	501.2	573.7	471.6	742.8	571.84	525.91
19	3.651	-6.651	478.9	557.1	461.4	723.5	568.13	524.55
20	3.523	-6.673	463.8	545.2	454.2	709.7	565.66	523.72
21	3.478	-6.680	458.4	540.8	451.5	704.6	564.78	523.44

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	25.56	20.03	1.7396	1.2322	1145.2	.601	.9565
2	8.140	26.18	20.01	1.7817	1.2304	1089.4	.632	.9138
3	7.808	26.93	19.95	1.8328	1.2259	1054.5	.669	.8902
4	7.502	27.36	19.81	1.8621	1.2175	1029.1	.695	.8746
5	7.212	27.59	19.62	1.8779	1.2108	1000.2	.715	.8545
6	6.933	27.70	19.39	1.8848	1.2049	970.4	.732	.8330
7	6.660	27.53	19.12	1.8734	1.2005	930.6	.740	.8012
8	6.388	27.41	18.83	1.8654	1.1970	893.1	.752	.7713
9	6.121	27.40	18.50	1.8644	1.1951	858.3	.770	.7436
10	5.862	27.48	18.14	1.8699	1.1942	829.5	.793	.7212
11	5.609	27.01	17.75	1.8381	1.1863	806.7	.798	.7042
12	5.359	26.16	17.35	1.7806	1.1739	785.6	.789	.6885
13	5.107	25.11	16.97	1.7086	1.1606	757.9	.769	.6662
14	4.849	24.05	16.61	1.6364	1.1470	728.6	.747	.6423
15	4.585	23.03	16.28	1.5676	1.1335	697.7	.722	.6166
16	4.322	22.16	15.99	1.5083	1.1216	666.6	.699	.5905
17	4.070	21.44	15.75	1.4592	1.1113	636.8	.679	.5653
18	3.841	20.83	15.54	1.4178	1.1024	609.3	.661	.5419
19	3.651	20.35	15.39	1.3849	1.0953	586.1	.644	.5219
20	3.523	20.03	15.30	1.3634	1.0905	570.1	.632	.5080
21	3.478	19.92	15.27	1.3558	1.0888	564.3	.628	.5030

STATION----

6.600 IS INSIDE OF A ROTOR WITH INDEX

9

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.592	42.26	0.00	0.0000	.0907	.0838
2	8.140	-6.559	41.72	.01	.0299	.0914	.0859
3	7.808	-6.535	40.25	.72	.0352	.0922	.0904
4	7.502	-6.516	38.87	1.93	.0273	.0929	.0965
5	7.212	-6.499	38.18	3.37	.0145	.0929	.1051
6	6.933	-6.484	37.83	4.91	-.0003	.0927	.1150
7	6.660	-6.473	38.28	6.48	-.0138	.0920	.1285
8	6.388	-6.465	38.78	8.01	-.0239	.0911	.1417
9	6.121	-6.457	39.39	9.54	-.0326	.0901	.1540
10	5.862	-6.445	39.99	11.06	-.0420	.0890	.1660
11	5.609	-6.431	40.00	12.70	-.0513	.0878	.1780
12	5.359	-6.422	39.64	14.60	-.0581	.0865	.1905
13	5.107	-6.427	39.47	16.80	-.0610	.0851	.2041
14	4.849	-6.452	39.28	19.26	-.0591	.0837	.2192
15	4.585	-6.494	39.12	21.90	-.0515	.0825	.2364
16	4.322	-6.540	39.10	24.55	-.0360	.0815	.2549
17	4.070	-6.581	39.22	27.03	-.0109	.0805	.2746
18	3.841	-6.619	39.42	29.16	.0221	.0798	.2937
19	3.651	-6.651	39.63	30.76	.0580	.0792	.3110
20	3.523	-6.673	39.80	31.75	.0877	.0789	.3236
21	3.478	-6.680	39.86	32.08	.0997	.0787	.3283

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-57.22	-13.45	1497.7	.2131
2	-54.96	-7.85	1434.3	.1851
3	-52.26	-2.91	1375.8	.1351
4	-49.41	1.42	1321.7	.0770
5	-45.88	2.49	1270.7	.0273
6	-42.45	2.99	1221.6	-.0186
7	-38.97	2.00	1173.4	-.0472
8	-35.62	1.05	1125.6	-.0769
9	-32.54	.16	1078.6	-.1080
10	-29.55	-.34	1032.8	-.1448
11	-26.48	-.52	988.2	-.1882
12	-23.80	-.49	944.2	-.2330
13	-21.27	-.29	899.9	-.2648
14	-18.92	-.04	854.4	-.2937
15	-17.09	.25	807.9	-.3189
16	-15.90	1.21	761.5	-.3401
17	-15.00	2.41	717.2	-.3550
18	-14.49	3.30	676.7	-.3602
19	-14.21	3.97	643.3	-.3563
20	-14.05	4.42	620.8	-.3488
21	-14.01	4.53	612.7	-.3451

STATION---- 6.800 IS INSIDE OF A ROTOR WITH INDEX 10

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-6.194	559.4	559.6	586.4	810.6	664.69	610.19
2	8.143	-6.126	596.7	596.9	603.5	848.7	662.63	602.86
3	7.818	-6.072	652.2	652.5	612.0	894.5	658.86	592.44
4	7.521	-6.028	692.8	693.6	608.5	922.5	652.77	582.11
5	7.243	-5.989	717.1	718.8	608.5	941.7	647.85	574.20
6	6.978	-5.956	731.8	735.0	610.4	955.2	643.51	567.71
7	6.719	-5.929	728.5	733.4	617.3	958.4	640.24	563.92
8	6.463	-5.906	726.2	733.3	627.6	965.1	637.58	560.19
9	6.212	-5.886	726.7	736.3	644.3	978.2	635.99	556.47
10	5.968	-5.853	730.5	743.2	665.3	997.3	635.06	552.40
11	5.733	-5.838	729.1	745.7	674.9	1005.6	632.09	548.03
12	5.505	-5.817	721.7	743.6	675.1	1004.2	627.63	543.79
13	5.281	-5.808	702.5	731.5	671.6	992.9	622.66	540.68
14	5.056	-5.819	680.3	718.5	666.9	980.2	617.57	537.66
15	4.829	-5.856	654.8	704.5	660.3	965.5	612.19	534.66
16	4.600	-5.911	626.7	690.1	653.7	950.4	606.88	531.74
17	4.381	-5.967	597.8	676.1	649.8	937.6	602.18	529.05
18	4.183	-6.016	569.9	663.1	648.1	927.0	598.21	526.70
19	4.021	-6.055	546.0	652.2	647.2	918.6	595.03	524.81
20	3.912	-6.082	529.7	644.7	646.4	912.8	592.88	523.55
21	3.874	-6.091	523.9	642.0	646.1	910.6	592.11	523.10

