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Flow-Field Survey in the Test Region of the SR-71 Aircraft Test Bed Configuration

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ABSTRACT

A flat plate and faired pod have been mounted on a NASA SR-71A aircraft for use as a supersonic flight experiment test bed. A test article can be placed on the flat plate; the pod can contain supporting systems. A series of test flights has been conducted to validate this test bed configuration. Flight speeds to a maximum of Mach 3.0 have been attained. Steady-state sideslip maneuvers to a maximum of 2° have been conducted, and the flow field in the test region has been surveyed. Two total-pressure rakes, each with two flow-angle probes, have been placed in the expected vicinity of an experiment. Static-pressure measurements have been made on the flat plate. At subsonic and low supersonic speeds with no sideslip, the flow in the surveyed region is quite uniform. During sideslip maneuvers, localized flow distortions impinge on the test region. Aircraft sideslip does not produce a uniform sidewash over the test region. At speeds faster than Mach 1.5, variable-pressure distortions were observed in the test region. Boundary-layer thickness on the flat plate at the rake was less than 2.1 in. For future experiments, a more focused and detailed flow-field survey than this one would be desirable.

NOMENCLATURE

A, B	angle-of-attack solution parameters for a five-hole probe
A', B', C'	angle-of-sideslip solution parameters for a five-hole probe
c	flat-plate length, in.
D	dummy variable
$KEAS$	equivalent airspeed, knots
LASRE	Linear Aerospike SR-71 Experiment
M	Mach number
P	pressure, lbf/in^2
U	velocity, ft/sec
x	axial distance from leading edge of flat plate, in.
y	vertical distance off surface of flat plate, in.
z	lateral distance from aircraft centerline, in.
α	angle of attack, deg
β	angle of sideslip, deg
Γ	pressure difference triple, lbf/in^2
γ	ratio of specific heats
$\Delta\alpha$	angle-of-attack offset for a five-hole probe, in.
$\Delta\beta$	angle-of-sideslip offset for a five-hole probe, in.
θ	rotation angle for the five-hole probe orifice, deg
λ	cone angle for the five-hole probe orifice, deg
σ	standard deviation

ϕ	angle of roll, deg

Subscripts

avg	average
e	local flow angle
i, j, k	port indices
max	maximum
min	minimum
p	flow-angle probe
pitot	pitot conditions
s	static conditions
t	total conditions
∞	free stream

INTRODUCTION

An SR-71A aircraft at NASA Dryden Flight Research Center (Edwards, California), tail number 844, has been modified into a test bed configuration by incorporating a faired pod and a flat plate onto the upper fuselage (fig. 1). This modified aircraft is intended as a supersonic flight experiment test bed, including for aerodynamic and airbreathing propulsion experiments. A test article can be placed in the test region over the flat plate. The flat plate, in previous literature called the "reflection plane," is at a –2° angle of incidence to align with the local flow field over the aircraft. The plate also serves to straighten the flow in the test region, and can also serve as a simulated wing panel for propulsion concepts, if appropriate. The faired pod, referred to as the "canoe," can contain supporting systems such as instrumentation, controllers, and fuel, as appropriate. The canoe and flat plate were originally built for the Linear Aerospike SR-71 Experiment (LASRE), in which flight effects on the performance of linear aerospike rockets were studied (ref. 1). A series of four test flights has been conducted to validate this test bed configuration (fig. 2), including two flights with the flow-field instrumentation that is the subject of this report. Details about the SR-71 test bed configuration, flight test results, and integration of experiments previously have been published (ref. 2).

For airbreathing propulsion experiments to be carried on the test bed, flow quality over the flat plate into the inlet is anticipated to be important because high-performance supersonic inlets often are highly sensitive to incoming flow conditions. For example, supersonic cruise inlets optimized for high recovery can usually tolerate only a few degrees of flow angle, or a small fraction of a Mach number distortion, before "unstarting" (ref. 3). Therefore, characterizing the flow field of a supersonic propulsion test facility is important.

During two flights of the SR-71 test bed aircraft, relevant flow-field measurements were taken near the likely inlet location of an airbreathing propulsion experiment. This report presents the flight test data and analyses of that flow field. Note this experiment was a "piggyback" one, added onto the alreadyplanned flights for the test bed configuration. As such, this experiment had to meet the existing flight schedule for little additional cost. Whatever hardware was available or could be borrowed, and could be qualified for flight on short notice, was used. The goal was to obtain any test region flow-field information that would otherwise not be known.

INSTRUMENTATION

Two flow survey rakes (fig. 3) were placed on the flat plate. The rakes were lent from NASA Glenn Research Center (Cleveland, Ohio), where they were used as throat calibration rakes in the 10- by 10-ft supersonic wind tunnel. Each rake was 2 ft tall and had 16 total-pressure elements. Each rake was fitted with two hemispherical-tip five-hole probes for flow-angle measurements; these probes also incorporated static taps for instream static-pressure measurements. Hemispherical-tip five-hole probes are believed to have smoother response characteristics than other tip geometries over a range of subsonic to supersonic Mach numbers (ref. 4). The rakes were fabricated from steel. Flight qualification of the rakes was determined from some simple aerodynamic and loads analysis, ground vibration testing, and prior application in the supersonic wind tunnel under similar flow conditions. Table 1 shows vertical positions of the rake elements.

Table 1. Rake element vertical position.

Element[a]	y, in.[b]
16	24.1
Five-hole probe, upper	22.6
15	21.1
14	18.3
13	15.7
12	13.3
11 (not connected)	12.2
10	11.1
Five-hole probe, lower	10.1
9	9.1
8	7.3
7	5.7
6	4.3
5	3.1
4	2.1
3	1.3
2	0.7
1	0.3

[a] Numbered elements are pitot probes.

[b] Distances are referenced from flat plate.

The rakes were positioned in the likely inlet location of an airbreathing propulsion experiment (fig. 4). Longitudinally, the rakes were positioned as far forward as possible while remaining behind the Mach wave from the flat-plate leading edge that occurs during Mach-3.2 flight. Laterally, the "centerline" rake was actually positioned 2 in. right of centerline, and the "offset" rake was 17 in. left of centerline (fig. 5).

Alignment of the five-hole probes on the rake was measured. The flat plate was used as the reference plane, and its side edge was the reference axis. Yaw alignment was measured with the rakes installed on the flat plate. Obviously, the lower surface of the rake base was coincident with the flat plate. Pitch alignment was measured with the rake sitting on a reference flat surface. Individual orifice locations on each probe were measured using a scope on a milling machine. Orifice positions were geometrically converted to half-cone and rotation angles. Measurements were taken before and after flights, and the average was used. Figure 6 shows the orifice numbering convention used in this report. Table 2 shows five-hole probe alignment data.

The centerline rake lower probe was found to be installed rotated nearly 45°, and two of its tubes were broken. Therefore, this probe was considered inoperative and not used. Measurements of orifice positions on the centerline upper probe before and after flights had discrepancies that could not be explained by rotation of the probe. Determining which orifice position measurement was more correct was not possible, so the nominal orifice positions were used for this probe. For the other probes, consistency of orifice position measurements before and after flights was good.

Surface static-pressure measurements were taken on the flat plate at the locations shown in figure 4. Drilling and installing conventional flush static-pressure orifices on the existing hardware were not feasible in the time available. Instead, thin stainless-steel tubes (0.012 in. outer diameter; 0.024 in. inner diameter), sealed at one end, were epoxied to the surface; and an orifice was drilled at the measurement location (fig. 7). These materials are considered robust to the maximum flight speed of approximately Mach 3.0. This configuration is comparable to ribbons of thin flexible tubes, with an orifice in the side of each tube, used for surface static-pressure measurements. Measurements near the rakes provided local surface static pressures for the rakes. Measurement points upstream provided some indication of upstream flow distortions.

In addition, a large hemispherical-tip probe called the "stream probe" was located on the centerline of the canoe, 100 in. in front of the flat-plate leading edge. This probe had nine orifices for total-pressure and flow-angle (five of which were used), and two orifices for static pressure (fig. 8).

All test bed external pressures were measured with 10-lbf/in^2 multiplexed, electronic differential pressure sensors, accurate to approximately ±0.1 lbf/in^2. Reference pressure was read from absolute pressure transducers, accurate to ±0.0057 lbf/in^2. The data were digitally telemetered to the ground station for monitoring and recording.

Aircraft free-stream pitot and static pressures were obtained from the aircraft noseboom; airspeed parameters were derived from these data. Aircraft angle of attack, α, and angle of sideslip, β,were obtained from a four-hole hemispherical-tip probe attached to the aircraft noseboom. The noseboom was calibrated. Angle of attack was referenced to the wing reference plane. Roll angle was obtained from the inertial navigation system (ref. 5). All data were digitally telemetered to ground station and also recorded on an onboard tape. In most cases, the onboard tape data were used for analysis, because the tape is free of telemetry data spikes and dropouts.

Table 2. Five-hole probe geometry measurements and misalignment.

Rake	Orifice number	Angles, deg			
		$\Delta\alpha$	$\Delta\beta$	θ	λ
Centerline, lower		–0.4	0.6		
	1			0.0	0.0
	Inoperative			218.2	49.3
	3			134.1	47.8
	Inoperative			46.3	49.8
	5			–49.3	50.0
Centerline, upper [a]		–0.2	0.4		
	1			0.0	0.0
	2			180.0	45.0
	3			270.0	45.0
	4			0.0	45.0
	5			90.0	45.0
Offset, lower		0.0	–0.3		
	1			0.0	0.0
	2			188.0	45.7
	3			276.6	53.7
	4			–1.5	50.2
	5			92.3	45.5
Offset, upper		0.6	1.1		
	1			0.0	0.0
	2			185.9	44.1
	3			279.2	49.0
	4			–2.9	52.1
	5			81.2	46.8

[a] Nominal orifice positions.

FLIGHT CONDITIONS

Two flights, flights 54 and 55, were conducted with the flow-field instrumentation in place. Flight 54 reached a speed of Mach 3.00 and an altitude of 68,700 ft. Flight 55 reached a speed of Mach 2.75 and an altitude of 63,200 ft, and included a level transonic acceleration for additional transonic data. Test region flow fields were evaluated at several quasi-steady-state test points. Figure 9 shows all test points evaluated, superimposed on the nominal SR-71 flight envelope. Tables 3–6 show Mach number and altitude for the test points considered. In total, 61 test points were examined.

Flight 54 flow-field characteristics were analyzed for Mach numbers from 0.40 to 3.00 during both climb and descent (table 3). A similar range of flight Mach numbers was analyzed for flight 55, but the peak was Mach 2.75 (table 4).

Table 3. Flight 54 flow-field evaluation test points.

Free-stream Mach number	Altitude, ft
0.89	24,100
0.79	24,900
1.20	28,700
1.51	37,900
2.01	51,300
2.40	57,700
3.00	68,700
3.01	66,200
2.38	65,000
2.02	59,400
1.51	47,400
1.17	35,600
0.79	14,700
0.59	11,200
0.41	7,000

Table 4. Flight 55 flow-field evaluation test points.

Free-stream Mach number	Altitude, ft
0.79	16,100
0.90	27,700
0.95	31,700
1.20	27,700
1.52	38,300
2.01	49,500
2.42	57,200
2.70	61,300
2.75	63,200
2.70	62,500
2.42	63,100
2.03	58,700
1.53	46,900
1.20	37,400
0.59	9,400
0.41	5,100

Steady-heading sideslip maneuvers to the left and right were flown to evaluate sensitivity of the test region flow field to aircraft sideslip, and to determine if a reasonably uniform sidewash could be induced for testing purposes.

To obtain data during sideslip maneuvers, flow-field data were extracted from three specific stages on each sideslip maneuver for both flights: the steady-state conditions immediately preceding the maneuver, and the maximum sideslip to the left and to the right as determined by the aircraft noseboom. As before, these three flow-field stages were averaged over a 1-sec flight interval, during which relatively steady-state flow-field properties were achieved.

Flight 54 included five sideslip maneuvers at approximate Mach numbers of 0.90, 0.95, 1.40, 2.60, and 2.80 (table 5). Flight 55 also included five sideslip maneuvers, at approximate Mach numbers of 0.50, 0.80, 0.90, 1.10, and 2.00 (table 6).

Table 5. Flight 54 flow-field evaluation test points with sideslip.

Sideslip maneuver		Free-stream	Altitude,	β,
Number	Direction	Mach number	ft	deg
	Straight	2.60	61,000	0.3
1	Left	2.62	61,200	0.7
	Right	2.65	61,600	–0.4
	Straight	2.78	65,200	0.6
2	Left	2.81	66,000	0.8
	Right	2.80	66,800	–0.5
	Straight	1.38	43,900	0.7
3	Left	1.35	42,100	2.2
	Right	1.31	40,100	–1.8
	Straight	0.91	25,100	0.3
4	Left	0.92	25,200	2.1
	Right	0.91	25,200	–1.9
	Straight	0.95	25,000	0.2
5	Left	0.96	25,500	2.1
	Right	0.96	25,700	–1.7

Table 6. Flight 55 flow-field evaluation test points with sideslip.

Sideslip maneuver		Free-stream	Altitude,	β,
Number	Direction	Mach number	ft	deg
1	Straight	2.07	59,400	–0.1
	Left	2.02	57,400	1.4
	Right	1.94	56,600	–1.0
2	Straight	0.89	24,700	0.4
	Left	0.89	24,900	2.2
	Right	0.91	25,100	–1.6
3	Straight	1.12	25,700	0.1
	Left	1.12	25,900	2.0
	Right	1.14	26,000	–1.8
4	Straight	0.81	15,000	0.1
	Left	0.81	15,000	2.2
	Right	0.81	15,600	–1.7
5	Straight	0.51	5,800	–0.1
	Left	0.52	5,700	2.7
	Right	0.50	5,900	–1.7

ANALYSIS

Procedures and calculations for processing instrumentation measurements are described in this section. Rake pressures and flow-angle probes are also considered.

Data Processing

Flow-field data from flights 54 and 55 were analyzed for the test points. For the sideslip analysis, data were sampled while at maximum sideslip in each direction. To establish a flow-field baseline for the maneuver, data were also extracted immediately preceding the sideslip maneuver.

Data were sampled at 50 Hz over each 1-sec interval. All pressure measurements were corrected from differential pressure to absolute pressure by adding the absolute reference pressure of the canoe. Data points outside a 3-σ band from the mean were considered telemetry data spikes and were discarded. All parameters were then averaged over the 1-sec interval to obtain a steady-state value.

Rakes

To convert the rake-measured pitot pressures into Mach number and total pressure, some assumption must be made about the flow over the rake. Three different approaches were used in the data analysis:

- **The uniform static-pressure assumption**. Surface static pressure measured near the base was applied uniformly over the entire height of the rake, as is conventional for boundary-layer rakes. The argument can be made that, although this assumption is good across a boundary layer, the static pressure could significantly vary elsewhere, especially in supersonic flow. The two static pressures nearest the base of each rake were averaged and used for each respective rake.
- **The interpolated static-pressure assumption**. Pressures from the five-hole probe static ports were used to obtain additional instream static-pressure information. In this approach, static pressures between the surface pressures near the base of the rake and the five-hole probe static port pressures were linearly interpolated over the rake.
- **The uniform total-pressure assumption**. For supersonic flow only, total pressure was assumed to be uniform over the entire rake and equal to free-stream total pressure, P_{t_∞}, from the noseboom. The argument can be made that in supersonic flow over a relatively clean, low-drag configuration, the waves would be relatively weak and cause minimal total-pressure losses. Therefore, the total pressure would be nearly uniform, although greater static-pressure and Mach number variations might exist. Note that this assumption was only used for supersonic flow because in subsonic flow, the total pressure was directly measured. This assumption is not applicable within the boundary layer.

For the uniform static-pressure assumption and the interpolated static-pressure assumption, Mach number and total pressure were computed from the measured pitot pressure and the assumed static pressure. The calculations differed for subsonic and supersonic cases. The flow was determined to be supersonic if the following equations, based on the adiabatic Mach-1 pressure ratio, held true. For convenience, the free-stream static pressure, P_{s_∞}, from the aircraft noseboom was used for this discriminator.

$$\frac{P_{pitot}}{P_{s_\infty}} > 1.89293 \tag{1}$$

For subsonic flow,

$$P_t = P_{pitot} \tag{2}$$

The Mach number was obtained from the isentropic compressible flow equations:

$$M = \sqrt{\frac{2}{\gamma - 1}\left(\left(\frac{P_t}{P_s}\right)^{\frac{\gamma-1}{\gamma}} - 1\right)} \tag{3}$$

where the method for obtaining static pressure, P_s, depended on whether the uniform or interpolated static-pressure assumption was used. Air was assumed to be a calorically perfect gas with the ratio of specific heats, γ, equal to 1.4.

For supersonic flow, the equations differ because the normal shock in front of the pitot tube must be taken into account. For the uniform and interpolated static-pressure assumptions, the local static pressure was assumed to be known. The local Mach number was then calculated using a Taylor series expansion of the inverse Raleigh-Pitot equation (ref. 6):

$$M = \sqrt{\frac{1.42857 - 0.357143D - 0.0625D^2 - 0.025D^3 - 0.012617D^4 - 0.00715D^5 - 0.0043458D^6 - 0.0087725D^9}{D}} \tag{4}$$

where the dummy variable

$$D = 1.839371\frac{P_s}{P_{pitot}} \tag{5}$$

Total pressure was then derived from the normal shock relation (ref. 7).

$$P_t = P_{pitot}\left(\frac{(\gamma+1)M^2}{(\gamma-1)M^2+2}\right)^{\frac{\gamma}{1-\gamma}}\left(\frac{\gamma+1}{2\gamma M^2-(\gamma-1)}\right)^{\frac{1}{1-\gamma}} \tag{6}$$

For the uniform total-pressure assumption, the total pressure was assumed to be known. However, no closed-form solution exists to obtain Mach number given the pressures in equation (6). Therefore, a fifth-order polynomial curve fit was applied to the inverse of equation (6) over a Mach range from 1 to 5, with $\gamma = 1.4$, giving:

$$M = -46.979D^5 + 132.80D^4 - 145.75D^3 + 78.831D^2 - 23.936D + 6.1571 \tag{7}$$

where the independent dummy variable D was defined to be the total-pressure ratio across the normal shock in front of the pitot tube:

$$D = \frac{P_{pitot}}{P_t} \tag{8}$$

The correlation coefficient is 0.9997. Figure 10 shows a graphical representation of the fit.

Average values of Mach number and total pressures were calculated. Flow distortions of Mach number and total pressure were quantified by maximum minus minimum values, a simple criterion often used for inlet research. The bottom three rake probe elements were excluded because they have been shown to be in the boundary layer.

Flow-Angle Probes

Flow-angle probes consisted of the four five-hole probes on the rakes and the larger 11-hole stream probe on the canoe. The five-hole probe data were analyzed using the triples algorithm (ref. 8).* This method was chosen because it is applicable to supersonic flows, and reasonable results can be obtained by using probe geometry measurements without a wind-tunnel calibration. As observed from the data in reference 9, at Mach numbers greater than 1.5 and flow angles less than 10°, the error caused by using initial flow-angle estimates without further correction was less than 1°. In this study, those errors probably were overwhelmed by probe geometry measurement uncertainties. The algorithm was based on sets of pressure differences between three aligned pressure orifices, Γ_{ik}, Γ_{ji}, and Γ_{kj}, called "triples":

$$\begin{aligned} \Gamma_{ik} &= P_i - P_k \\ \Gamma_{ji} &= P_j - P_i \\ \Gamma_{kj} &= P_k - P_j \end{aligned} \tag{9}$$

The local angle of attack, α_e, is obtained from

$$\alpha_e = \frac{1}{2}\tan^{-1}\left(\frac{A}{B}\right) \tag{10}$$

where

$$\begin{aligned} A &= \Gamma_{ik}\sin^2\lambda_j + \Gamma_{ji}\sin^2\lambda_k + \Gamma_{kj}\sin^2\lambda_i \\ B &= \Gamma_{ik}\cos\theta_j\sin\lambda_j\cos\lambda_j + \Gamma_{ji}\cos\theta_k\sin\lambda_k\cos\lambda_k + \Gamma_{kj}\cos\theta_i\sin\lambda_i\cos\lambda_i \end{aligned} \tag{11}$$

and λ and θ are the orifice cone and rotation angles, respectively. Using the orifice numbering convention defined in figure 6,

$$\begin{aligned} i &= 1 \\ j &= 2 \\ k &= 4 \end{aligned} \tag{12}$$

*A patent has been filed on this NASA invention.

The nominal cone angles of the orifices were 45°, except for the center orifice (number 1), which was 0°. Nominal rotation angles were as follows:

$$\begin{aligned} \theta_1 &= 0^\circ \\ \theta_2 &= 180^\circ \\ \theta_3 &= 270^\circ \\ \theta_4 &= 0^\circ \\ \theta_5 &= 90^\circ \end{aligned}$$

Actual cone and rotation angles of the orifices were obtained using trigonometry from detailed position measurements of the probe orifices made using a milling machine scope (table 2 shows the values).

Angle of sideslip was the solution to the quadratic equation in $\tan \beta_e$:

$$A' \tan^2 \beta_e + 2B' \tan \beta_e + C' = 0 \tag{13}$$

where

$$\begin{aligned} A' &= \Gamma_{ik} v_j^2 + \Gamma_{ji} v_k^2 + \Gamma_{kj} v_i^2 \\ B' &= \Gamma_{ik} u_j v_j + \Gamma_{ji} u_k v_k + \Gamma_{kj} u_i v_i \\ C' &= \Gamma_{ik} u_j^2 + \Gamma_{ji} u_k^2 + \Gamma_{kj} u_i^2 \end{aligned} \tag{14}$$

and

$$\begin{aligned} u_{\{ijk\}} &= \cos \alpha_e \cos \lambda_{\{ijk\}} + \sin \alpha_e \sin \lambda_{\{ijk\}} \cos \theta_{\{ijk\}} \\ v_{\{ijk\}} &= \sin \lambda_{\{ijk\}} \sin \theta_{\{ijk\}} \end{aligned} \tag{15}$$

and the indices were

$$\begin{aligned} i &= 1 \\ j &= 3 \\ k &= 5 \end{aligned} \tag{16}$$

Equations (9)–(11) and (13)–(15) are included in the triples algorithm patent (ref. 8). Correcting for probe installation angles, the local flow angles at the five-hole probes were:

$$\begin{aligned} \alpha_p &= \alpha_e + \Delta \alpha \\ \beta_p &= \beta_e + \Delta \beta \end{aligned} \tag{17}$$

Installation angle corrections $\Delta\alpha$ and $\Delta\beta$ were determined from simple geometric measurements referencing the plane and side edge of the flat plate. Therefore, flow angles were measured in relation to the flat plate. Note that flow angles were in the probe frame of reference (that is, positive α_e was upwash, and positive β_e was flow from right to left).

The same technique was used to process data from the canoe stream probe. Nominal orifice locations were used, and a $\Delta\alpha$ of $-2°$ was used to compensate for the incidence angle of the flat plate relative to the canoe. The vertical and horizontal orifice triples were used for angles of attack and sideslip, respectively. No attempt was made to blend in pressures from the other four diagonal orifices.

RESULTS

The appendix provides a complete set of data in tabulated form. An electronic copy of the data is available from the authors. For convenient interpretation and comparison between flights, pressure data were nondimensionalized. Pressures were normalized by free-stream total pressure; except for static pressures, which were normalized by free-stream static pressure. Therefore, with no distortion or losses, nondimensional total pressure was 1.0. Free-stream conditions were obtained from the aircraft noseboom.

Rakes

Rake average and distortion parameters, taken over both rakes, were examined using the three different assumptions (figs. 11–16). The bottom three elements of each rake were excluded because they were in the boundary layer. Effects of right and left sideslip were not expected to be symmetric because the rake placement was not laterally symmetric with respect to the aircraft fuselage centerline.

- **Uniform static-pressure assumption**. Figure 11(a) shows the rake average total pressures. Sideslip cases are plotted with open symbols. As expected, subsonic total pressures were close to free-stream levels, and decreased at supersonic Mach numbers because of increasing shock losses over the aircraft. Right sideslip (that is, the nose pointed right) caused a slight total-pressure decrease. Rake total-pressure maximum and minimum distortions are plotted (fig. 12(a)). With no sideslip, distortions were near zero at subsonic speeds and increased with Mach number, with substantial scatter at speeds faster than Mach 1.6. Right sideslip caused a substantial increase in distortion. Right sideslip may have caused flow distortion off the canoe, canopy, or aircraft forebody to impinge on the survey region because the offset rake is left of centerline. The rake average Mach numbers are plotted (fig. 13(a)). The Mach numbers in the survey region were near or slightly below free stream. A slight dip exists near Mach 1. This decrease could be caused by uncertainties in measuring static pressure in this regime, which would also affect the switch between subsonic and supersonic calculations and result in anomalous data. Rake Mach number maximum and minimum distortions (fig. 14(a)) exhibited similar patterns as the total-pressure distortion. Average static pressures measured near the base of the rake (fig. 15(a)) were close to free-stream levels, although increases existed at approximately Mach 1 and greater.
- **Interpolated static-pressure assumption**. This method makes use of all available static-pressure information. Compared with the uniform static-pressure assumption, rake average total pressures (fig. 11(b)) showed a greater decrease with increasing Mach number, and total-pressure distortions (fig. 12(b)) were comparable. Rake average Mach numbers (fig. 13(b)) were similar, but with a more pronounced dip at approximately Mach 1. Mach distortions (fig. 14(b)) were substantially

higher in the transonic region, but comparable in other cases. Rake average static-pressure measurements (fig. 15(b)) had a pronounced spike at approximately Mach 1. Rake static-pressure maximum and minimum distortions (fig. 16(a)) also had a large spike at approximately Mach 1, and showed high levels and scatter at greater Mach numbers. These characteristics suggested that static-pressure ports on the five-hole probes were strongly influenced by transonic effects. At supersonic speeds, especially faster than Mach 1.5, waves appeared to be impinging on the rakes, and also static-pressure measurements may have been influenced by waves from adjacent probes. Therefore, the interpolated static-pressure assumption also has inherent inaccuracies.

- **Uniform total-pressure assumption**. Rake average Mach number was close to or slightly greater than the free-stream Mach number (fig. 13(c)). Recall the uniform total-pressure assumption was only applicable to supersonic cases. Outlying data points at approximately Mach 1 probably were caused by transonic effects. Mach distortions were much higher than with the uniform static-pressure assumption (fig. 14(c)). The inferred rake average static pressures (fig. 15(c)) were lower than the measured static pressure near the base of the rakes (fig. 15(a)). A possible explanation is that supersonic total-pressure losses in the flow field of the aircraft and test bed were not negligible, which would result in an artificially low static pressure when the uniform total-pressure assumption was used. Therefore, this assumption may not be the best for obtaining quantitative results. For completeness, rake static-pressure distortions are also plotted (fig. 16(b)).

In the subsequent rake profile plots, the uniform static-pressure assumption was used, and total-pressure profiles were plotted (figs. 17–25). Total pressure was exactly measured in subsonic flow, and was minimally influenced by static-pressure errors in low supersonic flow. As discussed above, the uniform static-pressure assumption appears to be the best approach for obtaining quantitative results. To illustrate the three different assumptions, rake total-pressure, Mach number, and static-pressure profiles are plotted for a representative Mach 2.4 case (figs. 17–19).

In subsonic flight, total-pressure profiles in straight flight showed excellent flow uniformity (fig. 20). During sideslip maneuvers, localized total-pressure loss was observed in right sideslip on the offset rake (fig. 21(b)). Note that angle of sideslip is negative in a right sideslip (the aircraft nose points to the right) to maintain consistency with past reports.

Figure 22 shows total-pressure profiles from straight supersonic flight. At speeds faster than Mach 1.6, distortions were greater and the offset rake measured what appeared to be localized total-pressure loss regions. Total pressure appeared to decrease at supersonic Mach numbers, which was expected because of greater shock losses. Sideslips at Mach numbers of 1.4, 2.0, and 2.8 showed significant, localized total-pressure loss on the offset rake in right sideslip (figs. 23–25). Localized total-pressure losses also became apparent on the centerline rake in right sideslip at Mach 2.0 and faster (figs. 24(a) and 25(a)).

Flow-Angle Probes

Difficulty in accurately measuring orifice positions, and the sensitivity of flow-angle measurements to orifice position, suggests that flow angles presented here should be used only for qualitative evaluation of the flow field. As previously mentioned, nominal orifice locations were used for the stream probe. To obtain accurate flow-angle measurements, wind-tunnel calibration of the probes over the Mach ranges to be considered would still be necessary. As previously noted, without calibration, the results were good only at greater than Mach 1.5. Also recall the centerline rake lower probe was inoperative.

Figure 26 shows variations of five-hole and stream probe angle of attack, α_p, and angle of sideslip, β_p, with free-stream Mach number plotted for nominally straight flight. The α_p of the lower probe and stream probe were close to 0°, probably because of the flow straightening effect of the flat plate. The upper probes exhibited greater scatter than the lower probe. The β_p values were also close to 0°, except for the offset lower probe, which showed substantial scatter. These results suggest a localized flow distortion is impinging in this region in this Mach number range.

Figure 27 shows variations of five-hole and stream probe flow angles over a limited range of aircraft angle of attack plotted for nominally straight flight. As expected, not much variation existed in α_p because of the straightening effect of the flat plate; and as before, substantial scatter existed in β_p of the offset lower probe.

Figure 28 shows variations of five-hole and stream probe flow angles with aircraft angle of sideslip plotted. As might be expected, no major trend in α existed. No strong correlation existed between aircraft β and flow-angle probe β_p, as would be desired if using aircraft β to create a uniform sidewash over the test region. As before, β_p of the offset lower probe showed substantial scatter.

Measurements from stream probe static ports were erratic for unknown reasons. Therefore, local Mach number and supersonic total pressure could not be accurately calculated using the stream probe.

Boundary Layer

The flow survey rakes were not designed as boundary-layer rakes, and the spatial resolution near the surface was inadequate for quantitative boundary-layer analysis. However, consider the minimum and maximum rake velocity profiles for all the cases (fig. 29), assuming uniform static temperature over the rake. Boundary-layer effects evidently were confined to the bottom three probe elements in all cases. Therefore, one can reasonably claim that in the conditions investigated, the boundary-layer thickness was less than 2.1 in., the height of the fourth probe element off the surface.

Static Pressures

Static-pressure data were collected for flights 54 and 55 at various static-pressure ports located along the flat plate. The static pressures were evaluated for combinations of the following conditions: level flight, sideslip maneuvers, varying Mach number, and varying location along the flat plate.

Static pressures at subsonic flight speeds were fairly constant with axial position along the flat plate (fig. 30). Supersonic level flight data for static pressures show that static pressure decreased with increasing distance from the leading edge, with this trend becoming more pronounced as flight speed increased (fig. 31). Supersonic data also show the static pressure increased with increasing flight speed.

Static-pressure data were also collected at various lateral distances from the flat-plate centerline. Static pressure did not significantly vary in subsonic flight (fig. 32), but greater pressure variation was measured supersonically (fig. 33).

Static-pressure data were taken with sideslip and compared with distance from the flat-plate leading edge. Static pressure is shown to have somewhat increased with increasing flight speeds (figs. 34–37) and considerably more scatter exists than during straight and level flight. No clear trends of static pressure existed with increasing distance from the leading edge. Trends in static-pressure measurements between left and right sideslips were also not obvious.

Static pressures were fairly constant in comparison with distance from the centerline while in all sideslip maneuvers (figs. 38–41). This constant trend is even more noticeable for flight 55. Here again, trends of static-pressure data with location on the reflection plane were not obvious, nor were differences between the left and right sideslips.

DISCUSSION

At subsonic and low supersonic speeds with no sideslip, the flow in the surveyed region was quite uniform. The first major type of flow distortion observed was a localized total-pressure loss that impinged on the surveyed region when the aircraft was in sideslip at subsonic to supersonic speeds. Aircraft configuration geometry and flow-distortion profiles suggest these distortions could have been vortices or wakes shed off the aircraft canopy, forebody chines, or canoe forebody when flying at a positive angle of attack (fig. 42). Large variations between test points also suggest these distortions were highly localized flow phenomena. Partly as a result of this flow distortion, aircraft sideslip did not produce a uniform sidewash over the test region, as would be desired.

The second major type of flow distortion observed was highly variable–pressure distortions at supersonic speeds, particularly speeds faster than Mach 1.5. These distortions appear to have been supersonic waves off the aircraft. Configuration geometry, and the range of Mach numbers where distortions were observed, suggest the waves could have been from the region around the J58 engine inlet to the bleed exit ports (fig. 43). That flow field would have been highly nonuniform and could have varied depending on engine and inlet operating conditions, which could partly explain the data scatter.

Direct correlation of present data with existing computational fluid dynamic analyses and wind-tunnel testing was not possible. The configurations previously examined were substantially different, with the large, blunt LASRE model occupying nearly the entire length of the flat plate or the canoe alone without the flat plate (ref. 9). If some of the supersonic flow distortions were indeed caused by the J58 inlet and bleed exit flow, they were probably not accurately reproduced in the analysis.

Some suggestions are offered for inlet flow-field considerations on potential airbreathing propulsion experiments to be carried. Sideslip maneuvers introduced flow distortions, rather than a uniform sidewash, into the surveyed region. The experiment could be designed to be highly tolerant to flow distortions, which may or may not be feasible. The present study obtained data in one specific area and encountered localized and variable flow distortions. Therefore, the flow quality over the flat plate could be highly variable. If an experiment is sensitive to flow distortion, then a separate flow-field survey should be performed, focusing on the particular inlet region, flight conditions, and flow-distortion types of interest. From a purely flow-quality standpoint, the best solution would be to locate the experiment inlet as far forward as possible, near the front of the canoe, moving the flat plate forward if necessary. This placement should bring the inlet out in front of the major waves from the J58 engine pods, into a cleaner flow field. However, this configuration aerodynamically would be substantially different than the one flown and would require additional analysis and flight envelope clearance. Also, if a large experiment is mounted far forward, it may lead to problems with aircraft moments and stability, which was the original reason why the flat plate was located so far aft in the LASRE experiment.

CONCLUDING REMARKS

Using the SR-71 test bed configuration, flow surveys were conducted in the estimated location of the inlet of a hypothetical airbreathing propulsion experiment carried on the aircraft. Two flights were conducted at speeds to a maximum of Mach 3.0. Rake total pressures, surface static pressures, and several flow angles were measured. Major findings and recommendations are as follows:

- At subsonic and low supersonic flight with no sideslip, the flow in the surveyed region was quite uniform.
- During sideslip maneuvers, localized flow distortion impinged in the test region. These distortions could have been vortices or wakes shed off the aircraft canopy, forebody chines, or canoe forebody. Aircraft sideslip did not produce a uniform sidewash over the test region, as would be desired.
- At supersonic speeds, especially faster than Mach 1.5, variable-pressure distortions were observed in the test region. These distortions were probably supersonic waves off the aircraft, possibly from the J58 engine inlets, cowl leading edge, or bleed exit ports.
- Boundary-layer thickness on the flat plate at the rake was no more than 2.1 in.
- For future airbreathing propulsion experiments, especially if sensitive to flow distortions, a flow-field survey would be desirable, focusing on the particular inlet region, flight conditions, and flow-distortion types of interest.
- Several approaches were used to calculate flow parameters from pitot pressures measured by the flow survey rake with available instrumentation. The most successful approach was to apply the static pressure measured at the surface near the base of the rake over the entire rake, as is conventional for boundary-layer rakes.
- Qualitative flow-angle information for flight at Mach 1.5 and faster were obtained from hemispherical-tip five-hole probe pressure measurements using only geometric and theoretical means. To obtain quantitative or low-speed flow-angle data, wind-tunnel calibration of the probes would be necessary.

FIGURES

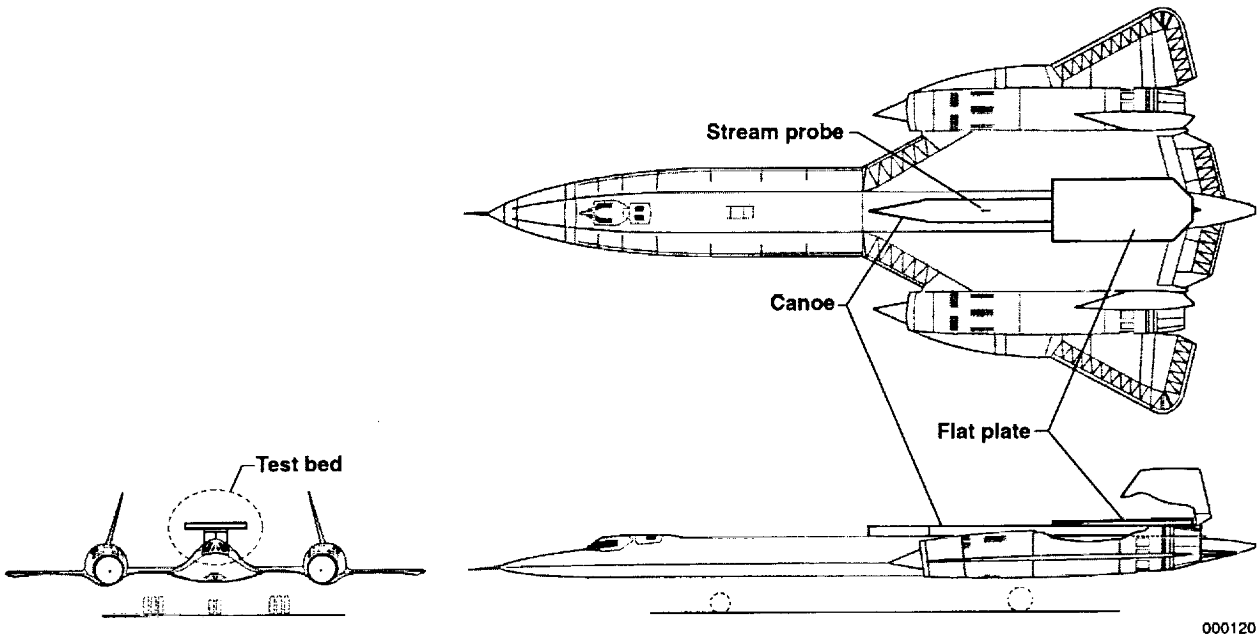

Figure 1. SR-71A aircraft test bed configuration.

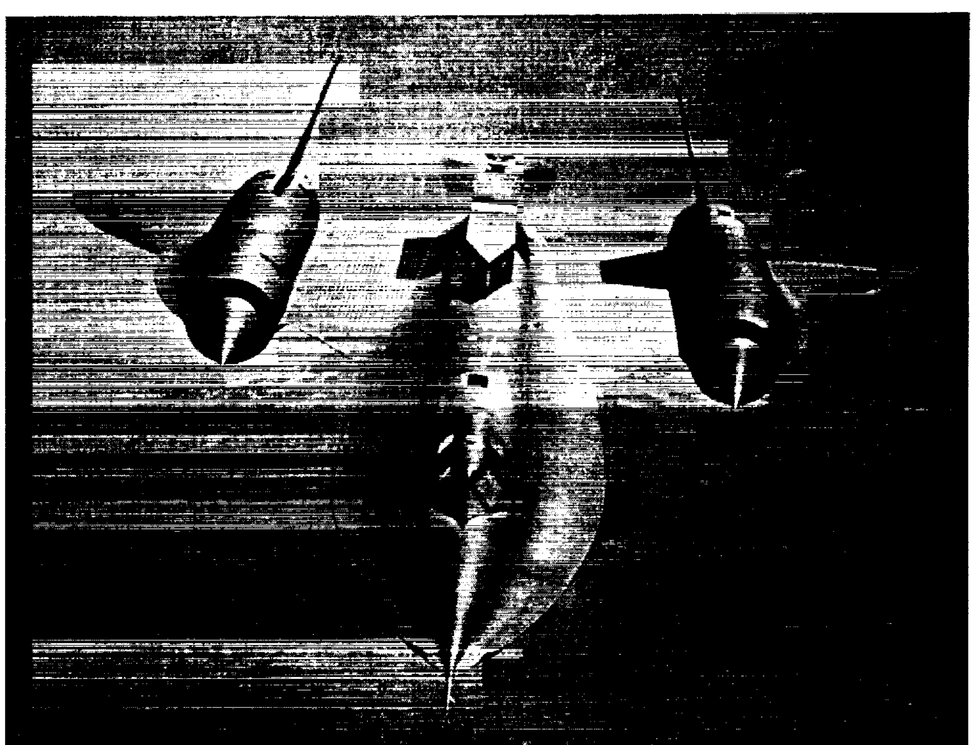

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Figure 2. SR-71A aircraft test bed configuration in flight.

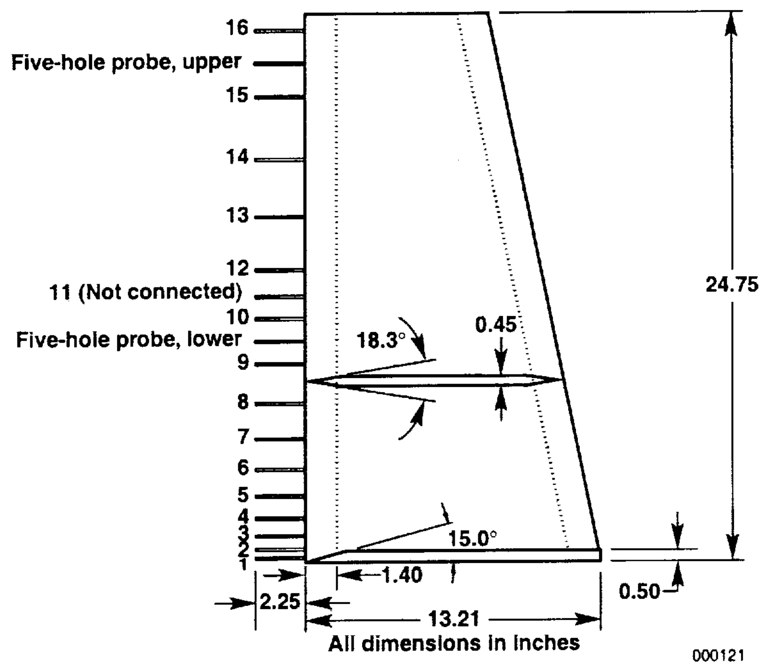


Figure 3. Flow survey rake.

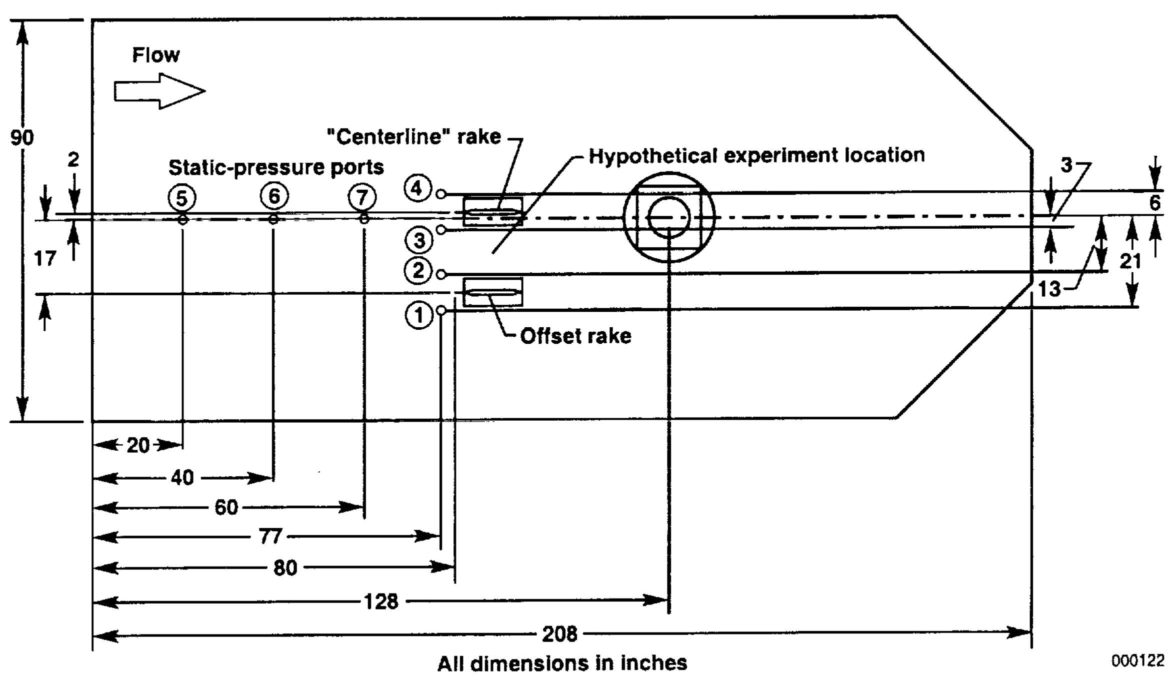


Figure 4. Instrumentation on flat plate.

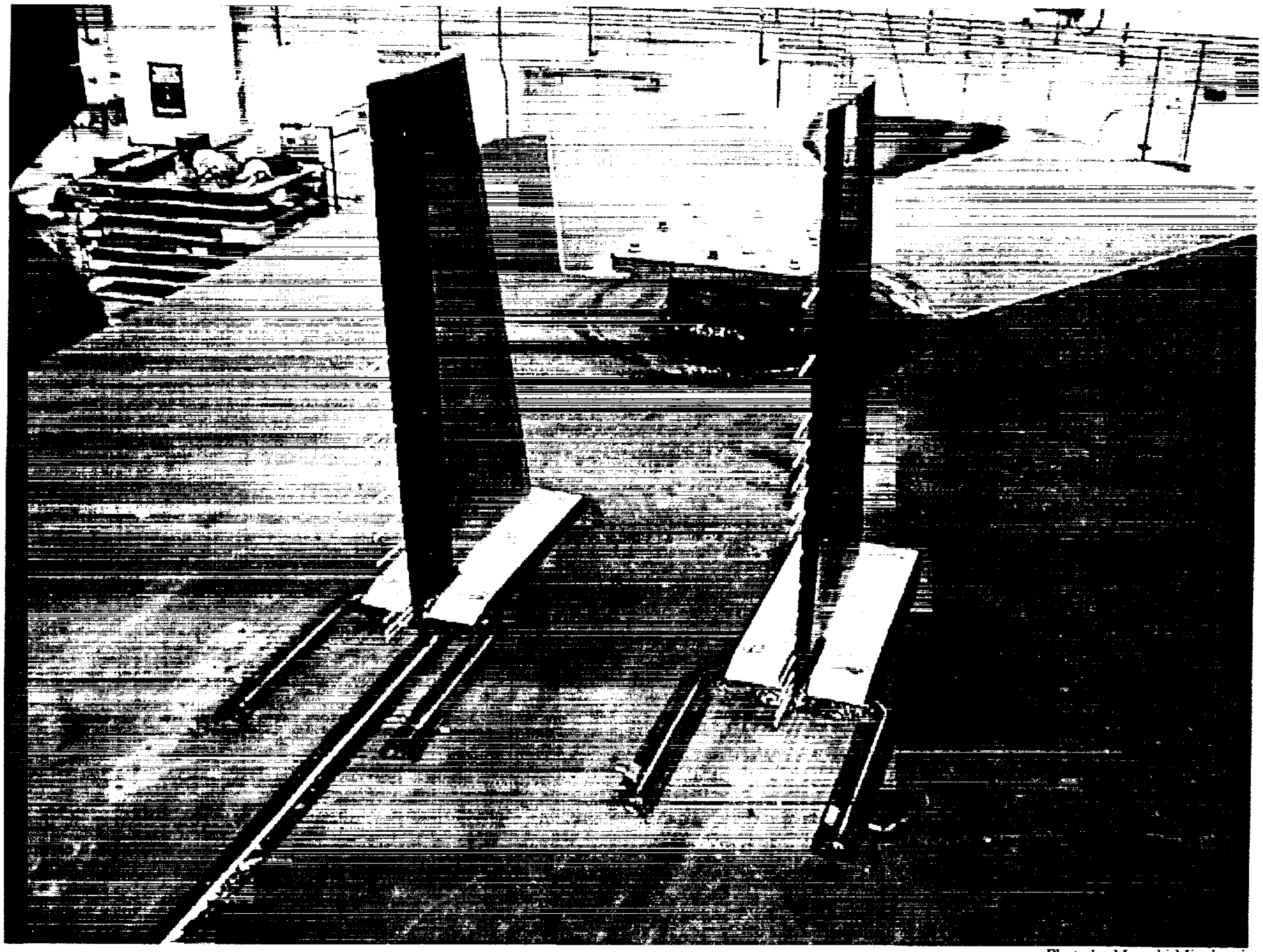


Photo by Masashi Mizukami

Figure 5. Rake installation on flat plate.

