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INVESTIGATION OF A MIXED-COMPRESSION AXISYMMETRIC INLET SYSTEM AT MACH NUMBERS 0.6 TO 3.5

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16. Abstract

A 20-inch (50.8 cm) capture diameter model of a mixed-compression axisymmetric inlet system has been tested. The design Mach number was 3.5 and off-design performance was obtained by translation of the cowl. The inlet system was 1.4 capture diameters long, measured from the cowl lip to the engine face. Vortex generators were installed just downstream of the throat to reduce the total pressure distortion at the engine face. A boundary-layer removal system was provided on both the cowl and centerbody surfaces of the subsonic and supersonic diffuser. An engine airflow bypass system was located on the cowl surface just upstream of the engine face.

The major performance parameters of bleed mass-flow ratio, total-pressure recovery, and total-pressure distortion were determined as a function of bypass mass-flow ratio. Other results obtained were transonic additive drag, inlet tolerance to change in angle of attack, boundary-layer profiles,and surface-pressure distributions. At Mach number 3.5 and zero bypass, total-pressure recovery ranged from 84.5 to 89.5 percent at the engine face with a bleed mass-flow ratio of 14 to 21 percent. The total-pressure distortion level was about 5 percent. Testing was conducted at a tunnel total pressure of 15 psia which, at Mach number 3.5, corresponded to a unit Reynolds number of about 1.6×10^6/ft. In the supersonic range, data were obtained at Mach number increments of 0.25 between Mach numbers 1.5 and 3.5, and in the transonic range, at Mach number increments of 0.1 between Mach numbers 0.6 and 1.3. At all Mach numbers, data were obtained at four angles of attack between 0° and 8°.

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SYMBOLS

A_c	capture area
A_{min}	minimum area
A_x	local duct area normal to the inlet centerline
C_{D_a}	additive drag coefficient based on A_c
D	capture diameter 20 in. (50.8 cm)
d	local diameter
h	local height
l	local dimension
M	Mach number
m	mass flow
p	static pressure
p_t	total pressure
Δp_{t_2}	total pressure distortion parameter, $\dfrac{p_{t_{2max}} - p_{t_{2min}}}{\bar{p}_{t_2}}$
R	capture area radius
$\frac{r}{R}$	ratio of local radius to capture area radius
$\frac{x}{R}$	ratio of axial distance from the tip of the centerbody to the capture-area radius
$\left(\frac{x}{R}\right)_c$	ratio of axial distance from the cowl lip to the capture-area radius
$\left(\frac{x}{R}\right)_{lip}$	axial distance from the cone tip to the cowl lip ratioed to the capture-area radius
$\frac{\Delta x}{R}$	incremental, $\frac{x}{R}$

α angle of attack, deg

α_{uns} angle of attack for incipient unstart, deg

$(\bar{\ })$ average value

Subscripts

bl bleed

bp bypass

d downstream

i inlet lip (measured)(transonic results only)

l local

o inlet lip (theoretical)

u upstream

$_1$ throat

$_2$ engine face

∞ free stream

NOTE: The letters A, B, and C on the plotted and tabulated data refer to progressively restricted bleed exit settings, A being the maximum flow condition and C the most restricted.

INVESTIGATION OF A MIXED–COMPRESSION AXISYMMETRIC INLET SYSTEM AT MACH NUMBERS 0.6 TO 3.5

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SUMMARY

A 20-inch (50.8 cm) capture diameter model of a mixed-compression axisymmetric inlet system was tested at the design Mach number of 3.5 and off-design conditions. The variable geometry inlet system was 1.4 capture diameters long measured from the cowl lip to the engine face. Vortex generators were used just downstream of the throat to reduce the total-pressure distortion at the engine face. A boundary-layer removal system was provided on both the cowl and centerbody surfaces of the subsonic and supersonic diffuser. An engine airflow bypass system was located just upstream of the engine face. Struts similar to those used on a full-scale inlet system upstream of the engine face were not provided.

The main test objective was to investigate the major inlet parameters of bleed mass flow, total-pressure recovery, and total-pressure distortion at the engine face with various amounts of bypass mass flow. Tests were conducted over the Mach number range 0.6 to 3.5 at a wind-tunnel pressure of 15 psia which, at Mach number 3.5, corresponded to a unit Reynolds number of about 1.6×10^6/ft. Results were obtained at angles of attack from 0° and 8°.

The supersonic diffuser was designed with the aid of a computer program which employs the method of characteristics. The subsonic diffuser was designed to have a linear variation of Mach number with distance from the end of the throat to the engine face.

At Mach number 3.5 and with zero bypass the maximum total-pressure recovery ranged from 84.5 to 89.5 percent as the bleed mass-flow ratio increased from 14 to 21.5 percent and the total-pressure distortion remained approximately constant at 5 percent. At Mach numbers less than 3.5 and with zero bypass, maximum total-pressure recovery was generally about the same or slightly better, but total-pressure distortion was generally higher. Total-pressure recovery generally decreased slowly with increasing bypass throughout the Mach number range while total-pressure distortion remained about the same or slightly lower. Results obtained throughout the Mach number range at 2° angle of attack showed only small decreases in maximum total-pressure recovery and about the same total-pressure distortion. However, at larger angles of attack (5° and 8°), considerable decreases in maximum total-pressure recovery and increases in total-pressure distortion occurred.

Other results indicated that when operated at maximum pressure recovery (contraction ratio 7.22) at Mach number 3.5, the inlet unstarted at approximately 1° angle of attack. A small decrease in contraction ratio and withdrawal of the terminal shock wave downstream permitted operation without unstart to about 2.4° angle of attack with only a small performance penalty.

INTRODUCTION

As the design Mach number of cruise vehicles increases, the achievement of a satisfactory inlet system becomes more difficult. The attainment of high total-pressure recovery and low total-pressure distortion with small amounts of boundary-layer bleed has been demonstrated for inlets designed for Mach numbers 2.5 and 3.0. These results are shown in references 1, 2, and 3. However, at higher design Mach numbers, the requirement that the inlet system be as short as possible results in increasingly severe adverse pressure gradients acting on the boundary layer. Because of this, it was uncertain as to whether or not high total-pressure recovery and low total-pressure distortion could be achieved without excessive boundary-layer bleed. The main purpose of the study was, therefore, to investigate the major inlet parameters of total-pressure recovery and total-pressure distortion as a function of boundary-layer bleed. In addition, because an engine airflow bypass system was included in the design, it was desired to investigate the effect of bypass mass flow on the principle performance parameters. Reference 4 compares some of the present results with the results of references 1, 2, and 3.

The supersonic diffuser was designed with the aid of the computer program, which employs the method of characteristics (ref. 5). The subsonic diffuser was designed to yield a linear variation of Mach number with distance. The resulting model had a mixed-compression supersonic diffuser with a 20-inch (50.8 cm) capture diameter and was matched to a very short subsonic diffuser producing a length of 1.4 capture diameters measured from the cowl lip to the engine face. The model was designed so that, at Mach number 3.5, the shock wave from the conical centerbody was just upstream of the cowl lip. The area distributions required for operation throughout the Mach number range were achieved by translation of the cowl. Vortex generators were incorporated on the cowl and centerbody surfaces just downstream of the throat to reduce the total-pressure distortion at the engine face. A boundary-layer removal system to control boundary-layer separation was provided on both the cowl and centerbody surfaces. A bypass airflow system for simulating engine airflow matching and inlet restarting was provided on the cowl surface just upstream of the engine face. The model is shown in figure 1 installed in one of the supersonic wind tunnels.

At Mach number 3.5 and 0° angle of attack, various combinations of bleed hole patterns were investigated. This involved varying the expanse and location of the bleed holes in both the supersonic diffuser and the throat. Combinations were investigated until it became apparent that it would be difficult to further improve performance. Data were recorded at off-design Mach numbers and at angle of attack only with the bleed hole pattern that gave the best performance at Mach number 3.5 and 0° angle of attack and all reported results are for this single bleed hole pattern. Measurements were made of total-pressure recovery and total-pressure distortion at the engine face as a function of bleed mass flow or mass flow at the engine face. The effect of bypass mass flow on these parameters was also determined. Boundary-layer profiles, surface-pressure distributions, and bleed and bypass plenum-chamber pressures were also measured. Inlet sensitivity to unstarting caused by changes in angle of attack was also determined. In addition, experimental determination of transonic additive drag was made.

MODEL

Sketches of the model and instrumentation are shown in figures 2(a) and 2(b). The model had a 20-inch (50.8 cm) capture diameter and the required off-design inlet area variations were accomplished by translation of the cowl. The cowl had a sharp 15° lip and could be translated about 0.85 capture diameters. At the exit station a translating sleeve and fixed plug controlled the terminal shock-wave position. The outer shell was attached to four hollow struts mounted on the centerbody sting support. The struts supported the cowl and provided ducting for the centerbody bleed airflow to the free stream. Four separate bleed zones and a compartmented bypass zone each had a remotely controlled exit which regulated the flow from zero to full flow. Separation of the bleed zones and compartmentation of the bypass zone prevented recirculation of the flow from the higher to the lower pressure regions. To ensure low back pressures at the bleed and bypass exits, fairings were provided as shown in figure 2(a). Further details of the design and test instrumentation are discussed in the following sections.

DESIGN

The prime objective was the attainment of high total-pressure recovery and low total-pressure distortion at the engine face with a minimum amount of bleed mass flow at the design Mach number of 3.5. The performance at lower Mach numbers, however, was not overlooked. Other objectives were to attain low cowl drag and low transonic additive drag and to keep the inlet system as short as possible.

The design principles used were those that were successful for the inlets of references 1 to 4. These included the following: The supersonic diffuser would be of a mixed-compression type; the initial cone and external cowl angles would be small; and the pressure rise across shock-wave impingement points would be kept low. In addition, flow separation could be controlled by the proper location of boundary-layer bleed, and flow distortion in the subsonic diffuser could be reduced by vortex generators. The inlet coordinates are presented in table I and the important aspects of the design are considered in the following paragraphs.

Supersonic Diffuser

This portion of the inlet was designed with the aid of the computer program described in reference 5, which employs the method of characteristics. Figure 3 shows the flow field output from the computer program for the design Mach number of 3.5. To achieve low cowl drag an initial internal cowl angle of 0° was selected. The requirement for low spillage drag was satisfied by the selection of a cone with a 10° half angle for the initial surface of the centerbody, $x/R = 0$ to 1.636. Between $x/R = 1.636$ and 3.800 a linear rate of change of surface slope with distance was used so that the total turning of the surface was 15° at station $x/R = 3.800$. The remaining contours of the cowl and centerbody were tested using the computer program until the desired conditions were attained across the inlet throat. These conditions were a uniform Mach number of about 1.25 with essentially parallel flow and a total-pressure recovery of about 0.985. Another design constraint was that the pressure rise across the shock-wave reflections on the centerbody and cowl could not exceed the value for incipient boundary-layer separation as defined in reference 6. (Although the data in ref. 6 were obtained for two-dimensional flow, they have been used with apparent success for previous axisymmetric inlet designs.) The resulting design gave a capture mass flow at Mach number 1.0 of 33.5 percent and a cowl translation distance of about 0.67 capture diameter for operation throughout the Mach number range. No boundary-layer compensation was included in the design of the supersonic diffuser since previous experience (refs. 1, 2, and 3) indicated that with the boundary-layer removal system none would be required.

Subsonic Diffuser

The Mach number at the beginning of the subsonic diffuser was determined from the output of the computer program (fig. 3). In the throat region ($x/R = 4.225$ to 4.395), the centerbody and cowl surfaces diverged from one another at 2°. Because the cowl surface was a straight line from $(x/R)_c = 1.175$ to 1.535, the 2° divergence in the throat was maintained over a range of cowl translation distance. This arrangement located the minimum throat area on the centerbody at about $x/R = 4.26$ throughout the cowl translation from $(x/R)_{lip} = 2.825$ to 3.085. Translating the cowl farther aft shifted the minimum throat area to a forward limit of $x/R = 4.18$. These characteristics are illustrated in figure 4 by the inlet area distributions shown for the various Mach numbers tested. The remainder of the subsonic diffuser, from the aft end of the throat ($x/R = 4.395$) to the engine face ($x/R = 5.650$), was designed to have a linear Mach number variation, which was maintained to some degree at off-design Mach numbers. The location ($x/R = 5.650$) and area of the engine face were dictated by the fact that the same model used for previous tests at Mach number 3.0 was to be modified for the present investigation. Although this resulted in a short subsonic diffuser with an equivalent conical angle of 28° from the beginning of the throat to the engine face, it was believed that the vortex generators would reduce the total-pressure distortion at the engine face to an acceptable level. The area at the engine face was consistent with current estimates of an engine designed to operate at Mach number 3.5. The resulting contour provided a range of engine-face Mach numbers from about 0.15 at a free stream Mach number of 3.5 to about 0.40 at a free stream Mach number of 1.0. As in the case of the supersonic diffuser, no boundary-layer compensation was included in the design of the subsonic diffuser contour.

Bleed System

Figure 2(b) shows the bleed pattern used for all reported results and figure 3 shows the location of the bleed in the supersonic diffuser with respect to the design shock wave impingement locations.

Bleed zone 1 was located just upstream of the shock-wave impingement on the cowl. Bleed zone 2 was located just upstream of the second shock-wave impingement on the centerbody. Bleed zones 3 and 4 were located in the throat region on the cowl and centerbody surfaces, respectively, and provided a variation in bleed mass flow as the terminal shock wave moved in the throat. The tests reported in references 1 and 2 indicated that these locations would provide satisfactory control of boundary-layer growth. All bleed zones were drilled with holes with a diameter to capture radius ratio of 0.0125. Bleed zones 1 and 2 were drilled to provide a uniform porosity of 41.5 percent. Bleed zones 3 and 4 had an overall porosity of 20.8 percent. The bleed hole pattern in each zone could be altered by filling the holes with a plastic resin material. The method used to derive the final bleed pattern was described briefly in the introduction and is more fully described in the test procedure section.

Bypass System

The bypass system was located on the cowl surface just upstream of the engine face (fig. 2(b)). Sufficient area was provided so that at all test Mach numbers, all of the main duct flow could be diverted through the bypass. The largest bypass area was required at Mach number 2.0. The cowl surface was drilled with holes with a diameter to capture radius ratio of 0.0125 to provide an overall uniform porosity of 41.5 percent (fig. 2(b)). The final bypass area included a correction for the effective area of the holes and was based upon the work reported in reference 7. The flow passed through the porous area into a plenum chamber which was divided into three separate zones (fig. 2(b)), thereby reducing the possibility of recirculation of the flow. The flow then passed to the free stream through an exit which varied the flow rate from no flow to the maximum possible through the porous area.

Vortex Generators

Vortex generators were believed necessary to avoid high total-pressure distortion at the engine face. The generators, which were slightly taller than the anticipated height of the boundary layer, were located just downstream of the throat in order to induce the mixing action where the boundary layer was relatively thin. The spacing between them was chosen to ensure uniformly mixed flow at the engine face with a minimum number of generators. These considerations were based on previous experience (refs. 1 and 2). Other design details were based on the work reported in reference 8.

INSTRUMENTATION

Pressure instrumentation consisted of total- and static-pressure tubes as well as static-pressure orifices. The position of all moving parts was determined by the use of calibrated potentiometers. Six total-pressure rakes were provided at the simulated engine face. Each rake had six tubes spaced so as to provide an area weighted average total pressure. The tube spacing is shown in the sketch in table 2. Static-pressure rakes (fig. 2(a)) were located near the main duct exit and were arranged to give an area weighted average static pressure. Static-pressure orifices were located in single opposing rows along the top internal surfaces of the cowl and centerbody. They extended to the end of the subsonic diffuser. Boundary-layer rakes were located as shown in figure 2(b). Measurements from a seven-tube total-pressure rake, at the beginning of the throat, were used to evaluate the performance of the supersonic diffuser. Four-tube total-pressure rakes each with a single static-pressure tube were mounted in the centerbody bleed ducts. Four of these rakes were mounted in the outer duct and three in the inner duct (fig. 2(b)). Pressure orifices were located in the bleed and bypass plenum chambers. To evaluate additive drag for the transonic tests, four rakes were installed at the position of maximum centerbody diameter. Five total-pressure tubes and two static-pressure tubes were included on each rake. Both total- and static-pressure tubes were located to give area weighted average pressures.

TEST PROCEDURE

The investigation was conducted in the 8- by 7-foot, 9- by 7-foot, and 11- by 11-foot test sections of the Ames Aeronautics Division Wind Tunnels. The transonic Mach number range was investigated in 0.1 increments between Mach numbers 0.6 and 1.3 and the supersonic range was investigated in 0.25 increments between Mach numbers 1.5 and 3.5. Data were obtained at angles of attack of 0°, 2°, 5°, and 8°.

Supersonic Test

Attempts were made to reduce the bleed mass flow in the supersonic diffuser (bleed zones 1 and 2) by closing rows of holes in each zone. Only consecutive rows of holes were closed at either the forward or aft end of the porous areas so that the overall porosity of the open area remained at 41.5 percent. Reducing the bleed through zones 1 and 2 in this manner caused the inlet flow to become unstable making it difficult to maintain a started condition at or near the design contraction ratio and, in addition, resulted in relatively poor performance. In the throat region (bleed zones 3 and 4), distributed patterns of varying overall porosity were attempted by closing alternate rows of holes. The best performance was obtained by concentrating the throat bleed as far upstream as possible and by having three rows of holes open on each surface (fig. 2(b)). For the selected bleed pattern (fig. 2(b)), a contraction ratio that produced the best performance was determined experimentally. Three levels of bleed mass flow were then selected by varying only the throat bleed exit settings (zones 3 and 4), because reducing the supersonic bleed exit settings was detrimental to the performance. These correspond to bleed exit settings A, B, and C on the plotted data. Exit setting A represented the maximum bleed mass flow that could be removed for the selected boundary-layer bleed-hole pattern (holes choked). Exit settings B and C represented progressively reduced bleed mass-flow ratios. All reported data were obtained with these bleed exit settings and the selected bleed pattern.

Data were obtained at supersonic Mach numbers and at angle of attack with various fixed bypass exit settings. The exit settings were different for each Mach number and were selected to yield a range of bypass mass flows from 0 to the point where all the mass flow available at the engine face could be diverted through the bypass. Most of the data at angle of attack and at off-design Mach numbers was recorded with the centerbody positioned to provide nearly the maximum contraction ratio (lowest throat Mach number) at which the inlet would remain started.

Transonic Test

Transonic results (M_∞ = 0.6 to 1.3) were obtained with the bleed exits open and closed. The bypass exit was always closed for this Mach number range. The mass flow entering the inlet was determined from measurements from the rakes mounted at the maximum centerbody diameter. Bleed and engine-face mass flows were not measured independently because of insufficient pressure ratio to choke the exits.

MEASUREMENT TECHNIQUES AND ACCURACY

The following table presents the estimated uncertainties of the primary parameters:

Parameter	Accuracy
$\bar{p}_t/p_{t_\infty}$	±0.005
m_{bl}/m_∞	±0.005
m_{bp}/m_∞	±0.02
α	±0.10°
p/p_∞	±0.2
M_∞	±0.005
m_i/m_∞	±0.02, $\alpha = 0°$ and 2°
m_2/m_∞	±0.02, $\alpha = 0°$ and 2°

At angles of attack of 5° and 8°, mass-flow ratios (m_2/m_∞) and (m_i/m_∞) may be in error by ±0.050 or more because of increasing flow distortion with increasing angle of attack. The uncertainties of all the parameters except mass-flow ratio are believed to be well established on the basis of experience gained through previous tests in the Ames Aeronautics Division Wind Tunnels.

Each system used for measuring the bypass and boundary-layer bleed mass-flow rates was calibrated as follows: Each exit was varied from fully closed to fully open; the flow rates calculated from the pressure measurements and geometric flow areas in each duct were compared with simultaneously measured incremental changes in main duct mass flow. Appropriate calibration factors for the effective flow areas for each bleed duct and for the bypass duct were thus determined. For bleed mass flow, this technique is believed to give the stated accuracy since, even though the absolute magnitude of the main duct flow is known only to ±0.02, small changes in the main duct flow (0.10 or less) can be measured with much greater accuracy. Calibrations of the bleed flow ducts were made only at Mach number 3.5, but the results were believed to be equally valid at other Mach numbers as long as the exits were choked. Because the bypass involved large quantities of flow, calibrations were made at all Mach numbers, and it is believed that bypass mass flow was about as accurate as the main duct mass flow. No calibrations were made at angle of attack, but data are believed to be about as accurate at 2° as at 0°. At larger angles, increasing flow asymmetry could cause some circumferential flow in the plenum chambers which was not accounted for in the calibration procedure, and the accuracy would thus deteriorate. This procedure was used with apparent success in similar calibrations of the inlets described in references 1 and 2.

As stated previously, bleed and main duct mass flow were not measured in the transonic range because of insufficient pressure ratio to choke the exits. The inlet mass flow in this speed range was determined from rake measurements at the station of maximum centerbody diameter (additive drag rakes). These measurements were used to calculate the inlet mass-flow ratio and the total-momentum change from the free stream to the rake measurement station. They were also used with the pressure distribution on the centerbody, and a friction drag term, to compute the additive drag as explained in reference 9.

RESULTS AND DISCUSSION

The results of the investigation are presented in figures 5 to 46 and in tables 2 and 3. The inlet theoretical mass flow at 0° angle of attack is shown in figure 5 for all of the supersonic Mach numbers at which data were obtained. The mass flow plotted as a function of the location of the cowl lip was obtained from a subroutine of the computer program described in reference 5. The results obtained at Mach number 3.5 are shown in figures 6 to 21. The results shown on each of these figures are discussed in the following sections. Figures 22 to 37 show similar data for all other supersonic Mach numbers (3.25 to 1.55) but are not discussed because the discussion of the data obtained at Mach number 3.5 will suffice. Figures 38 to 43 summarize some of the results obtained throughout the supersonic Mach number range (3.50 to 1.55). A discussion of these results is included. Transonic performance is shown in figures 43 to 46 and these results are also discussed.

Bleed mass flow is used as a parameter for most of the plotted supersonic data instead of the more conventional mass flow at the engine face because it is believed to be more accurate. At 0° angle of attack, the mass flow at the engine face is obtained by subtracting the bleed and bypass mass flows from the theoretical mass flow entering the inlet. Data at angle of attack are shown as a function of mass flow at the engine face.

Data in tables 2 and 3 are from the individual tubes mounted at the engine face for the supersonic and transonic speed ranges, respectively. The sketch at the beginning of table 2 shows the location of each tube.

Table 4 is an index to the figures. Most of the off-design results include data for each Mach number tested. The quantities in parentheses were not varied for the data shown in each figure.

Performance at $M_\infty = 3.50$ Without Bypass

Supercritical performance-- Maximum pressure recovery does not necessarily occur at the maximum inlet contraction ratio that can be achieved without unstarting the inlet. This is shown in figures 6 and 7. Supercritical performance for various positions of the cowl lip and bleed exit setting A is shown by figure 6, and the cowl lip position is related to inlet contraction ratio by figure 7. Pressure recovery is virtually unaffected for the small range of cowl lip positions $(x/R)_{lip} = 2.830 - 2.840$. However, at $(x/R)_{lip} = 2.835$, the forwardmost position of the terminal shock wave was achieved without unstarting the inlet; hence, a higher pressure recovery and higher bleed mass-flow ratio resulted. For all cowl settings, total-pressure distortion remains low (about 8 percent or less) as long as the terminal shock wave moves within the confines of the porous bleed area in the throat (zones 3 and 4). Moving the terminal shock wave downstream of the throat bleed region causes a rapid loss in total-pressure recovery, a rapid rise in total-pressure distortion, and no further change in bleed mass-flow ratio. The forwardmost position of the cowl lip shown in figure 6, $(x/R)_{lip} = 2.825$, is nearly the maximum contraction ratio that could be obtained without unstarting the inlet and also represents a position for less than maximum performance.

In an effort to increase the engine-face pressure recovery for a given amount of bleed, different amounts of bleed back pressure were investigated for the cowl lip position giving maximum pressure recovery, $(x/R)_{lip} = 2.835$. Three combinations of bleed back pressure were selected, as described previously, and the results are shown in figure 8. These data represent the range of performance available for the selected boundary-layer bleed hole pattern. Restricting the throat bleed reduced the supercritical operating range of the inlet; that is, the combination of the change in bleed plus the change in pressure recovery over the useful operating range was greatly reduced. The range of performance was 89.5-percent recovery with 21.5-percent bleed to 84.5-percent recovery with 14-percent bleed.

Distortion– Total-pressure distortion was low (less than 8 percent) for all bleed exit settings over the useful operating range. The low level of distortion was attributable to the mixing action induced by the vortex generators and the fact that the final diffusion Mach number was low (about 0.15). The radial distortion profiles are shown in figure 9 for each bleed exit setting. All profiles are similar, but a progressively lower level of pressure recovery occurs as the bleed exits are restricted. In all cases the distortion from any single rake is about equal to the total distortion.

Bleed mass flow– The components of the total bleed of figure 8 are shown in figure 10. The bleed flow through each zone is plotted as a function of total-pressure recovery at the engine face. Most of the variation in supercritical bleed flow results from the change in the throat bleed (zones 3 and 4), although near maximum recovery changes also occur in the flow through bleed zone 2. The plenum-chamber pressure recoveries associated with these bleed flow are shown in figure 11. These recoveries together with the bleed mass flow are necessary to assess the drag penalties associated with the boundary-layer removal system. The higher bleed pressure recoveries (zones 3 and 4) occur when the bleed flow rates are highest and are caused by higher internal duct pressure. This is fortunate because higher pressure recoveries reduce the size of the bleed exit ducting required as well as provide a potential for lower bleed exit momentum drag coefficient.

Static-pressure distributions– Theoretical and experimental static-pressure distributions on the cowl and centerbody are shown in figure 12(a). This figure shows the distributions for the most upstream location of the terminal shock wave ($x/R = 4.10 - 4.20$) that can be achieved without unstarting the inlet. Subsonic flow occurs downstream of the point where the static-pressure rise (p/p_∞) is about 40. Only partial agreement was obtained between the theoretical and experimental pressure distributions. The locations of the shock-wave impingement are in good agreement if allowance is made for the fact that the experimental results were obtained with the cowl lip translated 0.025 x/R forward of the theoretical design position. Even so, the experimentally measured pressure rises across the impingement locations are higher than predicted with the computer program. The combination of the difference in impingement location and the effect of the boundary-layer displacement thickness could partially explain the discrepancy. The measured pressure rise of 3.03 across the second impingement point on the centerbody includes the rise through the terminal shock wave. Figures 12(b) and 12(c) show the experimental pressure distributions as the terminal shock wave is withdrawn progressively downstream.

Flow profiles– The effectiveness of the boundary-layer removal system in controlling the boundary-layer growth is shown by figure 13. Pitot-pressure profiles upstream of, between, and downstream of each porous bleed area are shown in addition to a profile across the inlet throat. Near the inlet throat ($x/R \cong 4.20$) boundary-layer height was the same ($h/R = 0.020$) on both cowl and centerbody. On the cowl side of the flow passage, profiles upstream and downstream of the throat bleed ($x/R = 4.18$ and 4.38) show that the boundary layer is well controlled. However, on the centerbody side, near the same axial location, the thickness of the low pitot-pressure region adjacent to the wall increased. This increase occurred over the relatively short distance $x/R = 4.200$

to 4.225 and was believed to be caused by a rapid turning of the flow in this region (about 12°). This phenomenon could represent either an increase in boundary-layer thickness or a local reacceleration of the flow.

Attitude sensitivity with fixed geometry– The previous discussion has considered only the steady-state performance at 0° angle of attack. Also of importance is the sensitivity of the inlet to sudden changes in the approaching flow conditions such as might be caused by gusts. A gust could suddenly change the local angle of attack by 2° to 3° before the inlet could respond with a change in geometry. Figure 14 shows the inlet tolerance to changes in angle of attack. In this figure the total-pressure recovery at 0° angle of attack has been plotted for three contraction ratios (positions of the cowl lip). The indicated angles (α_{uns}) represent the limiting angle of attack, at various points along the supercritical operating curves (starting from 0°), to which the model can be pitched, with no geometry change, without unstarting the inlet. As an example, with the inlet operating at $(x/R)_{lip} = 2.840$ and maximum pressure recovery, the angle of attack can be changed only to 0.3° without unstarting the inlet. If the pressure recovery is reduced by moving the terminal shock wave downstream, the angle of attack to which the inlet can be pitched without unstarting increases to 2° and does not change as the shock wave is moved farther downstream. Decreasing the contraction ratio (increasing $(x/R)_{lip}$) increased the tolerance to changes in angle of attack. It should be noted that the data were acquired with a system capable only of slowly changing the angle of attack so that a sudden gust was not simulated.

Performance at $M_\infty = 3.50$ With Bypass

Supercritical performance– For steady state, on design operation, a matched inlet-engine combination probably will require little or no bypass airflow. However, the bypass system can serve to stabilize the position of the terminal shock wave when transient disturbances are encountered, assist in restarting the inlet in the event of an unstart, or permit establishment of stable inlet flow in the event of serious engine malfunction. The effect of the bypass on the principle performance parameters as a function of mass flow at the engine face is shown in figure 15. Each curve shown corresponds to a fixed bypass exit opening. Small quantities of bypass mass flow have little effect on maximum pressure recovery while the larger quantities tend to reduce the maximum pressure recovery. The distortion remains low (about 5 percent) near the maximun pressure recovery for each bypass exit setting. Figure 16 shows the same principle performance parameters as figure 15 plotted as a function of bleed mass-flow ratio. Subtracting the sum of the mass-flow ratios of figures 15 and 16 from the mass-flow ratio of 1.000 entering the inlet gives the bypass mass-flow ratio.

Penalties– In order to assess the drag penalties associated with the bypass system, the pressure recovery in the bypass plenum chamber must be known as well as the quantity of bypass mass flow. Figure 17 shows the bypass plenum-chamber pressure recovery as a function of bleed mass-flow ratio. Bleed mass-flow ratio is used as a parameter because the data can be plotted conveniently with an expanded scale compared to that required if mass flow at the engine face were used. Comparison of the bypass plenum-chamber pressure (fig. 17) with the total-pressure recoveries at the engine face (fig. 16) shows that the total-pressure loss of the bypass air in flowing from the main duct through the perforated walls to the bypass plenum chamber increases with increasing bypass mass flow. This is an unfavorable effect because reduced pressure recovery tends to reduce the available momentum of the bypass air and increases bypass drag coefficient.

Effect on distortion— At or near maximum pressure recovery, the total distortion parameter does not change as the bypass mass flow increases. However, the shape of the total-pressure profiles at the engine face does change. Figure 18 shows the total-pressure recovery profiles at the engine face for two typical rakes on opposite sides of the duct (see figure in table 2). A profile is presented for each of the maximum pressure recovery points shown in figure 15. Bypass mass-flow ratios of 0.02 or greater tend to improve the pressure recovery on the cowl side of the flow passage but at the expense of the pressure recovery on the centerbody side. The distortion is almost totally radial except for the case of maximum bypass where the distortion is mainly circumferential. The following paragraph gives a possible explanation for the increase in pressure recovery on the cowl side of the flow passage when the bypass is open.

Figure 19 shows the effect of bypass mass flow on the surface static-pressure distributions. Along the upstream portion of the bypass area ($x/R = 5.025$ to 5.175) on the cowl, the static pressure generally decreases as the bypass mass flow increases, while downstream of this location small amounts of bypass mass flow (up to about 6 percent) increase the surface static pressure. This indicates that flow separation may be occurring near $x/R = 5.175$ and is probably being eliminated by small amounts of bypass. On the centerbody no evidence of flow separation was found so, as might be expected, increasing bypass decreased the static pressure. The apparent separation point on the cowl coincides with a relatively rapid change in local surface slope and could be reduced or eliminated by recontouring the cowl surface.

Angle of attack— Figure 20 shows the maximum pressure recovery and associated bleed mass-flow ratio and distortion as a function of bypass mass-flow ratio at angles of attack of 0°, 2°, 5°, and 8°. These data are important because of the question of whether or not a system that performs well at small angles of attack will operate satisfactorily at larger angles. Data at 0° angle of attack were obtained with a number of fixed bypass exit areas, and the data at 2°, 5°, and 8° were obtained with no bypass and with two other bypass exit areas. Flags indicate bypass exit openings maintained at all angles of attack. Increasing angle of attack decreased bypass mass flow because internal duct pressure was reduced. The largest bypass opening was sufficient to divert all the main duct flow through the bypass at angles of attack of 0° and 2° (half-filled symbols). At any given angle of attack, changes in bypass mass flow have only small effects on the maximum pressure recovery, bleed mass-flow ratio, and distortion. However, changes in angle of attack result in large changes in these quantities. The cause of these changes will be discussed in the following paragraph.

Inlet-engine matching— Figure 21 shows the supercritical performance of the inlet at angle of attack with zero bypass and with a fixed bypass exit opening. Data with bypass are included because the normal mode of operation at 0° angle of attack may require a small amount of bypass. All data were obtained at contraction ratios slightly less than that which would cause inlet unstart. For reference, a constant corrected weight flow line has been added. Maintaining a started inlet at angle of attack requires a reduction in the inlet contraction ratio (cowl translation) which increases spillage flow and distortion and decreases internal duct pressure and bleed mass flow. The reduced contraction ratio and correspondingly higher terminal shock Mach number with a more nonuniform profile partially account for the reduced pressure recovery and increased distortion. These effects result in a change in engine face corrected weight flow. In the usual operation the bypass flow must be adjusted to satisfy the engine demand. At 2° angle of attack the engine requirements can be met without additional bypass. At 5° angle of attack, about 10-percent bypass is required, and at 8°, about 30 percent. However, at 8° the distortion may be unacceptably high.

Off-Design Supersonic Performance

Data for Mach numbers from 3.25 to 1.55 are presented in a form identical to that for Mach number 3.5. No analysis of these data (figs. 22 to 37) will be made since the trends and analysis presented for the data at Mach number 3.5 will, in general, be sufficient for understanding the off-design data. Table 4 indicates the type of data contained in these figures.

Maximum Pressure Recovery Performance at Supersonic Speeds

Figures 38 and 39 show maximum pressure recovery data obtained throughout the supersonic Mach number range. Included with the maximum pressure recoveries are the associated distortions and bleed mass flows without bypass at angles of attack up to 8°, and with bypass at 0° angle of attack.

Figures 38(a) to (c) show the maximum performance throughout the supersonic Mach number range for three bleed levels and no bypass. In general, at 0° angle of attack, maximum pressure recovery increases with decreasing Mach number. At Mach number 2.25 the pressure recovery is somewhat lower, possibly because of the change in bleed. This is particularly evident on the curves for bleed exit setting A where the bleed at Mach number 2.25 is considerably less than that at the next higher Mach number. The curves for bleed exit settings B and C show smaller reductions in pressure recovery and correspondingly smaller reductions in bleed mass flow. The reason for the low pressure recovery at Mach number 2.0 is not fully understood, but may be due to the relative misalinement of the cowl and centerbody bleed surfaces. At Mach number 1.75 pressure recovery improves more than 5 percent and coincides with the Mach number where the inlet becomes self-starting (no cowl translation required to ingest the terminal shock system). The distortion is below about 10 percent over the entire Mach number range.

For 2° angle of attack, similar trends were observed. For angles of attack of 5° and 8°, substantial decreases in pressure recovery and increases in distortion occur. As might be expected, the losses in performance with increasing angle of attack are less severe at the lower Mach numbers.

Figures 39(a) to (c) show the maximum performance as a function of bypass mass-flow ratio for three bleed levels. The half-filled symbols indicate that all the inlet flow has been diverted through the bypass. Only small decreases in pressure recovery occur over relatively large ranges of bypass mass flow. Distortion remains acceptably low over the entire range of bypass mass flow. Data that show an increase in pressure recovery with small amounts of bypass are probably the result of control of local flow separation on the cowl. In these cases, further increasing bypass mass flow reduces pressure recovery, which is caused by losses on the centerbody side of the flow passage (see fig. 34).

Unstarted Inlet Performance

Figure 40 shows, at 0° angle of attack, the cowl lip position that caused the inlet to unstart and the position that allows the inlet to restart (see fig. 7 for relationship between cowl translation and contraction ratio). A cowl translation distance of about 0.65 x/R is required to achieve inlet restart at Mach number 3.5, and this value decreases until, at Mach number 1.75 and below, the inlet is self-starting; that is, no cowl translation is required to restart. Figure 41 shows the effect of unstarting the inlet on the principle performance parameters. The circles represent maximum values of pressure recovery and related values of distortion and bleed mass-flow ratio prior to unstart. The half-filled circles represent these quantities after the inlet unstarts. The pressure recovery and distortion during unstarted operation are subject to wide variation because of the unsteadiness of the flow. The generally low level of pressure recovery and high level of distortion indicate the low quality of the flow at the engine face during unstarted operation of the inlet. Figures 42 and 43 indicate the changes that occur in the individual bleed flows and plenum-chamber pressure recoveries when the inlet unstarts. These quantities aid in the assessment of the attendant drag penalties.

Transonic Performance

The performance in the Mach number range up to 1.3 is treated separately because additive drag is a major portion of the presentation, and bleed and bypass mass-flow measurements were not made. Data were obtained with the bleed exits both open and closed but the bypass was closed for all testing.

Figure 44 shows the data obtained up to Mach number 1.3 with the bleed exits open. Achievement of high pressure recovery and low distortion requires some increase in additive drag over the minimum value as well as some reduction in the inlet mass-flow capability. The results obtained with the bleed exits open and closed are compared in figure 45. The conditions for relatively large mass flows show little change in pressure recovery. However, at reduced mass-flow conditions, pressure recovery decreases when the bleed exits are closed. The distortion may be unacceptably high, particularly at the higher Mach numbers, for the conditions at high mass flow.

Data obtained at angles of attack up to 8° and Mach numbers up to 1.0 are shown in figure 46. The data shown are for the intermediate cowl lip position, $(x/R)_{lip} = 4.030$ and with the bleed exits both open and closed. Because of flow asymmetry it was believed that inlet mass-flow measurements at angle of attack would be unreliable and no attempt was made to make these measurements. Therefore, since the inlet geometry was the same at all angles of attack, the data are based on the assumption that the capture mass flow was the same as at 0°. With the exception of 8° angle of attack, the data obtained with the bleed exits open show a continuing increase in pressure recovery with a decrease in mass flow. With the bleed exits closed pressure recovery increases and then decreases as the mass flow is decreased. As was the case at 0°, the distortion at angle of attack may be unacceptably high for conditions of high mass flow.

CONCLUDING REMARKS

A 20-inch capture diameter model of a mixed-compression axisymmetric inlet system designed for a Mach number of 3.5 has been tested. Some of the main conclusions to be drawn from the results are as follows.

The total-pressure recovery measured in the supersonic diffuser was somewhat below theoretical predictions partially, at least, because the oblique shock waves were stronger than predicted. In addition, in the vicinity of the throat ($x/R = 4.200$ to 4.225), a rapid increase in the thickness of the region of low pitot pressure occurred on the centerbody surface. This increase corresponded to an area of rapid change in centerbody surface slope (12° turning between $x/R = 4.200$ and 4.225). It is believed that a more uniform throat pitot-pressure profile could be obtained by reducing the rate of turning of the centerbody surface.

At the engine face with zero bypass mass flow, relatively low levels of total-pressure recovery were obtained on the cowl side of the flow passage. With small amounts of bypass mass flow the pressure recovery on the cowl side generally increased and that on the centerbody generally decreased. The increase in pressure recovery on the cowl side was believed to be due to the effect of the bypass in reducing local flow separation on the cowl in the vicinity of the engine face. Flow separation was thought to be caused by an excessive rate of change in local surface slope in the region of the bypass. The overall effect of increasing bypass mass flow (at a fixed-bleed mass flow) was a general reduction in average total-pressure recovery with little or no change in the average total-pressure distortion.

Control of the boundary layer was accomplished with four porous bleed areas. The boundary layer in the supersonic diffuser was controlled by bleeding just upstream of two internal shock-wave impingement locations. Bleed in the throat region resulted in increased bleed mass flow and total-pressure recovery at the engine face as the terminal shock moved upstream in the throat region. Altering the throat bleed exits and hence the throat bleed back pressures varied the characteristic performance curves of bleed versus pressure recovery. Attempts to vary performance by increasing the back pressure of the bleeds in the supersonic diffuser resulted in the inability to achieve an inlet contraction ratio sufficient for high performance. At the design Mach number of 3.5 the total bleed flow rates appeared to be large, but compared with the trend of the total bleed flow rates of the inlets designed for lower Mach numbers, they may not be excessive. At off-design Mach numbers, the total bleed flow rates appeared to be excessive compared to those of the inlets designed for lower Mach numbers. A large portion of the off-design bleed flow was removed through the forward cowl bleed which, at the design Mach number, was just upstream of the shock-wave impingement. For off-design operation this bleed area moved well into the subsonic diffuser, where the pressures were relatively high; consequently, more bleed flow was removed from the cowl surface than was necessary for good performance. If the forward cowl bleed were relocated downstream of the shock-wave impingement location at the design condition, where the pressures are somewhat higher, the expanse of the porous area could perhaps be reduced. This would result in about the same amount of bleed at the design Mach number, but should reduce off-design bleed.