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	28.36	21.00	1.9300	1.2814	1069.4	.669	.8829
2	8.143	29.07	20.86	1.9782	1.2775	1023.4	.705	.8501
3	7.818	29.93	20.62	2.0371	1.2702	1005.8	.750	.8428
4	7.521	30.38	20.33	2.0676	1.2585	997.4	.780	.8431
5	7.243	30.57	20.02	2.0803	1.2490	981.1	.801	.8350
6	6.978	30.59	19.71	2.0819	1.2406	961.0	.818	.8226
7	6.719	30.28	19.41	2.0609	1.2343	926.8	.823	.7960
8	6.463	30.05	19.09	2.0451	1.2292	893.9	.832	.7702
9	6.212	29.96	18.76	2.0386	1.2261	863.0	.846	.7461
10	5.968	30.00	18.40	2.0413	1.2243	837.5	.865	.7267
11	5.733	29.73	18.03	2.0229	1.2186	817.6	.876	.7123
12	5.505	29.18	17.66	1.9857	1.2100	800.0	.878	.6996
13	5.281	28.34	17.29	1.9288	1.2004	776.0	.871	.6806
14	5.056	27.49	16.92	1.8710	1.1906	752.6	.862	.6619
15	4.829	26.62	16.57	1.8116	1.1802	729.9	.852	.6437
16	4.600	25.79	16.23	1.7549	1.1700	707.7	.841	.6259
17	4.381	25.07	15.93	1.7063	1.1609	687.0	.831	.6092
18	4.183	24.48	15.68	1.6660	1.1533	669.1	.824	.5946
19	4.021	24.01	15.47	1.6342	1.1471	655.0	.818	.5832
20	3.912	23.70	15.34	1.6131	1.1430	646.1	.814	.5759
21	3.874	23.59	15.29	1.6056	1.1415	643.0	.812	.5734

STATION---- 6.800 IS INSIDE OF A ROTOR WITH INDEX 10

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-6.194	46.34	0.00	0.0000	.0929	.1465
2	8.143	-6.126	45.31	.24	-.0111	.0934	.1482
3	7.818	-6.072	43.17	1.16	-.0018	.0939	.1518
4	7.521	-6.028	41.26	2.42	.0076	.0942	.1561
5	7.243	-5.989	40.25	3.78	.0130	.0941	.1608
6	6.978	-5.956	39.71	5.15	.0156	.0937	.1662
7	6.719	-5.929	40.08	6.50	.0154	.0929	.1738
8	6.463	-5.906	40.56	7.84	.0132	.0920	.1815
9	6.212	-5.886	41.19	9.17	.0111	.0910	.1884
10	5.968	-5.863	41.84	10.52	.0106	.0899	.1954
11	5.733	-5.838	42.14	12.03	.0136	.0888	.2024
12	5.505	-5.817	42.23	13.89	.0195	.0876	.2097
13	5.281	-5.800	42.55	16.14	.0261	.0863	.2194
14	5.056	-5.819	42.87	18.72	.0312	.0850	.2299
15	4.829	-5.856	43.14	21.62	.0355	.0836	.2449
16	4.600	-5.911	43.45	24.71	.0409	.0824	.2624
17	4.381	-5.967	43.86	27.82	.0470	.0813	.2805
18	4.183	-6.016	44.34	30.72	.0527	.0803	.2983
19	4.021	-6.055	44.78	33.12	.0572	.0796	.3142
20	3.912	-6.082	45.08	34.72	.0595	.0791	.3250
21	3.874	-6.091	45.18	35.28	.0600	.0789	.3289

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	LOSS COEF.
1	-54.38	-19.05	1497.7	.2493
2	-52.12	-11.09	1434.8	.2152
3	-49.55	-2.95	1377.5	.1556
4	-46.96	4.33	1325.2	.0867
5	-43.12	7.30	1276.3	.0275
6	-39.47	9.08	1229.5	-.0275
7	-35.74	7.42	1183.9	-.0624
8	-32.01	6.15	1138.8	-.0990
9	-28.49	5.98	1094.5	-.1374
10	-24.93	5.78	1051.5	-.1828
11	-20.70	5.46	1010.1	-.2372
12	-16.56	5.11	969.9	-.2967
13	-13.68	4.19	930.4	-.3443
14	-10.67	3.27	890.9	-.3932
15	-8.04	3.32	850.8	-.4413
16	-5.90	3.60	810.5	-.4852
17	-4.53	3.84	771.9	-.5221
18	-3.66	4.04	737.1	-.5475
19	-3.01	4.21	708.5	-.5590
20	-2.88	4.24	689.3	-.5605
21	-2.85	4.25	682.5	-.5597

ROTOR 1	STATION	7.000	FLOW	61.04	ASPECT RATIO	1.46
STA NO. 11	RPM	20191.	TIP SPEED	1498.	NO. OF BLADES	20

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-5.778	488.6	488.0	650.4	813.5	680.56	625.72
2	8.144	-5.674	534.2	533.7	662.4	851.0	676.66	616.61
3	7.827	-5.593	590.8	590.6	664.5	889.5	671.03	605.40
4	7.543	-5.528	626.9	627.5	653.7	906.5	663.13	594.93
5	7.279	-5.473	643.3	645.0	647.1	914.1	656.68	587.32
6	7.028	-5.426	650.3	653.5	642.7	917.0	651.04	581.21
7	6.783	-5.386	637.5	642.3	643.9	909.9	646.68	577.92
8	6.542	-5.351	627.4	634.1	648.8	907.7	643.07	574.64
9	6.305	-5.320	620.6	629.7	660.1	912.7	640.65	571.45
10	6.076	-5.289	617.8	629.8	675.6	924.1	639.00	568.06
11	5.859	-5.255	620.3	636.2	697.6	944.6	638.48	564.35
12	5.655	-5.224	622.1	643.2	719.9	965.8	638.01	560.50
13	5.461	-5.202	612.5	640.0	738.9	978.0	636.97	557.49
14	5.275	-5.195	603.5	639.2	758.6	992.4	635.99	554.13
15	5.096	-5.204	595.3	641.3	779.4	1009.8	635.12	550.37
16	4.924	-5.233	586.8	645.7	802.6	1030.5	634.52	546.26
17	4.760	-5.277	576.8	651.1	828.0	1053.6	634.21	541.93
18	4.612	-5.325	564.5	655.5	852.7	1075.8	633.97	537.75
19	4.493	-5.366	551.6	658.2	874.1	1094.5	633.80	534.20
20	4.414	-5.392	541.5	659.3	889.0	1107.0	633.69	531.80
21	4.386	-5.402	537.6	659.5	894.4	1111.5	633.66	530.94

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	RELAT. VELOC.	ABSOL. MACH NUMBER	RELAT. MACH NUMBER
1	8.500	30.19	22.47	2.0546	1.3120	977.7	.663	.7972
2	8.144	30.82	22.23	2.0971	1.3045	938.9	.699	.7711
3	7.827	31.61	22.02	2.1510	1.2936	927.1	.737	.7684
4	7.543	31.93	21.82	2.1730	1.2784	921.9	.758	.7708
5	7.279	31.96	21.60	2.1752	1.2660	905.5	.769	.7620
6	7.028	31.83	21.38	2.1659	1.2551	884.2	.776	.7480
7	6.783	31.34	21.13	2.1330	1.2467	846.5	.772	.7181
8	6.542	30.96	20.86	2.1067	1.2397	809.9	.772	.6891
9	6.305	30.73	20.58	2.0914	1.2351	774.5	.779	.6607
10	6.076	30.66	20.29	2.0863	1.2319	743.4	.791	.6361
11	5.859	30.81	19.99	2.0968	1.2309	718.9	.811	.6172
12	5.655	30.95	19.66	2.1064	1.2300	700.2	.832	.6031
13	5.461	30.76	19.28	2.0931	1.2280	677.9	.845	.5855
14	5.275	30.55	18.85	2.0792	1.2261	661.7	.860	.5733
15	5.096	30.37	18.29	2.0669	1.2244	652.2	.878	.5670
16	4.924	30.25	17.90	2.0585	1.2233	649.0	.899	.5663
17	4.760	30.18	17.40	2.0542	1.2227	651.2	.923	.5705
18	4.612	30.13	16.93	2.0508	1.2222	656.7	.946	.5775
19	4.493	30.10	16.54	2.0484	1.2219	663.4	.966	.5853
20	4.414	30.08	16.28	2.0469	1.2217	668.7	.979	.5913
21	4.386	30.07	16.18	2.0464	1.2216	670.7	.984	.5936