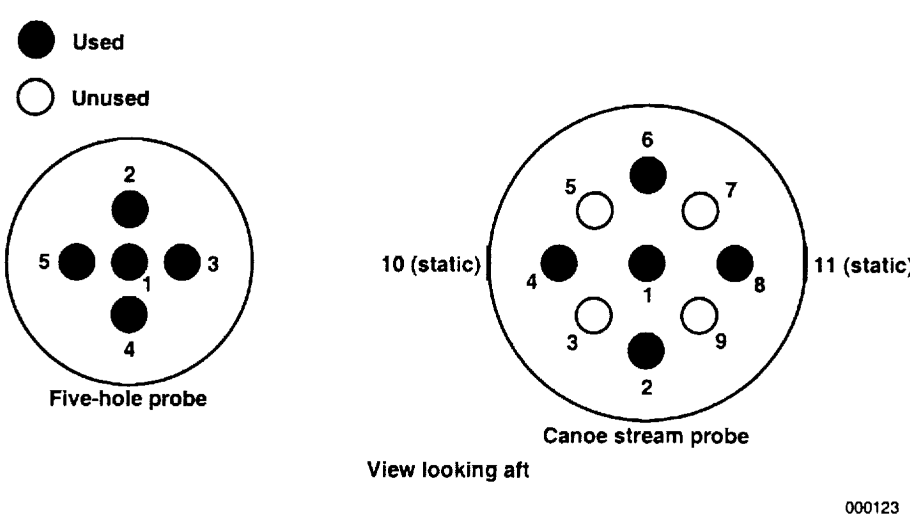


Figure 6. Flow-angle probe orifice numbering convention.

Figure 7. Stake pressure port installation.

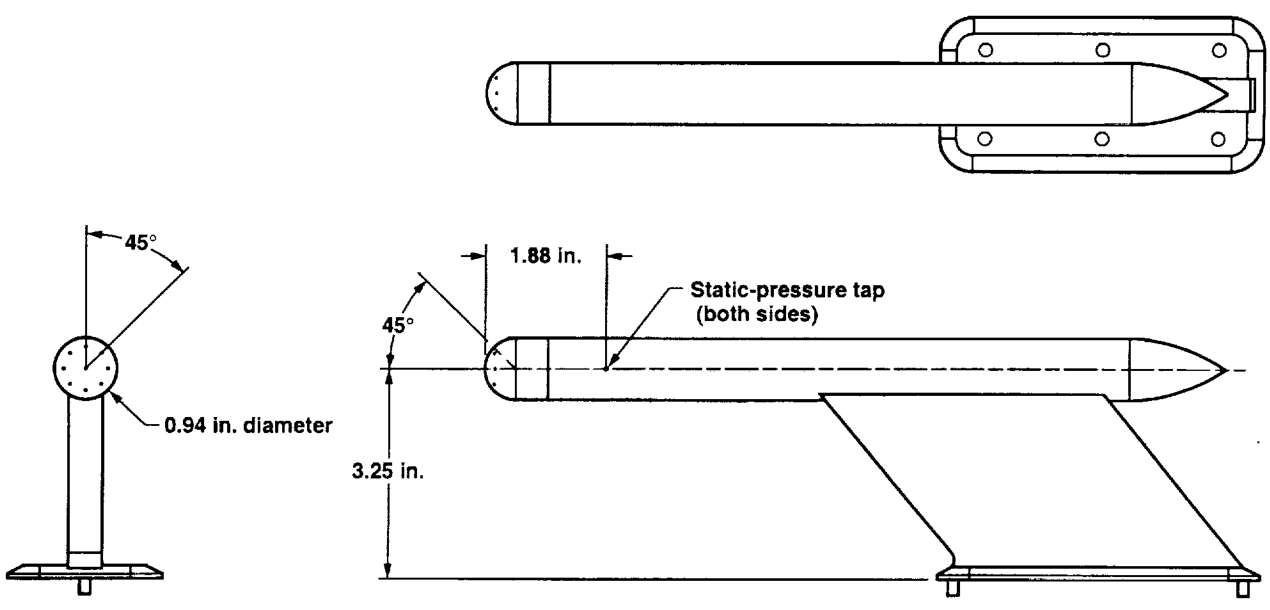


Figure 8. Canoe stream probe.

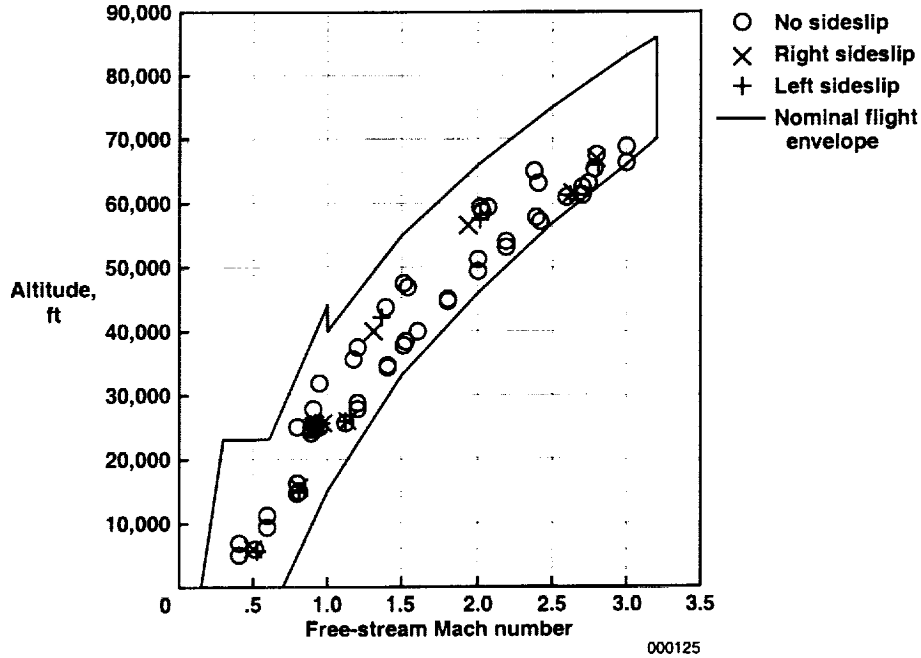


Figure 9. Test points and SR-71 nominal flight envelope.

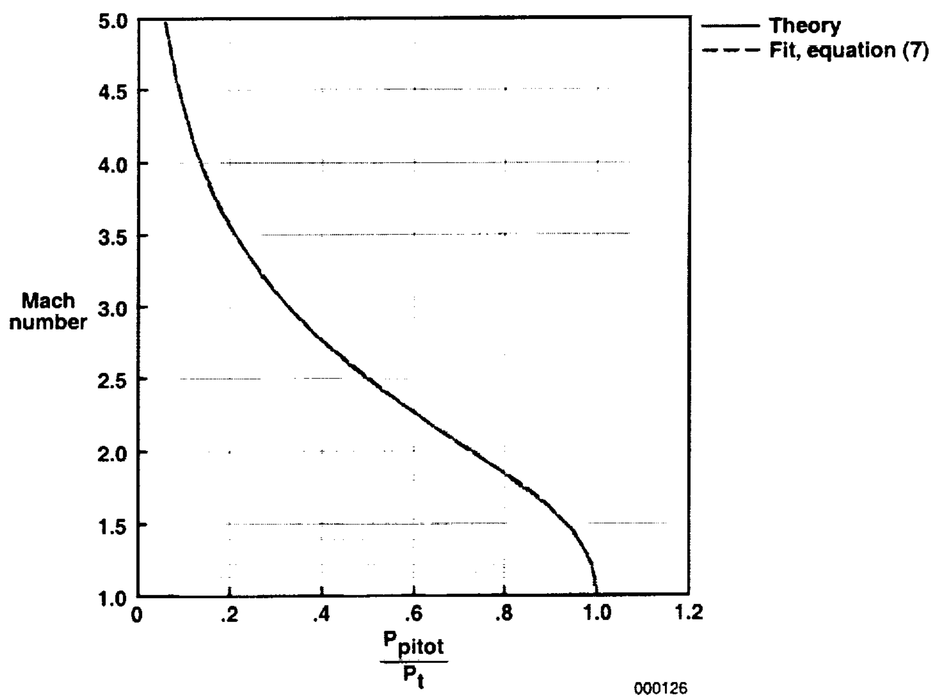
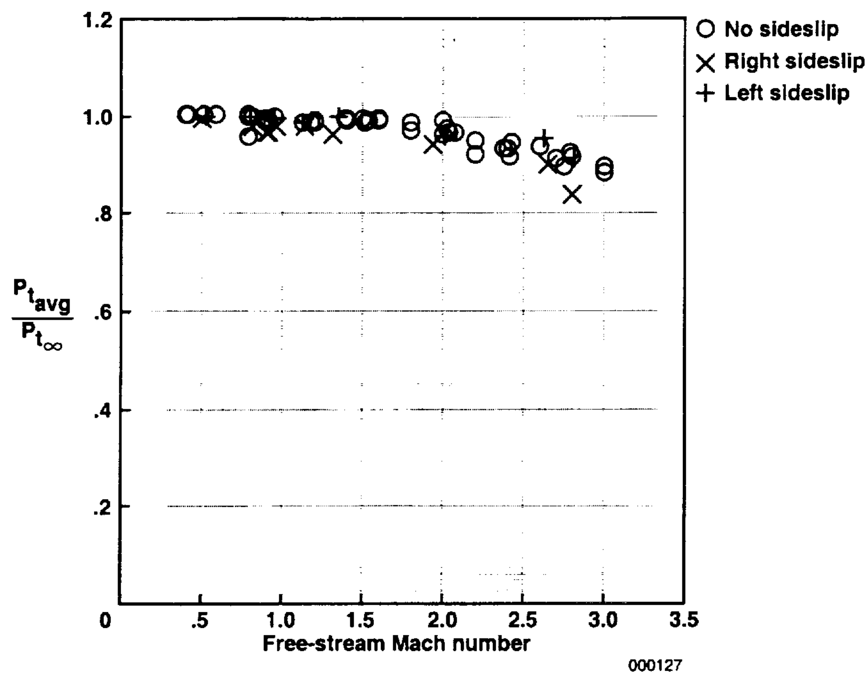
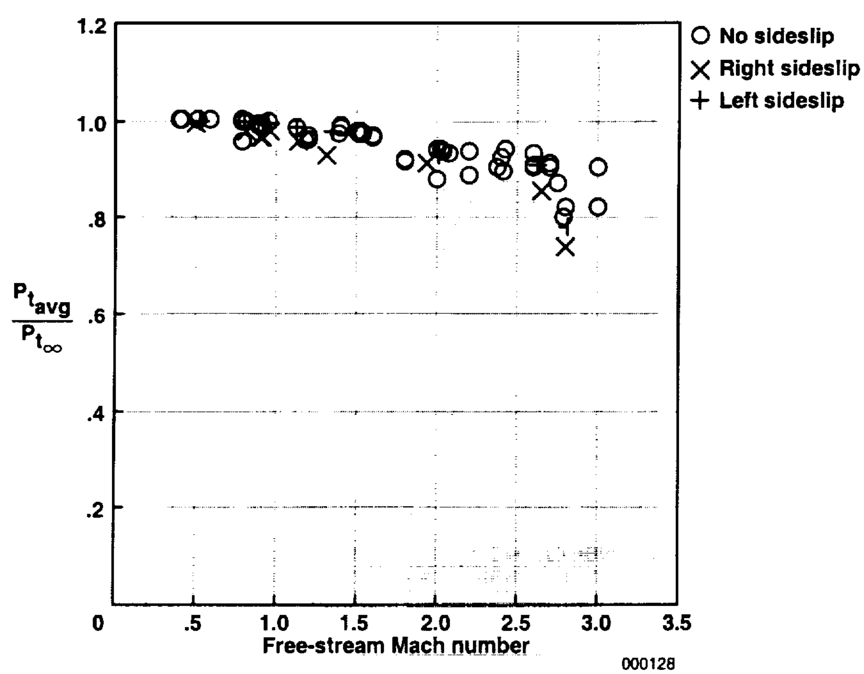


Figure 10. Normal shock total-pressure ratio as a function of upstream Mach number, theory, and fifth-order polynomial curve fit.

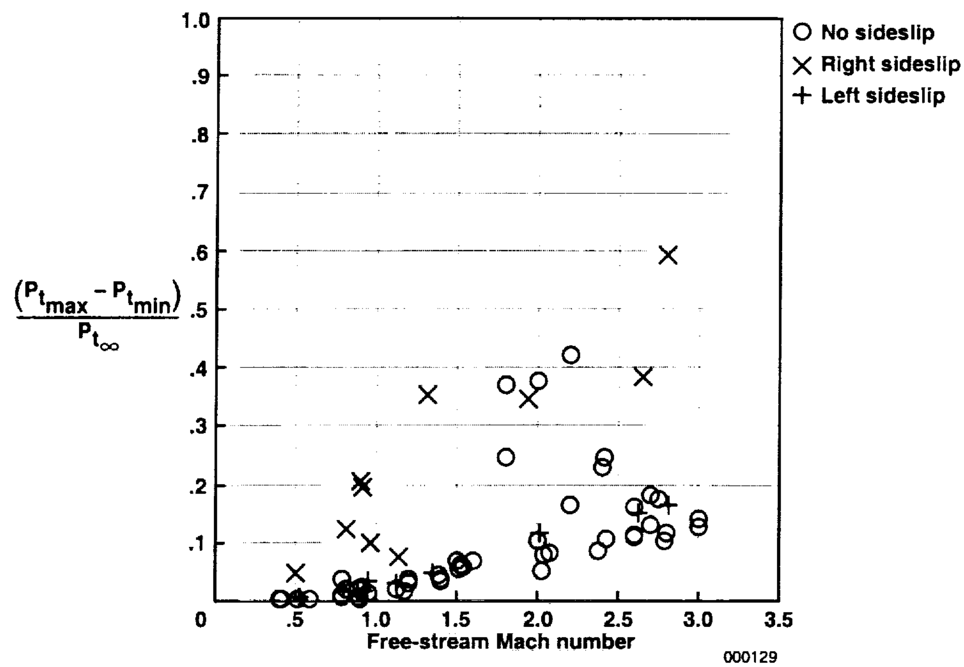


(a) Uniform static-pressure assumption.

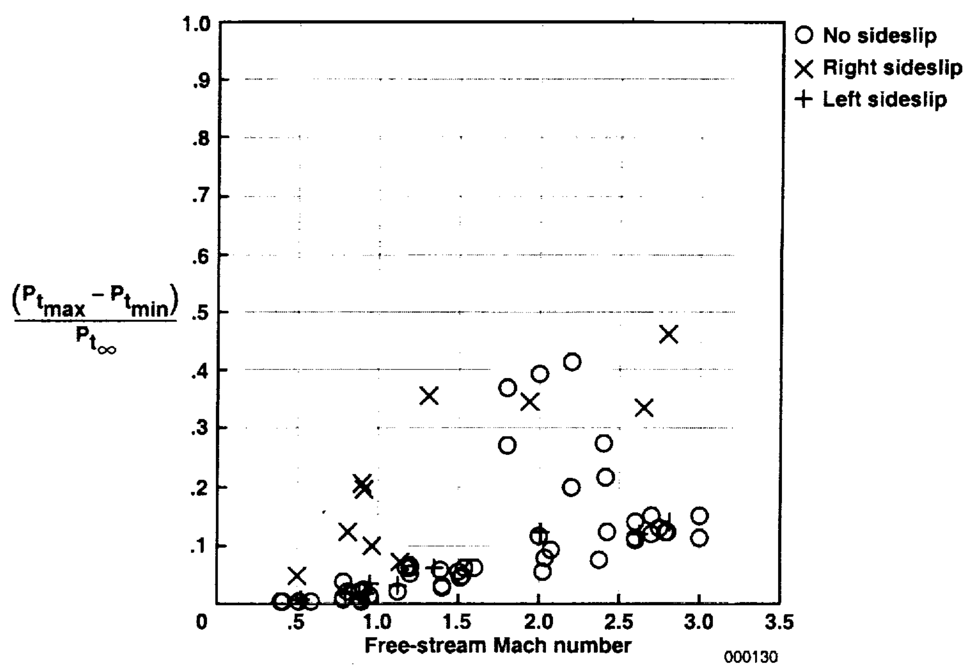


(b) Interpolated static-pressure assumption.

Figure 11. Rake average total pressures for both rakes.

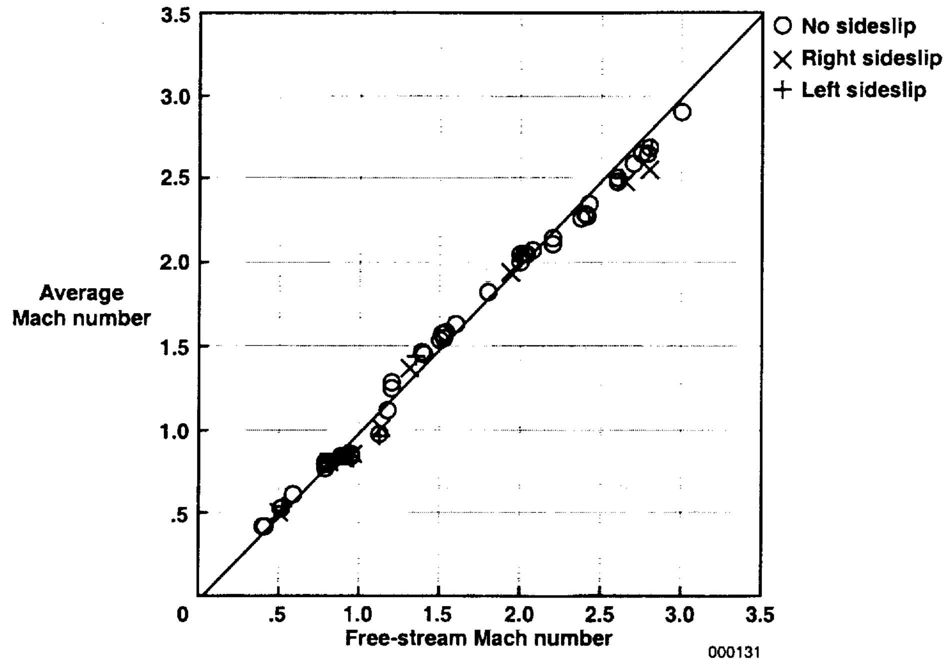


(a) Uniform static-pressure assumption.

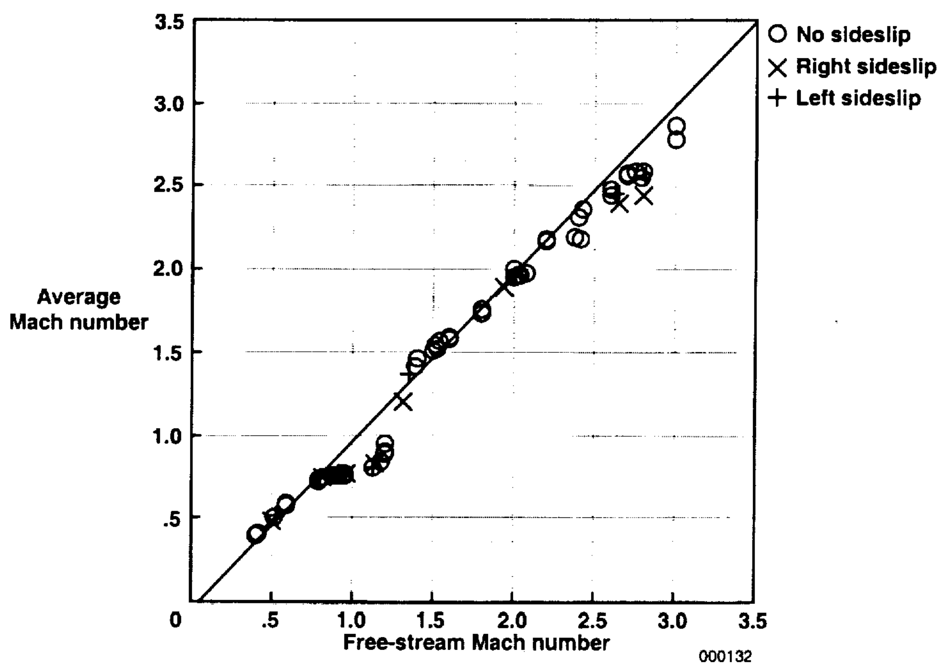


(b) Interpolated static-pressure assumption.

Figure 12. Rake total-pressure distortions for both rakes.

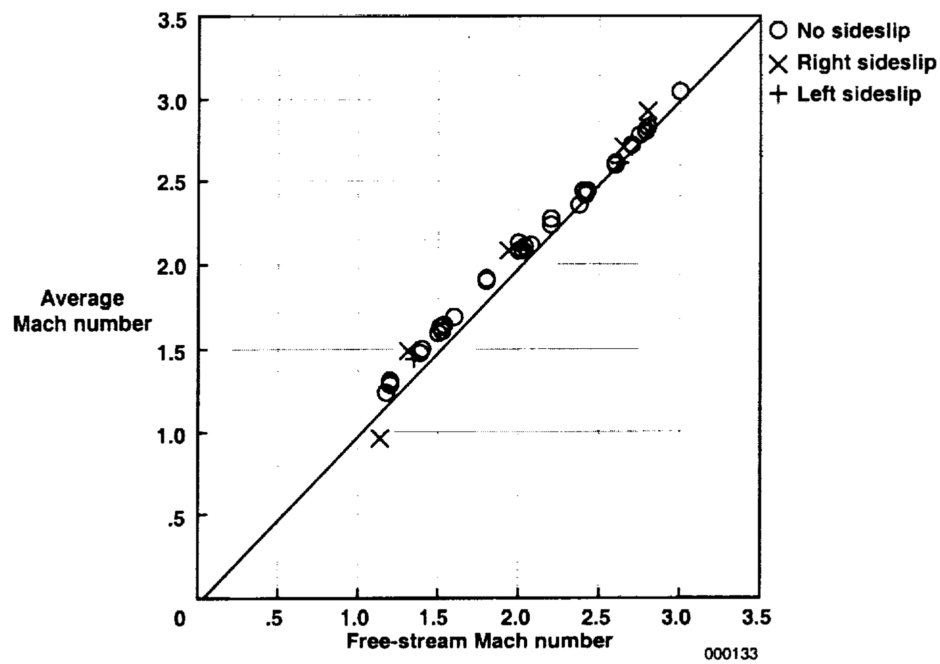


(a) Uniform static-pressure assumption.



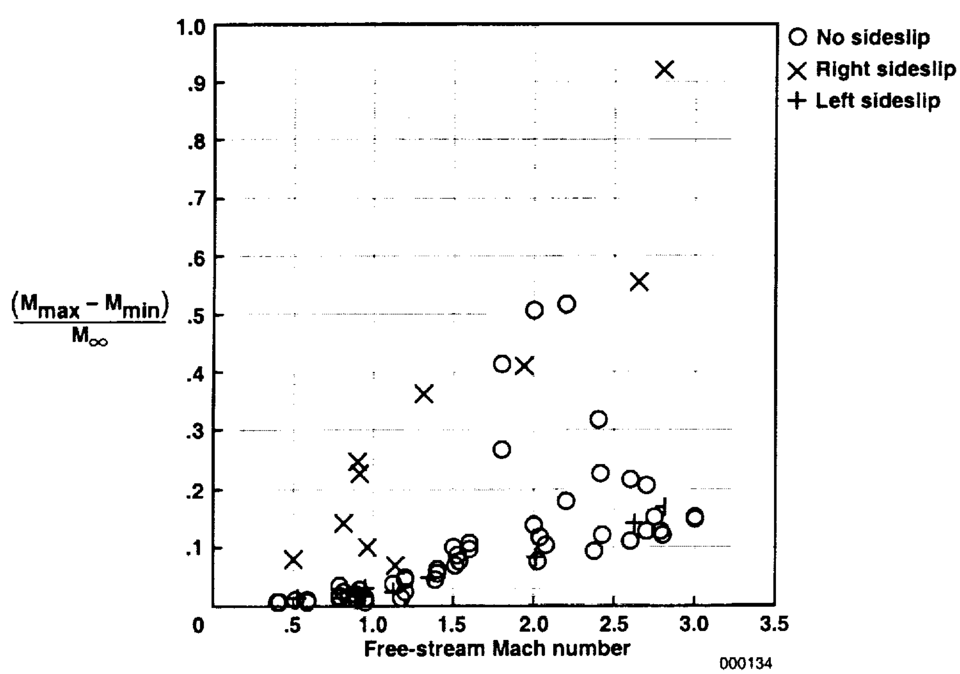
(b) Interpolated static-pressure assumption.

Figure 13. Rake average Mach number for both rakes.



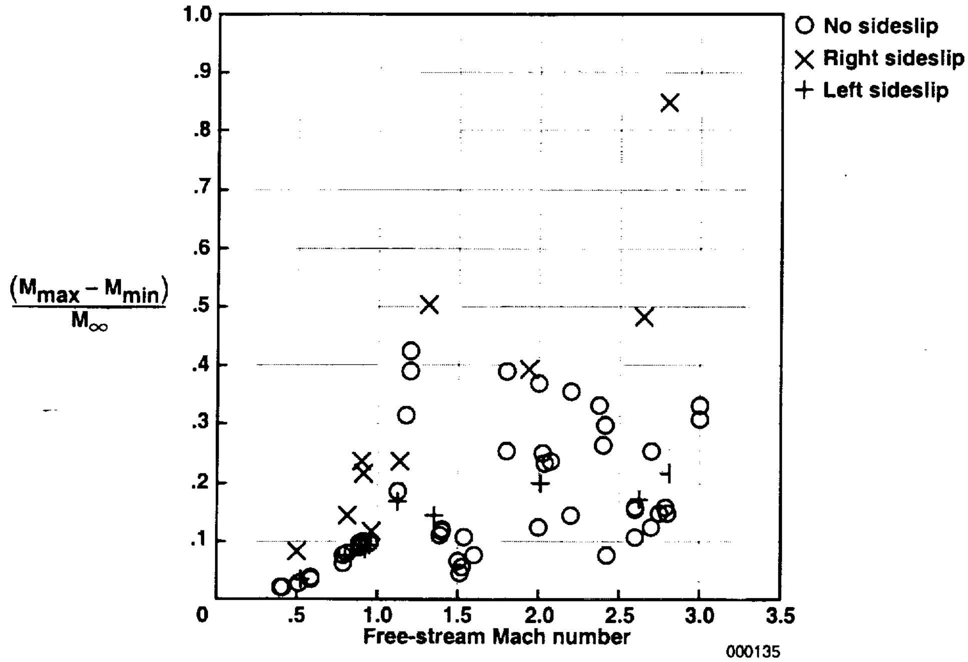
(c) Uniform total-pressure assumption.

Figure 13. Concluded

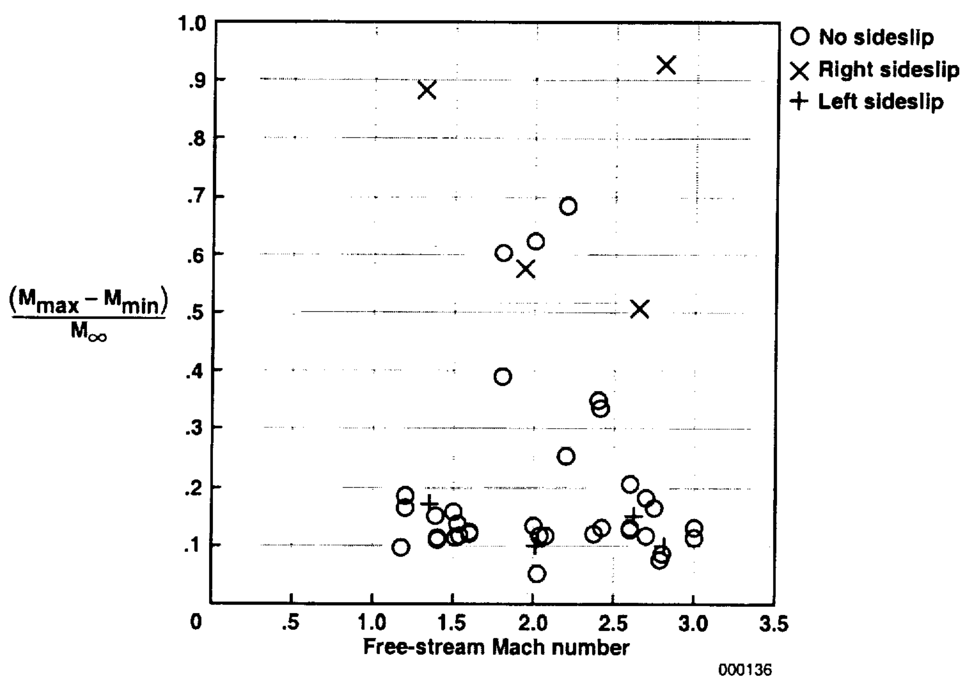


(a) Uniform static-pressure assumption.

Figure 14. Rake Mach number distortions for both rakes.

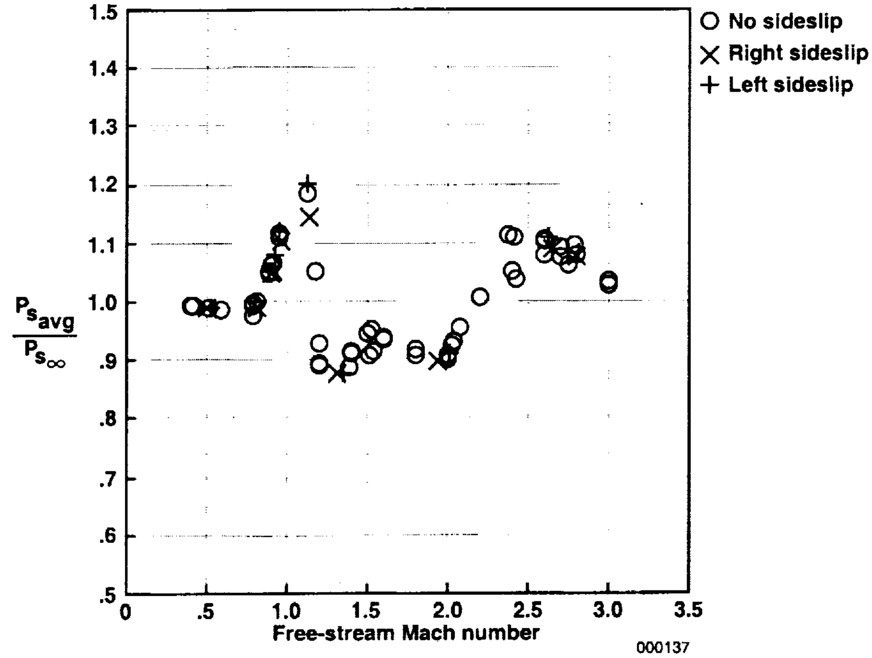


(b) Interpolated static-pressure assumption.

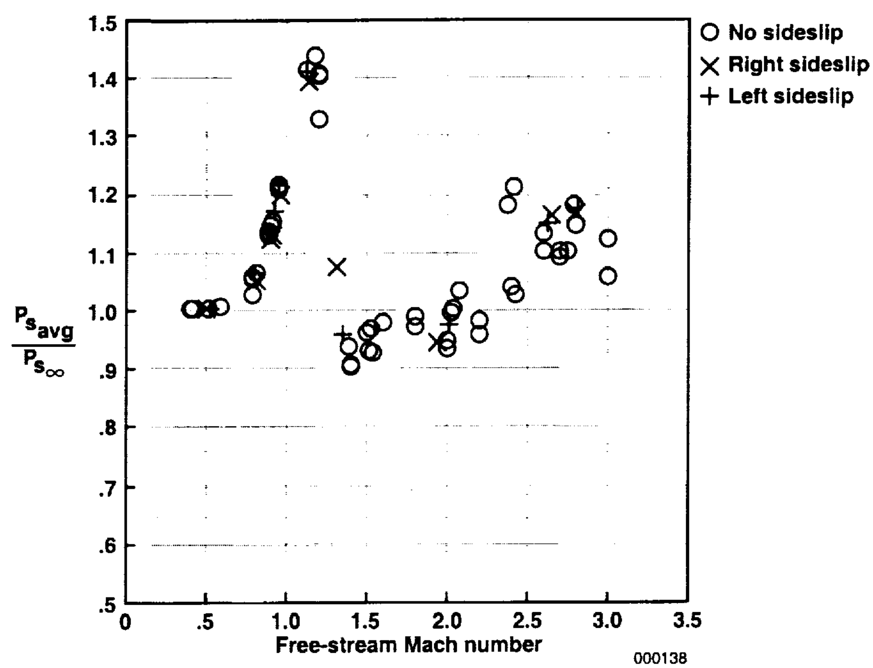


(c) Uniform total-pressure assumption.

Figure 14. Concluded.

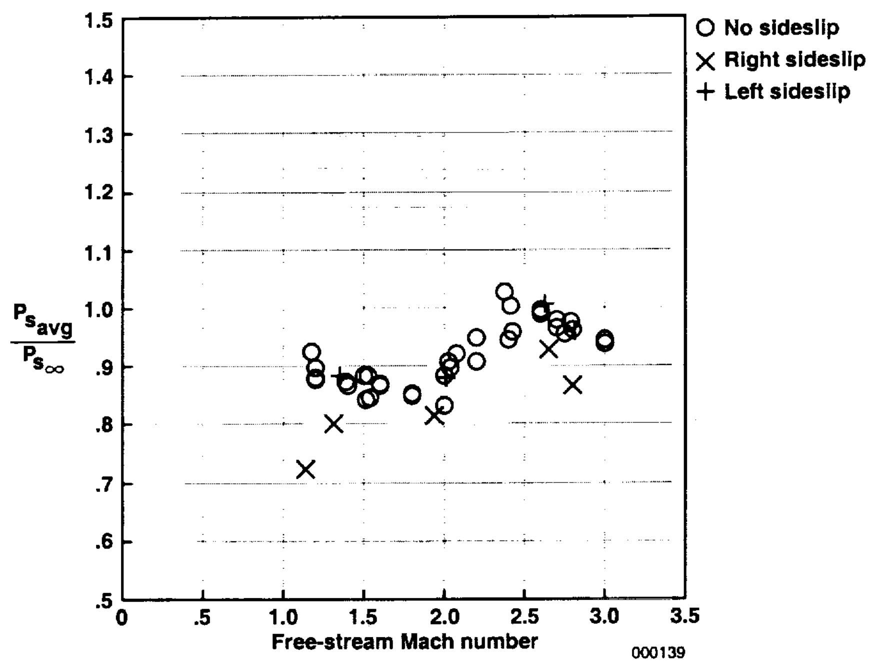


(a) Uniform static-pressure assumption.



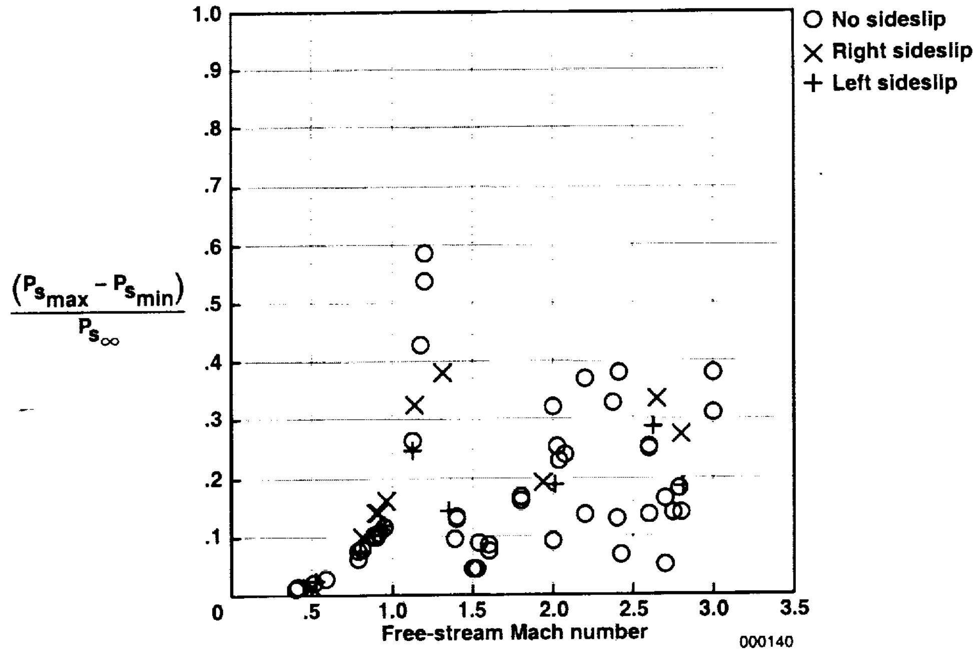
(b) Interpolated static-pressure assumption.

Figure 15. Rake average static pressures for both rakes.

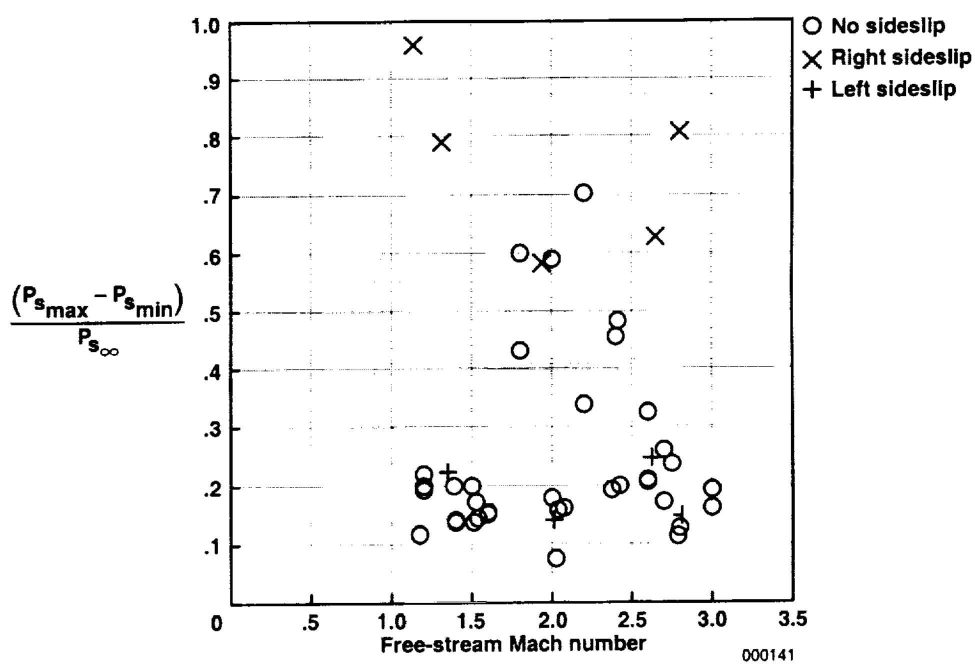


(c) Uniform total-pressure assumption.

Figure 15. Concluded.

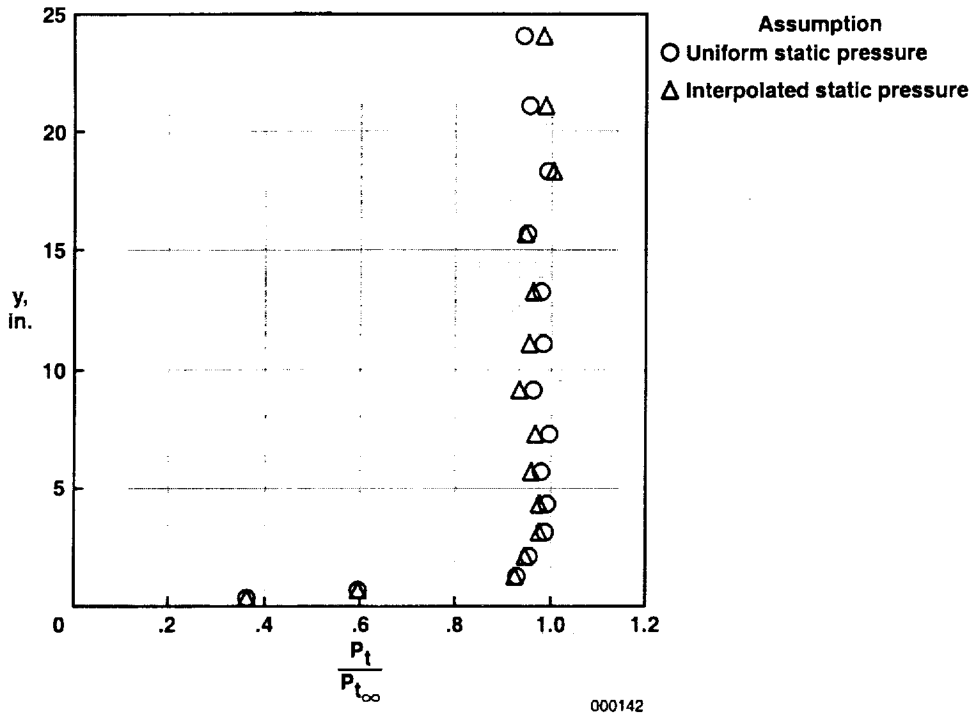


(a) Interpolated static-pressure assumption.

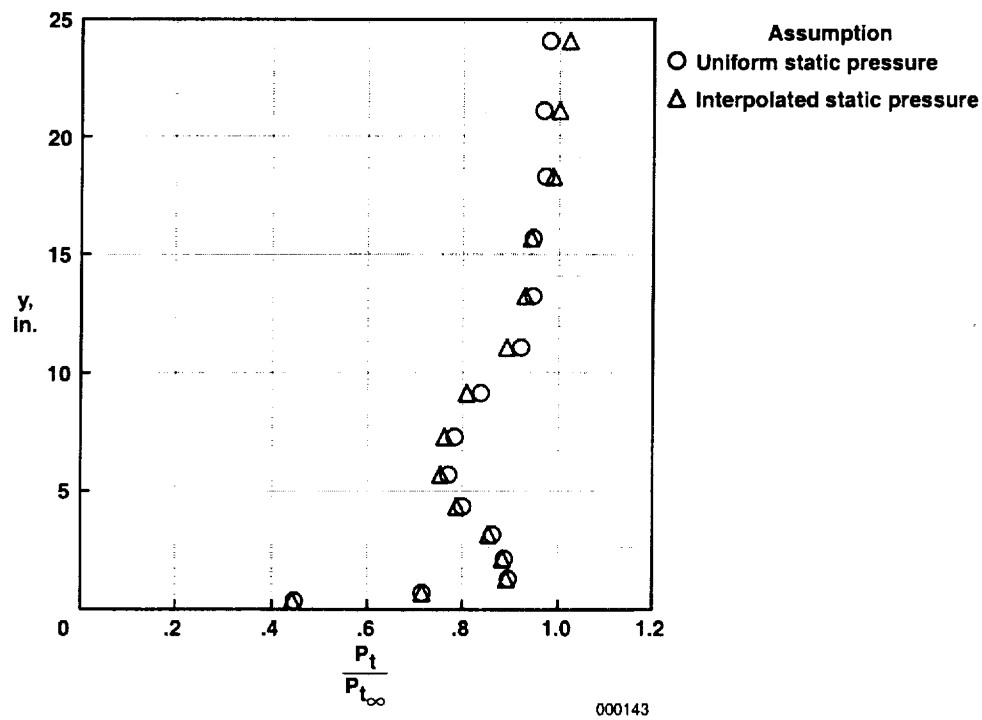


(b) Uniform total-pressure assumption.

Figure 16. Rake static-pressure distortions for both rakes.

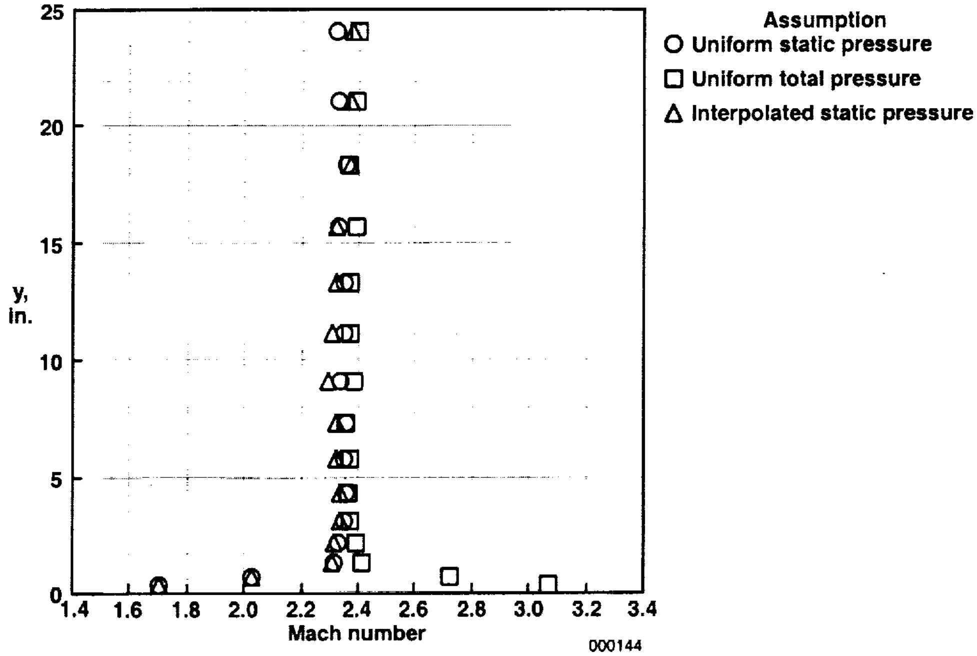


(a) The centerline rake.

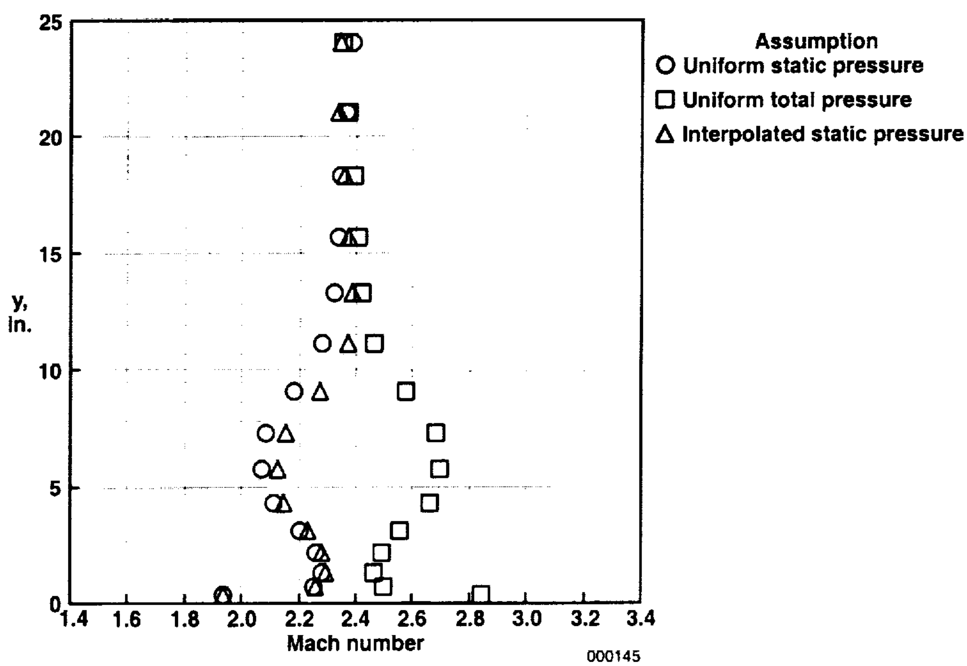


(b) The offset rake.

Figure 17. Effect of different computational assumptions on rake total-pressure profiles; no sideslip, Mach 2.4, 57,742 ft.

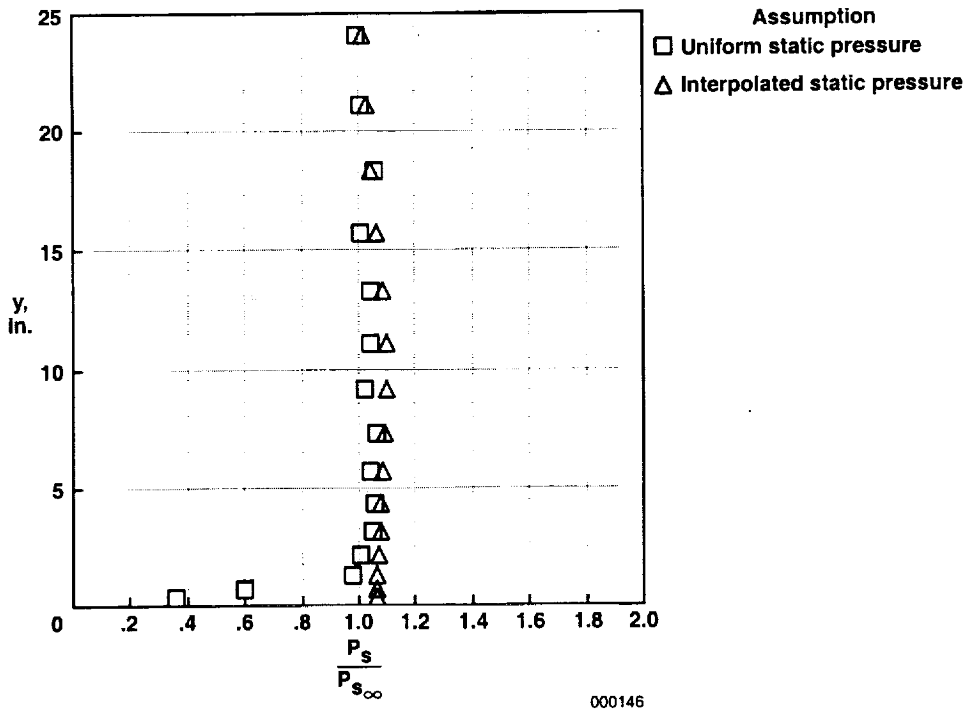


(a) The centerline rake.