Over the useful supercritical range and at low angles of attack, vortex generators, just downstream of the throat on both cowl and centerbody surfaces, appeared to be effective in maintaining low total-pressure distortion at the engine face over the entire Mach number range. However, because the Mach number of the engine face was low at the higher free-stream Mach numbers (about 0.15 at $M_\infty = 3.5$), low distortion may be easier to achieve than would be the case for inlets designed for higher engine face Mach numbers.

If, at 0° angle of attack, the inlet was operated supercritically and at slightly less than the contraction ratio for best performance, the inlet remained started with changes in angle of attack of up to 2°. Such operation reduced the maximum pressure recovery about 1 to 3 percent without changing distortion.

Ames Research Center
National Aeronautics and Space Administration
Moffett Field, Calif., 94035, July 14, 1970

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Table 1.- INLET COORDINATES

CENTERBODY

$\frac{x}{R}$	$\frac{r}{R}$
0	0
Straight taper	
1.636	.288
1.800	.318
2.000	.356
2.200	.395
2.400	.436
2.600	.479
2.800	.524
3.000	.570
3.200	.618
3.400	.667
3.600	.718
3.700	.744
3.800	.771
3.825	.777
3.850	.783
3.875	.788
3.900	.793
3.925	.797
3.950	.801
3.975	.804
4.000	.807
4.025	.809
4.050	.811

$\frac{x}{R}$	$\frac{r}{R}$
4.075	.813
4.100	.814
4.125	.815
4.150	.815
4.180	.8155
4.200	.815
4.220	.814
4.225	.813
Straight taper	
4.395	.776
4.450	.764
4.550	.739
4.650	.713
4.750	.686
4.850	.657
4.950	.624
5.050	.591
5.150	.555
5.250	.517
5.350	.475
5.450	.436
5.550	.408
5.600	.402
5.650	.400

Straight line

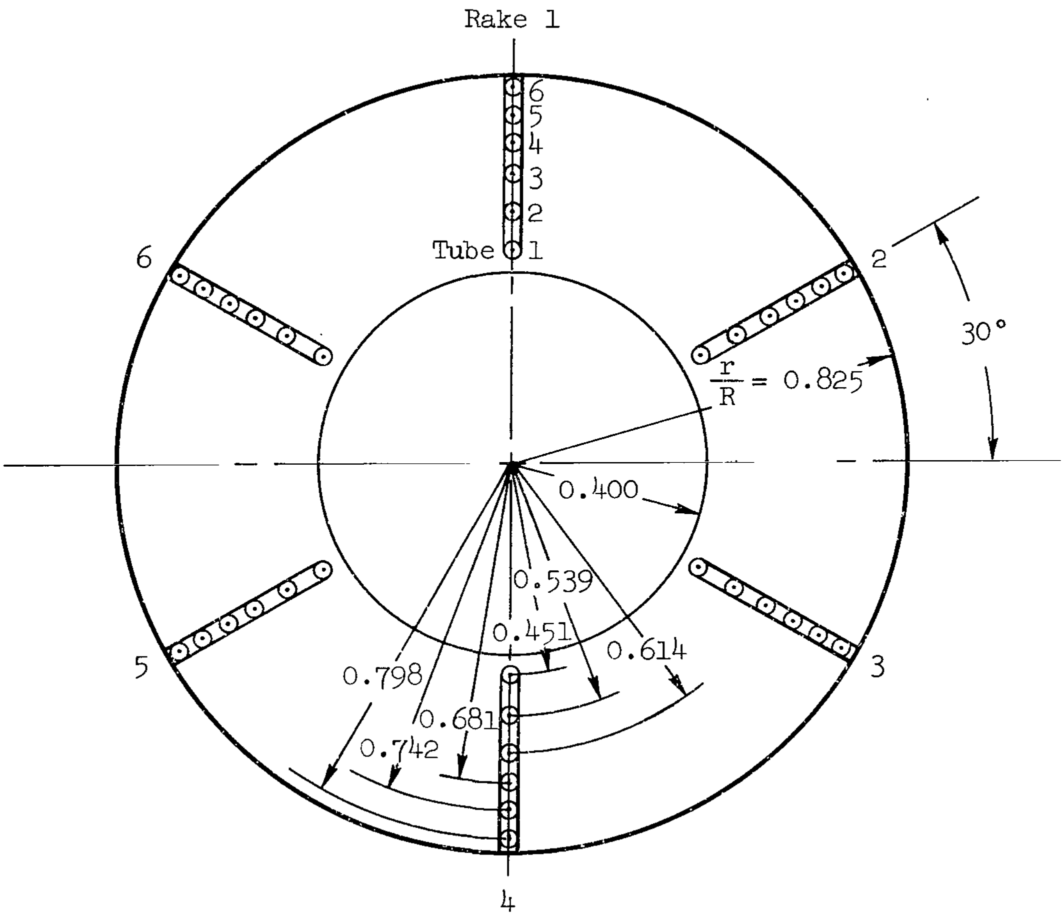
COWL

$\left(\frac{x}{R}\right)_c$	$\frac{r}{R}$
0	1.000
Straight line	
.350	1.000
.450	.999
.550	.996
.650	.992
.750	.985
.850	.977
.950	.966
1.050	.953
1.150	.938
1.175	.933
Straight taper	
1.535	.870
1.650	.849
1.750	.830
1.850	.812
1.950	.794
2.050	.777
2.150	.762
2.250	.749
2.300	.745
2.350	.742
2.400	.742
2.450	.746
2.550	.773
2.650	.809
2.700	.819
2.750	.824
2.79	.825 ← Engine-face rakes

Straight line

Table 2.- SUPERSONIC ENGINE FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞}

The following include total-pressure recoveries from the individual tubes mounted at the engine face. Other performance parameters are also included. The sketch below shows the location of each tube.



Engine-face pressure tube location looking downstream

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.874 m_{bl}/m_∞ = 0.175 Δp_{t_2} = 0.049 p_2/p_∞ = 64.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.888	0.882	0.880	0.869	0.867	0.855	2	0.889	0.881	0.892	0.887	0.859	0.852
3	0.872	0.876	0.881	0.883	0.865	0.852	4	0.881	0.884	0.882	0.889	0.869	0.854
5	0.885	0.884	0.883	0.880	0.865	0.852	6	0.882	0.879	0.886	0.870	0.852	0.849

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.865 m_{bl}/m_∞ = 0.161 Δp_{t_2} = 0.051 p_2/p_∞ = 64.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.885	0.876	0.870	0.855	0.854	0.845	2	0.885	0.869	0.884	0.876	0.846	0.842
3	0.864	0.863	0.870	0.872	0.858	0.843	4	0.877	0.873	0.875	0.882	0.863	0.845
5	0.880	0.876	0.874	0.873	0.856	0.843	6	0.879	0.870	0.878	0.864	0.844	0.840

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.828 m_{bl}/m_∞ = 0.136 Δp_{t_2} = 0.068 p_2/p_∞ = 61.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.855	0.842	0.834	0.825	0.819	0.805	2	0.850	0.825	0.841	0.842	0.810	0.800
3	0.835	0.818	0.830	0.835	0.819	0.802	4	0.849	0.825	0.837	0.846	0.829	0.805
5	0.851	0.837	0.831	0.833	0.818	0.802	6	0.849	0.831	0.834	0.825	0.802	0.798

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0.02

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.871 m_{bl}/m_∞ = 0.169 Δp_{t_2} = 0.049 p_2/p_∞ = 65.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.882	0.881	0.873	0.856	0.869	0.858	2	0.863	0.882	0.878	0.889	0.883	0.859
3	0.847	0.849	0.855	0.866	0.877	0.878	4	0.866	0.887	0.876	0.881	0.890	0.881
5	0.847	0.854	0.866	0.873	0.881	0.878	6	0.870	0.876	0.873	0.877	0.875	0.858

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0.02

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.858 m_{bl}/m_∞ = 0.151 Δp_{t_2} = 0.046 p_2/p_∞ = 64.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.872	0.870	0.861	0.842	0.850	0.842	2	0.861	0.862	0.862	0.876	0.867	0.841
3	0.841	0.853	0.847	0.855	0.860	0.846	4	0.863	0.866	0.858	0.870	0.874	0.858
5	0.863	0.870	0.861	0.867	0.861	0.842	6	0.866	0.860	0.860	0.865	0.851	0.836

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0.02

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.818 m_{bl}/m_∞ = 0.133 Δp_{t_2} = 0.061 p_2/p_∞ = 60.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.844	0.828	0.820	0.808	0.807	0.799	2	0.833	0.812	0.819	0.834	0.817	0.794
3	0.822	0.805	0.811	0.819	0.823	0.800	4	0.838	0.811	0.819	0.831	0.832	0.812
5	0.839	0.825	0.815	0.823	0.814	0.797	6	0.835	0.819	0.815	0.822	0.811	0.794

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0.06

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.873 m_{bl}/m_∞ = 0.173 Δp_{t_2} = 0.052 p_2/p_∞ = 65.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.875	0.889	0.882	0.856	0.878	0.880	2	0.851	0.863	0.877	0.880	0.890	0.891
3	0.849	0.850	0.861	0.865	0.873	0.881	4	0.862	0.888	0.880	0.882	0.891	0.894
5	0.854	0.866	0.877	0.875	0.882	0.883	6	0.849	0.854	0.862	0.871	0.873	0.880

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0.06

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.860 m_{bl}/m_∞ = 0.155 Δp_{t_2} = 0.055 p_2/p_∞ = 64.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.863	0.875	0.866	0.841	0.860	0.863	2	0.848	0.863	0.860	0.865	0.877	0.875
3	0.836	0.837	0.844	0.848	0.858	0.864	4	0.855	0.877	0.862	0.869	0.878	0.883
5	0.844	0.860	0.867	0.859	0.866	0.870	6	0.843	0.851	0.855	0.857	0.859	0.868

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0.06

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.794 m_{bl}/m_∞ = 0.134 Δp_{t_2} = 0.061 p_2/p_∞ = 59.3

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.818	0.797	0.788	0.770	0.797	0.794	2	0.798	0.782	0.778	0.794	0.796	0.806
3	0.794	0.782	0.780	0.788	0.802	0.801	4	0.811	0.791	0.789	0.802	0.814	0.816
5	0.811	0.793	0.787	0.781	0.796	0.800	6	0.803	0.786	0.781	0.780	0.790	0.793

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0.23

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.859 m_{bl}/m_∞ = 0.162 Δp_{t_2} = 0.052 p_2/p_∞ = 65.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.854	0.866	0.873	0.845	0.863	0.864	2	0.843	0.849	0.857	0.859	0.863	0.880
3	0.841	-.841	-.844	0.846	0.854	0.862	4	0.850	0.871	0.878	0.870	0.877	0.886
5	0.842	0.851	0.865	0.863	0.865	0.871	6	0.842	0.843	0.853	0.860	0.860	0.863

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0.21

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.832 m_{bl}/m_∞ = 0.140 Δp_{t_2} = 0.055 p_2/p_∞ = 62.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.849	0.847	0.832	0.811	0.828	0.833	2	0.838	0.833	0.824	0.828	0.838	0.848
3	0.823	0.815	0.818	0.816	0.816	0.819	4	0.842	0.850	0.837	0.837	0.846	0.857
5	0.815	0.826	0.836	0.830	0.830	0.839	6	0.831	0.841	0.834	0.826	0.826	0.830

M_∞ = 3.50 α = 0.0° m_o/m_∞ = 1.000 m_{bp}/m_∞ = 0.85

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.820 m_{bl}/m_∞ = 0.152 Δp_{t_2} = 0.056 p_2/p_∞ = 62.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.816	0.814	0.819	0.805	0.828	0.836	2	0.814	0.814	0.814	0.815	0.815	0.815
3	0.816	0.817	0.818	0.814	0.812	0.808	4	0.816	0.817	0.829	0.840	0.850	0.851
5	0.817	0.819	0.822	0.823	0.831	0.833	6	0.818	0.816	0.815	0.814	0.816	0.818

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.50 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.836 m_{bl}/m_∞ = 0.161 Δp_{t_2} = 0.083 p_2/p_∞ = 62.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.835	0.842	0.846	0.832	0.854	0.840	2	0.845	0.851	0.847	0.856	0.850	0.824
3	0.827	0.841	0.839	0.850	0.836	0.814	4	0.806	0.807	0.810	0.827	0.846	0.836
5	0.800	0.807	0.821	0.834	0.853	0.838	6	0.846	0.853	0.857	0.869	0.850	0.821

M_∞ = 3.50 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.02

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.837 m_{bl}/m_∞ = 0.159 Δp_{t_2} = 0.083 p_2/p_∞ = 63.3

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.824	0.822	0.830	0.826	0.846	0.858	2	0.836	0.853	0.847	0.850	0.858	0.863
3	0.816	0.828	0.840	0.841	0.852	0.859	4	0.804	0.802	0.803	0.813	0.835	0.847
5	0.804	0.806	0.817	0.823	0.842	0.864	6	0.825	0.845	0.851	0.857	0.872	0.869

M_∞ = 3.50 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.84

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.810 m_{bl}/m_∞ = 0.163 Δp_{t_2} = 0.045 p_2/p_∞ = 62.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.803	0.810	0.824	0.816	0.830	0.835	2	0.804	0.804	0.807	0.816	0.822	0.827
3	0.806	0.807	0.807	0.806	0.809	0.812	4	0.807	0.808	0.806	0.804	0.803	0.802
5	0.809	0.809	0.811	0.807	0.806	0.799	6	0.802	0.799	0.804	0.812	0.821	0.822

M_∞ = 3.50 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.696 m_{bl}/m_∞ = 0.155 Δp_{t_2} = 0.127 p_2/p_∞ = 52.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.706	0.712	0.719	0.715	0.725	0.716	2	0.683	0.699	0.721	0.741	0.744	0.711
3	0.661	0.667	0.683	0.702	0.715	0.698	4	0.662	0.670	0.686	0.701	0.678	0.665
5	0.655	0.659	0.675	0.682	0.694	0.683	6	0.671	0.681	0.702	0.727	0.737	0.707

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.50 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.02

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.689 m_{bl}/m_∞ = 0.150 Δp_{t_2} = 0.143 p_2/p_∞ = 52.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.701	0.714	0.721	0.716	0.727	0.721	2	0.672	0.685	0.709	0.734	0.746	0.715
3	0.650	0.654	0.672	0.684	0.702	0.702	4	0.648	0.652	0.671	0.681	0.682	0.681
5	0.648	0.647	0.655	0.669	0.684	0.685	6	0.655	0.663	0.686	0.711	0.733	0.713

M_∞ = 3.50 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.72

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.649 m_{bl}/m_∞ = 0.146 Δp_{t_2} = 0.129 p_2/p_∞ = 52.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.662	0.675	0.690	0.688	0.705	0.714	2	0.632	0.634	0.638	0.645	0.656	0.666
3	0.639	0.636	0.639	0.640	0.644	0.644	4	0.638	0.637	0.639	0.636	0.641	0.652
5	0.638	0.636	0.638	0.634	0.634	0.630	6	0.633	0.631	0.633	0.642	0.653	0.660

M_∞ = 3.50 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.505 m_{bl}/m_∞ = 0.094 Δp_{t_2} = 0.446 p_2/p_∞ = 38.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.559	0.625	0.657	0.646	0.634	0.557	2	0.450	0.452	0.480	0.536	0.560	0.510
3	0.432	0.436	0.458	0.495	0.504	0.489	4	0.434	0.449	0.475	0.503	0.502	0.473
5	0.434	0.443	0.473	0.508	0.521	0.490	6	0.451	0.453	0.484	0.543	0.559	0.506

M_∞ = 3.50 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.01

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.507 m_{bl}/m_∞ = 0.098 Δp_{t_2} = 0.425 p_2/p_∞ = 39.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.557	0.617	0.650	0.644	0.637	0.590	2	0.450	0.453	0.481	0.536	0.565	0.517
3	0.435	0.440	0.461	0.492	0.514	0.497	4	0.436	0.448	0.473	0.502	0.509	0.485
5	0.435	0.444	0.470	0.507	0.522	0.499	6	0.451	0.454	0.481	0.528	0.559	0.518

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.50 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.36

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.466 m_{bl}/m_∞ = 0.094 Δp_{t_2} = 0.511 p_2/p_∞ = 41.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.520	0.573	0.617	0.635	0.647	0.637	2	0.409	0.410	0.417	0.441	0.474	0.518
3	0.412	0.412	0.417	0.427	0.443	0.464	4	0.411	0.413	0.422	0.435	0.452	0.477
5	0.409	0.410	0.419	0.435	0.460	0.483	6	0.408	0.409	0.419	0.442	0.483	0.523

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.868 m_{bl}/m_∞ = 0.174 Δp_{t_2} = 0.094 p_2/p_∞ = 44.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.834	0.835	0.843	----	0.859	0.879	2	0.839	0.858	0.871	0.883	0.895	0.866
3	0.850	0.881	0.882	0.891	0.894	0.860	4	0.852	0.878	0.879	0.896	0.893	0.858
5	0.838	0.839	0.847	0.860	0.883	0.877	6	0.862	0.889	0.887	0.908	0.887	0.850

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.856 m_{bl}/m_∞ = 0.161 Δp_{t_2} = 0.082 p_2/p_∞ = 44.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.823	0.823	0.832	----	0.854	0.870	2	0.831	0.854	0.864	0.878	0.874	0.837
3	0.851	0.879	0.868	0.881	0.870	0.839	4	0.847	0.874	0.869	0.886	0.870	0.835
5	0.826	0.826	0.842	0.851	0.875	0.860	6	0.858	0.878	0.875	0.890	0.860	0.836

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.818 m_{bl}/m_∞ = 0.148 Δp_{t_2} = 0.075 p_2/p_∞ = 41.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.809	0.821	0.818	----	0.823	0.800	2	0.831	0.819	0.818	0.834	0.822	0.791
3	0.844	0.815	0.823	0.837	0.808	0.786	4	0.841	0.818	0.835	0.832	0.798	0.783
5	0.820	0.825	0.824	0.833	0.822	0.788	6	0.839	0.828	0.834	0.836	0.811	0.787

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.860 m_{bl}/m_∞ = 0.177 Δp_{t_2} = 0.114 p_2/p_∞ = 44.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.830	0.831	0.835	----	0.844	0.869	2	0.830	0.840	0.856	0.869	0.880	0.908
3	0.830	0.836	0.854	0.875	0.885	0.903	4	0.832	0.845	0.866	0.875	0.887	0.903
5	0.828	0.832	0.843	0.845	0.857	0.885	6	0.835	0.860	0.883	0.886	0.899	0.914

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.846 m_{bl}/m_∞ = 0.163 Δp_{t_2} = 0.101 p_2/p_∞ = 43.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.816	0.817	0.821	----	0.833	0.857	2	0.817	0.827	0.848	0.851	0.865	0.892
3	0.816	0.823	0.843	0.854	0.866	0.884	4	0.817	0.833	0.854	0.854	0.875	0.891
5	0.814	0.816	0.827	0.837	0.845	0.871	6	0.823	0.850	0.867	0.871	0.882	0.893

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.808 m_{bl}/m_∞ = 0.149 Δp_{t_2} = 0.072 p_2/p_∞ = 41.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.781	0.785	0.787	----	0.800	0.815	2	0.803	0.813	0.796	0.799	0.803	0.832
3	0.833	0.806	0.796	0.803	0.814	0.830	4	0.824	0.811	0.796	0.806	0.816	0.827
5	0.813	0.809	0.798	0.797	0.817	0.819	6	0.824	0.809	0.802	0.803	0.817	0.825

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.21

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.847 m_{bl}/m_∞ = 0.179 Δp_{t_2} = 0.098 p_2/p_∞ = 43.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.827	0.826	0.832	----	0.830	0.834	2	0.826	0.835	0.853	0.858	0.866	0.880
3	0.827	0.833	0.850	0.865	0.870	0.880	4	0.825	0.830	0.843	0.855	0.871	0.885
5	0.825	0.829	0.841	0.838	0.850	0.855	6	0.827	0.834	0.849	0.864	0.881	0.898

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.20

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.837 m_{bl}/m_∞ = 0.164 Δp_{t_2} = 0.087 p_2/p_∞ = 43.6

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.816	0.815	0.820	----	0.823	0.836	2	0.816	0.823	0.842	0.854	0.852	0.867
3	0.814	0.828	0.832	0.837	0.849	0.866	4	0.813	0.824	0.839	0.839	0.856	0.874
5	0.814	0.815	0.821	0.825	0.837	0.848	6	0.813	0.832	0.847	0.863	0.875	0.883

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.19

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.813 m_{bl}/m_∞ = 0.154 Δp_{t_2} = 0.085 p_2/p_∞ = 42.5

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.791	0.793	0.796	----	0.803	0.820	2	0.787	0.797	0.814	0.823	0.830	0.841
3	0.790	0.806	0.828	0.824	0.830	0.840	4	0.787	0.796	0.826	0.817	0.830	0.843
5	0.789	0.793	0.804	0.808	0.812	0.822	6	0.789	0.801	0.826	0.834	0.839	0.852

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.42

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.838 m_{bl}/m_∞ = 0.172 Δp_{t_2} = 0.087 p_2/p_∞ = 43.6

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.822	0.821	0.827	----	0.823	0.819	2	0.821	0.827	0.841	0.846	0.858	0.865
3	0.821	0.823	0.829	0.839	0.855	0.863	4	0.821	0.821	0.840	0.851	0.863	0.870
5	0.820	0.821	0.829	0.828	0.833	0.836	6	0.824	0.840	0.851	0.851	0.872	0.882

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.42

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.822 m_{bl}/m_∞ = 0.158 Δp_{t_2} = 0.094 p_2/p_∞ = 43.0

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.807	0.804	0.808	----	0.812	0.819	2	0.806	0.813	0.823	0.829	0.836	0.845
3	0.803	0.808	0.825	0.831	0.838	0.846	4	0.802	0.810	0.826	0.831	0.837	0.851
5	0.803	0.807	0.810	0.812	0.833	0.827	6	0.801	0.807	0.826	0.846	0.859	0.867

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.33

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.760 m_{bl}/m_∞ = 0.149 Δp_{t_2} = 0.076 p_2/p_∞ = 39.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.747	0.742	0.747	----	0.755	0.763	2	0.744	0.770	0.782	0.778	0.774	0.772
3	0.737	0.749	0.758	0.754	0.761	0.771	4	0.738	0.748	0.769	0.766	0.772	0.780
5	0.738	0.745	0.757	0.756	0.761	0.764	6	0.744	0.770	0.791	0.784	0.781	0.780

M_∞ = 3.25 α = 0.0° m_o/m_∞ = 0.965 m_{bp}/m_∞ = 0.80

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.811 m_{bl}/m_∞ = 0.169 Δp_{t_2} = 0.063 p_2/p_∞ = 42.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.807	0.805	0.806	----	0.800	0.799	2	0.805	0.803	0.805	0.805	0.804	0.799
3	0.805	0.808	0.815	0.816	0.820	0.830	4	0.808	0.807	0.812	0.824	0.833	0.842
5	0.808	0.807	0.809	0.805	0.810	0.811	6	0.807	0.807	0.809	0.816	0.821	0.835

M_∞ = 3.25 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.846 m_{bl}/m_∞ = 0.161 Δp_{t_2} = 0.088 p_2/p_∞ = 43.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.815	0.817	0.823	----	0.845	0.852	2	0.828	0.853	0.868	0.872	0.867	0.825
3	0.848	0.861	0.860	0.863	0.838	0.818	4	0.875	0.855	0.851	0.842	0.820	0.811
5	0.840	0.860	0.869	0.865	0.838	0.817	6	0.839	0.861	0.884	0.885	0.858	0.826

M_∞ = 3.25 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.20

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.828 m_{bl}/m_∞ = 0.162 Δp_{t_2} = 0.107 p_2/p_∞ = 43.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.810	0.807	0.811	----	0.825	0.837	2	0.807	0.812	0.822	0.838	0.853	0.862
3	0.822	0.837	0.850	0.859	0.863	0.863	4	0.797	0.797	0.799	0.808	0.825	0.846
5	0.799	0.800	0.803	0.801	0.814	0.835	6	0.806	0.815	0.840	0.864	0.880	0.886

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.25 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.724 m_{bl}/m_∞ = 0.129 Δp_{t_2} = 0.147 p_2/p_∞ = 38.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.726	0.758	0.778	----	0.783	0.754	2	0.691	0.698	0.718	0.743	0.762	0.738
3	0.679	0.692	0.710	0.735	0.743	0.717	4	0.679	0.691	0.712	0.740	0.741	0.709
5	0.677	0.697	0.719	0.738	0.736	0.711	6	0.691	0.699	0.717	0.741	0.757	0.731

M_∞ = 3.25 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.14

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.704 m_{bl}/m_∞ = 0.129 Δp_{t_2} = 0.167 p_2/p_∞ = 38.3

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.709	0.735	0.761	----	0.779	0.780	2	0.664	0.668	0.677	0.697	0.723	0.748
3	0.663	0.665	0.677	0.690	0.713	0.735	4	0.664	0.667	0.678	0.695	0.724	0.740
5	0.664	0.667	0.681	0.694	0.719	0.738	6	0.664	0.666	0.675	0.694	0.721	0.748

M_∞ = 3.25 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.541 m_{bl}/m_∞ = 0.135 Δp_{t_2} = 0.460 p_2/p_∞ = 28.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.611	0.677	0.710	----	0.668	0.593	2	0.501	0.491	0.512	0.555	0.578	0.534
3	0.465	0.474	0.500	0.541	0.552	0.521	4	0.461	0.473	0.503	0.549	0.555	0.521
5	0.466	0.477	0.512	0.551	0.561	0.525	6	0.502	0.489	0.515	0.554	0.569	0.530

M_∞ = 3.25 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.524 m_{bl}/m_∞ = 0.134 Δp_{t_2} = 0.481 p_2/p_∞ = 30.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.593	0.658	0.697	----	0.687	0.660	2	0.473	0.461	0.471	0.489	0.529	0.572
3	0.450	0.456	0.466	0.491	0.532	0.560	4	0.447	0.449	0.470	0.495	0.530	0.562
5	0.450	0.453	0.464	0.488	0.532	0.571	6	0.478	0.461	0.470	0.492	0.530	0.565

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.888 m_{bl}/m_∞ = 0.170 Δp_{t_2} = 0.085 p_2/p_∞ = 31.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.881	0.902	0.912	----	0.887	0.863	2	0.900	0.901	0.921	0.900	0.883	0.855
3	0.891	0.898	0.911	0.897	0.869	0.850	4	0.891	0.897	0.906	0.892	0.869	0.849
5	0.885	0.895	0.918	0.900	0.879	0.852	6	0.897	0.910	0.925	0.899	0.873	0.851

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.871 m_{bl}/m_∞ = 0.161 Δp_{t_2} = 0.092 p_2/p_∞ = 30.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.873	0.883	0.903	----	0.862	0.840	2	0.883	0.883	0.909	0.883	0.866	0.835
3	0.876	0.883	0.898	0.878	0.847	0.831	4	0.875	0.885	0.895	0.874	0.848	0.830
5	0.867	0.880	0.905	0.883	0.857	0.831	6	0.876	0.890	0.910	0.883	0.856	0.831

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.850 m_{bl}/m_∞ = 0.150 Δp_{t_2} = 0.104 p_2/p_∞ = 29.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.867	0.866	0.892	----	0.835	0.812	2	0.872	0.869	0.882	0.854	0.833	0.807
3	0.870	0.863	0.871	0.851	0.817	0.803	4	0.872	0.868	0.873	0.848	0.823	0.803
5	0.867	0.867	0.889	0.856	0.828	0.805	6	0.871	0.873	0.882	0.857	0.825	0.805

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0.04

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.891 m_{bl}/m_∞ = 0.172 Δp_{t_2} = 0.081 p_2/p_∞ = 32.3

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.865	0.885	0.901	----	0.916	0.901	2	0.858	0.885	0.899	0.910	0.907	0.904
3	0.858	0.877	0.895	0.906	0.908	0.906	4	0.862	0.889	0.901	0.911	0.904	0.901
5	0.849	0.868	0.877	0.886	0.904	0.901	6	0.861	0.885	0.904	0.922	0.907	0.904

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0.04

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.875 m_{bl}/m_∞ = 0.163 Δp_{t_2} = 0.082 p_2/p_∞ = 31.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.851	0.881	0.886	----	0.888	0.879	2	0.848	0.867	0.873	0.885	0.888	0.885
3	0.847	0.876	0.884	0.893	0.884	0.886	4	0.846	0.870	0.885	0.898	0.885	0.881
5	0.830	0.842	0.861	0.876	0.889	0.882	6	0.844	0.861	0.888	0.902	0.888	0.885

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0.03

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.848 m_{bl}/m_∞ = 0.149 Δp_{t_2} = 0.056 p_2/p_∞ = 30.3

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.858	0.853	0.877	----	0.831	0.833	2	0.841	0.854	0.868	0.850	0.830	0.833
3	0.857	0.850	0.857	0.842	0.831	0.840	4	0.851	0.854	0.871	0.848	0.832	0.834
5	0.834	0.853	0.866	0.864	0.837	0.834	6	0.848	0.855	0.877	0.849	0.832	0.834

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0.15

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.884 m_{bl}/m_∞ = 0.168 Δp_{t_2} = 0.082 p_2/p_∞ = 32.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.856	0.867	0.892	----	0.913	0.912	2	0.854	0.871	0.879	0.896	0.908	0.906
3	0.853	0.867	0.882	0.890	0.902	0.909	4	0.853	0.871	0.893	0.901	0.898	0.905
5	0.846	0.851	0.861	0.869	0.899	0.904	6	0.847	0.869	0.890	0.906	0.919	0.909

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0.13

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.854 m_{bl}/m_∞ = 0.153 Δp_{t_2} = 0.086 p_2/p_∞ = 31.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.832	0.863	0.870	----	0.887	0.859	2	0.826	0.836	0.846	0.867	0.876	0.860
3	0.832	0.849	0.855	0.872	0.874	0.860	4	0.823	0.837	0.857	0.880	0.878	0.861
5	0.813	0.820	0.840	0.850	0.875	0.872	6	0.824	0.837	0.850	0.878	0.881	0.861

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0.45

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.864 m_{bl}/m_∞ = 0.169 Δp_{t_2} = 0.085 p_2/p_∞ = 32.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.843	0.847	0.854	----	0.896	0.911	2	0.842	0.844	0.853	0.858	0.877	0.901
3	0.840	0.849	0.864	0.870	0.889	0.895	4	0.841	0.844	0.853	0.871	0.890	0.901
5	0.841	0.843	0.851	0.855	0.866	0.886	6	0.840	0.842	0.853	0.873	0.896	0.909

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0.44

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.854 m_{bl}/m_∞ = 0.162 Δp_{t_2} = 0.095 p_2/p_∞ = 31.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.830	0.838	0.854	----	0.887	0.904	2	0.831	0.832	0.835	0.851	0.871	0.890
3	0.829	0.833	0.844	0.851	0.877	0.884	4	0.830	0.836	0.852	0.867	0.891	0.902
5	0.827	0.830	0.835	0.834	0.847	0.868	6	0.827	0.832	0.843	0.857	0.888	0.903

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0.40

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.814 m_{bl}/m_∞ = 0.147 Δp_{t_2} = 0.094 p_2/p_∞ = 30.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.782	0.793	0.820	----	0.856	0.854	2	0.783	0.794	0.798	0.808	0.828	0.842
3	0.781	0.791	0.813	0.831	0.843	0.846	4	0.781	0.784	0.802	0.824	0.836	0.848
5	0.780	0.786	0.801	0.813	0.841	0.844	6	0.781	0.789	0.794	0.819	0.855	0.853

M_∞ = 3.00 α = 0.0° m_o/m_∞ = 0.926 m_{bp}/m_∞ = 0.76

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.833 m_{bl}/m_∞ = 0.161 Δp_{t_2} = 0.071 p_2/p_∞ = 30.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.828	0.828	0.832	----	0.832	0.842	2	0.826	0.826	0.827	0.830	0.841	0.845
3	0.828	0.829	0.832	0.834	0.844	0.854	4	0.828	0.828	0.829	0.838	0.850	0.862
5	0.826	0.828	0.830	0.823	0.819	0.812	6	0.827	0.828	0.828	0.836	0.848	0.861

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.00 α = 2.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.881 m_{bl}/m_∞ = 0.181 Δp_{t_2} = 0.096 p_2/p_∞ = 31.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.882	0.886	0.897	----	0.898	0.880	2	0.876	0.896	0.924	0.911	0.896	0.866
3	0.842	0.855	0.878	0.902	0.902	0.868	4	0.846	0.861	0.888	0.907	0.899	0.870
5	0.839	0.846	0.860	0.878	0.893	0.870	6	0.868	0.888	0.913	0.908	0.897	0.860

M_∞ = 3.00 α = 2.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0.13

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.833 m_{bl}/m_∞ = 0.147 Δp_{t_2} = 0.137 p_2/p_∞ = 30.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.807	0.816	0.833	----	0.883	0.891	2	0.796	0.805	0.832	0.862	0.892	0.899
3	0.789	0.791	0.802	0.815	0.839	0.861	4	0.792	0.791	0.793	0.811	0.843	0.865
5	0.790	0.795	0.808	0.825	0.855	0.876	6	0.795	0.809	0.833	0.867	0.893	0.903

M_∞ = 3.00 α = 2.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0.72

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.802 m_{bl}/m_∞ = 0.141 Δp_{t_2} = 0.085 p_2/p_∞ = 30.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.801	0.804	0.813	----	0.846	0.857	2	0.798	0.795	0.794	0.796	0.798	0.806
3	0.799	0.799	0.800	0.796	0.793	0.793	4	0.798	0.798	0.798	0.796	0.800	0.810
5	0.796	0.797	0.798	0.794	0.794	0.789	6	0.795	0.793	0.795	0.799	0.804	0.814

M_∞ = 3.00 α = 5.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.740 m_{bl}/m_∞ = 0.174 Δp_{t_2} = 0.157 p_2/p_∞ = 27.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.743	0.765	0.788	----	0.812	0.777	2	0.729	0.737	0.749	0.770	0.781	0.751
3	0.695	0.701	0.719	0.730	0.734	0.725	4	0.698	0.707	0.726	0.745	0.746	0.727
5	0.695	0.701	0.716	0.731	0.740	0.726	6	0.729	0.735	0.752	0.772	0.781	0.749

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.00 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.09

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.725 m_{bl}/m_∞ = 0.172 Δp_{t_2} = 0.186 p_2/p_∞ = 27.8

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.735	0.753	0.776	----	0.807	0.817	2	0.698	0.701	0.714	0.732	0.753	0.776
3	0.686	0.686	0.698	0.706	0.714	0.726	4	0.685	0.690	0.701	0.717	0.734	0.752
5	0.682	0.686	0.694	0.703	0.718	0.726	6	0.694	0.702	0.716	0.730	0.751	0.773

M_∞ = 3.00 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.56

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.669 m_{bl}/m_∞ = 0.124 Δp_{t_2} = 0.218 p_2/p_∞ = 27.0

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.685	0.710	0.737	----	0.770	0.788	2	0.645	0.645	0.649	0.662	0.677	0.684
3	0.649	0.651	0.650	0.647	0.649	0.652	4	0.650	0.647	0.650	0.658	0.663	0.674
5	0.645	0.646	0.648	0.643	0.645	0.648	6	0.642	0.648	0.654	0.670	0.687	0.691

M_∞ = 3.00 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.568 m_{bl}/m_∞ = 0.116 Δp_{t_2} = 0.466 p_2/p_∞ = 20.5

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.665	0.721	0.755	----	0.694	0.621	2	0.545	0.529	0.555	0.584	0.587	0.546
3	0.490	0.498	0.519	0.546	0.551	0.528	4	0.493	0.515	0.555	0.571	0.553	0.523
5	0.493	0.510	0.538	0.576	0.582	0.541	6	0.551	0.530	0.557	0.601	0.591	0.536

M_∞ = 3.00 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.04

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.584 m_{bl}/m_∞ = 0.137 Δp_{t_2} = 0.375 p_2/p_∞ = 23.3

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.658	0.708	0.739	----	0.730	0.702	2	0.565	0.546	0.547	0.563	0.582	0.597
3	0.523	0.533	0.551	0.569	0.586	0.590	4	0.524	0.532	0.541	0.552	0.570	0.579
5	0.520	0.531	0.541	0.557	0.579	0.593	6	0.568	0.544	0.548	0.566	0.588	0.602

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 3.00 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.35

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.529 m_{bl}/m_∞ = 0.127 Δp_{t_2} = 0.527 p_2/p_∞ = 23.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.638	0.689	0.721	----	0.752	0.723	2	0.492	0.482	0.483	0.496	0.511	0.529
3	0.475	0.475	0.478	0.488	0.497	0.500	4	0.477	0.477	0.482	0.494	0.501	0.516
5	0.474	0.476	0.481	0.487	0.505	0.515	6	0.495	0.484	0.482	0.496	0.516	0.531

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.902 m_{bl}/m_∞ = 0.190 Δp_{t_2} = 0.085 p_2/p_∞ = 22.3

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.872	0.871	0.882	----	0.945	0.929	2	0.878	0.889	0.912	0.937	0.925	0.883
3	0.869	0.877	0.896	0.924	0.922	0.885	4	0.871	0.889	0.921	0.945	0.930	0.894
5	0.869	0.879	0.903	0.930	0.920	0.881	6	0.874	0.899	0.927	0.943	0.931	0.884

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.880 m_{bl}/m_∞ = 0.173 Δp_{t_2} = 0.095 p_2/p_∞ = 21.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.843	0.848	0.863	----	0.926	0.904	2	0.845	0.856	0.878	0.911	0.915	0.865
3	0.845	0.860	0.884	0.910	0.908	0.856	4	0.850	0.868	0.900	0.927	0.920	0.877
5	0.847	0.854	0.878	0.911	0.904	0.855	6	0.848	0.868	0.893	0.926	0.923	0.862

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.861 m_{bl}/m_∞ = 0.155 Δp_{t_2} = 0.118 p_2/p_∞ = 21.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.814	0.826	0.856	----	0.912	0.887	2	0.813	0.828	0.855	0.888	0.904	0.848
3	0.817	0.836	0.864	0.892	0.901	0.839	4	0.820	0.847	0.885	0.915	0.902	0.836
5	0.820	0.838	0.871	0.903	0.901	0.832	6	0.820	0.842	0.880	0.913	0.906	0.826

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.878 m_{bl}/m_∞ = 0.176 Δp_{t_2} = 0.116 p_2/p_∞ = 21.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.839	0.843	0.852	----	0.914	0.923	2	0.844	0.847	0.857	0.884	0.918	0.918
3	0.839	0.840	0.859	0.885	0.908	0.921	4	0.845	0.853	0.873	0.902	0.935	0.919
5	0.843	0.848	0.864	0.884	0.912	0.911	6	0.845	0.851	0.864	0.896	0.923	0.929

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.869 m_{bl}/m_∞ = 0.170 Δp_{t_2} = 0.118 p_2/p_∞ = 21.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.826	0.827	0.839	----	0.898	0.923	2	0.828	0.828	0.838	0.867	0.908	0.918
3	0.830	0.842	0.854	0.872	0.905	0.917	4	0.831	0.836	0.856	0.888	0.925	0.920
5	0.834	0.841	0.856	0.874	0.907	0.913	6	0.833	0.840	0.853	0.879	0.914	0.929

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.04

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.848 m_{bl}/m_∞ = 0.153 Δp_{t_2} = 0.136 p_2/p_∞ = 20.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.798	0.803	0.816	----	0.869	0.898	2	0.800	0.806	0.821	0.846	0.882	0.905
3	0.806	0.816	0.843	0.856	0.885	0.906	4	0.806	0.815	0.844	0.875	0.909	0.908
5	0.805	0.818	0.835	0.847	0.884	0.910	6	0.806	0.817	0.834	0.860	0.902	0.914

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.13

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.877 m_{bl}/m_∞ = 0.185 Δp_{t_2} = 0.121 p_2/p_∞ = 22.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.855	0.863	0.872	----	0.895	0.935	2	0.846	0.847	0.849	0.857	0.875	0.900
3	0.858	0.860	0.866	0.875	0.901	0.932	4	0.848	0.849	0.858	0.881	0.907	0.932
5	0.845	0.847	0.850	0.855	0.880	0.902	6	0.854	0.865	0.886	0.913	0.939	0.940