ROTOR 1	STATION	7.000	FLOW	61.04	ASPECT RATIO	1.46
STA NO. 11	RPM	20191.	TIP SPEED	1498.	NO. OF BLADES	20

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE	D- FACTOR
1	8.500	-5.778	53.12	0.00	0.0000	.0969	.0738	.5650
2	8.144	-5.674	51.14	.88	.0417	.0973	.0740	.5685
3	7.827	-5.593	48.37	2.18	.0556	.0982	.0747	.5573
4	7.543	-5.528	46.17	3.56	.0546	.0990	.0752	.5405
5	7.279	-5.473	45.09	4.90	.0490	.0993	.0751	.5333
6	7.028	-5.426	44.52	6.18	.0425	.0993	.0750	.5279
7	6.783	-5.386	45.07	7.46	.0379	.0987	.0750	.5332
8	6.542	-5.351	45.65	8.75	.0370	.0980	.0750	.5381
9	6.305	-5.320	46.35	10.09	.0391	.0972	.0751	.5430
10	6.076	-5.289	47.01	11.50	.0438	.0964	.0753	.5439
11	5.859	-5.255	47.64	13.09	.0462	.0956	.0757	.5395
12	5.655	-5.224	48.22	14.94	.0401	.0947	.0761	.5302
13	5.461	-5.202	49.10	17.05	.0257	.0933	.0773	.5226
14	5.275	-5.195	49.88	19.41	.0056	.0918	.0801	.5120
15	5.096	-5.204	50.55	21.99	-.0191	.0902	.0829	.4935
16	4.924	-5.233	51.18	24.79	-.0438	.0884	.0930	.4661
17	4.760	-5.277	51.82	27.74	-.0606	.0867	.1098	.4334
18	4.612	-5.325	52.45	30.64	-.0674	.0850	.1260	.3983
19	4.493	-5.366	53.02	33.15	-.0668	.0836	.1405	.3681
20	4.414	-5.392	53.44	34.87	-.0627	.0826	.1550	.3482
21	4.386	-5.402	53.59	35.48	-.0603	.0823	.1602	.3414

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	WHEEL SPEED	INCID- ENCE	DEVIA- TION	LOSS COEF.	ADIAB. EFFIC.	POLYT. EFFIC.
1	-52.34	-21.32	1497.7	-6.845	-7.720	.2706	73.08	75.64
2	-49.13	-14.05	1434.9	-6.331	-6.229	.2317	77.26	79.48
3	-46.36	-2.24	1379.1	-5.393	-4.067	.1743	83.18	84.88
4	-43.68	7.31	1329.1	-4.987	-3.427	.1149	89.05	90.17
5	-40.44	12.82	1282.6	-5.011	-4.133	.0711	93.36	94.04
6	-37.37	16.01	1238.3	-5.296	-4.981	.0360	96.75	97.08
7	-33.97	14.38	1195.2	-5.417	-6.669	.0248	97.85	98.07
8	-30.44	13.05	1152.6	-5.557	-8.031	.0139	98.87	98.99
9	-26.23	14.08	1110.9	-5.754	-9.367	.0039	99.74	99.76
10	-22.34	15.07	1070.6	-6.107	-9.748	-.0091	100.74	100.67
11	-17.65	15.74	1032.4	-6.543	-10.102	-.0273	101.95	101.75
12	-13.12	16.33	996.4	-6.767	-10.147	-.0473	103.05	102.75
13	-8.12	16.68	962.3	-7.138	-11.122	-.0505	102.98	102.68
14	-2.07	16.63	929.5	-7.439	-12.892	-.0523	102.81	102.53
15	3.10	16.58	898.0	-7.747	-13.567	-.0543	102.65	102.39
16	7.07	16.95	867.6	-7.797	-12.825	-.0572	102.54	102.29
17	10.06	17.68	838.7	-8.139	-11.002	-.0610	102.48	102.24
18	12.40	18.34	812.7	-7.972	-8.902	-.0641	102.44	102.20
19	14.34	18.78	791.6	-7.707	-7.195	-.0662	102.40	102.17
20	15.93	18.49	777.7	-7.336	-6.344	-.0673	102.38	102.15
21	16.47	18.39	772.8	-7.169	-6.027	-.0676	102.37	102.15

FREE STATION 8.000 IS INDEX 12

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-4.889	530.9	530.3	650.4	839.6	680.56	622.13
2	8.169	-4.818	581.7	581.5	660.4	880.4	676.66	612.40
3	7.874	-4.764	638.2	639.1	660.6	919.5	671.03	600.88
4	7.608	-4.717	672.7	675.1	648.1	936.2	663.13	590.38
5	7.360	-4.676	687.7	691.7	639.9	942.7	656.68	582.90
6	7.123	-4.647	693.4	699.0	634.1	944.1	651.04	577.01
7	6.892	-4.626	681.1	688.4	633.7	936.1	646.68	573.90
8	6.664	-4.612	672.1	681.6	636.9	933.3	643.07	570.71
9	6.441	-4.606	667.5	679.8	646.1	938.3	640.65	567.51
10	6.224	-4.609	668.1	683.8	659.6	950.5	639.00	563.93
11	6.016	-4.622	674.6	694.9	679.4	972.3	638.48	559.93
12	5.818	-4.643	680.0	705.8	699.8	994.4	638.01	555.84
13	5.628	-4.672	673.5	705.5	717.0	1006.4	636.97	552.80
14	5.446	-4.712	666.2	705.4	734.9	1019.1	635.99	549.67
15	5.272	-4.762	659.1	707.0	753.4	1033.6	635.12	546.31
16	5.110	-4.817	653.0	711.0	773.4	1051.0	634.52	542.71
17	4.962	-4.875	647.6	717.6	794.3	1070.8	634.21	538.89
18	4.835	-4.931	642.4	725.5	813.5	1090.4	633.97	535.11
19	4.735	-4.977	637.6	733.5	829.4	1107.6	633.80	531.79
20	4.671	-5.006	634.0	739.6	840.0	1119.5	633.69	529.48
21	4.649	-5.016	632.7	741.8	843.7	1123.8	633.66	528.65