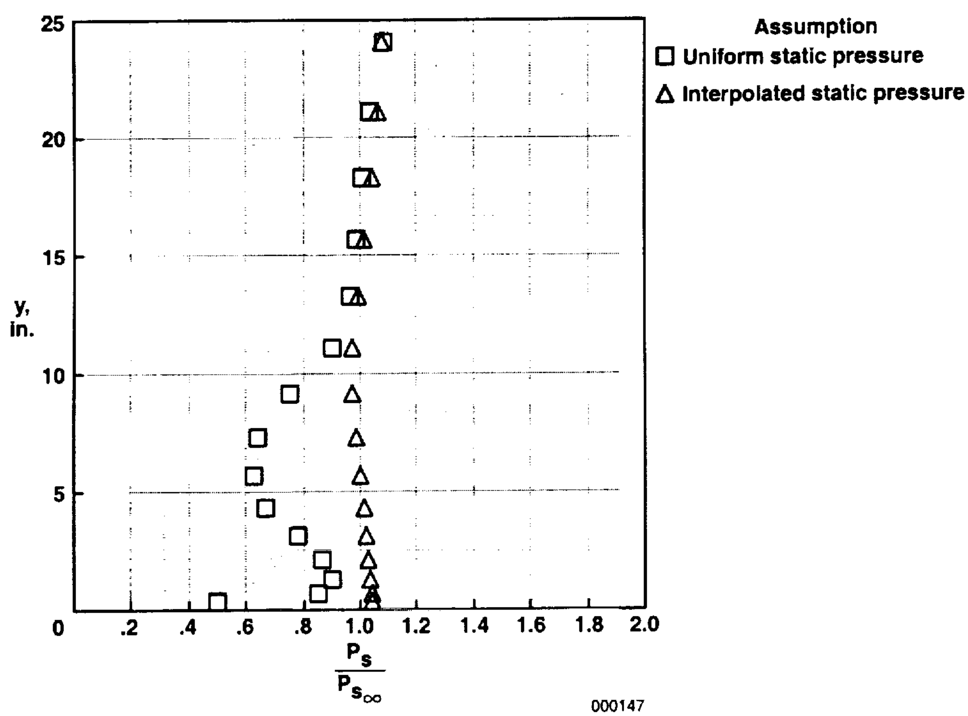


(b) The offset rake.

Figure 18. Effect of different computational assumptions on rake Mach number profiles; no sideslip, Mach 2.4, 57,742 ft.

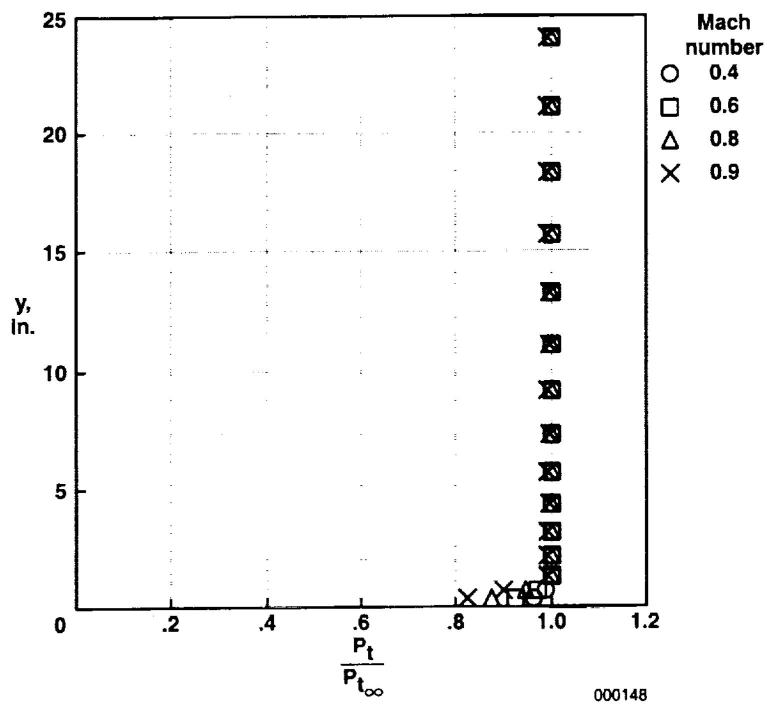


(a) The centerline rake.

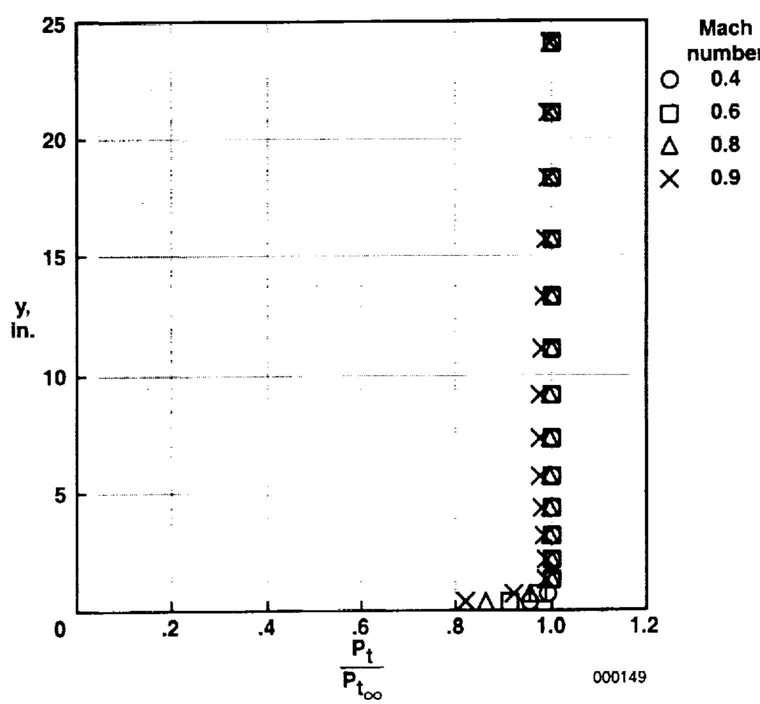


(b) The offset rake.

Figure 19. Effect of different computational assumptions on rake static-pressure profiles; no sideslip, Mach 2.4, 57,742 ft.

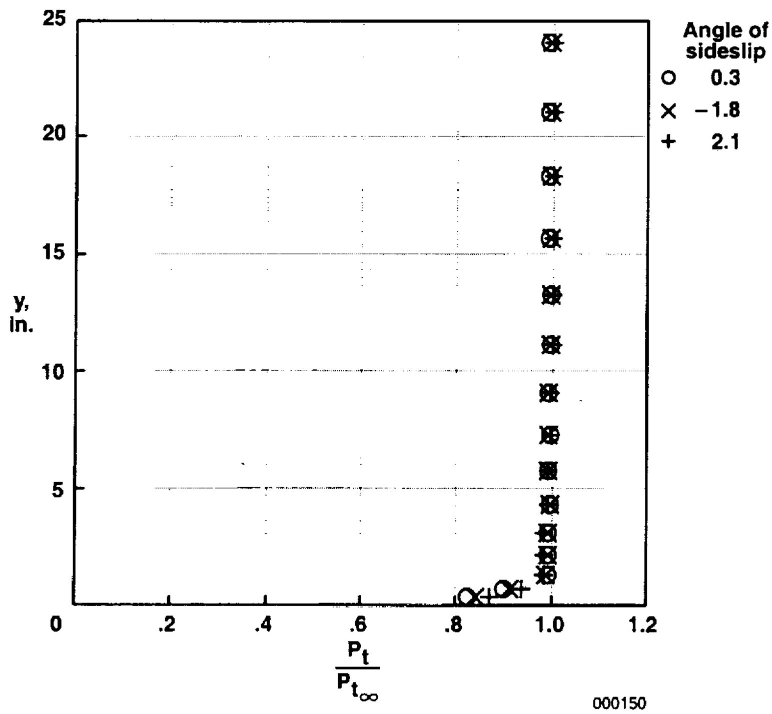


(a) The centerline rake.

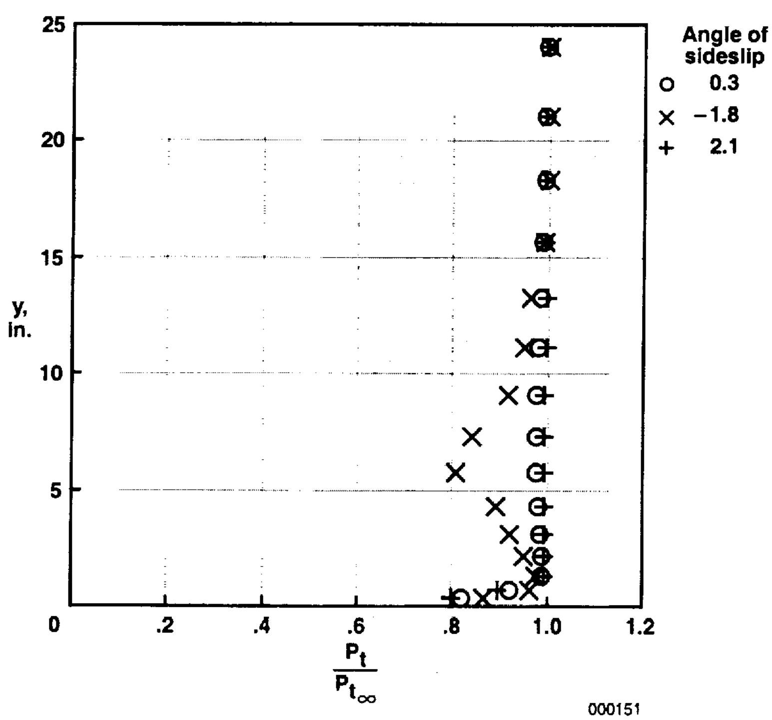


(b) The offset rake.

Figure 20. Rake total-pressure profiles; subsonic flight, no sideslip, uniform static-pressure assumption.

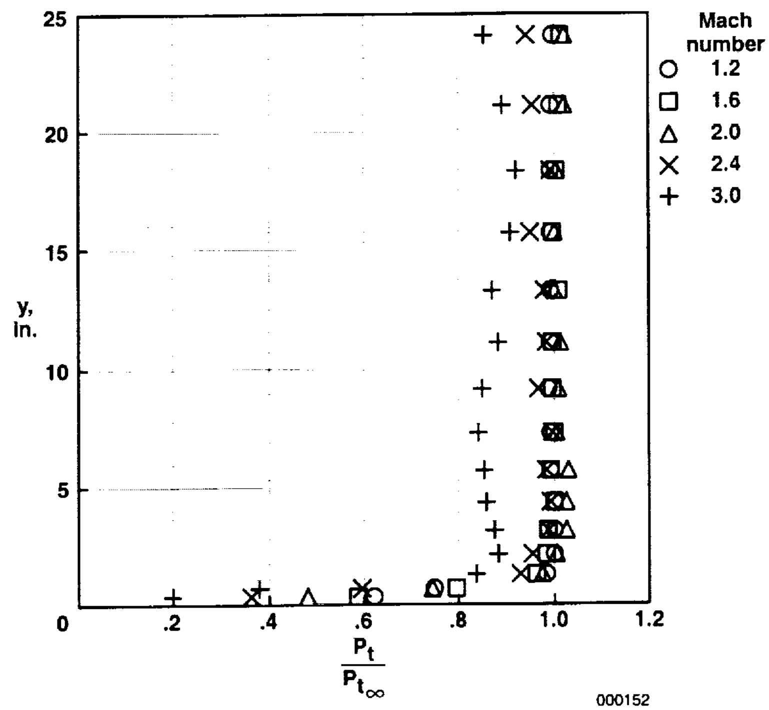


(a) The centerline rake.

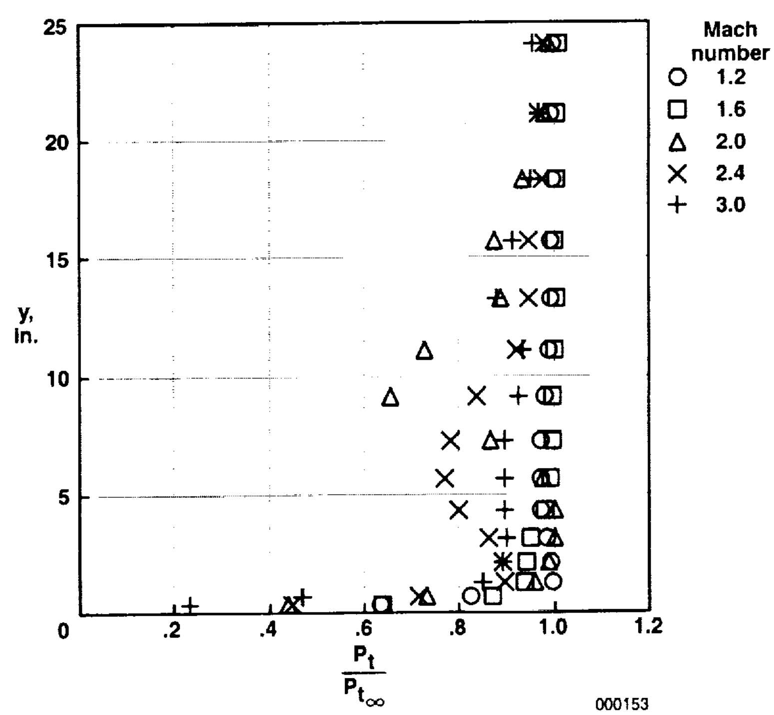


(b) The offset rake.

Figure 21. Rake total-pressure profiles; Mach 0.9, uniform static-pressure assumption.

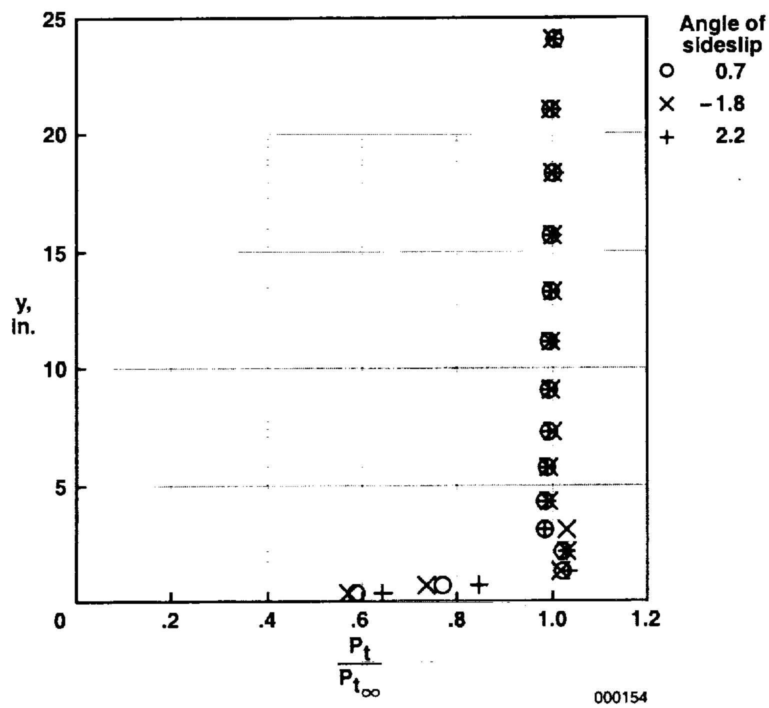


(a) The centerline rake.

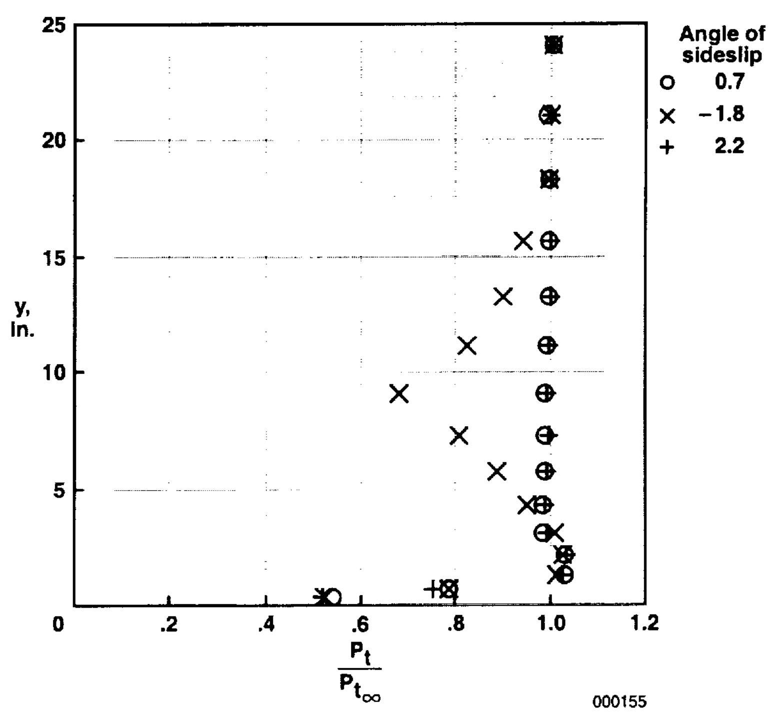


(b) The offset rake.

Figure 22. Rake total-pressure profiles; supersonic flight, no sideslip, uniform static-pressure assumption.

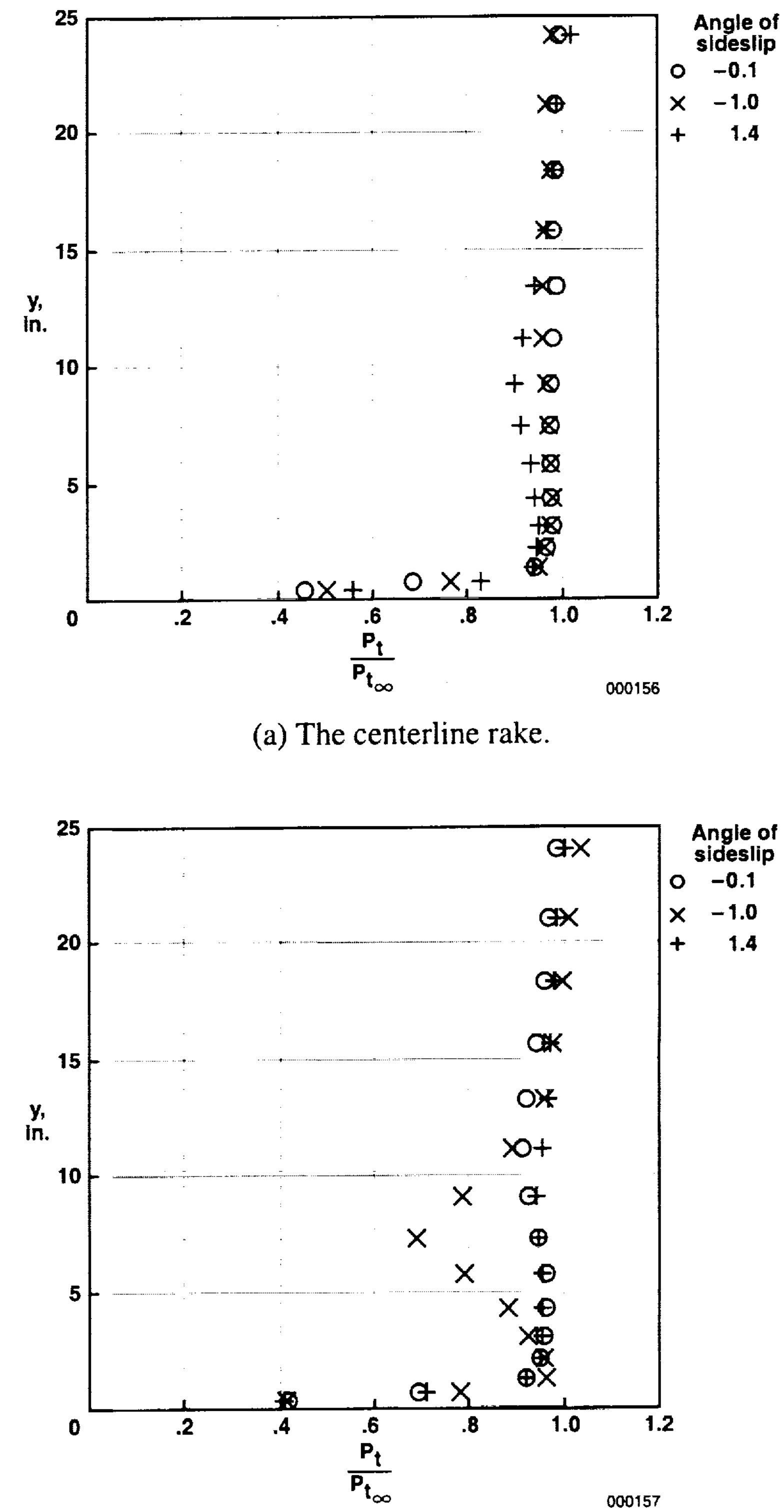


(a) The centerline rake.



(b) The offset rake.

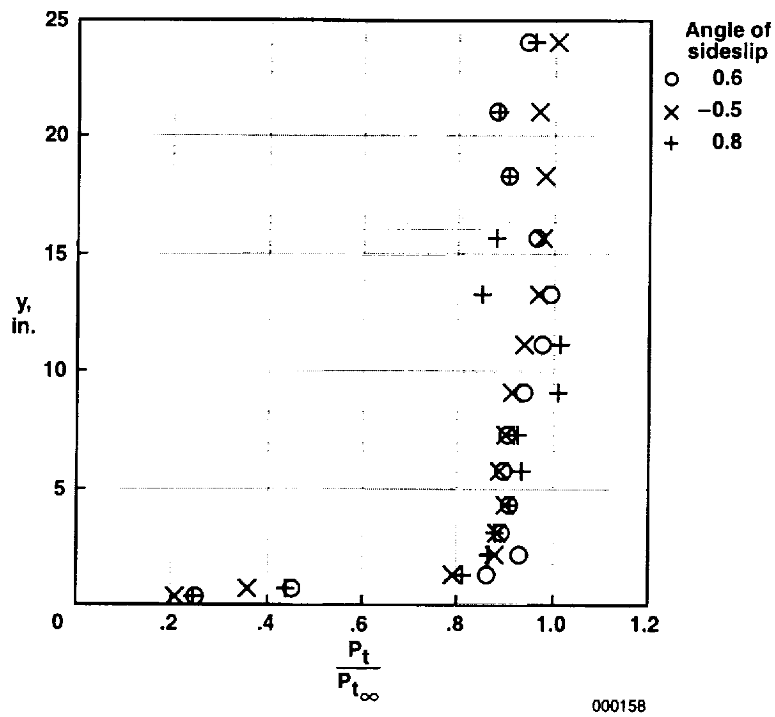
Figure 23. Rake total-pressure profiles; Mach 1.4, uniform static-pressure assumption.



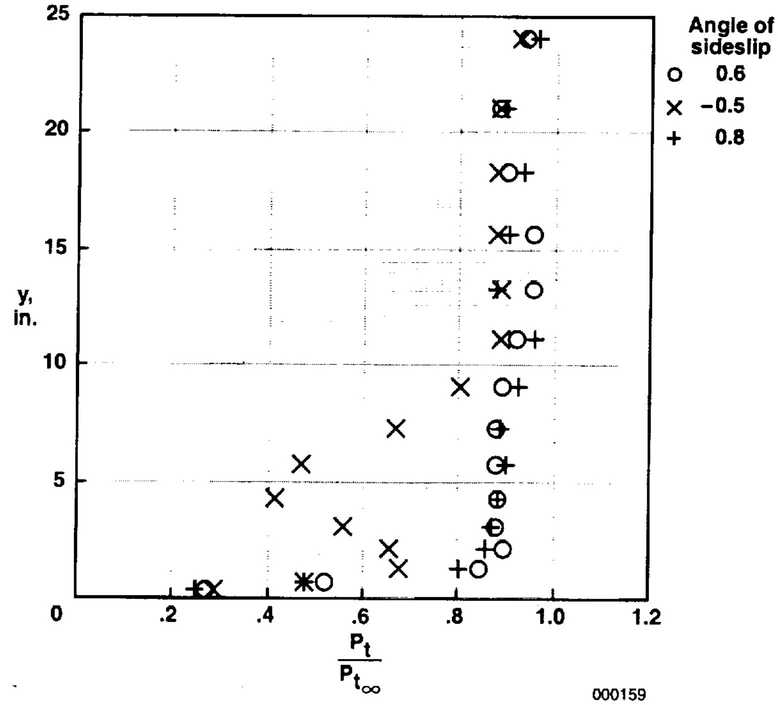
(a) The centerline rake.

(b) The offset rake.

Figure 24. Rake total-pressure profiles; Mach 2.0, uniform static-pressure assumption.

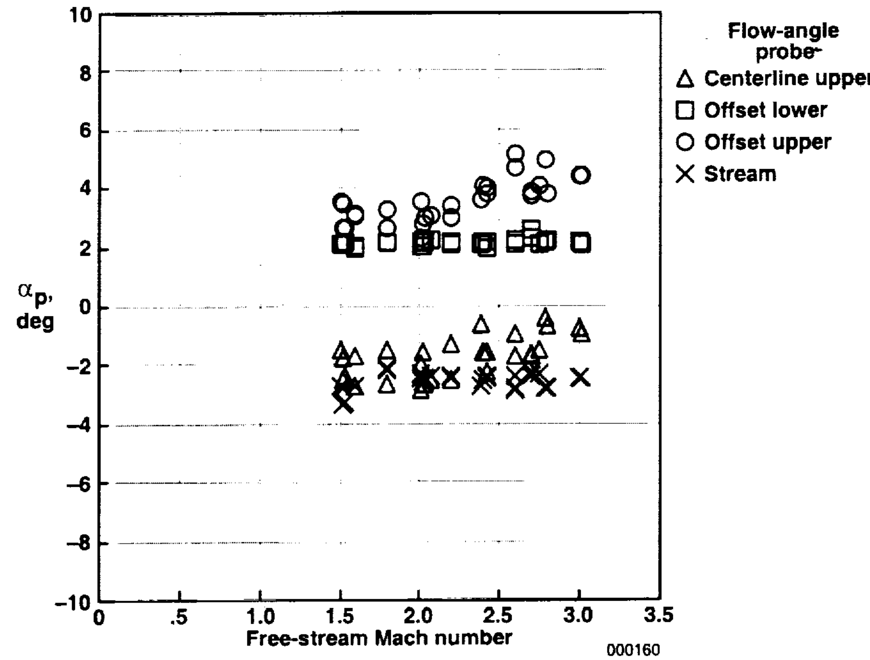


(a) The centerline rake.

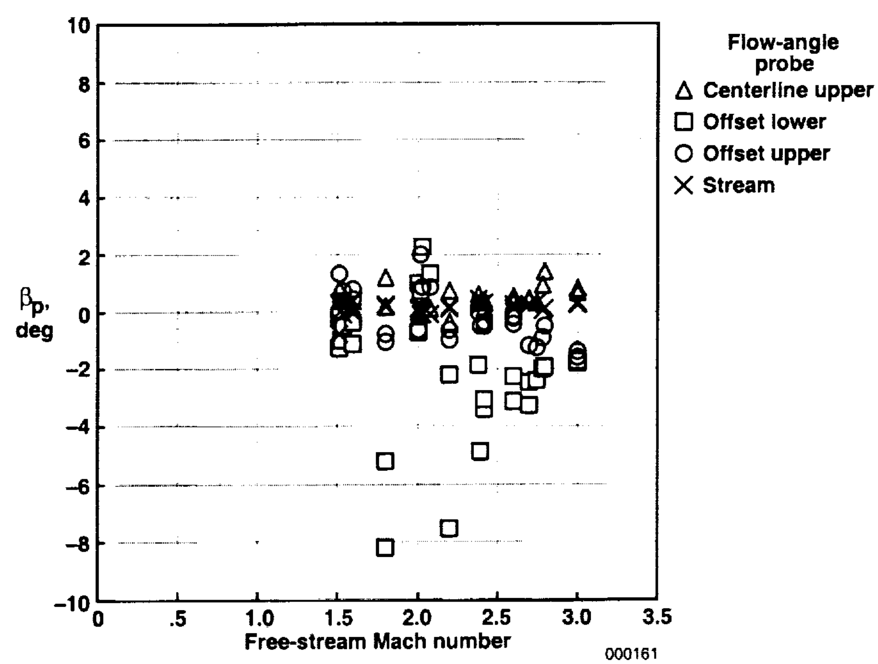


(b) The offset rake.

Figure 25. Rake total-pressure profiles; Mach 2.8, uniform static-pressure assumption.

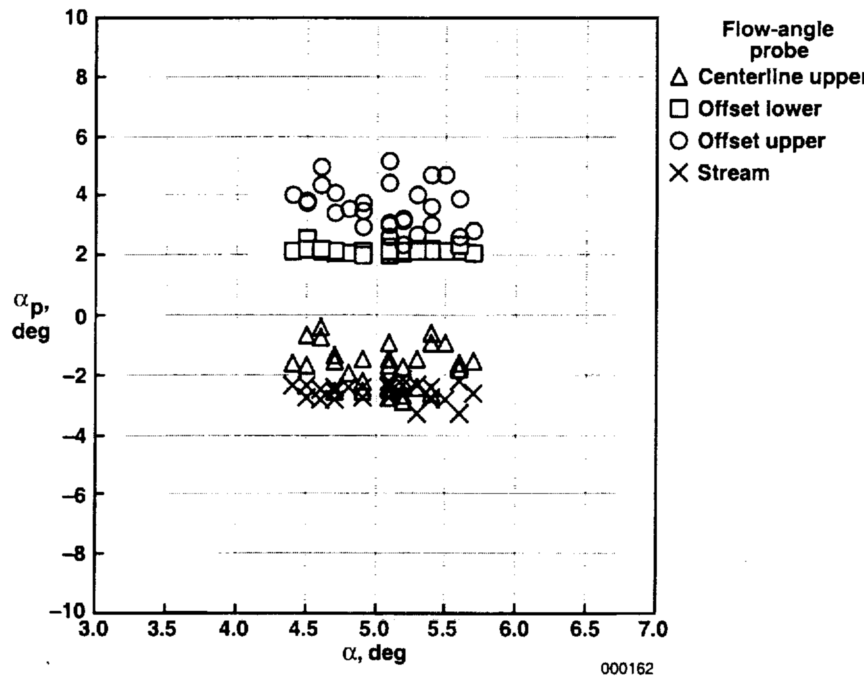


(a) Angle of attack as a function of aircraft Mach number.

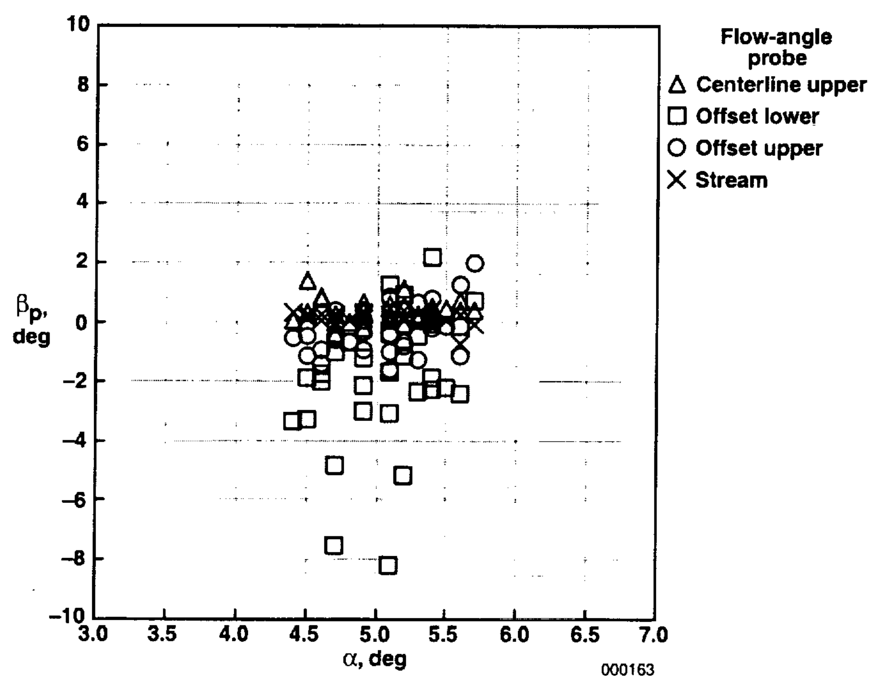


(b) Angle of sideslip as a function of aircraft Mach number.

Figure 26. Flow-angle probes; no sideslip.

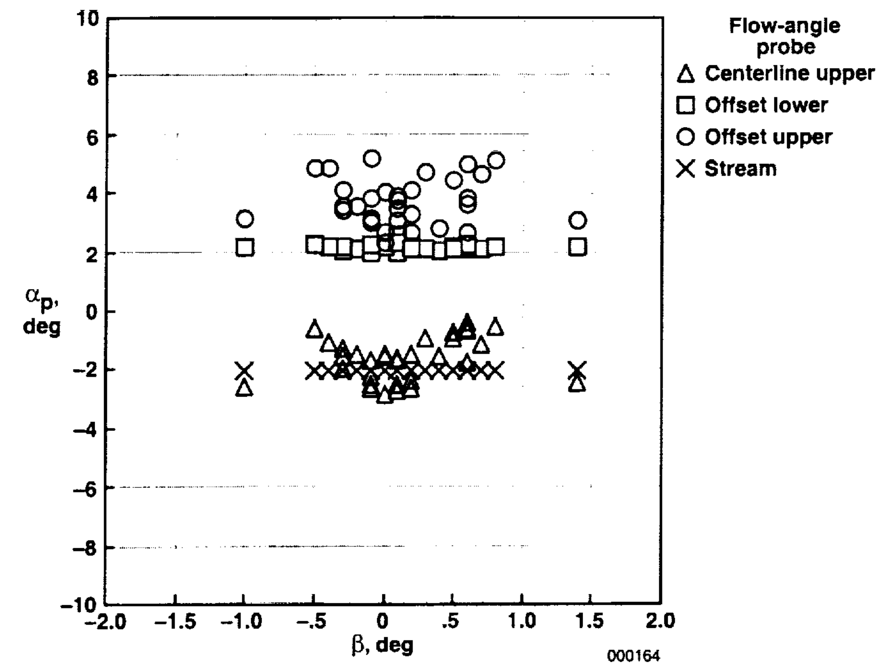


(a) Angle of attack as a function of aircraft angle of attack.

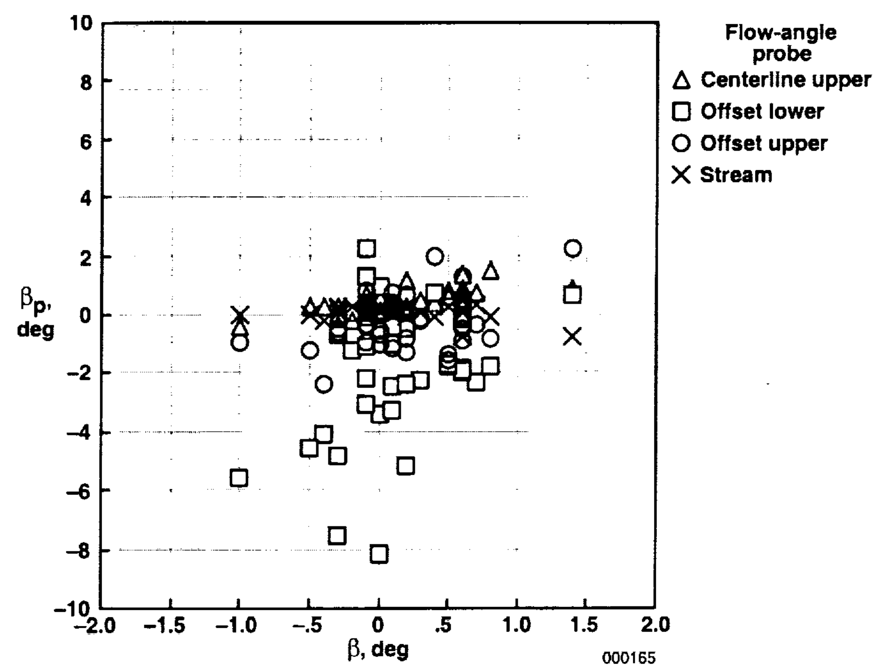


(b) Angle of sideslip as a function of aircraft angle of attack.

Figure 27. Flow-angle probes; no sideslip, Mach 1.5–3.0.

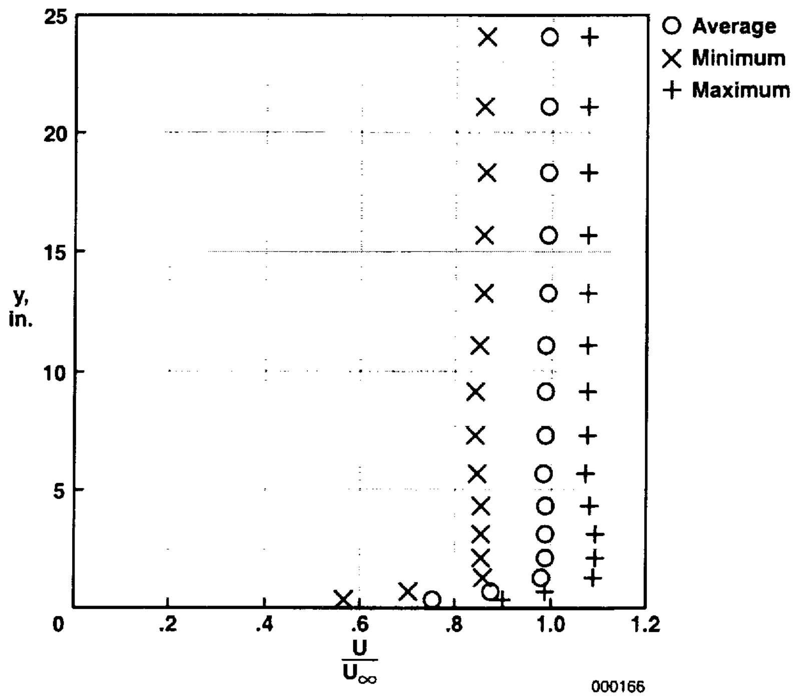


(a) Angle of attack as a function of aircraft angle of sideslip.

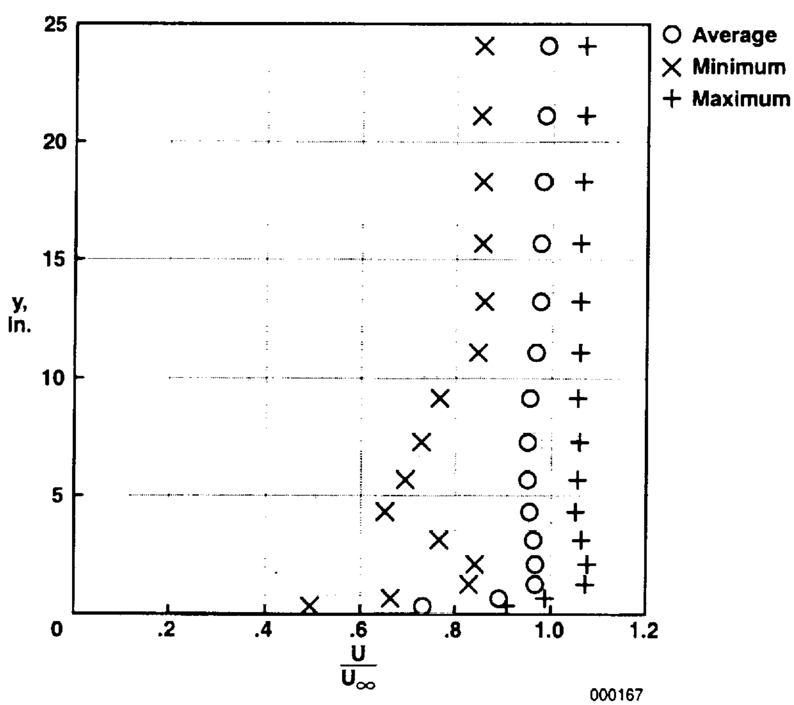


(b) Angle of sideslip as a function of aircraft angle of sideslip.

Figure 28. Flow-angle probes; Mach 1.5–3.0.



(a) The centerline rake.



(b) The offset rake.

Figure 29. Rake velocity profile statistics, all cases (flights 54 and 55, free-stream Mach 0.4–3.0, including sideslips), uniform static-pressure assumption.

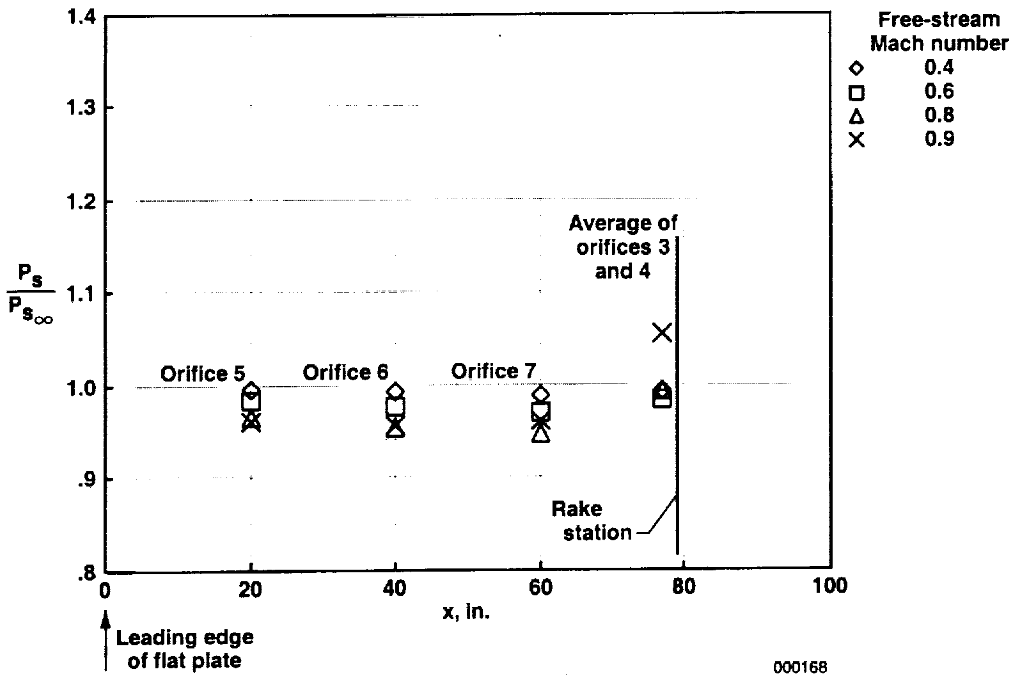


Figure 30. Surface static pressure as a function of axial distance; flight 54, no sideslip.

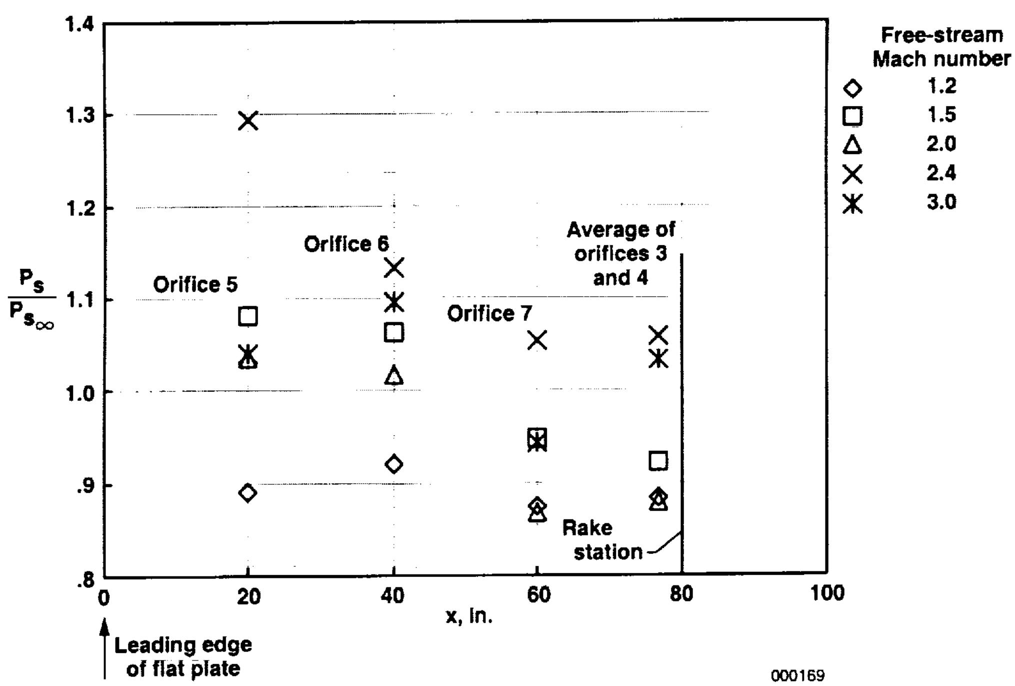


Figure 31. Surface static pressure as a function of axial distance; flight 54, no sideslip.

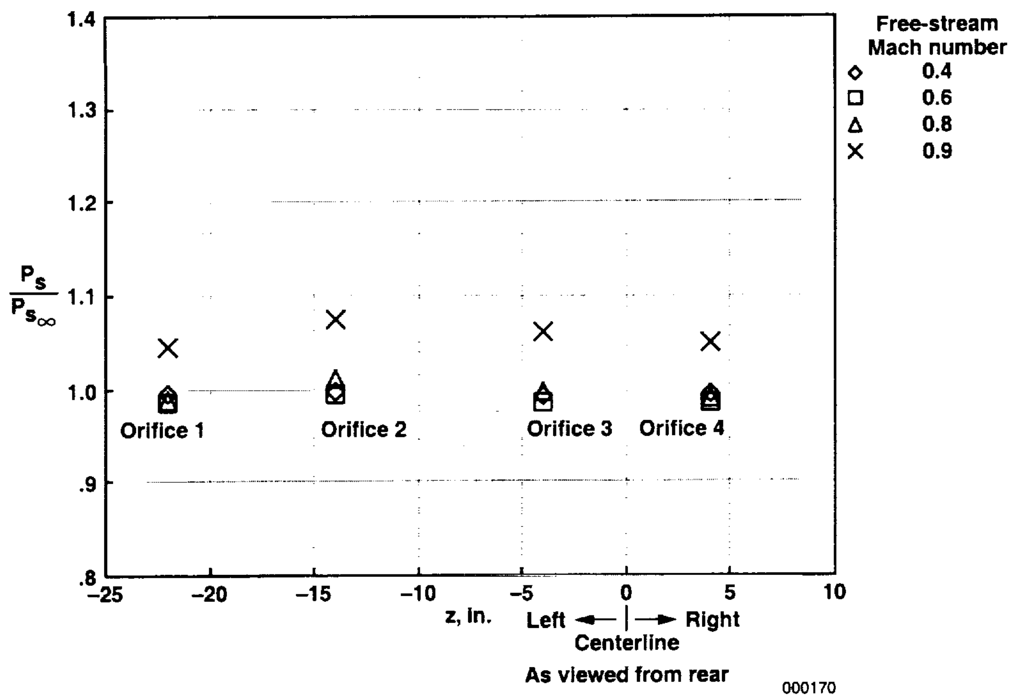


Figure 32. Surface static pressure as a function of lateral distance; flight 54, no sideslip.

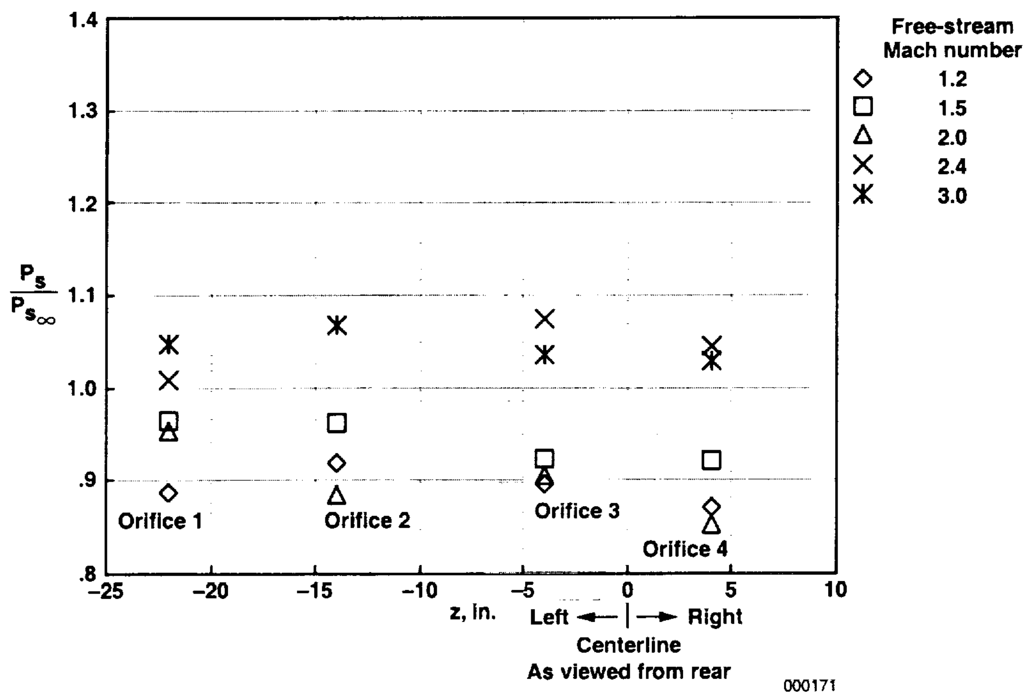


Figure 33. Surface static pressure as a function of lateral distance; flight 54, no sideslip.