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.12

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.857 m_{bl}/m_∞ = 0.167 Δp_{t_2} = 0.126 p_2/p_∞ = 21.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.821	0.821	0.829	----	0.861	0.900	2	0.825	0.829	0.838	0.848	0.867	0.905
3	0.826	0.832	0.850	0.862	0.885	0.911	4	0.825	0.832	0.847	0.870	0.900	0.921
5	0.827	0.833	0.842	0.853	0.883	0.912	6	0.831	0.838	0.848	0.864	0.896	0.920

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.11

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.832 m_{bl}/m_∞ = 0.141 Δp_{t_2} = 0.135 p_2/p_∞ = 20.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.786	0.794	0.807	----	0.853	0.881	2	0.785	0.793	0.808	0.829	0.856	0.882
3	0.791	0.802	0.822	0.841	0.871	0.890	4	0.795	0.803	0.828	0.856	0.885	0.894
5	0.785	0.792	0.815	0.836	0.864	0.892	6	0.787	0.793	0.816	0.845	0.869	0.897

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.31

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.858 m_{bl}/m_∞ = 0.178 Δp_{t_2} = 0.111 p_2/p_∞ = 21.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.834	0.839	0.850	----	0.890	0.905	2	0.832	0.833	0.834	0.838	0.846	0.861
3	0.835	0.847	0.868	0.873	0.902	0.914	4	0.834	0.833	0.841	0.853	0.877	0.916
5	0.832	0.835	0.838	0.840	0.852	0.866	6	0.841	0.851	0.861	0.878	0.892	0.919

M_∞ = 2.75 α = 0.0° m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.30

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.838 m_{bl}/m_∞ = 0.164 Δp_{t_2} = 0.135 p_2/p_∞ = 21.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.813	0.814	0.820	----	0.846	0.873	2	0.815	0.814	0.818	0.826	0.839	0.871
3	0.816	0.818	0.834	0.855	0.869	0.867	4	0.812	0.814	0.823	0.837	0.861	0.894
5	0.818	0.822	0.827	0.830	0.851	0.881	6	0.816	0.825	0.835	0.845	0.865	0.901

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.75 α = 0.0^o m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.26

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.801 m_{bl}/m_∞ = 0.123 Δp_{t_2} = 0.151 p_2/p_∞ = 20.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.760	0.763	0.777	----	0.829	0.862	2	0.760	0.764	0.780	0.802	0.827	0.861
3	0.761	0.768	0.786	0.809	0.831	0.863	4	0.763	0.772	0.793	0.824	0.847	0.862
5	0.758	0.764	0.781	0.795	0.813	0.846	6	0.761	0.767	0.785	0.817	0.849	0.879

M_∞ = 2.75 α = 0.0^o m_o/m_∞ = 0.852 m_{bp}/m_∞ = 0.68

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.829 m_{bl}/m_∞ = 0.174 Δp_{t_2} = 0.075 p_2/p_∞ = 21.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.825	0.826	0.829	----	0.829	0.840	2	0.827	0.825	0.823	0.820	0.816	0.801
3	0.820	0.825	0.829	0.827	0.831	0.838	4	0.827	0.826	0.832	0.838	0.844	0.853
5	0.825	0.829	0.835	0.830	0.834	0.840	6	0.821	0.825	0.827	0.834	0.844	0.850

M_∞ = 2.75 α = 2.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.858 m_{bl}/m_∞ = 0.160 Δp_{t_2} = 0.143 p_2/p_∞ = 20.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.837	0.855	0.888	----	0.916	0.858	2	0.821	0.841	0.874	0.918	0.908	0.838
3	0.803	0.814	0.837	0.859	0.877	0.859	4	0.810	0.823	0.847	0.880	0.892	0.857
5	0.807	0.824	0.852	0.867	0.880	0.853	6	0.829	0.856	0.893	0.926	0.905	0.826

M_∞ = 2.75 α = 2.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0.13

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.858 m_{bl}/m_∞ = 0.180 Δp_{t_2} = 0.138 p_2/p_∞ = 22.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.854	0.864	0.880	----	0.911	0.923	2	0.821	0.827	0.843	0.875	0.917	0.927
3	0.817	0.821	0.830	0.840	0.860	0.879	4	0.818	0.817	0.822	0.838	0.861	0.892
5	0.815	0.821	0.832	0.839	0.859	0.874	6	0.825	0.835	0.857	0.885	0.924	0.934

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.75 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.766 m_{bl}/m_∞ = 0.178 Δp_{t_2} = 0.175 p_2/p_∞ = 19.0

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.784	0.805	0.819	----	0.857	0.811	2	0.769	0.762	0.772	0.792	0.807	0.770
3	0.728	0.734	0.746	0.750	0.757	0.745	4	0.726	0.733	0.747	0.759	0.753	0.738
5	0.723	0.731	0.741	0.750	0.760	0.749	6	0.767	0.753	0.766	0.788	0.803	0.775

M_∞ = 2.75 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.08

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.719 m_{bl}/m_∞ = 0.146 Δp_{t_2} = 0.216 p_2/p_∞ = 18.9

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.742	0.782	0.816	----	0.824	0.813	2	0.695	0.694	0.705	0.716	0.739	0.759
3	0.671	0.675	0.691	0.704	0.711	0.718	4	0.670	0.678	0.689	0.694	0.708	0.724
5	0.669	0.675	0.686	0.693	0.712	0.723	6	0.695	0.691	0.708	0.722	0.740	0.759

M_∞ = 2.75 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.617 m_{bl}/m_∞ = 0.116 Δp_{t_2} = 0.398 p_2/p_∞ = 15.0

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.715	0.772	0.800	----	0.747	0.641	2	0.629	0.598	0.619	0.643	0.632	0.582
3	0.554	0.562	0.575	0.594	0.589	0.564	4	0.556	0.564	0.593	0.597	0.581	0.559
5	0.556	0.563	0.579	0.600	0.602	0.575	6	0.638	0.602	0.621	0.644	0.628	0.576

M_∞ = 2.75 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.06

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.650 m_{bl}/m_∞ = 0.134 Δp_{t_2} = 0.291 p_2/p_∞ = 17.6

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.727	0.764	0.779	----	0.792	0.767	2	0.668	0.631	0.623	0.627	0.635	0.642
3	0.605	0.611	0.618	0.625	0.632	0.639	4	0.611	0.615	0.617	0.621	0.632	0.630
5	0.603	0.611	0.621	0.621	0.631	0.639	6	0.669	0.630	0.622	0.629	0.634	0.649

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.908 m_{bl}/m_∞ = 0.181 Δp_{t_2} = 0.093 p_2/p_∞ = 15.2

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.876	0.881	0.901	----	0.952	0.917	2	0.879	0.899	0.922	0.944	0.935	0.879
3	0.871	0.885	0.907	0.934	0.931	0.875	4	0.877	0.898	0.929	0.950	0.943	0.887
5	0.878	0.896	0.924	0.949	0.932	0.880	6	0.879	0.906	0.940	0.955	0.942	0.877

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.884 m_{bl}/m_∞ = 0.164 Δp_{t_2} = 0.129 p_2/p_∞ = 14.5

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.842	0.851	0.882	----	0.936	0.873	2	0.840	0.859	0.893	0.932	0.915	0.856
3	0.840	0.863	0.889	0.921	0.916	0.856	4	0.849	0.876	0.921	0.948	0.912	0.849
5	0.850	0.877	0.918	0.941	0.891	0.834	6	0.843	0.869	0.915	0.939	0.917	0.835

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.857 m_{bl}/m_∞ = 0.143 Δp_{t_2} = 0.145 p_2/p_∞ = 13.8

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.829	0.861	0.886	----	0.885	0.827	2	0.829	0.879	0.917	0.908	0.851	0.797
3	0.821	0.855	0.879	0.884	0.856	0.803	4	0.830	0.865	0.907	0.907	0.863	0.808
5	0.825	0.868	0.914	0.908	0.845	0.793	6	0.818	0.851	0.892	0.900	0.860	0.795

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.894 m_{bl}/m_∞ = 0.168 Δp_{t_2} = 0.118 p_2/p_∞ = 15.1

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.845	0.851	0.865	----	0.930	0.933	2	0.847	0.862	0.888	0.911	0.921	0.919
3	0.843	0.859	0.878	0.901	0.928	0.920	4	0.853	0.868	0.901	0.935	0.941	0.928
5	0.851	0.870	0.897	0.923	0.942	0.924	6	0.846	0.862	0.890	0.926	0.939	0.940

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.866 m_{bl}/m_∞ = 0.153 Δp_{t_2} = 0.131 p_2/p_∞ = 14.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.810	0.827	0.844	----	0.897	0.898	2	0.813	0.829	0.862	0.901	0.922	0.906
3	0.819	0.834	0.855	0.866	0.882	0.891	4	0.819	0.839	0.874	0.908	0.922	0.910
5	0.812	0.831	0.864	0.890	0.916	0.910	6	0.811	0.825	0.854	0.885	0.917	0.923

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.04

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.861 m_{bl}/m_∞ = 0.124 Δp_{t_2} = 0.141 p_2/p_∞ = 14.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.809	0.835	0.860	----	0.869	0.866	2	0.808	0.839	0.878	0.910	0.896	0.877
3	0.802	0.825	0.858	0.873	0.870	0.869	4	0.822	0.853	0.885	0.896	0.873	0.847
5	0.816	0.857	0.903	0.923	0.906	0.876	6	0.804	0.827	0.869	0.894	0.888	0.886

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.11

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.896 m_{bl}/m_∞ = 0.176 Δp_{t_2} = 0.134 p_2/p_∞ = 15.3

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.857	0.864	0.873	----	0.910	0.942	2	0.859	0.864	0.880	0.900	0.919	0.929
3	0.864	0.870	0.884	0.899	0.917	0.933	4	0.861	0.869	0.893	0.921	0.942	0.939
5	0.853	0.863	0.879	0.902	0.927	0.942	6	0.866	0.879	0.898	0.926	0.946	0.943

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.11

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.882 m_{bl}/m_∞ = 0.166 Δp_{t_2} = 0.149 p_2/p_∞ = 15.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.834	0.840	0.852	----	0.898	0.939	2	0.832	0.840	0.859	0.888	0.919	0.921
3	0.838	0.854	0.873	0.891	0.917	0.925	4	0.843	0.854	0.881	0.916	0.943	0.933
5	0.837	0.856	0.877	0.908	0.939	0.933	6	0.836	0.846	0.865	0.896	0.927	0.940

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.10

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.866 m_{b1}/m_∞ = 0.161 Δp_{t_2} = 0.157 p_2/p_∞ = 14.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.812	0.817	0.833	----	0.890	0.923	2	0.812	0.818	0.834	0.863	0.907	0.926
3	0.822	0.842	0.858	0.875	0.907	0.916	4	0.820	0.832	0.858	0.893	0.931	0.930
5	0.819	0.837	0.856	0.881	0.925	0.929	6	0.813	0.822	0.844	0.873	0.921	0.937

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.20

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.879 m_{b1}/m_∞ = 0.173 Δp_{t_2} = 0.143 p_2/p_∞ = 15.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.848	-.852	0.860	----	0.888	0.918	2	0.848	0.852	0.862	0.876	0.895	0.908
3	0.853	0.861	0.866	0.877	0.895	0.917	4	0.845	0.847	0.867	0.893	0.915	0.933
5	0.843	0.851	0.860	0.874	0.895	0.925	6	0.858	0.869	0.887	0.907	0.930	0.939

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.18

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.850 m_{b1}/m_∞ = 0.157 Δp_{t_2} = 0.178 p_2/p_∞ = 14.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.804	0.805	0.816	----	0.861	0.902	2	0.805	0.808	0.821	0.838	0.868	0.908
3	0.811	0.837	0.847	0.862	0.883	0.907	4	0.811	0.815	0.841	0.871	0.904	0.933
5	0.805	0.813	0.834	0.857	0.891	0.926	6	0.808	0.818	0.829	0.855	0.896	0.921

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.17

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.844 m_{b1}/m_∞ = 0.132 Δp_{t_2} = 0.170 p_2/p_∞ = 14.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.789	0.793	0.806	----	0.858	0.866	2	0.794	0.819	0.855	0.881	0.913	0.909
3	0.791	0.813	0.847	0.864	0.868	0.860	4	0.798	0.815	0.848	0.878	0.878	0.882
5	0.792	0.814	0.851	0.881	0.916	0.916	6	0.792	0.805	0.823	0.846	0.872	0.875

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.37

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.861 m_{b1}/m_∞ = 0.175 Δp_{t_2} = 0.121 p_2/p_∞ = 14.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.845	0.847	0.855	----	0.862	0.870	2	0.845	0.847	0.852	0.856	0.860	0.866
3	0.852	0.855	0.859	0.865	0.885	0.886	4	0.847	0.845	0.855	0.861	0.873	0.887
5	0.843	0.847	0.852	0.852	0.866	0.878	6	0.851	0.858	0.868	0.885	0.901	0.919

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.35

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.848 m_{b1}/m_∞ = 0.167 Δp_{t_2} = 0.136 p_2/p_∞ = 14.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.827	0.829	0.834	----	0.847	0.870	2	0.830	0.828	0.831	0.846	0.853	0.860
3	0.828	0.835	0.846	0.847	0.850	0.866	4	0.830	0.830	0.842	0.858	0.880	0.911
5	0.827	0.832	0.840	0.852	0.872	0.892	6	0.830	0.837	0.842	0.851	0.869	0.893

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.33

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.823 m_{b1}/m_∞ = 0.149 Δp_{t_2} = 0.167 p_2/p_∞ = 14.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.788	0.792	0.798	----	0.808	0.837	2	0.788	0.791	0.802	0.824	0.847	0.867
3	0.794	0.807	0.830	0.850	0.867	0.886	4	0.795	0.802	0.814	0.831	0.856	0.868
5	0.790	0.798	0.816	0.833	0.877	0.902	6	0.791	0.797	0.806	0.816	0.837	0.856

M_∞ = 2.50 α = 0.0° m_o/m_∞ = 0.751 m_{bp}/m_∞ = 0.58

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.850 m_{b1}/m_∞ = 0.174 Δp_{t_2} = 0.078 p_2/p_∞ = 14.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.846	0.845	0.846	----	0.848	0.857	2	0.847	0.845	0.845	0.840	0.833	0.819
3	0.842	0.846	0.850	0.849	0.856	0.863	4	0.845	0.847	0.850	0.855	0.865	0.876
5	0.841	0.850	0.858	0.861	0.873	0.871	6	0.842	0.846	0.847	0.852	0.855	0.863

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.50 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.870 m_{bl}/m_∞ = 0.178 Δp_{t_2} = 0.137 p_2/p_∞ = 14.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.855	0.864	0.882	----	0.927	0.894	2	0.850	0.887	0.915	0.927	0.917	0.847
3	0.835	0.840	0.852	0.864	0.872	0.858	4	0.827	0.828	0.844	0.862	0.879	0.861
5	0.836	0.843	0.854	0.867	0.877	0.853	6	0.857	0.889	0.917	0.943	0.916	0.824

M_∞ = 2.50 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.11

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.853 m_{bl}/m_∞ = 0.174 Δp_{t_2} = 0.151 p_2/p_∞ = 15.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.842	0.852	0.870	----	0.915	0.925	2	0.829	0.844	0.865	0.894	0.927	0.927
3	0.806	0.809	0.817	0.820	0.831	0.840	4	0.810	0.813	0.825	0.841	0.863	0.888
5	0.804	0.810	0.821	0.825	0.840	0.855	6	0.826	0.842	0.863	0.892	0.927	0.933

M_∞ = 2.50 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.54

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.807 m_{bl}/m_∞ = 0.178 Δp_{t_2} = 0.178 p_2/p_∞ = 13.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.817	0.829	0.844	----	0.861	0.873	2	0.795	0.794	0.799	0.810	0.818	0.831
3	0.793	0.800	0.802	0.793	0.787	0.778	4	0.802	0.800	0.800	0.798	0.800	0.795
5	0.798	0.798	0.803	0.795	0.787	0.778	6	0.791	0.800	0.804	0.817	0.843	0.842

M_∞ = 2.50 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.754 m_{bl}/m_∞ = 0.136 Δp_{t_2} = 0.202 p_2/p_∞ = 12.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.797	0.850	0.861	----	0.832	0.734	2	0.764	0.760	0.773	0.790	0.785	0.732
3	0.713	0.715	0.725	0.730	0.728	0.712	4	0.713	0.720	0.733	0.737	0.728	0.709
5	0.713	0.720	0.736	0.739	0.733	0.712	6	0.765	0.776	0.798	0.818	0.788	0.724

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.50 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.09

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.768 m_{bl}/m_∞ = 0.148 Δp_{t_2} = 0.178 p_2/p_∞ = 12.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.801	0.828	0.845	----	0.861	0.860	2	0.792	0.763	0.757	0.763	0.774	0.789
3	0.726	0.730	0.741	0.745	0.745	0.750	4	0.731	0.734	0.743	0.754	0.755	0.756
5	0.724	0.727	0.736	0.737	0.743	0.750	6	0.789	0.760	0.760	0.775	0.786	0.802

M_∞ = 2.50 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.44

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.708 m_{bl}/m_∞ = 0.138 Δp_{t_2} = 0.261 p_2/p_∞ = 13.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.752	0.793	0.827	----	0.856	0.853	2	0.683	0.683	0.687	0.694	0.707	0.709
3	0.685	0.685	0.687	0.681	0.676	0.671	4	0.685	0.682	0.684	0.684	0.683	0.681
5	0.683	0.684	0.685	0.679	0.681	0.678	6	0.686	0.687	0.693	0.697	0.708	0.714

M_∞ = 2.50 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.691 m_{bl}/m_∞ = 0.130 Δp_{t_2} = 0.297 p_2/p_∞ = 11.3

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.795	0.842	0.836	----	0.781	0.669	2	0.750	0.690	0.684	0.684	0.672	0.648
3	0.670	0.665	0.669	0.670	0.659	0.646	4	0.662	0.662	0.669	0.669	0.654	0.637
5	0.668	0.667	0.673	0.667	0.664	0.648	6	0.746	0.690	0.688	0.693	0.682	0.652

M_∞ = 2.50 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.07

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.693 m_{bl}/m_∞ = 0.130 Δp_{t_2} = 0.277 p_2/p_∞ = 12.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.785	0.827	0.844	----	0.819	0.789	2	0.740	0.682	0.667	0.667	0.669	0.676
3	0.659	0.657	0.661	0.659	0.663	0.668	4	0.652	0.653	0.660	0.658	0.665	0.672
5	0.656	0.658	0.661	0.659	0.666	0.668	6	0.741	0.682	0.672	0.669	0.677	0.683

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.50 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.37

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.662 m_{bl}/m_∞ = 0.127 Δp_{t_2} = 0.361 p_2/p_∞ = 13.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.783	0.829	0.850	----	0.831	0.821	2	0.668	0.660	0.639	0.628	0.626	0.625
3	0.629	0.628	0.628	0.624	0.621	0.611	4	0.631	0.630	0.629	0.626	0.623	0.621
5	0.626	0.630	0.628	0.621	0.622	0.613	6	0.649	0.652	0.641	0.631	0.629	0.633

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.896 m_{bl}/m_∞ = 0.155 Δp_{t_2} = 0.095 p_2/p_∞ = 10.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.867	0.872	0.901	0.924	0.933	0.907	2	0.867	0.881	0.902	0.915	0.923	0.875
3	0.862	0.877	0.903	0.919	0.927	0.863	4	0.864	0.886	0.911	0.920	0.931	0.870
5	0.869	0.879	0.898	0.917	0.918	0.863	6	0.870	0.891	0.921	0.943	0.930	0.858

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.882 m_{bl}/m_∞ = 0.149 Δp_{t_2} = 0.087 p_2/p_∞ = 9.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.848	0.862	0.883	0.908	0.919	0.890	2	0.862	0.875	0.885	0.898	0.893	0.858
3	0.859	0.878	0.898	0.894	0.884	0.851	4	0.861	0.888	0.912	0.924	0.909	0.850
5	0.864	0.878	0.888	0.888	0.885	0.850	6	0.866	0.890	0.900	0.911	0.898	0.847

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.850 m_{bl}/m_∞ = 0.135 Δp_{t_2} = 0.122 p_2/p_∞ = 9.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.810	0.830	0.866	0.887	0.888	0.852	2	0.814	0.838	0.870	0.892	0.875	0.817
3	0.802	0.822	0.851	0.868	0.864	0.811	4	0.814	0.841	0.872	0.896	0.876	0.817
5	0.820	0.846	0.884	0.903	0.869	0.799	6	0.812	0.837	0.867	0.889	0.876	0.813

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.03

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.926 m_{bl}/m_∞ = 0.157 Δp_{t_2} = 0.087 p_2/p_∞ = 10.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.886	0.891	0.910	0.938	0.959	0.961	2	0.891	0.903	0.918	0.932	0.948	0.948
3	0.885	0.899	0.918	0.935	0.950	0.952	4	0.889	0.904	0.927	0.942	0.954	0.956
5	0.890	0.899	0.912	0.926	0.951	0.949	6	0.894	0.911	0.931	0.962	0.966	0.964

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.03

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.902 m_{bl}/m_∞ = 0.152 Δp_{t_2} = 0.092 p_2/p_∞ = 9.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.866	0.871	0.893	0.916	0.937	0.936	2	0.867	0.880	0.894	0.907	0.923	0.926
3	0.859	0.873	0.894	0.912	0.926	0.932	4	0.865	0.874	0.898	0.914	0.927	0.931
5	0.865	0.873	0.885	0.900	0.931	0.928	6	0.868	0.885	0.904	0.937	0.942	0.941

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.03

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.887 m_{bl}/m_∞ = 0.146 Δp_{t_2} = 0.080 p_2/p_∞ = 10.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.854	0.872	0.891	0.906	0.916	0.912	2	0.857	0.875	0.892	0.900	0.906	0.899
3	0.846	0.858	0.879	0.890	0.898	0.896	4	0.855	0.871	0.890	0.898	0.907	0.905
5	0.852	0.870	0.892	0.900	0.909	0.904	6	0.853	0.869	0.887	0.900	0.910	0.908

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.14

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.885 m_{bl}/m_∞ = 0.155 Δp_{t_2} = 0.098 p_2/p_∞ = 10.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.850	0.855	0.869	0.881	0.905	0.930	2	0.860	0.871	0.881	0.894	0.904	0.913
3	0.851	0.858	0.871	0.884	0.901	0.912	4	0.857	0.866	0.878	0.897	0.912	0.927
5	0.853	0.859	0.867	0.873	0.892	0.911	6	0.863	0.871	0.881	0.898	0.925	0.937

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.14

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.876 m_{bl}/m_∞ = 0.148 Δp_{t_2} = 0.082 p_2/p_∞ = 10.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.848	0.864	0.881	0.889	0.901	0.911	2	0.848	0.863	0.877	0.888	0.902	0.904
3	0.838	0.844	0.858	0.868	0.883	0.892	4	0.846	0.853	0.869	0.889	0.894	0.903
5	0.843	0.858	0.873	0.886	0.903	0.908	6	0.844	0.856	0.867	0.886	0.894	0.903

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.13

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.850 m_{bl}/m_∞ = 0.139 Δp_{t_2} = 0.138 p_2/p_∞ = 9.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.816	0.833	0.865	0.893	0.921	0.920	2	0.811	0.823	0.846	0.876	0.880	0.867
3	0.812	0.824	0.836	0.844	0.838	0.839	4	0.813	0.824	0.852	0.887	0.928	0.924
5	0.810	0.821	0.832	0.836	0.852	0.859	6	0.814	0.830	0.845	0.847	0.843	0.844

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.26

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.864 m_{bl}/m_∞ = 0.151 Δp_{t_2} = 0.084 p_2/p_∞ = 10.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.838	0.843	0.848	0.861	0.878	0.900	2	0.840	0.839	0.845	0.852	0.861	0.868
3	0.849	0.854	0.866	0.876	0.880	0.884	4	0.346	0.850	0.864	0.880	0.899	0.911
5	0.840	0.847	0.858	0.858	0.868	0.875	6	0.851	0.857	0.861	0.875	0.888	0.904

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.25

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.858 m_{bl}/m_∞ = 0.145 Δp_{t_2} = 0.078 p_2/p_∞ = 10.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.836	0.847	0.859	0.867	0.878	0.888	2	0.828	0.839	0.856	0.868	0.881	0.890
3	0.828	0.832	0.842	0.846	0.862	0.878	4	0.833	0.840	0.855	0.865	0.878	0.892
5	0.834	0.840	0.857	0.868	0.886	0.895	6	0.832	0.836	0.850	0.860	0.869	0.883

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.23

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.829 m_{bl}/m_∞ = 0.139 Δp_{t_2} = 0.148 p_2/p_∞ = 9.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.800	0.808	0.832	0.851	0.873	0.896	2	0.801	0.807	0.827	0.841	0.862	0.870
3	0.796	0.801	0.811	0.816	0.827	0.827	4	0.798	0.804	0.821	0.850	0.880	0.919
5	0.797	0.800	0.814	0.814	0.827	0.835	6	0.802	0.808	0.816	0.832	0.843	0.838

M_∞ = 2.25 α = 0.0° m_o/m_∞ = 0.628 m_{bp}/m_∞ = 0.47

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.853 m_{bl}/m_∞ = 0.158 Δp_{t_2} = 0.040 p_2/p_∞ = 9.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.847	0.850	0.851	0.850	0.851	0.856	2	0.852	0.851	0.851	0.854	0.858	0.859
3	0.853	0.853	0.855	0.851	0.846	0.841	4	0.852	0.851	0.851	0.853	0.859	0.870
5	0.848	0.849	0.850	0.845	0.847	0.839	6	0.851	0.857	0.862	0.862	0.871	0.873

M_∞ = 2.25 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.868 m_{bl}/m_∞ = 0.147 Δp_{t_2} = 0.117 p_2/p_∞ = 9.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.859	0.883	0.910	0.924	0.910	0.853	2	0.875	0.890	0.895	0.901	0.886	0.830
3	0.835	0.842	0.859	0.870	0.865	0.839	4	0.833	0.836	0.856	0.866	0.861	0.838
5	0.840	0.848	0.860	0.863	0.869	0.842	6	0.867	0.897	0.924	0.926	0.887	0.825

M_∞ = 2.25 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.13

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.863 m_{bl}/m_∞ = 0.147 Δp_{t_2} = 0.113 p_2/p_∞ = 10.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.850	0.863	0.884	0.901	0.919	0.918	2	0.852	0.870	0.868	0.881	0.886	0.888
3	0.823	0.828	0.837	0.842	0.849	0.859	4	0.822	0.825	0.831	0.841	0.850	0.865
5	0.826	0.834	0.843	0.846	0.857	0.861	6	0.850	0.868	0.886	0.904	0.916	0.917

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.25 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.816 m_{bl}/m_∞ = 0.138 Δp_{t_2} = 0.158 p_2/p_∞ = 9.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.855	0.878	0.893	0.888	0.870	0.804	2	0.863	0.846	0.839	0.850	0.837	0.785
3	0.791	0.785	0.790	0.791	0.790	0.773	4	0.779	0.779	0.780	0.785	0.772	0.764
5	0.793	0.784	0.783	0.785	0.786	0.769	6	0.858	0.857	0.864	0.870	0.845	0.780

M_∞ = 2.25 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.12

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.804 m_{bl}/m_∞ = 0.136 Δp_{t_2} = 0.158 p_2/p_∞ = 9.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.846	0.872	0.888	0.891	0.889	0.876	2	0.836	0.807	0.795	0.799	0.804	0.812
3	0.766	0.764	0.767	0.772	0.776	0.777	4	0.769	0.772	0.776	0.780	0.785	0.789
5	0.766	0.767	0.770	0.767	0.770	0.771	6	0.840	0.817	0.806	0.812	0.819	0.827

M_∞ = 2.25 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.734 m_{bl}/m_∞ = 0.117 Δp_{t_2} = 0.260 p_2/p_∞ = 8.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.833	0.865	0.862	0.844	0.815	0.704	2	0.818	0.754	0.734	0.741	0.724	0.687
3	0.720	0.716	0.711	0.697	0.685	0.676	4	0.693	0.693	0.695	0.694	0.683	0.674
5	0.725	0.714	0.704	0.696	0.691	0.679	6	0.819	0.761	0.751	0.757	0.729	0.691

M_∞ = 2.25 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.10

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.733 m_{bl}/m_∞ = 0.117 Δp_{t_2} = 0.260 p_2/p_∞ = 9.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.828	0.864	0.873	0.858	0.847	0.832	2	0.801	0.731	0.712	0.713	0.711	0.713
3	0.697	0.695	0.693	0.690	0.693	0.691	4	0.689	0.685	0.682	0.687	0.693	0.696
5	0.699	0.695	0.696	0.689	0.690	0.692	6	0.801	0.744	0.729	0.727	0.732	0.729

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.892 m_{bl}/m_∞ = 0.151 Δp_{t_2} = 0.089 p_2/p_∞ = 6.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.907	0.922	0.905	0.877	0.862	0.853	2	0.915	0.927	0.902	0.888	0.866	0.848
3	0.904	0.922	0.908	0.885	0.863	0.851	4	0.895	0.908	0.918	0.908	0.883	0.858
5	0.897	0.919	0.922	0.901	0.877	0.854	6	0.905	0.924	0.913	0.891	0.866	0.853

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.865 m_{bl}/m_∞ = 0.140 Δp_{t_2} = 0.106 p_2/p_∞ = 6.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.901	0.897	0.870	0.853	0.843	0.829	2	0.899	0.903	0.870	0.857	0.849	0.816
3	0.889	0.902	0.882	0.860	0.837	0.817	4	0.902	0.903	0.873	0.851	0.838	0.819
5	0.907	0.903	0.873	0.852	0.839	0.817	6	0.908	0.899	0.867	0.852	0.842	0.819

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.875 m_{bl}/m_∞ = 0.127 Δp_{t_2} = 0.094 p_2/p_∞ = 6.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.859	0.879	0.892	0.892	0.883	0.851	2	0.860	0.872	0.879	0.895	0.887	0.841
3	0.851	0.865	0.887	0.898	0.889	0.841	4	0.866	0.892	0.911	0.909	0.884	0.838
5	0.872	0.879	0.882	0.870	0.862	0.833	6	0.875	0.905	0.912	0.899	0.876	0.830

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.890 m_{bl}/m_∞ = 0.147 Δp_{t_2} = 0.073 p_2/p_∞ = 6.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.908	0.916	0.885	0.861	0.856	0.858	2	0.908	0.920	0.899	0.884	0.868	0.859
3	0.899	0.915	0.909	0.892	0.876	0.866	4	0.899	0.910	0.915	0.895	0.877	0.870
5	0.903	0.920	0.916	0.889	0.874	0.867	6	0.907	0.920	0.902	0.874	0.860	0.855

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.876 m_{bl}/m_∞ = 0.139 Δp_{t_2} = 0.067 p_2/p_∞ = 6.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.897	0.899	0.879	0.860	0.853	0.851	2	0.893	0.903	0.881	0.868	0.858	0.848
3	0.885	0.901	0.897	0.874	0.860	0.854	4	0.895	0.902	0.886	0.863	0.852	0.848
5	0.901	0.906	0.889	0.862	0.855	0.851	6	0.901	0.904	0.881	0.861	0.853	0.850

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.05

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.863 m_{bl}/m_∞ = 0.124 Δp_{t_2} = 0.049 p_2/p_∞ = 6.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.857	0.873	0.878	0.857	0.850	0.848	2	0.860	0.877	0.875	0.867	0.855	0.845
3	0.853	0.872	0.887	0.872	0.857	0.852	4	0.860	0.874	0.880	0.861	0.847	0.844
5	0.866	0.883	0.884	0.859	0.851	0.848	6	0.865	0.882	0.877	0.859	0.850	0.847

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.18

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.865 m_{bl}/m_∞ = 0.126 Δp_{t_2} = 0.080 p_2/p_∞ = 6.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.844	0.856	0.867	0.875	0.891	0.903	2	0.835	0.842	0.851	0.869	0.883	0.893
3	0.834	0.836	0.845	0.850	0.862	0.877	4	0.835	0.837	0.850	0.870	0.889	0.904
5	0.841	0.847	0.857	0.862	0.874	0.899	6	0.850	0.863	0.875	0.886	0.889	0.899

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.16

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.833 m_{bl}/m_∞ = 0.116 Δp_{t_2} = 0.097 p_2/p_∞ = 6.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.816	0.828	0.844	0.846	0.858	0.862	2	0.804	0.816	0.821	0.837	0.845	0.854
3	0.798	0.805	0.812	0.824	0.838	0.851	4	0.807	0.817	0.837	0.849	0.863	0.875
5	0.794	0.805	0.823	0.827	0.839	0.846	6	0.812	0.827	0.838	0.850	0.864	0.868

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.15

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.804 m_{bl}/m_∞ = 0.109 Δp_{t_2} = 0.142 p_2/p_∞ = 6.3

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.781	0.798	0.818	0.830	0.841	0.845	2	0.768	0.783	0.798	0.829	0.836	0.838
3	0.755	0.765	0.776	0.785	0.793	0.805	4	0.768	0.787	0.808	0.837	0.854	0.869
5	0.756	0.769	0.787	0.793	0.814	0.824	6	0.763	0.770	0.784	0.812	0.833	0.852

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.27

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.849 m_{bl}/m_∞ = 0.130 Δp_{t_2} = 0.075 p_2/p_∞ = 6.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.829	0.835	0.849	0.861	0.870	0.874	2	0.832	0.833	0.833	0.848	0.860	0.864
3	0.829	0.831	0.839	0.839	0.846	0.856	4	0.831	0.833	0.839	0.848	0.858	0.889
5	0.825	0.831	0.838	0.843	0.855	0.860	6	0.840	0.850	0.866	0.872	0.875	0.875

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.27

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.833 m_{bl}/m_∞ = 0.124 Δp_{t_2} = 0.045 p_2/p_∞ = 6.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.817	0.824	0.832	0.834	0.837	0.846	2	0.817	0.825	0.829	0.841	0.844	0.843
3	0.816	0.820	0.828	0.830	0.836	0.838	4	0.819	0.823	0.832	0.840	0.846	0.851
5	0.816	0.825	0.831	0.837	0.852	0.851	6	0.820	0.825	0.834	0.841	0.847	0.853

M_∞ = 2.00 α = 0.0° m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.25

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.827 m_{bl}/m_∞ = 0.120 Δp_{t_2} = 0.066 p_2/p_∞ = 6.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.814	0.828	0.838	0.845	0.854	0.858	2	0.807	0.812	0.816	0.826	0.834	0.840
3	0.804	0.808	0.813	0.824	0.824	0.835	4	0.808	0.814	0.822	0.829	0.840	0.858
5	0.804	0.812	0.825	0.826	0.837	0.840	6	0.814	0.826	0.831	0.834	0.838	0.845

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.00 α = 0.0^o m_o/m_∞ = 0.518 m_{bp}/m_∞ = 0.39

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.838 m_{bl}/m_∞ = 0.132 Δp_{t_2} = 0.068 p_2/p_∞ = 6.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.827	0.832	0.842	0.843	0.847	0.860	2	0.835	0.832	0.829	0.833	0.831	0.828
3	0.837	0.839	0.838	0.833	0.828	0.814	4	0.833	0.832	0.830	0.830	0.835	0.841
5	0.829	0.830	0.834	0.831	0.837	0.830	6	0.841	0.845	0.851	0.857	0.866	0.871

M_∞ = 2.00 α = 2.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.875 m_{bl}/m_∞ = 0.131 Δp_{t_2} = 0.108 p_2/p_∞ = 6.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.863	0.883	0.907	0.923	0.917	0.860	2	0.869	0.895	0.914	0.925	0.898	0.835
3	0.854	0.860	0.871	0.869	0.864	0.841	4	0.851	0.867	0.879	0.891	0.874	0.838
5	0.860	0.859	0.859	0.851	0.846	0.831	6	0.874	0.907	0.914	0.921	0.897	0.831

M_∞ = 2.00 α = 2.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0.18

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.860 m_{bl}/m_∞ = 0.130 Δp_{t_2} = 0.104 p_2/p_∞ = 6.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.836	0.851	0.869	0.883	0.901	0.916	2	0.840	0.849	0.860	0.884	0.910	0.919
3	0.830	0.833	0.836	0.833	0.834	0.831	4	0.837	0.836	0.854	0.853	0.867	0.869
5	0.831	0.837	0.836	0.829	0.840	0.836	6	0.849	0.867	0.884	0.901	0.907	0.904

M_∞ = 2.00 α = 2.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0.38

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.828 m_{bl}/m_∞ = 0.126 Δp_{t_2} = 0.107 p_2/p_∞ = 6.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.822	0.839	0.847	0.857	0.869	0.881	2	0.819	0.825	0.824	0.834	0.847	0.860
3	0.817	0.822	0.820	0.811	0.813	0.792	4	0.822	0.821	0.821	0.819	0.816	0.822
5	0.815	0.813	0.817	0.810	0.809	0.792	6	0.823	0.823	0.844	0.857	0.849	0.853

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.00 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.836 m_{bl}/m_∞ = 0.120 Δp_{t_2} = 0.168 p_2/p_∞ = 6.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.835	0.879	0.912	0.920	0.910	0.820	2	0.887	0.901	0.883	0.881	0.854	0.779
3	0.818	0.815	0.821	0.816	0.805	0.785	4	0.794	0.796	0.791	0.795	0.790	0.783
5	0.821	0.813	0.809	0.803	0.794	0.780	6	0.884	0.889	0.891	0.887	0.855	0.786

M_∞ = 2.00 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.17

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.826 m_{bl}/m_∞ = 0.121 Δp_{t_2} = 0.171 p_2/p_∞ = 6.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.870	0.879	0.891	0.879	0.861	0.838	2	0.839	0.855	0.863	0.885	0.895	0.866
3	0.779	0.779	0.780	0.778	0.777	0.775	4	0.777	0.778	0.781	0.775	0.773	0.771
5	0.775	0.776	0.783	0.782	0.785	0.781	6	0.835	0.859	0.881	0.899	0.912	0.912

M_∞ = 2.00 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.35

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.787 m_{bl}/m_∞ = 0.121 Δp_{t_2} = 0.183 p_2/p_∞ = 6.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.835	0.858	0.868	0.871	0.873	0.864	2	0.776	0.792	0.789	0.812	0.819	0.805
3	0.751	0.758	0.756	0.746	0.745	0.733	4	0.754	0.758	0.754	0.751	0.749	0.739
5	0.747	0.750	0.752	0.749	0.745	0.729	6	0.773	0.794	0.812	0.828	0.839	0.844

M_∞ = 2.00 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.762 m_{bl}/m_∞ = 0.106 Δp_{t_2} = 0.266 p_2/p_∞ = 5.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.818	0.875	0.897	0.896	0.861	0.721	2	0.848	0.801	0.780	0.786	0.763	0.701
3	0.748	0.737	0.733	0.722	0.712	0.700	4	0.718	0.719	0.720	0.720	0.708	0.699
5	0.752	0.735	0.727	0.717	0.709	0.694	6	0.850	0.800	0.797	0.799	0.768	0.716

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 2.00 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.14

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.750 m_{bl}/m_∞ = 0.106 Δp_{t_2} = 0.262 p_2/p_∞ = 6.4

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.803	0.851	0.880	0.893	0.899	0.895	2	0.821	0.767	0.736	0.734	0.733	0.711
3	0.709	0.710	0.710	0.707	0.707	0.706	4	0.704	0.704	0.705	0.702	0.705	0.709
5	0.706	0.710	0.710	0.703	0.702	0.704	6	0.825	0.775	0.750	0.743	0.742	0.744

M_∞ = 2.00 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.31

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.728 m_{bl}/m_∞ = 0.104 Δp_{t_2} = 0.320 p_2/p_∞ = 6.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.801	0.850	0.879	0.893	0.894	0.893	2	0.764	0.753	0.718	0.707	0.701	0.687
3	0.684	0.685	0.688	0.682	0.678	0.665	4	0.692	0.691	0.690	0.686	0.685	0.676
5	0.686	0.689	0.691	0.680	0.678	0.661	6	0.777	0.752	0.727	0.718	0.715	0.710

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.952 m_{bl}/m_∞ = 0.138 Δp_{t_2} = 0.086 p_2/p_∞ = 4.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.960	0.974	0.965	0.945	0.934	0.924	2	0.956	0.970	0.976	0.974	0.947	0.901
3	0.950	0.967	0.983	0.979	0.947	0.919	4	0.957	0.970	0.973	0.953	0.934	0.919
5	0.957	0.971	0.966	0.946	0.936	0.919	6	0.960	0.970	0.958	0.944	0.935	0.920

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.933 m_{bl}/m_∞ = 0.131 Δp_{t_2} = 0.089 p_2/p_∞ = 4.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.946	0.942	0.935	0.936	0.935	0.914	2	0.960	0.956	0.932	0.936	0.933	0.878
3	0.956	0.955	0.940	0.936	0.929	0.895	4	0.950	0.943	0.935	0.937	0.934	0.898
5	0.943	0.942	0.936	0.938	0.938	0.895	6	0.942	0.938	0.933	0.941	0.937	0.896