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	30.19	22.02	2.0546	1.3120	839.6	.687	.6865
2	8.169	30.82	21.70	2.0971	1.3045	880.4	.726	.7255
3	7.874	31.61	21.45	2.1510	1.2936	919.5	.765	.7651
4	7.608	31.93	21.24	2.1730	1.2784	936.2	.786	.7858
5	7.360	31.96	21.04	2.1752	1.2660	942.7	.796	.7963
6	7.123	31.83	20.84	2.1659	1.2551	944.1	.802	.8016
7	6.892	31.34	20.62	2.1330	1.2467	936.1	.797	.7969
8	6.664	30.96	20.37	2.1067	1.2397	933.3	.797	.7967
9	6.441	30.73	20.09	2.0914	1.2351	938.3	.803	.8033
10	6.224	30.66	19.78	2.0863	1.2319	950.5	.816	.8163
11	6.016	30.81	19.45	2.0968	1.2309	972.3	.838	.8380
12	5.818	30.95	19.09	2.1064	1.2300	994.4	.860	.8602
13	5.628	30.76	18.72	2.0931	1.2280	1006.4	.873	.8729
14	5.446	30.55	18.33	2.0792	1.2261	1019.1	.886	.8865
15	5.272	30.37	17.92	2.0669	1.2244	1033.6	.902	.9019
16	5.110	30.25	17.49	2.0585	1.2233	1051.0	.920	.9201
17	4.962	30.18	17.06	2.0542	1.2227	1070.8	.941	.9407
18	4.835	30.13	16.64	2.0508	1.2222	1090.4	.961	.9614
19	4.735	30.10	16.28	2.0484	1.2219	1107.6	.980	.9796
20	4.671	30.08	16.03	2.0469	1.2217	1119.5	.992	.9923
21	4.649	30.07	15.94	2.0464	1.2216	1123.8	.997	.9968

FREE STATION 8.000 IS INDEX 12

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-4.889	50.81	0.00	0.0000	.0355	.0741
2	8.169	-4.818	48.64	2.18	.0270	.0957	.0736
3	7.874	-4.764	45.95	3.97	.0399	.0964	.0734
4	7.608	-4.717	43.83	5.40	.0442	.0971	.0733
5	7.360	-4.676	42.78	6.59	.0428	.0974	.0733
6	7.123	-4.647	42.21	7.64	.0374	.0975	.0733
7	6.892	-4.626	42.63	8.71	.0311	.0970	.0735
8	6.664	-4.612	43.06	9.88	.0258	.0963	.0736
9	6.441	-4.606	43.55	11.16	.0208	.0956	.0739
10	6.224	-4.609	43.56	12.56	.0161	.0947	.0742
11	6.016	-4.622	44.36	14.09	.0116	.0937	.0747
12	5.818	-4.643	44.75	15.73	.0065	.0927	.0752
13	5.628	-4.672	45.47	17.48	-.0006	.0914	.0758
14	5.446	-4.712	46.17	19.35	-.0105	.0900	.0764
15	5.272	-4.762	46.82	21.33	-.0236	.0885	.0772
16	5.110	-4.817	47.41	23.42	-.0427	.0870	.0779
17	4.962	-4.875	47.90	25.61	-.0710	.0854	.0787
18	4.835	-4.931	48.27	27.80	-.1053	.0839	.0794
19	4.735	-4.977	48.51	29.72	-.1379	.0826	.0800
20	4.671	-5.006	48.64	31.07	-.1617	.0817	.0803
21	4.649	-5.016	48.68	31.56	-.1705	.0814	.0805

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE
1	41.53	5.73
2	39.04	3.80
3	37.57	2.08
4	37.38	.56
5	37.56	-.80
6	37.15	-1.97
7	36.61	-3.29
8	35.92	-4.73
9	36.23	-6.72
10	36.62	-8.75
11	37.19	-10.92
12	37.89	-13.20
13	38.65	-15.64
14	39.60	-18.58
15	40.76	-21.82
16	41.79	-25.23
17	42.69	-28.74
18	43.35	-31.60
19	44.26	-33.71
20	44.82	-35.01
21	45.01	-35.45

STATOR 1	STATION	9.000	FLOW	61.04	ASPECT RATIO	1.40		
STA NO. 13					NO VANES	31		
STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-2.220	698.4	698.4	0.0	698.4	680.56	640.15
2	8.255	-2.241	711.6	711.6	0.0	711.6	676.66	634.69
3	8.023	-2.262	728.4	728.7	0.0	728.7	671.03	627.01
4	7.803	-2.284	739.4	739.9	0.0	740.0	663.13	617.71
5	7.592	-2.305	728.6	729.5	0.0	729.5	656.68	612.52
6	7.384	-2.327	714.9	716.3	0.0	716.3	651.04	608.46
7	7.183	-2.349	710.2	712.0	0.0	712.1	646.68	604.59
8	6.989	-2.369	706.6	709.0	0.0	709.0	643.07	601.34
9	6.804	-2.387	704.5	707.6	0.0	707.7	640.65	599.08
10	6.629	-2.404	712.6	716.5	0.0	716.5	639.00	596.37
11	6.467	-2.420	724.7	729.5	0.0	729.5	638.48	594.29
12	6.319	-2.434	730.3	736.2	0.0	736.2	638.01	593.00
13	6.182	-2.447	729.1	736.0	0.0	736.0	636.97	591.99
14	6.058	-2.459	728.5	736.4	0.0	736.5	635.99	590.94
15	5.948	-2.470	730.0	738.9	0.0	739.0	635.12	589.76
16	5.853	-2.480	733.3	743.4	0.0	743.5	634.52	588.61
17	5.774	-2.489	736.4	747.6	0.0	747.7	634.21	587.78
18	5.711	-2.496	739.0	751.1	0.0	751.2	633.97	587.10
19	5.666	-2.502	740.9	753.8	0.0	753.8	633.80	586.60
20	5.639	-2.506	742.1	755.4	0.0	755.5	633.69	586.29
21	5.630	-2.507	742.5	756.0	0.0	756.1	633.66	586.18

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.75	23.99	.9855	1.0000	698.4	.563	.5629
2	8.255	30.02	23.97	.9741	1.0000	711.6	.576	.5761
3	8.023	30.36	23.92	.9604	1.0000	728.7	.593	.5935
4	7.803	30.60	23.85	.9582	1.0000	740.0	.607	.6072
5	7.592	30.34	23.76	.9493	1.0000	729.5	.601	.6012
6	7.384	30.02	23.67	.9432	1.0000	716.3	.592	.5922
7	7.183	29.86	23.58	.9526	1.0000	712.1	.591	.5906
8	6.989	29.70	23.47	.9595	1.0000	709.0	.590	.5897
9	6.804	29.55	23.35	.9617	1.0000	707.7	.590	.5896
10	6.629	29.59	23.23	.9652	1.0000	716.5	.598	.5984
11	6.467	29.69	23.08	.9635	1.0000	729.5	.610	.6103
12	6.319	29.64	22.93	.9576	1.0000	736.2	.617	.6166
13	6.182	29.45	22.78	.9576	1.0000	736.0	.617	.6169
14	6.058	29.28	22.63	.9584	1.0000	736.5	.618	.6179
15	5.948	29.16	22.49	.9602	1.0000	739.0	.621	.6206
16	5.853	29.10	22.36	.9619	1.0000	743.5	.625	.6250
17	5.774	29.04	22.25	.9621	1.0000	747.7	.629	.6289
18	5.711	29.00	22.15	.9623	1.0000	751.2	.632	.6323
19	5.666	28.97	22.08	.9624	1.0000	753.8	.635	.6348
20	5.639	28.95	22.04	.9625	1.0000	755.5	.636	.6363
21	5.630	28.94	22.03	.9625	1.0000	756.1	.637	.6369