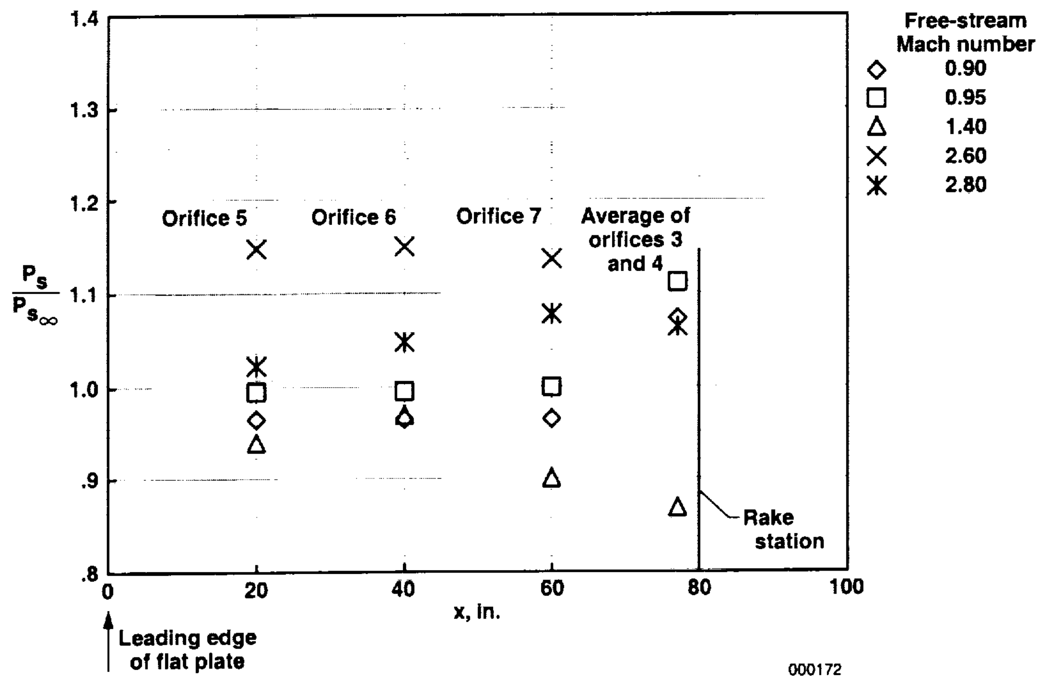


Figure 34. Surface static pressure as a function of axial position; flight 54, left sideslip.

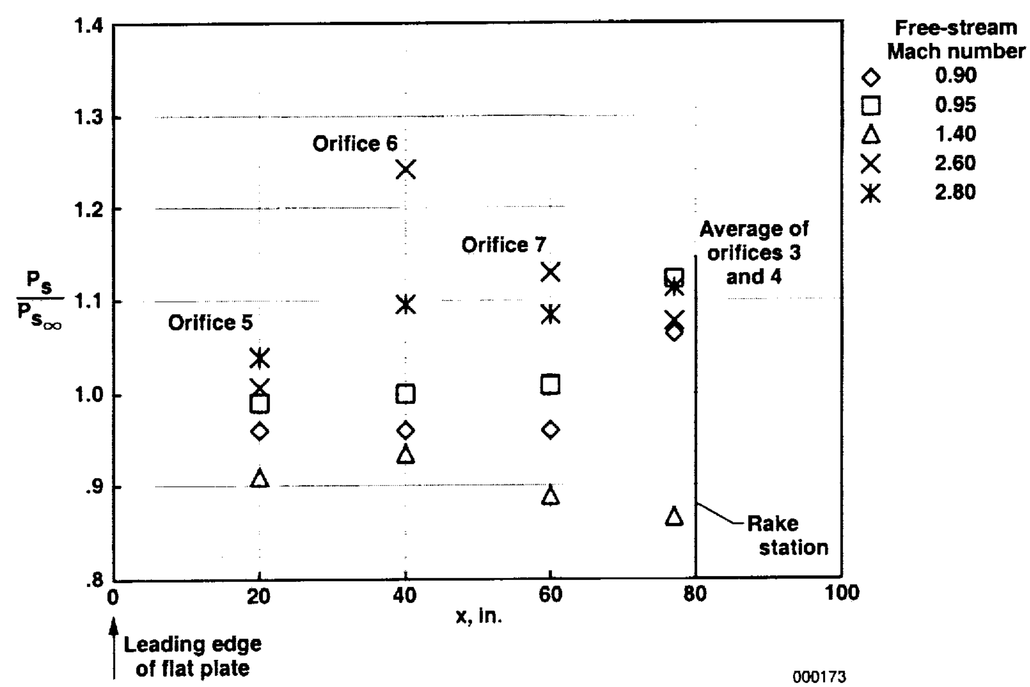


Figure 35. Surface static pressure as a function of axial position; flight 54, right sideslip.

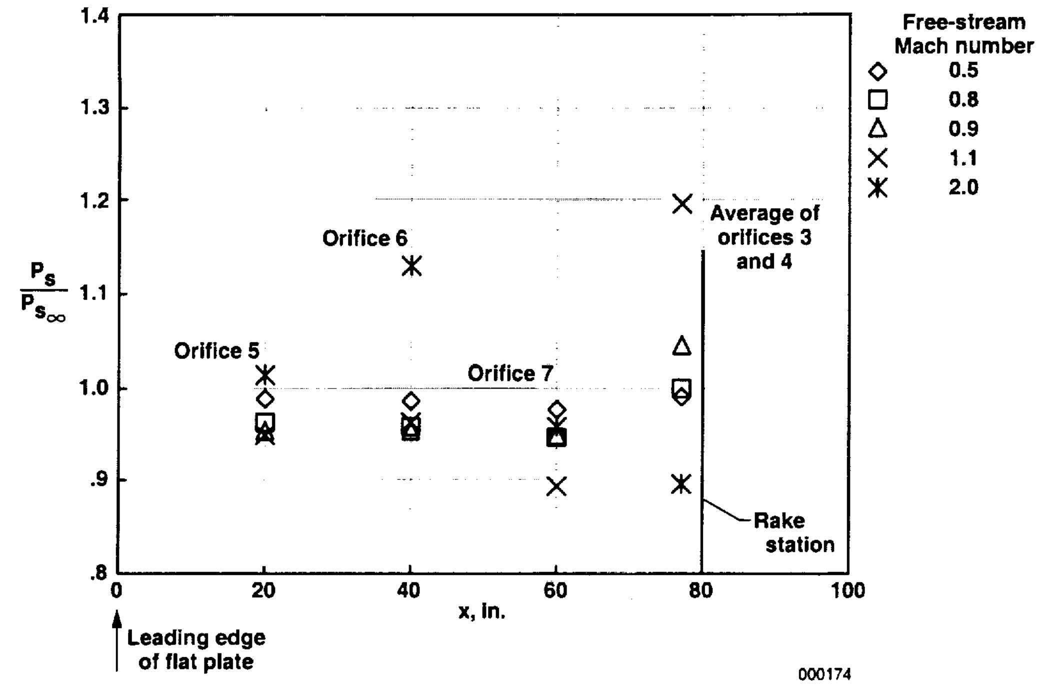


Figure 36. Surface static pressure as a function of axial position; flight 55, left sideslip.

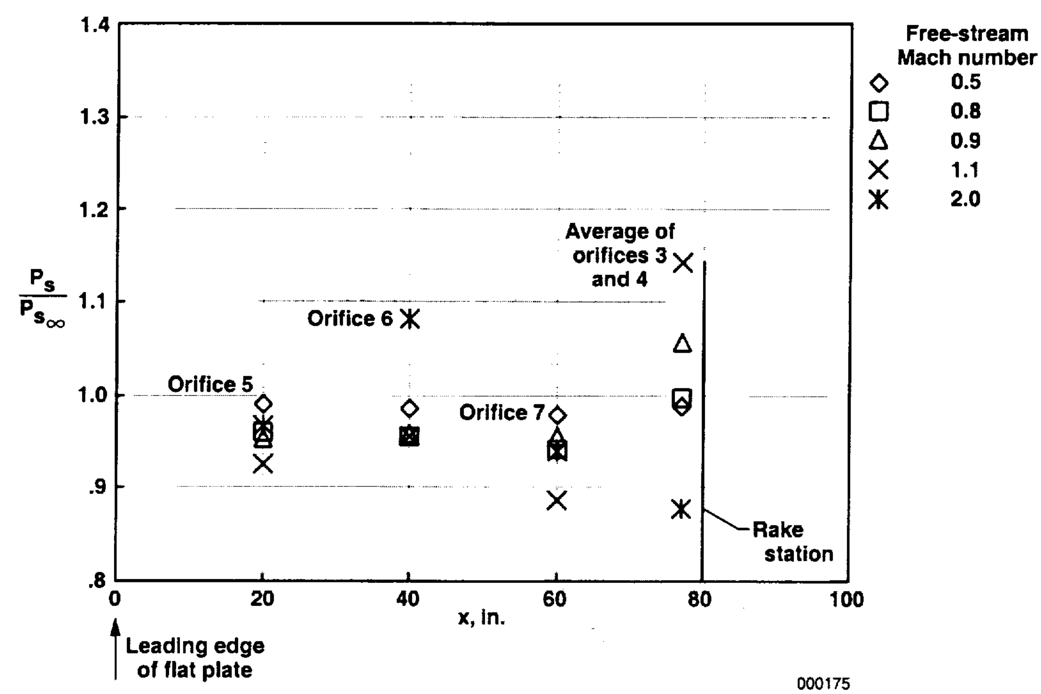


Figure 37. Surface static pressure as a function of axial position; flight 55, right sideslip.

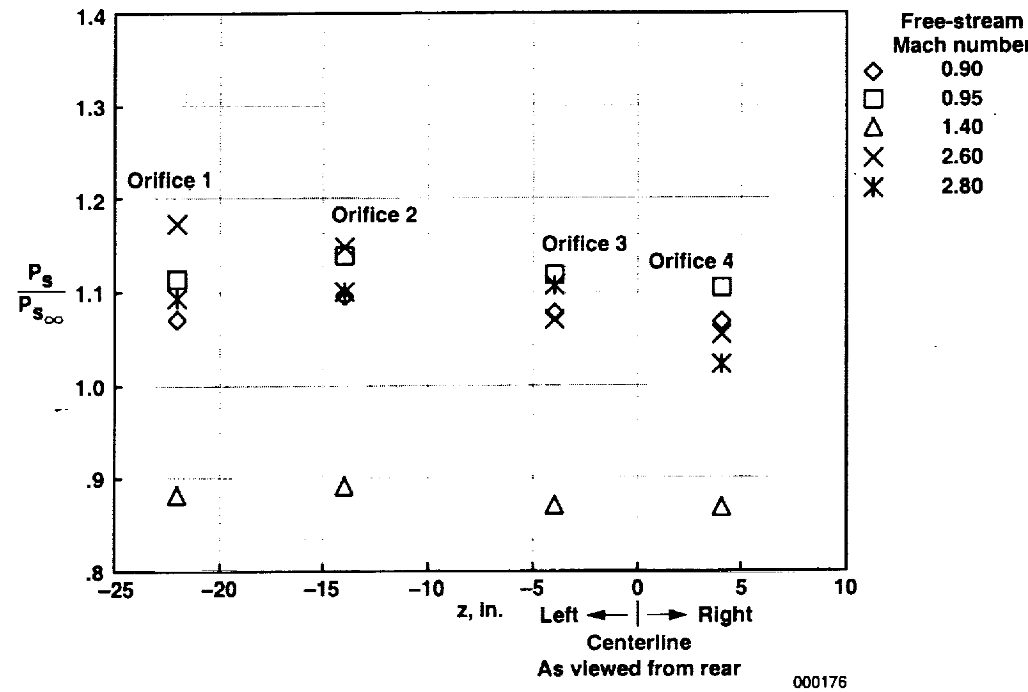


Figure 38. Surface static pressure as a function of lateral position, flight 54, left sideslip.

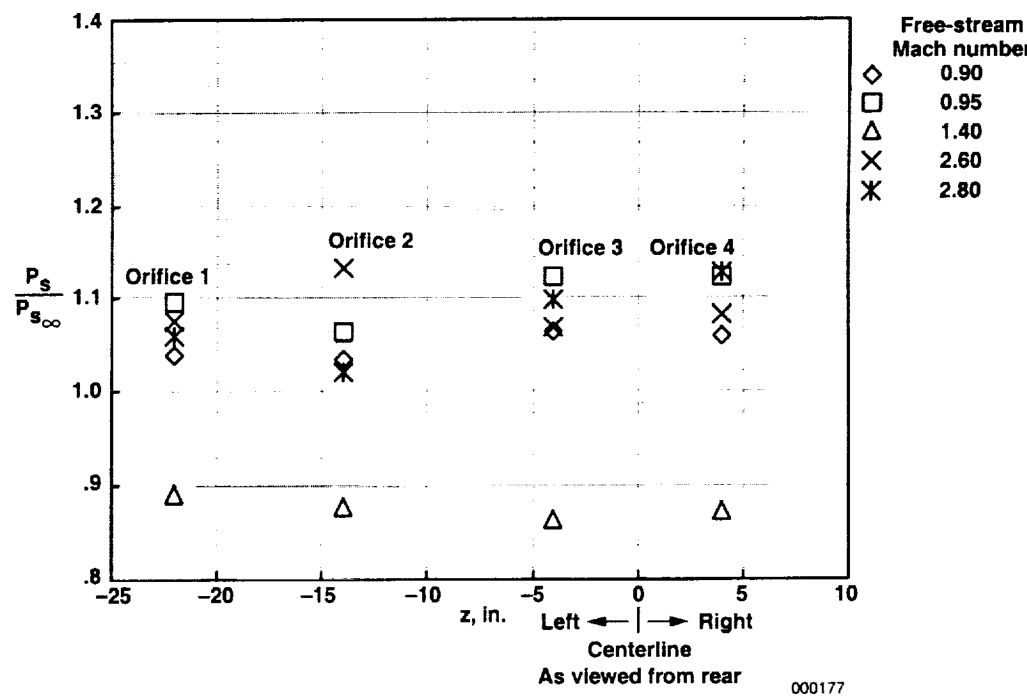


Figure 39. Surface static pressure as a function of lateral position; flight 54, right sideslip.

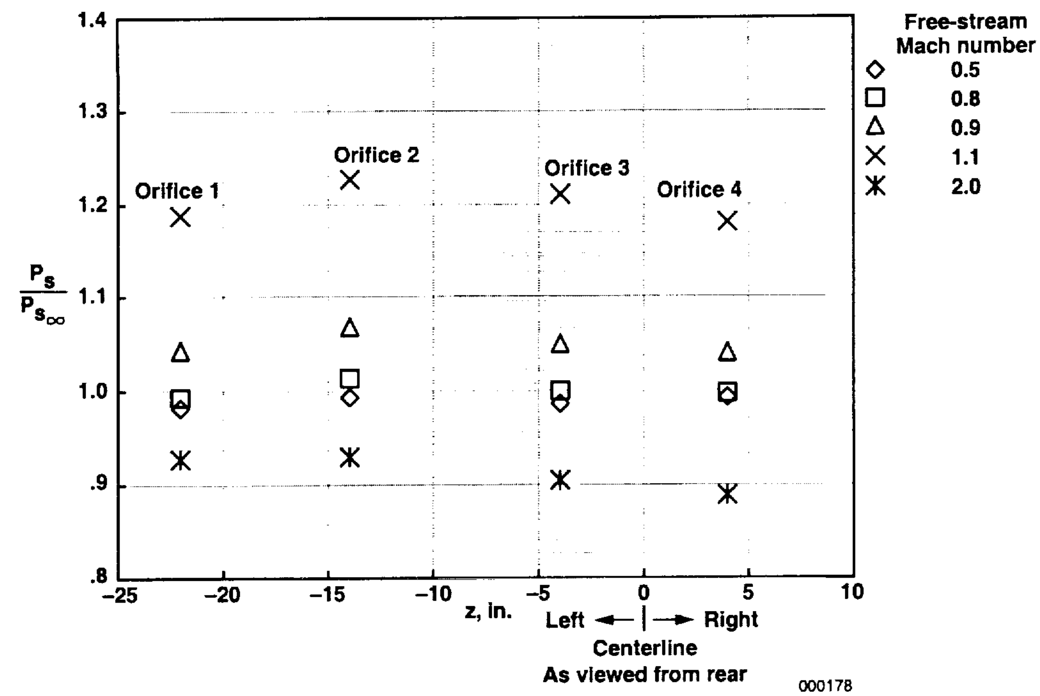


Figure 40. Surface static pressure as a function of lateral position; flight 55, left sideslip.

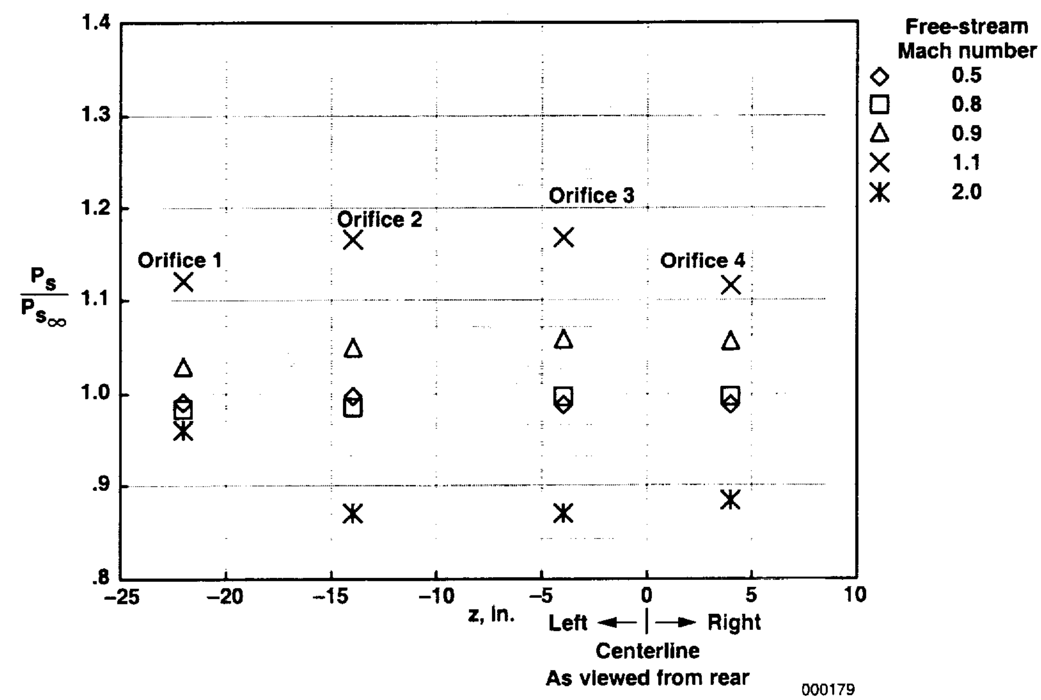


Figure 41. Surface static pressure as a function of lateral position; flight 55, right sideslip.

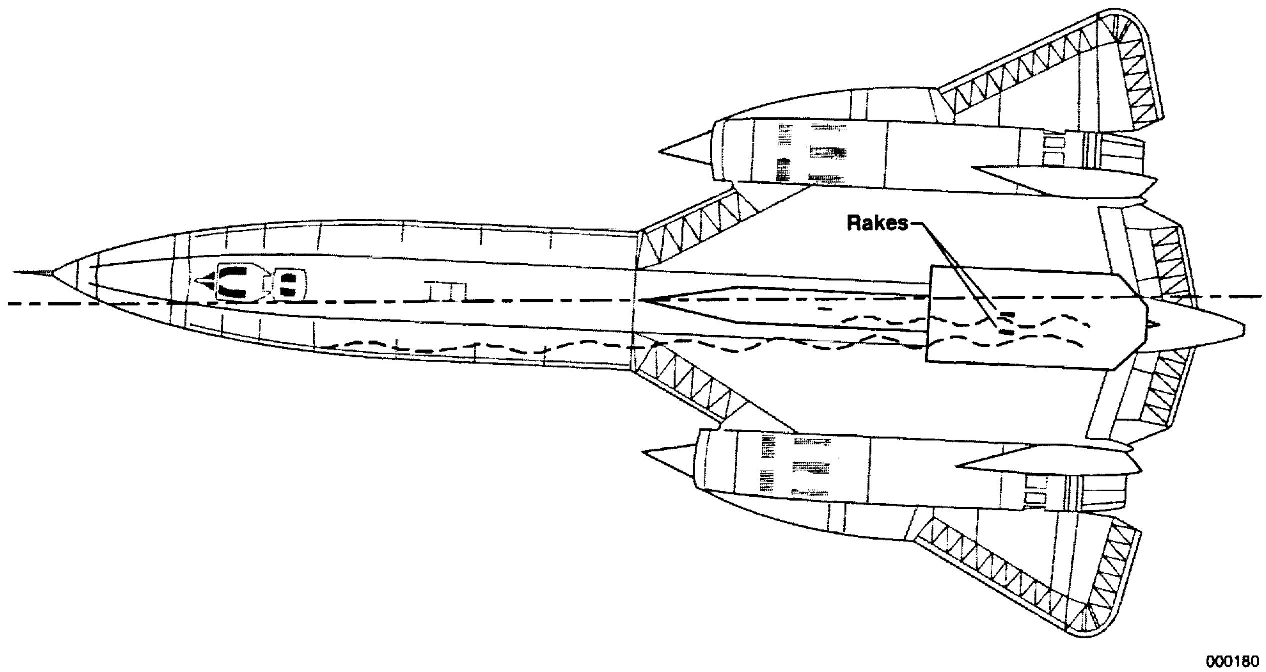


Figure 42. Possible flow distortion off SR-71 or canoe forebody impinging on test region during sideslip flight.

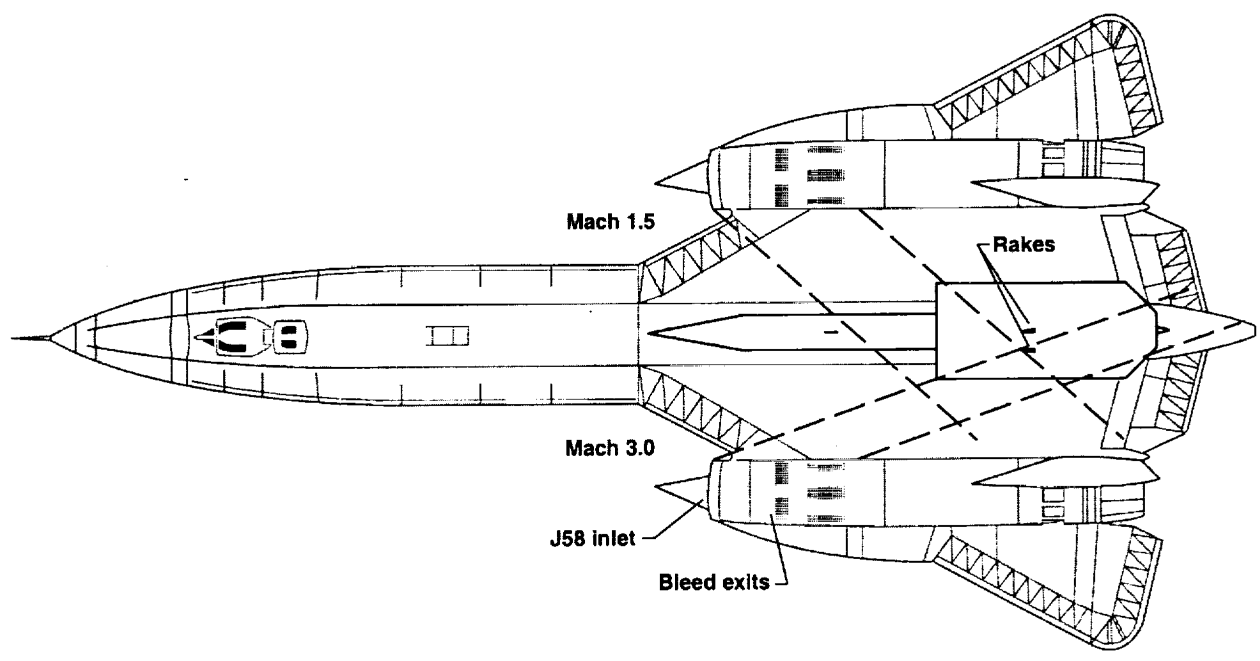


Figure 43. Possible waves off J58 inlet region impinging on test region during supersonic flight.

APPENDIX

TIME-AVERAGED FLOW DATA AT TEST POINTS

This appendix contains the complete set of data analyzed for the 61 quasi-steady-state test points. Electronic copies of these data are available from the authors.

FLIGHT: 54 MACH: 0.891 ALTITUDE(ft): 24133. KEAS: 366.
PSINF(psia): 5.66 PTINF(psia): 9.49 TSINF(F): -13. TTINF(F): 58.
ALPHA(deg): 5.0 BETA(deg): 0.0 PHI(deg): -9.0

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.996	0.996	0.842	--	--	0.996	0.757	1.141
15	21.1	0.995	0.995	0.841	--	--	0.995	0.752	1.146
14	18.3	0.996	0.996	0.842	--	--	0.996	0.744	1.155
13	15.7	0.996	0.996	0.842	--	--	0.996	0.737	1.163
12	13.3	0.996	0.996	0.842	--	--	0.996	0.730	1.171
10	11.1	0.996	0.996	0.842	--	--	0.996	0.723	1.178
09	9.1	0.995	0.995	0.841	--	--	0.995	0.731	1.168
08	7.3	0.995	0.995	0.841	--	--	0.995	0.753	1.144
07	5.7	0.993	0.993	0.840	--	--	0.993	0.771	1.123
06	4.3	0.995	0.995	0.841	--	--	0.995	0.789	1.105
05	3.1	0.995	0.995	0.841	--	--	0.995	0.804	1.089
04	2.1	0.996	0.996	0.842	--	--	0.996	0.816	1.076
03	1.3	0.994	0.994	0.840	--	--	0.994	0.824	1.066
02	0.7	0.906	0.906	0.746	--	--	0.906	0.737	1.058
01	0.3	0.828	0.828	0.646	--	--	0.828	0.641	1.053

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.843	--	--	1.001	0.755	1.149
15	21.1	0.998	0.998	0.841	--	--	0.998	0.750	1.152
14	18.3	0.999	0.999	0.842	--	--	0.999	0.746	1.157
13	15.7	0.999	0.999	0.842	--	--	0.999	0.740	1.163
12	13.3	0.996	0.996	0.838	--	--	0.996	0.732	1.168
10	11.1	0.992	0.992	0.834	--	--	0.992	0.724	1.172
09	9.1	0.985	0.985	0.828	--	--	0.985	0.726	1.162
08	7.3	0.979	0.979	0.822	--	--	0.979	0.740	1.140
07	5.7	0.983	0.983	0.826	--	--	0.983	0.762	1.121
06	4.3	0.986	0.986	0.829	--	--	0.986	0.780	1.104
05	3.1	0.990	0.990	0.833	--	--	0.990	0.798	1.090
04	2.1	0.993	0.993	0.836	--	--	0.993	0.812	1.078
03	1.3	0.993	0.993	0.836	--	--	0.993	0.821	1.068
02	0.7	0.939	0.939	0.780	--	--	0.939	0.771	1.061
01	0.3	0.833	0.833	0.647	--	--	0.833	0.643	1.056

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.955
(6) 0.952
(7) 0.953

(1) 1.038 (2) 1.067 (3) 1.054 (4) 1.043

5-HOLE PROBE	offset rake	centerline rake
upper	1.149	1.141
lower	1.174	1.181

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.684			0.624	
	0.693	0.999	0.705	0.649	0.995	0.614
		0.699			0.640	
	ALPHA:	0.7		ALPHA:	0.6	
	BETA:	0.6		BETA:	-1.4	
lower		0.625			0.703	
	0.620	0.987	0.706	0.706	0.995	0.653
		0.624			0.666	
	ALPHA:	0.0		ALPHA:	-1.7	
	BETA:	3.8		BETA:	-2.4	

FLIGHT: 54 MACH: 0.789 ALTITUDE(ft): 24937. KEAS: 318.
PSINF(psia): 5.47 PTINF(psia): 8.25 TSINF(F): -16. TTINF(F): 38.
ALPHA(deg): 8.2 BETA(deg): 0.0 PHI(deg): -2.0

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.967	0.967	0.782	--	--	0.967	0.721	1.031
15	21.1	0.961	0.961	0.776	--	--	0.961	0.713	1.033
14	18.3	0.955	0.955	0.770	--	--	0.955	0.704	1.035
13	15.7	0.952	0.952	0.766	--	--	0.952	0.697	1.037
12	13.3	0.949	0.949	0.764	--	--	0.949	0.692	1.039
10	11.1	0.947	0.947	0.760	--	--	0.947	0.687	1.041
09	9.1	0.946	0.946	0.760	--	--	0.946	0.692	1.035
08	7.3	0.945	0.945	0.759	--	--	0.945	0.705	1.023
07	5.7	0.944	0.944	0.758	--	--	0.944	0.715	1.012
06	4.3	0.945	0.945	0.758	--	--	0.945	0.727	1.002
05	3.1	0.945	0.945	0.759	--	--	0.945	0.736	0.994
04	2.1	0.947	0.947	0.761	--	--	0.947	0.746	0.987
03	1.3	0.940	0.940	0.753	--	--	0.940	0.743	0.982
02	0.7	0.899	0.899	0.705	--	--	0.899	0.699	0.978
01	0.3	0.850	0.850	0.640	--	--	0.850	0.638	0.975

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.984	0.984	0.793	--	--	0.984	0.733	1.038
15	21.1	0.980	0.980	0.789	--	--	0.980	0.727	1.040
14	18.3	0.976	0.976	0.785	--	--	0.976	0.719	1.043
13	15.7	0.972	0.972	0.781	--	--	0.972	0.712	1.046
12	13.3	0.968	0.968	0.776	--	--	0.968	0.704	1.048
10	11.1	0.966	0.966	0.775	--	--	0.966	0.699	1.051
09	9.1	0.961	0.961	0.769	--	--	0.961	0.700	1.045
08	7.3	0.958	0.958	0.765	--	--	0.958	0.710	1.032
07	5.7	0.957	0.957	0.764	--	--	0.957	0.721	1.021
06	4.3	0.953	0.953	0.761	--	--	0.953	0.728	1.011
05	3.1	0.953	0.953	0.760	--	--	0.953	0.737	1.002
04	2.1	0.953	0.953	0.761	--	--	0.953	0.745	0.995
03	1.3	0.946	0.946	0.753	--	--	0.946	0.743	0.989
02	0.7	0.898	0.898	0.695	--	--	0.898	0.690	0.985
01	0.3	0.826	0.826	0.596	--	--	0.826	0.593	0.982

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.969
(6) 0.954
(7) 0.942
(1) 0.972 (2) 0.988 (3) 0.975 (4) 0.971

5-HOLE PROBE	offset rake	centerline rake
upper	1.038	1.031
lower	1.052	1.042

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.699			0.661	
	0.694	0.978	0.704	0.649	0.962	0.622
		0.687			0.612	
	ALPHA:	-0.6		ALPHA:	-2.1	
	BETA:	0.5		BETA:	-1.2	
lower		0.660			0.693	
	0.618	0.962	0.713	0.677	0.943	0.657
		0.658			0.652	
	ALPHA:	-0.1		ALPHA:	-2.1	
	BETA:	4.6		BETA:	-1.0	

FLIGHT: 54 MACH: 1.200 ALTITUDE(ft): 28676. KEAS: 446.
PSINF(psia): 4.63 PTINF(psia): 11.24 TSINF(F): -31. TTINF(F): 92.
ALPHA(deg): 4.8 BETA(deg): -0.2 PHI(deg): -0.6

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.977	0.996	1.292	1.275	0.906	0.974	0.882	1.427
15	21.1	0.976	0.995	1.292	1.280	0.900	0.972	0.863	1.453
14	18.3	0.975	0.994	1.291	1.286	0.892	0.965	0.828	1.501
13	15.7	0.974	0.993	1.290	1.292	0.885	0.956	0.794	1.546
12	13.3	0.976	0.995	1.291	1.281	0.898	0.948	0.765	1.588
10	11.1	0.974	0.993	1.290	1.292	0.884	0.928	0.732	1.626
09	9.1	0.972	0.990	1.288	1.303	0.872	0.948	0.776	1.567
08	7.3	0.974	0.993	1.290	1.289	0.888	0.971	0.876	1.432
07	5.7	0.973	0.992	1.289	1.295	0.882	0.973	0.957	1.311
06	4.3	0.981	1.001	1.296	1.250	0.937	0.981	1.035	1.205
05	3.1	0.982	1.002	1.297	1.244	0.944	0.983	1.101	1.115
04	2.1	0.980	1.000	1.295	1.254	0.931	0.984	1.158	1.039
03	1.3	0.967	0.985	1.284	1.329	0.841	0.974	1.196	0.979
02	0.7	0.748	0.749	1.071	1.933	0.344	0.748	1.022	0.934
01	0.3	0.623	0.623	0.913	--	--	0.623	0.889	0.904

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.979	0.998	1.275	1.260	0.923	0.976	0.849	1.479
15	21.1	0.976	0.996	1.273	1.277	0.903	0.972	0.833	1.496
14	18.3	0.978	0.997	1.275	1.266	0.916	0.969	0.812	1.530
13	15.7	0.976	0.995	1.273	1.278	0.902	0.959	0.787	1.560
12	13.3	0.975	0.994	1.272	1.287	0.891	0.947	0.763	1.589
10	11.1	0.969	0.987	1.266	1.322	0.850	0.924	0.734	1.615
09	9.1	0.963	0.981	1.261	1.353	0.814	0.939	0.774	1.555
08	7.3	0.955	0.973	1.254	1.392	0.771	0.952	0.860	1.426
07	5.7	0.953	0.971	1.253	1.401	0.761	0.953	0.938	1.311
06	4.3	0.951	0.971	1.251	1.410	0.752	0.951	1.006	1.210
05	3.1	0.963	0.983	1.262	1.351	0.816	0.964	1.079	1.124
04	2.1	0.976	0.995	1.272	1.282	0.897	0.979	1.144	1.052
03	1.3	0.978	0.996	1.275	1.265	0.917	0.985	1.193	0.994
02	0.7	0.824	0.824	1.132	1.791	0.428	0.824	1.087	0.951
01	0.3	0.632	0.632	0.906	--	--	0.632	0.884	0.923

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.889
(6) 0.922
(7) 0.874
(1) 0.886 (2) 0.916 (3) 0.892 (4) 0.870

5-HOLE PROBE	offset rake	centerline rake
upper	1.479	1.427
lower	1.627	1.643

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.651			0.587	
	0.630	0.976	0.622	0.563	0.975	0.542
		0.591			0.516	
	ALPHA: -2.4			ALPHA: -2.4		
	BETA: -0.3			BETA: -0.7		
lower		0.455			0.671	
	0.599	0.963	0.672	0.698	0.972	0.612
		0.450			0.647	
	ALPHA: -0.1			ALPHA: -1.1		
	BETA: 3.2			BETA: -3.8		

FLIGHT: 54 MACH: 1.505 ALTITUDE(ft): 37908. KEAS: 450.
PSINF(psia): 3.01 PTINF(psia): 11.12 TSINF(F): -63. TTINF(F): 117.
ALPHA(deg): 4.9 BETA(deg): -0.2 PHI(deg): -0.6

CENTERLINE RAKE

TAP #	Y (in)	PPITOT /PTINF	---UNIFORM-PS-- PT/PTINF	MACH	---UNIFORM-PT-- MACH	PS/PSINF	----INTERPOLATED-PS---- PT/PTINF	MACH	PS/PSINF
16	24.1	0.916	1.009	1.566	1.553	0.932	0.990	1.515	0.976
15	21.1	0.915	1.008	1.566	1.555	0.930	0.989	1.514	0.976
14	18.3	0.913	1.005	1.563	1.562	0.920	0.986	1.512	0.977
13	15.7	0.912	1.004	1.562	1.565	0.916	0.985	1.511	0.977
12	13.3	0.912	1.004	1.562	1.565	0.916	0.985	1.510	0.977
10	11.1	0.910	1.001	1.560	1.573	0.905	0.981	1.508	0.978
09	9.1	0.910	1.001	1.560	1.573	0.906	0.983	1.513	0.972
08	7.3	0.911	1.001	1.561	1.571	0.908	0.987	1.522	0.963
07	5.7	0.911	1.002	1.561	1.570	0.910	0.991	1.531	0.954
06	4.3	0.907	0.996	1.557	1.584	0.891	0.987	1.534	0.946
05	3.1	0.903	0.989	1.553	1.597	0.874	0.983	1.536	0.940
04	2.1	0.897	0.981	1.547	1.615	0.851	0.977	1.535	0.935
03	1.3	0.917	1.011	1.567	1.548	0.939	1.009	1.560	0.930
02	0.7	0.754	0.785	1.392	1.922	0.533	0.784	1.388	0.927
01	0.3	0.596	0.600	1.193	2.260	0.315	0.600	1.192	0.925

OFFSET RAKE

TAP #	Y (in)	PPITOT /PTINF	---UNIFORM-PS-- PT/PTINF	MACH	---UNIFORM-PT-- MACH	PS/PSINF	----INTERPOLATED-PS---- PT/PTINF	MACH	PS/PSINF
16	24.1	0.912	1.005	1.521	1.567	0.914	0.986	1.508	0.979
15	21.1	0.910	1.003	1.519	1.573	0.905	0.984	1.510	0.975
14	18.3	0.910	1.002	1.519	1.573	0.905	0.983	1.517	0.968
13	15.7	0.911	1.002	1.520	1.570	0.909	0.983	1.525	0.960
12	13.3	0.910	1.001	1.519	1.573	0.906	0.982	1.530	0.954
10	11.1	0.908	0.998	1.517	1.580	0.896	0.979	1.534	0.948
09	9.1	0.906	0.996	1.515	1.586	0.888	0.979	1.533	0.947
08	7.3	0.902	0.991	1.510	1.600	0.870	0.977	1.525	0.951
07	5.7	0.903	0.993	1.511	1.597	0.874	0.982	1.522	0.954
06	4.3	0.879	0.965	1.488	1.665	0.790	0.957	1.496	0.957
05	3.1	0.866	0.949	1.474	1.700	0.750	0.943	1.479	0.960
04	2.1	0.860	0.941	1.468	1.712	0.735	0.937	1.472	0.962
03	1.3	0.884	0.974	1.492	1.652	0.805	0.972	1.495	0.963
02	0.7	0.773	0.805	1.375	1.886	0.564	0.805	1.376	0.964
01	0.3	0.574	0.578	1.125	2.315	0.289	0.578	1.126	0.965

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.071
(6) 1.066
(7) 0.950
(1) 0.968 (2) 0.964 (3) 0.925 (4) 0.922

5-HOLE PROBE	offset rake	centerline rake
upper	0.979	0.976
lower	0.945	0.978

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.572			0.509	
	0.564	0.958	0.565	0.499	0.966	0.478
		0.545			0.465	
		ALPHA: -1.0			ALPHA: -1.3	
		BETA: 0.1			BETA: -0.6	
lower		0.396			0.546	
	0.465	0.907	0.538	0.535	0.909	0.510
		0.392			0.507	
		ALPHA: -0.1			ALPHA: -1.5	
		BETA: 2.6			BETA: -0.9	

FLIGHT: 54 MACH: 2.006 ALTITUDE(ft): 51321. KEAS: 435.
PSINF(psia): 1.58 PTINF(psia): 12.46 TSINF(F): -78. TTINF(F): 228.
ALPHA(deg): 4.8 BETA(deg): -0.3 PHI(deg): 36.8

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.690	1.022	2.098	2.047	0.937	0.859	1.821	1.142
15	21.1	0.691	1.024	2.100	2.045	0.940	0.869	1.839	1.124
14	18.3	0.684	1.007	2.089	2.058	0.921	0.871	1.860	1.091
13	15.7	0.683	1.003	2.086	2.062	0.916	0.883	1.887	1.061
12	13.3	0.682	1.002	2.086	2.063	0.915	0.897	1.915	1.033
10	11.1	0.688	1.016	2.094	2.052	0.931	0.924	1.950	1.007
09	9.1	0.686	1.011	2.091	2.056	0.925	0.934	1.972	0.985
08	7.3	0.684	1.006	2.088	2.059	0.920	0.943	1.991	0.965
07	5.7	0.693	1.031	2.104	2.040	0.948	0.979	2.027	0.947
06	4.3	0.691	1.026	2.101	2.044	0.942	0.986	2.042	0.932
05	3.1	0.692	1.028	2.102	2.042	0.945	0.999	2.059	0.919
04	2.1	0.684	1.008	2.089	2.058	0.921	0.988	2.060	0.908
03	1.3	0.673	0.978	2.070	2.082	0.887	0.966	2.052	0.899
02	0.7	0.574	0.745	1.895	2.316	0.615	0.741	1.886	0.892
01	0.3	0.431	0.483	1.609	2.700	0.339	0.482	1.606	0.888

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.667	0.987	2.008	2.096	0.869	0.830	1.947	0.980
15	21.1	0.661	0.980	1.998	2.109	0.851	0.831	1.960	0.959
14	18.3	0.634	0.933	1.953	2.169	0.775	0.807	1.960	0.921
13	15.7	0.596	0.876	1.887	2.260	0.672	0.771	1.936	0.885
12	13.3	0.605	0.888	1.903	2.238	0.695	0.795	1.993	0.852
10	11.1	0.492	0.727	1.693	2.531	0.440	0.662	1.813	0.821
09	9.1	0.445	0.656	1.596	2.661	0.360	0.606	1.714	0.819
08	7.3	0.589	0.866	1.874	2.278	0.653	0.812	1.978	0.841
07	5.7	0.655	0.974	1.989	2.121	0.835	0.925	2.072	0.859
06	4.3	0.675	1.001	2.021	2.079	0.892	0.962	2.084	0.876
05	3.1	0.673	1.000	2.019	2.082	0.888	0.971	2.064	0.890
04	2.1	0.673	0.990	2.017	2.083	0.886	0.971	2.048	0.902
03	1.3	0.660	0.958	1.996	2.111	0.848	0.947	2.014	0.911
02	0.7	0.564	0.733	1.830	2.340	0.593	0.729	1.839	0.918
01	0.3	0.391	0.438	1.477	2.813	0.285	0.437	1.481	0.923

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.043
(6) 0.992
(7) 0.866

(1) 0.965 (2) 0.888 (3) 0.916 (4) 0.853

5-HOLE PROBE	offset rake	centerline rake
upper	0.980	1.142
lower	0.808	0.996

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.383			0.351	
	0.380	0.719	0.365	0.330	0.702	0.319
		0.360			0.305	
	ALPHA:	-1.0		ALPHA:	-1.8	
	BETA:	-0.6		BETA:	-0.4	
lower		0.295			0.379	
	0.222	0.441	0.264	0.357	0.688	0.347
		0.293			0.329	
	ALPHA:	-0.2		ALPHA:	-2.2	
	BETA:	3.0		BETA:	-0.4	

FLIGHT: 54 MACH: 2.398 ALTITUDE(ft): 57742. KEAS: 446.
PSINF(psia): 1.16 PTINF(psia): 16.90 TSINF(F): -76. TTINF(F): 365.
ALPHA(deg): 4.7 BETA(deg): -0.3 PHI(deg): -1.3

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.541	0.944	2.324	2.401	0.995	0.986	2.380	1.014
15	21.1	0.544	0.956	2.332	2.392	1.009	0.988	2.375	1.025
14	18.3	0.555	0.993	2.356	2.364	1.054	1.007	2.374	1.045
13	15.7	0.543	0.952	2.329	2.395	1.004	0.948	2.324	1.064
12	13.3	0.551	0.980	2.348	2.374	1.039	0.962	2.323	1.082
10	11.1	0.553	0.985	2.351	2.370	1.045	0.953	2.308	1.098
09	9.1	0.547	0.965	2.338	2.385	1.021	0.932	2.292	1.101
08	7.3	0.556	0.998	2.359	2.361	1.060	0.969	2.321	1.093
07	5.7	0.552	0.982	2.349	2.372	1.041	0.960	2.320	1.086
06	4.3	0.555	0.993	2.356	2.364	1.055	0.976	2.334	1.080
05	3.1	0.553	0.987	2.352	2.369	1.047	0.974	2.336	1.074
04	2.1	0.544	0.954	2.330	2.394	1.007	0.946	2.319	1.070
03	1.3	0.537	0.930	2.314	2.412	0.979	0.926	2.308	1.066
02	0.7	0.422	0.597	2.030	2.725	0.602	0.595	2.027	1.064
01	0.3	0.309	0.362	1.705	3.067	0.359	0.362	1.704	1.062

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.561	0.980	2.387	2.348	1.081	1.023	2.347	1.080
15	21.1	0.551	0.968	2.364	2.374	1.038	1.000	2.340	1.066
14	18.3	0.544	0.973	2.347	2.393	1.008	0.987	2.355	1.040
13	15.7	0.539	0.945	2.336	2.405	0.989	0.942	2.374	1.016
12	13.3	0.533	0.947	2.321	2.423	0.962	0.929	2.387	0.993
10	11.1	0.517	0.921	2.283	2.466	0.900	0.891	2.375	0.973
09	9.1	0.475	0.838	2.181	2.579	0.755	0.809	2.271	0.972
08	7.3	0.436	0.782	2.083	2.685	0.641	0.760	2.151	0.986
07	5.7	0.431	0.768	2.070	2.698	0.628	0.751	2.123	1.000
06	4.3	0.446	0.798	2.108	2.658	0.668	0.784	2.148	1.011
05	3.1	0.483	0.862	2.203	2.555	0.783	0.852	2.232	1.021
04	2.1	0.507	0.889	2.260	2.491	0.865	0.882	2.280	1.029
03	1.3	0.516	0.895	2.282	2.466	0.899	0.890	2.295	1.036
02	0.7	0.504	0.714	2.254	2.498	0.855	0.712	2.260	1.041
01	0.3	0.380	0.446	1.932	2.843	0.503	0.445	1.934	1.044

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.298
(6) 1.136
(7) 1.056
(1) 1.029 (2) 1.064 (3) 1.074 (4) 1.047

5-HOLE PROBE	offset rake	centerline rake
upper	1.080	1.014
lower	0.963	1.105

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.297			0.251	
	0.302	0.539	0.294	0.234	0.559	0.231
		0.288			0.220	
	ALPHA:	-0.5		ALPHA:	-1.4	
	BETA:	-0.5		BETA:	-0.1	
lower		0.209			0.284	
	0.232	0.503	0.222	0.274	0.551	0.264
		0.207			0.258	
	ALPHA:	-0.1		ALPHA:	-1.4	
	BETA:	-0.5		BETA:	-0.5	

FLIGHT: 54 MACH: 3.003 ALTITUDE(ft): 68666. KEAS: 429.
PSINF(psia): 0.69 PTINF(psia): 25.31 TSINF(F): -70. TTINF(F): 634.
ALPHA(deg): 4.6 BETA(deg): 0.5 PHI(deg): 33.9

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.305	0.852	2.898	3.079	0.892	0.773	2.785	1.076
15	21.1	0.311	0.893	2.929	3.057	0.922	0.807	2.811	1.079
14	18.3	0.316	0.922	2.951	3.043	0.942	0.828	2.825	1.085
13	15.7	0.314	0.910	2.942	3.049	0.934	0.813	2.810	1.089
12	13.3	0.308	0.873	2.914	3.068	0.907	0.777	2.777	1.094
10	11.1	0.310	0.881	2.920	3.064	0.913	0.780	2.777	1.098
09	9.1	0.305	0.848	2.896	3.081	0.890	0.759	2.764	1.090
08	7.3	0.303	0.838	2.888	3.087	0.883	0.766	2.781	1.071
07	5.7	0.305	0.853	2.899	3.078	0.893	0.794	2.815	1.055
06	4.3	0.306	0.857	2.902	3.076	0.896	0.811	2.838	1.041
05	3.1	0.309	0.874	2.916	3.067	0.909	0.840	2.869	1.029
04	2.1	0.310	0.882	2.921	3.063	0.914	0.858	2.889	1.019
03	1.3	0.303	0.835	2.885	3.088	0.880	0.821	2.866	1.011
02	0.7	0.209	0.378	2.372	3.503	0.482	0.376	2.363	1.005
01	0.3	0.146	0.197	1.954	3.945	0.262	0.197	1.951	1.000

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.343	0.956	2.984	2.956	1.073	0.869	2.580	1.398
15	21.1	0.337	0.967	2.960	2.973	1.047	0.874	2.593	1.363
14	18.3	0.326	0.953	2.909	3.008	0.993	0.856	2.614	1.299
13	15.7	0.315	0.914	2.857	3.044	0.940	0.816	2.632	1.239
12	13.3	0.311	0.880	2.836	3.060	0.919	0.783	2.675	1.184
10	11.1	0.329	0.935	2.920	3.000	1.005	0.828	2.819	1.133
09	9.1	0.332	0.924	2.934	2.991	1.019	0.827	2.870	1.105
08	7.3	0.323	0.894	2.894	3.018	0.978	0.817	2.843	1.096
07	5.7	0.320	0.895	2.881	3.027	0.964	0.833	2.841	1.088
06	4.3	0.320	0.895	2.878	3.030	0.961	0.848	2.848	1.081
05	3.1	0.317	0.899	2.866	3.038	0.949	0.864	2.845	1.075
04	2.1	0.314	0.893	2.850	3.050	0.933	0.869	2.835	1.070
03	1.3	0.308	0.849	2.820	3.071	0.904	0.835	2.811	1.066
02	0.7	0.258	0.468	2.572	3.260	0.684	0.465	2.567	1.063
01	0.3	0.172	0.232	2.068	3.739	0.346	0.231	2.067	1.061