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.906 m_{bl}/m_∞ = 0.114 Δp_{t_2} = 0.128 p_2/p_∞ = 4.6

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.877	0.901	0.936	0.945	0.920	0.883	2	0.887	0.923	0.945	0.954	0.924	0.842
3	0.886	0.917	0.948	0.958	0.918	0.853	4	0.891	0.906	0.907	0.905	0.899	0.871
5	0.887	0.918	0.948	0.945	0.914	0.863	6	0.894	0.901	0.899	0.898	0.892	0.870

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.03

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.960 m_{bl}/m_∞ = 0.139 Δp_{t_2} = 0.074 p_2/p_∞ = 5.0

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.961	0.972	0.968	0.950	0.944	0.941	2	0.959	0.965	0.970	0.984	0.969	0.913
3	0.952	0.964	0.976	0.983	0.975	0.962	4	0.957	0.961	0.974	0.969	0.954	0.946
5	0.952	0.964	0.971	0.956	0.949	0.945	6	0.960	0.968	0.966	0.951	0.944	0.943

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.03

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.938 m_{bl}/m_∞ = 0.133 Δp_{t_2} = 0.070 p_2/p_∞ = 4.9

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.944	0.941	0.934	0.931	0.939	0.940	2	0.958	0.954	0.936	0.936	0.937	0.892
3	0.953	0.956	0.946	0.936	0.936	0.936	4	0.948	0.942	0.938	0.933	0.936	0.937
5	0.938	0.938	0.936	0.931	0.940	0.942	6	0.937	0.938	0.933	0.933	0.940	0.940

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.03

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.915 m_{bl}/m_∞ = 0.121 Δp_{t_2} = 0.092 p_2/p_∞ = 4.8

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.880	0.893	0.918	0.942	0.963	0.956	2	0.900	0.900	0.896	0.917	0.940	0.896
3	0.897	0.906	0.907	0.912	0.925	0.938	4	0.893	0.893	0.899	0.912	0.937	0.942
5	0.879	0.884	0.900	0.919	0.954	0.963	6	0.882	0.886	0.907	0.928	0.940	0.948

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.10

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.958 m_{bl}/m_∞ = 0.140 Δp_{t_2} = 0.049 p_2/p_∞ = 5.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.938	0.959	0.966	0.966	0.967	0.960	2	0.941	0.955	0.952	0.972	0.982	0.940
3	0.943	0.958	0.963	0.971	0.980	0.981	4	0.941	0.940	0.951	0.960	0.968	0.972
5	0.935	0.942	0.954	0.958	0.968	0.967	6	0.947	0.959	0.963	0.967	0.962	0.955

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.09

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.932 m_{bl}/m_∞ = 0.132 Δp_{t_2} = 0.062 p_2/p_∞ = 5.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.932	0.934	0.929	0.921	0.930	0.937	2	0.950	0.946	0.930	0.933	0.932	0.892
3	0.945	0.949	0.944	0.935	0.931	0.933	4	0.940	0.934	0.934	0.929	0.927	0.932
5	0.929	0.931	0.930	0.924	0.928	0.933	6	0.928	0.932	0.929	0.925	0.925	0.931

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.08

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.909 m_{bl}/m_∞ = 0.125 Δp_{t_2} = 0.062 p_2/p_∞ = 4.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.883	0.900	0.905	0.902	0.918	0.939	2	0.910	0.912	0.903	0.911	0.920	0.893
3	0.906	0.916	0.916	0.913	0.917	0.928	4	0.905	0.903	0.909	0.910	0.916	0.930
5	0.890	0.900	0.904	0.904	0.916	0.930	6	0.883	0.893	0.898	0.903	0.914	0.931

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.18

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.947 m_{bl}/m_∞ = 0.139 Δp_{t_2} = 0.041 p_2/p_∞ = 5.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.937	0.943	0.950	0.950	0.961	0.962	2	0.938	0.946	0.944	0.962	0.969	0.931
3	0.933	0.941	0.953	0.960	0.966	0.970	4	0.938	0.934	0.940	0.941	0.944	0.950
5	0.934	0.937	0.943	0.944	0.951	0.953	6	0.939	0.942	0.945	0.946	0.952	0.953

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.18

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.939 m_{bl}/m_∞ = 0.135 Δp_{t_2} = 0.054 p_2/p_∞ = 5.0

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.926	0.931	0.939	0.936	0.942	0.941	2	0.929	0.950	0.947	0.958	0.957	0.910
3	0.929	0.957	0.960	0.959	0.957	0.953	4	0.926	0.924	0.932	0.936	0.940	0.945
5	0.924	0.930	0.934	0.935	0.942	0.941	6	0.928	0.930	0.931	0.938	0.937	0.939

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.17

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.926 m_{bl}/m_∞ = 0.132 Δp_{t_2} = 0.065 p_2/p_∞ = 4.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.912	0.917	0.924	0.921	0.928	0.926	2	0.922	0.944	0.934	0.942	0.937	0.890
3	0.943	0.950	0.945	0.942	0.937	0.932	4	0.912	0.921	0.930	0.929	0.928	0.928
5	0.910	0.915	0.923	0.922	0.926	0.925	6	0.915	0.916	0.919	0.924	0.925	0.925

M_∞ = 1.75 α = 0.0° m_o/m_∞ = 0.451 m_{bp}/m_∞ = 0.31

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.940 m_{bl}/m_∞ = 0.138 Δp_{t_2} = 0.040 p_2/p_∞ = 5.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.936	0.938	0.942	0.943	0.951	0.955	2	0.938	0.942	0.933	0.947	0.957	0.919
3	0.935	0.939	0.940	0.943	0.951	0.957	4	0.939	0.936	0.940	0.937	0.935	0.934
5	0.936	0.939	0.941	0.937	0.938	0.932	6	0.938	0.939	0.939	0.941	0.940	0.937

M_∞ = 1.75 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.940 m_{bl}/m_∞ = 0.136 Δp_{t_2} = 0.135 p_2/p_∞ = 4.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.962	0.980	0.984	0.952	0.927	0.902	2	0.961	0.977	0.972	0.959	0.930	0.857
3	0.947	0.956	0.949	0.943	0.927	0.901	4	0.928	0.930	0.946	0.949	0.939	0.906
5	0.936	0.944	0.950	0.944	0.936	0.903	6	0.957	0.966	0.948	0.939	0.928	0.902

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 1.75 α = 2.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0.08

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.944 m_{bl}/m_∞ = 0.136 Δp_{t_2} = 0.075 p_2/p_∞ = 5.1

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.956	0.969	0.977	0.976	0.982	0.968	2	0.957	0.965	0.963	0.982	0.975	0.915
3	0.914	0.922	0.929	0.937	0.945	0.948	4	0.919	0.914	0.922	0.928	0.933	0.938
5	0.912	0.916	0.925	0.927	0.937	0.940	6	0.930	0.950	0.956	0.958	0.950	0.942

M_∞ = 1.75 α = 5.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.897 m_{bl}/m_∞ = 0.119 Δp_{t_2} = 0.188 p_2/p_∞ = 4.5

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.956	0.975	0.985	0.961	0.912	0.849	2	0.950	0.939	0.919	0.930	0.909	0.816
3	0.895	0.885	0.888	0.887	0.873	0.855	4	0.862	0.859	0.873	0.874	0.869	0.856
5	0.887	0.874	0.877	0.874	0.863	0.843	6	0.935	0.931	0.936	0.936	0.909	0.850

M_∞ = 1.75 α = 5.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0.08

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.898 m_{bl}/m_∞ = 0.121 Δp_{t_2} = 0.141 p_2/p_∞ = 4.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.957	0.966	0.977	0.969	0.968	0.948	2	0.926	0.908	0.900	0.921	0.931	0.900
3	0.870	0.869	0.868	0.870	0.875	0.882	4	0.854	0.850	0.856	0.859	0.862	0.868
5	0.856	0.858	0.866	0.864	0.870	0.870	6	0.911	0.900	0.904	0.914	0.929	0.944

M_∞ = 1.75 α = 8.0^o m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.829 m_{bl}/m_∞ = 0.105 Δp_{t_2} = 0.196 p_2/p_∞ = 4.2

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.911	0.928	0.901	0.884	0.886	0.792	2	0.882	0.905	0.889	0.898	0.855	0.766
3	0.832	0.813	0.800	0.789	0.781	0.770	4	0.799	0.794	0.800	0.796	0.787	0.777
5	0.822	0.809	0.802	0.786	0.779	0.774	6	0.817	0.867	0.873	0.867	0.835	0.784

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 1.75 α = 8.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.07

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.832 m_{bl}/m_∞ = 0.103 Δp_{t_2} = 0.171 p_2/p_∞ = 4.6

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.909	0.928	0.916	0.888	0.900	0.895	2	0.881	0.880	0.853	0.856	0.854	0.818
3	0.805	0.807	0.801	0.795	0.792	0.792	4	0.788	0.786	0.790	0.788	0.792	0.794
5	0.793	0.799	0.798	0.786	0.792	0.792	6	0.875	0.863	0.844	0.839	0.834	0.837

M_∞ = 1.55 α = 0.0° m_o/m_∞ = 0.421 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.980 m_{bl}/m_∞ = 0.132 Δp_{t_2} = 0.076 p_2/p_∞ = 3.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.966	0.980	0.991	0.980	0.989	0.968	2	0.971	0.981	0.980	1.000	0.987	0.926
3	0.966	0.980	0.991	0.995	0.994	0.959	4	0.970	0.975	0.993	1.000	0.987	0.962
5	0.962	0.972	0.988	0.996	0.995	0.961	6	0.970	0.981	0.995	1.000	0.989	0.962

M_∞ = 1.55 α = 0.0° m_o/m_∞ = 0.421 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.973 m_{bl}/m_∞ = 0.127 Δp_{t_2} = 0.089 p_2/p_∞ = 3.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.967	0.983	0.991	0.966	0.975	0.948	2	0.978	0.987	0.986	0.988	0.973	0.910
3	0.970	0.985	0.996	0.987	0.979	0.941	4	0.970	0.977	0.994	0.986	0.978	0.943
5	0.962	0.975	0.991	0.982	0.980	0.941	6	0.970	0.981	0.990	0.983	0.976	0.941

M_∞ = 1.55 α = 0.0° m_o/m_∞ = 0.421 m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.961 m_{bl}/m_∞ = 0.121 Δp_{t_2} = 0.092 p_2/p_∞ = 3.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.960	0.970	0.970	0.958	0.974	0.930	2	0.973	0.977	0.962	0.976	0.965	0.891
3	0.966	0.979	0.976	0.973	0.971	0.921	4	0.963	0.966	0.973	0.975	0.972	0.925
5	0.956	0.965	0.972	0.972	0.974	0.922	6	0.963	0.967	0.971	0.976	0.972	0.921

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

Bleed exit setting B

M_∞ = 1.55 α = 0.0° m_o/m_∞ = 0.421 m_{bp}/m_∞ = 0.04

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.944 m_{bl}/m_∞ = 0.140 Δp_{t_2} = 0.123 p_2/p_∞ = 3.7

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.924	0.951	0.939	----	0.972	0.986	2	0.950	0.918	0.909	0.944	0.974	0.876
3	0.910	0.932	0.963	0.904	0.966	0.979	4	0.958	0.913	0.952	0.948	0.942	0.982
5	0.934	0.951	0.960	0.921	0.914	0.929	6	0.916	0.952	0.970	0.940	0.976	0.992

M_∞ = 1.55 α = 0.0° m_o/m_∞ = 0.421 m_{bp}/m_∞ = 0.04

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.973 m_{bl}/m_∞ = 0.127 Δp_{t_2} = 0.049 p_2/p_∞ = 3.9

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.951	0.965	0.972	----	0.989	0.990	2	0.962	0.972	0.965	0.985	0.993	0.969
3	0.957	0.971	0.976	0.971	0.992	0.998	4	0.955	0.953	0.963	0.971	0.981	0.992
5	0.950	0.953	0.963	0.962	0.979	0.987	6	0.961	0.968	0.970	0.976	0.986	0.990

M_∞ = 1.55 α = 0.0° m_o/m_∞ = 0.421 m_{bp}/m_∞ = 0.04

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.965 m_{bl}/m_∞ = 0.121 Δp_{t_2} = 0.034 p_2/p_∞ = 3.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.956	0.966	0.967	----	0.971	0.973	2	0.970	0.972	0.962	0.975	0.974	0.948
3	0.962	0.972	0.973	0.966	0.976	0.975	4	0.946	0.955	0.965	0.969	0.970	0.972
5	0.943	0.954	0.964	0.960	0.970	0.972	6	0.957	0.963	0.965	0.967	0.969	0.970

M_∞ = 1.55 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.971 m_{bl}/m_∞ = 0.127 Δp_{t_2} = 0.093 p_2/p_∞ = 3.8

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.964	0.988	0.998	----	0.992	0.957	2	0.976	0.988	0.983	1.000	0.989	0.910
3	0.965	0.979	0.988	0.966	0.974	0.942	4	0.957	0.957	0.976	0.979	0.971	0.952
5	0.961	0.967	0.982	0.971	0.965	0.942	6	0.974	0.987	0.998	0.987	0.972	0.942

Table 2.- SUPERSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Concluded

Bleed exit setting B

M_∞ = 1.55 α = 2.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.04

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.968 m_{bl}/m_∞ = 0.126 Δp_{t_2} = 0.061 p_2/p_∞ = 3.9

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.966	0.978	0.985	----	0.999	1.000	2	0.972	0.977	0.969	0.992	0.997	0.972
3	0.944	0.951	0.955	0.945	0.972	0.979	4	0.949	0.944	0.954	0.959	0.964	0.970
5	0.941	0.944	0.952	0.947	0.961	0.965	6	0.961	0.971	0.978	0.987	0.992	0.988

M_∞ = 1.55 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.933 m_{bl}/m_∞ = 0.111 Δp_{t_2} = 0.141 p_2/p_∞ = 3.6

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.963	0.989	0.998	----	0.986	0.910	2	0.968	0.962	0.950	0.970	0.955	0.867
3	0.932	0.927	0.924	0.906	0.921	0.904	4	0.904	0.899	0.909	0.911	0.908	0.899
5	0.926	0.916	0.921	0.910	0.910	0.893	6	0.961	0.959	0.964	0.970	0.953	0.900

M_∞ = 1.55 α = 5.0° m_o/m_∞ = ---- m_{bp}/m_∞ = 0.03

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.931 m_{bl}/m_∞ = 0.113 Δp_{t_2} = 0.121 p_2/p_∞ = 3.8

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.960	0.976	0.990	----	0.999	0.998	2	0.961	0.951	0.936	0.957	0.961	0.936
3	0.910	0.912	0.909	0.889	0.911	0.915	4	0.895	0.886	0.899	0.899	0.900	0.903
5	0.895	0.897	0.902	0.896	0.911	0.914	6	0.954	0.945	0.946	0.953	0.958	0.962

M_∞ = α = m_o/m_∞ = m_{bp}/m_∞ =

$\bar{p}_{t_2}/p_{t_\infty}$ = m_{bl}/m_∞ = Δp_{t_2} = p_2/p_∞ =

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1							2						
3							4						
5							6						

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞}

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.329 C_{D_a} = 0.065

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.952 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.075 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.947	0.956	0.965	0.970	0.965	0.918	2	0.949	0.954	0.965	0.977	0.959	0.888
3	0.943	0.951	0.967	0.973	0.966	0.912	4	0.944	0.951	0.963	0.974	0.968	0.926
5	0.946	0.951	0.964	0.973	0.965	0.914	6	0.949	0.957	0.967	0.974	0.957	0.906

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.287 C_{D_a} = 0.091

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.987 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.035 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.976	0.984	0.993	0.999	0.999	0.976	2	0.981	0.991	0.996	1.001	0.994	0.940
3	0.981	0.988	0.991	0.996	0.994	0.967	4	0.980	0.990	0.999	1.001	0.998	0.982
5	0.980	0.986	0.993	0.997	0.999	0.976	6	0.978	0.985	0.992	0.996	0.992	0.966

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.336 C_{D_a} = 0.076

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.961 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.090 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.946	0.957	0.972	0.987	0.980	0.922	2	0.952	0.963	0.980	0.993	0.959	0.883
3	0.953	0.958	0.973	0.989	0.975	0.912	4	0.948	0.958	0.973	0.989	0.980	0.931
5	0.951	0.960	0.977	0.991	0.980	0.914	6	0.951	0.966	0.983	0.992	0.979	0.907

M_∞ = 0.6 α = 0° m_i/m_∞ = 0.283 C_{D_a} = 0.106

$\bar{p}_{t_2}/p_{t_\infty}$ 0.990 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.036 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO,	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.983	0.991	0.999	1.000	1.000	0.977	2	0.986	0.995	1.000	1.000	0.994	0.943
3	0.984	0.991	0.998	1.000	0.998	0.969	4	0.983	0.989	0.999	1.000	1.000	0.985
5	0.985	0.990	0.997	0.999	1.000	0.976	6	0.985	0.992	1.001	1.000	0.996	0.965

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} -Continued

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.339 C_{D_a} = 0.098

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.966 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.091 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.956	0.975	0.991	0.996	0.980	0.918	2	0.958	0.982	0.995	0.997	0.958	0.885
3	0.943	0.958	0.978	0.990	0.987	0.913	4	0.958	0.967	0.988	0.996	0.983	0.929
5	0.957	0.966	0.988	0.997	0.979	0.914	6	0.949	0.965	0.988	0.994	0.982	0.909

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.283 C_{D_a} = 0.143

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.991 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.035 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.985	0.994	1.001	1.001	0.999	0.978	2	0.987	0.997	1.000	1.000	0.993	0.944
3	0.986	0.993	1.000	1.000	0.999	0.971	4	0.985	0.991	0.999	1.000	1.000	0.989
5	0.987	0.990	0.997	0.999	1.000	0.977	6	0.988	0.993	1.001	1.001	0.994	0.966

M_∞ = 0.6 α = 2.0° m_i/m_∞ = 0.329 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.951 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.091 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.959	0.967	0.978	0.986	0.979	0.915	2	0.957	0.962	0.976	0.985	0.958	0.882
3	0.939	0.943	0.953	0.960	0.957	0.911	4	0.940	0.942	0.950	0.957	0.954	0.921
5	0.940	0.946	0.954	0.966	0.958	0.915	6	0.955	0.959	0.972	0.981	0.958	0.899

M_∞ = 0.6 α = 2.0° m_i/m_∞ = 0.287 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.990 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.035 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.986	0.994	1.000	1.000	1.000	0.976	2	0.988	0.997	1.000	1.001	0.999	0.945
3	0.985	0.992	1.000	1.000	0.997	0.967	4	0.977	0.983	0.994	1.000	1.000	0.984
5	0.984	0.990	0.999	0.999	0.997	0.973	6	0.987	0.996	1.001	1.000	0.995	0.966

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.6 α = 2.0^o m_i/m_∞ = 0.336 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.960 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.096 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.963	0.980	0.995	0.999	0.987	0.916	2	0.970	0.982	0.993	0.996	0.961	0.884
3	0.946	0.956	0.965	0.977	0.964	0.913	4	0.939	0.944	0.952	0.966	0.961	0.934
5	0.943	0.949	0.966	0.982	0.972	0.913	6	0.963	0.979	0.992	0.997	0.975	0.901

M_∞ = 0.6 α = 2.0^o m_i/m_∞ = 0.283 C_{D_a} = ----

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.991 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.033 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.986	0.995	1.000	1.000	1.000	0.980	2	0.987	0.995	1.000	1.001	0.999	0.946
3	0.987	0.992	1.001	1.000	0.998	0.969	4	0.982	0.988	0.998	1.001	1.000	0.984
5	0.986	0.991	1.000	1.000	0.999	0.975	6	0.989	0.996	1.001	1.001	0.995	0.968

M_∞ = 0.6 α = 5.0^o m_i/m_∞ = 0.329 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.948 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.101 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.977	0.992	0.999	1.000	0.988	0.906	2	0.969	0.971	0.975	0.982	0.957	0.878
3	0.937	0.937	0.938	0.944	0.937	0.904	4	0.929	0.928	0.936	0.941	0.933	0.910
5	0.939	0.941	0.942	0.947	0.941	0.912	6	0.967	0.968	0.978	0.980	0.958	0.893

M_∞ = 0.6 α = 5.0^o m_i/m_∞ = 0.287 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.981 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.043 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.982	0.989	0.996	1.000	0.999	0.969	2	0.987	0.998	0.998	1.000	0.990	0.934
3	0.981	0.980	0.979	0.980	0.975	0.960	4	0.966	0.967	0.969	0.970	0.971	0.965
5	0.981	0.979	0.981	0.984	0.982	0.969	6	0.988	0.998	1.000	1.000	0.991	0.958

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.6 α = 5.0° m_i/m_∞ = 0.336 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.956 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.115 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.962	0.998	1.000	1.000	0.991	0.909	2	0.981	0.995	0.995	0.996	0.961	0.874
3	0.953	0.946	0.947	0.949	0.946	0.910	4	0.931	0.932	0.939	0.948	0.944	0.922
5	0.955	0.947	0.946	0.952	0.948	0.917	6	0.985	0.993	0.996	0.995	0.967	0.890

M_∞ = 0.6 α = 5.0° m_i/m_∞ = 0.283 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.986 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.041 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.985	0.995	1.001	1.000	0.999	0.970	2	0.990	0.999	0.999	1.000	0.992	0.937
3	0.985	0.989	0.993	0.995	0.990	0.968	4	0.973	0.974	0.973	0.975	0.977	0.975
5	0.985	0.987	0.991	0.995	0.993	0.974	6	0.991	0.999	1.001	1.001	0.993	0.961

M_∞ = 0.6 α = 8.0° m_i/m_∞ = 0.329 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.942 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.120 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.987	1.000	1.000	1.000	0.988	0.902	2	0.981	0.975	0.974	0.975	0.946	----
3	0.937	0.932	0.929	0.927	0.919	0.897	4	0.921	0.925	0.926	0.922	0.913	0.896
5	0.937	0.929	0.930	0.929	0.924	0.898	6	0.979	0.971	0.973	0.978	0.950	0.887

M_∞ = 0.6 α = 8.0° m_i/m_∞ = 0.287 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.975 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.052 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.987	0.999	1.001	1.000	0.998	0.962	2	0.992	0.996	0.995	0.997	0.985	----
3	0.975	0.967	0.964	0.960	0.956	0.950	4	0.959	0.959	0.962	0.964	0.963	0.956
5	0.977	0.967	0.962	0.961	0.960	0.952	6	0.994	0.995	0.997	0.998	0.987	0.952

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.6 α = 8.0° m_i/m_∞ = 0.336 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.949 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.123 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.980	1.000	1.001	1.001	0.982	0.903	2	0.986	0.992	0.991	0.992	0.954	----
3	0.949	0.938	0.939	0.932	0.919	0.901	4	0.919	0.921	0.926	0.929	0.925	0.908
5	0.952	0.941	0.936	0.936	0.926	0.903	6	0.989	0.991	0.994	0.992	0.963	0.884

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.283 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.979 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.046 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.987	0.997	1.000	1.001	0.998	0.968	2	0.994	1.001	1.000	1.001	0.990	----
3	0.982	0.973	0.972	0.971	0.967	0.960	4	0.961	0.962	0.962	0.965	0.965	0.960
5	0.981	0.973	0.971	0.973	0.970	0.962	6	0.994	1.000	1.001	1.000	0.992	0.956

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.332 C_{D_a} = 0.074

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.912 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.122 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.923	0.931	0.939	0.941	0.910	0.846	2	0.923	0.933	0.935	0.939	0.904	----
3	0.918	0.926	0.929	0.938	0.903	0.837	4	0.925	0.924	0.936	0.943	0.914	0.851
5	0.923	0.926	0.930	0.939	0.913	0.842	6	0.924	0.927	0.932	0.940	0.904	0.832

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.295 C_{D_a} = 0.098

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.977 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.056 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.967	0.979	0.993	0.999	0.996	0.957	2	0.974	0.980	0.981	0.988	0.981	----
3	0.972	0.978	0.986	0.990	0.984	0.944	4	0.971	0.983	0.992	0.995	0.990	0.954
5	0.971	0.985	0.991	0.985	0.983	0.946	6	0.970	0.979	0.987	0.991	0.985	0.944

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.338 C_{D_a} = 0.092

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.926 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.147 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.918	0.930	0.951	0.972	0.951	0.861	2	0.918	0.931	0.955	0.969	0.924	----
3	0.916	0.933	0.954	0.965	0.932	0.844	4	0.917	0.928	0.950	0.966	0.949	0.865
5	0.919	0.933	0.948	0.962	0.940	0.848	6	0.919	0.937	0.963	0.968	0.930	0.836

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.292 C_{D_a} = 0.124

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.984 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.056 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.975	0.987	0.999	1.000	0.999	0.960	2	0.979	0.992	0.998	1.000	0.991	----
3	0.976	0.986	0.998	1.000	0.998	0.946	4	0.976	0.986	0.999	1.000	0.998	0.958
5	0.979	0.986	0.996	0.997	0.999	0.952	6	0.979	0.989	1.000	1.000	0.995	0.945

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.339 C_{D_a} = 0.123

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.931 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.165 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.908	0.930	0.965	0.989	0.969	0.854	2	0.912	0.938	0.968	0.988	0.925	----
3	0.905	0.927	0.959	0.985	0.934	0.845	4	0.910	0.929	0.961	0.987	0.965	0.859
5	0.913	0.938	0.970	0.990	0.955	0.843	6	0.911	0.929	0.971	0.984	0.938	0.835

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.291 C_{D_a} = 0.167

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.985 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.043 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.977	0.989	0.999	1.000	0.998	0.962	2	0.980	0.993	0.998	1.000	0.990	----
3	0.977	0.988	1.000	1.000	0.999	0.948	4	0.976	0.987	1.000	1.000	0.998	0.960
5	0.980	0.985	0.996	0.997	0.998	0.953	6	0.981	0.988	1.000	1.000	0.995	0.948

M_∞ = 0.8 α = 2.0° m_i/m_∞ = 0.332 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.909 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.144 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.937	0.943	0.955	0.964	0.938	0.839	2	0.934	0.936	0.945	0.949	0.909	----
3	0.912	0.910	0.919	0.919	0.893	0.843	4	0.909	0.909	0.909	0.915	0.897	0.847
5	0.913	0.915	0.916	0.920	0.902	0.843	6	0.929	0.932	0.939	0.948	0.908	0.833

M_∞ = 0.8 α = 2.0° m_i/m_∞ = 0.295 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.976 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.061 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.969	0.984	0.999	1.000	0.998	0.949	2	0.969	0.986	0.997	1.000	0.987	----
3	0.972	0.972	0.974	0.977	0.977	0.946	4	0.962	0.971	0.976	0.980	0.977	0.958
5	0.975	0.980	0.981	0.979	0.974	0.952	6	0.970	0.989	1.000	1.000	0.993	0.940

M_∞ = 0.8 α = 2.0° m_i/m_∞ = 0.338 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.922 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.176 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.939	0.962	0.985	0.995	0.960	0.842	2	0.933	0.946	0.962	0.973	0.918	----
3	0.913	0.913	0.922	0.937	0.921	0.851	4	0.907	0.912	0.926	0.933	0.922	0.866
5	0.911	0.911	0.928	0.940	0.922	0.861	6	0.933	0.944	0.967	0.975	0.931	0.833

M_∞ = 0.8 α = 2.0° m_i/m_∞ = 0.292 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.984 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.056 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.979	0.991	1.000	1.000	0.998	0.957	2	0.981	0.995	0.999	1.000	0.996	----
3	0.977	0.987	0.999	1.000	0.992	0.945	4	0.966	0.976	0.993	1.000	0.999	0.970
5	0.976	0.986	0.997	0.998	0.993	0.953	6	0.980	0.993	1.000	1.000	0.995	0.945

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.8 α = 5.0° m_i/m_∞ = 0.332 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.905 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.198 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.964	0.979	0.993	0.999	0.963	0.829	2	0.948	0.941	0.950	0.956	0.899	----
3	0.892	0.896	0.893	0.895	0.881	0.839	4	0.885	0.884	0.891	0.888	0.871	0.836
5	0.897	0.893	0.895	0.901	0.887	0.844	6	0.944	0.941	0.951	0.952	0.900	0.820

M_∞ = 0.8 α = 5.0° m_i/m_∞ = 0.295 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.969 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.070 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.975	0.983	0.995	1.000	0.998	0.950	2	0.982	0.997	0.997	0.999	0.983	----
3	0.973	0.964	0.963	0.963	0.953	0.937	4	0.951	0.952	0.956	0.959	0.950	0.942
5	0.970	0.965	0.963	0.958	0.953	0.938	6	0.984	0.997	0.999	0.999	0.986	0.932

M_∞ = 0.8 α = 5.0° m_i/m_∞ = 0.338 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.919 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.193 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.957	0.995	0.999	1.000	0.969	0.843	2	0.968	0.968	0.979	0.975	0.902	----
3	0.914	0.910	0.904	0.906	0.891	0.851	4	0.892	0.899	0.901	0.901	0.885	0.855
5	0.912	0.906	0.906	0.905	0.898	0.855	6	0.967	0.968	0.977	0.977	0.916	0.823

M_∞ = 0.8 α = 5.0° m_i/m_∞ = 0.292 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.977 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.063 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.979	0.993	1.001	1.000	0.999	0.951	2	0.986	0.999	0.999	1.001	0.986	----
3	0.977	0.981	0.985	0.987	0.978	0.949	4	0.958	0.959	0.961	0.963	0.962	0.956
5	0.977	0.978	0.981	0.982	0.977	0.953	6	0.987	0.999	1.001	1.001	0.989	0.939

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.8 α = 8.0° m_i/m_∞ = 0.332 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.897 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.205 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.983	0.998	1.000	0.999	0.957	0.825	2	0.964	0.940	0.928	0.933	0.882	----
3	0.889	0.887	0.882	0.882	0.863	0.825	4	0.880	0.872	0.876	0.866	0.848	0.819
5	0.893	0.884	0.882	0.876	0.861	0.827	6	0.967	0.935	0.933	0.930	0.887	0.816

M_∞ = 0.8 α = 8.0° m_i/m_∞ = 0.295 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.959 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.076 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.981	0.998	1.000	1.000	0.996	0.938	2	0.990	0.994	0.992	0.994	0.975	----
3	0.963	0.949	0.940	0.938	0.927	0.918	4	0.937	0.937	0.937	0.937	0.935	0.928
5	0.963	0.948	0.942	0.936	0.935	0.922	6	0.992	0.993	0.993	0.993	0.977	0.927

M_∞ = 0.8 α = 8.0° m_i/m_∞ = 0.338 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.909 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.198 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.971	0.999	1.000	1.000	0.966	0.833	2	0.977	0.978	0.975	0.971	0.902	----
3	0.908	0.900	0.887	0.884	0.863	0.830	4	0.878	0.869	0.872	0.872	0.859	0.836
5	0.913	0.895	0.884	0.875	0.859	0.831	6	0.981	0.978	0.976	0.976	0.916	0.820

M_∞ = 0.8 α = 8.0° m_i/m_∞ = 0.292 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.965 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.074 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.981	0.996	1.000	1.000	0.998	0.940	2	0.991	1.000	0.998	1.000	0.982	----
3	0.970	0.955	0.949	0.949	0.942	0.931	4	0.940	0.941	0.941	0.942	0.939	0.935
5	0.970	0.953	0.949	0.945	0.947	0.934	6	0.992	0.998	1.000	1.000	0.987	0.929

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.9 α = 0.0° m_i/m_∞ = 0.331 C_{D_a} = 0.088

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.885 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.154 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.889	0.897	0.912	0.914	0.888	0.818	2	0.892	0.904	0.919	0.932	0.880	----
3	0.892	0.897	0.908	0.917	0.881	0.801	4	0.890	0.889	0.905	0.914	0.892	0.810
5	0.889	0.899	0.916	0.921	0.884	0.802	6	0.887	0.903	0.927	0.934	0.885	0.798

M_∞ = 0.9 α = 0.0° m_i/m_∞ = 0.299 C_{D_a} = 0.111

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.976 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.067 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.964	0.974	0.994	0.999	0.997	0.955	2	0.971	0.981	0.985	0.990	0.982	----
3	0.970	0.978	0.986	0.991	0.985	0.935	4	0.965	0.983	0.998	1.000	0.991	0.946
5	0.968	0.978	0.989	0.994	0.991	0.941	6	0.969	0.977	0.987	0.994	0.990	0.937

M_∞ = 0.9 α = 0.0° m_i/m_∞ = 0.337 C_{D_a} = 0.110

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.900 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.164 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.901	0.914	0.935	0.953	0.925	0.824	2	0.898	0.910	0.931	0.942	0.892	0.779
3	0.897	0.902	0.928	0.940	0.904	0.810	4	0.901	0.907	0.929	0.947	0.918	0.821
5	0.898	0.908	0.936	0.943	0.909	0.814	6	0.900	0.914	0.937	0.946	0.899	0.805

M_∞ = 0.9 α = 0.0° m_i/m_∞ = 0.298 C_{D_a} = 0.144

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.982 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.069 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.973	0.986	0.999	1.000	0.999	0.953	2	0.977	0.991	0.997	1.000	0.992	----
3	0.973	0.984	0.999	1.000	0.996	0.932	4	0.973	0.984	0.999	1.000	0.997	0.947
5	0.976	0.985	0.998	0.996	0.998	0.940	6	0.977	0.988	1.000	1.000	0.997	0.940

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.9 α = 0.0° m_i/m_∞ = 0.336 C_{D_a} = 0.152

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.907 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.184 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.879	0.905	0.939	0.971	0.946	0.822	2	0.887	0.910	0.947	0.970	0.915	----
3	0.880	0.905	0.938	0.964	0.918	0.812	4	0.884	0.903	0.943	0.967	0.945	0.831
5	0.883	0.911	0.943	0.968	0.926	0.806	6	0.889	0.917	0.956	0.970	0.911	0.804

M_∞ = 0.9 α = 0.0° m_i/m_∞ = 0.296 C_{D_a} = 0.194

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.982 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.068 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.974	0.987	0.999	1.000	0.999	0.954	2	0.977	0.992	0.998	1.000	0.991	----
3	0.973	0.986	0.999	1.000	0.995	0.933	4	0.974	0.986	1.000	1.000	0.997	0.948
5	0.978	0.983	0.996	0.996	0.998	0.942	6	0.978	0.987	1.000	1.000	0.996	0.942

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.323 C_{D_a} = 0.124

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.837 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.168 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.816	0.835	0.862	0.885	0.863	0.771	2	0.828	0.852	0.877	0.895	0.852	----
3	0.815	0.827	0.850	0.871	0.848	0.759	4	0.818	0.833	0.861	0.884	0.862	0.768
5	0.819	0.840	0.866	0.883	0.857	0.760	6	0.824	0.844	0.871	0.894	0.851	0.754

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.299 C_{D_a} = 0.145

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.960 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.069 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.956	0.964	0.979	0.985	0.984	0.940	2	0.959	0.964	0.966	0.973	0.967	----
3	0.955	0.960	0.969	0.970	0.963	0.920	4	0.960	0.973	0.982	0.986	0.976	0.928
5	0.957	0.961	0.965	0.966	0.971	0.926	6	0.957	0.964	0.969	0.977	0.972	0.920

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.333 C_{D_a} = 0.138

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.877 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.172 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.888	0.897	0.916	0.919	0.882	0.794	2	0.898	0.901	0.913	0.924	0.865	----
3	0.889	0.898	0.913	0.915	0.864	0.775	4	0.883	0.890	0.900	0.907	0.867	0.789
5	0.894	0.902	0.911	0.912	0.868	0.784	6	0.896	0.902	0.917	0.921	0.863	0.773

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.303 C_{D_a} = 0.178

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.980 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.074 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.971	0.983	0.998	0.999	0.998	0.945	2	0.975	0.990	0.996	1.000	0.990	----
3	0.972	0.983	0.999	0.999	0.993	0.927	4	0.970	0.983	0.999	1.000	0.996	0.941
5	0.975	0.984	0.997	0.994	0.997	0.934	6	0.975	0.987	1.000	1.000	0.997	0.933

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.334 C_{D_a} = 0.205

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.880 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.198 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.862	0.882	0.911	0.938	0.915	0.800	2	0.859	0.882	0.914	0.942	0.889	----
3	0.861	0.876	0.911	0.931	0.891	0.783	4	0.858	0.882	0.918	0.945	0.914	0.800
5	0.861	0.876	0.911	0.934	0.894	0.787	6	0.862	0.893	0.930	0.948	0.885	0.774

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.302 C_{D_a} = 0.240

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.980 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.074 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.972	0.984	0.999	1.000	0.998	0.940	2	0.974	0.992	0.997	1.000	0.987	----
3	0.972	0.983	0.999	1.000	0.993	0.928	4	0.972	0.984	0.999	1.000	0.996	0.943
5	0.976	0.982	0.996	0.995	0.997	0.928	6	0.977	0.986	1.000	1.001	0.996	0.932

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 1.0 α = 2.0° m_i/m_∞ = 0.323 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.834 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.205 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.839	0.862	0.895	0.917	0.883	0.763	2	0.836	0.857	0.888	0.905	0.849	----
3	0.810	0.825	0.849	0.863	0.840	0.759	4	0.799	0.807	0.837	0.847	0.826	0.765
5	0.812	0.825	0.846	0.860	0.840	0.759	6	0.831	0.853	0.882	0.903	0.854	0.746

M_∞ = 1.0 α = 2.0° m_i/m_∞ = 0.299 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.956 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.073 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.957	0.970	0.979	0.982	0.983	0.933	2	0.958	0.968	0.972	0.982	0.968	----
3	0.960	0.962	0.971	0.975	0.958	0.914	4	0.938	0.938	0.946	0.955	0.950	0.930
5	0.962	0.959	0.958	0.958	0.951	0.916	6	0.960	0.976	0.982	0.985	0.972	0.913

M_∞ = 1.0 α = 2.0° m_i/m_∞ = 0.333 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.872 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.214 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.902	0.915	0.947	0.956	0.910	0.776	2	0.902	0.910	0.917	0.925	0.861	----
3	0.877	0.875	0.887	0.897	0.852	0.775	4	0.856	0.858	0.864	0.868	0.848	0.788
5	0.883	0.887	0.895	0.897	0.858	0.778	6	0.899	0.907	0.924	0.932	0.874	0.769

M_∞ = 1.0 α = 2.0° m_i/m_∞ = 0.303 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.980 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.079 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.975	0.987	0.999	1.000	0.997	0.944	2	0.978	0.993	0.997	1.000	0.995	----
3	0.973	0.983	0.999	1.000	0.984	0.923	4	0.962	0.974	0.994	1.000	0.996	0.947
5	0.973	0.985	0.998	0.994	0.990	0.933	6	0.978	0.992	1.001	1.000	0.996	0.932

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 1.0 α = 5.0^o m_i/m_∞ = 0.323 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.827 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.255 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.908	0.926	0.949	0.949	0.878	0.746	2	0.871	0.870	0.870	0.875	0.821	----
3	0.822	0.811	0.809	0.823	0.792	0.744	4	0.791	0.795	0.810	0.806	0.784	0.745
5	0.821	0.814	0.816	0.816	0.792	0.749	6	0.866	0.864	0.883	0.886	0.828	0.738

M_∞ = 1.0 α = 5.0^o m_i/m_∞ = 0.299 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.949 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.087 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.953	0.963	0.980	0.985	0.985	0.925	2	0.975	0.980	0.978	0.986	0.969	----
3	0.958	0.940	0.938	0.933	0.924	0.905	4	0.933	0.932	0.933	0.934	0.929	0.915
5	0.957	0.946	0.941	0.931	0.930	0.907	6	0.976	0.982	0.984	0.988	0.975	0.910

M_∞ = 1.0 α = 5.0^o m_i/m_∞ = 0.333 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.867 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.277 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.925	0.964	0.989	0.993	0.940	0.763	2	0.925	0.926	0.939	0.947	0.865	----
3	0.851	0.843	0.847	0.848	0.826	0.775	4	0.824	0.828	0.835	0.837	0.818	0.780
5	0.852	0.852	0.853	0.859	0.834	0.784	6	0.918	0.926	0.941	0.951	0.878	0.753

M_∞ = 1.0 α = 5.0^o m_i/m_∞ = 0.303 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.972 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.076 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.975	0.988	1.000	1.000	0.997	0.935	2	0.983	0.998	0.997	1.000	0.980	----
3	0.974	0.973	0.981	0.980	0.971	0.935	4	0.949	0.949	0.952	0.954	0.955	0.946
5	0.972	0.974	0.980	0.977	0.972	0.940	6	0.984	0.998	1.001	1.001	0.987	0.926