STATOR 1 STATION 9.000 FLOW 61.04 ASPECT RATIO 1.40
 STA NO. 13 NO VANES 31

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE	D- FACTOR
1	8.500	-2.220	0.00	0.00	0.0000	.1012	.0706	.4205
2	8.255	-2.241	0.00	.87	-.0123	.1019	.0706	.4351
3	8.023	-2.262	0.00	1.65	-.0205	.1030	.0705	.4394
4	7.803	-2.284	0.00	2.35	-.0268	.1042	.0705	.4308
5	7.592	-2.305	0.00	3.00	-.0321	.1047	.0705	.4377
6	7.384	-2.327	0.00	3.59	-.0352	.1050	.0706	.4468
7	7.183	-2.349	0.00	4.16	-.0392	.1053	.0707	.4437
8	6.989	-2.369	0.00	4.76	-.0462	.1054	.0707	.4450
9	6.804	-2.387	0.00	5.38	-.0547	.1052	.0709	.4510
10	6.629	-2.404	0.00	6.01	-.0642	.1051	.0710	.4470
11	6.467	-2.420	0.00	6.64	-.0740	.1048	.0712	.4458
12	6.319	-2.434	0.00	7.25	-.0827	.1044	.0714	.4498
13	6.182	-2.447	0.00	7.83	-.0906	.1039	.0716	.4540
14	6.058	-2.459	0.00	8.40	-.0981	.1034	.0718	.4571
15	5.948	-2.470	0.00	8.94	-.1051	.1029	.0720	.4590
16	5.853	-2.480	0.00	9.46	-.1114	.1025	.0722	.4608
17	5.774	-2.489	0.00	9.92	-.1168	.1022	.0722	.4641
18	5.711	-2.496	0.00	10.31	-.1210	.1018	.0722	.4682
19	5.666	-2.502	0.00	10.60	-.1240	.1016	.0723	.4722
20	5.639	-2.506	0.00	10.79	-.1258	.1015	.0723	.4752
21	5.630	-2.507	0.00	10.85	-.1264	.1014	.0723	.4763

STRM- LINE NUMBER	BLADE SECT. ANGLE	BLADE LEAN ANGLE	INCID- ENCE	DEVIA- TION	LOSS COEF.	ADIAB. EFFIC.	POLYT. EFFIC.
1	-8.96	-.02	9.279	8.961	.0537	71.44	74.10
2	-8.26	-.02	9.591	8.257	.0876	74.23	76.66
3	-7.71	-.01	8.381	7.705	.1231	78.33	80.41
4	-7.32	-.00	6.451	7.323	.1248	83.62	85.21
5	-7.06	.00	5.216	7.063	.1483	86.45	87.75
6	-6.84	.00	5.061	6.841	.1646	88.66	89.73
7	-6.71	.00	6.024	6.708	.1385	90.93	91.78
8	-6.59	-.00	7.132	6.588	.1185	92.82	93.49
9	-6.50	-.00	7.317	6.497	.1106	93.92	94.48
10	-6.41	-.00	7.342	6.408	.0981	95.39	95.82
11	-6.37	-.01	7.161	6.374	.0989	96.30	96.65
12	-6.34	-.01	6.866	6.343	.1105	96.45	96.78
13	-6.34	-.01	6.819	6.336	.1083	96.32	96.66
14	-6.34	-.01	6.566	6.345	.1039	96.23	96.58
15	-6.35	-.01	6.065	6.347	.0971	96.33	96.66
16	-6.37	-.01	5.620	6.370	.0903	96.47	96.73
17	-6.45	-.02	5.215	6.453	.0871	96.44	96.76
18	-6.51	-.03	4.917	6.514	.0842	96.41	96.73
19	-6.55	-.04	4.252	6.555	.0818	96.39	96.71
20	-6.58	-.04	3.816	6.578	.0803	96.37	96.70
21	-6.59	-.04	3.666	6.586	.0798	96.37	96.70

FREE STATION 10.000 IS INDEX 14

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.650	683.3	683.2	0.0	683.2	680.55	641.89
2	8.262	-1.650	695.9	695.9	0.0	695.9	676.66	636.53
3	8.037	-1.650	711.7	711.8	0.0	711.8	671.03	629.02
4	7.824	-1.650	721.6	721.9	0.0	721.9	663.13	619.91
5	7.620	-1.650	709.4	709.8	0.0	709.8	656.68	614.88
6	7.420	-1.650	694.6	695.2	0.0	695.2	651.04	610.93
7	7.226	-1.650	689.3	690.2	0.0	690.2	646.68	607.14
8	7.039	-1.650	685.3	686.4	0.0	686.4	643.07	603.95
9	6.861	-1.650	683.0	684.3	0.0	684.3	640.65	601.77
10	6.694	-1.650	691.2	692.8	0.0	692.8	639.00	599.15
11	6.539	-1.650	703.9	705.6	0.0	705.6	638.48	597.14
12	6.398	-1.650	710.4	712.3	0.0	712.3	638.01	595.87
13	6.269	-1.650	710.5	712.6	0.0	712.6	636.97	594.80
14	6.152	-1.650	712.2	714.4	0.0	714.4	635.99	593.61
15	6.049	-1.650	716.9	719.1	0.0	719.2	635.12	592.16
16	5.961	-1.650	724.5	726.7	0.0	726.7	634.52	590.66
17	5.888	-1.650	732.2	734.4	0.0	734.4	634.21	589.42
18	5.831	-1.650	739.3	741.4	0.0	741.4	633.97	588.32
19	5.790	-1.650	745.0	747.1	0.0	747.1	633.80	587.44
20	5.765	-1.650	748.8	750.8	0.0	750.9	633.69	586.87
21	5.757	-1.650	750.1	752.1	0.0	752.2	633.66	586.67

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.75	24.22	2.0247	1.3120	683.2	.550	.5500
2	8.262	30.02	24.21	2.0428	1.3045	695.9	.563	.5625
3	8.037	30.36	24.19	2.0659	1.2936	711.8	.579	.5788
4	7.824	30.60	24.15	2.0822	1.2784	721.9	.591	.5913
5	7.620	30.34	24.09	2.0650	1.2660	709.8	.584	.5838
6	7.420	30.02	24.01	2.0428	1.2551	695.2	.574	.5737
7	7.226	29.86	23.93	2.0319	1.2467	690.2	.571	.5712
8	7.039	29.70	23.83	2.0214	1.2397	686.4	.570	.5696
9	6.861	29.55	23.73	2.0113	1.2351	684.3	.569	.5689
10	6.694	29.59	23.61	2.0137	1.2319	692.8	.577	.5772
11	6.539	29.69	23.47	2.0203	1.2309	705.6	.589	.5889
12	6.398	29.64	23.32	2.0172	1.2300	712.3	.595	.5951
13	6.269	29.45	23.16	2.0044	1.2280	712.6	.596	.5959
14	6.152	29.28	22.99	1.9927	1.2261	714.4	.598	.5980
15	6.049	29.16	22.81	1.9846	1.2244	719.2	.603	.6027
16	5.961	29.10	22.63	1.9802	1.2233	726.7	.610	.6098
17	5.888	29.04	22.46	1.9764	1.2227	734.4	.617	.6169
18	5.831	29.00	22.31	1.9735	1.2222	741.4	.623	.6234
19	5.790	28.97	22.19	1.9714	1.2219	747.1	.629	.6287
20	5.765	28.95	22.12	1.9701	1.2217	750.9	.632	.6321
21	5.757	28.94	22.09	1.9697	1.2216	752.2	.633	.6333