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.040
(6) 1.092
(7) 0.932
(1) 1.056 (2) 1.063 (3) 0.975 (4) 1.020

5-HOLE PROBE	offset rake	centerline rake
upper	1.398	1.076
lower	1.110	1.100

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.163			0.133	
	0.174	0.344	0.158	0.126	0.331	0.131
		0.160			0.125	
		ALPHA: -0.2			ALPHA: -0.5	
		BETA: -1.3			BETA: 0.4	
lower		0.156			0.138	
	0.120	0.325	0.148	0.134	0.305	0.142
		0.155			0.140	
		ALPHA: -0.1			ALPHA: 0.1	
		BETA: 2.1			BETA: 0.6	

FLIGHT: 54 MACH: 3.005 ALTITUDE(ft): 66184. KEAS: 456.
PSINF(psia): 0.77 PTINF(psia): 28.61 TSINF(F): -74. TTINF(F): 621.
ALPHA(deg): 5.1 BETA(deg): 0.5 PHI(deg): 6.8

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.306	0.847	2.887	3.075	0.902	0.873	2.922	0.990
15	21.1	0.319	0.928	2.947	3.032	0.960	0.957	2.983	0.990
14	18.3	0.322	0.951	2.963	3.022	0.976	0.980	2.998	0.990
13	15.7	0.313	0.891	2.920	3.051	0.933	0.917	2.955	0.990
12	13.3	0.310	0.871	2.905	3.062	0.919	0.897	2.939	0.990
10	11.1	0.307	0.851	2.890	3.072	0.905	0.876	2.924	0.990
09	9.1	0.304	0.834	2.876	3.082	0.891	0.855	2.906	0.993
08	7.3	0.304	0.835	2.877	3.082	0.892	0.852	2.901	0.997
07	5.7	0.308	0.856	2.894	3.070	0.908	0.870	2.912	1.000
06	4.3	0.308	0.859	2.896	3.069	0.910	0.869	2.910	1.003
05	3.1	0.309	0.863	2.899	3.066	0.913	0.871	2.910	1.006
04	2.1	0.311	0.874	2.907	3.060	0.921	0.879	2.914	1.008
03	1.3	0.304	0.831	2.874	3.084	0.890	0.834	2.878	1.010
02	0.7	0.211	0.380	2.368	3.493	0.490	0.381	2.370	1.011
01	0.3	0.147	0.197	1.947	3.938	0.265	0.197	1.948	1.012

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.338	0.935	2.979	2.971	1.054	0.963	2.665	1.301
15	21.1	0.334	0.973	2.961	2.983	1.034	1.002	2.681	1.271
14	18.3	0.320	0.945	2.895	3.028	0.966	0.973	2.684	1.215
13	15.7	0.311	0.884	2.851	3.060	0.922	0.910	2.704	1.163
12	13.3	0.307	0.862	2.833	3.073	0.904	0.888	2.747	1.115
10	11.1	0.318	0.882	2.886	3.035	0.956	0.907	2.858	1.071
09	9.1	0.328	0.897	2.930	3.004	1.002	0.921	2.931	1.051
08	7.3	0.314	0.861	2.866	3.049	0.937	0.878	2.867	1.051
07	5.7	0.315	0.874	2.869	3.047	0.939	0.889	2.869	1.052
06	4.3	0.314	0.876	2.869	3.047	0.939	0.887	2.869	1.052
05	3.1	0.315	0.879	2.869	3.047	0.940	0.887	2.870	1.052
04	2.1	0.311	0.874	2.851	3.060	0.922	0.879	2.851	1.052
03	1.3	0.305	0.834	2.823	3.080	0.895	0.837	2.823	1.052
02	0.7	0.259	0.467	2.589	3.258	0.688	0.468	2.589	1.052
01	0.3	0.173	0.232	2.084	3.734	0.350	0.232	2.084	1.052

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.037
(6) 1.084
(7) 0.941
(1) 1.048 (2) 1.056 (3) 1.002 (4) 1.023

5-HOLE PROBE	offset rake	centerline rake
upper	1.301	0.990
lower	1.051	0.990

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.165			0.131	
	0.176	0.313	0.161	0.124	0.314	0.127
		0.164			0.122	
	ALPHA:	-0.2		ALPHA:	-0.7	
	BETA:	-1.5		BETA:	0.2	
lower		0.141			0.140	
	0.121	0.323	0.149	0.135	0.306	0.142
		0.139			0.141	
	ALPHA:	-0.1		ALPHA:	0.1	
	BETA:	2.2		BETA:	0.6	

FLIGHT: 54 MACH: 2.380 ALTITUDE(ft): 65017. KEAS: 371.
PSINF(psia): 0.82 PTINF(psia): 11.58 TSINF(F): -72. TTINF(F): 366.
ALPHA(deg): 5.4 BETA(deg): 0.6 PHI(deg): 0.7

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.576	0.991	2.304	2.309	1.116	0.942	2.236	1.179
15	21.1	0.575	0.986	2.301	2.313	1.109	0.939	2.235	1.178
14	18.3	0.571	0.972	2.291	2.324	1.091	0.928	2.229	1.175
13	15.7	0.572	0.977	2.295	2.320	1.098	0.935	2.235	1.172
12	13.3	0.569	0.968	2.289	2.327	1.086	0.928	2.232	1.169
10	11.1	0.568	0.965	2.287	2.330	1.081	0.926	2.232	1.167
09	9.1	0.560	0.938	2.269	2.351	1.047	0.906	2.221	1.161
08	7.3	0.559	0.933	2.265	2.355	1.040	0.907	2.227	1.152
07	5.7	0.553	0.916	2.254	2.369	1.017	0.896	2.223	1.144
06	4.3	0.551	0.910	2.249	2.374	1.009	0.895	2.227	1.137
05	3.1	0.551	0.910	2.249	2.374	1.009	0.899	2.233	1.131
04	2.1	0.551	0.908	2.248	2.375	1.007	0.901	2.237	1.126
03	1.3	0.542	0.882	2.229	2.398	0.972	0.877	2.222	1.122
02	0.7	0.430	0.582	1.963	2.703	0.606	0.581	1.960	1.119
01	0.3	0.316	0.361	1.651	3.041	0.363	0.361	1.650	1.118

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.547	0.941	2.249	2.384	0.993	0.895	1.951	1.438
15	21.1	0.538	0.923	2.229	2.408	0.958	0.879	1.962	1.401
14	18.3	0.532	0.907	2.216	2.423	0.935	0.866	2.006	1.331
13	15.7	0.530	0.905	2.210	2.430	0.924	0.865	2.056	1.265
12	13.3	0.539	0.916	2.230	2.407	0.959	0.878	2.131	1.205
10	11.1	0.540	0.917	2.234	2.402	0.966	0.881	2.190	1.150
09	9.1	0.539	0.904	2.231	2.405	0.962	0.872	2.215	1.123
08	7.3	0.558	0.933	2.273	2.356	1.039	0.906	2.260	1.120
07	5.7	0.566	0.938	2.291	2.335	1.073	0.917	2.281	1.118
06	4.3	0.565	0.932	2.287	2.339	1.065	0.916	2.279	1.116
05	3.1	0.561	0.926	2.279	2.349	1.050	0.915	2.273	1.114
04	2.1	0.551	0.909	2.257	2.375	1.008	0.901	2.253	1.112
03	1.3	0.526	0.855	2.201	2.441	0.909	0.851	2.198	1.111
02	0.7	0.418	0.567	1.942	2.735	0.577	0.565	1.940	1.110
01	0.3	0.286	0.327	1.563	3.148	0.309	0.327	1.562	1.109

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.258
(6) 1.115
(7) 1.145
(1) 1.063 (2) 1.154 (3) 1.129 (4) 1.103

5-HOLE PROBE	offset rake	centerline rake
upper	1.438	1.179
lower	1.125	1.166

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.304			0.265	
	0.301	0.545	0.301	0.256	0.578	0.259
		0.289			0.256	
	ALPHA: -0.9			ALPHA: -0.4		
	BETA: 0.0			BETA: 0.1		
lower		0.360			0.297	
	0.228	0.542	0.270	0.286	0.566	0.270
		0.359			0.271	
	ALPHA: -0.1			ALPHA: -1.3		
	BETA: 2.0			BETA: -0.8		

FLIGHT: 54 MACH: 2.023 ALTITUDE(ft): 59380. KEAS: 361.
PSINF(psia): 1.07 PTINF(psia): 8.69 TSINF(F): -76. TTINF(F): 238.
ALPHA(deg): 5.7 BETA(deg): 0.4 PHI(deg): 4.5

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.682	0.997	2.081	2.064	0.937	0.970	2.039	0.946
15	21.1	0.677	0.986	2.073	2.074	0.924	0.955	2.025	0.952
14	18.3	0.678	0.988	2.075	2.072	0.926	0.950	2.015	0.961
13	15.7	0.674	0.978	2.068	2.081	0.914	0.933	1.998	0.971
12	13.3	0.677	0.985	2.073	2.075	0.923	0.935	1.993	0.979
10	11.1	0.676	0.983	2.071	2.076	0.921	0.928	1.983	0.987
09	9.1	0.670	0.969	2.062	2.088	0.904	0.918	1.979	0.982
08	7.3	0.672	0.974	2.065	2.084	0.910	0.932	1.998	0.969
07	5.7	0.677	0.986	2.073	2.074	0.924	0.952	2.020	0.956
06	4.3	0.671	0.972	2.064	2.086	0.907	0.946	2.023	0.945
05	3.1	0.673	0.975	2.066	2.083	0.911	0.956	2.037	0.936
04	2.1	0.667	0.960	2.056	2.096	0.892	0.947	2.036	0.928
03	1.3	0.657	0.936	2.040	2.117	0.864	0.928	2.027	0.922
02	0.7	0.567	0.730	1.880	2.333	0.616	0.728	1.874	0.917
01	0.3	0.432	0.484	1.609	2.697	0.350	0.484	1.606	0.914

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.672	0.983	2.029	2.085	0.908	0.956	1.787	1.182
15	21.1	0.672	0.979	2.029	2.085	0.908	0.948	1.806	1.161
14	18.3	0.677	0.987	2.038	2.073	0.925	0.949	1.851	1.120
13	15.7	0.673	0.977	2.031	2.082	0.912	0.933	1.880	1.082
12	13.3	0.675	0.982	2.034	2.079	0.917	0.932	1.917	1.047
10	11.1	0.672	0.978	2.029	2.084	0.909	0.922	1.946	1.015
09	9.1	0.669	0.967	2.024	2.091	0.900	0.916	1.963	0.995
08	7.3	0.667	0.967	2.021	2.095	0.894	0.924	1.972	0.984
07	5.7	0.670	0.975	2.025	2.090	0.901	0.941	1.986	0.975
06	4.3	0.667	0.965	2.021	2.095	0.894	0.940	1.992	0.966
05	3.1	0.661	0.958	2.011	2.108	0.876	0.940	1.990	0.959
04	2.1	0.657	0.946	2.005	2.117	0.864	0.933	1.990	0.953
03	1.3	0.644	0.917	1.983	2.146	0.825	0.910	1.974	0.949
02	0.7	0.544	0.701	1.804	2.393	0.561	0.698	1.800	0.945
01	0.3	0.372	0.418	1.445	2.866	0.270	0.417	1.443	0.943

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.050
(6) 1.098
(7) 0.992

(1) 0.936 (2) 0.946 (3) 0.914 (4) 0.910

5-HOLE PROBE	offset rake	centerline rake
upper	1.182	0.946
lower	1.001	0.990

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.394			0.337	
	0.365	0.674	0.402	0.314	0.684	0.314
		0.360			0.302	
	ALPHA:	-1.6		ALPHA:	-1.3	
	BETA:	1.8		BETA:	0.0	
lower		0.490			0.373	
	0.277	0.674	0.379	0.343	0.670	0.337
		0.488			0.318	
	ALPHA:	-0.2		ALPHA:	-2.4	
	BETA:	4.2		BETA:	-0.3	

FLIGHT: 54 MACH: 1.512 ALTITUDE(ft): 47397. KEAS: 360.
PSINF(psia): 1.91 PTINF(psia): 7.12 TSINF(F): -86. TTINF(F): 85.
ALPHA(deg): 5.6 BETA(deg): 0.6 PHI(deg): 0.0

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.904	1.006	1.591	1.593	0.887	0.992	1.556	0.929
15	21.1	0.900	1.000	1.587	1.606	0.871	0.985	1.550	0.932
14	18.3	0.901	1.001	1.588	1.603	0.874	0.985	1.545	0.937
13	15.7	0.902	1.002	1.589	1.600	0.878	0.984	1.542	0.942
12	13.3	0.897	0.996	1.584	1.613	0.861	0.977	1.533	0.947
10	11.1	0.895	0.992	1.582	1.620	0.852	0.972	1.527	0.951
09	9.1	0.892	0.988	1.579	1.629	0.842	0.969	1.528	0.947
08	7.3	0.893	0.990	1.580	1.626	0.846	0.974	1.538	0.937
07	5.7	0.888	0.982	1.575	1.640	0.828	0.970	1.542	0.928
06	4.3	0.885	0.977	1.571	1.650	0.816	0.968	1.546	0.920
05	3.1	0.878	0.967	1.564	1.668	0.794	0.960	1.546	0.913
04	2.1	0.878	0.967	1.564	1.668	0.794	0.962	1.552	0.907
03	1.3	0.900	0.999	1.586	1.607	0.869	0.996	1.579	0.903
02	0.7	0.686	0.707	1.345	2.054	0.438	0.706	1.341	0.899
01	0.3	0.541	0.543	1.146	2.401	0.255	0.543	1.144	0.897

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.902	1.004	1.564	1.598	0.881	0.991	1.563	0.922
15	21.1	0.902	1.002	1.563	1.601	0.877	0.987	1.560	0.923
14	18.3	0.900	1.000	1.561	1.605	0.871	0.984	1.556	0.926
13	15.7	0.897	0.997	1.558	1.615	0.859	0.979	1.550	0.928
12	13.3	0.900	0.999	1.561	1.605	0.871	0.979	1.552	0.930
10	11.1	0.895	0.992	1.556	1.622	0.851	0.971	1.544	0.932
09	9.1	0.897	0.994	1.559	1.614	0.860	0.974	1.547	0.932
08	7.3	0.894	0.990	1.555	1.624	0.848	0.975	1.546	0.930
07	5.7	0.894	0.989	1.556	1.622	0.850	0.977	1.548	0.928
06	4.3	0.880	0.972	1.541	1.662	0.800	0.963	1.535	0.926
05	3.1	0.868	0.956	1.528	1.694	0.764	0.949	1.524	0.924
04	2.1	0.863	0.950	1.523	1.706	0.750	0.946	1.520	0.923
03	1.3	0.872	0.969	1.532	1.684	0.775	0.966	1.531	0.922
02	0.7	0.717	0.739	1.359	1.992	0.483	0.738	1.358	0.921
01	0.3	0.526	0.528	1.100	2.441	0.240	0.527	1.100	0.921

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.946
(6) 1.038
(7) 0.928
(1) 0.926 (2) 0.915 (3) 0.889 (4) 0.902

5-HOLE PROBE	offset rake	centerline rake
upper	0.922	0.929
lower	0.933	0.952

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.566			0.498	
	0.538	0.898	0.566	0.464	0.900	0.475
		0.522			0.451	
	ALPHA: -1.8			ALPHA: -1.6		
	BETA: 1.2			BETA: 0.3		
lower		0.607			0.527	
	0.437	0.893	0.536	0.514	0.892	0.502
		0.605			0.502	
	ALPHA: -0.1			ALPHA: -0.9		
	BETA: 3.5			BETA: -0.4		

FLIGHT: 54 MACH: 1.171 ALTITUDE(ft): 35606. KEAS: 370.
PSINF(psia): 3.36 PTINF(psia): 7.84 TSINF(F): -56. TTINF(F): 54.
ALPHA(deg): 4.5 BETA(deg): 0.4 PHI(deg): -0.2

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.983	0.985	1.119	1.234	0.920	0.961	0.780	1.521
15	21.1	0.982	0.984	1.118	1.244	0.909	0.956	0.771	1.530
14	18.3	0.982	0.984	1.118	1.240	0.913	0.951	0.758	1.547
13	15.7	0.983	0.985	1.118	1.238	0.915	0.945	0.746	1.563
12	13.3	0.984	0.986	1.120	1.230	0.925	0.940	0.735	1.577
10	11.1	0.984	0.985	1.119	1.233	0.921	0.932	0.723	1.591
09	9.1	0.982	0.983	1.117	1.246	0.906	0.951	0.761	1.543
08	7.3	0.985	0.987	1.121	1.223	0.934	0.978	0.839	1.446
07	5.7	0.987	0.988	1.122	1.215	0.944	0.985	0.901	1.359
06	4.3	0.992	0.994	1.126	1.177	0.992	0.992	0.958	1.284
05	3.1	0.988	0.990	1.123	1.203	0.959	0.988	1.000	1.219
04	2.1	0.986	0.988	1.121	1.216	0.942	0.986	1.036	1.165
03	1.3	0.969	0.971	1.107	1.317	0.823	0.969	1.053	1.122
02	0.7	0.730	0.730	0.859	--	--	0.730	0.825	1.090
01	0.3	0.622	0.622	0.695	--	--	0.622	0.677	1.068

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.983	0.984	1.119	1.240	0.914	0.960	0.804	1.489
15	21.1	0.982	0.984	1.119	1.242	0.911	0.956	0.795	1.501
14	18.3	0.982	0.984	1.119	1.243	0.910	0.951	0.778	1.522
13	15.7	0.981	0.983	1.118	1.248	0.904	0.944	0.761	1.541
12	13.3	0.982	0.984	1.118	1.243	0.909	0.938	0.747	1.560
10	11.1	0.981	0.983	1.117	1.250	0.901	0.929	0.732	1.576
09	9.1	0.977	0.979	1.114	1.272	0.874	0.947	0.765	1.531
08	7.3	0.978	0.979	1.115	1.270	0.877	0.970	0.837	1.436
07	5.7	0.983	0.985	1.120	1.235	0.919	0.982	0.903	1.352
06	4.3	0.990	0.992	1.125	1.192	0.973	0.990	0.960	1.278
05	3.1	0.988	0.990	1.123	1.208	0.953	0.988	1.002	1.215
04	2.1	0.986	0.988	1.122	1.216	0.943	0.986	1.039	1.162
03	1.3	0.974	0.976	1.112	1.289	0.855	0.975	1.060	1.120
02	0.7	0.755	0.755	0.891	--	--	0.755	0.859	1.088
01	0.3	0.612	0.612	0.677	--	--	0.612	0.659	1.067

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.914
(6) 0.924
(7) 0.876

(1) 1.006 (2) 1.096 (3) 1.080 (4) 1.023

5-HOLE PROBE	offset rake	centerline rake
upper	1.489	1.521
lower	1.584	1.597

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.658			0.597	
	0.640	0.977	0.653	0.573	0.981	0.576
		0.623			0.562	
		ALPHA: -1.5			ALPHA: -1.3	
		BETA: 0.6			BETA: 0.1	
lower		0.578			0.677	
	0.597	0.976	0.696	0.694	0.981	0.629
		0.577			0.657	
		ALPHA: 0.0			ALPHA: -0.9	
		BETA: 4.3			BETA: -2.9	

FLIGHT: 54 MACH: 0.790 ALTITUDE(ft): 14730. KEAS: 395.
PSINF(psia): 8.38 PTINF(psia): 12.65 TSINF(F): 24. TTINF(F): 84.
ALPHA(deg): 4.6 BETA(deg): 0.5 PHI(deg): -0.4

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.002	1.002	0.801	--	--	1.002	0.732	1.059
15	21.1	1.001	1.001	0.800	--	--	1.001	0.727	1.063
14	18.3	1.002	1.002	0.800	--	--	1.002	0.721	1.069
13	15.7	1.001	1.001	0.800	--	--	1.001	0.715	1.075
12	13.3	1.002	1.002	0.800	--	--	1.002	0.709	1.081
10	11.1	1.002	1.002	0.800	--	--	1.002	0.704	1.086
09	9.1	1.001	1.001	0.800	--	--	1.001	0.711	1.079
08	7.3	1.002	1.002	0.801	--	--	1.002	0.729	1.061
07	5.7	1.001	1.001	0.799	--	--	1.001	0.744	1.046
06	4.3	1.002	1.002	0.801	--	--	1.002	0.759	1.033
05	3.1	1.001	1.001	0.800	--	--	1.001	0.770	1.021
04	2.1	1.002	1.002	0.800	--	--	1.002	0.780	1.011
03	1.3	1.002	1.002	0.800	--	--	1.002	0.788	1.004
02	0.7	0.945	0.945	0.740	--	--	0.945	0.733	0.998
01	0.3	0.876	0.876	0.655	--	--	0.876	0.651	0.994

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.796	--	--	1.003	0.736	1.056
15	21.1	1.001	1.001	0.794	--	--	1.001	0.731	1.059
14	18.3	1.002	1.002	0.795	--	--	1.002	0.725	1.065
13	15.7	1.001	1.001	0.794	--	--	1.001	0.719	1.071
12	13.3	1.002	1.002	0.796	--	--	1.002	0.715	1.076
10	11.1	1.001	1.001	0.794	--	--	1.001	0.709	1.081
09	9.1	0.999	0.999	0.792	--	--	0.999	0.712	1.075
08	7.3	0.996	0.996	0.789	--	--	0.996	0.725	1.059
07	5.7	0.998	0.998	0.791	--	--	0.998	0.741	1.046
06	4.3	0.997	0.997	0.790	--	--	0.997	0.753	1.034
05	3.1	0.998	0.998	0.791	--	--	0.998	0.764	1.023
04	2.1	1.000	1.000	0.793	--	--	1.000	0.775	1.015
03	1.3	1.001	1.001	0.794	--	--	1.001	0.783	1.008
02	0.7	0.956	0.956	0.746	--	--	0.956	0.740	1.003
01	0.3	0.861	0.861	0.628	--	--	0.861	0.625	0.999

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.964
(6) 0.957
(7) 0.945
(1) 0.987 (2) 1.006 (3) 0.992 (4) 0.991

5-HOLE PROBE	offset rake	centerline rake
upper	1.056	1.059
lower	1.083	1.088

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.705			0.652	
	0.697	1.001	0.722	0.650	1.003	0.646
		0.701			0.650	
	ALPHA:	-0.2		ALPHA:	-0.1	
	BETA:	1.2		BETA:	-0.2	
lower		0.657			0.709	
	0.630	0.998	0.725	0.709	1.001	0.678
		0.655			0.685	
	ALPHA:	-0.1		ALPHA:	-1.2	
	BETA:	4.2		BETA:	-1.4	

FLIGHT: 54 MACH: 0.593 ALTITUDE(ft): 11215. KEAS: 317.
PSINF(psia): 9.64 PTINF(psia): 12.22 TSINF(F): 43. TTINF(F): 78.
ALPHA(deg): 6.6 BETA(deg): 0.5 PHI(deg): 40.2

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.615	--	--	1.001	0.577	1.013
15	21.1	1.001	1.001	0.615	--	--	1.001	0.575	1.014
14	18.3	1.002	1.002	0.616	--	--	1.002	0.575	1.016
13	15.7	1.001	1.001	0.615	--	--	1.001	0.572	1.017
12	13.3	1.002	1.002	0.617	--	--	1.002	0.572	1.018
10	11.1	1.002	1.002	0.616	--	--	1.002	0.570	1.019
09	9.1	1.001	1.001	0.615	--	--	1.001	0.573	1.016
08	7.3	1.002	1.002	0.616	--	--	1.002	0.582	1.010
07	5.7	1.001	1.001	0.615	--	--	1.001	0.589	1.004
06	4.3	1.002	1.002	0.616	--	--	1.002	0.597	0.999
05	3.1	1.001	1.001	0.615	--	--	1.001	0.601	0.995
04	2.1	1.002	1.002	0.616	--	--	1.002	0.606	0.991
03	1.3	1.002	1.002	0.616	--	--	1.002	0.610	0.988
02	0.7	0.971	0.971	0.575	--	--	0.971	0.572	0.986
01	0.3	0.927	0.927	0.511	--	--	0.927	0.509	0.985

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.612	--	--	1.003	0.583	1.010
15	21.1	1.001	1.001	0.610	--	--	1.001	0.580	1.010
14	18.3	1.002	1.002	0.611	--	--	1.002	0.579	1.012
13	15.7	1.001	1.001	0.610	--	--	1.001	0.577	1.013
12	13.3	1.003	1.003	0.612	--	--	1.003	0.578	1.014
10	11.1	1.002	1.002	0.612	--	--	1.002	0.576	1.015
09	9.1	1.001	1.001	0.609	--	--	1.001	0.577	1.013
08	7.3	1.001	1.001	0.609	--	--	1.001	0.583	1.008
07	5.7	1.001	1.001	0.610	--	--	1.001	0.590	1.003
06	4.3	1.001	1.001	0.610	--	--	1.001	0.595	0.999
05	3.1	1.001	1.001	0.610	--	--	1.001	0.599	0.996
04	2.1	1.001	1.001	0.610	--	--	1.001	0.603	0.993
03	1.3	1.002	1.002	0.611	--	--	1.002	0.606	0.991
02	0.7	0.973	0.973	0.573	--	--	0.973	0.570	0.989
01	0.3	0.913	0.913	0.483	--	--	0.913	0.482	0.988

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.983
(6) 0.977
(7) 0.968
(1) 0.983 (2) 0.992 (3) 0.982 (4) 0.985

5-HOLE PROBE	offset rake	centerline rake
upper	1.010	1.013
lower	1.016	1.020

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.795			0.758	
	0.785	0.998	0.795	0.752	1.002	0.746
		0.778			0.747	
	ALPHA:	-1.1		ALPHA:	-0.6	
	BETA:	0.7		BETA:	-0.3	
lower		0.787			0.789	
	0.736	0.999	0.798	0.787	1.000	0.766
		0.785			0.770	
	ALPHA:	-0.1		ALPHA:	-1.2	
	BETA:	3.8		BETA:	-1.4	

FLIGHT: 54 MACH: 0.409 ALTITUDE(ft): 7014. KEAS: 238.
PSINF(psia): 11.33 PTINF(psia): 12.72 TSINF(F): 61. TTINF(F): 78.
ALPHA(deg): 8.3 BETA(deg): 0.2 PHI(deg): 0.6

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.425	--	--	1.001	0.400	1.006
15	21.1	1.001	1.001	0.425	--	--	1.001	0.400	1.006
14	18.3	1.002	1.002	0.426	--	--	1.002	0.401	1.007
13	15.7	1.001	1.001	0.425	--	--	1.001	0.399	1.007
12	13.3	1.002	1.002	0.427	--	--	1.002	0.401	1.007
10	11.1	1.002	1.002	0.426	--	--	1.002	0.399	1.007
09	9.1	1.001	1.001	0.425	--	--	1.001	0.401	1.006
08	7.3	1.002	1.002	0.426	--	--	1.002	0.407	1.003
07	5.7	1.001	1.001	0.425	--	--	1.001	0.410	1.001
06	4.3	1.002	1.002	0.427	--	--	1.002	0.415	0.999
05	3.1	1.001	1.001	0.426	--	--	1.001	0.417	0.997
04	2.1	1.002	1.002	0.426	--	--	1.002	0.421	0.995
03	1.3	1.001	1.001	0.426	--	--	1.001	0.422	0.994
02	0.7	0.988	0.988	0.401	--	--	0.988	0.399	0.993
01	0.3	0.965	0.965	0.355	--	--	0.965	0.354	0.993

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.424	--	--	1.003	0.406	1.004
15	21.1	1.001	1.001	0.422	--	--	1.001	0.403	1.005
14	18.3	1.002	1.002	0.422	--	--	1.002	0.403	1.005
13	15.7	1.001	1.001	0.422	--	--	1.001	0.402	1.006
12	13.3	1.002	1.002	0.423	--	--	1.002	0.403	1.006
10	11.1	1.003	1.003	0.424	--	--	1.003	0.403	1.006
09	9.1	1.001	1.001	0.420	--	--	1.001	0.401	1.005
08	7.3	1.001	1.001	0.422	--	--	1.001	0.407	1.003
07	5.7	1.001	1.001	0.422	--	--	1.001	0.410	1.001
06	4.3	1.001	1.001	0.422	--	--	1.001	0.413	1.000
05	3.1	1.001	1.001	0.421	--	--	1.001	0.415	0.998
04	2.1	1.002	1.002	0.422	--	--	1.002	0.418	0.997
03	1.3	1.002	1.002	0.422	--	--	1.002	0.420	0.996
02	0.7	0.992	0.992	0.404	--	--	0.992	0.403	0.995
01	0.3	0.957	0.957	0.334	--	--	0.957	0.333	0.995

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.994
(6) 0.992
(7) 0.986
(1) 0.993 (2) 0.996 (3) 0.991 (4) 0.993

5-HOLE PROBE	offset rake	centerline rake
upper	1.004	1.006
lower	1.006	1.007

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.893			0.875	
	0.889	0.999	0.890	0.871	1.003	0.864
		0.883			0.867	
	ALPHA:	-1.3		ALPHA:	-0.8	
	BETA:	0.1		BETA:	-0.7	
lower		0.910			0.890	
	0.865	1.000	0.892	0.889	1.000	0.874
		0.908			0.875	
	ALPHA:	-0.3		ALPHA:	-1.8	
	BETA:	3.2		BETA:	-1.8	

FLIGHT: 55   MACH: 0.793   ALTITUDE(ft): 16117.   KEAS: 385.
PSINF(psia): 7.93   PTINF(psia): 12.00   TSINF(F): 30.   TTINF(F): 92.
ALPHA(deg): 5.1   BETA(deg): 0.3   PHI(deg): 34.8

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.002	1.002	0.803	--	--	1.002	0.732	1.062
15	21.1	1.001	1.001	0.802	--	--	1.001	0.728	1.065
14	18.3	1.002	1.002	0.803	--	--	1.002	0.722	1.072
13	15.7	1.002	1.002	0.803	--	--	1.002	0.716	1.078
12	13.3	1.002	1.002	0.804	--	--	1.002	0.712	1.083
10	11.1	1.002	1.002	0.803	--	--	1.002	0.706	1.088
09	9.1	1.001	1.001	0.803	--	--	1.001	0.713	1.080
08	7.3	1.002	1.002	0.804	--	--	1.002	0.732	1.063
07	5.7	1.002	1.002	0.803	--	--	1.002	0.747	1.047
06	4.3	1.002	1.002	0.804	--	--	1.002	0.762	1.034
05	3.1	1.001	1.001	0.802	--	--	1.001	0.772	1.022
04	2.1	1.002	1.002	0.804	--	--	1.002	0.783	1.012
03	1.3	1.001	1.001	0.803	--	--	1.001	0.790	1.005
02	0.7	0.937	0.937	0.733	--	--	0.937	0.726	0.999
01	0.3	0.868	0.868	0.647	--	--	0.868	0.643	0.995

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.004	1.004	0.799	--	--	1.004	0.734	1.062
15	21.1	1.000	1.000	0.796	--	--	1.000	0.728	1.065
14	18.3	1.002	1.002	0.797	--	--	1.002	0.724	1.070
13	15.7	1.002	1.002	0.798	--	--	1.002	0.719	1.075
12	13.3	1.002	1.002	0.798	--	--	1.002	0.714	1.080
10	11.1	1.000	1.000	0.796	--	--	1.000	0.707	1.085
09	9.1	0.996	0.996	0.791	--	--	0.996	0.710	1.078
08	7.3	0.992	0.992	0.788	--	--	0.992	0.722	1.062
07	5.7	0.994	0.994	0.789	--	--	0.994	0.738	1.048
06	4.3	0.995	0.995	0.791	--	--	0.995	0.752	1.035
05	3.1	0.997	0.997	0.793	--	--	0.997	0.765	1.025
04	2.1	1.000	1.000	0.795	--	--	1.000	0.777	1.016
03	1.3	1.001	1.001	0.796	--	--	1.001	0.785	1.009
02	0.7	0.961	0.961	0.754	--	--	0.961	0.748	1.004
01	0.3	0.863	0.863	0.633	--	--	0.863	0.630	1.000

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.962
(6) 0.953
(7) 0.944

(1) 0.987   (2) 1.008   (3) 0.994   (4) 0.990

5-HOLE PROBE	offset rake	centerline rake
upper	1.062	1.062
lower	1.087	1.090

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg)   (viewed tail-on)

	offset rake			centerline rake		
upper		0.706			0.651	
	0.705	1.004	0.717	0.656	1.004	0.639
		0.704			0.651	
		ALPHA: -0.1			ALPHA: 0.0	
		BETA: 0.6			BETA: -0.7	
lower		0.693			0.704	
	0.638	0.998	0.720	0.712	1.002	0.673
		0.693			0.680	
		ALPHA: 0.0			ALPHA: -1.1	
		BETA: 3.7			BETA: -1.8	

FLIGHT: 55 MACH: 0.900 ALTITUDE(ft): 27696. KEAS: 342.
PSINF(psia): 4.84 PTINF(psia): 8.19 TSINF(F): -26. TTINF(F): 44.
ALPHA(deg): 6.6 BETA(deg): -0.1 PHI(deg): -7.7

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.992	0.992	0.840	--	--	0.992	0.757	1.147
15	21.1	0.990	0.990	0.838	--	--	0.990	0.751	1.152
14	18.3	0.992	0.992	0.840	--	--	0.992	0.744	1.161
13	15.7	0.994	0.994	0.842	--	--	0.994	0.738	1.170
12	13.3	0.994	0.994	0.842	--	--	0.994	0.731	1.178
10	11.1	0.993	0.993	0.841	--	--	0.993	0.723	1.185
09	9.1	0.992	0.992	0.840	--	--	0.992	0.731	1.176
08	7.3	0.993	0.993	0.841	--	--	0.993	0.754	1.152
07	5.7	0.992	0.992	0.840	--	--	0.992	0.772	1.131
06	4.3	0.993	0.993	0.841	--	--	0.993	0.790	1.113
05	3.1	0.991	0.991	0.839	--	--	0.991	0.802	1.097
04	2.1	0.993	0.993	0.841	--	--	0.993	0.816	1.084
03	1.3	0.991	0.991	0.839	--	--	0.991	0.823	1.074
02	0.7	0.897	0.897	0.737	--	--	0.897	0.728	1.066
01	0.3	0.820	0.820	0.635	--	--	0.820	0.631	1.061

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.996	0.996	0.838	--	--	0.996	0.762	1.146
15	21.1	0.992	0.992	0.834	--	--	0.992	0.753	1.152
14	18.3	0.994	0.994	0.837	--	--	0.994	0.747	1.161
13	15.7	0.994	0.994	0.837	--	--	0.994	0.739	1.170
12	13.3	0.994	0.994	0.837	--	--	0.994	0.731	1.178
10	11.1	0.994	0.994	0.837	--	--	0.994	0.725	1.186
09	9.1	0.992	0.992	0.835	--	--	0.992	0.731	1.177
08	7.3	0.991	0.991	0.833	--	--	0.991	0.750	1.154
07	5.7	0.992	0.992	0.835	--	--	0.992	0.770	1.134
06	4.3	0.992	0.992	0.835	--	--	0.992	0.786	1.117
05	3.1	0.992	0.992	0.834	--	--	0.992	0.799	1.102
04	2.1	0.991	0.991	0.834	--	--	0.991	0.810	1.089
03	1.3	0.991	0.991	0.834	--	--	0.991	0.819	1.079
02	0.7	0.914	0.914	0.752	--	--	0.914	0.743	1.072
01	0.3	0.810	0.810	0.614	--	--	0.810	0.609	1.067

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.960
(6) 0.953
(7) 0.958
(1) 1.050 (2) 1.076 (3) 1.062 (4) 1.052

5-HOLE PROBE	offset rake	centerline rake
upper	1.146	1.147
lower	1.189	1.189

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

offset rake / centerline rake

upper

offset rake:
0.679
0.690 0.990 0.701
0.697
ALPHA: 0.8
BETA: 0.6

centerline rake:
0.623
0.646 0.992 0.612
0.633
ALPHA: 0.4
BETA: -1.3

lower

offset rake:
0.603
0.623 0.991 0.709
0.601
ALPHA: -0.1
BETA: 3.8

centerline rake:
0.699
0.706 0.992 0.648
0.664
ALPHA: -1.6
BETA: -2.6

FLIGHT: 55 MACH: 0.948 ALTITUDE(ft): 31737. KEAS: 328.
PSINF(psia): 4.03 PTINF(psia): 7.18 TSINF(F): -45. TTINF(F): 30.
ALPHA(deg): 6.8 BETA(deg): 0.0 PHI(deg): 0.3

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.998	0.998	0.847	--	--	0.998	0.756	1.218
15	21.1	0.996	0.996	0.845	--	--	0.996	0.751	1.222
14	18.3	0.997	0.997	0.845	--	--	0.997	0.743	1.231
13	15.7	0.995	0.995	0.843	--	--	0.995	0.734	1.239
12	13.3	0.995	0.995	0.844	--	--	0.995	0.728	1.247
10	11.1	0.993	0.993	0.842	--	--	0.993	0.720	1.254
09	9.1	0.996	0.996	0.844	--	--	0.996	0.732	1.243
08	7.3	0.996	0.996	0.845	--	--	0.996	0.755	1.217
07	5.7	0.995	0.995	0.844	--	--	0.995	0.773	1.194
06	4.3	0.995	0.995	0.844	--	--	0.995	0.791	1.174
05	3.1	0.993	0.993	0.842	--	--	0.993	0.804	1.157
04	2.1	0.990	0.990	0.839	--	--	0.990	0.813	1.143
03	1.3	0.991	0.991	0.840	--	--	0.991	0.824	1.132
02	0.7	0.900	0.900	0.742	--	--	0.900	0.733	1.123
01	0.3	0.821	0.821	0.637	--	--	0.821	0.633	1.117

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.845	--	--	1.003	0.761	1.219
15	21.1	0.998	0.998	0.840	--	--	0.998	0.751	1.224
14	18.3	1.002	1.002	0.844	--	--	1.002	0.746	1.235
13	15.7	1.002	1.002	0.844	--	--	1.002	0.738	1.244
12	13.3	1.002	1.002	0.844	--	--	1.002	0.730	1.253
10	11.1	1.002	1.002	0.844	--	--	1.002	0.723	1.261
09	9.1	1.000	1.000	0.842	--	--	1.000	0.730	1.251
08	7.3	0.999	0.999	0.841	--	--	0.999	0.751	1.225
07	5.7	1.000	1.000	0.842	--	--	1.000	0.772	1.202
06	4.3	0.999	0.999	0.841	--	--	0.999	0.788	1.182
05	3.1	0.999	0.999	0.841	--	--	0.999	0.803	1.165
04	2.1	0.998	0.998	0.840	--	--	0.998	0.814	1.151
03	1.3	0.997	0.997	0.839	--	--	0.997	0.823	1.139
02	0.7	0.907	0.907	0.743	--	--	0.907	0.734	1.131
01	0.3	0.802	0.802	0.600	--	--	0.802	0.596	1.125

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.998
(6) 0.987
(7) 0.997

(1) 1.108 (2) 1.134 (3) 1.118 (4) 1.108

5-HOLE PROBE	offset rake	centerline rake
upper	1.219	1.218
lower	1.265	1.257

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

offset rake / centerline rake

upper

	offset rake			centerline rake	
	0.686			0.627	
0.695	1.000	0.710	0.650	1.000	0.617
	0.705			0.635	

offset rake: ALPHA: 0.9 BETA: 0.7
centerline rake: ALPHA: 0.3 BETA: -1.3

lower

	offset rake			centerline rake	
	0.592			0.701	
0.628	1.001	0.719	0.708	0.993	0.651
	0.590			0.667	

offset rake: ALPHA: -0.1 BETA: 3.9
centerline rake: ALPHA: -1.6 BETA: -2.6

FLIGHT: 55 MACH: 1.201 ALTITUDE(ft): 27740. KEAS: 456.
PSINF(psia): 4.83 PTINF(psia): 11.73 TSINF(F): -39. TTINF(F): 82.
ALPHA(deg): 4.8 BETA(deg): 0.0 PHI(deg): 16.0

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.976	0.995	1.290	1.281	0.899	0.974	0.903	1.396
15	21.1	0.974	0.993	1.289	1.291	0.887	0.971	0.881	1.426
14	18.3	0.975	0.994	1.290	1.283	0.897	0.968	0.843	1.483
13	15.7	0.974	0.993	1.289	1.290	0.888	0.960	0.804	1.535
12	13.3	0.977	0.996	1.291	1.273	0.909	0.952	0.772	1.583
10	11.1	0.975	0.994	1.290	1.283	0.897	0.932	0.735	1.627
09	9.1	0.973	0.991	1.288	1.297	0.880	0.949	0.775	1.572
08	7.3	0.976	0.994	1.290	1.282	0.899	0.972	0.876	1.436
07	5.7	0.974	0.993	1.289	1.289	0.890	0.974	0.956	1.315
06	4.3	0.982	1.002	1.295	1.245	0.943	0.982	1.035	1.209
05	3.1	0.986	1.006	1.299	1.221	0.974	0.987	1.103	1.118
04	2.1	0.983	1.003	1.296	1.240	0.950	0.986	1.158	1.042
03	1.3	0.970	0.988	1.285	1.315	0.859	0.976	1.197	0.982
02	0.7	0.744	0.744	1.065	1.941	0.340	0.744	1.016	0.936
01	0.3	0.619	0.619	0.906	--	--	0.619	0.883	0.906

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.979	0.998	1.274	1.262	0.922	0.977	0.850	1.478
15	21.1	0.973	0.992	1.269	1.295	0.883	0.971	0.832	1.495
14	18.3	0.975	0.994	1.271	1.284	0.896	0.968	0.811	1.528
13	15.7	0.975	0.994	1.271	1.283	0.897	0.961	0.789	1.558
12	13.3	0.974	0.993	1.270	1.290	0.888	0.949	0.766	1.586
10	11.1	0.966	0.985	1.263	1.333	0.838	0.923	0.736	1.611
09	9.1	0.958	0.976	1.256	1.376	0.789	0.935	0.772	1.552
08	7.3	0.952	0.970	1.250	1.406	0.756	0.949	0.860	1.424
07	5.7	0.952	0.971	1.251	1.404	0.759	0.952	0.939	1.310
06	4.3	0.957	0.976	1.255	1.384	0.781	0.957	1.012	1.210
05	3.1	0.973	0.993	1.269	1.296	0.881	0.974	1.088	1.124
04	2.1	0.980	1.000	1.275	1.253	0.934	0.984	1.148	1.053
03	1.3	0.980	0.998	1.275	1.257	0.928	0.987	1.193	0.996
02	0.7	0.802	0.802	1.109	1.833	0.402	0.802	1.064	0.954
01	0.3	0.618	0.618	0.883	--	--	0.618	0.861	0.925

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.870
(6) 0.915
(7) 0.873
(1) 0.891 (2) 0.917 (3) 0.893 (4) 0.874

5-HOLE PROBE	offset rake	centerline rake
upper	1.478	1.396
lower	1.623	1.648

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.651			0.588	
	0.626	0.976	0.627	0.559	0.976	0.547
		0.594			0.496	
	ALPHA:	-2.3		ALPHA:	-3.0	
	BETA:	0.0		BETA:	-0.4	
lower		0.404			0.669	
	0.593	0.960	0.673	0.696	0.974	0.617
		0.403			0.649	
	ALPHA:	0.0		ALPHA:	-0.9	
	BETA:	3.5		BETA:	-3.5	

FLIGHT: 55 MACH: 1.523 ALTITUDE(ft): 38294. KEAS: 451.
PSINF(psia): 2.95 PTINF(psia): 11.20 TSINF(F): -68. TTINF(F): 114.
ALPHA(deg): 4.7 BETA(deg): 0.1 PHI(deg): 0.4

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.907	1.001	1.570	1.585	0.913	0.984	1.527	0.978
15	21.1	0.907	1.001	1.571	1.583	0.915	0.985	1.526	0.979
14	18.3	0.910	1.006	1.574	1.572	0.930	0.988	1.527	0.983
13	15.7	0.910	1.006	1.574	1.574	0.928	0.987	1.523	0.986
12	13.3	0.910	1.005	1.573	1.575	0.927	0.985	1.520	0.989
10	11.1	0.907	1.001	1.570	1.584	0.914	0.981	1.515	0.991
09	9.1	0.904	0.997	1.568	1.592	0.903	0.978	1.517	0.987
08	7.3	0.905	0.998	1.568	1.591	0.905	0.982	1.527	0.976
07	5.7	0.904	0.997	1.568	1.593	0.902	0.984	1.535	0.967
06	4.3	0.900	0.991	1.563	1.605	0.885	0.982	1.539	0.958
05	3.1	0.896	0.985	1.559	1.618	0.869	0.978	1.542	0.951
04	2.1	0.894	0.981	1.557	1.624	0.861	0.977	1.545	0.946
03	1.3	0.906	1.000	1.570	1.586	0.911	0.997	1.562	0.941
02	0.7	0.781	0.824	1.436	1.872	0.592	0.823	1.432	0.937
01	0.3	0.618	0.625	1.235	2.207	0.351	0.625	1.234	0.935

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.908	1.002	1.537	1.579	0.921	0.986	1.535	0.971
15	21.1	0.903	0.997	1.532	1.595	0.899	0.981	1.531	0.970
14	18.3	0.900	0.995	1.529	1.605	0.886	0.977	1.531	0.968
13	15.7	0.901	0.996	1.530	1.603	0.889	0.977	1.533	0.965
12	13.3	0.906	1.001	1.535	1.586	0.912	0.982	1.541	0.963
10	11.1	0.902	0.996	1.531	1.598	0.895	0.976	1.539	0.961
09	9.1	0.900	0.992	1.529	1.605	0.885	0.974	1.536	0.961
08	7.3	0.896	0.988	1.525	1.618	0.869	0.973	1.531	0.963
07	5.7	0.901	0.994	1.530	1.601	0.891	0.982	1.535	0.964
06	4.3	0.880	0.968	1.508	1.664	0.812	0.959	1.511	0.966
05	3.1	0.868	0.954	1.496	1.694	0.776	0.947	1.498	0.967
04	2.1	0.862	0.946	1.489	1.709	0.758	0.942	1.491	0.968
03	1.3	0.873	0.964	1.501	1.680	0.792	0.961	1.503	0.968
02	0.7	0.777	0.819	1.398	1.880	0.584	0.818	1.398	0.969
01	0.3	0.574	0.580	1.142	2.316	0.296	0.580	1.143	0.969

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.047
(6) 1.066
(7) 0.958

(1) 0.972 (2) 0.966 (3) 0.933 (4) 0.934

5-HOLE PROBE	offset rake	centerline rake
upper	0.971	0.978
lower	0.960	0.992

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.568			0.504	
	0.555	0.939	0.565	0.481	0.909	0.478
		0.540			0.432	
		ALPHA: -1.1			ALPHA: -2.3	
		BETA: 0.4			BETA: -0.1	
lower		0.303			0.540	
	0.453	0.900	0.532	0.531	0.906	0.508
		0.296			0.506	
		ALPHA: -0.2			ALPHA: -1.3	
		BETA: 2.8			BETA: -0.8	

FLIGHT: 55 MACH: 2.005 ALTITUDE(ft): 49466. KEAS: 454.
PSINF(psia): 1.73 PTINF(psia): 13.61 TSINF(F): **** TTINF(F): 185.
ALPHA(deg): 5.2 BETA(deg): 0.0 PHI(deg): 0.6

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.677	0.987	2.074	2.073	0.899	0.958	2.029	0.923
15	21.1	0.683	1.001	2.083	2.062	0.915	0.965	2.029	0.930
14	18.3	0.688	1.014	2.092	2.051	0.930	0.967	2.020	0.944
13	15.7	0.683	1.003	2.084	2.060	0.917	0.947	1.998	0.957
12	13.3	0.685	1.007	2.087	2.057	0.922	0.942	1.987	0.969
10	11.1	0.697	1.038	2.106	2.033	0.957	0.962	1.993	0.980
09	9.1	0.687	1.011	2.090	2.054	0.927	0.942	1.982	0.976
08	7.3	0.682	1.000	2.083	2.063	0.914	0.944	1.995	0.958
07	5.7	0.690	1.021	2.096	2.046	0.938	0.974	2.027	0.942
06	4.3	0.685	1.008	2.087	2.057	0.923	0.972	2.035	0.928
05	3.1	0.690	1.019	2.095	2.048	0.936	0.993	2.056	0.917
04	2.1	0.681	0.997	2.081	2.065	0.911	0.980	2.055	0.907
03	1.3	0.670	0.968	2.062	2.089	0.877	0.957	2.045	0.899
02	0.7	0.561	0.718	1.870	2.348	0.585	0.715	1.861	0.893
01	0.3	0.426	0.475	1.597	2.713	0.332	0.475	1.594	0.889

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.663	0.966	2.016	2.105	0.855	0.937	2.046	0.889
15	21.1	0.660	0.968	2.012	2.110	0.849	0.933	2.032	0.897
14	18.3	0.659	0.972	2.011	2.112	0.846	0.927	2.013	0.911
13	15.7	0.656	0.963	2.005	2.120	0.836	0.909	1.992	0.924
12	13.3	0.636	0.935	1.971	2.164	0.780	0.875	1.944	0.936
10	11.1	0.637	0.949	1.973	2.163	0.782	0.879	1.933	0.947
09	9.1	0.651	0.959	1.996	2.131	0.821	0.893	1.955	0.949
08	7.3	0.664	0.973	2.019	2.102	0.860	0.919	1.985	0.941
07	5.7	0.667	0.986	2.023	2.096	0.868	0.941	1.997	0.935
06	4.3	0.670	0.986	2.029	2.088	0.879	0.951	2.009	0.930
05	3.1	0.670	0.991	2.029	2.088	0.878	0.965	2.014	0.925
04	2.1	0.665	0.974	2.021	2.099	0.863	0.957	2.011	0.921
03	1.3	0.652	0.942	1.998	2.128	0.825	0.932	1.992	0.918
02	0.7	0.567	0.725	1.848	2.334	0.598	0.722	1.845	0.916
01	0.3	0.396	0.442	1.503	2.797	0.292	0.442	1.502	0.914