M_∞ = 1.0 α = 8.0° m_i/m_∞ = 0.323 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.815 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.331 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.939	0.968	0.989	0.985	0.879	0.719	2	0.892	0.854	0.846	0.852	0.799	----
3	0.796	0.789	0.787	0.786	0.773	0.729	4	0.768	0.769	0.774	0.775	0.760	0.730
5	0.799	0.797	0.799	0.799	0.783	0.738	6	0.890	0.848	0.848	0.851	0.811	0.719

M_∞ = 1.0 α = 8.0° m_i/m_∞ = 0.299 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.938 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.106 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.956	0.975	0.983	0.986	0.980	0.908	2	0.982	0.981	0.980	0.981	0.954	----
3	0.941	0.924	0.915	0.912	0.905	0.887	4	0.907	0.907	0.913	0.911	0.906	0.897
5	0.944	0.924	0.914	0.911	0.908	0.892	6	0.983	0.981	0.983	0.986	0.967	0.901

M_∞ = 1.0 α = 8.0° m_i/m_∞ = 0.333 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.850 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.304 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.946	0.979	0.987	0.989	0.913	0.731	2	0.950	0.940	0.926	0.923	0.843	----
3	0.849	0.826	0.814	0.809	0.779	0.751	4	0.807	0.807	0.807	0.808	0.779	0.756
5	0.848	0.830	0.817	0.804	0.788	0.753	6	0.948	0.936	0.934	0.927	0.853	0.741

M_∞ = 1.0 α = 8.0° m_i/m_∞ = 0.303 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.955 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.094 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.976	0.993	1.001	1.000	0.994	0.921	2	0.989	1.000	0.996	1.000	0.971	----
3	0.966	0.943	0.936	0.935	0.928	0.913	4	0.925	0.926	0.926	0.925	0.925	0.917
5	0.965	0.942	0.935	0.930	0.926	0.913	6	0.989	0.999	0.999	1.000	0.982	0.910

M_∞ = 1.1 α = 0.0° m_i/m_∞ = 0.321 C_{D_a} = 0.178

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.812 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.187 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.785	0.800	0.836	0.858	0.835	0.753	2	0.799	0.828	0.861	0.881	0.829	----
3	0.786	0.802	0.838	0.870	0.832	0.733	4	0.781	0.807	0.833	0.858	0.845	0.755
5	0.771	0.804	0.845	0.858	0.831	0.736	6	0.790	0.808	0.845	0.869	0.836	0.727

M_∞ = 1.1 α = 0.0° m_i/m_∞ = 0.308 C_{D_a} = 0.191

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.941 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.074 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.924	0.936	0.958	0.964	0.968	0.928	2	0.924	0.939	0.944	0.960	0.951	----
3	0.923	0.931	0.945	0.958	0.952	0.907	4	0.929	0.939	0.954	0.964	0.954	0.918
5	0.931	0.944	0.951	0.959	0.957	0.907	6	0.932	0.950	0.969	0.973	0.960	0.903

M_∞ = 1.1 α = 0.0° m_i/m_∞ = 0.333 C_{D_a} = 0.186

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.853 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.178 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.863	0.869	0.895	0.902	0.868	0.773	2	0.864	0.864	0.877	0.889	0.845	----
3	0.867	0.874	0.889	0.893	0.850	0.756	4	0.857	0.865	0.880	0.889	0.854	0.770
5	0.856	0.862	0.883	0.890	0.849	0.765	6	0.868	0.877	0.891	0.901	0.847	0.750

M_∞ = 1.1 α = 0.0° m_i/m_∞ = 0.311 C_{D_a} = 0.220

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.978 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.077 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.967	0.978	0.998	1.000	0.998	0.943	2	0.972	0.988	0.994	1.000	0.986	----
3	0.967	0.976	0.997	1.000	0.994	0.925	4	0.967	0.980	0.998	1.000	0.995	0.939
5	0.972	0.982	0.998	0.993	0.996	0.930	6	0.972	0.985	0.999	1.000	0.996	0.928

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞}- Continued

M_∞ = 1.1 α = 0.0° m_i/m_∞ = 0.337 C_{D_a} = 0.256

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.863 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.200 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.840	0.859	0.897	0.932	0.908	0.778	2	0.838	0.860	0.890	0.928	0.871	----
3	0.836	0.852	0.897	0.925	0.883	0.768	4	0.839	0.860	0.908	0.931	0.898	0.786
5	0.836	0.854	0.892	0.919	0.885	0.764	6	0.841	0.878	0.920	0.937	0.879	0.764

M_∞ = 1.1 α = 0.0° m_i/m_∞ = 0.311 C_{D_a} = 0.286

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.979 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.076 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.968	0.980	0.999	1.000	0.998	0.944	2	0.972	0.989	0.995	1.000	0.987	----
3	0.968	0.978	0.998	1.000	0.993	0.926	4	0.969	0.982	0.999	1.001	0.996	0.940
5	0.973	0.981	0.997	0.993	0.997	0.932	6	0.974	0.984	1.000	1.000	0.995	0.928

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.328 C_{D_a} = 0.150

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.775 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.188 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.748	0.768	0.802	0.826	0.804	0.718	2	0.753	0.779	0.808	0.839	0.795	0.663
3	0.745	0.759	0.791	0.815	0.797	0.702	4	0.749	0.778	0.814	0.832	0.806	0.715
5	0.743	0.770	0.806	0.830	0.802	0.703	6	0.744	0.780	0.806	0.830	0.801	0.693

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.307 C_{D_a} = 0.161

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.901 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.059 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.888	0.895	0.909	0.920	0.917	0.887	2	0.890	0.896	0.903	0.914	0.910	0.840
3	0.892	0.897	0.914	0.922	0.908	0.874	4	0.891	0.898	0.908	0.915	0.910	0.881
5	0.897	0.903	0.915	0.917	0.916	0.875	6	0.893	0.905	0.918	0.924	0.912	0.871

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.278 C_{D_a} = 0.203

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.960 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.032 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.958	0.961	0.971	0.971	0.972	0.959	2	0.960	0.966	0.961	0.968	0.964	----
3	0.957	0.956	0.964	0.966	0.962	0.943	4	0.960	0.966	0.971	0.970	0.961	0.947
5	0.960	0.965	0.967	0.961	0.968	0.943	6	0.961	0.964	0.965	0.970	0.968	0.940

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.335 C_{D_a} = 0.166

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.824 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.200 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.808	0.820	0.850	0.875	0.857	0.760	2	0.807	0.822	0.852	0.880	0.835	0.699
3	0.802	0.812	0.856	0.882	0.848	0.736	4	0.804	0.809	0.843	0.868	0.854	0.763
5	0.804	0.832	0.860	0.882	0.848	0.743	6	0.810	0.833	0.872	0.894	0.841	0.729

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.317 C_{D_a} = 0.176

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.960 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.085 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.940	0.951	0.978	0.992	0.989	0.929	2	0.946	0.963	0.976	0.988	0.974	----
3	0.942	0.951	0.975	0.991	0.983	0.910	4	0.941	0.954	0.977	0.987	0.985	0.926
5	0.946	0.957	0.978	0.985	0.986	0.918	6	0.945	0.959	0.981	0.989	0.985	0.912

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.275 C_{D_a} = 0.260

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.988 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.035 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.979	0.982	0.997	0.999	0.998	0.987	2	0.984	0.992	0.995	1.000	0.994	0.926
3	0.982	0.983	0.998	1.000	0.998	0.966	4	0.982	0.985	0.998	1.000	0.997	0.973
5	0.983	0.987	0.996	0.992	0.999	0.967	6	0.983	0.989	0.999	1.000	0.998	0.965

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 1.3 α = 0.0° m_i/m_∞ = 0.324 C_{D_a} = 0.137

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.745 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.199 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.710	0.723	0.757	0.771	0.760	0.687	2	0.730	0.765	0.800	0.830	0.774	----
3	0.715	0.736	0.768	0.797	0.764	0.675	4	0.709	0.726	0.754	0.776	0.761	0.685
5	0.717	0.749	0.787	0.817	0.779	0.673	6	0.727	0.748	0.784	0.812	0.768	0.669

M_∞ = 1.3 α = 0.0° m_i/m_∞ = 0.313 C_{D_a} = 0.141

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.858 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.055 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.867	0.867	0.873	0.871	0.856	0.831	2	0.866	0.864	0.864	0.872	0.858	----
3	0.858	0.857	0.870	0.870	0.849	0.834	4	0.864	0.861	0.866	0.864	0.852	0.828
5	0.867	0.870	0.875	0.872	0.861	0.832	6	0.864	0.869	0.868	0.873	0.857	0.828

M_∞ = 1.3 α = 0.0° m_i/m_∞ = 0.303 C_{D_a} = 0.151

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.897 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.041 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.895	0.899	0.909	0.910	0.901	0.882	2	0.898	0.903	0.904	0.910	0.902	----
3	0.895	0.891	0.903	0.905	0.896	0.878	4	0.896	0.899	0.905	0.908	0.894	0.878
5	0.905	0.908	0.912	0.907	0.901	0.875	6	0.897	0.899	0.904	0.908	0.899	0.877

M_∞ = 1.3 α = 0.0° m_i/m_∞ = 0.341 C_{D_a} = 0.146

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.802 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.203 Bleed exit setting = Open

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.775	0.797	0.841	0.872	0.843	0.728	2	0.772	0.805	0.832	0.863	0.811	0.675
3	0.777	0.793	0.832	0.855	0.814	0.716	4	0.774	0.803	0.836	0.860	0.834	0.731
5	0.770	0.800	0.845	0.858	0.826	0.712	6	0.783	0.811	0.851	0.860	0.811	0.709

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 1.3 α = 0.0° m_i/m_∞ = 0.328 C_{D_a} = 0.156

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.945 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.086 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.929	0.934	0.958	0.973	0.980	0.917	2	0.933	0.944	0.951	0.972	0.961	0.859
3	0.931	0.934	0.951	0.963	0.964	0.907	4	0.929	0.942	0.960	0.975	0.974	0.914
5	0.933	0.944	0.957	0.964	0.974	0.905	6	0.931	0.940	0.959	0.976	0.975	0.899

M_∞ = 1.3 α = 0.0° m_i/m_∞ = 0.307 C_{D_a} = 0.179

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.965 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.052 Bleed exit setting = Open

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.956	0.962	0.977	0.981	0.984	0.959	2	0.962	0.969	0.971	0.981	0.977	----
3	0.959	0.960	0.975	0.979	0.976	0.932	4	0.959	0.962	0.975	0.981	0.980	0.943
5	0.963	0.966	0.974	0.973	0.982	0.933	6	0.962	0.965	0.976	0.982	0.980	0.932

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.329 C_{D_a} = 0.065

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.956 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.094 Bleed exit setting = Closed

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.943	0.953	0.971	0.986	0.974	0.914	2	0.946	0.959	0.977	0.990	0.963	0.879
3	0.944	0.956	0.976	0.988	0.973	0.900	4	0.946	0.953	0.967	0.984	0.975	0.921
5	0.946	0.957	0.973	0.987	0.970	0.904	6	0.945	0.959	0.974	0.989	0.967	0.902

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.287 C_{D_a} = 0.091

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.938 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.025 Bleed exit setting = Closed

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.937	0.938	0.941	0.946	0.940	0.928	2	0.938	0.941	0.946	0.945	0.940	0.910
3	0.937	0.938	0.943	0.944	0.939	0.927	4	0.935	0.938	0.941	0.944	0.940	0.929
5	0.938	0.940	0.941	0.944	0.943	0.933	6	0.937	0.939	0.942	0.949	0.941	0.926

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.336 C_{D_a} = 0.076

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.963 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.096 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.953	0.966	0.980	0.992	0.977	0.918	2	0.958	0.969	0.986	0.995	0.961	0.883
3	0.955	0.967	0.982	0.994	0.970	0.904	4	0.957	0.963	0.977	0.992	0.979	0.924
5	0.958	0.969	0.985	0.993	0.975	0.906	6	0.959	0.969	0.982	0.992	0.970	0.903

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.283 C_{D_a} = 0.106

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.966 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.026 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.961	0.964	0.968	0.974	0.973	0.955	2	0.964	0.965	0.971	0.975	0.971	0.933
3	0.962	0.966	0.971	0.974	0.973	0.955	4	0.963	0.963	0.972	0.974	0.974	0.963
5	0.961	0.962	0.968	0.973	0.975	0.959	6	0.963	0.965	0.971	0.976	0.971	0.951

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.339 C_{D_a} = 0.098

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.970 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.103 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.957	0.978	0.994	0.999	0.984	0.913	2	0.960	0.978	0.995	1.000	0.972	0.888
3	0.958	0.978	0.996	1.000	0.982	0.907	4	0.958	0.975	0.993	1.000	0.988	0.920
5	0.958	0.977	0.996	0.999	0.983	0.910	6	0.961	0.982	0.996	1.000	0.981	0.900

M_∞ = 0.6 α = 0.0° m_i/m_∞ = 0.283 C_{D_a} = 0.143

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.981 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.039 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.966	0.975	0.987	0.997	0.991	0.972	2	0.967	0.978	0.992	0.999	0.988	0.941
3	0.967	0.976	0.990	0.998	0.991	0.972	4	0.965	0.977	0.991	0.998	0.993	0.980
5	0.966	0.976	0.989	0.997	0.992	0.968	6	0.968	0.978	0.991	0.996	0.988	0.959

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.6 α = 2.0^o m_i/m_∞ = 0.329 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.955 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.098 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.955	0.968	0.984	0.994	0.977	0.905	2	0.957	0.966	0.984	0.992	0.955	0.879
3	0.941	0.951	0.965	0.976	0.965	0.906	4	0.935	0.943	0.954	0.967	0.969	0.924
5	0.943	0.949	0.961	0.976	0.965	0.905	6	0.953	0.963	0.981	0.991	0.969	0.900

M_∞ = 0.6 α = 2.0^o m_i/m_∞ = 0.287 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.938 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.031 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.943	0.946	0.953	0.955	0.946	0.931	2	0.941	0.944	0.944	0.947	0.944	0.909
3	0.934	0.934	0.940	0.942	0.939	0.926	4	0.930	0.931	0.934	0.940	0.937	0.928
5	0.934	0.934	0.938	0.940	0.940	0.928	6	0.939	0.940	0.945	0.952	0.940	0.926

M_∞ = 0.6 α = 2.0^o m_i/m_∞ = 0.336 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.961 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.099 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.966	0.981	0.991	0.999	0.981	0.910	2	0.967	0.981	0.990	0.993	0.958	0.881
3	0.952	0.958	0.975	0.987	0.966	0.904	4	0.941	0.946	0.962	0.980	0.974	0.925
5	0.951	0.959	0.974	0.985	0.969	0.907	6	0.963	0.975	0.989	0.995	0.969	0.904

M_∞ = 0.6 α = 2.0^o m_i/m_∞ = 0.283 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.965 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.030 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.966	0.969	0.974	0.980	0.977	0.960	2	0.966	0.967	0.971	0.977	0.972	0.935
3	0.959	0.960	0.965	0.970	0.968	0.953	4	0.955	0.957	0.963	0.966	0.965	0.957
5	0.960	0.960	0.965	0.968	0.970	0.960	6	0.963	0.968	0.973	0.977	0.971	0.951

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.6 α = 5.0^o m_i/m_∞ = 0.329 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.951 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.114 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.974	0.993	1.000	1.000	0.982	0.903	2	0.965	0.969	0.981	0.989	0.958	0.875
3	0.940	0.939	0.947	0.962	0.952	0.904	4	0.923	0.929	0.939	0.941	0.942	0.920
5	0.941	0.942	0.950	0.958	0.954	0.907	6	0.963	0.970	0.980	0.989	0.964	0.892

M_∞ = 0.6 α = 5.0^o m_i/m_∞ = 0.287 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.936 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.046 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.955	0.956	0.963	0.965	0.958	0.936	2	0.942	0.940	0.942	0.947	0.939	0.906
3	0.928	0.928	0.933	0.933	0.934	0.922	4	0.923	0.923	0.926	0.932	0.928	0.922
5	0.930	0.930	0.932	0.935	0.935	0.923	6	0.943	0.940	0.942	0.944	0.941	0.924

M_∞ = 0.6 α = 5.0^o m_i/m_∞ = 0.336 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.959 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.113 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.972	0.998	1.001	1.000	0.988	0.907	2	0.983	0.988	0.993	0.995	0.958	0.881
3	0.952	0.951	0.961	0.968	0.959	0.906	4	0.930	0.936	0.945	0.956	0.956	0.930
5	0.951	0.952	0.963	0.973	0.962	0.909	6	0.983	0.984	0.994	0.997	0.961	0.893

M_∞ = 0.6 α = 5.0^o m_i/m_∞ = 0.283 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.960 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.033 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.964	0.963	0.967	0.970	0.965	0.953	2	0.966	0.971	0.974	0.976	0.968	0.927
3	0.953	0.955	0.956	0.962	0.961	0.947	4	0.949	0.950	0.952	0.956	0.955	0.947
5	0.953	0.954	0.956	0.960	0.960	0.951	6	0.968	0.968	0.976	0.978	0.969	0.946

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.332 C_{D_a} = 0.074

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.921 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.164 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.903	0.922	0.951	0.972	0.945	0.849	2	0.913	0.930	0.961	0.972	0.916	----
3	0.912	0.930	0.959	0.975	0.920	0.826	4	0.902	0.917	0.940	0.965	0.949	0.861
5	0.912	0.927	0.952	0.972	0.940	0.838	6	0.913	0.931	0.958	0.973	0.921	0.824

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.295 C_{D_a} = 0.098

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.903 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.040 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.899	0.901	0.908	0.914	0.910	0.890	2	0.899	0.905	0.912	0.919	0.910	----
3	0.900	0.903	0.910	0.911	0.907	0.883	4	0.899	0.900	0.906	0.913	0.907	0.892
5	0.898	0.903	0.906	0.913	0.911	0.893	6	0.899	0.903	0.911	0.909	0.905	0.884

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.338 C_{D_a} = 0.092

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.934 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.169 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.922	0.941	0.972	0.988	0.957	0.850	2	0.933	0.949	0.972	0.982	0.922	----
3	0.928	0.943	0.973	0.983	0.928	0.839	4	0.924	0.938	0.967	0.986	0.962	0.859
5	0.928	0.944	0.969	0.985	0.947	0.845	6	0.925	0.947	0.970	0.983	0.932	0.830

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.292 C_{D_a} = 0.124

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.945 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.038 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.935	0.940	0.951	0.961	0.958	0.936	2	0.938	0.946	0.954	0.963	0.955	----
3	0.936	0.941	0.950	0.958	0.955	0.927	4	0.934	0.941	0.950	0.956	0.957	0.940
5	0.935	0.940	0.952	0.956	0.960	0.935	6	0.937	0.946	0.953	0.958	0.952	0.925

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.339 C_{D_a} = 0.123

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.944 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.167 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.930	0.958	0.986	0.996	0.961	0.854	2	0.934	0.960	0.988	0.993	0.929	----
3	0.932	0.957	0.985	0.994	0.942	0.841	4	0.930	0.959	0.988	0.997	0.966	0.864
5	0.931	0.960	0.986	0.996	0.954	0.847	6	0.933	0.961	0.989	0.995	0.944	0.839

M_∞ = 0.8 α = 0.0° m_i/m_∞ = 0.291 C_{D_a} = 0.167

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.969 $(x/R)_{lip}$ = 3.880 Δp_{t_2} = 0.066 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.947	0.962	0.981	0.996	0.988	0.953	2	0.949	0.964	0.985	0.995	0.982	----
3	0.946	0.961	0.983	0.996	0.983	0.940	4	0.947	0.962	0.984	0.997	0.989	0.966
5	0.945	0.962	0.981	0.993	0.989	0.949	6	0.947	0.963	0.985	0.994	0.983	0.933

M_∞ = 0.8 α = 2.0° m_i/m_∞ = 0.332 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.918 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.180 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.925	0.948	0.975	0.987	0.952	0.838	2	0.922	0.946	0.974	0.981	0.911	----
3	0.902	0.912	0.932	0.952	0.922	0.829	4	0.885	0.896	0.915	0.929	0.934	0.872
5	0.898	0.905	0.934	0.950	0.931	0.842	6	0.920	0.941	0.967	0.977	0.915	0.822

M_∞ = 0.8 α = 2.0° m_i/m_∞ = 0.295 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.903 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.050 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.909	0.914	0.922	0.928	0.921	0.893	2	0.904	0.911	0.915	0.920	0.909	----
3	0.893	0.898	0.904	0.910	0.903	0.885	4	0.889	0.894	0.898	0.904	0.898	0.883
5	0.895	0.899	0.905	0.907	0.904	0.888	6	0.901	0.908	0.916	0.921	0.908	0.884

M_∞ = 0.8 α = 2.0° m_i/m_∞ = 0.338 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.932 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.180 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.950	0.971	0.991	0.996	0.960	0.842	2	0.946	0.959	0.978	0.983	0.917	----
3	0.916	0.930	0.954	0.971	0.924	0.838	4	0.905	0.916	0.940	0.958	0.951	0.872
5	0.917	0.930	0.956	0.972	0.936	0.843	6	0.943	0.955	0.980	0.984	0.923	0.828

M_∞ = 0.8 α = 2.0° m_i/m_∞ = 0.292 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.946 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.049 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.945	0.951	0.964	0.972	0.966	0.939	2	0.941	0.945	0.958	0.969	0.960	----
3	0.932	0.940	0.944	0.955	0.952	0.927	4	0.930	0.934	0.944	0.947	0.948	0.931
5	0.933	0.936	0.944	0.951	0.954	0.933	6	0.945	0.948	0.959	0.964	0.959	0.926

M_∞ = 0.8 α = 5.0° m_i/m_∞ = 0.332 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.912 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.202 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.961	0.986	0.998	1.000	0.964	0.832	2	0.943	0.943	0.963	0.975	0.908	----
3	0.898	0.897	0.913	0.918	0.901	0.840	4	0.866	0.871	0.893	0.907	0.896	0.861
5	0.899	0.897	0.906	0.919	0.911	0.846	6	0.940	0.941	0.961	0.974	0.913	0.816

M_∞ = 0.8 α = 5.0° m_i/m_∞ = 0.295 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.896 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.075 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.922	0.928	0.937	0.938	0.933	0.901	2	0.905	0.902	0.905	0.911	0.902	----
3	0.883	0.884	0.887	0.893	0.888	0.873	4	0.879	0.881	0.886	0.892	0.884	0.871
5	0.886	0.885	0.886	0.889	0.891	0.871	6	0.905	0.902	0.906	0.913	0.905	0.878

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 0.8 α = 5.0° m_i/m_∞ = 0.338 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.929 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.194 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.965	0.996	0.999	1.000	0.976	0.845	2	0.970	0.974	0.986	0.987	0.920	----
3	0.920	0.917	0.930	0.947	0.917	0.836	4	0.880	0.890	0.903	0.922	0.922	0.877
5	0.917	0.917	0.934	0.948	0.927	0.846	6	0.968	0.974	0.990	0.987	0.920	0.820

M_∞ = 0.8 α = 5.0° m_i/m_∞ = 0.292 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.935 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.063 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.934	0.935	0.939	0.941	0.932	0.922	2	0.949	0.955	0.962	0.970	0.950	----
3	0.926	0.927	0.931	0.939	0.934	0.917	4	0.917	0.921	0.928	0.933	0.930	0.915
5	0.926	0.928	0.930	0.934	0.938	0.921	6	0.948	0.950	0.957	0.970	0.952	0.911

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.323 C_{D_a} = 0.124

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.868 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.175 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.883	0.891	0.900	0.911	0.864	0.772	2	0.888	0,896	0.907	0.908	0.839	----
3	0.882	0.895	0.907	0.908	0.858	0.764	4	0.879	0.884	0.898	0.908	0.870	0.782
5	0.883	0.894	0.911	0.913	0.852	0.767	6	0.879	0.891	0.912	0.909	0.849	0.761

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.299 C_{D_a} = 0.145

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.884 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.051 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.879	0.881	0.893	0.903	0.896	0.862	2	0.879	0.884	0.893	0.905	0.893	----
3	0.877	0.882	0.892	0.894	0.892	0.860	4	0.876	0.879	0.887	0.903	0.893	0.861
5	0.876	0.885	0.897	0.900	0.897	0.867	6	0.880	0.886	0.901	0.903	0.890	0.860

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.333 C_{D_a} = 0.138

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.908 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.199 Bleed exit setting = Closed

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.924	0.935	0.958	0.964	0.907	0.794	2	0.926	0.937	0.958	0.957	0.874	----
3	0.925	0.934	0.953	0.958	0.880	0.785	4	0.915	0.934	0.950	0.956	0.910	0.805
5	0.925	0.939	0.962	0.958	0.889	0.787	6	0.924	0.934	0.964	0.960	0.878	0.783

M_∞ = 1.0 α = 0.0° m_i/m_∞ = 0.303 C_{D_a} = 0.178

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.934 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.056 Bleed exit setting = Closed

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.923	0.929	0.939	0.955	0.951	0.922	2	0.923	0.930	0.941	0.957	0.946	----
3	0.922	0.931	0.942	0.950	0.948	0.909	4	0.923	0.931	0.946	0.953	0.950	0.917
5	0.922	0.932	0.945	0.951	0.950	0.908	6	0.922	0.933	0.944	0.953	0.946	0.905

M_∞ = 1.0 α = 2.0° m_i/m_∞ = 0.299 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.883 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.070 Bleed exit setting = Closed

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.891	0.896	0.909	0.919	0.911	0.874	2	0.883	0.886	0.897	0.906	0.894	----
3	0.871	0.869	0.885	0.892	0.883	0.857	4	0.867	0.865	0.880	0.882	0.879	0.857
5	0.871	0.878	0.887	0.888	0.888	0.859	6	0.884	0.889	0.897	0.905	0.896	0.857

M_∞ = 1.0 α = 2.0° m_i/m_∞ = 0.303 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.931 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.071 Bleed exit setting = Closed

RAKE NO.	TUBE NO.						RAKE NO.	TUBE NO.					
	1	2	3	4	5	6		1	2	3	4	5	6
1	0.928	0.935	0.953	0.966	0.963	0.928	2	0.928	0.934	0.944	0.959	0.948	----
3	0.917	0.921	0.935	0.946	0.937	0.905	4	0.916	0.919	0.929	0.835	0.938	0.905
5	0.915	0.920	0.927	0.939	0.939	0.907	6	0.927	0.939	0.952	0.860	0.946	0.900

Table 3.- TRANSONIC ENGINE-FACE PRESSURE RECOVERY DATA, p_{t_2}/p_{t_∞} - Continued

M_∞ = 1.0 α = 5.0° m_i/m_∞ = 0.299 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.874 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.114 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.906	0.915	0.930	0.938	0.921	0.871	2	0.884	0.880	0.886	0.897	0.881	----
3	0.856	0.858	0.863	0.869	0.862	0.843	4	0.851	0.855	0.862	0.865	0.856	0.838
5	0.856	0.863	0.868	0.865	0.869	0.849	6	0.887	0.885	0.892	0.893	0.887	0.851

M_∞ = 1.0 α = 5.0° m_i/m_∞ = 0.303 C_{D_a} = --

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.918 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.918 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.913	0.909	0.913	0.912	0.905	0.899	2	0.935	0.948	0.963	0.969	0.933	----
3	0.906	0.906	0.914	0.922	0.917	0.890	4	0.898	0.902	0.913	0.915	0.911	0.887
5	0.909	0.908	0.916	0.921	0.924	0.893	6	0.937	0.948	0.972	0.971	0.934	0.883

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.328 C_{D_a} = 0.150

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.799 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.210 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.767	0.801	0.842	0.866	0.831	0.727	2	0.769	0.799	0.838	0.867	0.811	----
3	0.769	0.788	0.828	0.848	0.814	0.710	4	0.771	0.794	0.835	0.861	0.830	0.728
5	0.772	0.808	0.839	0.861	0.823	0.710	6	0.772	0.795	0.837	0.868	0.808	0.700

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.307 C_{D_a} = 0.161

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.868 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.056 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.856	0.857	0.872	0.885	0.884	0.854	2	0.858	0.866	0.877	0.888	0.881	----
3	0.855	0.860	0.880	0.891	0.879	0.844	4	0.853	0.860	0.869	0.883	0.878	0.848
5	0.858	0.869	0.878	0.884	0.881	0.845	6	0.860	0.869	0.882	0.892	0.880	0.843

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.278 C_{D_a} = 0.203

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.864 $(x/R)_{lip}$ = 4.180 Δp_{t_2} = 0.028 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.855	0.858	0.870	0.875	0.874	0.860	2	0.855	0.860	0.872	0.878	0.868	----
3	0.854	0.857	0.867	0.873	0.867	0.852	4	0.853	0.856	0.863	0.874	0.872	0.854
5	0.856	0.868	0.875	0.868	0.877	0.857	6	0.857	0.868	0.875	0.876	0.876	0.856

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.335 C_{D_a} = 0.166

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.887 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.198 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.905	0.912	0.934	0.935	0.885	0.776	2	0.906	0.915	0.928	0.934	0.858	----
3	0.909	0.915	0.933	0.935	0.858	0.764	4	0.904	0.906	0.931	0.934	0.880	0.784
5	0.908	0.917	0.934	0.932	0.867	0.768	6	0.910	0.928	0.939	0.938	0.858	0.759

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.317 C_{D_a} = 0.176

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.922 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.064 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.902	0.908	0.931	0.945	0.948	0.915	2	0.905	0.916	0.927	0.946	0.941	----
3	0.904	0.911	0.925	0.943	0.943	0.900	4	0.901	0.908	0.932	0.947	0.944	0.911
5	0.904	0.918	0.938	0.942	0.943	0.898	6	0.908	0.920	0.936	0.952	0.941	0.893

M_∞ = 1.2 α = 0.0° m_i/m_∞ = 0.275 C_{D_a} = 0.260

$\bar{p}_{t_2}/p_{t_\infty}$ = 0.906 $(x/R)_{lip}$ = 4.030 Δp_{t_2} = 0.043 Bleed exit setting = Closed

RAKE NO.	TUBE NO. 1	2	3	4	5	6	RAKE NO.	TUBE NO. 1	2	3	4	5	6
1	0.894	0.903	0.912	0.917	0.927	0.911	2	0.899	0.903	0.903	0.916	0.923	----
3	0.890	0.895	0.900	0.906	0.910	0.896	4	0.890	0.891	0.908	0.919	0.903	0.898
5	0.897	0.908	0.919	0.923	0.929	0.903	6	0.897	0.902	0.909	0.919	0.917	0.899

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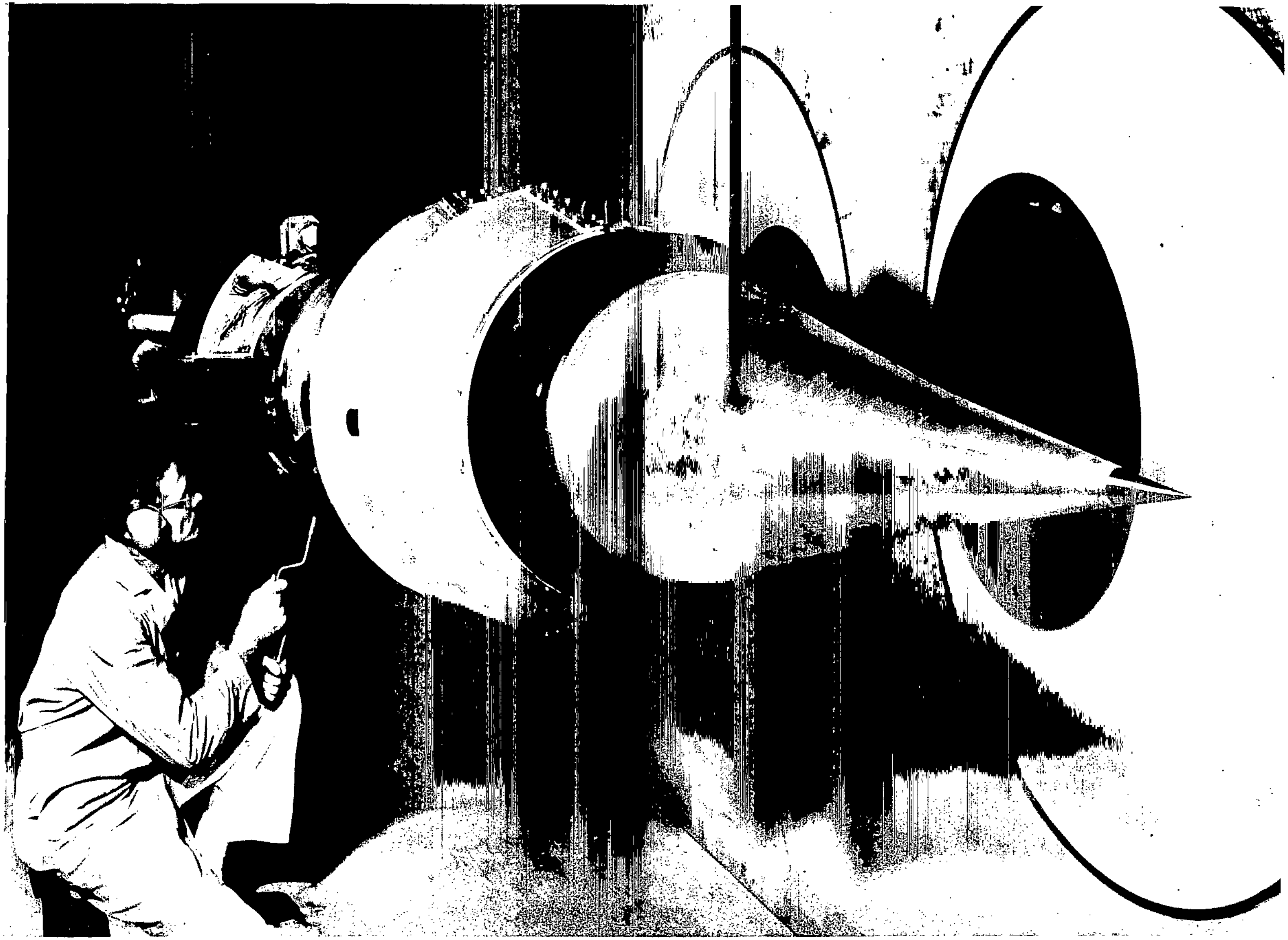
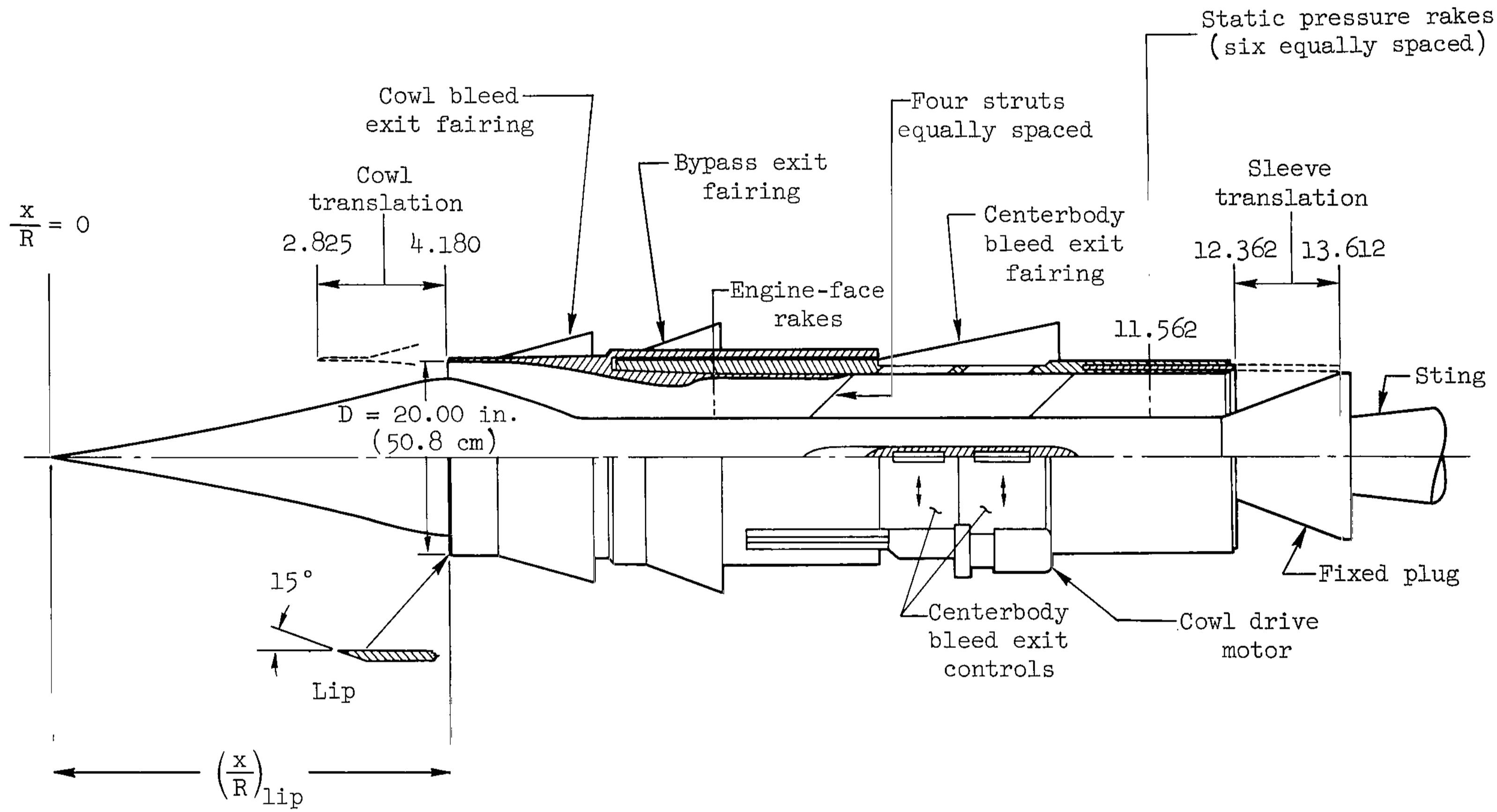


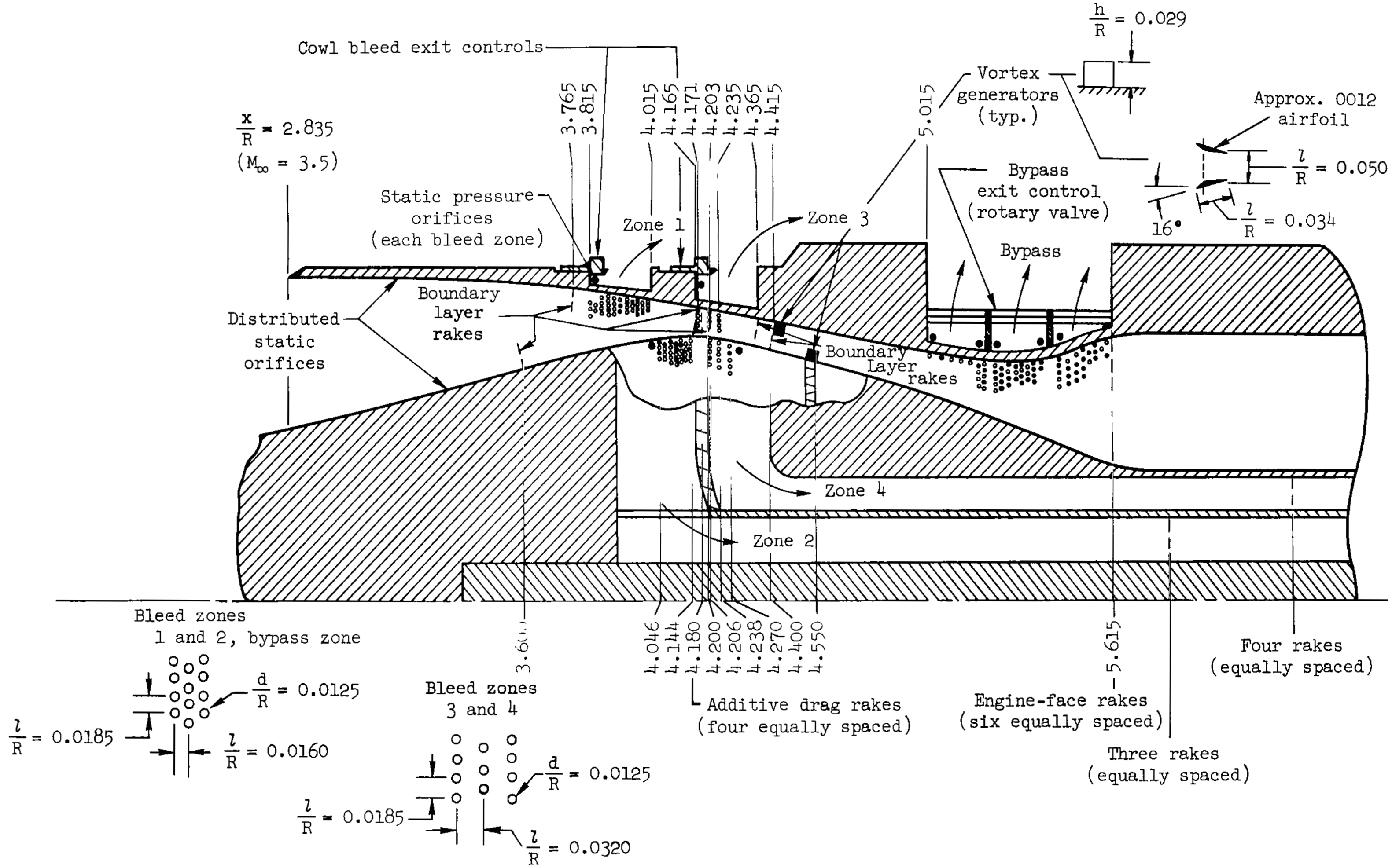
A-39809

Figure 1.- Model mounted in supersonic wind tunnel.