FREE STATION 10.000 IS INDEX 14

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOI. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.650	0.00	0.00	0.0000	.1018	.0299
2	8.262	-1.650	0.00	.60	-.0060	.1027	.0299
3	8.037	-1.650	0.00	1.14	-.0134	.1038	.0299
4	7.824	-1.650	0.00	1.62	-.0220	.1051	.0299
5	7.620	-1.650	0.00	2.07	-.0302	.1057	.0299
6	7.420	-1.650	0.00	2.49	-.0372	.1061	.0299
7	7.226	-1.650	0.00	2.88	-.0438	.1064	.0299
8	7.039	-1.650	0.00	3.23	-.0513	.1065	.0299
9	6.861	-1.650	0.00	3.55	-.0600	.1064	.0299
10	6.694	-1.650	0.00	3.83	-.0705	.1063	.0299
11	6.539	-1.650	0.00	4.07	-.0833	.1061	.0299
12	6.398	-1.650	0.00	4.25	-.0984	.1057	.0299
13	6.269	-1.650	0.00	4.39	-.1156	.1051	.0299
14	6.152	-1.650	0.00	4.47	-.1351	.1045	.0299
15	6.049	-1.650	0.00	4.50	-.1567	.1040	.0299
16	5.961	-1.650	0.00	4.49	-.1795	.1034	.0299
17	5.888	-1.650	0.00	4.44	-.2021	.1029	.0299
18	5.831	-1.650	0.00	4.37	-.2227	.1024	.0299
19	5.790	-1.650	0.00	4.30	-.2393	.1020	.0299
20	5.765	-1.650	0.00	4.25	-.2501	.1017	.0299
21	5.757	-1.650	0.00	4.24	-.2539	.1016	.0299

FREE STATION 11.000 IS INDEX 15

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.350	704.0	704.0	0.0	704.0	680.56	639.50
2	8.265	-1.350	716.0	716.0	0.0	716.0	676.66	634.17
3	8.042	-1.350	730.9	731.0	0.0	731.0	671.03	626.73
4	7.831	-1.350	739.7	739.8	0.0	739.8	663.13	617.73
5	7.629	-1.350	726.5	726.8	0.0	726.8	656.68	612.86
6	7.430	-1.350	710.6	710.9	0.0	710.9	651.04	609.09
7	7.238	-1.350	703.8	704.2	0.0	704.2	646.68	605.52
8	7.052	-1.350	698.1	698.6	0.0	698.6	643.07	602.55
9	6.875	-1.350	693.8	694.4	0.0	694.4	640.65	600.62
10	6.708	-1.350	699.6	700.1	0.0	700.2	639.00	598.30
11	6.554	-1.350	709.2	709.8	0.0	709.8	638.48	596.65
12	6.412	-1.350	711.9	712.5	0.0	712.5	638.01	595.85
13	6.282	-1.350	707.4	707.8	0.0	707.9	636.97	595.37
14	6.164	-1.350	703.2	703.6	0.0	703.6	635.99	594.88
15	6.059	-1.350	701.0	701.3	0.0	701.3	635.12	594.28
16	5.969	-1.350	700.7	700.8	0.0	700.8	634.52	593.73
17	5.894	-1.350	700.0	700.1	0.0	700.1	634.21	593.51
18	5.834	-1.350	699.0	699.0	0.0	699.0	633.97	593.40
19	5.791	-1.350	697.8	697.8	0.0	697.8	633.80	593.36
20	5.766	-1.350	697.0	697.0	0.0	697.0	633.69	593.35
21	5.757	-1.350	696.6	696.6	0.0	696.6	633.66	593.36

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PREES. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.75	23.91	2.0247	1.3120	704.0	.568	.5677
2	8.265	30.02	23.90	2.0428	1.3045	716.0	.580	.5799
3	8.042	30.36	23.88	2.0659	1.2936	731.0	.595	.5955
4	7.831	30.60	23.85	2.0822	1.2784	739.8	.607	.6071
5	7.629	30.34	23.81	2.0650	1.2660	726.8	.599	.5987
6	7.430	30.02	23.76	2.0428	1.2551	710.9	.587	.5875
7	7.238	29.86	23.70	2.0319	1.2467	704.2	.584	.5837
8	7.052	29.70	23.64	2.0214	1.2397	698.6	.580	.5804
9	6.875	29.55	23.57	2.0113	1.2351	694.4	.578	.5778
10	6.708	29.59	23.49	2.0137	1.2319	700.2	.584	.5838
11	6.554	29.69	23.41	2.0203	1.2309	709.8	.593	.5926
12	6.412	29.64	23.32	2.0172	1.2300	712.5	.595	.5953
13	6.282	29.45	23.24	2.0044	1.2280	707.9	.592	.5916
14	6.164	29.28	23.16	1.9927	1.2261	703.6	.588	.5883
15	6.059	29.16	23.10	1.9846	1.2244	701.3	.587	.5867
16	5.969	29.10	23.05	1.9802	1.2233	700.8	.587	.5866
17	5.894	29.04	23.01	1.9764	1.2227	700.1	.586	.5860
18	5.834	29.00	23.00	1.9735	1.2222	699.0	.585	.5852
19	5.791	28.97	22.99	1.9714	1.2219	697.8	.584	.5843
20	5.766	28.95	22.98	1.9701	1.2217	697.0	.584	.5835
21	5.757	28.94	22.98	1.9697	1.2216	696.6	.583	.5833

FREE STATION 11.000 IS INDEX 15

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.350	0.00	0.00	0.0000	.1009	.0381
2	8.265	-1.350	0.00	.48	-.0055	.1017	.0381
3	8.042	-1.350	0.00	.87	-.0108	.1028	.0381
4	7.831	-1.350	0.00	1.19	-.0159	.1042	.0381
5	7.629	-1.350	0.00	1.47	-.0209	.1049	.0381
6	7.430	-1.350	0.00	1.74	-.0259	.1053	.0381
7	7.238	-1.350	0.00	1.98	-.0310	.1057	.0381
8	7.052	-1.350	0.00	2.17	-.0360	.1059	.0381
9	6.875	-1.350	0.00	2.31	-.0411	.1059	.0381
10	6.708	-1.350	0.00	2.37	-.0462	.1060	.0381
11	6.554	-1.350	0.00	2.35	-.0507	.1059	.0381
12	6.412	-1.350	0.00	2.25	-.0543	.1056	.0381
13	6.282	-1.350	0.00	2.08	-.0563	.1054	.0381
14	6.164	-1.350	0.00	1.83	-.0557	.1051	.0381
15	6.059	-1.350	0.00	1.53	-.0518	.1049	.0381
16	5.969	-1.350	0.00	1.18	-.0444	.1048	.0381
17	5.894	-1.350	0.00	.83	-.0340	.1047	.0381
18	5.834	-1.350	0.00	.50	-.0221	.1046	.0381
19	5.791	-1.350	0.00	.24	-.0110	.1046	.0381
20	5.766	-1.350	0.00	.06	-.0029	.1046	.0381
21	5.757	-1.350	0.00	0.00	0.0000	.1046	.0381