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.015
(6) 0.995
(7) 0.862

(1) 0.940 (2) 0.886 (3) 0.920 (4) 0.853

5-HOLE PROBE	offset rake	centerline rake
upper	0.889	0.923
lower	0.952	0.985

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

offset rake / centerline rake

upper

	offset rake			centerline rake	
	0.386			0.345	
0.374	0.679	0.361	0.315	0.692	0.319
	0.341			0.274	

offset rake: ALPHA: -2.0 BETA: -0.6
centerline rake: ALPHA: -2.7 BETA: 0.2

lower

	offset rake			centerline rake	
	0.184			0.381	
0.261	0.646	0.364	0.357	0.690	0.348
	0.181			0.333	

offset rake: ALPHA: -0.1 BETA: 4.4
centerline rake: ALPHA: -2.1 BETA: -0.4

FLIGHT: 55 MACH: 2.420 ALTITUDE(ft): 57195. KEAS: 455.
PSINF(psia): 1.19 PTINF(psia): 17.94 TSINF(F): -89. TTINF(F): 345.
ALPHA(deg): 4.9 BETA(deg): -0.1 PHI(deg): 0.5

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.536	0.985	2.390	2.414	1.009	0.993	2.401	1.022
15	21.1	0.528	0.957	2.372	2.434	0.978	0.962	2.379	1.025
14	18.3	0.538	0.991	2.394	2.409	1.016	0.991	2.394	1.031
13	15.7	0.528	0.956	2.371	2.435	0.976	0.951	2.365	1.036
12	13.3	0.524	0.942	2.362	2.445	0.961	0.934	2.350	1.041
10	11.1	0.523	0.937	2.358	2.449	0.955	0.925	2.341	1.045
09	9.1	0.526	0.948	2.366	2.441	0.967	0.935	2.348	1.046
08	7.3	0.527	0.952	2.369	2.437	0.972	0.942	2.354	1.043
07	5.7	0.529	0.961	2.374	2.431	0.982	0.952	2.363	1.040
06	4.3	0.530	0.964	2.376	2.429	0.985	0.958	2.368	1.038
05	3.1	0.524	0.943	2.362	2.444	0.962	0.938	2.356	1.036
04	2.1	0.524	0.940	2.360	2.447	0.958	0.937	2.356	1.034
03	1.3	0.514	0.907	2.337	2.472	0.922	0.905	2.335	1.033
02	0.7	0.440	0.674	2.148	2.675	0.672	0.673	2.146	1.032
01	0.3	0.322	0.398	1.808	3.023	0.396	0.397	1.807	1.032

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.549	1.008	2.409	2.381	1.063	1.017	2.382	1.062
15	21.1	0.536	0.972	2.380	2.413	1.011	0.977	2.364	1.053
14	18.3	0.532	0.980	2.370	2.425	0.992	0.980	2.373	1.037
13	15.7	0.526	0.952	2.356	2.440	0.969	0.948	2.378	1.022
12	13.3	0.519	0.932	2.338	2.460	0.939	0.924	2.377	1.008
10	11.1	0.521	0.934	2.344	2.453	0.949	0.922	2.399	0.995
09	9.1	0.508	0.916	2.313	2.488	0.899	0.904	2.368	0.995
08	7.3	0.500	0.903	2.291	2.511	0.867	0.893	2.335	1.003
07	5.7	0.499	0.906	2.291	2.512	0.866	0.898	2.325	1.011
06	4.3	0.502	0.913	2.298	2.503	0.878	0.907	2.324	1.018
05	3.1	0.509	0.915	2.315	2.485	0.902	0.911	2.333	1.024
04	2.1	0.515	0.925	2.330	2.469	0.926	0.922	2.342	1.029
03	1.3	0.517	0.911	2.333	2.465	0.931	0.910	2.341	1.033
02	0.7	0.488	0.748	2.263	2.542	0.826	0.748	2.267	1.036
01	0.3	0.353	0.436	1.894	2.925	0.459	0.436	1.895	1.038

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.269
(6) 1.168
(7) 1.067
(1) 0.986 (2) 1.093 (3) 1.022 (4) 1.040

5-HOLE PROBE	offset rake	centerline rake
upper	1.062	1.022
lower	0.990	1.047

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.291			0.247	
	0.292	0.530	0.287	0.231	0.551	0.231
		0.278			0.201	
	ALPHA:	-0.7		ALPHA:	-2.0	
	BETA:	-0.3		BETA:	0.0	
lower		0.129			0.269	
	0.217	0.511	0.238	0.258	0.523	0.248
		0.123			0.242	
	ALPHA:	-0.2		ALPHA:	-1.5	
	BETA:	1.0		BETA:	-0.5	

FLIGHT: 55 MACH: 2.702 ALTITUDE(ft): 61272. KEAS: 461.
PSINF(psia): 0.98 PTINF(psia): 22.86 TSINF(F): -84. TTINF(F): 464.
ALPHA(deg): 5.6 BETA(deg): 0.1 PHI(deg): 33.1

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.435	0.944	2.599	2.689	1.020	0.926	2.576	1.126
15	21.1	0.434	0.940	2.597	2.691	1.017	0.925	2.577	1.122
14	18.3	0.442	0.977	2.621	2.670	1.051	0.966	2.609	1.117
13	15.7	0.441	0.974	2.620	2.671	1.049	0.969	2.614	1.111
12	13.3	0.429	0.921	2.583	2.703	0.998	0.921	2.583	1.106
10	11.1	0.430	0.923	2.585	2.702	1.001	0.928	2.591	1.102
09	9.1	0.424	0.898	2.567	2.718	0.977	0.903	2.574	1.100
08	7.3	0.430	0.922	2.584	2.703	0.999	0.926	2.590	1.101
07	5.7	0.424	0.898	2.567	2.718	0.977	0.901	2.572	1.103
06	4.3	0.428	0.914	2.578	2.707	0.992	0.917	2.582	1.103
05	3.1	0.425	0.899	2.568	2.717	0.978	0.901	2.571	1.104
04	2.1	0.424	0.897	2.566	2.718	0.976	0.898	2.568	1.105
03	1.3	0.406	0.819	2.508	2.769	0.903	0.820	2.509	1.106
02	0.7	0.291	0.429	2.095	3.131	0.523	0.430	2.095	1.106
01	0.3	0.213	0.256	1.761	3.481	0.315	0.256	1.761	1.106

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.417	0.905	2.580	2.739	0.945	0.888	2.582	1.075
15	21.1	0.406	0.880	2.544	2.769	0.903	0.866	2.540	1.080
14	18.3	0.439	0.971	2.652	2.677	1.040	0.961	2.634	1.090
13	15.7	0.436	0.963	2.641	2.686	1.026	0.958	2.612	1.100
12	13.3	0.427	0.915	2.612	2.711	0.986	0.915	2.572	1.108
10	11.1	0.429	0.921	2.620	2.704	0.997	0.926	2.570	1.116
09	9.1	0.431	0.911	2.625	2.700	1.003	0.916	2.575	1.116
08	7.3	0.418	0.896	2.583	2.736	0.950	0.901	2.544	1.108
07	5.7	0.411	0.869	2.560	2.756	0.921	0.872	2.529	1.101
06	4.3	0.402	0.859	2.532	2.780	0.888	0.862	2.509	1.095
05	3.1	0.400	0.848	2.525	2.785	0.880	0.849	2.509	1.090
04	2.1	0.405	0.856	2.540	2.773	0.897	0.857	2.528	1.085
03	1.3	0.405	0.817	2.541	2.772	0.899	0.818	2.534	1.082
02	0.7	0.367	0.543	2.412	2.881	0.761	0.543	2.409	1.079
01	0.3	0.248	0.299	1.949	3.304	0.406	0.299	1.948	1.078

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.981
(6) 1.282
(7) 1.132
(1) 1.069 (2) 1.084 (3) 1.110 (4) 1.102

5-HOLE PROBE	offset rake	centerline rake
upper	1.075	1.126
lower	1.120	1.100

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.212			0.190	
	0.219	0.412	0.204	0.182	0.427	0.182
		0.202			0.165	
	ALPHA:	-0.7		ALPHA:	-1.4	
	BETA:	-1.1		BETA:	0.0	
lower		0.084			0.209	
	0.176	0.436	0.202	0.210	0.430	0.194
		0.086			0.198	
	ALPHA:	0.0		ALPHA:	-0.7	
	BETA:	1.5		BETA:	-1.0	

FLIGHT: 55 MACH: 2.747 ALTITUDE(ft): 63221. KEAS: 447.
PSINF(psia): 0.89 PTINF(psia): 22.30 TSINF(F): -84. TTINF(F): 482.
ALPHA(deg): 5.3 BETA(deg): 0.2 PHI(deg): 36.7

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.428	0.983	2.665	2.706	1.064	0.930	2.599	1.168
15	21.1	0.420	0.941	2.637	2.730	1.026	0.895	2.576	1.164
14	18.3	0.421	0.948	2.642	2.726	1.033	0.909	2.591	1.157
13	15.7	0.421	0.945	2.640	2.728	1.030	0.912	2.597	1.149
12	13.3	0.419	0.936	2.634	2.733	1.021	0.909	2.599	1.143
10	11.1	0.420	0.942	2.638	2.729	1.028	0.921	2.610	1.137
09	9.1	0.415	0.920	2.623	2.742	1.007	0.904	2.601	1.132
08	7.3	0.416	0.921	2.623	2.742	1.008	0.907	2.606	1.128
07	5.7	0.409	0.892	2.603	2.759	0.981	0.882	2.589	1.125
06	4.3	0.416	0.921	2.624	2.742	1.008	0.913	2.613	1.122
05	3.1	0.409	0.888	2.600	2.762	0.977	0.882	2.592	1.120
04	2.1	0.408	0.884	2.597	2.765	0.974	0.880	2.592	1.118
03	1.3	0.392	0.813	2.543	2.809	0.909	0.811	2.540	1.117
02	0.7	0.283	0.430	2.136	3.160	0.537	0.430	2.134	1.115
01	0.3	0.202	0.245	1.773	3.540	0.310	0.245	1.773	1.115

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.402	0.923	2.720	2.780	0.951	0.874	2.675	1.039
15	21.1	0.394	0.883	2.691	2.803	0.918	0.840	2.635	1.048
14	18.3	0.391	0.879	2.678	2.813	0.904	0.842	2.599	1.065
13	15.7	0.391	0.878	2.679	2.812	0.905	0.847	2.580	1.081
12	13.3	0.392	0.876	2.683	2.810	0.909	0.851	2.564	1.096
10	11.1	0.386	0.865	2.660	2.827	0.885	0.846	2.527	1.110
09	9.1	0.410	0.908	2.747	2.758	0.983	0.891	2.615	1.105
08	7.3	0.393	0.870	2.686	2.807	0.912	0.857	2.581	1.086
07	5.7	0.384	0.837	2.655	2.832	0.879	0.827	2.572	1.068
06	4.3	0.373	0.827	2.615	2.863	0.838	0.820	2.553	1.053
05	3.1	0.371	0.806	2.606	2.870	0.829	0.801	2.561	1.040
04	2.1	0.375	0.814	2.623	2.857	0.845	0.810	2.592	1.029
03	1.3	0.379	0.786	2.634	2.848	0.857	0.784	2.615	1.021
02	0.7	0.353	0.536	2.537	2.925	0.762	0.536	2.527	1.014
01	0.3	0.242	0.293	2.070	3.334	0.416	0.293	2.066	1.010

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.994
(6) 1.159
(7) 1.133
(1) 0.941 (2) 1.073 (3) 1.121 (4) 1.107

5-HOLE PROBE	offset rake	centerline rake
upper	1.039	1.168
lower	1.116	1.134

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.205			0.185	
	0.214	0.414	0.197	0.178	0.433	0.176
		0.197			0.161	
		ALPHA: -0.5			ALPHA: -1.3	
		BETA: -1.2			BETA: -0.1	
lower		0.080			0.203	
	0.156	0.393	0.181	0.200	0.417	0.188
		0.077			0.188	
		ALPHA: -0.1			ALPHA: -1.0	
		BETA: 1.6			BETA: -0.8	

FLIGHT: 55 MACH: 2.700 ALTITUDE(ft): 62455. KEAS: 448.
PSINF(psia): 0.92 PTINF(psia): 21.53 TSINF(F): -81. TTINF(F): 470.
ALPHA(deg): 4.5 BETA(deg): 0.1 PHI(deg): 0.2

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.448	0.999	2.632	2.653	1.076	0.970	2.596	1.139
15	21.1	0.441	0.969	2.612	2.670	1.047	0.944	2.580	1.136
14	18.3	0.441	0.967	2.611	2.672	1.045	0.947	2.586	1.130
13	15.7	0.436	0.946	2.597	2.684	1.025	0.932	2.579	1.124
12	13.3	0.437	0.950	2.600	2.682	1.029	0.941	2.588	1.119
10	11.1	0.433	0.930	2.585	2.694	1.010	0.925	2.580	1.114
09	9.1	0.431	0.922	2.580	2.699	1.002	0.920	2.577	1.112
08	7.3	0.435	0.938	2.591	2.689	1.017	0.936	2.589	1.111
07	5.7	0.427	0.905	2.569	2.709	0.987	0.904	2.567	1.111
06	4.3	0.431	0.923	2.581	2.698	1.004	0.922	2.580	1.111
05	3.1	0.427	0.903	2.567	2.710	0.985	0.903	2.566	1.110
04	2.1	0.428	0.909	2.571	2.706	0.991	0.909	2.571	1.110
03	1.3	0.414	0.847	2.526	2.746	0.932	0.847	2.526	1.110
02	0.7	0.306	0.470	2.149	3.075	0.567	0.470	2.149	1.110
01	0.3	0.220	0.269	1.790	3.440	0.332	0.269	1.790	1.110

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.417	0.930	2.624	2.739	0.942	0.903	2.714	0.975
15	21.1	0.406	0.892	2.589	2.768	0.901	0.869	2.650	0.994
14	18.3	0.406	0.890	2.588	2.770	0.899	0.872	2.599	1.030
13	15.7	0.421	0.912	2.637	2.728	0.959	0.899	2.604	1.064
12	13.3	0.445	0.967	2.716	2.661	1.063	0.958	2.642	1.095
10	11.1	0.434	0.932	2.681	2.691	1.015	0.928	2.572	1.124
09	9.1	0.423	0.903	2.643	2.723	0.966	0.902	2.532	1.127
08	7.3	0.402	0.866	2.573	2.782	0.882	0.865	2.485	1.110
07	5.7	0.391	0.828	2.537	2.812	0.843	0.827	2.468	1.094
06	4.3	0.384	0.821	2.511	2.833	0.816	0.820	2.459	1.081
05	3.1	0.388	0.820	2.525	2.822	0.830	0.819	2.487	1.069
04	2.1	0.402	0.853	2.574	2.781	0.884	0.853	2.548	1.059
03	1.3	0.411	0.842	2.606	2.754	0.921	0.841	2.589	1.052
02	0.7	0.391	0.600	2.536	2.813	0.842	0.600	2.527	1.046
01	0.3	0.269	0.329	2.075	3.214	0.462	0.329	2.072	1.042

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.006
(6) 1.220
(7) 1.141
(1) 1.013 (2) 1.066 (3) 1.110 (4) 1.109

5-HOLE PROBE	offset rake	centerline rake
upper	0.975	1.139
lower	1.137	1.112

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.213			0.196	
	0.219	0.432	0.203	0.188	0.450	0.187
		0.201			0.168	
	ALPHA:	-0.8		ALPHA:	-1.5	
	BETA:	-1.1		BETA:	0.0	
lower		0.072			0.213	
	0.180	0.429	0.194	0.211	0.431	0.195
		0.079			0.197	
	ALPHA:	0.3		ALPHA:	-1.0	
	BETA:	0.8		BETA:	-1.1	

FLIGHT: 55   MACH: 2.415   ALTITUDE(ft): 63127.   KEAS: 394.
PSINF(psia): 0.90   PTINF(psia): 13.41   TSINF(F): -80.   TTINF(F): 362.
ALPHA(deg): 4.4   BETA(deg): 0.0   PHI(deg): -0.3

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.578	1.013	2.329	2.305	1.188	0.973	2.276	1.211
15	21.1	0.577	1.009	2.326	2.308	1.182	0.971	2.276	1.208
14	18.3	0.576	1.006	2.325	2.310	1.179	0.972	2.279	1.203
13	15.7	0.563	0.961	2.295	2.344	1.117	0.933	2.256	1.198
12	13.3	0.567	0.977	2.306	2.332	1.139	0.951	2.271	1.193
10	11.1	0.567	0.976	2.305	2.333	1.138	0.954	2.274	1.189
09	9.1	0.560	0.952	2.289	2.352	1.104	0.933	2.263	1.185
08	7.3	0.563	0.963	2.296	2.343	1.119	0.948	2.275	1.180
07	5.7	0.559	0.948	2.287	2.355	1.100	0.937	2.270	1.175
06	4.3	0.562	0.960	2.294	2.346	1.115	0.951	2.282	1.171
05	3.1	0.561	0.955	2.291	2.349	1.109	0.949	2.282	1.168
04	2.1	0.559	0.948	2.287	2.355	1.099	0.944	2.281	1.165
03	1.3	0.549	0.916	2.265	2.380	1.056	0.914	2.261	1.163
02	0.7	0.461	0.664	2.059	2.617	0.731	0.664	2.057	1.162
01	0.3	0.336	0.397	1.726	2.978	0.422	0.397	1.725	1.160

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.545	0.956	2.367	2.390	1.041	0.918	1.985	1.467
15	21.1	0.535	0.936	2.343	2.416	0.999	0.901	1.990	1.434
14	18.3	0.532	0.930	2.337	2.423	0.988	0.899	2.034	1.371
13	15.7	0.520	0.889	2.308	2.456	0.939	0.863	2.056	1.313
12	13.3	0.514	0.886	2.294	2.471	0.917	0.863	2.091	1.260
10	11.1	0.505	0.870	2.272	2.496	0.882	0.850	2.116	1.211
09	9.1	0.482	0.820	2.215	2.559	0.800	0.804	2.095	1.176
08	7.3	0.454	0.776	2.144	2.636	0.710	0.764	2.049	1.153
07	5.7	0.452	0.767	2.140	2.641	0.705	0.758	2.065	1.133
06	4.3	0.465	0.795	2.174	2.604	0.746	0.787	2.116	1.115
05	3.1	0.490	0.835	2.236	2.536	0.829	0.830	2.193	1.100
04	2.1	0.508	0.861	2.278	2.490	0.891	0.858	2.248	1.088
03	1.3	0.513	0.856	2.290	2.476	0.910	0.854	2.271	1.078
02	0.7	0.498	0.718	2.254	2.517	0.854	0.717	2.244	1.070
01	0.3	0.363	0.430	1.896	2.894	0.478	0.429	1.892	1.065

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.254
(6) 1.151
(7) 1.142
(1) 1.003   (2) 1.120   (3) 1.168   (4) 1.152

5-HOLE PROBE	offset rake	centerline rake
upper	1.467	1.211
lower	1.188	1.187

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg)   (viewed tail-on)

	offset rake			centerline rake		
upper		0.302			0.266	
	0.305	0.541	0.297	0.259	0.576	0.252
		0.292			0.235	
	ALPHA:	-0.5		ALPHA:	-1.4	
	BETA:	-0.5		BETA:	-0.3	
lower		0.144			0.294	
	0.228	0.509	0.242	0.284	0.563	0.267
		0.141			0.264	
	ALPHA:	-0.1		ALPHA:	-1.5	
	BETA:	0.7		BETA:	-0.9	

FLIGHT: 55 MACH: 2.034 ALTITUDE(ft): 58669. KEAS: 370.
PSINF(psia): 1.11 PTINF(psia): 9.15 TSINF(F): -91. TTINF(F): 213.
ALPHA(deg): 5.4 BETA(deg): -0.1 PHI(deg): 0.1

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.679	0.997	2.086	2.070	0.946	0.963	2.034	0.964
15	21.1	0.677	0.992	2.083	2.074	0.940	0.957	2.028	0.966
14	18.3	0.673	0.982	2.076	2.082	0.928	0.945	2.018	0.969
13	15.7	0.673	0.982	2.076	2.082	0.928	0.942	2.014	0.973
12	13.3	0.676	0.989	2.081	2.076	0.936	0.947	2.015	0.976
10	11.1	0.681	1.002	2.089	2.066	0.952	0.956	2.020	0.979
09	9.1	0.669	0.973	2.070	2.090	0.917	0.933	2.006	0.974
08	7.3	0.671	0.976	2.072	2.087	0.921	0.943	2.021	0.963
07	5.7	0.675	0.987	2.079	2.078	0.934	0.961	2.039	0.954
06	4.3	0.671	0.976	2.072	2.088	0.920	0.956	2.041	0.946
05	3.1	0.671	0.976	2.072	2.087	0.920	0.961	2.050	0.938
04	2.1	0.665	0.962	2.063	2.099	0.903	0.952	2.047	0.933
03	1.3	0.655	0.937	2.046	2.121	0.874	0.931	2.037	0.928
02	0.7	0.542	0.682	1.840	2.399	0.565	0.680	1.836	0.924
01	0.3	0.412	0.454	1.572	2.754	0.326	0.454	1.570	0.922

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.668	0.982	2.042	2.093	0.913	0.948	1.817	1.162
15	21.1	0.662	0.971	2.032	2.106	0.894	0.936	1.821	1.146
14	18.3	0.655	0.957	2.021	2.121	0.874	0.920	1.837	1.117
13	15.7	0.648	0.946	2.008	2.137	0.852	0.907	1.851	1.091
12	13.3	0.635	0.930	1.986	2.167	0.813	0.890	1.853	1.066
10	11.1	0.629	0.926	1.975	2.181	0.795	0.884	1.866	1.043
09	9.1	0.636	0.924	1.988	2.164	0.816	0.886	1.898	1.023
08	7.3	0.648	0.943	2.007	2.138	0.850	0.911	1.934	1.007
07	5.7	0.660	0.965	2.028	2.111	0.888	0.939	1.970	0.993
06	4.3	0.662	0.963	2.031	2.107	0.893	0.943	1.987	0.980
05	3.1	0.658	0.958	2.025	2.115	0.882	0.944	1.993	0.969
04	2.1	0.658	0.951	2.025	2.115	0.881	0.942	2.003	0.960
03	1.3	0.646	0.923	2.004	2.142	0.845	0.918	1.991	0.953
02	0.7	0.556	0.700	1.844	2.362	0.599	0.698	1.837	0.948
01	0.3	0.381	0.421	1.481	2.840	0.286	0.421	1.478	0.944

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.030
(6) 1.093
(7) 0.983
(1) 0.946 (2) 0.937 (3) 0.918 (4) 0.923

5-HOLE PROBE	offset rake	centerline rake
upper	1.162	0.964
lower	1.032	0.980

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.392			0.341	
	0.374	0.669	0.389	0.313	0.678	0.305
		0.362			0.278	
	ALPHA:	-1.5		ALPHA:	-2.4	
	BETA:	0.7		BETA:	-0.3	
lower		0.220			0.371	
	0.250	0.630	0.372	0.341	0.671	0.336
		0.218			0.317	
	ALPHA:	0.0		ALPHA:	-2.4	
	BETA:	5.4		BETA:	-0.2	

FLIGHT: 55 MACH: 1.533 ALTITUDE(ft): 46872. KEAS: 370.
PSINF(psia): 1.95 PTINF(psia): 7.53 TSINF(F): -94. TTINF(F): 77.
ALPHA(deg): 5.3 BETA(deg): 0.2 PHI(deg): 0.9

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.897	1.006	1.607	1.613	0.888	1.003	1.601	0.908
15	21.1	0.894	1.000	1.603	1.625	0.873	0.994	1.589	0.915
14	18.3	0.891	0.996	1.601	1.632	0.864	0.985	1.574	0.928
13	15.7	0.898	1.006	1.607	1.613	0.889	0.990	1.568	0.940
12	13.3	0.892	0.997	1.602	1.630	0.867	0.977	1.551	0.951
10	11.1	0.890	0.994	1.599	1.636	0.859	0.970	1.539	0.962
09	9.1	0.887	0.990	1.597	1.643	0.850	0.967	1.538	0.960
08	7.3	0.891	0.995	1.600	1.633	0.862	0.976	1.553	0.948
07	5.7	0.890	0.994	1.600	1.634	0.861	0.980	1.562	0.938
06	4.3	0.889	0.992	1.598	1.639	0.855	0.981	1.570	0.929
05	3.1	0.881	0.980	1.590	1.660	0.829	0.972	1.570	0.921
04	2.1	0.880	0.979	1.589	1.662	0.826	0.974	1.575	0.915
03	1.3	0.906	1.020	1.617	1.585	0.926	1.016	1.608	0.910
02	0.7	0.717	0.749	1.404	1.992	0.498	0.748	1.400	0.906
01	0.3	0.555	0.558	1.188	2.364	0.279	0.558	1.186	0.903

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.894	1.001	1.574	1.625	0.873	0.998	1.634	0.872
15	21.1	0.889	0.994	1.570	1.638	0.856	0.989	1.620	0.881
14	18.3	0.887	0.991	1.567	1.644	0.849	0.980	1.602	0.896
13	15.7	0.889	0.997	1.570	1.637	0.857	0.981	1.590	0.910
12	13.3	0.891	0.996	1.572	1.632	0.864	0.976	1.578	0.923
10	11.1	0.892	0.996	1.573	1.630	0.866	0.973	1.567	0.935
09	9.1	0.885	0.987	1.565	1.650	0.842	0.965	1.556	0.939
08	7.3	0.884	0.987	1.564	1.652	0.838	0.969	1.556	0.937
07	5.7	0.892	0.996	1.572	1.630	0.866	0.981	1.566	0.936
06	4.3	0.873	0.975	1.553	1.680	0.804	0.964	1.549	0.934
05	3.1	0.856	0.953	1.535	1.722	0.755	0.945	1.532	0.933
04	2.1	0.852	0.948	1.531	1.731	0.744	0.942	1.528	0.932
03	1.3	0.868	0.976	1.547	1.694	0.787	0.973	1.546	0.931
02	0.7	0.778	0.813	1.448	1.878	0.594	0.812	1.448	0.930
01	0.3	0.548	0.551	1.152	2.382	0.271	0.551	1.151	0.930

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.977
(6) 1.030
(7) 0.937
(1) 0.935 (2) 0.924 (3) 0.893 (4) 0.909

5-HOLE PROBE	offset rake	centerline rake
upper	0.872	0.908
lower	0.940	0.967

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

offset rake / centerline rake

upper

offset rake:
0.553
0.529 0.884 0.544
0.510
ALPHA: -1.7
BETA: 0.6

centerline rake:
0.494
0.466 0.897 0.460
0.427
ALPHA: -2.2
BETA: -0.2

lower

offset rake:
0.313
0.430 0.881 0.520
0.310
ALPHA: -0.1
BETA: 3.2

centerline rake:
0.527
0.517 0.889 0.491
0.493
ALPHA: -1.3
BETA: -1.0

FLIGHT: 55 MACH: 1.199 ALTITUDE(ft): 37401. KEAS: 363.
PSINF(psia): 3.08 PTINF(psia): 7.47 TSINF(F): -66. TTINF(F): 47.
ALPHA(deg): 5.1 BETA(deg): 0.2 PHI(deg): 30.9

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.978	0.990	1.243	1.269	0.912	0.978	1.057	1.170
15	21.1	0.973	0.985	1.239	1.294	0.882	0.973	1.014	1.226
14	18.3	0.974	0.985	1.239	1.292	0.885	0.974	0.942	1.332
13	15.7	0.974	0.985	1.239	1.292	0.884	0.971	0.876	1.430
12	13.3	0.975	0.986	1.240	1.287	0.890	0.962	0.813	1.521
10	11.1	0.976	0.987	1.241	1.282	0.896	0.941	0.751	1.604
09	9.1	0.971	0.983	1.237	1.306	0.868	0.946	0.771	1.572
08	7.3	0.977	0.988	1.242	1.275	0.904	0.973	0.868	1.446
07	5.7	0.976	0.988	1.241	1.280	0.899	0.976	0.943	1.334
06	4.3	0.989	1.002	1.252	1.202	0.997	0.989	1.020	1.236
05	3.1	0.984	0.996	1.248	1.232	0.958	0.984	1.075	1.152
04	2.1	0.983	0.995	1.247	1.238	0.950	0.985	1.126	1.082
03	1.3	0.964	0.974	1.231	1.347	0.820	0.967	1.154	1.026
02	0.7	0.706	0.706	0.971	--	--	0.706	0.925	0.984
01	0.3	0.587	0.587	0.798	--	--	0.587	0.775	0.956

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.978	0.990	1.253	1.266	0.915	0.978	1.091	1.124
15	21.1	0.972	0.983	1.248	1.303	0.871	0.972	1.043	1.183
14	18.3	0.975	0.986	1.250	1.285	0.892	0.975	0.969	1.294
13	15.7	0.974	0.985	1.249	1.293	0.884	0.971	0.899	1.396
12	13.3	0.975	0.986	1.250	1.285	0.892	0.962	0.835	1.490
10	11.1	0.970	0.981	1.246	1.315	0.857	0.935	0.765	1.577
09	9.1	0.962	0.973	1.239	1.356	0.810	0.937	0.778	1.548
08	7.3	0.960	0.972	1.238	1.365	0.800	0.957	0.866	1.424
07	5.7	0.965	0.976	1.242	1.341	0.827	0.965	0.946	1.315
06	4.3	0.977	0.991	1.253	1.271	0.910	0.977	1.023	1.219
05	3.1	0.983	0.995	1.257	1.238	0.950	0.983	1.086	1.136
04	2.1	0.987	0.999	1.260	1.215	0.981	0.989	1.140	1.068
03	1.3	0.977	0.987	1.252	1.274	0.905	0.980	1.175	1.013
02	0.7	0.742	0.742	1.024	1.944	0.338	0.742	0.981	0.972
01	0.3	0.580	0.580	0.798	--	--	0.580	0.775	0.944

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.887
(6) 0.923
(7) 0.866
(1) 0.886 (2) 0.962 (3) 0.955 (4) 0.915

5-HOLE PROBE	offset rake	centerline rake
upper	1.124	1.170
lower	1.617	1.642

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.649			0.590	
	0.624	0.970	0.624	0.554	0.977	0.547
		0.590			0.506	
	ALPHA:	-2.4		ALPHA:	-2.8	
	BETA:	0.0		BETA:	-0.2	
lower		0.400			0.670	
	0.583	0.959	0.665	0.695	0.973	0.615
		0.398			0.650	
	ALPHA:	0.0		ALPHA:	-0.9	
	BETA:	3.5		BETA:	-3.6	

FLIGHT: 55   MACH: 0.586   ALTITUDE(ft): 9431.   KEAS: 325.
PSINF(psia): 10.33   PTINF(psia): 13.04   TSINF(F): 57.   TTINF(F): 92.
ALPHA(deg): 6.4   BETA(deg): 0.3   PHI(deg): 34.7

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.000	1.000	0.607	--	--	1.000	0.569	1.014
15	21.1	1.000	1.000	0.606	--	--	1.000	0.567	1.014
14	18.3	1.001	1.001	0.608	--	--	1.001	0.568	1.015
13	15.7	1.000	1.000	0.607	--	--	1.000	0.566	1.016
12	13.3	1.002	1.002	0.610	--	--	1.002	0.567	1.017
10	11.1	1.002	1.002	0.609	--	--	1.002	0.565	1.018
09	9.1	0.999	0.999	0.606	--	--	0.999	0.565	1.015
08	7.3	1.002	1.002	0.609	--	--	1.002	0.577	1.009
07	5.7	1.000	1.000	0.606	--	--	1.000	0.581	1.004
06	4.3	1.002	1.002	0.610	--	--	1.002	0.591	0.999
05	3.1	1.000	1.000	0.607	--	--	1.000	0.594	0.995
04	2.1	1.001	1.001	0.608	--	--	1.001	0.599	0.991
03	1.3	1.001	1.001	0.608	--	--	1.001	0.603	0.989
02	0.7	0.970	0.970	0.567	--	--	0.970	0.564	0.987
01	0.3	0.928	0.928	0.505	--	--	0.928	0.504	0.985

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.607	--	--	1.003	0.578	1.010
15	21.1	0.999	0.999	0.601	--	--	0.999	0.572	1.010
14	18.3	1.001	1.001	0.604	--	--	1.001	0.573	1.011
13	15.7	1.000	1.000	0.602	--	--	1.000	0.570	1.012
12	13.3	1.003	1.003	0.607	--	--	1.003	0.573	1.013
10	11.1	1.003	1.003	0.606	--	--	1.003	0.571	1.014
09	9.1	1.000	1.000	0.603	--	--	1.000	0.571	1.012
08	7.3	1.000	1.000	0.602	--	--	1.000	0.577	1.007
07	5.7	1.001	1.001	0.604	--	--	1.001	0.584	1.003
06	4.3	1.000	1.000	0.602	--	--	1.000	0.588	0.999
05	3.1	1.000	1.000	0.603	--	--	1.000	0.592	0.996
04	2.1	1.000	1.000	0.602	--	--	1.000	0.595	0.993
03	1.3	1.001	1.001	0.604	--	--	1.001	0.599	0.991
02	0.7	0.974	0.974	0.569	--	--	0.974	0.566	0.990
01	0.3	0.915	0.915	0.477	--	--	0.915	0.476	0.989

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.982
(6) 0.977
(7) 0.969
(1) 0.983   (2) 0.993   (3) 0.982   (4) 0.986

5-HOLE PROBE	offset rake	centerline rake
upper	1.010	1.014
lower	1.015	1.018

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg)   (viewed tail-on)

	offset rake			centerline rake		
upper		0.798			0.764	
	0.790	0.998	0.797	0.756	1.002	0.747
		0.783			0.751	
	ALPHA:	-1.1		ALPHA:	-0.7	
	BETA:	0.4		BETA:	-0.5	
lower		0.767			0.793	
	0.742	0.997	0.799	0.792	1.000	0.768
		0.764			0.771	
	ALPHA:	-0.2		ALPHA:	-1.4	
	BETA:	3.6		BETA:	-1.6	

FLIGHT: 55 MACH: 0.405 ALTITUDE(ft): 5111. KEAS: 244.
PSINF(psia): 12.18 PTINF(psia): 13.64 TSINF(F): 75. TTINF(F): 92.
ALPHA(deg): 6.6 BETA(deg): 0.0 PHI(deg): -3.2

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.000	1.000	0.417	--	--	1.000	0.395	1.006
15	21.1	1.000	1.000	0.416	--	--	1.000	0.393	1.006
14	18.3	1.001	1.001	0.419	--	--	1.001	0.396	1.006
13	15.7	1.001	1.001	0.418	--	--	1.001	0.394	1.007
12	13.3	1.002	1.002	0.420	--	--	1.002	0.396	1.007
10	11.1	1.001	1.001	0.419	--	--	1.001	0.394	1.007
09	9.1	1.000	1.000	0.417	--	--	1.000	0.394	1.006
08	7.3	1.001	1.001	0.419	--	--	1.001	0.401	1.004
07	5.7	1.000	1.000	0.418	--	--	1.000	0.404	1.001
06	4.3	1.002	1.002	0.420	--	--	1.002	0.409	0.999
05	3.1	1.001	1.001	0.418	--	--	1.001	0.410	0.998
04	2.1	1.001	1.001	0.419	--	--	1.001	0.414	0.996
03	1.3	1.001	1.001	0.418	--	--	1.001	0.415	0.995
02	0.7	0.985	0.985	0.390	--	--	0.985	0.388	0.995
01	0.3	0.964	0.964	0.346	--	--	0.964	0.345	0.994

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.002	1.002	0.419	--	--	1.002	0.403	1.004
15	21.1	0.999	0.999	0.413	--	--	0.999	0.397	1.004
14	18.3	1.001	1.001	0.416	--	--	1.001	0.399	1.004
13	15.7	1.000	1.000	0.415	--	--	1.000	0.397	1.005
12	13.3	1.002	1.002	0.418	--	--	1.002	0.399	1.005
10	11.1	1.002	1.002	0.418	--	--	1.002	0.398	1.006
09	9.1	1.000	1.000	0.414	--	--	1.000	0.396	1.005
08	7.3	1.001	1.001	0.416	--	--	1.001	0.401	1.003
07	5.7	1.000	1.000	0.415	--	--	1.000	0.404	1.001
06	4.3	1.000	1.000	0.415	--	--	1.000	0.407	1.000
05	3.1	1.000	1.000	0.414	--	--	1.000	0.408	0.998
04	2.1	1.000	1.000	0.415	--	--	1.000	0.411	0.997
03	1.3	1.001	1.001	0.416	--	--	1.001	0.413	0.996
02	0.7	0.989	0.989	0.394	--	--	0.989	0.393	0.996
01	0.3	0.958	0.958	0.329	--	--	0.958	0.329	0.995

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.993
(6) 0.992
(7) 0.987
(1) 0.993 (2) 0.997 (3) 0.993 (4) 0.995

5-HOLE PROBE	offset rake	centerline rake
upper	1.004	1.006
lower	1.006	1.007

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.894			0.877	
	0.891	0.998	0.892	0.872	1.002	0.867
		0.886			0.870	
	ALPHA:	-1.1		ALPHA:	-0.8	
	BETA:	0.1		BETA:	-0.6	
lower		0.882			0.891	
	0.868	0.999	0.893	0.890	0.999	0.876
		0.880			0.878	
	ALPHA:	-0.3		ALPHA:	-1.6	
	BETA:	3.0		BETA:	-1.7	

FLIGHT: 54 MACH: 2.597 ALTITUDE(ft): 60966. KEAS: 447.
PSINF(psia): 0.99 PTINF(psia): 19.72 TSINF(F): -74. TTINF(F): 446.
ALPHA(deg): 5.5 BETA(deg): 0.3 PHI(deg): 34.3

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.462	0.933	2.510	2.614	0.973	0.899	2.465	1.105
15	21.1	0.462	0.933	2.510	2.614	0.974	0.898	2.463	1.106
14	18.3	0.462	0.934	2.511	2.613	0.975	0.897	2.461	1.109
13	15.7	0.455	0.904	2.490	2.633	0.946	0.867	2.437	1.111
12	13.3	0.458	0.918	2.500	2.624	0.959	0.878	2.444	1.114
10	11.1	0.459	0.920	2.501	2.622	0.961	0.878	2.443	1.116
09	9.1	0.461	0.931	2.509	2.615	0.972	0.892	2.455	1.112
08	7.3	0.455	0.906	2.491	2.632	0.948	0.876	2.448	1.103
07	5.7	0.458	0.917	2.499	2.625	0.958	0.892	2.465	1.095
06	4.3	0.459	0.921	2.502	2.622	0.962	0.902	2.476	1.089
05	3.1	0.458	0.919	2.500	2.623	0.960	0.905	2.481	1.083
04	2.1	0.458	0.919	2.500	2.623	0.960	0.910	2.488	1.078
03	1.3	0.444	0.861	2.459	2.662	0.904	0.856	2.451	1.074
02	0.7	0.348	0.538	2.158	2.938	0.593	0.536	2.154	1.071
01	0.3	0.259	0.324	1.830	3.258	0.369	0.323	1.829	1.069

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.502	1.013	2.524	2.505	1.152	0.977	2.336	1.326
15	21.1	0.492	0.993	2.497	2.533	1.104	0.956	2.339	1.297
14	18.3	0.484	0.978	2.476	2.554	1.069	0.940	2.373	1.242
13	15.7	0.474	0.943	2.450	2.580	1.027	0.904	2.401	1.192
12	13.3	0.467	0.936	2.430	2.599	0.996	0.895	2.433	1.145
10	11.1	0.469	0.942	2.437	2.593	1.006	0.899	2.490	1.102
09	9.1	0.461	0.930	2.413	2.617	0.970	0.891	2.481	1.089
08	7.3	0.461	0.918	2.414	2.615	0.972	0.887	2.469	1.100
07	5.7	0.468	0.937	2.433	2.597	1.000	0.912	2.476	1.110
06	4.3	0.467	0.937	2.430	2.600	0.996	0.918	2.462	1.120
05	3.1	0.466	0.934	2.427	2.603	0.991	0.920	2.450	1.127
04	2.1	0.469	0.939	2.434	2.595	1.002	0.930	2.450	1.134
03	1.3	0.457	0.886	2.401	2.628	0.953	0.880	2.411	1.139
02	0.7	0.373	0.577	2.155	2.863	0.665	0.575	2.159	1.143
01	0.3	0.258	0.323	1.757	3.259	0.369	0.323	1.758	1.145

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.105
(6) 1.241
(7) 1.103

(1) 1.152 (2) 1.143 (3) 1.067 (4) 1.068

5-HOLE PROBE	offset rake	centerline rake
upper	1.326	1.105
lower	1.082	1.117

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.253			0.206	
	0.260	0.463	0.258	0.195	0.471	0.197
		0.254			0.193	
	ALPHA:	0.1		ALPHA:	-0.7	
	BETA:	-0.2		BETA:	0.1	
lower		0.178			0.228	
	0.187	0.465	0.218	0.225	0.464	0.214
		0.175			0.213	
	ALPHA:	-0.1		ALPHA:	-0.9	
	BETA:	1.7		BETA:	-0.7	

FLIGHT: 54 MACH: 2.621 ALTITUDE(ft): 61217. KEAS: 448.
PSINF(psia): 0.98 PTINF(psia): 20.23 TSINF(F): -75. TTINF(F): 452.
ALPHA(deg): 5.1 BETA(deg): 0.7 PHI(deg): 30.1

CENTERLINE RAKE

TAP #	Y (in)	PPITOT /PTINF	UNIFORM-PS PT/PTINF	UNIFORM-PS MACH	UNIFORM-PT MACH	UNIFORM-PT PS/PSINF	INTERPOLATED-PS PT/PTINF	INTERPOLATED-PS MACH	INTERPOLATED-PS PS/PSINF
16	24.1	0.458	0.958	2.554	2.625	0.994	0.909	2.489	1.116
15	21.1	0.459	0.962	2.557	2.623	0.998	0.911	2.490	1.118
14	18.3	0.464	0.988	2.574	2.607	1.023	0.933	2.503	1.121
13	15.7	0.459	0.963	2.558	2.622	0.999	0.908	2.484	1.123
12	13.3	0.460	0.968	2.561	2.619	1.003	0.910	2.484	1.126
10	11.1	0.456	0.953	2.551	2.629	0.989	0.895	2.472	1.128
09	9.1	0.456	0.953	2.551	2.629	0.988	0.899	2.478	1.122
08	7.3	0.453	0.939	2.542	2.637	0.976	0.896	2.483	1.111
07	5.7	0.443	0.897	2.512	2.665	0.935	0.865	2.466	1.100
06	4.3	0.442	0.892	2.508	2.668	0.930	0.867	2.474	1.091
05	3.1	0.441	0.888	2.506	2.670	0.927	0.871	2.481	1.083
04	2.1	0.441	0.889	2.506	2.670	0.927	0.877	2.489	1.077
03	1.3	0.430	0.842	2.471	2.702	0.883	0.835	2.461	1.071
02	0.7	0.344	0.544	2.192	2.953	0.603	0.542	2.187	1.068
01	0.3	0.254	0.323	1.856	3.278	0.372	0.322	1.854	1.065

OFFSET RAKE

TAP #	Y (in)	PPITOT /PTINF	UNIFORM-PS PT/PTINF	UNIFORM-PS MACH	UNIFORM-PT MACH	UNIFORM-PT PS/PSINF	INTERPOLATED-PS PT/PTINF	INTERPOLATED-PS MACH	INTERPOLATED-PS PS/PSINF
16	24.1	0.497	1.040	2.546	2.519	1.172	0.986	2.336	1.365
15	21.1	0.485	1.017	2.514	2.551	1.115	0.963	2.335	1.333
14	18.3	0.475	1.010	2.486	2.578	1.069	0.954	2.366	1.274
13	15.7	0.467	0.981	2.465	2.600	1.034	0.924	2.401	1.219
12	13.3	0.460	0.969	2.446	2.618	1.005	0.911	2.437	1.169
10	11.1	0.466	0.973	2.461	2.603	1.029	0.913	2.505	1.122
09	9.1	0.456	0.952	2.434	2.630	0.987	0.898	2.495	1.107
08	7.3	0.459	0.950	2.441	2.623	0.998	0.907	2.490	1.118
07	5.7	0.462	0.934	2.449	2.615	1.010	0.900	2.488	1.127
06	4.3	0.464	0.937	2.457	2.607	1.023	0.911	2.486	1.135
05	3.1	0.464	0.935	2.457	2.607	1.022	0.916	2.478	1.142
04	2.1	0.464	0.934	2.456	2.608	1.020	0.921	2.470	1.148
03	1.3	0.442	0.866	2.394	2.668	0.931	0.859	2.403	1.153
02	0.7	0.337	0.534	2.068	2.973	0.585	0.532	2.072	1.156
01	0.3	0.229	0.290	1.662	3.397	0.313	0.290	1.664	1.159

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.147
(6) 1.151
(7) 1.136

(1) 1.174 (2) 1.147 (3) 1.071 (4) 1.055

5-HOLE PROBE	offset rake	centerline rake
upper	1.365	1.116
lower	1.101	1.129

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.252			0.205	
	0.259	0.453	0.255	0.190	0.460	0.197
		0.252			0.188	
	ALPHA:	0.0		ALPHA:	-0.9	
	BETA:	-0.3		BETA:	0.3	
lower		0.172			0.230	
	0.185	0.459	0.216	0.219	0.458	0.212
		0.169			0.205	
	ALPHA:	-0.2		ALPHA:	-1.5	
	BETA:	1.7		BETA:	-0.4	

FLIGHT: 54 MACH: 2.645 ALTITUDE(ft): 61602. KEAS: 448.
PSINF(psia): 0.96 PTINF(psia): 20.62 TSINF(F): -74. TTINF(F): 467.
ALPHA(deg): 5.1 BETA(deg): -0.4 PHI(deg): 29.6

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.454	0.969	2.578	2.635	1.016	0.905	2.493	1.146
15	21.1	0.453	0.964	2.575	2.638	1.012	0.901	2.491	1.145
14	18.3	0.456	0.976	2.582	2.631	1.023	0.913	2.500	1.144
13	15.7	0.456	0.975	2.582	2.631	1.022	0.913	2.500	1.143
12	13.3	0.452	0.961	2.572	2.640	1.008	0.901	2.492	1.142
10	11.1	0.443	0.920	2.544	2.665	0.970	0.864	2.466	1.142
09	9.1	0.440	0.906	2.534	2.675	0.956	0.856	2.464	1.135
08	7.3	0.438	0.898	2.529	2.680	0.948	0.858	2.472	1.123
07	5.7	0.440	0.905	2.534	2.675	0.955	0.873	2.489	1.113
06	4.3	0.443	0.920	2.544	2.666	0.969	0.895	2.510	1.104
05	3.1	0.440	0.907	2.535	2.674	0.957	0.890	2.511	1.096
04	2.1	0.437	0.893	2.525	2.683	0.944	0.881	2.508	1.090
03	1.3	0.419	0.821	2.471	2.732	0.876	0.814	2.461	1.085
02	0.7	0.291	0.412	2.030	3.129	0.481	0.411	2.025	1.081
01	0.3	0.215	0.253	1.712	3.469	0.293	0.252	1.710	1.078

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.447	0.953	2.520	2.656	0.984	0.890	2.203	1.420
15	21.1	0.446	0.950	2.520	2.657	0.983	0.888	2.232	1.385
14	18.3	0.445	0.954	2.516	2.660	0.978	0.892	2.287	1.320
13	15.7	0.454	0.972	2.542	2.636	1.015	0.910	2.370	1.260
12	13.3	0.486	1.032	2.636	2.548	1.163	0.968	2.518	1.204
10	11.1	0.477	0.991	2.610	2.572	1.120	0.931	2.551	1.153
09	9.1	0.456	0.940	2.549	2.629	1.025	0.888	2.521	1.127
08	7.3	0.389	0.798	2.343	2.817	0.769	0.763	2.322	1.123
07	5.7	0.336	0.691	2.163	2.978	0.602	0.667	2.147	1.119
06	4.3	0.314	0.652	2.085	3.049	0.542	0.634	2.074	1.115
05	3.1	0.339	0.698	2.173	2.969	0.611	0.684	2.165	1.112
04	2.1	0.364	0.744	2.260	2.891	0.687	0.734	2.254	1.110
03	1.3	0.383	0.749	2.321	2.836	0.746	0.743	2.317	1.107
02	0.7	0.391	0.554	2.349	2.811	0.776	0.552	2.347	1.106
01	0.3	0.307	0.361	2.059	3.073	0.522	0.360	2.059	1.105

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.005
(6) 1.241
(7) 1.130
(1) 1.076 (2) 1.133 (3) 1.069 (4) 1.084