(a) Overall model.

Figure 2.- Model.



(b) Instrumentation, bleed and bypass configuration.

Figure 2.- Concluded.

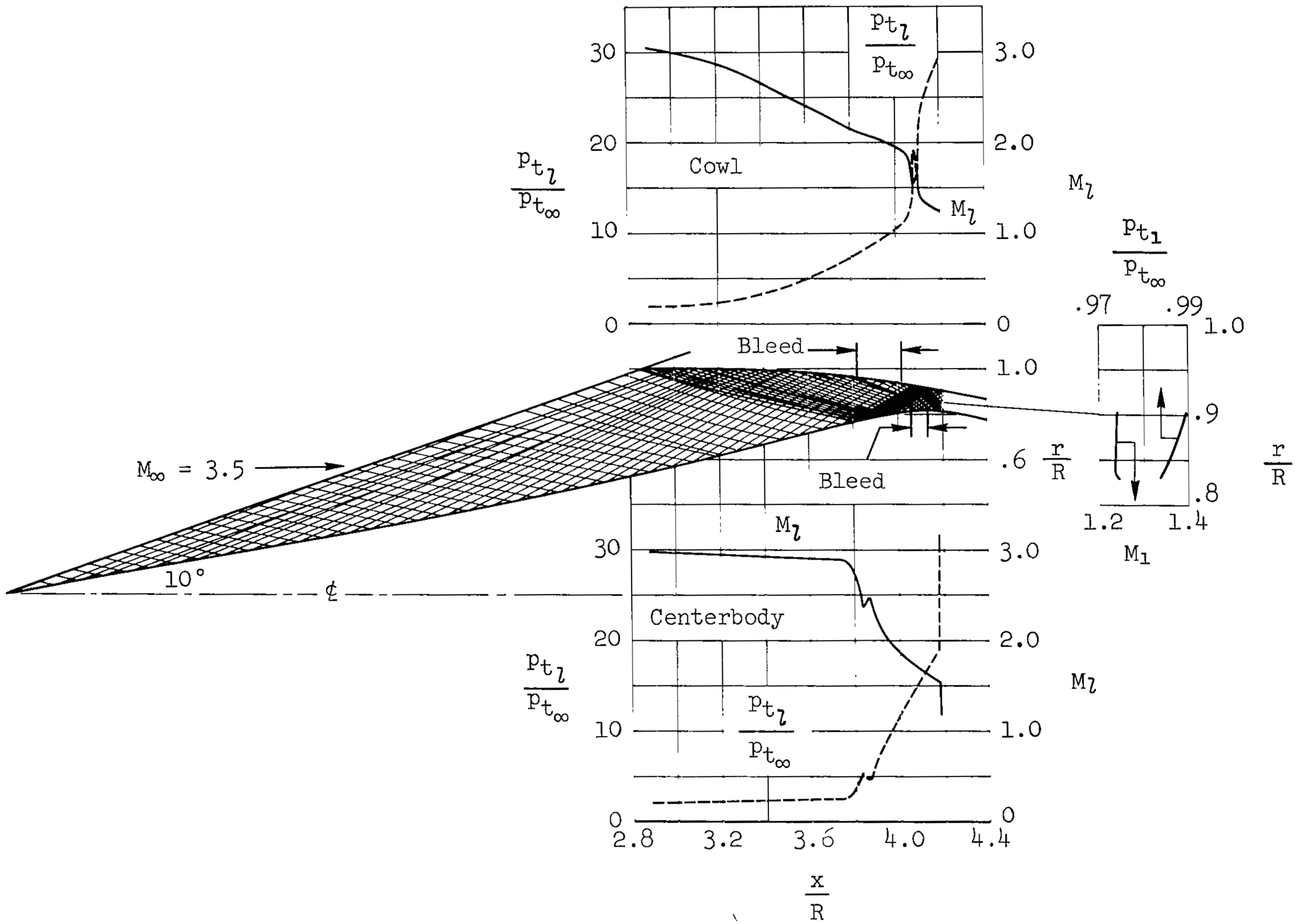


Figure 3.- Design theoretical flow field.

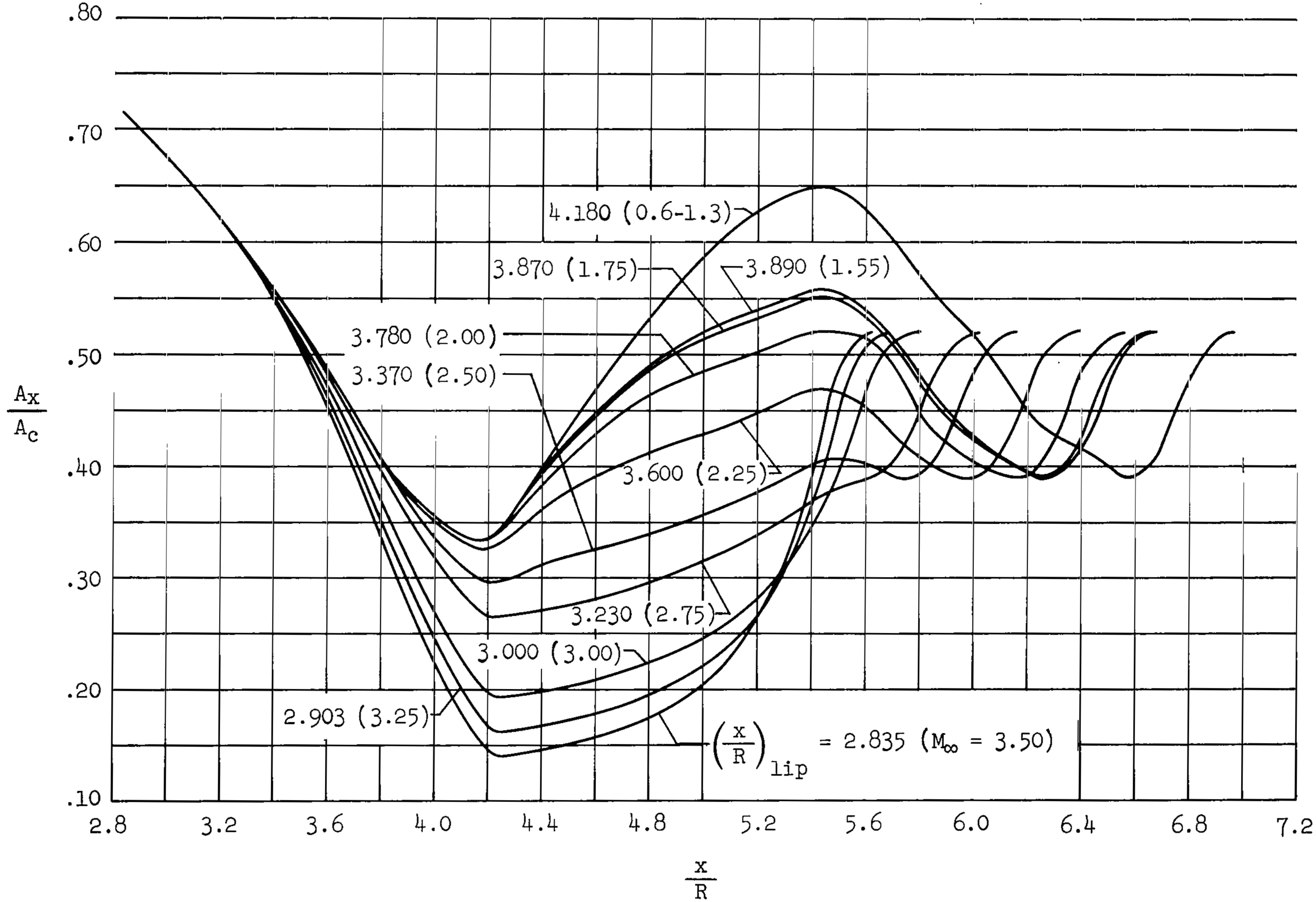


Figure 4.- Area distributions.

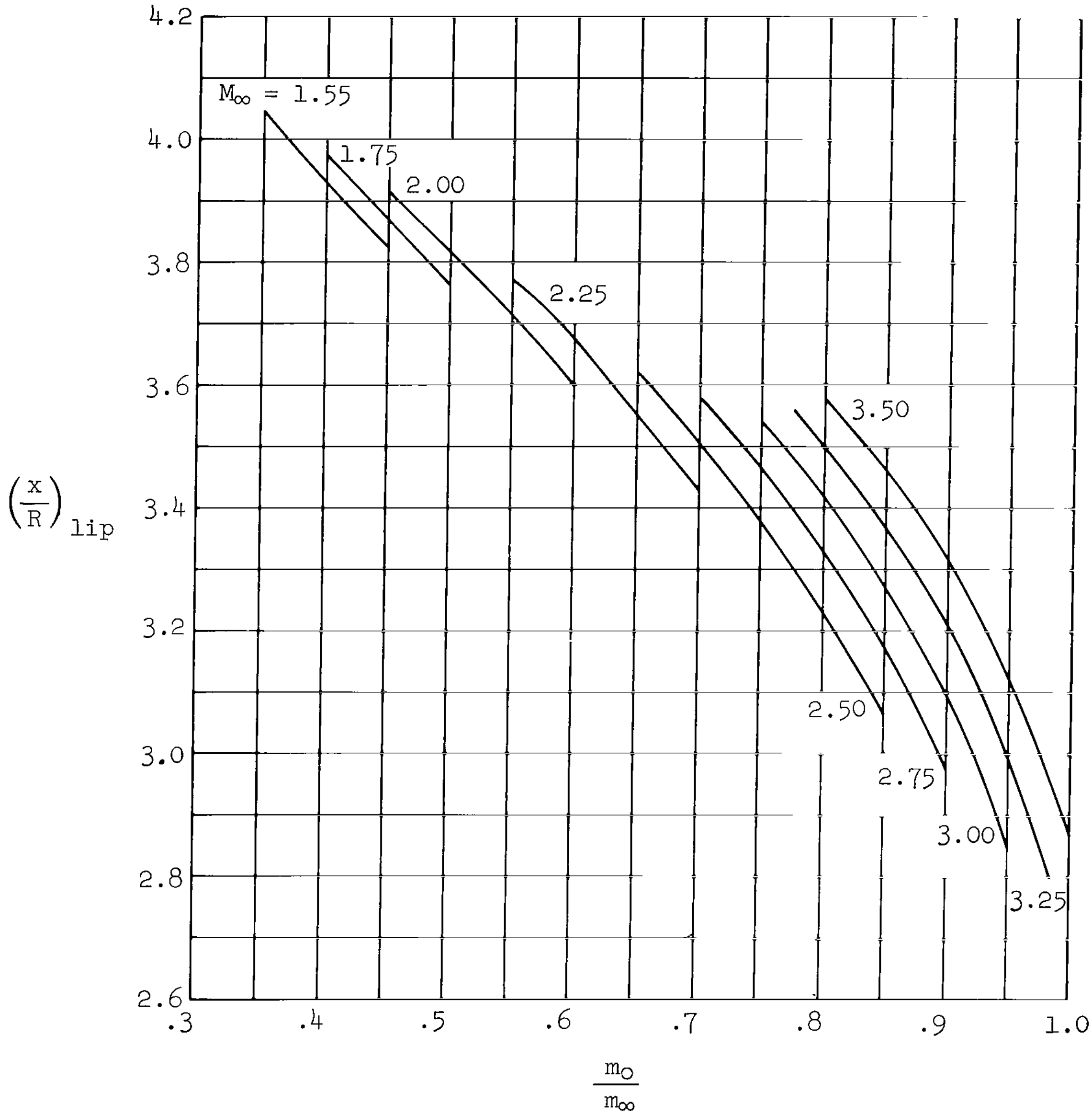


Figure 5.- Inlet theoretical mass-flow ratios, $\alpha = 0°$.

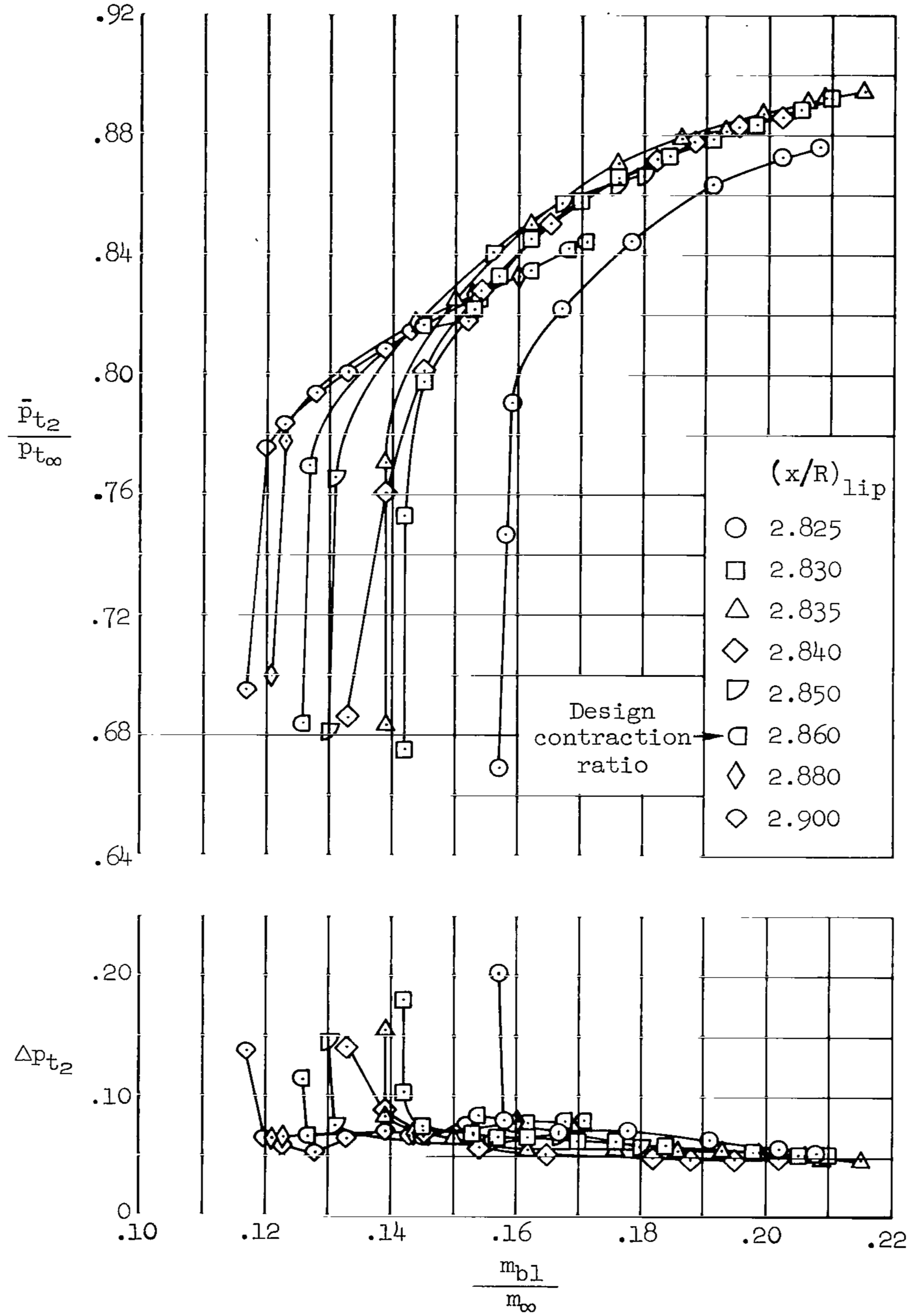


Figure 6.- Supercritical performance for various cowl lip positions; $M_\infty = 3.50$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$, bleed exit setting A.

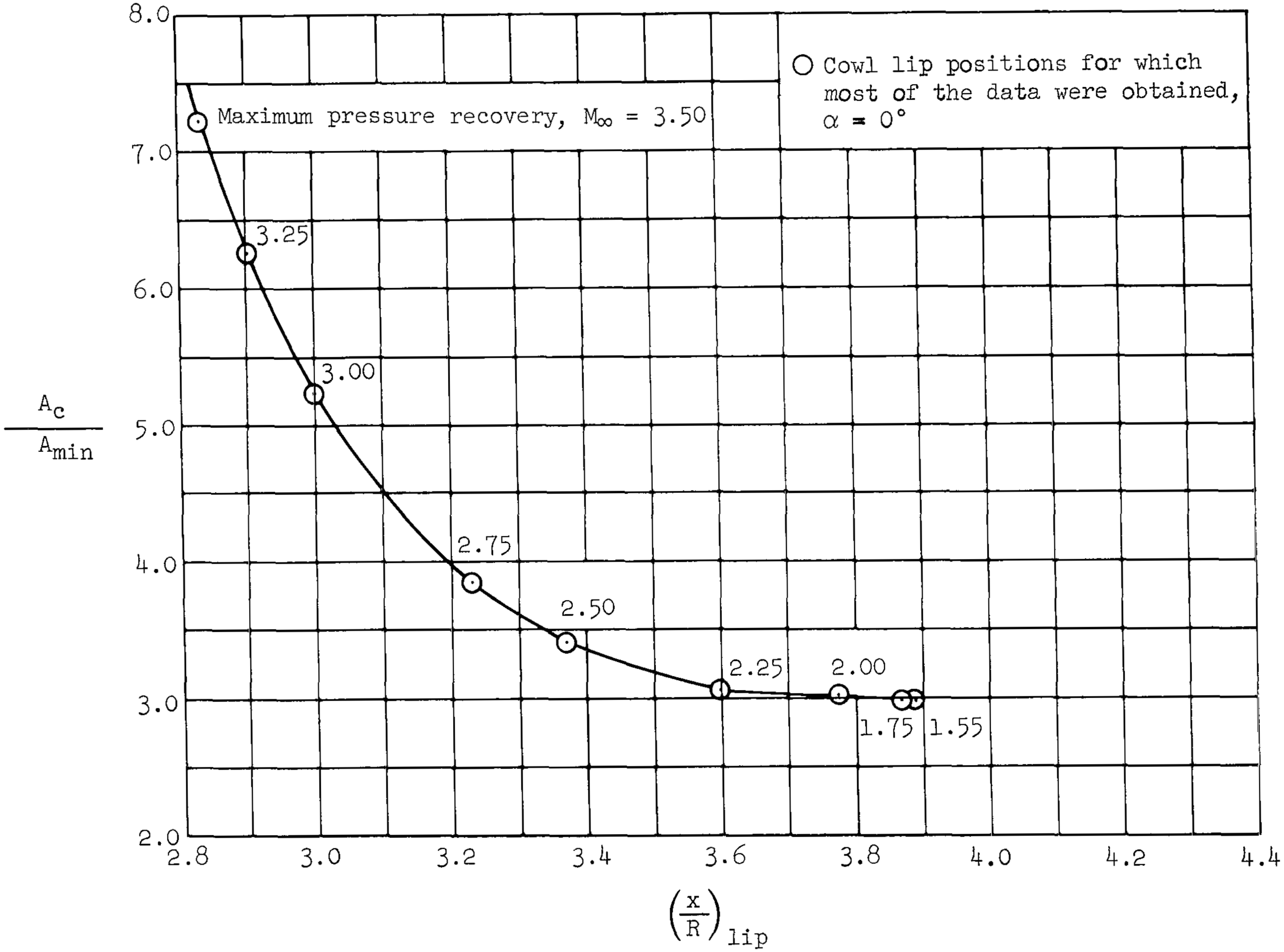


Figure 7.- Inlet contraction ratio.

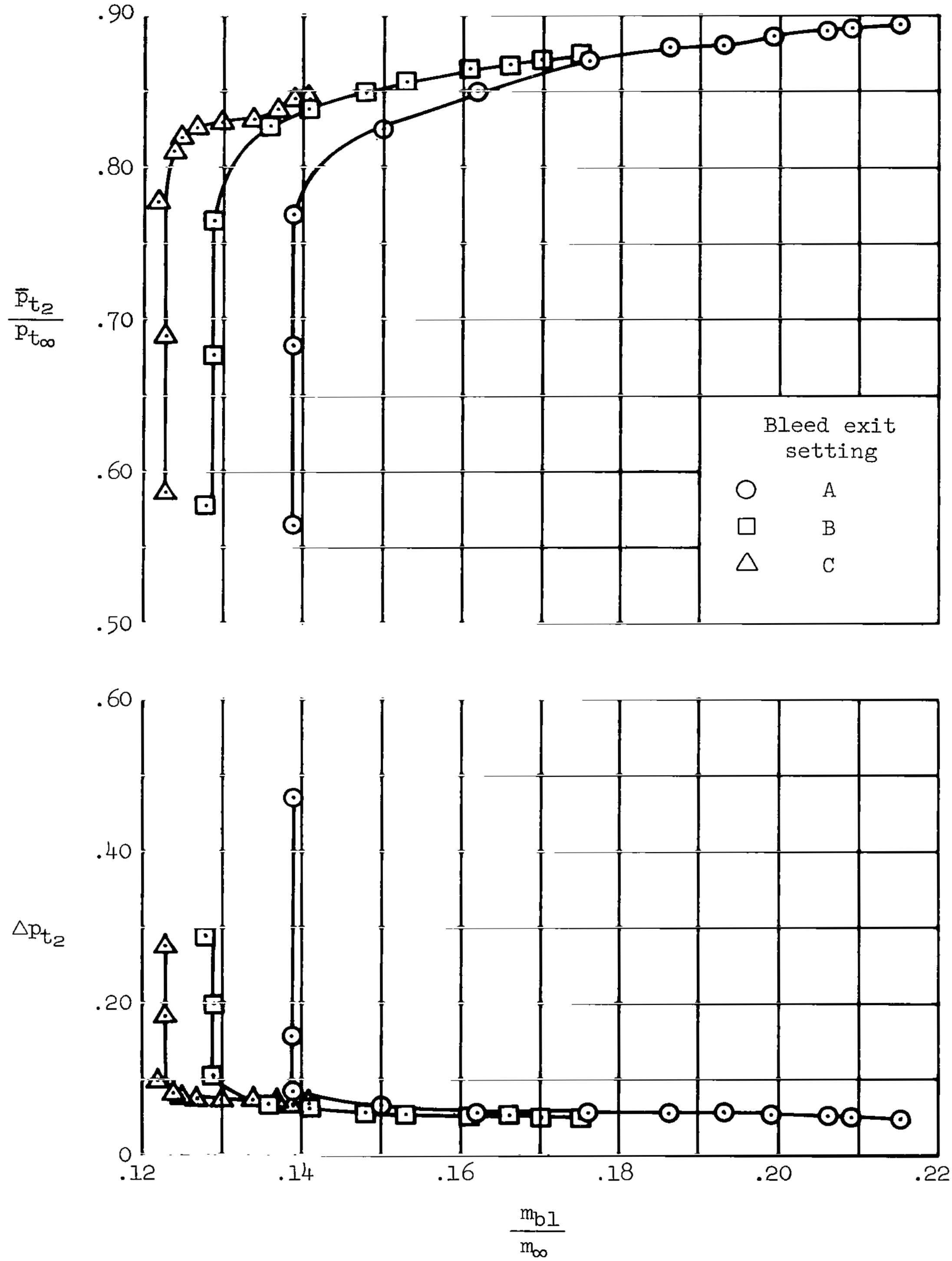


Figure 8.- Supercritical performance; $M_\infty = 3.50$, $(x/R)_{lip} = 2.835$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$.

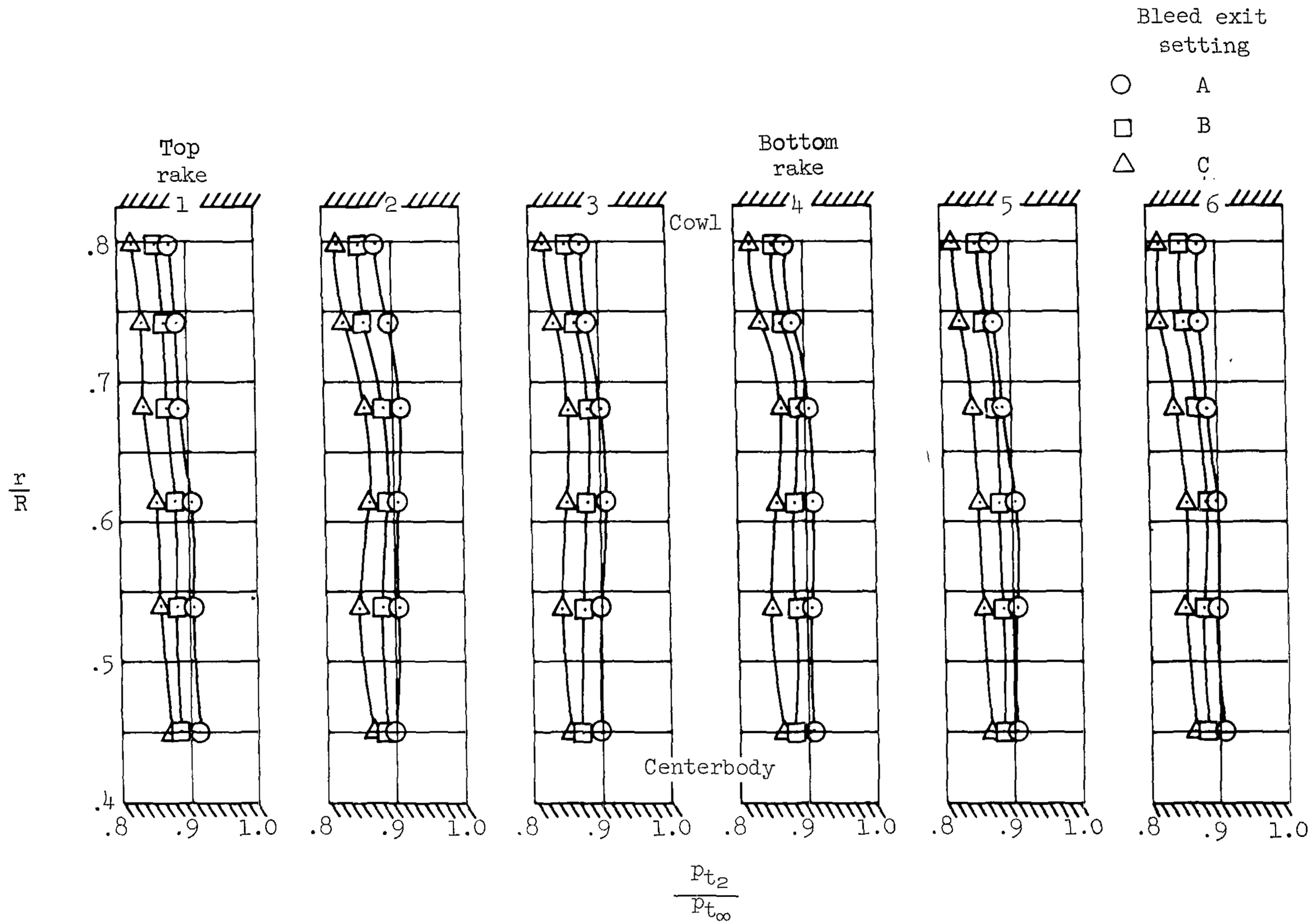


Figure 9.- Engine-face distortion profiles, maximum pressure recovery; $M_\infty = 3.50$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$.

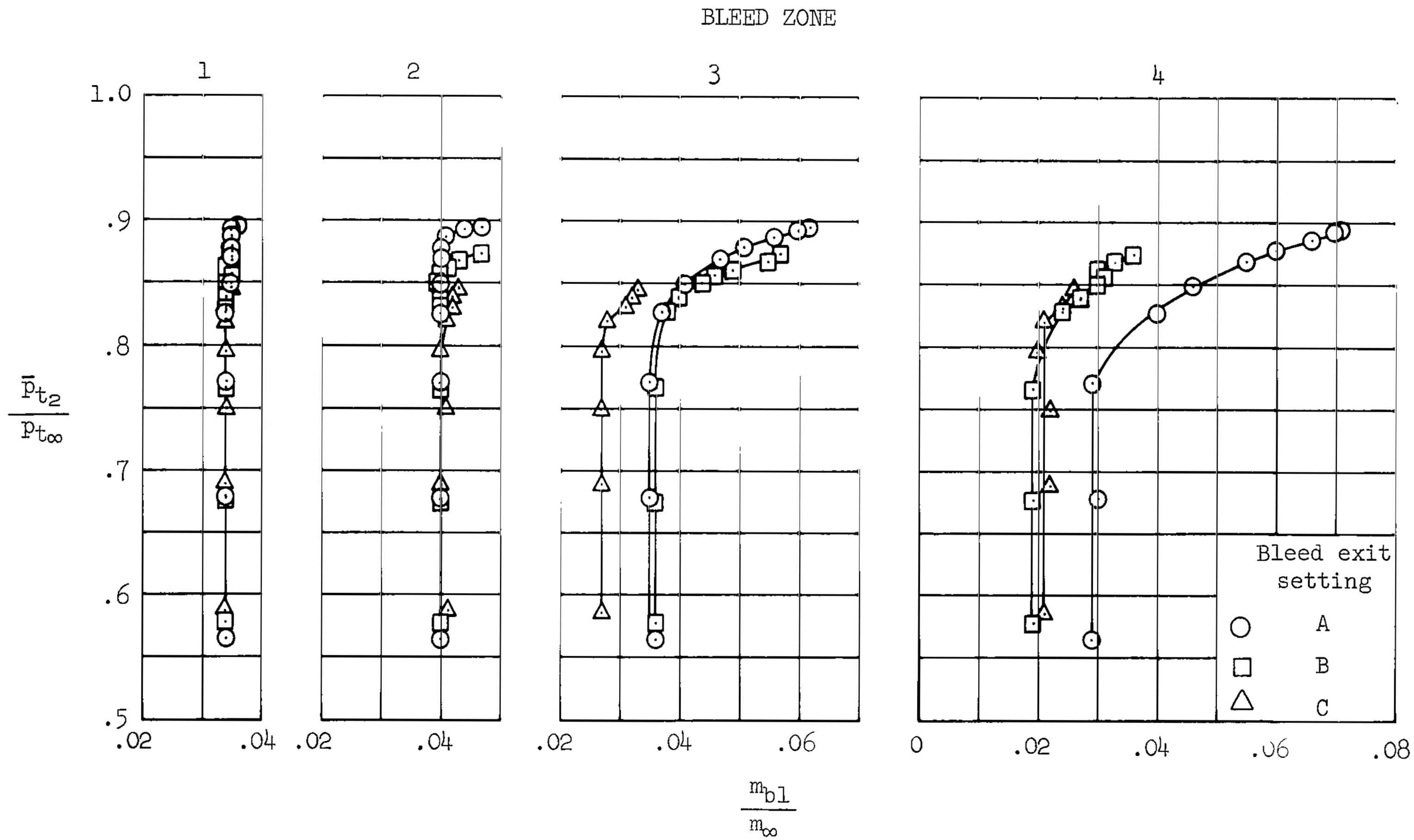


Figure 10.- Supercritical bleed flow, individual bleed zones; $M_\infty = 3.50$, $(x/R)_{lip} = 2.835$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$.

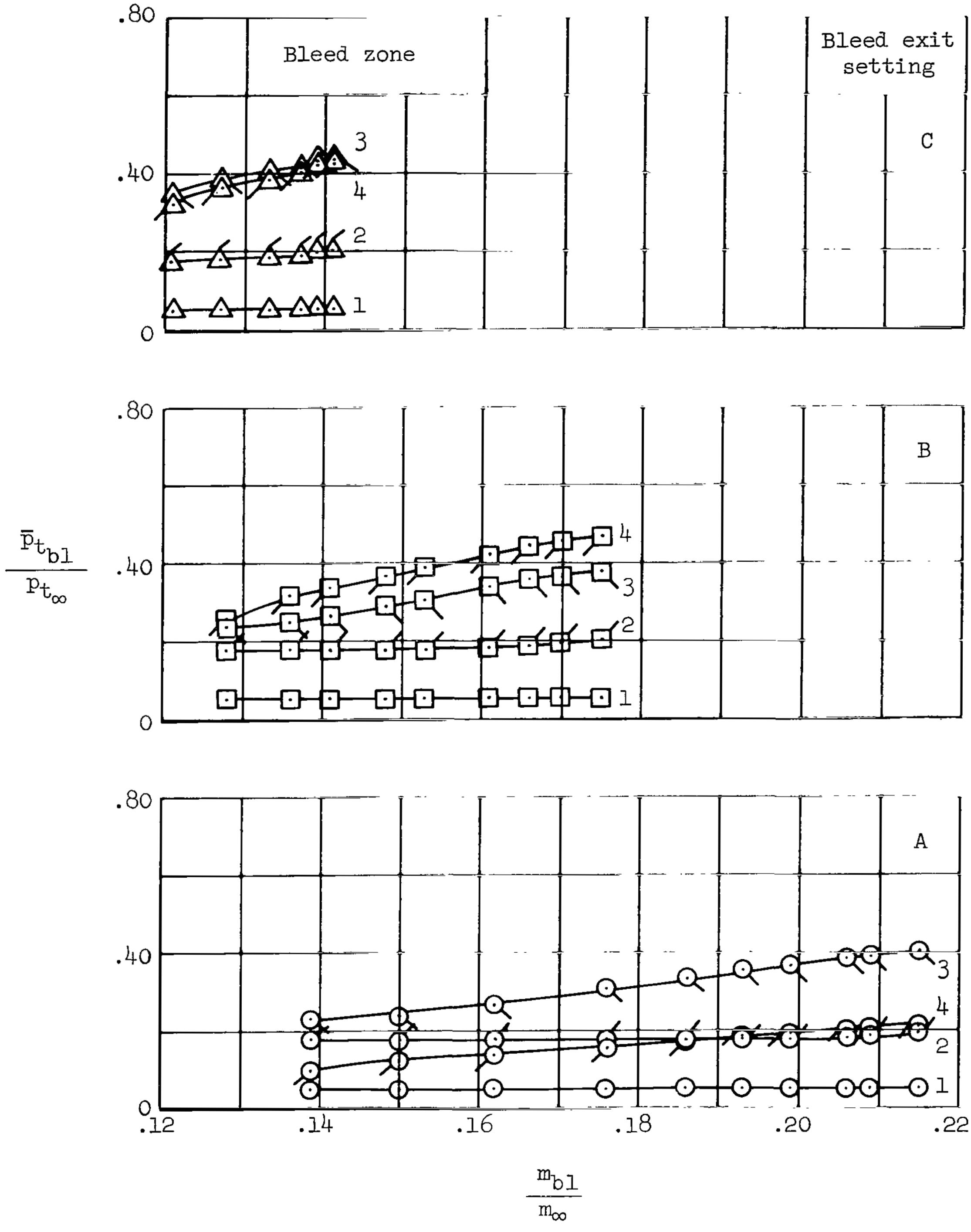
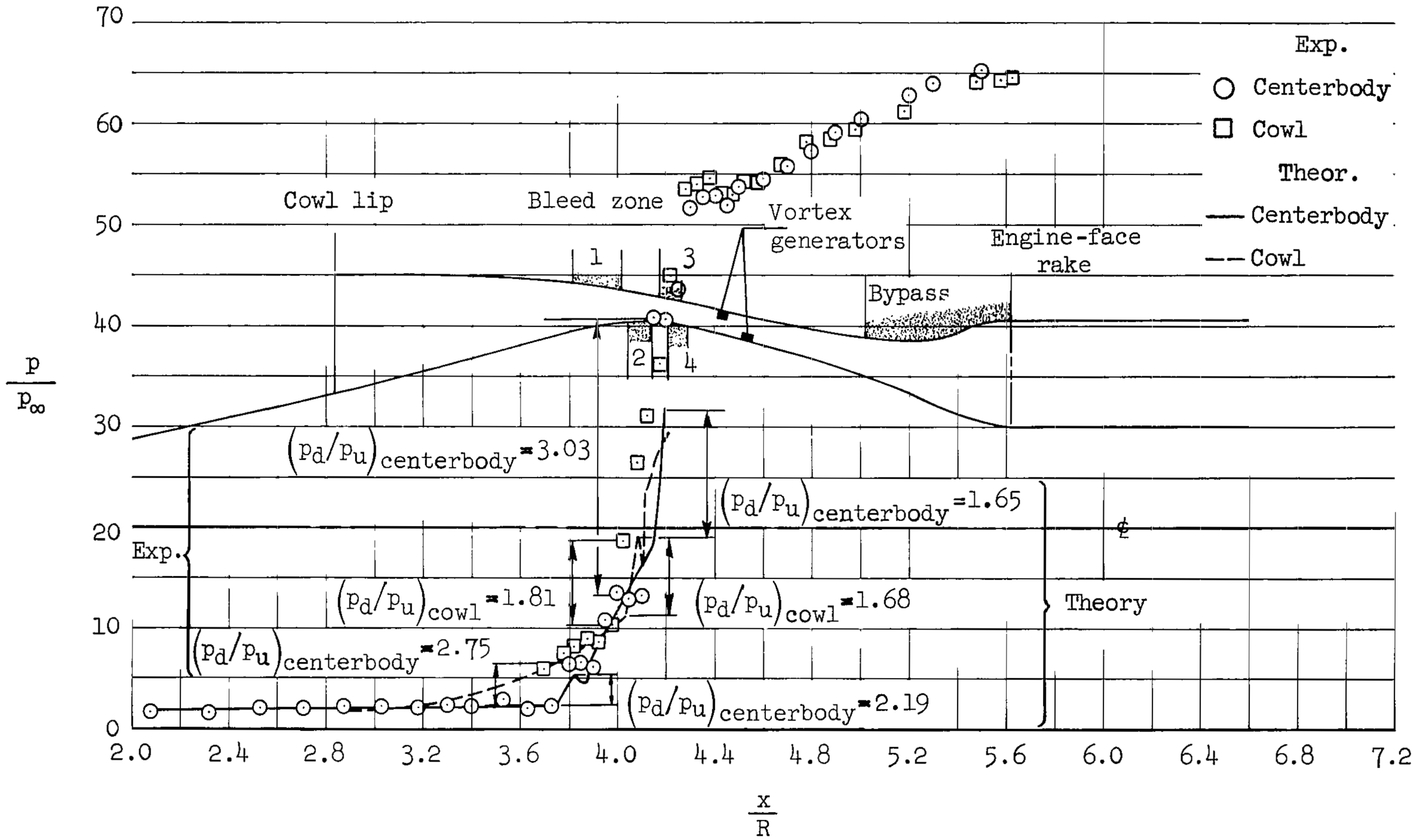
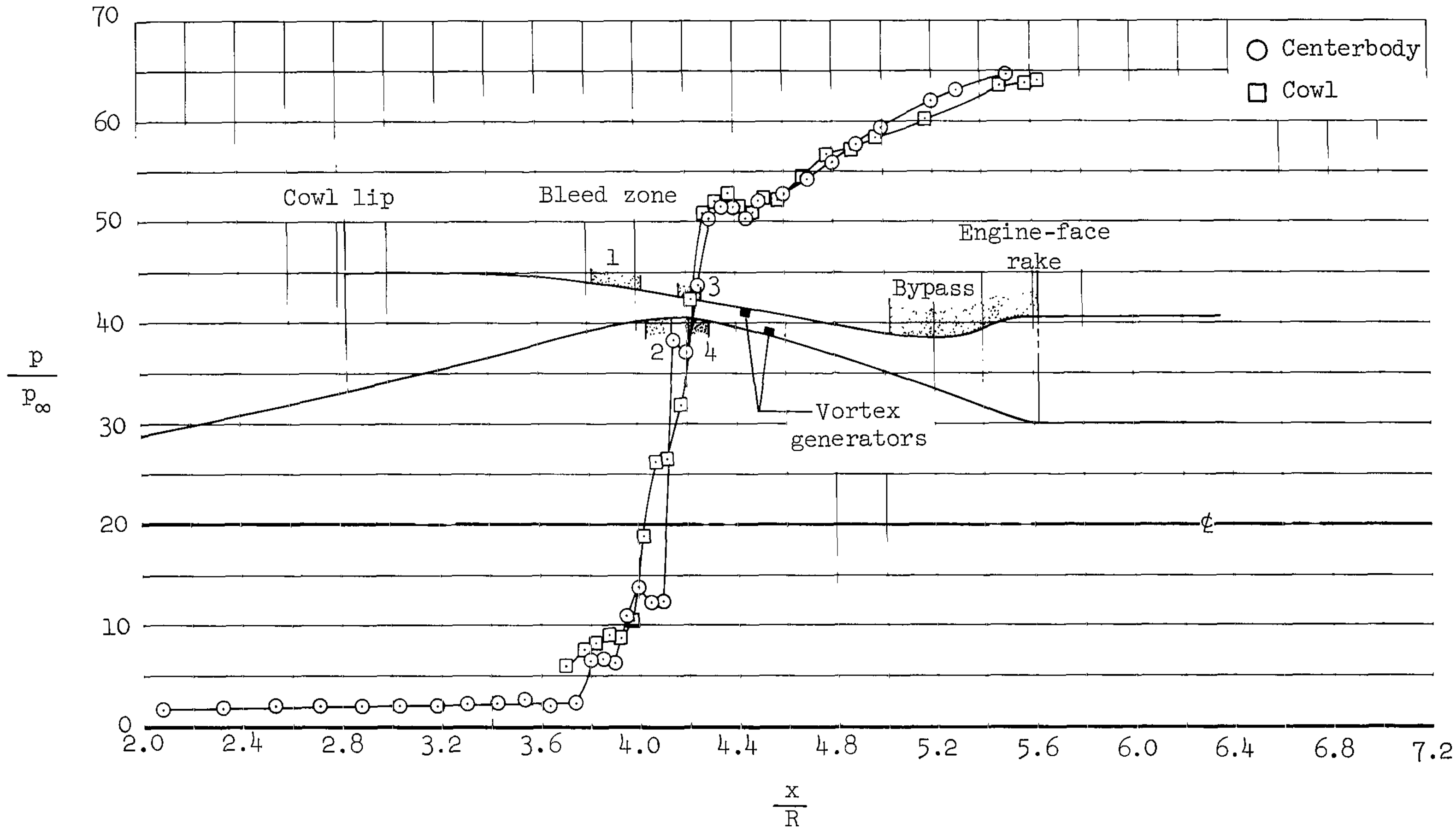