FREE STATION 12.000 IS INDEX 16

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-1.050	724.3	724.3	0.0	724.3	680.56	637.09
2	8.267	-1.050	735.7	735.7	0.0	735.7	676.66	631.81
3	8.046	-1.050	749.5	749.5	0.0	749.5	671.03	624.45
4	7.837	-1.050	757.0	757.1	0.0	757.1	663.13	615.58
5	7.635	-1.050	742.9	743.0	0.0	743.1	656.68	610.87
6	7.438	-1.050	725.8	726.0	0.0	726.0	651.04	607.29
7	7.247	-1.050	717.4	717.7	0.0	717.7	646.68	603.93
8	7.062	-1.050	709.8	710.1	0.0	710.2	643.07	601.20
9	6.885	-1.050	703.4	703.7	0.0	703.7	640.65	599.53
10	6.719	-1.050	706.6	706.9	0.0	707.0	639.00	597.51
11	6.564	-1.050	713.4	713.8	0.0	713.8	638.48	596.18
12	6.422	-1.050	713.3	713.6	0.0	713.6	638.01	595.73
13	6.291	-1.050	705.7	705.9	0.0	705.9	636.97	595.59
14	6.171	-1.050	698.6	698.7	0.0	698.7	635.99	595.45
15	6.065	-1.050	693.6	693.7	0.0	693.7	635.12	595.16
16	5.973	-1.050	691.0	691.0	0.0	691.0	634.52	594.86
17	5.896	-1.050	688.7	688.7	0.0	688.7	634.21	594.82
18	5.836	-1.050	686.7	686.7	0.0	686.7	633.97	594.81
19	5.792	-1.050	685.1	685.1	0.0	685.1	633.80	594.82
20	5.766	-1.050	684.1	684.1	0.0	684.1	633.69	594.83
21	5.757	-1.050	683.8	683.8	0.0	683.8	633.66	594.83

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.75	23.59	2.0247	1.3120	724.3	.585	.5852
2	8.267	30.02	23.59	2.0428	1.3045	735.7	.597	.5969
3	8.046	30.36	23.58	2.0659	1.2936	749.5	.612	.6117
4	7.837	30.60	23.56	2.0822	1.2784	757.1	.622	.6223
5	7.635	30.34	23.54	2.0650	1.2660	743.1	.613	.6131
6	7.438	30.02	23.52	2.0428	1.2551	726.0	.601	.6008
7	7.247	29.86	23.49	2.0319	1.2467	717.7	.596	.5956
8	7.062	29.70	23.45	2.0214	1.2397	710.2	.591	.5907
9	6.885	29.55	23.42	2.0113	1.2351	703.7	.586	.5862
10	6.719	29.59	23.38	2.0137	1.2319	707.0	.590	.5898
11	6.564	29.69	23.34	2.0203	1.2309	713.8	.596	.5962
12	6.422	29.64	23.30	2.0172	1.2300	713.6	.596	.5962
13	6.291	29.45	23.27	2.0044	1.2280	705.9	.590	.5899
14	6.171	29.28	23.24	1.9927	1.2261	698.7	.584	.5840
15	6.065	29.16	23.22	1.9846	1.2244	693.7	.580	.5799
16	5.973	29.10	23.20	1.9802	1.2233	691.0	.578	.5778
17	5.896	29.04	23.19	1.9764	1.2227	688.7	.576	.5759
18	5.836	29.00	23.19	1.9735	1.2222	686.7	.574	.5742
19	5.792	28.97	23.19	1.9714	1.2219	685.1	.573	.5729
20	5.766	28.95	23.19	1.9701	1.2217	684.1	.572	.5721
21	5.757	28.94	23.19	1.9697	1.2216	683.8	.572	.5718

FREE STATION 12.000 IS INDEX 16

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-1.050	0.00	0.00	0.0000	.0999	.0467
2	8.267	-1.050	0.00	.40	-.0032	.1008	.0467
3	8.046	-1.050	0.00	.73	-.0060	.1019	.0467
4	7.837	-1.050	0.00	.98	-.0085	.1033	.0467
5	7.635	-1.050	0.00	1.20	-.0109	.1040	.0467
6	7.438	-1.050	0.00	1.40	-.0134	.1045	.0467
7	7.247	-1.050	0.00	1.58	-.0159	.1050	.0467
8	7.062	-1.050	0.00	1.71	-.0182	.1053	.0467
9	6.885	-1.050	0.00	1.78	-.0203	.1054	.0467
10	6.719	-1.050	0.00	1.78	-.0220	.1056	.0467
11	6.564	-1.050	0.00	1.71	-.0230	.1057	.0467
12	6.422	-1.050	0.00	1.58	-.0233	.1056	.0467
13	6.291	-1.050	0.00	1.40	-.0225	.1055	.0467
14	6.171	-1.050	0.00	1.18	-.0205	.1053	.0467
15	6.065	-1.050	0.00	.94	-.0174	.1053	.0467
16	5.973	-1.050	0.00	.69	-.0135	.1053	.0467
17	5.896	-1.050	0.00	.46	-.0093	.1052	.0467
18	5.836	-1.050	0.00	.26	-.0055	.1052	.0467
19	5.792	-1.050	0.00	.12	-.0025	.1052	.0467
20	5.766	-1.050	0.00	.03	-.0006	.1052	.0467
21	5.757	-1.050	0.00	0.00	0.0000	.1052	.0467

FREE STATION 13.000 IS INDEX 17

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	AXIAL VELOC.	MERID. VELOC.	TANG. VELOC.	ABSOL. VELOC.	TOTAL TEMP.	STATIC TEMP.
1	8.500	-.750	744.3	744.2	0.0	744.3	680.56	634.66
2	8.269	-.750	755.0	755.0	0.0	755.0	676.66	629.42
3	8.049	-.750	767.6	767.6	0.0	767.7	671.03	622.16
4	7.841	-.750	773.8	773.8	0.0	773.9	663.13	613.45
5	7.641	-.750	758.6	758.8	0.0	758.8	656.68	608.91
6	7.445	-.750	740.3	740.5	0.0	740.5	651.04	605.53
7	7.254	-.750	730.3	730.5	0.0	730.5	646.68	602.39
8	7.070	-.750	720.8	721.1	0.0	721.1	643.07	599.90
9	6.894	-.750	712.2	712.5	0.0	712.5	640.65	598.50
10	6.727	-.750	713.1	713.4	0.0	713.4	639.00	596.75
11	6.572	-.750	717.5	717.8	0.0	717.8	638.48	595.71
12	6.429	-.750	715.1	715.3	0.0	715.3	638.01	595.53
13	6.297	-.750	705.4	705.5	0.0	705.5	636.97	595.64
14	6.177	-.750	696.4	696.5	0.0	696.5	635.99	595.71
15	6.069	-.750	689.9	690.0	0.0	690.0	635.12	595.58
16	5.976	-.750	686.3	686.3	0.0	686.3	634.52	595.40
17	5.898	-.750	683.3	683.3	0.0	683.4	634.21	595.43
18	5.837	-.750	681.0	681.0	0.0	681.0	633.97	595.46
19	5.793	-.750	679.3	679.3	0.0	679.3	633.80	595.48
20	5.766	-.750	678.3	678.3	0.0	678.3	633.69	595.49
21	5.757	-.750	677.9	677.9	0.0	677.9	633.66	595.50