5-HOLE PROBE	offset rake	centerline rake
upper	1.420	1.146
lower	1.130	1.141

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

offset rake / centerline rake

upper

offset rake			centerline rake		
	0.236			0.203	
0.258	0.443	0.227	0.194	0.453	0.191
	0.239			0.187	

offset rake: ALPHA: 0.2 BETA: -2.2
centerline rake: ALPHA: -0.9 BETA: -0.2

lower

offset rake			centerline rake		
	0.169			0.219	
0.201	0.467	0.204	0.217	0.445	0.203
	0.167			0.206	

offset rake: ALPHA: -0.1 BETA: 0.2
centerline rake: ALPHA: -0.8 BETA: -0.8

FLIGHT: 54 MACH: 2.784 ALTITUDE(ft): 65198. KEAS: 432.
PSINF(psia): 0.81 PTINF(psia): 21.46 TSINF(F): -71. TTINF(F): 531.
ALPHA(deg): 4.6 BETA(deg): 0.6 PHI(deg): -1.1

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.402	0.943	2.694	2.782	1.003	0.802	2.495	1.252
15	21.1	0.404	0.954	2.702	2.776	1.013	0.807	2.498	1.256
14	18.3	0.410	0.986	2.723	2.759	1.040	0.826	2.508	1.265
13	15.7	0.410	0.985	2.722	2.759	1.039	0.820	2.499	1.273
12	13.3	0.409	0.981	2.720	2.761	1.035	0.812	2.489	1.281
10	11.1	0.403	0.953	2.701	2.776	1.012	0.786	2.465	1.287
09	9.1	0.400	0.933	2.687	2.787	0.995	0.782	2.470	1.270
08	7.3	0.395	0.913	2.673	2.799	0.977	0.790	2.495	1.233
07	5.7	0.391	0.888	2.655	2.813	0.956	0.792	2.515	1.200
06	4.3	0.394	0.904	2.667	2.804	0.970	0.827	2.558	1.171
05	3.1	0.390	0.887	2.655	2.814	0.956	0.832	2.576	1.147
04	2.1	0.396	0.914	2.674	2.798	0.979	0.874	2.619	1.126
03	1.3	0.384	0.858	2.633	2.831	0.931	0.835	2.599	1.110
02	0.7	0.281	0.456	2.227	3.168	0.561	0.450	2.211	1.097
01	0.3	0.200	0.254	1.850	3.552	0.323	0.253	1.844	1.089

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.396	0.931	2.642	2.797	0.981	0.791	2.534	1.200
15	21.1	0.387	0.915	2.609	2.823	0.942	0.774	2.515	1.189
14	18.3	0.395	0.950	2.637	2.801	0.975	0.797	2.566	1.168
13	15.7	0.397	0.955	2.644	2.795	0.983	0.795	2.595	1.149
12	13.3	0.390	0.937	2.621	2.813	0.956	0.776	2.594	1.131
10	11.1	0.387	0.915	2.609	2.823	0.942	0.754	2.602	1.115
09	9.1	0.383	0.896	2.596	2.834	0.927	0.750	2.598	1.108
08	7.3	0.386	0.890	2.604	2.828	0.936	0.770	2.605	1.108
07	5.7	0.388	0.883	2.614	2.819	0.947	0.788	2.615	1.108
06	4.3	0.388	0.892	2.614	2.819	0.948	0.816	2.615	1.109
05	3.1	0.391	0.888	2.621	2.813	0.956	0.832	2.622	1.109
04	2.1	0.389	0.899	2.617	2.817	0.951	0.860	2.618	1.109
03	1.3	0.382	0.853	2.590	2.839	0.920	0.829	2.591	1.109
02	0.7	0.323	0.524	2.370	3.019	0.701	0.518	2.370	1.109
01	0.3	0.218	0.275	1.911	3.454	0.371	0.275	1.911	1.109

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.026
(6) 1.073
(7) 1.090
(1) 1.128 (2) 1.091 (3) 1.110 (4) 1.055

5-HOLE PROBE	offset rake	centerline rake
upper	1.200	1.252
lower	1.108	1.291

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.205			0.177	
	0.210	0.409	0.198	0.169	0.427	0.178
		0.209			0.173	
	ALPHA:	0.3		ALPHA:	-0.2	
	BETA:	-0.9		BETA:	0.5	
lower		0.174			0.196	
	0.152	0.388	0.182	0.191	0.399	0.180
		0.173			0.181	
	ALPHA:	-0.1		ALPHA:	-1.0	
	BETA:	1.9		BETA:	-0.7	

FLIGHT: 54 MACH: 2.808 ALTITUDE(ft): 66030. KEAS: 427.
PSINF(psia): 0.78 PTINF(psia): 21.38 TSINF(F): -73. TTINF(F): 537.
ALPHA(deg): 4.6 BETA(deg): 0.8 PHI(deg): 2.0

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.393	0.960	2.741	2.806	1.003	0.777	2.484	1.282
15	21.1	0.379	0.884	2.687	2.848	0.941	0.721	2.437	1.280
14	18.3	0.383	0.907	2.704	2.835	0.959	0.741	2.456	1.276
13	15.7	0.378	0.880	2.685	2.850	0.938	0.723	2.442	1.272
12	13.3	0.372	0.853	2.664	2.867	0.915	0.704	2.427	1.268
10	11.1	0.403	1.017	2.779	2.777	1.049	0.832	2.536	1.265
09	9.1	0.402	1.012	2.775	2.780	1.044	0.843	2.555	1.244
08	7.3	0.387	0.928	2.719	2.823	0.977	0.802	2.542	1.208
07	5.7	0.388	0.934	2.723	2.821	0.981	0.831	2.582	1.177
06	4.3	0.384	0.910	2.706	2.834	0.962	0.832	2.598	1.149
05	3.1	0.377	0.879	2.683	2.851	0.936	0.824	2.605	1.125
04	2.1	0.375	0.869	2.676	2.857	0.928	0.831	2.622	1.105
03	1.3	0.364	0.814	2.634	2.890	0.883	0.792	2.601	1.089
02	0.7	0.269	0.441	2.240	3.215	0.543	0.436	2.224	1.078
01	0.3	0.193	0.246	1.867	3.598	0.313	0.246	1.861	1.070

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.395	0.965	2.706	2.800	1.012	0.782	2.571	1.207
15	21.1	0.384	0.897	2.666	2.832	0.964	0.732	2.548	1.194
14	18.3	0.394	0.933	2.701	2.804	1.007	0.762	2.611	1.169
13	15.7	0.389	0.907	2.685	2.817	0.987	0.745	2.623	1.146
12	13.3	0.384	0.879	2.664	2.833	0.962	0.725	2.628	1.125
10	11.1	0.381	0.960	2.653	2.842	0.950	0.785	2.642	1.105
09	9.1	0.369	0.928	2.610	2.876	0.902	0.773	2.610	1.096
08	7.3	0.371	0.890	2.617	2.870	0.909	0.769	2.617	1.096
07	5.7	0.374	0.900	2.629	2.861	0.923	0.801	2.629	1.096
06	4.3	0.372	0.884	2.623	2.866	0.916	0.808	2.623	1.096
05	3.1	0.374	0.870	2.627	2.862	0.921	0.816	2.627	1.096
04	2.1	0.371	0.859	2.618	2.870	0.910	0.822	2.618	1.096
03	1.3	0.360	0.804	2.574	2.904	0.864	0.782	2.574	1.096
02	0.7	0.291	0.477	2.299	3.130	0.616	0.471	2.299	1.096
01	0.3	0.196	0.250	1.852	3.579	0.322	0.250	1.852	1.096

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.021
(6) 1.048
(7) 1.078
(1) 1.092 (2) 1.101 (3) 1.106 (4) 1.022

5-HOLE PROBE	offset rake	centerline rake
upper	1.207	1.282
lower	1.096	1.264

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.200			0.166	
	0.206	0.408	0.194	0.151	0.416	0.171
		0.206			0.159	
	ALPHA:	0.4		ALPHA:	-0.4	
	BETA:	-0.8		BETA:	1.1	
lower		0.173			0.196	
	0.146	0.377	0.178	0.190	0.401	0.180
		0.172			0.180	
	ALPHA:	0.0		ALPHA:	-1.0	
	BETA:	2.1		BETA:	-0.6	

FLIGHT: 54 MACH: 2.796 ALTITUDE(ft): 66836. KEAS: 417.
PSINF(psia): 0.75 PTINF(psia): 20.19 TSINF(F): -71. TTINF(F): 535.
ALPHA(deg): 4.6 BETA(deg): -0.5 PHI(deg): 1.3

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.416	1.007	2.730	2.741	1.087	0.830	2.495	1.321
15	21.1	0.408	0.966	2.703	2.763	1.052	0.804	2.478	1.313
14	18.3	0.411	0.981	2.713	2.754	1.065	0.826	2.504	1.297
13	15.7	0.411	0.979	2.711	2.756	1.063	0.834	2.517	1.282
12	13.3	0.409	0.968	2.704	2.762	1.053	0.835	2.524	1.269
10	11.1	0.402	0.936	2.682	2.780	1.025	0.817	2.516	1.257
09	9.1	0.397	0.910	2.664	2.794	1.003	0.809	2.520	1.237
08	7.3	0.395	0.901	2.657	2.800	0.994	0.818	2.540	1.213
07	5.7	0.392	0.886	2.646	2.808	0.981	0.821	2.554	1.191
06	4.3	0.396	0.902	2.658	2.799	0.995	0.851	2.587	1.172
05	3.1	0.392	0.884	2.645	2.809	0.979	0.847	2.594	1.156
04	2.1	0.390	0.877	2.640	2.814	0.973	0.852	2.605	1.142
03	1.3	0.372	0.789	2.572	2.869	0.895	0.775	2.550	1.132
02	0.7	0.247	0.358	2.066	3.308	0.466	0.356	2.057	1.123
01	0.3	0.176	0.206	1.708	3.711	0.263	0.206	1.705	1.118

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.382	0.925	2.705	2.838	0.938	0.762	2.500	1.208
15	21.1	0.372	0.881	2.669	2.866	0.898	0.733	2.484	1.192
14	18.3	0.368	0.879	2.653	2.879	0.881	0.740	2.504	1.161
13	15.7	0.369	0.880	2.657	2.876	0.885	0.750	2.541	1.132
12	13.3	0.374	0.886	2.675	2.861	0.905	0.764	2.591	1.106
10	11.1	0.381	0.885	2.700	2.842	0.932	0.773	2.646	1.081
09	9.1	0.351	0.805	2.588	2.930	0.816	0.715	2.553	1.067
08	7.3	0.294	0.670	2.355	3.118	0.615	0.609	2.329	1.062
07	5.7	0.208	0.471	1.953	3.505	0.351	0.436	1.936	1.057
06	4.3	0.184	0.420	1.821	3.656	0.284	0.396	1.809	1.053
05	3.1	0.247	0.558	2.144	3.308	0.466	0.535	2.134	1.050
04	2.1	0.293	0.657	2.348	3.124	0.610	0.638	2.341	1.047
03	1.3	0.318	0.675	2.455	3.036	0.696	0.663	2.450	1.044
02	0.7	0.329	0.477	2.499	3.000	0.734	0.474	2.497	1.043
01	0.3	0.246	0.289	2.140	3.312	0.463	0.289	2.140	1.041

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.038
(6) 1.095
(7) 1.085
(1) 1.059 (2) 1.022 (3) 1.099 (4) 1.129

5-HOLE PROBE	offset rake	centerline rake
upper	1.208	1.321
lower	1.070	1.251

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.200			0.179	
	0.209	0.398	0.193	0.175	0.444	0.173
		0.202			0.172	
	ALPHA:	0.2		ALPHA:	-0.4	
	BETA:	-1.1		BETA:	-0.1	
lower		0.183			0.196	
	0.162	0.368	0.157	0.192	0.400	0.180
		0.183			0.183	
	ALPHA:	0.0		ALPHA:	-0.9	
	BETA:	-0.3		BETA:	-0.8	

FLIGHT: 54 MACH: 1.383 ALTITUDE(ft): 43901. KEAS: 358.
PSINF(psia): 2.25 PTINF(psia): 7.00 TSINF(F): -82. TTINF(F): 62.
ALPHA(deg): 5.1 BETA(deg): 0.7 PHI(deg): -1.4

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.941	1.005	1.478	1.456	0.902	0.983	1.402	0.957
15	21.1	0.934	0.995	1.471	1.484	0.866	0.973	1.391	0.962
14	18.3	0.939	1.002	1.476	1.464	0.891	0.977	1.387	0.972
13	15.7	0.936	0.998	1.473	1.477	0.875	0.971	1.376	0.981
12	13.3	0.935	0.997	1.472	1.480	0.871	0.968	1.367	0.989
10	11.1	0.934	0.995	1.471	1.484	0.865	0.965	1.360	0.997
09	9.1	0.932	0.992	1.469	1.494	0.854	0.964	1.365	0.988
08	7.3	0.934	0.995	1.471	1.486	0.863	0.971	1.386	0.966
07	5.7	0.929	0.988	1.466	1.505	0.841	0.970	1.400	0.947
06	4.3	0.926	0.983	1.463	1.518	0.824	0.969	1.412	0.930
05	3.1	0.925	0.983	1.463	1.519	0.823	0.972	1.426	0.915
04	2.1	0.954	1.022	1.490	1.398	0.979	1.014	1.464	0.903
03	1.3	0.954	1.023	1.490	1.397	0.981	1.017	1.474	0.894
02	0.7	0.754	0.768	1.285	1.923	0.447	0.767	1.277	0.886
01	0.3	0.589	0.589	1.080	2.278	0.257	0.589	1.077	0.882

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.943	1.006	1.462	1.449	0.911	0.984	1.435	0.923
15	21.1	0.934	0.995	1.454	1.485	0.865	0.973	1.427	0.923
14	18.3	0.935	0.997	1.454	1.483	0.867	0.972	1.426	0.924
13	15.7	0.937	0.998	1.456	1.475	0.878	0.971	1.427	0.925
12	13.3	0.937	0.998	1.456	1.473	0.879	0.970	1.427	0.926
10	11.1	0.934	0.995	1.454	1.484	0.866	0.966	1.424	0.926
09	9.1	0.930	0.990	1.450	1.501	0.844	0.962	1.422	0.924
08	7.3	0.930	0.990	1.450	1.502	0.843	0.967	1.427	0.918
07	5.7	0.930	0.990	1.450	1.499	0.847	0.971	1.433	0.913
06	4.3	0.927	0.985	1.447	1.514	0.829	0.970	1.434	0.909
05	3.1	0.927	0.984	1.447	1.515	0.828	0.974	1.437	0.905
04	2.1	0.960	1.029	1.478	1.369	1.020	1.020	1.471	0.902
03	1.3	0.961	1.030	1.479	1.362	1.029	1.025	1.475	0.899
02	0.7	0.772	0.787	1.290	1.888	0.472	0.786	1.288	0.897
01	0.3	0.540	0.540	0.992	--	--	0.540	0.991	0.896

STATIC PRESSURES (/PSINF)

SURFACE

(5) 1.017
(6) 0.972
(7) 0.906
(1) 0.892 (2) 0.899 (3) 0.874 (4) 0.882

5-HOLE PROBE	offset rake	centerline rake
upper	0.923	0.957
lower	0.927	1.000

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

offset rake / centerline rake

upper

offset rake			centerline rake		
	0.599			0.539	
0.568	0.935	0.592	0.500	0.940	0.512
	0.553			0.482	

offset rake: ALPHA: -1.8, BETA: 1.0
centerline rake: ALPHA: -1.9, BETA: 0.4

lower

offset rake			centerline rake		
	0.608			0.567	
0.467	0.927	0.567	0.548	0.932	0.542
	0.605			0.535	

offset rake: ALPHA: -0.1, BETA: 3.5
centerline rake: ALPHA: -1.2, BETA: -0.2

FLIGHT: 54 MACH: 1.354 ALTITUDE(ft): 42094. KEAS: 366.
PSINF(psia): 2.46 PTINF(psia): 7.34 TSINF(F): -75. TTINF(F): 66.
ALPHA(deg): 5.2 BETA(deg): 2.2 PHI(deg): 4.2

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.947	1.004	1.457	1.429	0.900	0.986	1.391	0.936
15	21.1	0.944	1.001	1.454	1.441	0.884	0.981	1.381	0.944
14	18.3	0.947	1.005	1.457	1.427	0.902	0.982	1.371	0.959
13	15.7	0.946	1.002	1.455	1.436	0.892	0.977	1.357	0.972
12	13.3	0.942	0.997	1.452	1.452	0.871	0.970	1.343	0.985
10	11.1	0.941	0.996	1.451	1.457	0.865	0.966	1.332	0.996
09	9.1	0.937	0.991	1.448	1.471	0.848	0.964	1.336	0.989
08	7.3	0.937	0.991	1.447	1.472	0.846	0.968	1.356	0.965
07	5.7	0.936	0.989	1.446	1.478	0.839	0.970	1.374	0.944
06	4.3	0.934	0.987	1.445	1.484	0.832	0.973	1.390	0.925
05	3.1	0.933	0.986	1.444	1.489	0.826	0.975	1.403	0.910
04	2.1	0.967	1.031	1.475	1.332	1.030	1.022	1.447	0.897
03	1.3	0.969	1.034	1.477	1.321	1.046	1.028	1.459	0.886
02	0.7	0.821	0.844	1.333	1.796	0.522	0.842	1.324	0.878
01	0.3	0.642	0.643	1.127	2.151	0.301	0.643	1.124	0.873

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.948	1.005	1.439	1.425	0.906	0.987	1.438	0.889
15	21.1	0.945	1.002	1.436	1.436	0.890	0.982	1.417	0.908
14	18.3	0.945	1.002	1.436	1.439	0.888	0.979	1.383	0.943
13	15.7	0.944	1.000	1.434	1.445	0.880	0.975	1.353	0.975
12	13.3	0.945	1.001	1.436	1.439	0.888	0.973	1.328	1.005
10	11.1	0.944	0.999	1.434	1.444	0.881	0.969	1.304	1.033
09	9.1	0.940	0.994	1.431	1.460	0.861	0.966	1.303	1.030
08	7.3	0.943	0.997	1.434	1.448	0.876	0.973	1.329	1.002
07	5.7	0.941	0.995	1.432	1.455	0.867	0.976	1.349	0.977
06	4.3	0.935	0.988	1.427	1.479	0.837	0.974	1.363	0.955
05	3.1	0.939	0.992	1.430	1.463	0.858	0.981	1.384	0.936
04	2.1	0.969	1.034	1.458	1.319	1.049	1.025	1.426	0.921
03	1.3	0.960	1.025	1.450	1.365	0.985	1.019	1.430	0.908
02	0.7	0.731	0.751	1.216	1.966	0.402	0.749	1.206	0.899
01	0.3	0.518	0.518	0.926	--	--	0.518	0.921	0.893

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.940
(6) 0.969
(7) 0.900
(1) 0.883 (2) 0.892 (3) 0.870 (4) 0.868

5-HOLE PROBE	offset rake	centerline rake
upper	0.889	0.936
lower	1.045	1.002

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.598			0.553	
	0.550	0.938	0.595	0.477	0.947	0.547
		0.545			0.476	
	ALPHA: -2.1			ALPHA: -2.6		
	BETA: 1.7			BETA: 2.3		
lower		0.584			0.581	
	0.454	0.934	0.574	0.529	0.939	0.575
		0.583			0.532	
	ALPHA: -0.1			ALPHA: -1.9		
	BETA: 4.1			BETA: 1.7		

FLIGHT: 54 MACH: 1.307 ALTITUDE(ft): 40121. KEAS: 371.
PSINF(psia): 2.70 PTINF(psia): 7.57 TSINF(F): -77. TTINF(F): 54.
ALPHA(deg): 5.1 BETA(deg): -1.8 PHI(deg): 1.3

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.956	1.000	1.410	1.388	0.894	0.980	1.322	0.960
15	21.1	0.954	0.998	1.408	1.394	0.887	0.972	1.281	1.006
14	18.3	0.957	1.001	1.410	1.384	0.900	0.965	1.215	1.092
13	15.7	0.957	1.002	1.411	1.382	0.902	0.961	1.157	1.172
12	13.3	0.957	1.001	1.410	1.384	0.899	0.958	1.106	1.246
10	11.1	0.954	0.998	1.408	1.395	0.886	0.955	1.060	1.313
09	9.1	0.955	0.998	1.408	1.394	0.887	0.955	1.071	1.297
08	7.3	0.956	1.000	1.410	1.387	0.896	0.958	1.128	1.212
07	5.7	0.951	0.994	1.405	1.410	0.867	0.956	1.177	1.136
06	4.3	0.952	0.995	1.406	1.405	0.873	0.962	1.228	1.070
05	3.1	0.981	1.033	1.432	1.250	1.081	1.001	1.298	1.014
04	2.1	0.979	1.030	1.430	1.264	1.060	1.006	1.337	0.966
03	1.3	0.969	1.017	1.421	1.321	0.982	1.002	1.362	0.929
02	0.7	0.731	0.735	1.183	1.965	0.377	0.734	1.152	0.900
01	0.3	0.571	0.571	0.977	--	--	0.571	0.963	0.882

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.961	1.005	1.397	1.362	0.927	0.985	1.350	0.934
15	21.1	0.958	1.002	1.395	1.375	0.911	0.976	1.324	0.961
14	18.3	0.952	0.996	1.389	1.408	0.870	0.960	1.275	1.011
13	15.7	0.899	0.941	1.340	1.609	0.650	0.902	1.190	1.057
12	13.3	0.860	0.900	1.302	1.713	0.556	0.861	1.121	1.100
10	11.1	0.789	0.826	1.230	1.857	0.446	0.790	1.020	1.140
09	9.1	0.650	0.679	1.069	2.134	0.290	0.650	0.850	1.130
08	7.3	0.769	0.805	1.209	1.894	0.422	0.771	1.042	1.082
07	5.7	0.850	0.889	1.292	1.735	0.537	0.855	1.159	1.039
06	4.3	0.908	0.949	1.348	1.580	0.678	0.917	1.244	1.001
05	3.1	0.957	1.007	1.393	1.383	0.901	0.977	1.316	0.968
04	2.1	0.974	1.025	1.409	1.291	1.022	1.001	1.355	0.941
03	1.3	0.965	1.013	1.401	1.340	0.956	0.998	1.367	0.920
02	0.7	0.781	0.785	1.221	1.873	0.436	0.784	1.204	0.904
01	0.3	0.522	0.522	0.877	--	--	0.522	0.869	0.893

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.911
(6) 0.936
(7) 0.889
(1) 0.891 (2) 0.878 (3) 0.863 (4) 0.872

5-HOLE PROBE	offset rake	centerline rake
upper	0.934	0.960
lower	1.157	1.344

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

offset rake / centerline rake

upper

offset rake			centerline rake		
	0.612			0.567	
0.653	0.953	0.568	0.559	0.952	0.482
	0.555			0.485	

offset rake: ALPHA: -2.2 BETA: -3.5
centerline rake: ALPHA: -2.8 BETA: -2.6

lower

offset rake			centerline rake		
	0.576			0.612	
0.495	0.693	0.402	0.577	0.952	0.548
	0.572			0.528	

offset rake: ALPHA: -0.5 BETA: -5.4
centerline rake: ALPHA: -3.2 BETA: -1.1

FLIGHT: 54 MACH: 0.909 ALTITUDE(ft): 25087. KEAS: 366.
PSINF(psia): 5.43 PTINF(psia): 9.28 TSINF(F): -18. TTINF(F): 55.
ALPHA(deg): 5.2 BETA(deg): 0.3 PHI(deg): 0.6

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.995	0.995	0.847	--	--	0.995	0.760	1.160
15	21.1	0.993	0.993	0.845	--	--	0.993	0.753	1.165
14	18.3	0.994	0.994	0.845	--	--	0.994	0.745	1.175
13	15.7	0.995	0.995	0.847	--	--	0.995	0.738	1.184
12	13.3	0.996	0.996	0.847	--	--	0.996	0.731	1.192
10	11.1	0.996	0.996	0.848	--	--	0.996	0.725	1.200
09	9.1	0.994	0.994	0.846	--	--	0.994	0.732	1.189
08	7.3	0.996	0.996	0.848	--	--	0.996	0.756	1.164
07	5.7	0.994	0.994	0.845	--	--	0.994	0.774	1.142
06	4.3	0.996	0.996	0.847	--	--	0.996	0.793	1.123
05	3.1	0.994	0.994	0.845	--	--	0.994	0.806	1.106
04	2.1	0.994	0.994	0.846	--	--	0.994	0.820	1.093
03	1.3	0.993	0.993	0.844	--	--	0.993	0.828	1.082
02	0.7	0.899	0.899	0.744	--	--	0.899	0.735	1.073
01	0.3	0.822	0.822	0.643	--	--	0.822	0.638	1.068

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.996	0.996	0.843	--	--	0.996	0.765	1.155
15	21.1	0.993	0.993	0.840	--	--	0.993	0.759	1.159
14	18.3	0.993	0.993	0.840	--	--	0.993	0.752	1.166
13	15.7	0.989	0.989	0.836	--	--	0.989	0.741	1.173
12	13.3	0.985	0.985	0.833	--	--	0.985	0.732	1.179
10	11.1	0.981	0.981	0.828	--	--	0.981	0.722	1.185
09	9.1	0.976	0.976	0.824	--	--	0.976	0.725	1.176
08	7.3	0.975	0.975	0.822	--	--	0.975	0.743	1.154
07	5.7	0.979	0.979	0.826	--	--	0.979	0.765	1.136
06	4.3	0.982	0.982	0.829	--	--	0.982	0.783	1.119
05	3.1	0.985	0.985	0.833	--	--	0.985	0.799	1.105
04	2.1	0.990	0.990	0.837	--	--	0.990	0.815	1.093
03	1.3	0.988	0.988	0.835	--	--	0.988	0.821	1.084
02	0.7	0.920	0.920	0.764	--	--	0.920	0.756	1.077
01	0.3	0.819	0.819	0.633	--	--	0.819	0.629	1.072

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.957
(6) 0.957
(7) 0.959
(1) 1.055 (2) 1.082 (3) 1.067 (4) 1.060

5-HOLE PROBE	offset rake	centerline rake
upper	1.155	1.160
lower	1.187	1.203

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.678			0.622	
	0.684	0.991	0.707	0.640	0.995	0.617
		0.699			0.639	
		ALPHA: 1.0			ALPHA: 0.7	
		BETA: 1.1			BETA: -0.9	
lower		0.603			0.699	
	0.613	0.976	0.705	0.704	0.994	0.653
		0.602			0.669	
		ALPHA: 0.0			ALPHA: -1.4	
		BETA: 4.1			BETA: -2.3	

FLIGHT: 54 MACH: 0.919 ALTITUDE(ft): 25150. KEAS: 369.
PSINF(psia): 5.42 PTINF(psia): 9.36 TSINF(F): -18. TTINF(F): 56.
ALPHA(deg): 5.2 BETA(deg): 2.1 PHI(deg): 4.5

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.002	1.002	0.855	--	--	1.002	0.762	1.177
15	21.1	1.000	1.000	0.853	--	--	1.000	0.756	1.182
14	18.3	1.001	1.001	0.854	--	--	1.001	0.749	1.192
13	15.7	1.002	1.002	0.855	--	--	1.002	0.742	1.200
12	13.3	1.002	1.002	0.855	--	--	1.002	0.735	1.208
10	11.1	1.001	1.001	0.854	--	--	1.001	0.728	1.216
09	9.1	0.998	0.998	0.851	--	--	0.998	0.734	1.205
08	7.3	0.999	0.999	0.852	--	--	0.999	0.758	1.179
07	5.7	0.994	0.994	0.847	--	--	0.994	0.774	1.156
06	4.3	0.993	0.993	0.846	--	--	0.993	0.790	1.135
05	3.1	0.986	0.986	0.839	--	--	0.986	0.799	1.118
04	2.1	0.985	0.985	0.838	--	--	0.985	0.811	1.104
03	1.3	0.983	0.983	0.836	--	--	0.983	0.819	1.092
02	0.7	0.937	0.937	0.789	--	--	0.937	0.779	1.084
01	0.3	0.870	0.870	0.710	--	--	0.870	0.706	1.078

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.998	0.998	0.843	--	--	0.998	0.770	1.165
15	21.1	0.995	0.995	0.840	--	--	0.995	0.761	1.170
14	18.3	0.995	0.995	0.840	--	--	0.995	0.752	1.180
13	15.7	0.995	0.995	0.840	--	--	0.995	0.744	1.190
12	13.3	0.996	0.996	0.841	--	--	0.996	0.738	1.198
10	11.1	0.996	0.996	0.841	--	--	0.996	0.731	1.206
09	9.1	0.994	0.994	0.839	--	--	0.994	0.736	1.197
08	7.3	0.993	0.993	0.838	--	--	0.993	0.756	1.174
07	5.7	0.995	0.995	0.840	--	--	0.995	0.775	1.154
06	4.3	0.994	0.994	0.840	--	--	0.994	0.791	1.137
05	3.1	0.993	0.993	0.838	--	--	0.993	0.803	1.121
04	2.1	0.994	0.994	0.839	--	--	0.994	0.815	1.109
03	1.3	0.992	0.992	0.837	--	--	0.992	0.822	1.099
02	0.7	0.896	0.896	0.734	--	--	0.896	0.725	1.091
01	0.3	0.798	0.798	0.598	--	--	0.798	0.593	1.086

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.965
(6) 0.964
(7) 0.966
(1) 1.070 (2) 1.095 (3) 1.078 (4) 1.069

5-HOLE PROBE	offset rake	centerline rake
upper	1.165	1.177
lower	1.210	1.219

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.677			0.633	
	0.653	0.992	0.740	0.606	1.002	0.660
		0.696			0.635	
	ALPHA:	0.9		ALPHA:	0.1	
	BETA:	4.2		BETA:	2.1	
lower		0.597			0.701	
	0.587	0.992	0.744	0.669	0.999	0.692
		0.595			0.667	
	ALPHA:	-0.1		ALPHA:	-1.5	
	BETA:	6.7		BETA:	1.1	

FLIGHT: 54 MACH: 0.911 ALTITUDE(ft): 25242. KEAS: 365.
PSINF(psia): 5.40 PTINF(psia): 9.24 TSINF(F): -19. TTINF(F): 54.
ALPHA(deg): 5.3 BETA(deg): -1.9 PHI(deg): -9.9

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.998	0.998	0.852	--	--	0.998	0.763	1.162
15	21.1	0.997	0.997	0.851	--	--	0.997	0.758	1.167
14	18.3	0.998	0.998	0.852	--	--	0.998	0.751	1.175
13	15.7	0.998	0.998	0.852	--	--	0.998	0.744	1.183
12	13.3	0.998	0.998	0.852	--	--	0.998	0.738	1.190
10	11.1	0.997	0.997	0.851	--	--	0.997	0.731	1.196
09	9.1	0.994	0.994	0.848	--	--	0.994	0.737	1.186
08	7.3	0.994	0.994	0.848	--	--	0.994	0.759	1.161
07	5.7	0.991	0.991	0.846	--	--	0.991	0.776	1.140
06	4.3	0.995	0.995	0.849	--	--	0.995	0.796	1.121
05	3.1	0.993	0.993	0.847	--	--	0.993	0.809	1.105
04	2.1	0.995	0.995	0.849	--	--	0.995	0.823	1.091
03	1.3	0.991	0.991	0.845	--	--	0.991	0.829	1.080
02	0.7	0.918	0.918	0.769	--	--	0.918	0.760	1.072
01	0.3	0.845	0.845	0.679	--	--	0.845	0.674	1.067

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.002	1.002	0.880	--	--	1.002	0.768	1.161
15	21.1	1.000	1.000	0.878	--	--	1.000	0.771	1.155
14	18.3	1.001	1.001	0.879	--	--	1.001	0.783	1.144
13	15.7	0.995	0.995	0.873	--	--	0.995	0.786	1.133
12	13.3	0.967	0.967	0.845	--	--	0.967	0.765	1.123
10	11.1	0.950	0.950	0.828	--	--	0.950	0.755	1.114
09	9.1	0.915	0.915	0.791	--	--	0.915	0.727	1.103
08	7.3	0.848	0.848	0.710	--	--	0.848	0.653	1.090
07	5.7	0.818	0.818	0.669	--	--	0.818	0.623	1.078
06	4.3	0.891	0.891	0.764	--	--	0.891	0.732	1.068
05	3.1	0.918	0.918	0.794	--	--	0.918	0.772	1.059
04	2.1	0.947	0.947	0.825	--	--	0.947	0.810	1.052
03	1.3	0.974	0.974	0.852	--	--	0.974	0.844	1.046
02	0.7	0.958	0.958	0.837	--	--	0.958	0.832	1.042
01	0.3	0.859	0.859	0.725	--	--	0.859	0.722	1.039

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.961
(6) 0.960
(7) 0.961

(1) 1.039 (2) 1.035 (3) 1.064 (4) 1.061

5-HOLE PROBE	offset rake	centerline rake
upper	1.161	1.162
lower	1.110	1.199

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

offset rake

upper

	0.685	
0.736	0.999	0.662
	0.703	

ALPHA: 0.8
BETA: -3.5

lower

	0.605	
0.726	0.917	0.539
	0.603	

ALPHA: -0.1
BETA: -9.1

centerline rake

upper

	0.629	
0.680	0.999	0.579
	0.634	

ALPHA: 0.2
BETA: -3.9

lower

	0.724	
0.714	0.994	0.639
	0.643	

ALPHA: -3.7
BETA: -3.4

FLIGHT: 54 MACH: 0.948 ALTITUDE(ft): 24983. KEAS: 382.
PSINF(psia): 5.46 PTINF(psia): 9.74 TSINF(F): -18. TTINF(F): 61.
ALPHA(deg): 4.9 BETA(deg): 0.2 PHI(deg): 3.0

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.000	1.000	0.852	--	--	1.000	0.760	1.217
15	21.1	0.999	0.999	0.850	--	--	0.999	0.754	1.223
14	18.3	1.000	1.000	0.852	--	--	1.000	0.747	1.232
13	15.7	1.000	1.000	0.851	--	--	1.000	0.739	1.241
12	13.3	1.000	1.000	0.851	--	--	1.000	0.732	1.250
10	11.1	1.000	1.000	0.851	--	--	1.000	0.725	1.257
09	9.1	0.997	0.997	0.849	--	--	0.997	0.732	1.246
08	7.3	0.999	0.999	0.851	--	--	0.999	0.757	1.219
07	5.7	0.997	0.997	0.848	--	--	0.997	0.775	1.195
06	4.3	0.998	0.998	0.850	--	--	0.998	0.795	1.175
05	3.1	0.996	0.996	0.848	--	--	0.996	0.808	1.157
04	2.1	0.995	0.995	0.847	--	--	0.995	0.820	1.142
03	1.3	0.991	0.991	0.843	--	--	0.991	0.826	1.130
02	0.7	0.900	0.900	0.745	--	--	0.900	0.735	1.121
01	0.3	0.821	0.821	0.642	--	--	0.821	0.637	1.115

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.850	--	--	1.001	0.763	1.215
15	21.1	0.999	0.999	0.848	--	--	0.999	0.757	1.219
14	18.3	1.000	1.000	0.849	--	--	1.000	0.751	1.228
13	15.7	0.999	0.999	0.847	--	--	0.999	0.743	1.235
12	13.3	0.999	0.999	0.847	--	--	0.999	0.736	1.243
10	11.1	0.994	0.994	0.843	--	--	0.994	0.726	1.249
09	9.1	0.990	0.990	0.839	--	--	0.990	0.731	1.238
08	7.3	0.987	0.987	0.836	--	--	0.987	0.749	1.214
07	5.7	0.991	0.991	0.840	--	--	0.991	0.772	1.192
06	4.3	0.994	0.994	0.842	--	--	0.994	0.792	1.173
05	3.1	0.995	0.995	0.844	--	--	0.995	0.807	1.156
04	2.1	0.997	0.997	0.846	--	--	0.997	0.821	1.143
03	1.3	0.998	0.998	0.847	--	--	0.998	0.831	1.132
02	0.7	0.939	0.939	0.786	--	--	0.939	0.778	1.124
01	0.3	0.825	0.825	0.644	--	--	0.825	0.640	1.118

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.980
(6) 0.982
(7) 0.990

(1) 1.098 (2) 1.131 (3) 1.115 (4) 1.106

5-HOLE PROBE	offset rake	centerline rake
upper	1.215	1.217
lower	1.252	1.261

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

offset rake / centerline rake

upper

offset rake:

0.685
0.691 0.999 0.708
0.702
ALPHA: 0.8
BETA: 0.8

centerline rake:

0.626
0.645 1.001 0.619
0.638
ALPHA: 0.5
BETA: -1.0

lower

offset rake:

0.574
0.617 0.991 0.711
0.573
ALPHA: -0.1
BETA: 4.1

centerline rake:

0.704
0.706 0.998 0.655
0.667
ALPHA: -1.7
BETA: -2.3

FLIGHT: 54 MACH: 0.955 ALTITUDE(ft): 25488. KEAS: 381.
PSINF(psia): 5.34 PTINF(psia): 9.59 TSINF(F): -19. TTINF(F): 60.
ALPHA(deg): 4.9 BETA(deg): 2.1 PHI(deg): 0.9

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.859	--	--	1.001	0.762	1.224
15	21.1	1.000	1.000	0.857	--	--	1.000	0.758	1.228
14	18.3	1.000	1.000	0.858	--	--	1.000	0.752	1.235
13	15.7	0.998	0.998	0.856	--	--	0.998	0.745	1.241
12	13.3	0.995	0.995	0.853	--	--	0.995	0.736	1.247
10	11.1	0.991	0.991	0.849	--	--	0.991	0.728	1.252
09	9.1	0.986	0.986	0.844	--	--	0.986	0.732	1.241
08	7.3	0.980	0.980	0.839	--	--	0.980	0.748	1.215
07	5.7	0.971	0.971	0.829	--	--	0.971	0.758	1.192
06	4.3	0.968	0.968	0.826	--	--	0.968	0.772	1.172
05	3.1	0.970	0.970	0.829	--	--	0.970	0.790	1.155
04	2.1	0.980	0.980	0.838	--	--	0.980	0.812	1.141
03	1.3	0.989	0.989	0.847	--	--	0.989	0.831	1.130
02	0.7	0.956	0.956	0.814	--	--	0.956	0.805	1.121
01	0.3	0.886	0.886	0.735	--	--	0.886	0.731	1.116

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.845	--	--	1.001	0.769	1.216
15	21.1	0.999	0.999	0.843	--	--	0.999	0.762	1.222
14	18.3	0.999	0.999	0.844	--	--	0.999	0.753	1.233
13	15.7	0.999	0.999	0.843	--	--	0.999	0.744	1.243
12	13.3	1.001	1.001	0.846	--	--	1.001	0.739	1.252
10	11.1	1.001	1.001	0.845	--	--	1.001	0.731	1.260
09	9.1	0.999	0.999	0.844	--	--	0.999	0.738	1.250
08	7.3	0.997	0.997	0.842	--	--	0.997	0.757	1.226
07	5.7	0.999	0.999	0.843	--	--	0.999	0.777	1.204
06	4.3	0.999	0.999	0.844	--	--	0.999	0.793	1.185
05	3.1	0.998	0.998	0.843	--	--	0.998	0.806	1.169
04	2.1	0.999	0.999	0.843	--	--	0.999	0.819	1.155
03	1.3	0.997	0.997	0.842	--	--	0.997	0.827	1.144
02	0.7	0.900	0.900	0.738	--	--	0.900	0.729	1.136
01	0.3	0.799	0.799	0.599	--	--	0.799	0.595	1.131

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.995
(6) 0.994
(7) 0.999
(1) 1.114 (2) 1.140 (3) 1.119 (4) 1.104

5-HOLE PROBE	offset rake	centerline rake
upper	1.216	1.224
lower	1.264	1.255

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.679			0.632	
	0.656	0.997	0.742	0.607	1.002	0.658
		0.699			0.633	
	ALPHA:	0.9		ALPHA:	0.0	
	BETA:	4.1		BETA:	2.0	
lower		0.576			0.695	
	0.591	0.997	0.746	0.658	0.986	0.693
		0.574			0.661	
	ALPHA:	-0.1		ALPHA:	-1.5	
	BETA:	6.6		BETA:	1.6	

FLIGHT: 54 MACH: 0.963 ALTITUDE(ft): 25733. KEAS: 382.
PSINF(psia): 5.28 PTINF(psia): 9.58 TSINF(F): -22. TTINF(F): 59.
ALPHA(deg): 4.8 BETA(deg): -1.7 PHI(deg): -4.2

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.858	--	--	1.001	0.765	1.233
15	21.1	1.000	1.000	0.856	--	--	1.000	0.761	1.237
14	18.3	1.001	1.001	0.857	--	--	1.001	0.755	1.245
13	15.7	1.000	1.000	0.856	--	--	1.000	0.747	1.252
12	13.3	0.998	0.998	0.855	--	--	0.998	0.740	1.259
10	11.1	0.997	0.997	0.854	--	--	0.997	0.734	1.265
09	9.1	0.993	0.993	0.850	--	--	0.993	0.739	1.253
08	7.3	0.995	0.995	0.852	--	--	0.995	0.763	1.228
07	5.7	0.995	0.995	0.851	--	--	0.995	0.782	1.205
06	4.3	0.998	0.998	0.854	--	--	0.998	0.802	1.185
05	3.1	0.998	0.998	0.854	--	--	0.998	0.817	1.168
04	2.1	0.999	0.999	0.855	--	--	0.999	0.830	1.154
03	1.3	0.998	0.998	0.854	--	--	0.998	0.838	1.142
02	0.7	0.935	0.935	0.790	--	--	0.935	0.781	1.134
01	0.3	0.851	0.851	0.690	--	--	0.851	0.685	1.128

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.896	--	--	1.003	0.770	1.229
15	21.1	1.000	1.000	0.893	--	--	1.000	0.771	1.225
14	18.3	1.000	1.000	0.893	--	--	1.000	0.778	1.216
13	15.7	0.998	0.998	0.892	--	--	0.998	0.783	1.209
12	13.3	0.991	0.991	0.884	--	--	0.991	0.781	1.202
10	11.1	0.957	0.957	0.852	--	--	0.957	0.751	1.195
09	9.1	0.936	0.936	0.830	--	--	0.936	0.740	1.181
08	7.3	0.908	0.908	0.799	--	--	0.908	0.724	1.161
07	5.7	0.904	0.904	0.795	--	--	0.904	0.736	1.144
06	4.3	0.920	0.920	0.813	--	--	0.920	0.769	1.128
05	3.1	0.941	0.941	0.835	--	--	0.941	0.805	1.115
04	2.1	0.965	0.965	0.859	--	--	0.965	0.839	1.104
03	1.3	0.960	0.960	0.854	--	--	0.960	0.842	1.095
02	0.7	0.908	0.908	0.800	--	--	0.908	0.793	1.089
01	0.3	0.819	0.819	0.690	--	--	0.819	0.687	1.084

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.991
(6) 0.999
(7) 1.008
(1) 1.097 (2) 1.065 (3) 1.124 (4) 1.123

5-HOLE PROBE	offset rake	centerline rake
upper	1.229	1.233
lower	1.192	1.267

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.683			0.628	
	0.737	0.998	0.660	0.680	1.001	0.579
		0.704			0.631	
	ALPHA:	1.0		ALPHA:	0.1	
	BETA:	-3.7		BETA:	-3.9	
lower		0.567			0.726	
	0.693	0.933	0.564	0.710	0.994	0.640
		0.567			0.638	
	ALPHA:	0.0		ALPHA:	-4.0	
	BETA:	-6.0		BETA:	-3.2	

FLIGHT: 55 MACH: 2.073 ALTITUDE(ft): 59408. KEAS: 370.
PSINF(psia): 1.07 PTINF(psia): 9.39 TSINF(F): -90. TTINF(F): 227.
ALPHA(deg): 5.1 BETA(deg): -0.1 PHI(deg): 0.1

CENTERLINE RAKE

TAP #	Y (in)	PPITOT /PTINF	---UNIFORM-PS-- PT/PTINF	MACH	---UNIFORM-PT-- MACH	PS/PSINF	----INTERPOLATED-PS---- PT/PTINF	MACH	PS/PSINF
16	24.1	0.669	0.995	2.104	2.091	0.972	0.955	2.043	1.000
15	21.1	0.666	0.986	2.099	2.098	0.962	0.946	2.036	1.002
14	18.3	0.666	0.986	2.098	2.098	0.961	0.943	2.033	1.005
13	15.7	0.664	0.982	2.096	2.102	0.957	0.938	2.028	1.007
12	13.3	0.666	0.988	2.100	2.097	0.964	0.942	2.029	1.010
10	11.1	0.664	0.983	2.096	2.101	0.957	0.935	2.023	1.012
09	9.1	0.663	0.978	2.093	2.105	0.952	0.935	2.026	1.007
08	7.3	0.661	0.975	2.091	2.108	0.948	0.940	2.037	0.995
07	5.7	0.662	0.977	2.093	2.106	0.951	0.949	2.050	0.985
06	4.3	0.663	0.978	2.093	2.105	0.952	0.957	2.061	0.976
05	3.1	0.663	0.980	2.094	2.104	0.953	0.964	2.070	0.968
04	2.1	0.658	0.967	2.086	2.114	0.938	0.956	2.070	0.962
03	1.3	0.649	0.944	2.070	2.135	0.909	0.937	2.060	0.957
02	0.7	0.538	0.687	1.865	2.409	0.591	0.685	1.860	0.953
01	0.3	0.412	0.460	1.601	2.753	0.347	0.460	1.599	0.950

OFFSET RAKE

TAP #	Y (in)	PPITOT /PTINF	---UNIFORM-PS-- PT/PTINF	MACH	---UNIFORM-PT-- MACH	PS/PSINF	----INTERPOLATED-PS---- PT/PTINF	MACH	PS/PSINF
16	24.1	0.661	0.983	2.075	2.109	0.946	0.943	1.834	1.200
15	21.1	0.654	0.970	2.063	2.123	0.925	0.929	1.839	1.183
14	18.3	0.649	0.961	2.054	2.136	0.907	0.920	1.858	1.152
13	15.7	0.637	0.942	2.034	2.162	0.870	0.900	1.866	1.122
12	13.3	0.622	0.922	2.007	2.198	0.823	0.879	1.866	1.095
10	11.1	0.618	0.914	1.999	2.207	0.811	0.870	1.884	1.070
09	9.1	0.627	0.925	2.015	2.187	0.838	0.884	1.919	1.049
08	7.3	0.641	0.945	2.041	2.153	0.884	0.911	1.963	1.032
07	5.7	0.653	0.964	2.062	2.125	0.922	0.937	1.999	1.017
06	4.3	0.654	0.966	2.063	2.124	0.924	0.944	2.015	1.003
05	3.1	0.651	0.961	2.057	2.132	0.913	0.946	2.023	0.991
04	2.1	0.648	0.952	2.052	2.138	0.904	0.941	2.029	0.982
03	1.3	0.635	0.922	2.029	2.168	0.862	0.916	2.015	0.974
02	0.7	0.543	0.693	1.861	2.395	0.604	0.691	1.854	0.968
01	0.3	0.374	0.418	1.499	2.862	0.294	0.417	1.496	0.964

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.059
(6) 1.104
(7) 1.014
(1) 0.953 (2) 0.969 (3) 0.945 (4) 0.951

5-HOLE PROBE	offset rake	centerline rake
upper	1.200	1.000
lower	1.059	1.013

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.387			0.336	
	0.369	0.664	0.384	0.310	0.672	0.302
		0.358			0.276	
	ALPHA:	-1.4		ALPHA:	-2.3	
	BETA:	0.8		BETA:	-0.3	
lower		0.213			0.366	
	0.256	0.629	0.361	0.338	0.662	0.331
		0.212			0.314	
	ALPHA:	0.0		ALPHA:	-2.3	
	BETA:	4.6		BETA:	-0.3	

FLIGHT: 55 MACH: 2.018 ALTITUDE(ft): 57360. KEAS: 378.
PSINF(psia): 1.18 PTINF(psia): 9.50 TSINF(F): -95. TTINF(F): 201.
ALPHA(deg): 5.9 BETA(deg): 1.4 PHI(deg): 1.9

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.688	1.020	2.101	2.052	0.949	0.992	2.060	0.930
15	21.1	0.675	0.988	2.080	2.078	0.911	0.959	2.036	0.933
14	18.3	0.672	0.980	2.075	2.085	0.901	0.947	2.024	0.938
13	15.7	0.668	0.970	2.068	2.092	0.890	0.934	2.012	0.943
12	13.3	0.658	0.945	2.051	2.114	0.861	0.907	1.990	0.948
10	11.1	0.647	0.916	2.032	2.140	0.827	0.878	1.966	0.952
09	9.1	0.641	0.902	2.021	2.153	0.810	0.867	1.960	0.948
08	7.3	0.646	0.913	2.029	2.143	0.823	0.884	1.980	0.938
07	5.7	0.654	0.935	2.044	2.123	0.848	0.911	2.005	0.929
06	4.3	0.658	0.943	2.050	2.116	0.858	0.925	2.020	0.921
05	3.1	0.660	0.950	2.055	2.110	0.867	0.936	2.033	0.914
04	2.1	0.659	0.946	2.052	2.113	0.862	0.937	2.037	0.909
03	1.3	0.656	0.938	2.046	2.120	0.852	0.932	2.037	0.904
02	0.7	0.610	0.829	1.967	2.226	0.723	0.826	1.962	0.901
01	0.3	0.476	0.560	1.712	2.574	0.420	0.559	1.710	0.899