Figure 11.- Bleed plenum chamber pressure recovery; $M_\infty = 3.50$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



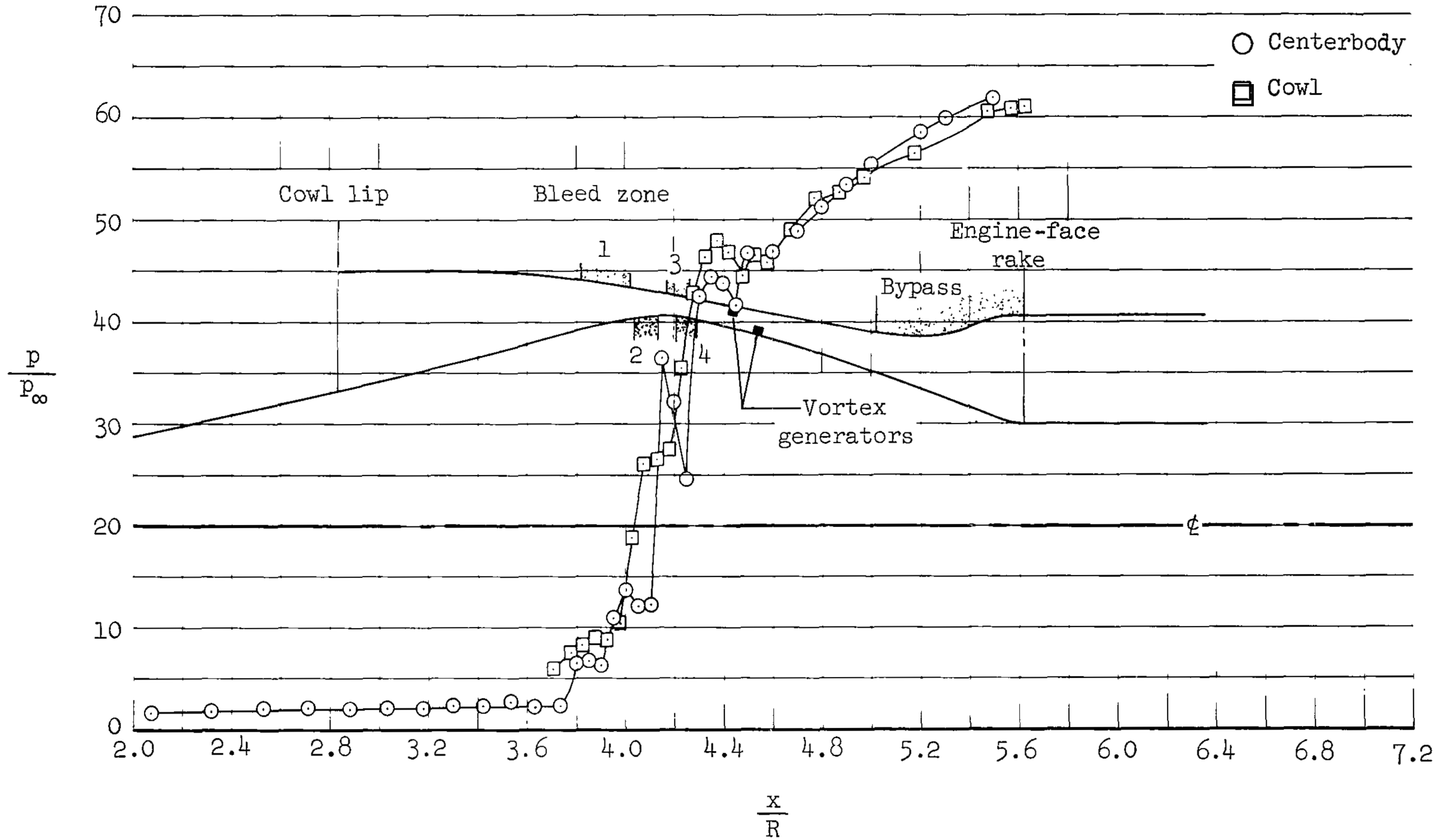
(a) $\bar{p}_{t_2}/p_{t_\infty} = 0.874$, $m_{bl}/m_\infty = 0.175$

Figure 12.- Static pressure distribution; bleed exit seeting B; $m_{bp}/m_\infty = 0$, $M_\infty = 3.50$, $(x/R)_{lip} = 2.835$, $\alpha = 0°$.



(b) $\bar{p}_{t_2}/p_{t_\infty} = 0.865$, $m_{bl}/m_\infty = 0.161$

Figure 12.- Continued.



(c) $\bar{p}_{t_2}/p_{t_\infty} = 0.828$, $m_{bl}/m_\infty = 0.136$

Figure 12.- Concluded.

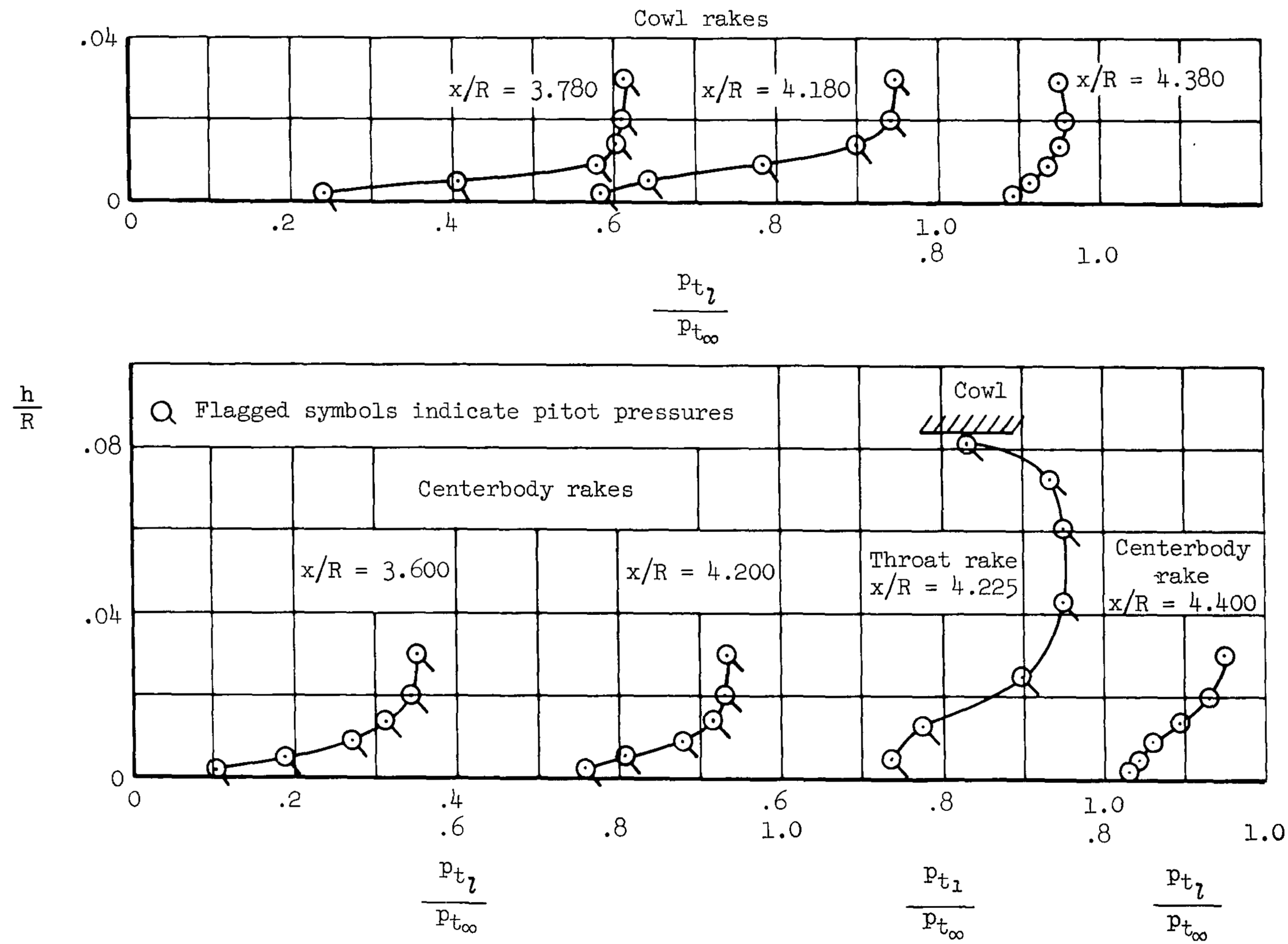


Figure 13.- Pitot pressure profiles, maximum pressure recovery, bleed exit setting A; $M_\infty = 3.50$, $(x/R)_{lip} = 2.840$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$.

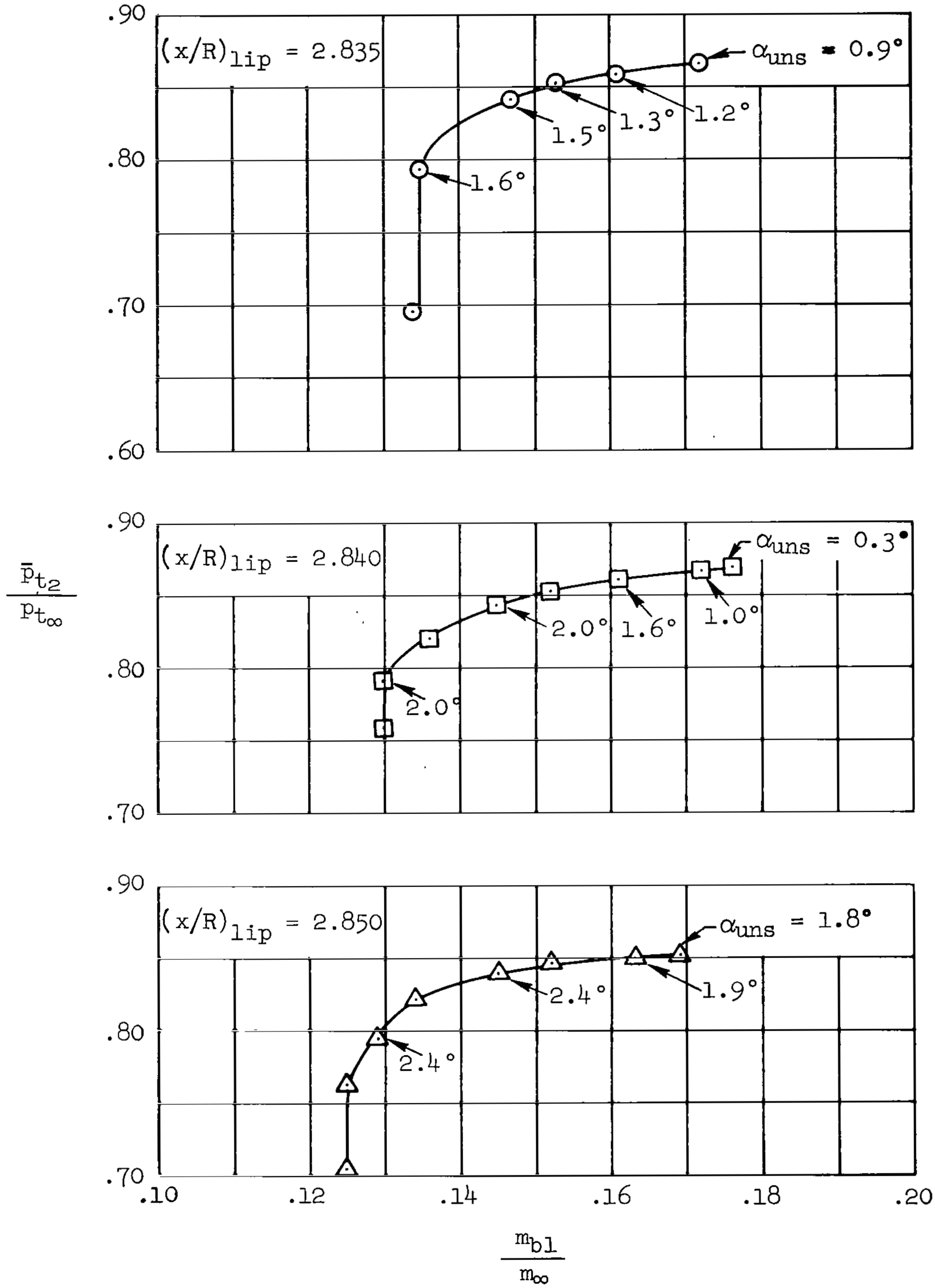


Figure 14.- Inlet tolerance to change in angle of attack, bleed exit setting B; $M_\infty = 3.50$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$.

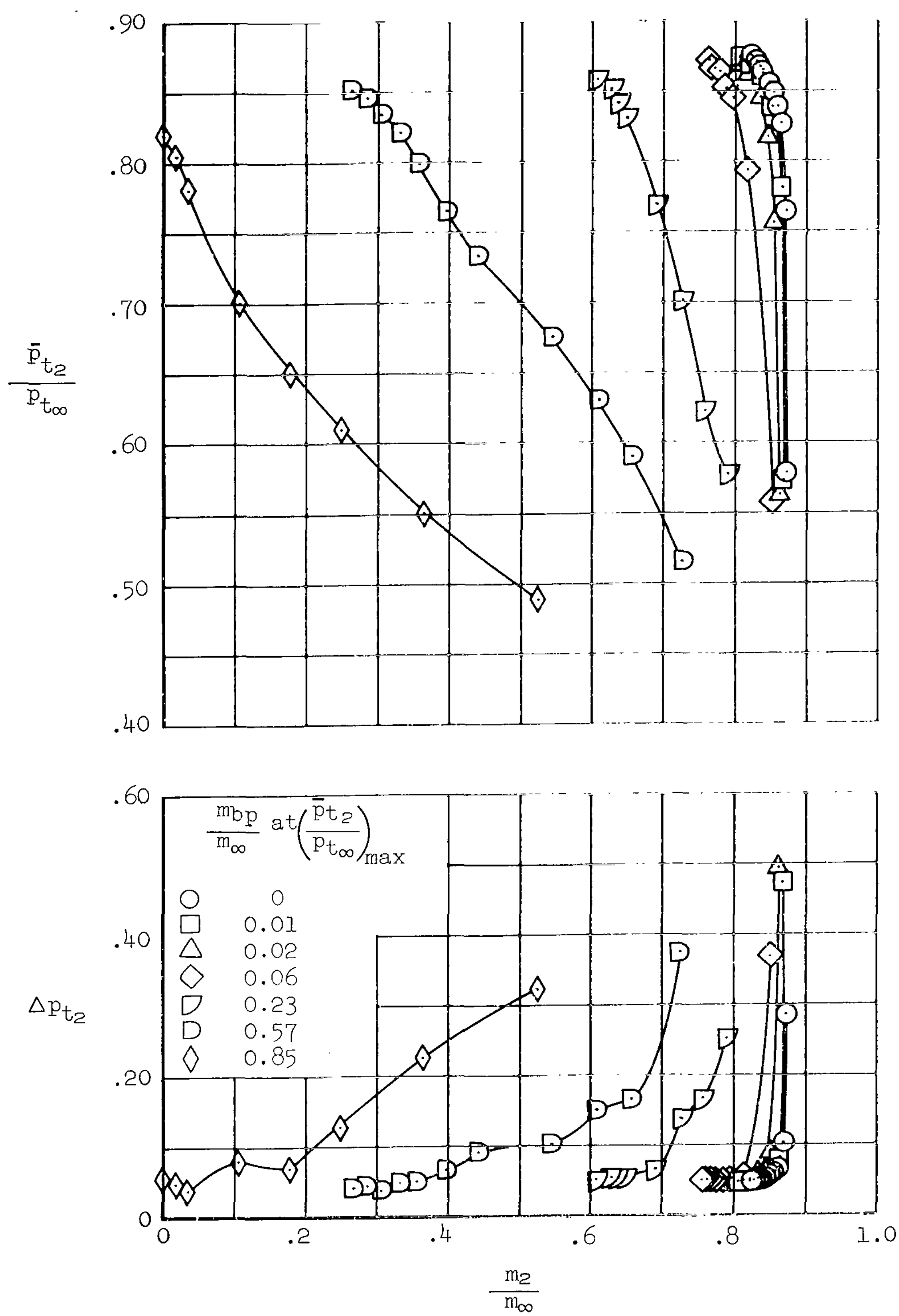


Figure 15.- Change in mass flow at the engine face for various settings of the bypass exit, bleed exit setting B; $M_\infty = 3.50$, $(x/R)_{lip} = 2.835$, $\alpha = 0°$.

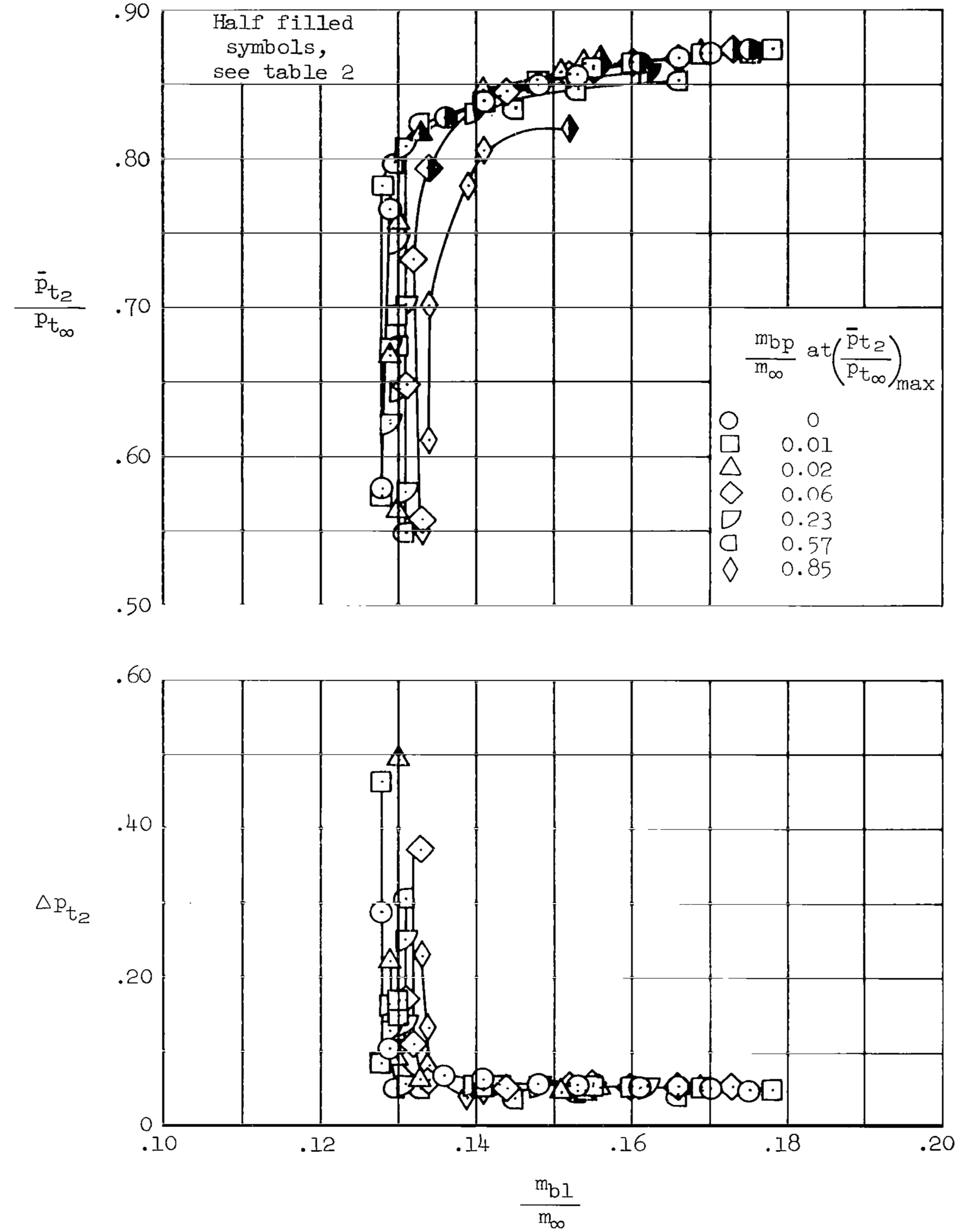


Figure 16.- Supercritical performance for various settings of the bypass exit, bleed exit setting B; $M_\infty = 3.50$, $(x/R)_{lip} = 2.835$, $\alpha = 0°$.

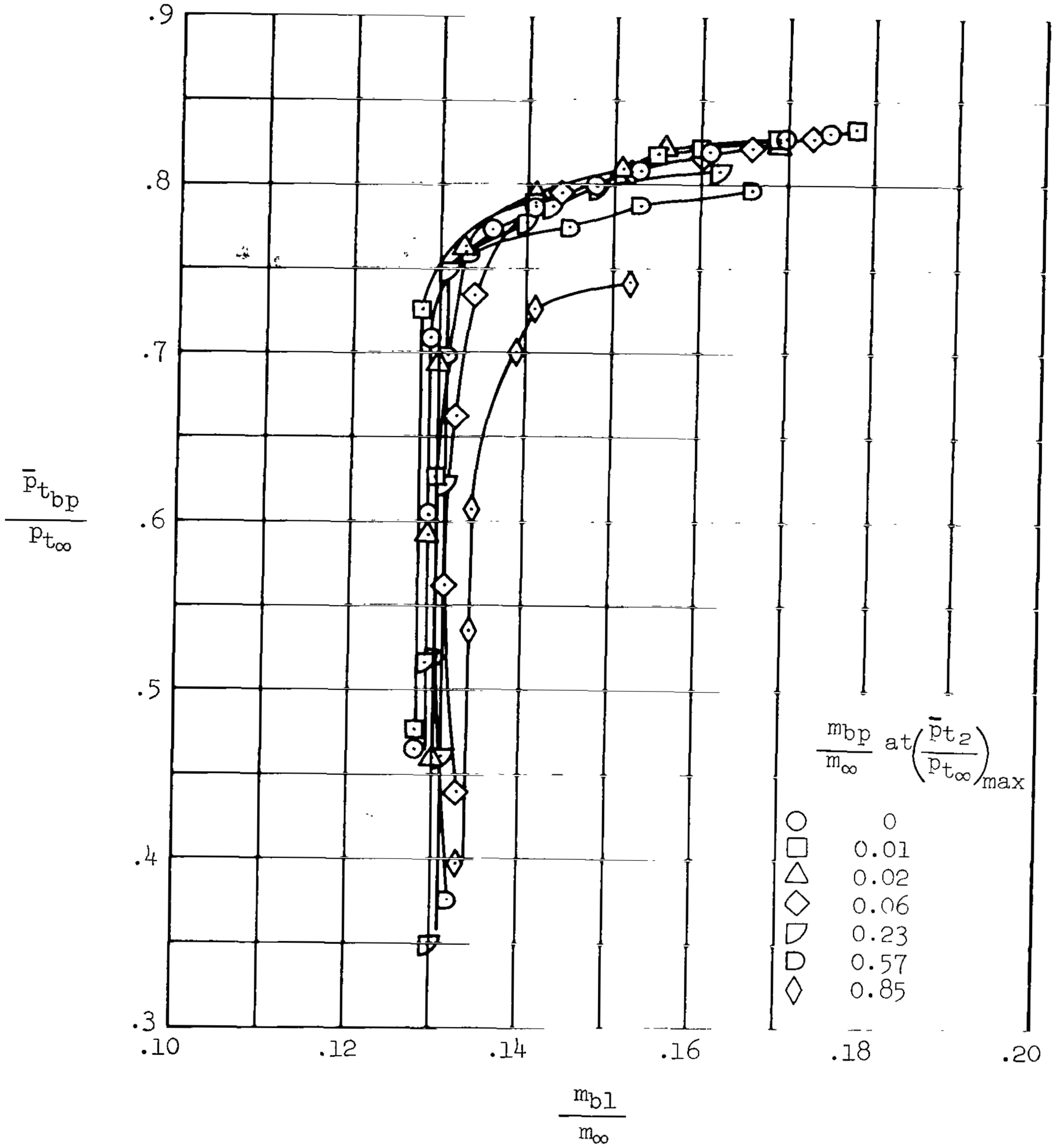


Figure 17.- Bypass plenum chamber pressure recovery, bleed exit setting B; $M_\infty = 3.50$, $\alpha = 0°$.

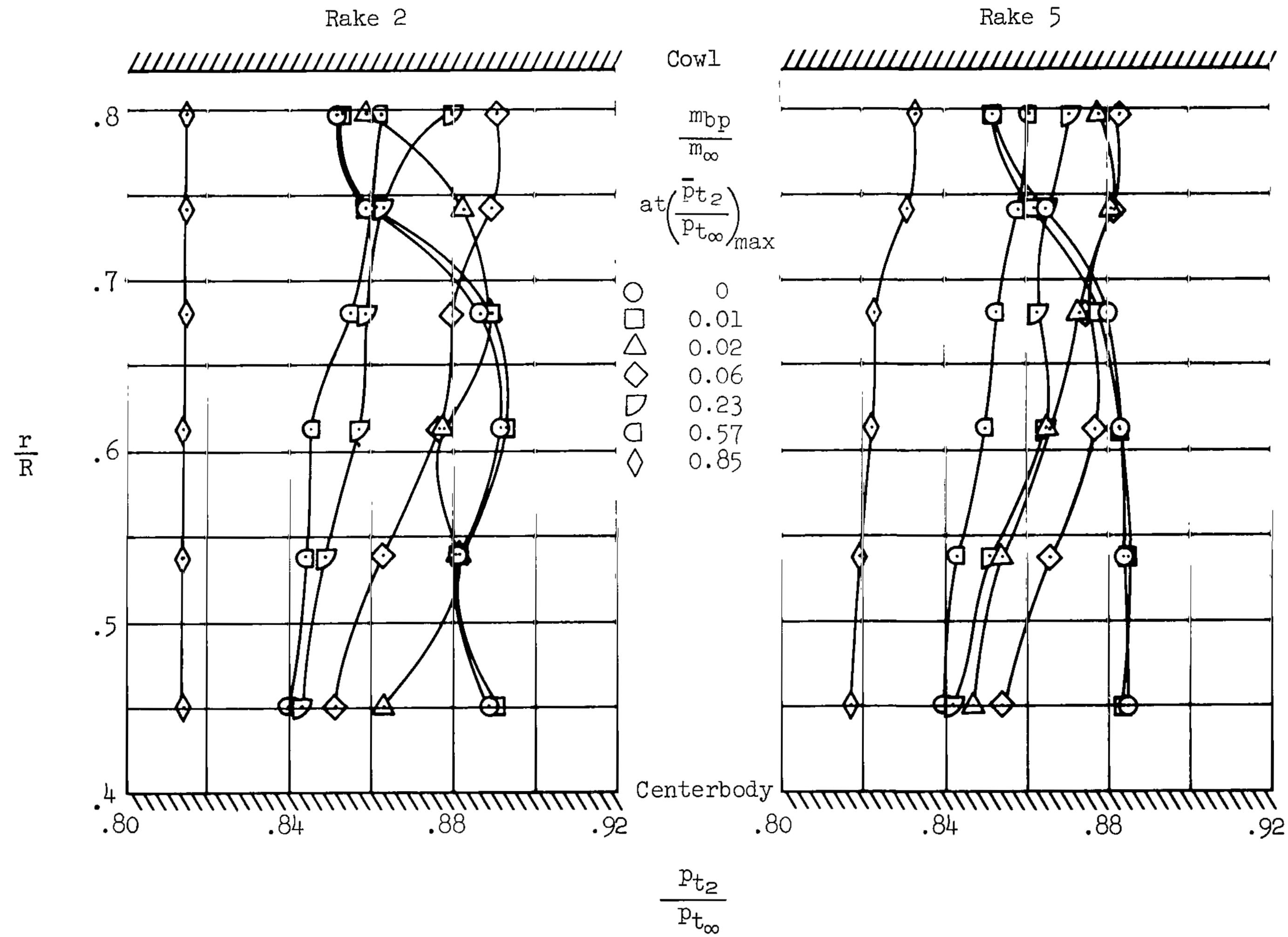


Figure 18.- Effect of bypass mass flow on engine-face distortion profiles, maximum pressure recovery, bleed exit setting B; $M_\infty = 3.50$, $\alpha = 0°$.

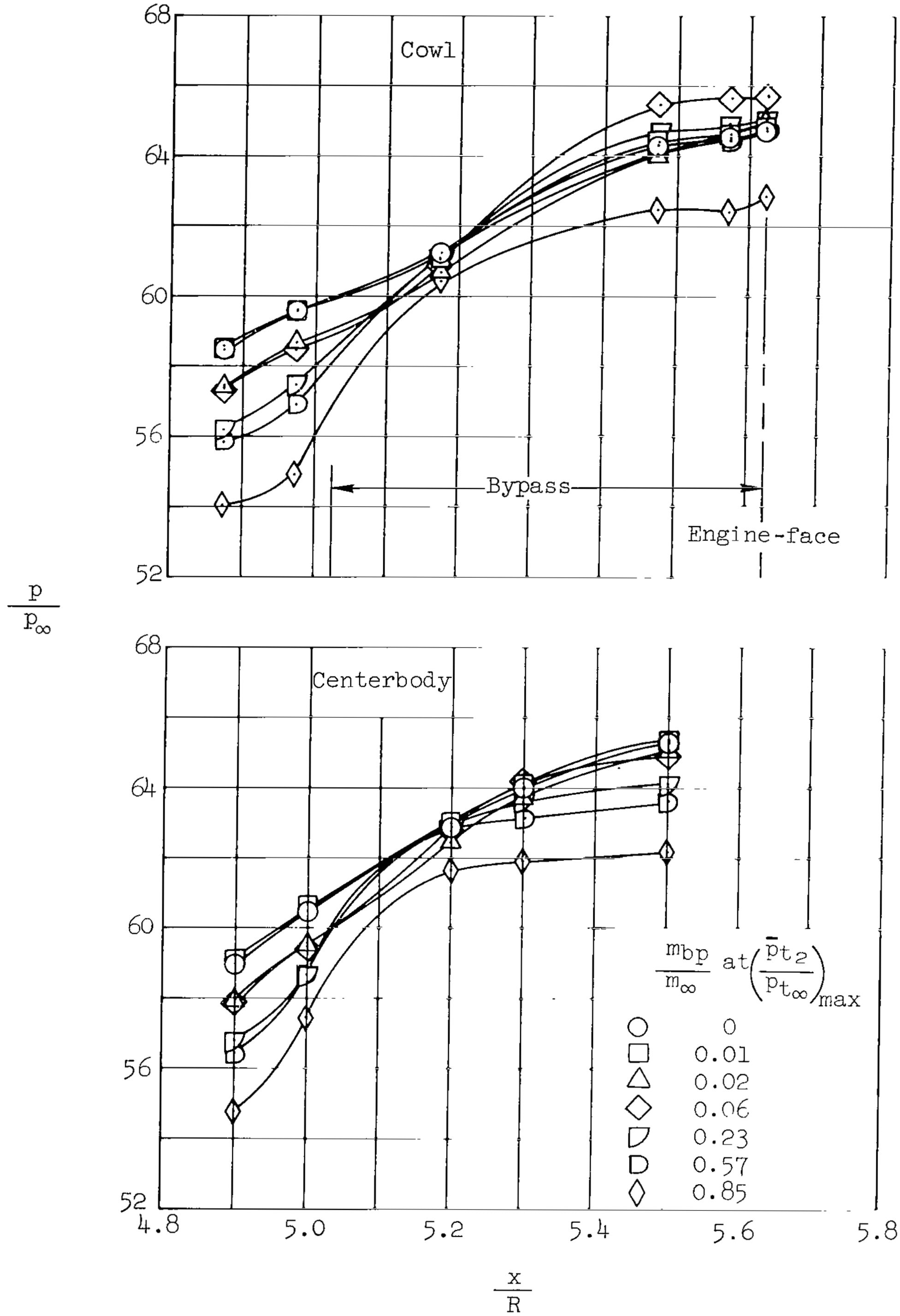


Figure 19.- Effect of bypass on the static pressure distributions, bleed exit setting B, maximum pressure recovery; $M_\infty = 3.50$, $\alpha = 0°$, $(x/R)_{lip} = 2.835$.

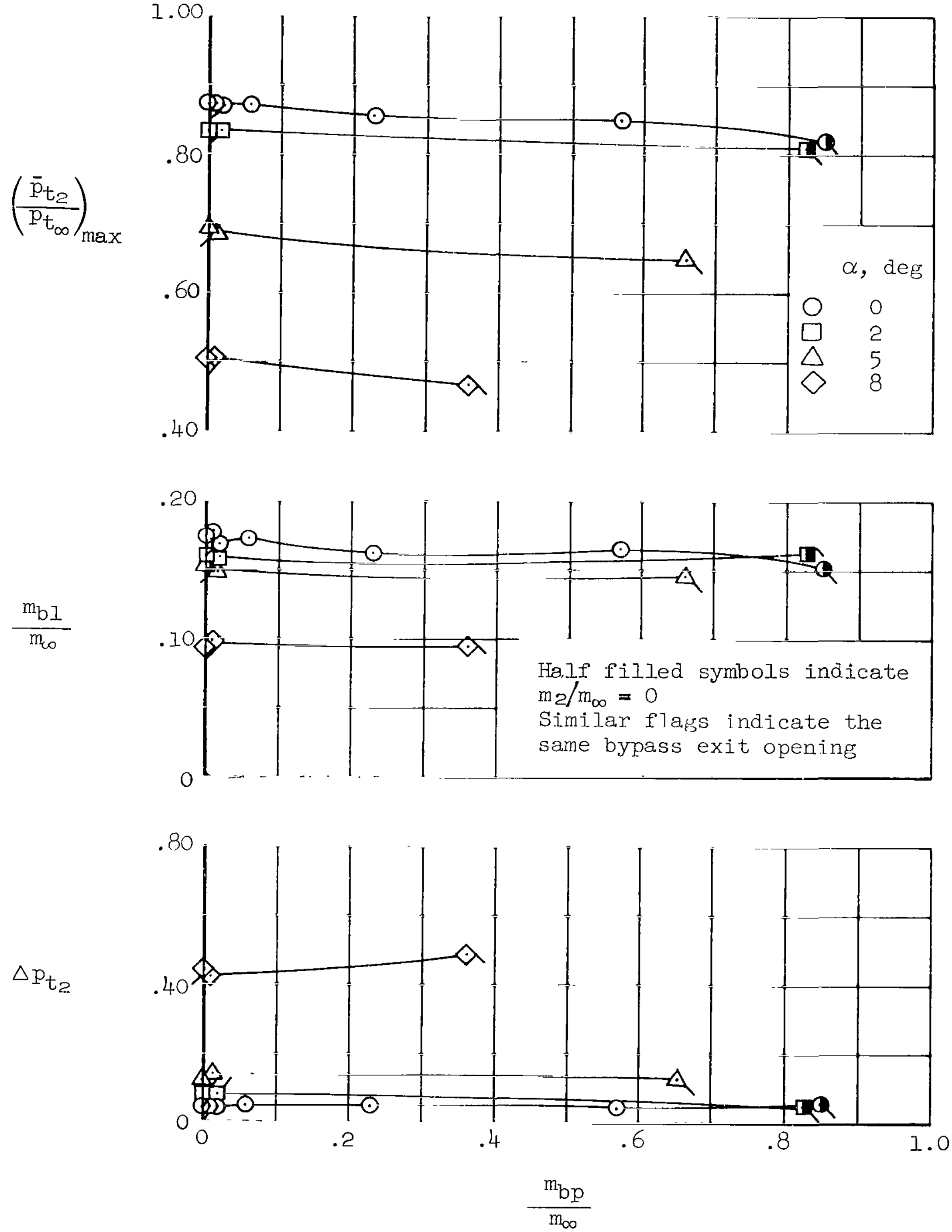


Figure 20.- Maximum performance at angle of attack for various amounts of bypass mass flow, bleed exit setting B; $M_\infty = 3.50$.