STRM- LINE NUMBER	RADIUS	TOTAL PRESS.	STATIC PRESS.	TOTAL PRESS. RATIO	TOTAL TEMP. RATIO	ABSOL. VELOC.	ABSOL. MACH NUMBER	ABSOL. MACH NUMBER
1	8.500	29.75	23.28	2.0247	1.3120	744.3	.603	.6025
2	8.269	30.02	23.28	2.0428	1.3045	755.0	.614	.6137
3	8.049	30.36	23.28	2.0659	1.2936	767.7	.628	.6277
4	7.841	30.60	23.28	2.0822	1.2784	773.9	.637	.6372
5	7.641	30.34	23.28	2.0650	1.2660	758.8	.627	.6271
6	7.445	30.02	23.28	2.0428	1.2551	740.5	.614	.6137
7	7.254	29.86	23.28	2.0319	1.2467	730.5	.607	.6070
8	7.070	29.70	23.28	2.0214	1.2397	721.1	.600	.6004
9	6.894	29.55	23.28	2.0113	1.2351	712.5	.594	.5940
10	6.727	29.59	23.28	2.0137	1.2319	713.4	.596	.5956
11	6.572	29.69	23.28	2.0203	1.2309	717.8	.600	.5998
12	6.429	29.64	23.28	2.0172	1.2300	715.3	.598	.5978
13	6.297	29.45	23.28	2.0044	1.2280	705.5	.590	.5895
14	6.177	29.28	23.28	1.9927	1.2261	696.5	.582	.5820
15	6.069	29.16	23.28	1.9846	1.2244	690.0	.577	.5766
16	5.976	29.10	23.28	1.9802	1.2233	686.3	.574	.5736
17	5.898	29.04	23.28	1.9764	1.2227	683.4	.571	.5711
18	5.837	29.00	23.28	1.9735	1.2222	681.0	.569	.5692
19	5.793	28.97	23.28	1.9714	1.2219	679.3	.568	.5677
20	5.766	28.95	23.28	1.9701	1.2217	678.3	.567	.5668
21	5.757	28.94	23.28	1.9697	1.2216	677.9	.567	.5666

FREE STATION 13.000 IS INDEX 17

STRM- LINE NUMBER	RADIUS	AXIAL COORD.	ABSOL. FLOW ANGLE	STRM- LINE SLOPE	CURVA- TURE	DENS- ITY	BLOC- KAGE
1	8.500	-.750	0.00	0.00	0.0000	.0990	.0549
2	8.269	-.750	0.00	.37	0.0000	.0998	.0549
3	8.049	-.750	0.00	.68	0.0000	.1010	.0549
4	7.841	-.750	0.00	.91	0.0000	.1024	.0549
5	7.641	-.750	0.00	1.10	0.0000	.1032	.0549
6	7.445	-.750	0.00	1.29	0.0000	.1038	.0549
7	7.254	-.750	0.00	1.44	0.0000	.1043	.0549
8	7.070	-.750	0.00	1.55	0.0000	.1047	.0549
9	6.894	-.750	0.00	1.60	0.0000	.1050	.0549
10	6.727	-.750	0.00	1.59	0.0000	.1053	.0549
11	6.572	-.750	0.00	1.51	0.0000	.1055	.0549
12	6.429	-.750	0.00	1.38	0.0000	.1055	.0549
13	6.297	-.750	0.00	1.21	0.0000	.1055	.0549
14	6.177	-.750	0.00	1.00	0.0000	.1055	.0549
15	6.069	-.750	0.00	.79	0.0000	.1055	.0549
16	5.976	-.750	0.00	.57	0.0000	.1055	.0549
17	5.898	-.750	0.00	.38	0.0000	.1055	.0549
18	5.837	-.750	0.00	.22	0.0000	.1055	.0549
19	5.793	-.750	0.00	.10	0.0000	.1055	.0549
20	5.766	-.750	0.00	.02	0.0000	.1055	.0549
21	5.757	-.750	0.00	0.00	0.0000	.1055	.0549

870902007 - PBS ROTOR #2 AERODYNAMIC ANALYSIS - THRU BLADE

THE MAXIMUM ROTOR D-FACTOR .569 OCCURED AT STAGE 1 ON STREAMLINE 2.
THE MAXIMUM VANE D-FACTOR .476 OCCURED AT STAGE 1 ON STREAMLINE 21.

THE MAXIMUM MERIDINAL MACH NO. .806 OCCURED AT STATION 6 ON
STREAMLINE 5.

PERFORMANCE SUMMARY FOR 870902007:

	SPEC FLOW IN	FLOW RATE IN	CORR FLOW IN	-----S T A G E-----				---CUMULATIVE---		
				P/P	ADIA EFF.	POLY EFF.	VANE TO VANE	P/P	ADIA EFF.	POLY EFF.
REFERENCE		61.04	61.05							
ROTOR 1	42.92	61.04	61.05	2.116	92.8	93.5	93.5	2.116	92.8	93.5
STAGE 1	29.27	61.04	32.35	2.031	87.2	88.4		2.031	87.2	88.4

	ENTROPY RISE	MASS AVERAGED TOTAL PRESS -URE	TOTAL TEMP -ATURE	ROTOR TIP MACH NO.	VANE HUB MACH NO.	RESET ANGLE
REFERENCE		14.69	518.71			
ROTOR 1	1.5	31.09	652.00	.80		
STAGE 1	2.6	29.85	652.03		.64	

CORRECTED RPM 20190.
FLOW COEF. .241
OVERALL ADIA. EFF. 87.21
PT COEF. .784
WORK COEF. .899
FLOW 61.04
RPM 20190.6
PRESSURE RATIO 2.031
EFFICIENCY 87.21

REFERENCES

1. Wennerstrom, A.J., Buzzell, W.A., "Redesign of a Rotor for a 1500 ft/sec, Transonic, High-Through-Flow, Single-Stage Axial-Flow Compressor with Low Hub/Tip Ratio," Air Force Wright Aeronautical Laboratories, Wright-Patterson AFB, Ohio 45433, AFAPL-TR-79-2078, AD B042609, September 1979.
2. Parker, D.E., Simonson, M.R., "Transonic Fan/Compressor Rotor Design Study," Volume I, Air Force Wright Aeronautical Laboratories, Wright-Patterson AFB, Ohio 45433, AFWAL-TR-82-2017, February 1982.
3. Parker, D.E., Simonson, M.R., "Transonic Fan/Compressor Rotor Design Study," Volume III, Air Force Wright Aeronautical Laboratories, Wright-Patterson AFB, Ohio 45433, AFWAL-TR-82-2017, February 1982.
4. Law, C.H., Strain, E.C., "TESCOM Single-Stage Configuration Performance Data Reduction," Air Force Wright Aeronautical Laboratories, Wright-Patterson AFB, Ohio 45433, AFWAL-TR-80-2103, April 1981.
5. Medlock, A., "Multistage Compressor Test Data Analysis Computer Program," Air Force Wright Aeronautical Laboratories, Wright-Patterson AFB, Ohio 45433, AFWAL-TR-83-2053, July 1983.