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.675	1.001	2.040	2.079	0.909	0.974	1.861	1.096
15	21.1	0.672	0.983	2.035	2.085	0.901	0.954	1.865	1.087
14	18.3	0.672	0.979	2.035	2.085	0.900	0.947	1.881	1.070
13	15.7	0.670	0.973	2.033	2.088	0.896	0.937	1.894	1.055
12	13.3	0.674	0.967	2.039	2.080	0.908	0.929	1.915	1.040
10	11.1	0.673	0.953	2.037	2.083	0.904	0.913	1.926	1.027
09	9.1	0.671	0.943	2.033	2.088	0.897	0.907	1.939	1.012
08	7.3	0.668	0.945	2.029	2.093	0.889	0.915	1.952	0.995
07	5.7	0.670	0.957	2.032	2.089	0.895	0.932	1.972	0.980
06	4.3	0.667	0.957	2.028	2.095	0.887	0.938	1.982	0.968
05	3.1	0.666	0.957	2.025	2.098	0.882	0.944	1.992	0.957
04	2.1	0.661	0.949	2.017	2.109	0.868	0.939	1.994	0.947
03	1.3	0.644	0.921	1.988	2.147	0.818	0.915	1.974	0.940
02	0.7	0.521	0.708	1.766	2.453	0.506	0.706	1.760	0.935
01	0.3	0.349	0.410	1.392	2.937	0.241	0.409	1.390	0.931

STATIC PRESSURES (/PSINF)

SURFACE
(5) 1.012
(6) 1.129
(7) 0.959
(1) 0.928 (2) 0.929 (3) 0.904 (4) 0.890

5-HOLE PROBE	offset rake	centerline rake
upper	1.096	0.930
lower	1.021	0.954

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.389			0.342	
	0.358	0.676	0.400	0.307	0.687	0.319
		0.359			0.283	
	ALPHA:	-1.4		ALPHA:	-2.3	
	BETA:	2.0		BETA:	0.5	
lower		0.216			0.373	
	0.268	0.672	0.370	0.321	0.645	0.340
		0.214			0.299	
	ALPHA:	-0.1		ALPHA:	-3.4	
	BETA:	4.1		BETA:	0.8	

FLIGHT: 55 MACH: 1.943 ALTITUDE(ft): 56577. KEAS: 371.
PSINF(psia): 1.23 PTINF(psia): 8.78 TSINF(F): -93. TTINF(F): 184.
ALPHA(deg): 5.3 BETA(deg): -1.0 PHI(deg): 2.6

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.702	0.984	2.015	2.022	0.884	0.962	1.980	0.907
15	21.1	0.696	0.969	2.006	2.035	0.867	0.944	1.966	0.911
14	18.3	0.698	0.975	2.010	2.030	0.874	0.945	1.961	0.919
13	15.7	0.693	0.963	2.002	2.040	0.860	0.929	1.945	0.926
12	13.3	0.692	0.961	2.000	2.042	0.857	0.922	1.936	0.932
10	11.1	0.692	0.960	2.000	2.042	0.857	0.918	1.929	0.938
09	9.1	0.696	0.969	2.006	2.035	0.867	0.929	1.939	0.935
08	7.3	0.698	0.973	2.008	2.031	0.871	0.940	1.954	0.924
07	5.7	0.699	0.977	2.011	2.028	0.876	0.950	1.968	0.914
06	4.3	0.700	0.978	2.012	2.027	0.878	0.958	1.979	0.905
05	3.1	0.699	0.976	2.010	2.029	0.875	0.961	1.987	0.898
04	2.1	0.694	0.965	2.003	2.038	0.862	0.955	1.987	0.892
03	1.3	0.689	0.952	1.994	2.049	0.847	0.946	1.985	0.887
02	0.7	0.604	0.765	1.853	2.242	0.627	0.763	1.848	0.883
01	0.3	0.457	0.506	1.579	2.628	0.344	0.505	1.577	0.881

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.738	1.034	2.024	1.953	0.984	1.010	1.843	1.084
15	21.1	0.725	1.009	2.005	1.977	0.948	0.984	1.842	1.067
14	18.3	0.715	0.998	1.990	1.996	0.920	0.967	1.859	1.035
13	15.7	0.704	0.978	1.973	2.018	0.889	0.943	1.873	1.006
12	13.3	0.692	0.960	1.954	2.043	0.856	0.922	1.883	0.979
10	11.1	0.643	0.892	1.876	2.149	0.726	0.853	1.834	0.954
09	9.1	0.565	0.787	1.744	2.338	0.539	0.754	1.719	0.940
08	7.3	0.493	0.687	1.611	2.529	0.400	0.664	1.592	0.935
07	5.7	0.567	0.792	1.747	2.334	0.543	0.770	1.731	0.931
06	4.3	0.630	0.881	1.855	2.178	0.693	0.863	1.842	0.927
05	3.1	0.662	0.925	1.907	2.105	0.776	0.911	1.898	0.924
04	2.1	0.691	0.961	1.953	2.044	0.854	0.951	1.947	0.922
03	1.3	0.698	0.965	1.964	2.030	0.873	0.959	1.960	0.919
02	0.7	0.616	0.781	1.831	2.212	0.657	0.778	1.829	0.918
01	0.3	0.374	0.414	1.364	2.861	0.241	0.414	1.363	0.917

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.968
(6) 1.082
(7) 0.940
(1) 0.961 (2) 0.871 (3) 0.872 (4) 0.885

5-HOLE PROBE	offset rake	centerline rake
upper	1.084	0.907
lower	0.942	0.941

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.426			0.360	
	0.428	0.730	0.408	0.339	0.704	0.318
		0.397			0.298	
	ALPHA:	-1.3		ALPHA:	-2.4	
	BETA:	-0.9		BETA:	-0.8	
lower		0.236			0.388	
	0.323	0.600	0.300	0.361	0.696	0.355
		0.234			0.338	
	ALPHA:	-0.1		ALPHA:	-2.1	
	BETA:	-1.2		BETA:	-0.3	

FLIGHT: 55 MACH: 0.890 ALTITUDE(ft): 24686. KEAS: 361.
PSINF(psia): 5.53 PTINF(psia): 9.25 TSINF(F): -12. TTINF(F): 58.
ALPHA(deg): 6.3 BETA(deg): 0.4 PHI(deg): -30.1

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.994	0.994	0.843	--	--	0.994	0.761	1.134
15	21.1	0.990	0.990	0.840	--	--	0.990	0.753	1.139
14	18.3	0.992	0.992	0.842	--	--	0.992	0.746	1.148
13	15.7	0.991	0.991	0.841	--	--	0.991	0.737	1.157
12	13.3	0.992	0.992	0.841	--	--	0.992	0.730	1.165
10	11.1	0.993	0.993	0.842	--	--	0.993	0.724	1.172
09	9.1	0.988	0.988	0.838	--	--	0.988	0.729	1.162
08	7.3	0.992	0.992	0.842	--	--	0.992	0.754	1.139
07	5.7	0.989	0.989	0.838	--	--	0.989	0.770	1.118
06	4.3	0.993	0.993	0.843	--	--	0.993	0.791	1.100
05	3.1	0.989	0.989	0.839	--	--	0.989	0.801	1.085
04	2.1	0.990	0.990	0.839	--	--	0.990	0.814	1.072
03	1.3	0.989	0.989	0.838	--	--	0.989	0.823	1.061
02	0.7	0.894	0.894	0.736	--	--	0.894	0.726	1.054
01	0.3	0.817	0.817	0.633	--	--	0.817	0.628	1.048

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.995	0.995	0.839	--	--	0.995	0.769	1.126
15	21.1	0.989	0.989	0.833	--	--	0.989	0.758	1.132
14	18.3	0.991	0.991	0.835	--	--	0.991	0.751	1.142
13	15.7	0.990	0.990	0.834	--	--	0.990	0.740	1.151
12	13.3	0.994	0.994	0.838	--	--	0.994	0.737	1.160
10	11.1	0.994	0.994	0.838	--	--	0.994	0.729	1.168
09	9.1	0.992	0.992	0.836	--	--	0.992	0.735	1.160
08	7.3	0.991	0.991	0.835	--	--	0.991	0.754	1.138
07	5.7	0.992	0.992	0.835	--	--	0.992	0.772	1.119
06	4.3	0.992	0.992	0.835	--	--	0.992	0.788	1.102
05	3.1	0.988	0.988	0.831	--	--	0.988	0.797	1.088
04	2.1	0.989	0.989	0.833	--	--	0.989	0.809	1.076
03	1.3	0.991	0.991	0.835	--	--	0.991	0.821	1.066
02	0.7	0.911	0.911	0.749	--	--	0.911	0.741	1.059
01	0.3	0.806	0.806	0.608	--	--	0.806	0.604	1.054

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.948
(6) 0.947
(7) 0.944
(1) 1.038 (2) 1.064 (3) 1.047 (4) 1.042

5-HOLE PROBE	offset rake	centerline rake
upper	1.126	1.134
lower	1.172	1.175

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.678			0.622	
	0.680	0.986	0.707	0.639	0.995	0.617
		0.696			0.625	
	ALPHA:	0.9		ALPHA:	0.1	
	BETA:	1.3		BETA:	-0.9	
lower		0.543			0.695	
	0.611	0.987	0.711	0.701	0.989	0.651
		0.541			0.667	
	ALPHA:	-0.1		ALPHA:	-1.3	
	BETA:	4.4		BETA:	-2.3	

FLIGHT: 55 MACH: 0.892 ALTITUDE(ft): 24929. KEAS: 360.
PSINF(psia): 5.47 PTINF(psia): 9.17 TSINF(F): -16. TTINF(F): 54.
ALPHA(deg): 5.6 BETA(deg): 2.2 PHI(deg): 1.0

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.849	--	--	1.001	0.760	1.144
15	21.1	0.998	0.998	0.847	--	--	0.998	0.753	1.148
14	18.3	1.000	1.000	0.849	--	--	1.000	0.749	1.155
13	15.7	0.999	0.999	0.848	--	--	0.999	0.742	1.162
12	13.3	0.999	0.999	0.847	--	--	0.999	0.735	1.169
10	11.1	0.995	0.995	0.844	--	--	0.995	0.725	1.175
09	9.1	0.986	0.986	0.835	--	--	0.986	0.725	1.165
08	7.3	0.986	0.986	0.835	--	--	0.986	0.747	1.141
07	5.7	0.985	0.985	0.834	--	--	0.985	0.765	1.120
06	4.3	0.992	0.992	0.841	--	--	0.992	0.789	1.102
05	3.1	0.991	0.991	0.840	--	--	0.991	0.803	1.087
04	2.1	0.994	0.994	0.843	--	--	0.994	0.817	1.074
03	1.3	0.993	0.993	0.842	--	--	0.993	0.827	1.063
02	0.7	0.949	0.949	0.797	--	--	0.949	0.789	1.055
01	0.3	0.878	0.878	0.716	--	--	0.878	0.711	1.050

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.998	0.998	0.838	--	--	0.998	0.767	1.134
15	21.1	0.994	0.994	0.833	--	--	0.994	0.757	1.139
14	18.3	0.995	0.995	0.834	--	--	0.995	0.749	1.149
13	15.7	0.993	0.993	0.832	--	--	0.993	0.738	1.159
12	13.3	0.997	0.997	0.836	--	--	0.997	0.734	1.168
10	11.1	0.999	0.999	0.839	--	--	0.999	0.730	1.175
09	9.1	0.995	0.995	0.834	--	--	0.995	0.732	1.167
08	7.3	0.995	0.995	0.835	--	--	0.995	0.753	1.145
07	5.7	0.995	0.995	0.834	--	--	0.995	0.771	1.126
06	4.3	0.996	0.996	0.835	--	--	0.996	0.787	1.109
05	3.1	0.995	0.995	0.834	--	--	0.995	0.800	1.094
04	2.1	0.996	0.996	0.836	--	--	0.996	0.812	1.082
03	1.3	0.994	0.994	0.834	--	--	0.994	0.819	1.072
02	0.7	0.905	0.905	0.737	--	--	0.905	0.729	1.065
01	0.3	0.806	0.806	0.603	--	--	0.806	0.598	1.060

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.954
(6) 0.954
(7) 0.950

(1) 1.044 (2) 1.069 (3) 1.050 (4) 1.042

5-HOLE PROBE	offset rake	centerline rake
upper	1.134	1.144
lower	1.179	1.178

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.680			0.635	
	0.655	0.991	0.742	0.604	1.003	0.660
		0.697			0.626	
	ALPHA:	0.8		ALPHA:	-0.3	
	BETA:	4.3		BETA:	2.2	
lower		0.555			0.695	
	0.589	0.993	0.745	0.666	0.989	0.689
		0.552			0.666	
	ALPHA:	-0.1		ALPHA:	-1.3	
	BETA:	6.7		BETA:	1.1	

FLIGHT: 55 MACH: 0.906 ALTITUDE(ft): 25087. KEAS: 364.
PSINF(psia): 5.43 PTINF(psia): 9.25 TSINF(F): -14. TTINF(F): 59.
ALPHA(deg): 5.3 BETA(deg): -1.6 PHI(deg): 1.4

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.996	0.996	0.849	--	--	0.996	0.763	1.153
15	21.1	0.994	0.994	0.847	--	--	0.994	0.756	1.158
14	18.3	0.996	0.996	0.850	--	--	0.996	0.751	1.167
13	15.7	0.995	0.995	0.849	--	--	0.995	0.742	1.175
12	13.3	0.997	0.997	0.850	--	--	0.997	0.737	1.183
10	11.1	0.997	0.997	0.850	--	--	0.997	0.730	1.190
09	9.1	0.993	0.993	0.847	--	--	0.993	0.736	1.180
08	7.3	0.996	0.996	0.850	--	--	0.996	0.761	1.156
07	5.7	0.993	0.993	0.847	--	--	0.993	0.777	1.134
06	4.3	0.996	0.996	0.850	--	--	0.996	0.797	1.115
05	3.1	0.994	0.994	0.847	--	--	0.994	0.809	1.099
04	2.1	0.997	0.997	0.850	--	--	0.997	0.824	1.086
03	1.3	0.994	0.994	0.848	--	--	0.994	0.832	1.075
02	0.7	0.917	0.917	0.767	--	--	0.917	0.758	1.067
01	0.3	0.838	0.838	0.667	--	--	0.838	0.663	1.062

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.872	--	--	1.003	0.773	1.149
15	21.1	0.998	0.998	0.868	--	--	0.998	0.774	1.143
14	18.3	1.000	1.000	0.870	--	--	1.000	0.787	1.131
13	15.7	0.989	0.989	0.860	--	--	0.989	0.785	1.120
12	13.3	0.978	0.978	0.849	--	--	0.978	0.784	1.110
10	11.1	0.956	0.956	0.827	--	--	0.956	0.768	1.101
09	9.1	0.913	0.913	0.780	--	--	0.913	0.729	1.091
08	7.3	0.817	0.817	0.659	--	--	0.817	0.611	1.081
07	5.7	0.795	0.795	0.626	--	--	0.795	0.587	1.072
06	4.3	0.895	0.895	0.760	--	--	0.895	0.735	1.064
05	3.1	0.925	0.925	0.793	--	--	0.925	0.776	1.057
04	2.1	0.952	0.952	0.822	--	--	0.952	0.811	1.051
03	1.3	0.975	0.975	0.846	--	--	0.975	0.839	1.047
02	0.7	0.958	0.958	0.829	--	--	0.958	0.825	1.043
01	0.3	0.865	0.865	0.723	--	--	0.865	0.721	1.041

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.953
(6) 0.957
(7) 0.955

(1) 1.030 (2) 1.049 (3) 1.058 (4) 1.057

5-HOLE PROBE	offset rake	centerline rake
upper	1.149	1.153
lower	1.097	1.193

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.684			0.628	
	0.730	0.995	0.664	0.673	0.997	0.580
		0.702			0.620	
		ALPHA: 0.8			ALPHA: -0.3	
		BETA: -3.2			BETA: -3.6	
lower		0.545			0.719	
	0.731	0.915	0.520	0.714	0.993	0.639
		0.544			0.644	
		ALPHA: -0.1			ALPHA: -3.4	
		BETA: -10.0			BETA: -3.4	

FLIGHT: 55 MACH: 1.120 ALTITUDE(ft): 25736. KEAS: 444.
PSINF(psia): 5.28 PTINF(psia): 11.56 TSINF(F): -16. TTINF(F): 95.
ALPHA(deg): 4.1 BETA(deg): 0.1 PHI(deg): 0.8

CENTERLINE RAKE

TAP #	Y (in)	PPITOT /PTINF	---UNIFORM-PS-- PT/PTINF	MACH	---UNIFORM-PT-- MACH	PS/PSINF	----INTERPOLATED-PS---- PT/PTINF	MACH	PS/PSINF
16	24.1	0.991	0.991	0.982	--	--	0.991	0.775	1.459
15	21.1	0.989	0.989	0.980	--	--	0.989	0.768	1.466
14	18.3	0.991	0.991	0.982	--	--	0.991	0.762	1.477
13	15.7	0.989	0.989	0.981	--	--	0.989	0.753	1.487
12	13.3	0.992	0.992	0.983	--	--	0.992	0.749	1.497
10	11.1	0.991	0.991	0.982	--	--	0.991	0.741	1.506
09	9.1	0.987	0.987	0.979	--	--	0.987	0.758	1.477
08	7.3	0.989	0.989	0.981	--	--	0.989	0.803	1.416
07	5.7	0.985	0.985	0.977	--	--	0.985	0.837	1.362
06	4.3	0.990	0.990	0.982	--	--	0.990	0.876	1.315
05	3.1	0.988	0.988	0.979	--	--	0.988	0.903	1.275
04	2.1	0.988	0.988	0.979	--	--	0.988	0.927	1.241
03	1.3	0.981	0.981	0.973	--	--	0.981	0.941	1.214
02	0.7	0.803	0.803	0.785	--	--	0.803	0.765	1.194
01	0.3	0.699	0.699	0.632	--	--	0.699	0.621	1.180

OFFSET RAKE

TAP #	Y (in)	PPITOT /PTINF	---UNIFORM-PS-- PT/PTINF	MACH	---UNIFORM-PT-- MACH	PS/PSINF	----INTERPOLATED-PS---- PT/PTINF	MACH	PS/PSINF
16	24.1	0.994	0.994	0.964	--	--	0.994	0.781	1.455
15	21.1	0.989	0.989	0.959	--	--	0.989	0.772	1.460
14	18.3	0.990	0.990	0.960	--	--	0.990	0.767	1.468
13	15.7	0.989	0.989	0.959	--	--	0.989	0.760	1.476
12	13.3	0.992	0.992	0.962	--	--	0.992	0.758	1.483
10	11.1	0.984	0.984	0.955	--	--	0.984	0.746	1.490
09	9.1	0.978	0.978	0.949	--	--	0.978	0.757	1.464
08	7.3	0.971	0.971	0.944	--	--	0.971	0.788	1.411
07	5.7	0.975	0.975	0.947	--	--	0.975	0.826	1.365
06	4.3	0.980	0.980	0.951	--	--	0.980	0.860	1.324
05	3.1	0.986	0.986	0.957	--	--	0.986	0.891	1.289
04	2.1	0.988	0.988	0.959	--	--	0.988	0.914	1.260
03	1.3	0.987	0.987	0.958	--	--	0.987	0.930	1.236
02	0.7	0.861	0.861	0.831	--	--	0.861	0.815	1.219
01	0.3	0.707	0.707	0.616	--	--	0.707	0.607	1.207

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.947
(6) 0.951
(7) 0.886
(1) 1.181 (2) 1.216 (3) 1.187 (4) 1.154

5-HOLE PROBE	offset rake	centerline rake
upper	1.455	1.459
lower	1.493	1.510

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.659			0.603	
	0.679	0.987	0.698	0.635	0.992	0.601
		0.703			0.608	
	ALPHA:	2.0		ALPHA:	0.2	
	BETA:	0.9		BETA:	-1.3	
lower		0.409			0.685	
	0.601	0.976	0.689	0.700	0.988	0.632
		0.400			0.654	
	ALPHA:	-0.2		ALPHA:	-1.4	
	BETA:	3.8		BETA:	-3.0	

FLIGHT: 55 MACH: 1.120 ALTITUDE(ft): 25910. KEAS: 442.
PSINF(psia): 5.24 PTINF(psia): 11.47 TSINF(F): -25. TTINF(F): 84.
ALPHA(deg): 4.1 BETA(deg): 2.0 PHI(deg): -1.8

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.993	0.993	0.964	--	--	0.993	0.777	1.458
15	21.1	0.991	0.991	0.963	--	--	0.991	0.773	1.461
14	18.3	0.993	0.993	0.965	--	--	0.993	0.772	1.465
13	15.7	0.991	0.991	0.963	--	--	0.991	0.767	1.469
12	13.3	0.989	0.989	0.961	--	--	0.989	0.762	1.473
10	11.1	0.976	0.976	0.949	--	--	0.976	0.746	1.477
09	9.1	0.965	0.965	0.940	--	--	0.965	0.753	1.450
08	7.3	0.968	0.968	0.942	--	--	0.968	0.793	1.400
07	5.7	0.971	0.971	0.945	--	--	0.971	0.828	1.355
06	4.3	0.982	0.982	0.955	--	--	0.982	0.867	1.316
05	3.1	0.983	0.983	0.955	--	--	0.983	0.892	1.282
04	2.1	0.985	0.985	0.958	--	--	0.985	0.915	1.255
03	1.3	0.986	0.986	0.959	--	--	0.986	0.932	1.232
02	0.7	0.914	0.914	0.890	--	--	0.914	0.875	1.215
01	0.3	0.792	0.792	0.748	--	--	0.792	0.741	1.204

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.994	0.994	0.958	--	--	0.994	0.786	1.447
15	21.1	0.988	0.988	0.953	--	--	0.988	0.775	1.454
14	18.3	0.991	0.991	0.955	--	--	0.991	0.769	1.467
13	15.7	0.990	0.990	0.954	--	--	0.990	0.759	1.479
12	13.3	0.996	0.996	0.959	--	--	0.996	0.757	1.490
10	11.1	0.993	0.993	0.957	--	--	0.993	0.747	1.500
09	9.1	0.990	0.990	0.954	--	--	0.990	0.762	1.475
08	7.3	0.987	0.987	0.952	--	--	0.987	0.797	1.422
07	5.7	0.990	0.990	0.954	--	--	0.990	0.833	1.375
06	4.3	0.992	0.992	0.956	--	--	0.992	0.864	1.334
05	3.1	0.989	0.989	0.954	--	--	0.989	0.887	1.298
04	2.1	0.987	0.987	0.951	--	--	0.987	0.906	1.269
03	1.3	0.977	0.977	0.942	--	--	0.977	0.914	1.245
02	0.7	0.796	0.796	0.744	--	--	0.796	0.726	1.227
01	0.3	0.678	0.678	0.553	--	--	0.678	0.543	1.215

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.949
(6) 0.963
(7) 0.893
(1) 1.187 (2) 1.227 (3) 1.210 (4) 1.181

5-HOLE PROBE	offset rake	centerline rake
upper	1.447	1.458
lower	1.505	1.478

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.655			0.607	
	0.638	0.986	0.741	0.588	0.995	0.650
		0.700			0.610	
		ALPHA: 2.1			ALPHA: 0.1	
		BETA: 4.9			BETA: 2.4	
lower		0.412			0.669	
	0.567	0.986	0.738	0.634	0.968	0.677
		0.401			0.647	
		ALPHA: -0.3			ALPHA: -1.0	
		BETA: 7.2			BETA: 2.0	

FLIGHT: 55 MACH: 1.137 ALTITUDE(ft): 25976. KEAS: 449.
PSINF(psia): 5.23 PTINF(psia): 11.69 TSINF(F): -17. TTINF(F): 98.
ALPHA(deg): 4.1 BETA(deg): -1.8 PHI(deg): 1.5

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.989	0.989	1.020	1.197	0.926	0.962	0.768	1.481
15	21.1	0.988	0.988	1.019	1.203	0.919	0.959	0.763	1.487
14	18.3	0.991	0.991	1.021	1.188	0.937	0.958	0.757	1.497
13	15.7	0.988	0.988	1.019	1.205	0.917	0.950	0.745	1.507
12	13.3	0.990	0.990	1.020	1.191	0.933	0.949	0.740	1.516
10	11.1	0.988	0.988	1.019	1.203	0.919	0.941	0.730	1.524
09	9.1	0.985	0.986	1.016	1.221	0.897	0.953	0.756	1.490
08	7.3	0.988	0.988	1.019	1.204	0.918	0.976	0.815	1.421
07	5.7	0.987	0.987	1.017	1.215	0.905	0.982	0.859	1.360
06	4.3	0.992	0.992	1.022	1.182	0.945	0.990	0.903	1.307
05	3.1	0.991	0.991	1.021	1.185	0.941	0.991	0.936	1.261
04	2.1	0.991	0.991	1.021	1.187	0.938	0.991	0.963	1.223
03	1.3	0.986	0.986	1.017	1.220	0.899	0.986	0.980	1.192
02	0.7	0.823	0.823	0.855	--	--	0.823	0.833	1.169
01	0.3	0.705	0.705	0.695	--	--	0.705	0.684	1.154

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	0.993	0.993	1.023	1.170	0.959	0.966	0.781	1.472
15	21.1	0.989	0.989	1.019	1.201	0.921	0.959	0.781	1.465
14	18.3	0.990	0.990	1.020	1.193	0.931	0.957	0.793	1.452
13	15.7	0.987	0.987	1.018	1.209	0.912	0.949	0.800	1.439
12	13.3	0.986	0.986	1.016	1.221	0.898	0.945	0.807	1.428
10	11.1	0.945	0.945	0.980	--	--	0.945	0.778	1.417
09	9.1	0.932	0.932	0.967	--	--	0.932	0.787	1.386
08	7.3	0.919	0.919	0.956	--	--	0.919	0.809	1.338
07	5.7	0.932	0.932	0.967	--	--	0.932	0.853	1.295
06	4.3	0.952	0.952	0.986	--	--	0.952	0.901	1.258
05	3.1	0.969	0.969	1.002	1.318	0.788	0.969	0.941	1.226
04	2.1	0.975	0.975	1.006	1.288	0.821	0.974	0.965	1.199
03	1.3	0.905	0.905	0.942	--	--	0.905	0.915	1.178
02	0.7	0.759	0.759	0.774	--	--	0.759	0.757	1.162
01	0.3	0.650	0.650	0.597	--	--	0.650	0.588	1.151

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.925
(6) 0.956
(7) 0.888
(1) 1.120 (2) 1.167 (3) 1.169 (4) 1.116

5-HOLE PROBE	offset rake	centerline rake
upper	1.472	1.481
lower	1.413	1.528

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.652			0.604	
	0.725	0.986	0.647	0.679	0.990	0.550
		0.707			0.600	
	ALPHA:	2.6		ALPHA:	-0.1	
	BETA:	-3.7		BETA:	-4.9	
lower		0.400			0.716	
	0.649	0.918	0.552	0.709	0.985	0.612
		0.393			0.617	
	ALPHA:	-0.2		ALPHA:	-4.4	
	BETA:	-4.4		BETA:	-4.3	

FLIGHT: 55 MACH: 0.807 ALTITUDE(ft): 14952. KEAS: 401.
PSINF(psia): 8.31 PTINF(psia): 12.75 TSINF(F): 36. TTINF(F): 100.
ALPHA(deg): 4.6 BETA(deg): 0.1 PHI(deg): 2.7

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.810	--	--	1.001	0.740	1.067
15	21.1	0.999	0.999	0.809	--	--	0.999	0.735	1.071
14	18.3	1.002	1.002	0.811	--	--	1.002	0.730	1.079
13	15.7	1.000	1.000	0.810	--	--	1.000	0.722	1.085
12	13.3	1.001	1.001	0.811	--	--	1.001	0.716	1.092
10	11.1	1.002	1.002	0.811	--	--	1.002	0.711	1.097
09	9.1	0.999	0.999	0.809	--	--	0.999	0.716	1.090
08	7.3	1.001	1.001	0.811	--	--	1.001	0.736	1.071
07	5.7	1.000	1.000	0.809	--	--	1.000	0.751	1.055
06	4.3	1.002	1.002	0.812	--	--	1.002	0.768	1.041
05	3.1	1.000	1.000	0.810	--	--	1.000	0.778	1.029
04	2.1	1.001	1.001	0.811	--	--	1.001	0.789	1.019
03	1.3	1.001	1.001	0.810	--	--	1.001	0.797	1.010
02	0.7	0.936	0.936	0.741	--	--	0.936	0.733	1.004
01	0.3	0.866	0.866	0.653	--	--	0.866	0.650	1.000

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.809	--	--	1.003	0.746	1.063
15	21.1	0.999	0.999	0.805	--	--	0.999	0.739	1.066
14	18.3	1.001	1.001	0.806	--	--	1.001	0.735	1.072
13	15.7	0.999	0.999	0.805	--	--	0.999	0.728	1.078
12	13.3	1.000	1.000	0.806	--	--	1.000	0.723	1.083
10	11.1	0.996	0.996	0.802	--	--	0.996	0.714	1.087
09	9.1	0.988	0.988	0.793	--	--	0.988	0.712	1.081
08	7.3	0.982	0.982	0.787	--	--	0.982	0.722	1.065
07	5.7	0.983	0.983	0.788	--	--	0.983	0.737	1.051
06	4.3	0.984	0.984	0.790	--	--	0.984	0.751	1.038
05	3.1	0.989	0.989	0.795	--	--	0.989	0.767	1.028
04	2.1	0.995	0.995	0.801	--	--	0.995	0.782	1.019
03	1.3	0.998	0.998	0.804	--	--	0.998	0.793	1.012
02	0.7	0.968	0.968	0.773	--	--	0.968	0.767	1.007
01	0.3	0.870	0.870	0.655	--	--	0.870	0.652	1.003

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.959
(6) 0.954
(7) 0.942
(1) 0.988 (2) 1.013 (3) 0.998 (4) 0.996

5-HOLE PROBE	offset rake	centerline rake
upper	1.063	1.067
lower	1.089	1.100

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.700			0.646	
	0.701	0.998	0.710	0.652	1.003	0.631
		0.700			0.640	
	ALPHA:	0.0		ALPHA:	-0.3	
	BETA:	0.4		BETA:	-0.8	
lower		0.618			0.709	
	0.634	0.988	0.707	0.711	1.000	0.668
		0.614			0.676	
	ALPHA:	-0.2		ALPHA:	-1.6	
	BETA:	3.3		BETA:	-2.0	

FLIGHT: 55 MACH: 0.806 ALTITUDE(ft): 15043. KEAS: 400.
PSINF(psia): 8.28 PTINF(psia): 12.69 TSINF(F): 32. TTINF(F): 96.
ALPHA(deg): 4.7 BETA(deg): 2.2 PHI(deg): 2.4

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.807	--	--	1.001	0.737	1.069
15	21.1	1.000	1.000	0.806	--	--	1.000	0.733	1.072
14	18.3	1.002	1.002	0.808	--	--	1.002	0.729	1.078
13	15.7	1.001	1.001	0.807	--	--	1.001	0.722	1.084
12	13.3	1.001	1.001	0.807	--	--	1.001	0.716	1.089
10	11.1	0.998	0.998	0.804	--	--	0.998	0.709	1.094
09	9.1	0.991	0.991	0.797	--	--	0.991	0.708	1.087
08	7.3	0.990	0.990	0.796	--	--	0.990	0.725	1.069
07	5.7	0.987	0.987	0.793	--	--	0.987	0.738	1.054
06	4.3	0.991	0.991	0.797	--	--	0.991	0.755	1.040
05	3.1	0.991	0.991	0.797	--	--	0.991	0.767	1.029
04	2.1	0.994	0.994	0.800	--	--	0.994	0.780	1.019
03	1.3	0.997	0.997	0.804	--	--	0.997	0.791	1.012
02	0.7	0.972	0.972	0.777	--	--	0.972	0.770	1.006
01	0.3	0.910	0.910	0.708	--	--	0.910	0.705	1.002

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.805	--	--	1.003	0.749	1.060
15	21.1	0.999	0.999	0.801	--	--	0.999	0.741	1.064
14	18.3	1.001	1.001	0.803	--	--	1.001	0.735	1.071
13	15.7	1.000	1.000	0.802	--	--	1.000	0.727	1.078
12	13.3	1.003	1.003	0.805	--	--	1.003	0.724	1.085
10	11.1	1.003	1.003	0.805	--	--	1.003	0.718	1.091
09	9.1	1.000	1.000	0.802	--	--	1.000	0.721	1.084
08	7.3	1.000	1.000	0.802	--	--	1.000	0.737	1.068
07	5.7	1.001	1.001	0.803	--	--	1.001	0.752	1.054
06	4.3	1.001	1.001	0.803	--	--	1.001	0.765	1.042
05	3.1	1.000	1.000	0.802	--	--	1.000	0.774	1.031
04	2.1	1.000	1.000	0.802	--	--	1.000	0.783	1.022
03	1.3	1.000	1.000	0.802	--	--	1.000	0.791	1.015
02	0.7	0.936	0.936	0.733	--	--	0.936	0.726	1.010
01	0.3	0.841	0.841	0.609	--	--	0.841	0.606	1.006

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.962
(6) 0.958
(7) 0.946

(1) 0.993 (2) 1.015 (3) 1.000 (4) 0.998

5-HOLE PROBE	offset rake	centerline rake
upper	1.060	1.069
lower	1.093	1.096

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.696			0.653	
	0.662	0.998	0.749	0.612	1.003	0.679
		0.697			0.640	
	ALPHA:	0.0		ALPHA:	-0.5	
	BETA:	4.2		BETA:	2.7	
lower		0.625			0.699	
	0.600	0.998	0.753	0.667	0.994	0.712
		0.621			0.681	
	ALPHA:	-0.1		ALPHA:	-0.8	
	BETA:	6.7		BETA:	2.1	

FLIGHT: 55 MACH: 0.813 ALTITUDE(ft): 15564. KEAS: 400.
PSINF(psia): 8.11 PTINF(psia): 12.52 TSINF(F): 33. TTINF(F): 98.
ALPHA(deg): 4.7 BETA(deg): -1.7 PHI(deg): 0.9

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.817	--	--	1.001	0.746	1.069
15	21.1	1.000	1.000	0.816	--	--	1.000	0.741	1.073
14	18.3	1.002	1.002	0.818	--	--	1.002	0.736	1.080
13	15.7	1.000	1.000	0.817	--	--	1.000	0.728	1.086
12	13.3	1.001	1.001	0.818	--	--	1.001	0.723	1.092
10	11.1	1.001	1.001	0.818	--	--	1.001	0.718	1.098
09	9.1	0.998	0.998	0.815	--	--	0.998	0.722	1.090
08	7.3	1.001	1.001	0.818	--	--	1.001	0.744	1.072
07	5.7	0.999	0.999	0.816	--	--	0.999	0.758	1.055
06	4.3	1.002	1.002	0.819	--	--	1.002	0.775	1.041
05	3.1	1.000	1.000	0.817	--	--	1.000	0.785	1.029
04	2.1	1.001	1.001	0.817	--	--	1.001	0.796	1.018
03	1.3	1.001	1.001	0.817	--	--	1.001	0.804	1.010
02	0.7	0.949	0.949	0.763	--	--	0.949	0.755	1.004
01	0.3	0.876	0.876	0.676	--	--	0.876	0.672	1.000

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.832	--	--	1.003	0.748	1.069
15	21.1	0.999	0.999	0.828	--	--	0.999	0.747	1.066
14	18.3	1.001	1.001	0.830	--	--	1.001	0.754	1.061
13	15.7	1.000	1.000	0.829	--	--	1.000	0.758	1.056
12	13.3	0.997	0.997	0.826	--	--	0.997	0.759	1.051
10	11.1	0.977	0.977	0.806	--	--	0.977	0.742	1.047
09	9.1	0.947	0.947	0.774	--	--	0.947	0.717	1.039
08	7.3	0.906	0.906	0.728	--	--	0.906	0.679	1.028
07	5.7	0.878	0.878	0.693	--	--	0.878	0.654	1.018
06	4.3	0.913	0.913	0.736	--	--	0.913	0.707	1.010
05	3.1	0.939	0.939	0.766	--	--	0.939	0.746	1.003
04	2.1	0.961	0.961	0.790	--	--	0.961	0.777	0.997
03	1.3	0.980	0.980	0.810	--	--	0.980	0.802	0.992
02	0.7	0.964	0.964	0.793	--	--	0.964	0.788	0.988
01	0.3	0.883	0.883	0.699	--	--	0.883	0.697	0.986

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.960
(6) 0.955
(7) 0.943
(1) 0.984 (2) 0.985 (3) 0.998 (4) 0.996

5-HOLE PROBE	offset rake	centerline rake
upper	1.069	1.069
lower	1.045	1.100

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.700			0.648	
	0.744	0.998	0.667	0.684	1.003	0.592
		0.703			0.636	
	ALPHA:	0.2		ALPHA:	-0.5	
	BETA:	-3.7		BETA:	-3.6	
lower		0.622			0.730	
	0.741	0.945	0.556	0.721	0.999	0.650
		0.620			0.651	
	ALPHA:	-0.1		ALPHA:	-3.7	
	BETA:	-8.7		BETA:	-3.3	

FLIGHT: 55 MACH: 0.509 ALTITUDE(ft): 5790. KEAS: 303.
PSINF(psia): 11.87 PTINF(psia): 14.17 TSINF(F): 71. TTINF(F): 98.
ALPHA(deg): 6.3 BETA(deg): -0.1 PHI(deg): 1.6

CENTERLINE RAKE

TAP #	Y (in)	PPITOT /PTINF	---UNIFORM-PS-- PT/PTINF	MACH	---UNIFORM-PT-- MACH	PS/PSINF	----INTERPOLATED-PS---- PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.527	--	--	1.001	0.497	1.009
15	21.1	1.000	1.000	0.526	--	--	1.000	0.495	1.009
14	18.3	1.001	1.001	0.529	--	--	1.001	0.496	1.010
13	15.7	1.000	1.000	0.527	--	--	1.000	0.494	1.011
12	13.3	1.002	1.002	0.530	--	--	1.002	0.495	1.011
10	11.1	1.002	1.002	0.529	--	--	1.002	0.494	1.012
09	9.1	1.000	1.000	0.526	--	--	1.000	0.494	1.010
08	7.3	1.002	1.002	0.529	--	--	1.002	0.503	1.006
07	5.7	1.000	1.000	0.527	--	--	1.000	0.507	1.002
06	4.3	1.002	1.002	0.530	--	--	1.002	0.515	0.998
05	3.1	1.001	1.001	0.527	--	--	1.001	0.517	0.995
04	2.1	1.001	1.001	0.529	--	--	1.001	0.521	0.993
03	1.3	1.001	1.001	0.528	--	--	1.001	0.524	0.991
02	0.7	0.977	0.977	0.493	--	--	0.977	0.490	0.990
01	0.3	0.945	0.945	0.439	--	--	0.945	0.438	0.989

OFFSET RAKE

TAP #	Y (in)	PPITOT /PTINF	---UNIFORM-PS-- PT/PTINF	MACH	---UNIFORM-PT-- MACH	PS/PSINF	----INTERPOLATED-PS---- PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.527	--	--	1.003	0.504	1.006
15	21.1	1.000	1.000	0.522	--	--	1.000	0.499	1.007
14	18.3	1.001	1.001	0.525	--	--	1.001	0.500	1.007
13	15.7	1.000	1.000	0.523	--	--	1.000	0.497	1.008
12	13.3	1.002	1.002	0.527	--	--	1.002	0.499	1.009
10	11.1	1.003	1.003	0.527	--	--	1.003	0.498	1.010
09	9.1	1.000	1.000	0.522	--	--	1.000	0.496	1.008
08	7.3	1.000	1.000	0.523	--	--	1.000	0.502	1.005
07	5.7	0.999	0.999	0.522	--	--	0.999	0.506	1.002
06	4.3	0.999	0.999	0.522	--	--	0.999	0.509	0.999
05	3.1	0.999	0.999	0.521	--	--	0.999	0.512	0.997
04	2.1	1.000	1.000	0.523	--	--	1.000	0.517	0.995
03	1.3	1.000	1.000	0.523	--	--	1.000	0.520	0.993
02	0.7	0.984	0.984	0.499	--	--	0.984	0.497	0.992
01	0.3	0.938	0.938	0.421	--	--	0.938	0.420	0.991

STATIC PRESSURES (/PSINF)

SURFACE

(5) 0.987
(6) 0.984
(7) 0.977
(1) 0.987 (2) 0.994 (3) 0.986 (4) 0.990

5-HOLE PROBE	offset rake	centerline rake
upper	1.006	1.009
lower	1.010	1.012

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.841			0.813	
	0.834	0.998	0.837	0.808	1.003	0.799
		0.827			0.802	
	ALPHA:	-1.2		ALPHA:	-0.8	
	BETA:	0.2		BETA:	-0.6	
lower		0.821			0.836	
	0.796	0.999	0.839	0.835	1.000	0.815
		0.818			0.817	
	ALPHA:	-0.2		ALPHA:	-1.6	
	BETA:	3.4		BETA:	-1.7	

FLIGHT: 55 MACH: 0.523 ALTITUDE(ft): 5717. KEAS: 312.
PSINF(psia): 11.90 PTINF(psia): 14.34 TSINF(F): 63. TTINF(F): 91.
ALPHA(deg): 6.5 BETA(deg): 2.7 PHI(deg): -0.6

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.538	--	--	1.001	0.510	1.010
15	21.1	1.000	1.000	0.537	--	--	1.000	0.507	1.011
14	18.3	1.002	1.002	0.540	--	--	1.002	0.508	1.012
13	15.7	1.001	1.001	0.538	--	--	1.001	0.506	1.013
12	13.3	1.002	1.002	0.541	--	--	1.002	0.507	1.014
10	11.1	1.002	1.002	0.540	--	--	1.002	0.504	1.015
09	9.1	0.999	0.999	0.536	--	--	0.999	0.504	1.013
08	7.3	0.999	0.999	0.536	--	--	0.999	0.510	1.008
07	5.7	0.997	0.997	0.533	--	--	0.997	0.513	1.004
06	4.3	0.998	0.998	0.535	--	--	0.998	0.520	1.001
05	3.1	0.997	0.997	0.534	--	--	0.997	0.523	0.998
04	2.1	0.998	0.998	0.535	--	--	0.998	0.527	0.995
03	1.3	0.998	0.998	0.535	--	--	0.998	0.530	0.993
02	0.7	0.986	0.986	0.517	--	--	0.986	0.514	0.992
01	0.3	0.956	0.956	0.470	--	--	0.956	0.469	0.991

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.545	--	--	1.003	0.523	1.003
15	21.1	1.000	1.000	0.540	--	--	1.000	0.519	1.003
14	18.3	1.001	1.001	0.542	--	--	1.001	0.520	1.003
13	15.7	1.000	1.000	0.541	--	--	1.000	0.519	1.003
12	13.3	1.003	1.003	0.544	--	--	1.003	0.522	1.004
10	11.1	1.003	1.003	0.544	--	--	1.003	0.522	1.004
09	9.1	1.000	1.000	0.541	--	--	1.000	0.521	1.002
08	7.3	1.001	1.001	0.542	--	--	1.001	0.526	0.999
07	5.7	1.001	1.001	0.542	--	--	1.001	0.529	0.997
06	4.3	1.001	1.001	0.542	--	--	1.001	0.532	0.995
05	3.1	1.000	1.000	0.541	--	--	1.000	0.534	0.993
04	2.1	1.001	1.001	0.541	--	--	1.001	0.537	0.991
03	1.3	1.001	1.001	0.542	--	--	1.001	0.539	0.990
02	0.7	0.978	0.978	0.509	--	--	0.978	0.507	0.989
01	0.3	0.930	0.930	0.429	--	--	0.930	0.428	0.988

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.988
(6) 0.985
(7) 0.977
(1) 0.982 (2) 0.994 (3) 0.986 (4) 0.994

5-HOLE PROBE	offset rake	centerline rake
upper	1.003	1.010
lower	1.004	1.015

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.828			0.805	
	0.796	0.997	0.860	0.774	1.002	0.821
		0.814			0.795	
	ALPHA:	-1.1		ALPHA:	-0.7	
	BETA:	5.4		BETA:	3.3	
lower		0.813			0.811	
	0.752	0.998	0.867	0.802	0.999	0.838
		0.811			0.829	
	ALPHA:	-0.2		ALPHA:	1.4	
	BETA:	8.4		BETA:	2.8	

FLIGHT: 55 MACH: 0.496 ALTITUDE(ft): 5930. KEAS: 294.
PSINF(psia): 11.81 PTINF(psia): 13.97 TSINF(F): 63. TTINF(F): 88.
ALPHA(deg): 7.1 BETA(deg): -1.7 PHI(deg): 4.6

CENTERLINE RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.001	1.001	0.515	--	--	1.001	0.487	1.007
15	21.1	1.000	1.000	0.514	--	--	1.000	0.485	1.007
14	18.3	1.002	1.002	0.516	--	--	1.002	0.488	1.007
13	15.7	1.000	1.000	0.514	--	--	1.000	0.486	1.007
12	13.3	1.002	1.002	0.517	--	--	1.002	0.489	1.007
10	11.1	1.002	1.002	0.516	--	--	1.002	0.488	1.007
09	9.1	1.000	1.000	0.514	--	--	1.000	0.488	1.005
08	7.3	1.001	1.001	0.516	--	--	1.001	0.496	1.002
07	5.7	1.000	1.000	0.514	--	--	1.000	0.498	0.999
06	4.3	1.002	1.002	0.517	--	--	1.002	0.505	0.996
05	3.1	1.001	1.001	0.515	--	--	1.001	0.506	0.994
04	2.1	1.001	1.001	0.516	--	--	1.001	0.510	0.992
03	1.3	1.001	1.001	0.515	--	--	1.001	0.512	0.990
02	0.7	0.981	0.981	0.486	--	--	0.981	0.484	0.989
01	0.3	0.950	0.950	0.434	--	--	0.950	0.433	0.989

OFFSET RAKE

TAP	Y	PPITOT	---UNIFORM-PS--		---UNIFORM-PT--		----INTERPOLATED-PS----		
#	(in)	/PTINF	PT/PTINF	MACH	MACH	PS/PSINF	PT/PTINF	MACH	PS/PSINF
16	24.1	1.003	1.003	0.512	--	--	1.003	0.490	1.007
15	21.1	1.000	1.000	0.507	--	--	1.000	0.485	1.007
14	18.3	1.001	1.001	0.510	--	--	1.001	0.488	1.007
13	15.7	1.000	1.000	0.508	--	--	1.000	0.487	1.006
12	13.3	1.003	1.003	0.512	--	--	1.003	0.490	1.006
10	11.1	1.002	1.002	0.511	--	--	1.002	0.490	1.006
09	9.1	0.996	0.996	0.501	--	--	0.996	0.482	1.005
08	7.3	0.984	0.984	0.483	--	--	0.984	0.467	1.002
07	5.7	0.970	0.970	0.462	--	--	0.970	0.449	1.000
06	4.3	0.956	0.956	0.437	--	--	0.956	0.427	0.998
05	3.1	0.963	0.963	0.448	--	--	0.963	0.441	0.996
04	2.1	0.973	0.973	0.465	--	--	0.973	0.460	0.995
03	1.3	0.980	0.980	0.478	--	--	0.980	0.475	0.994
02	0.7	0.986	0.986	0.486	--	--	0.986	0.484	0.993
01	0.3	0.964	0.964	0.450	--	--	0.964	0.450	0.992

STATIC PRESSURES (/PSINF)

SURFACE
(5) 0.989
(6) 0.986
(7) 0.979
(1) 0.989 (2) 0.996 (3) 0.988 (4) 0.988

5-HOLE PROBE	offset rake	centerline rake
upper	1.007	1.007
lower	1.006	1.007

5 HOLE PROBE PRESSURES (/PTINF) AND FLOW ANGLES (deg) (viewed tail-on)

	offset rake			centerline rake		
upper		0.849			0.823	
	0.866	0.998	0.824	0.834	1.003	0.789
		0.838			0.810	
	ALPHA:	-1.0		ALPHA:	-1.0	
	BETA:	-3.9		BETA:	-3.4	
lower		0.834			0.860	
	0.849	0.995	0.803	0.855	1.000	0.804
		0.831			0.807	
	ALPHA:	-0.3		ALPHA:	-4.5	
	BETA:	-3.8		BETA:	-4.3	

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13. ABSTRACT (Maximum 200 words)

A flat plate and faired pod have been mounted on a NASA SR-71A aircraft for use as a supersonic flight experiment test bed. A test article can be placed on the flat plate; the pod can contain supporting systems. A series of test flights has been conducted to validate this test bed configuration. Flight speeds to a maximum of Mach 3.0 have been attained. Steady-state sideslip maneuvers to a maximum of 2° have been conducted, and the flow field in the test region has been surveyed. Two total-pressure rakes, each with two flow-angle probes, have been placed in the expected vicinity of an experiment. Static-pressure measurements have been made on the flat plate. At subsonic and low supersonic speeds with no sideslip, the flow in the surveyed region is quite uniform. During sideslip maneuvers, localized flow distortions impinge on the test region. Aircraft sideslip does not produce a uniform sidewash over the test region. At speeds faster than Mach 1.5, variable-pressure distortions were observed in the test region. Boundary-layer thickness on the flat plate at the rake was less than 2.1 in. For future experiments, a more focused and detailed flow-field survey than this one would be desirable.

14. SUBJECT TERMS
Flight testing, Flow distortion, Fluid flow, SR-71 aircraft, Supersonic inlet.

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