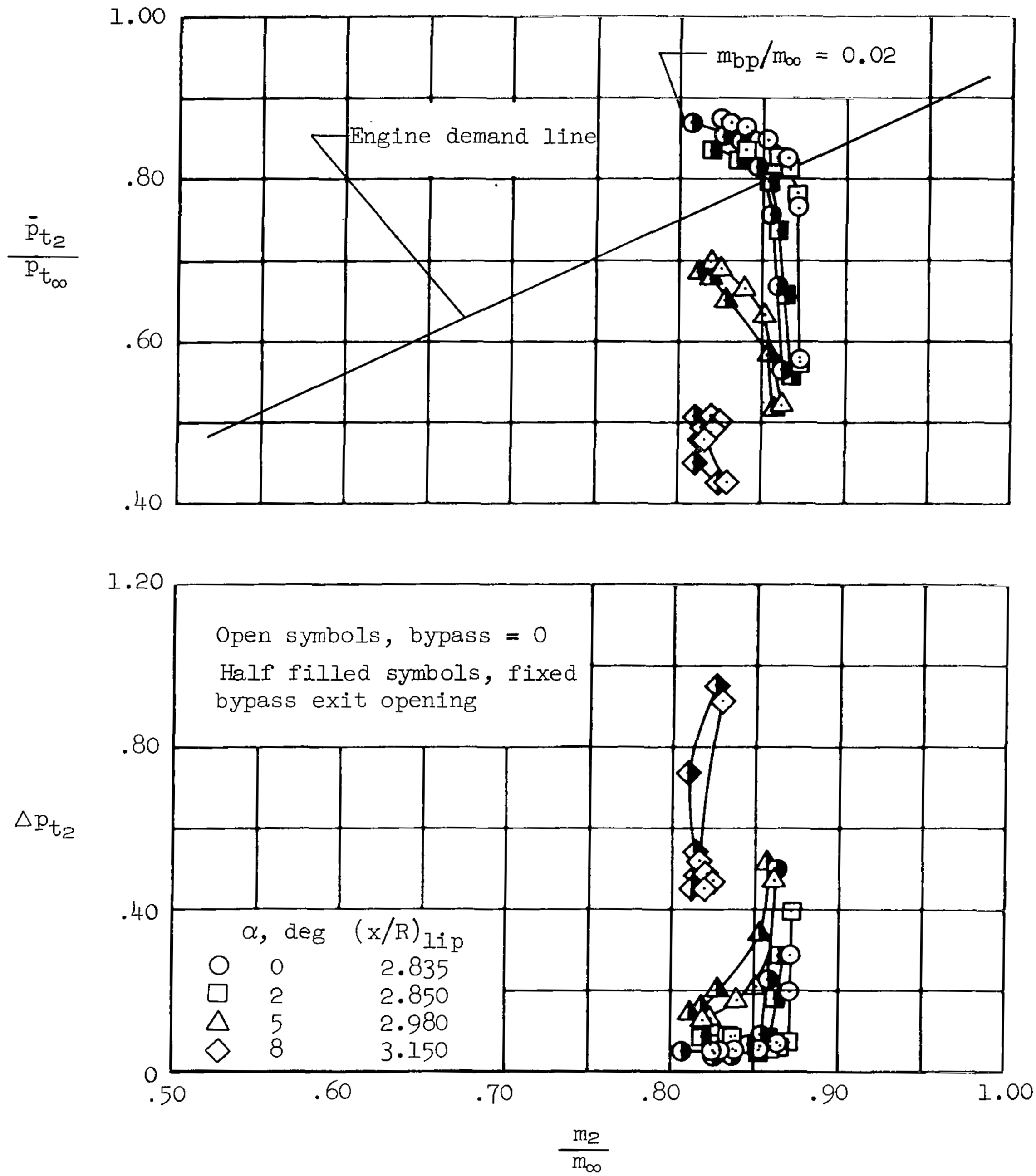
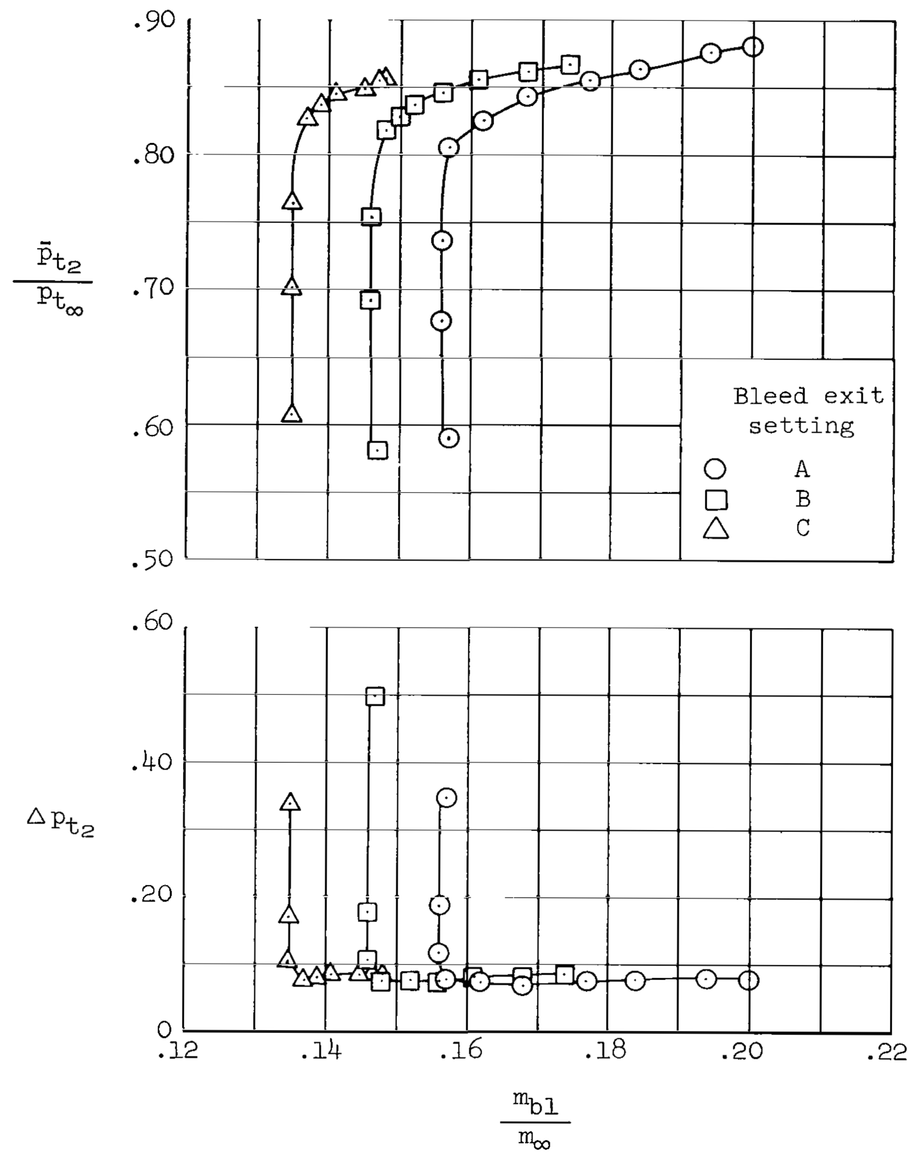
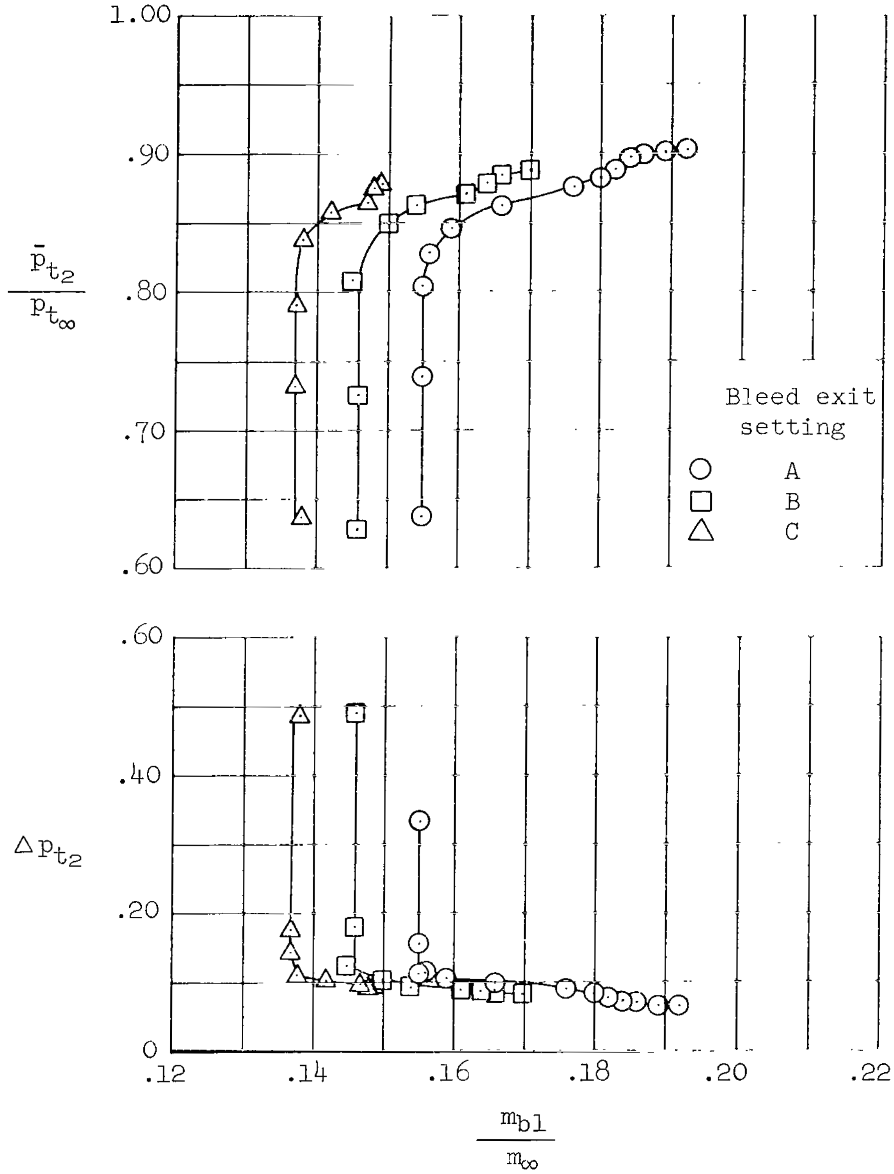


Figure 21.- Supercritical performance at angle of attack with and without bypass, bleed exit setting B; $M_\infty = 3.50$.



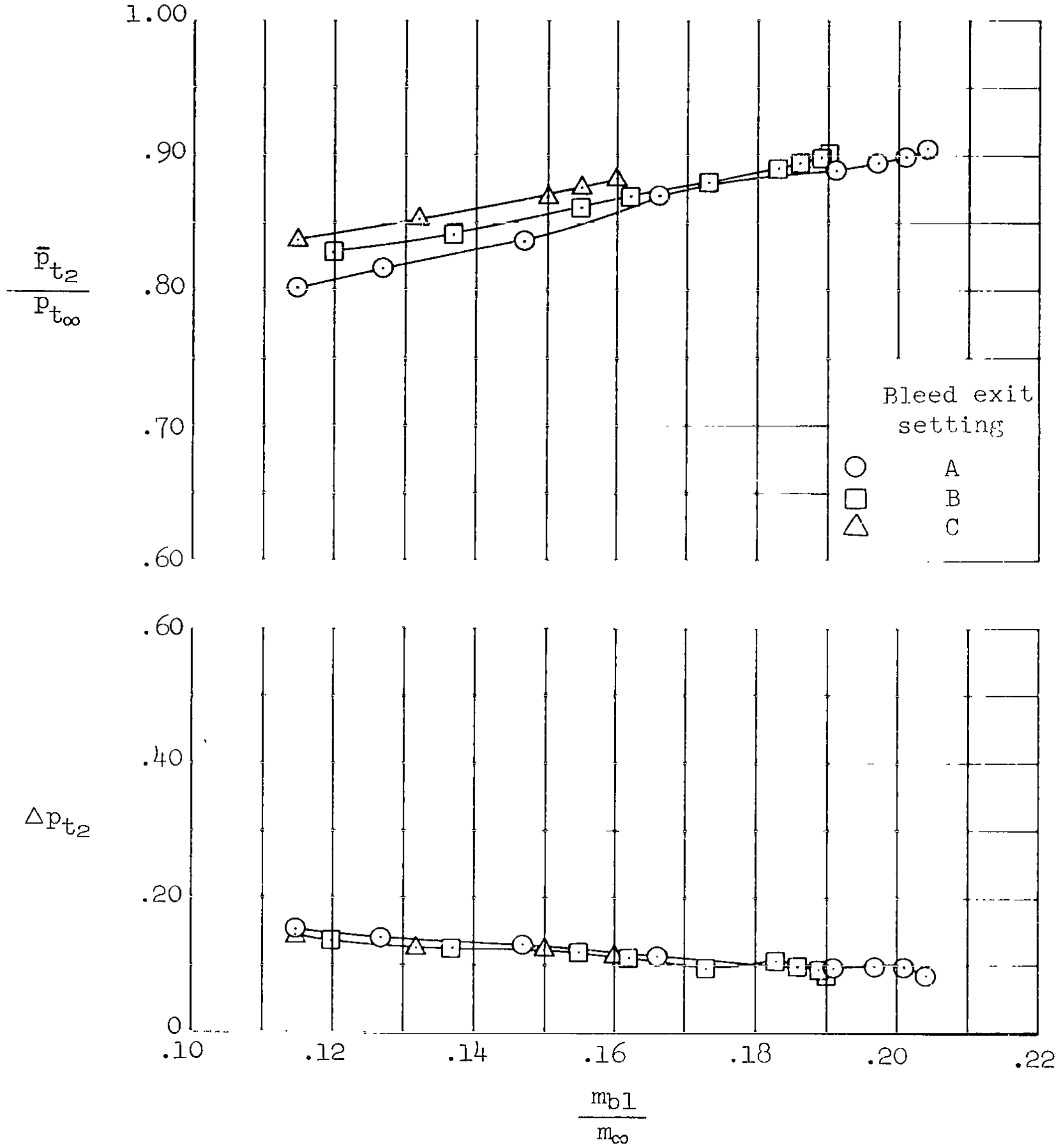
(a) $M_\infty = 3.25$, $(x/R)_{lip} = 2.903$

Figure 22.- Off design supercritical performance; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



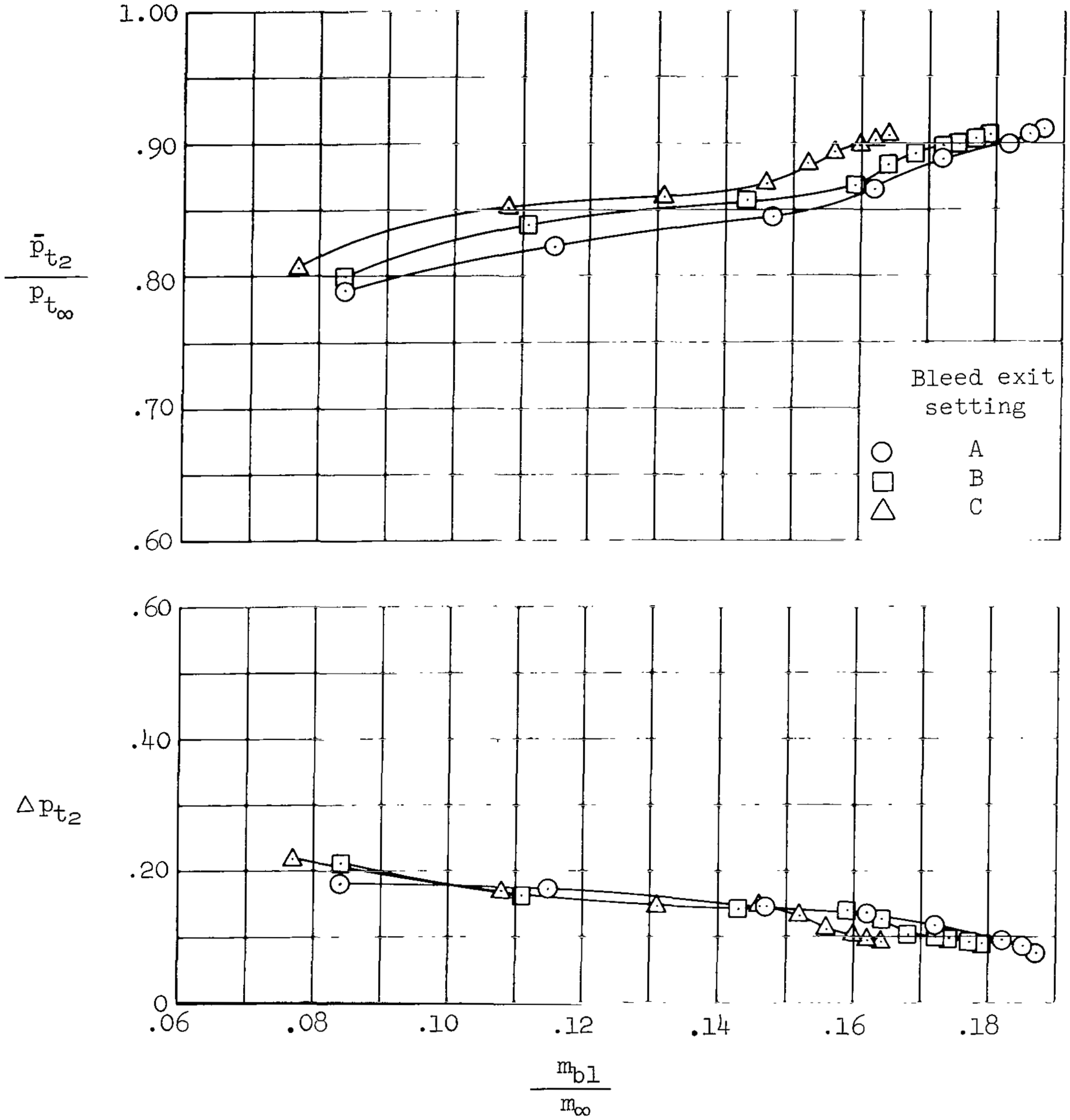
(b) $M_\infty = 3.00$, $(x/R)_{lip} = 3.000$

Figure 22.- Continued.



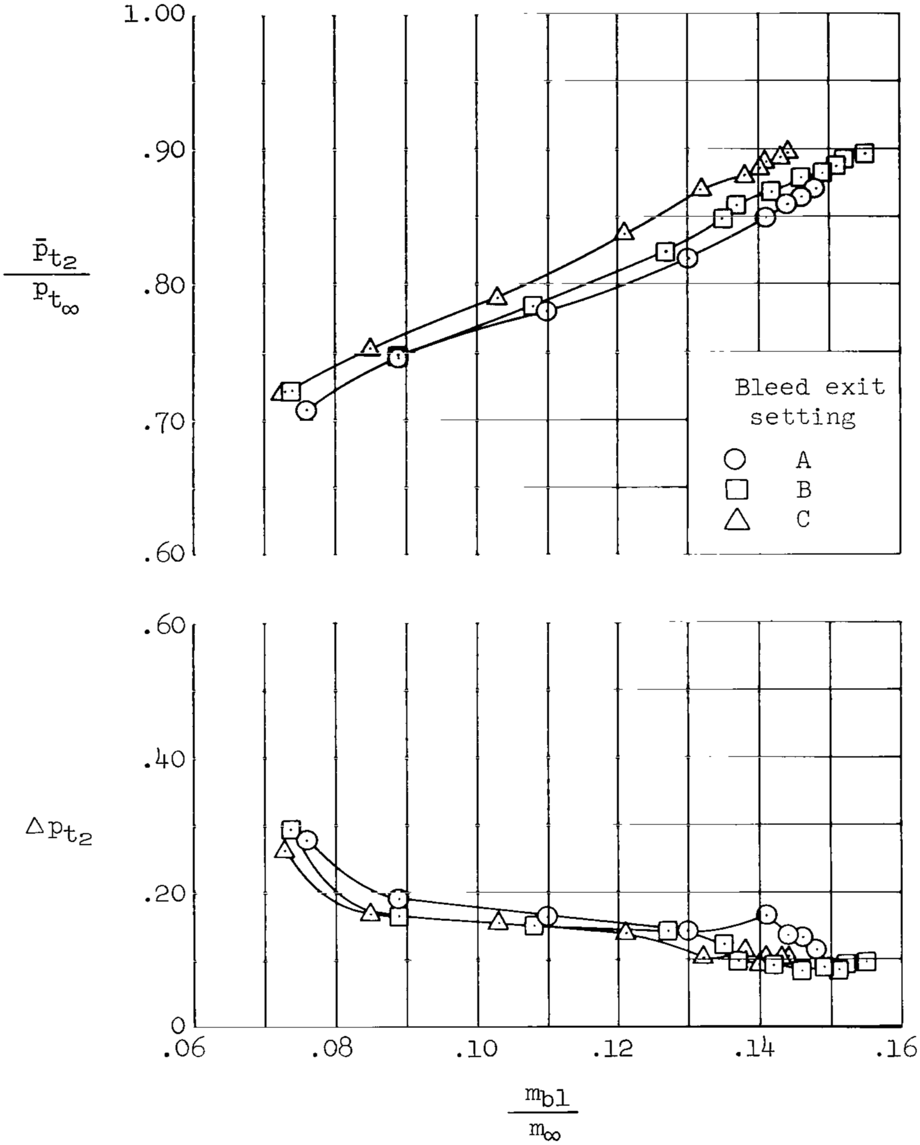
(c) $M_\infty = 2.75$, $(x/R)_{lip} = 3.230$

Figure 22.- Continued.



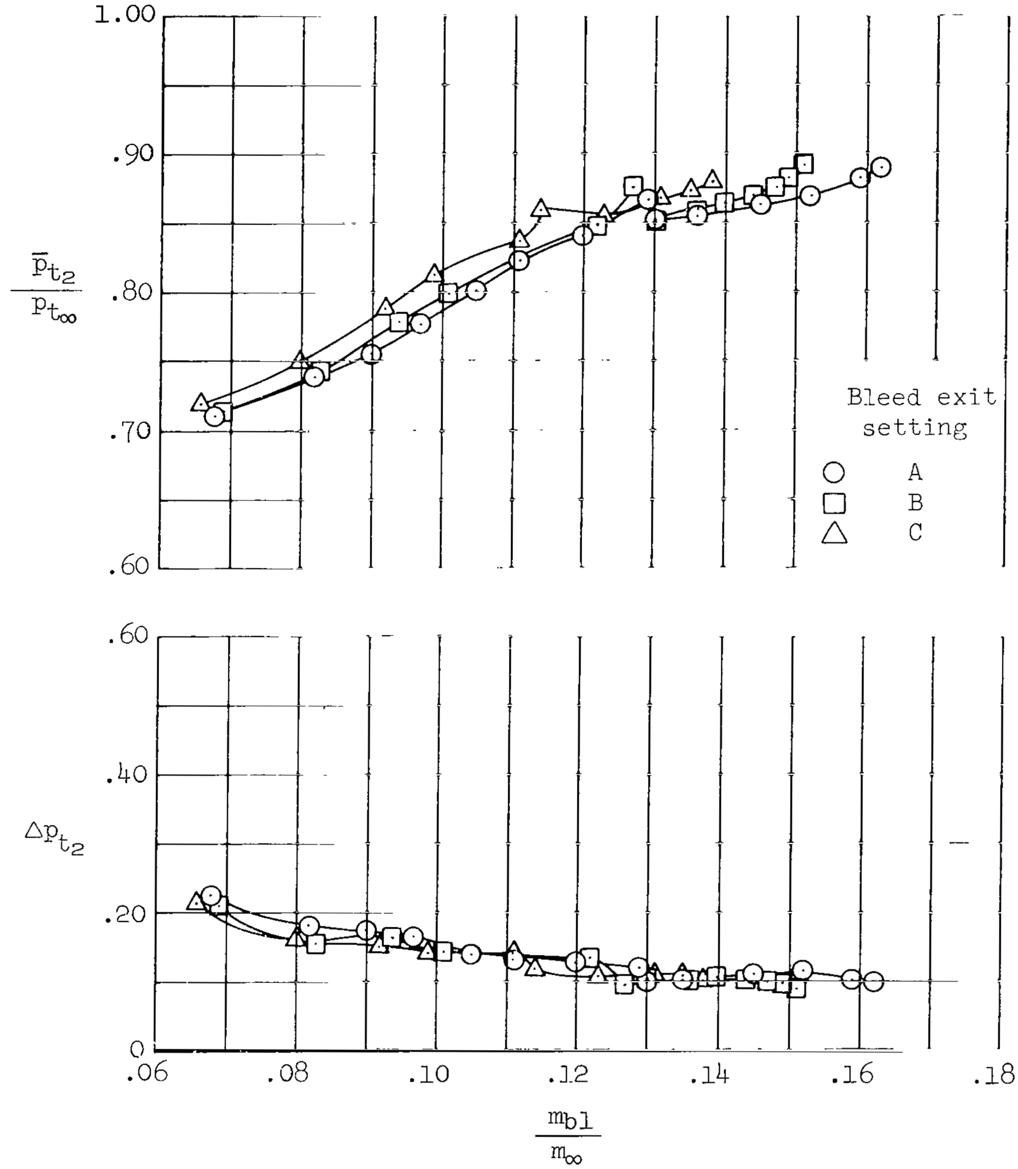
(d) $M_\infty = 2.50$, $(x/R)_{lip} = 3.370$

Figure 22.- Continued.



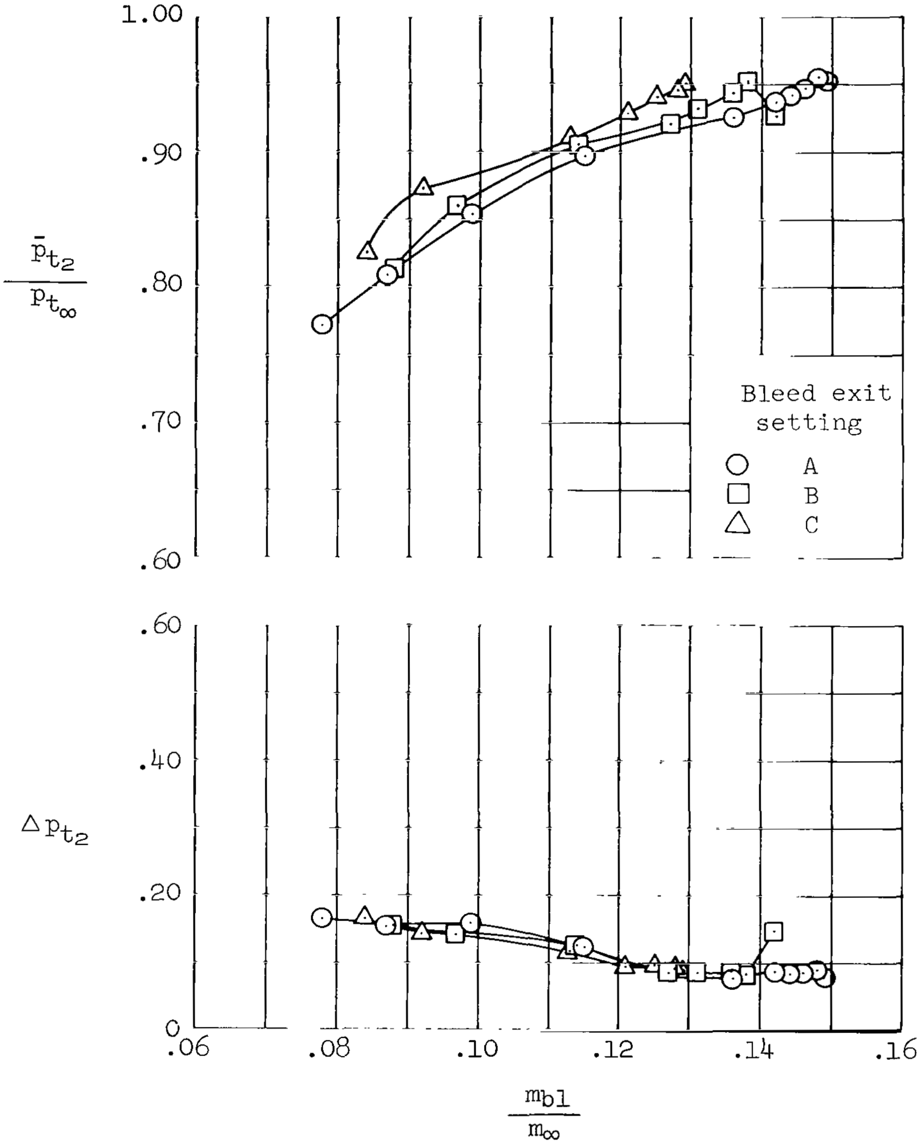
(e) $M_\infty = 2.25$, $(x/R)_{lip} = 3.600$

Figure 22.- Continued.



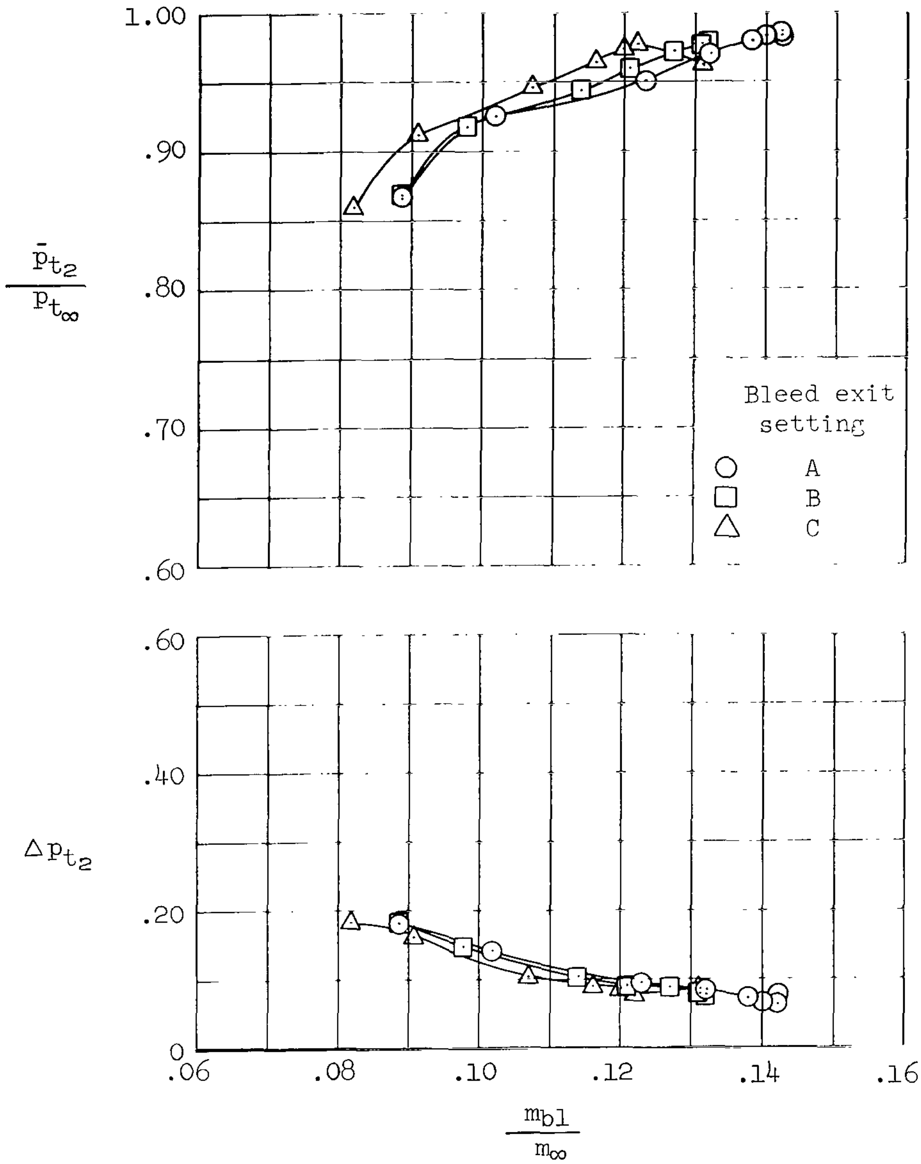
(f) $M_\infty = 2.00$, $(x/R)_{lip} = 3.776$

Figure 22.- Continued.



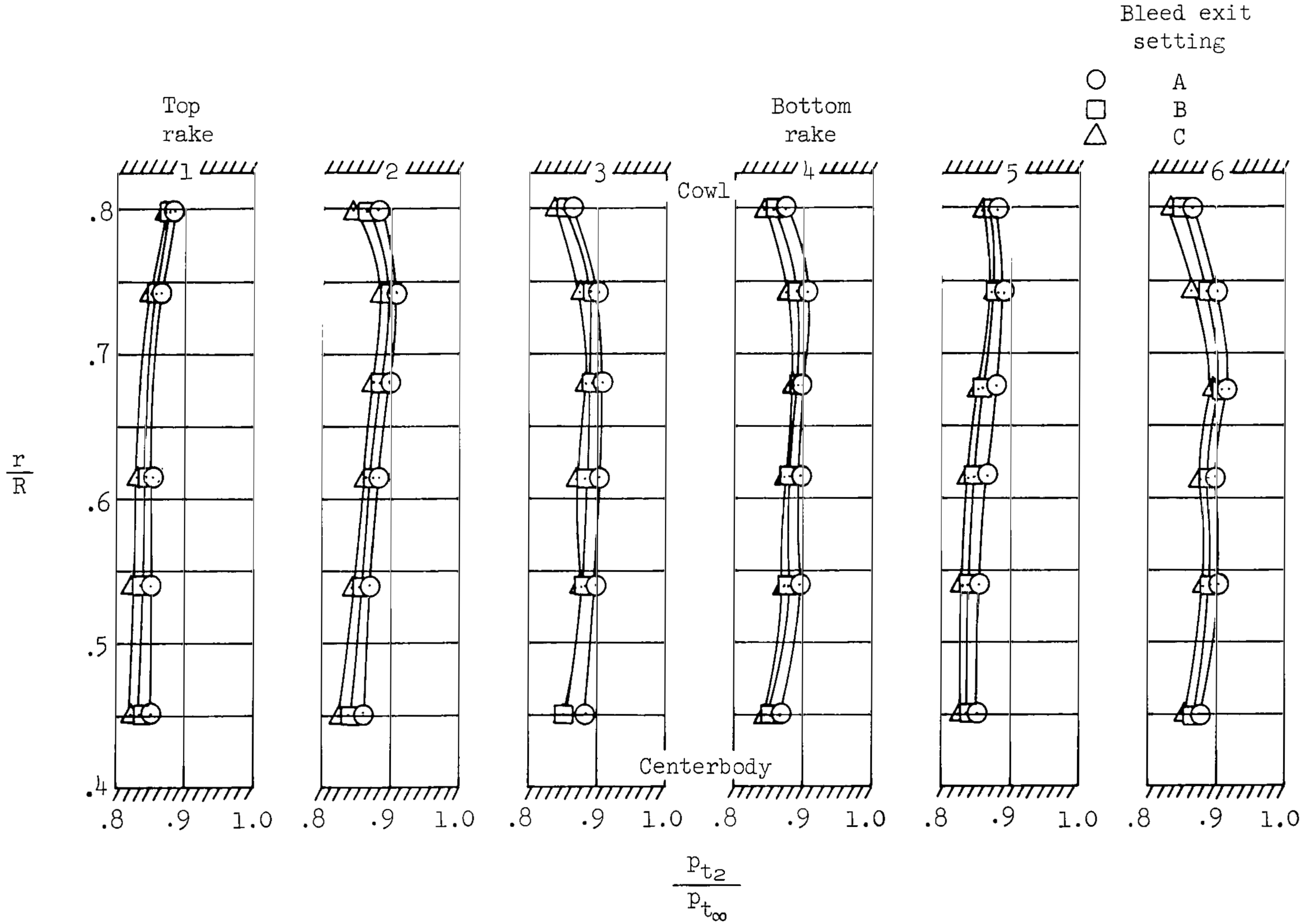
(g) $M_\infty = 1.75$, $(x/R)_{lip} = 3.870$

Figure 22.- Continued.



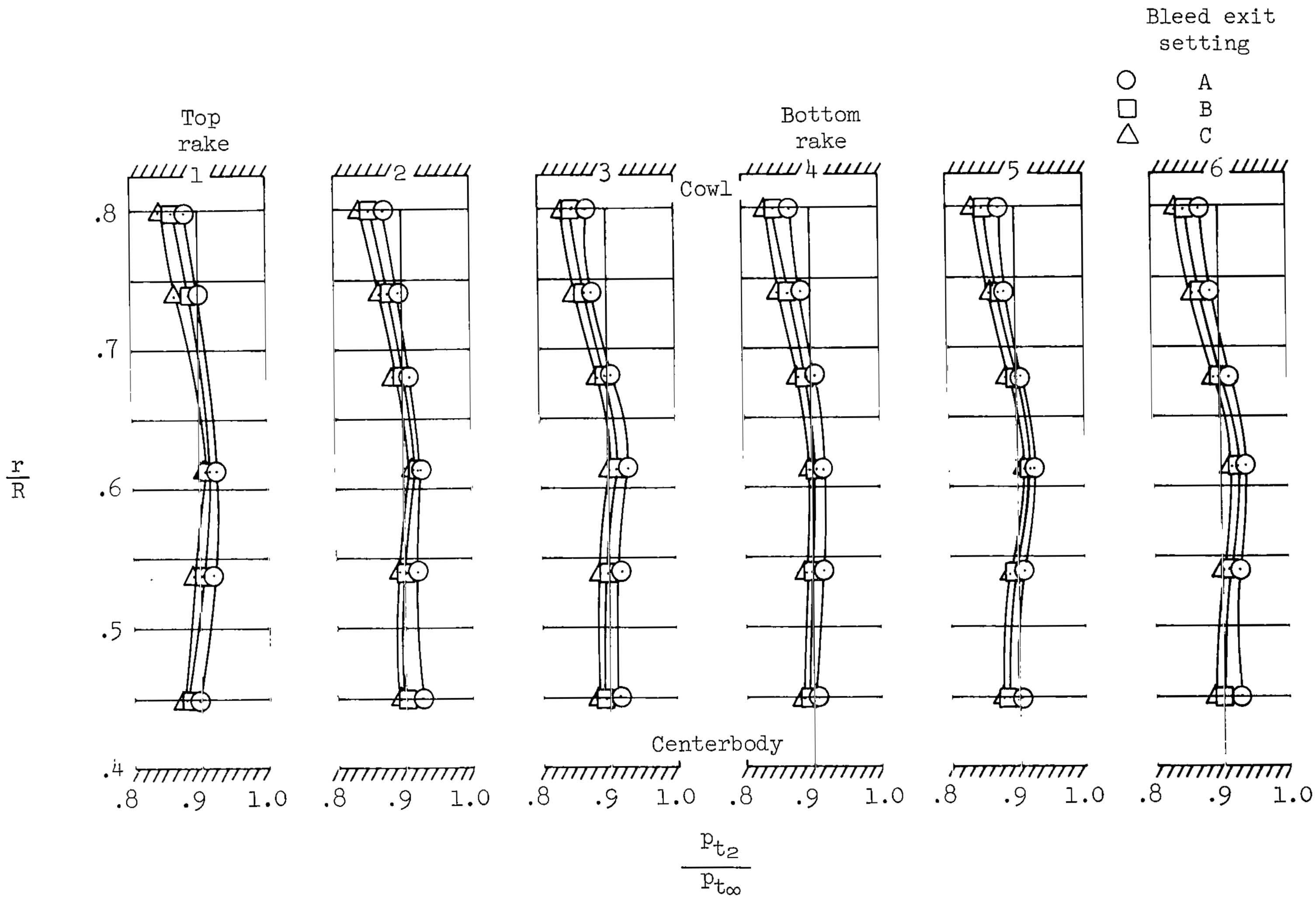
(h) $M_\infty = 1.55$, $(x/R)_{lip} = 3.890$

Figure 22.- Concluded.



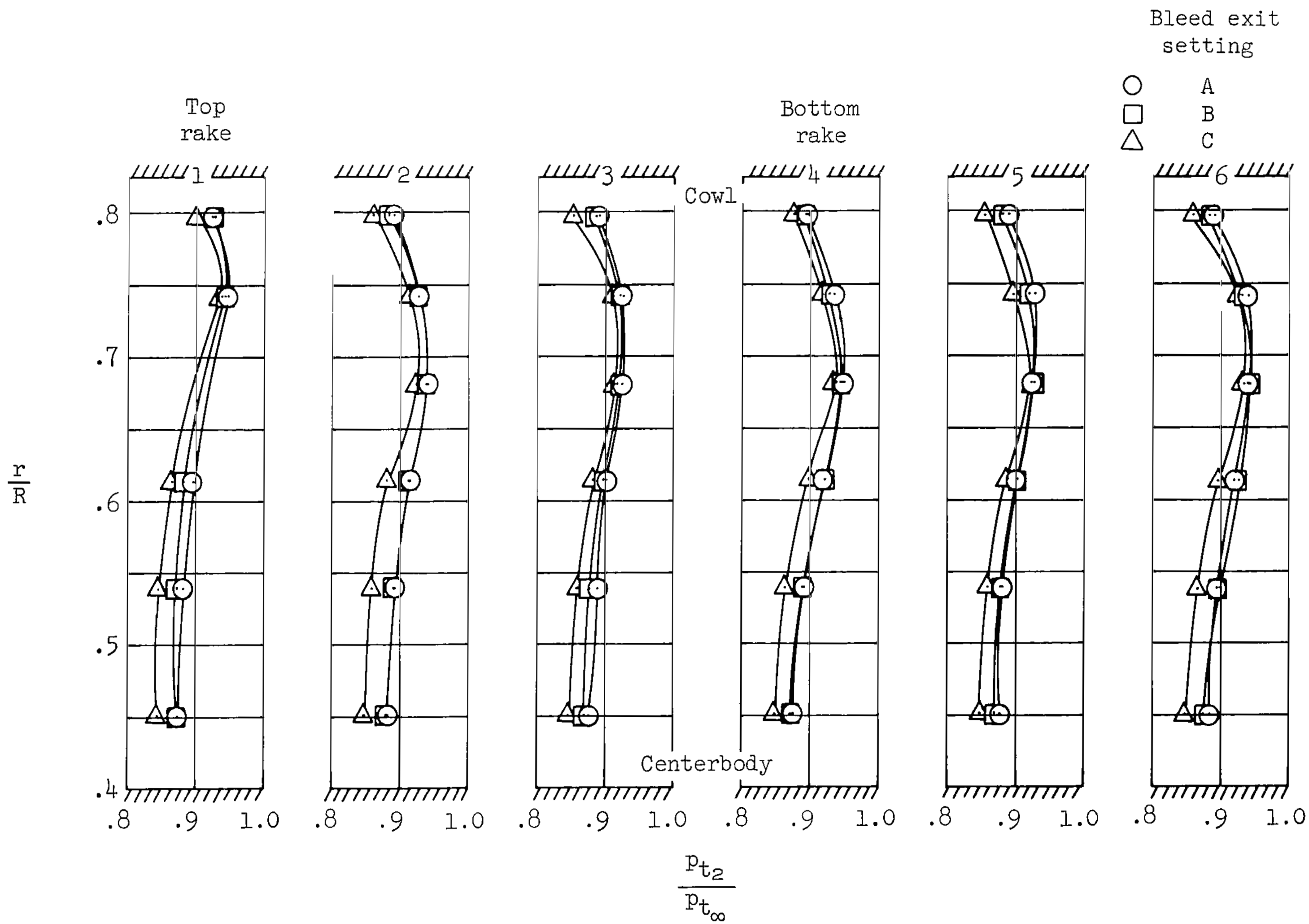
(a) $M_\infty = 3.25$

Figure 23.- Off design engine-face distortion profiles, maximum pressure recovery; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



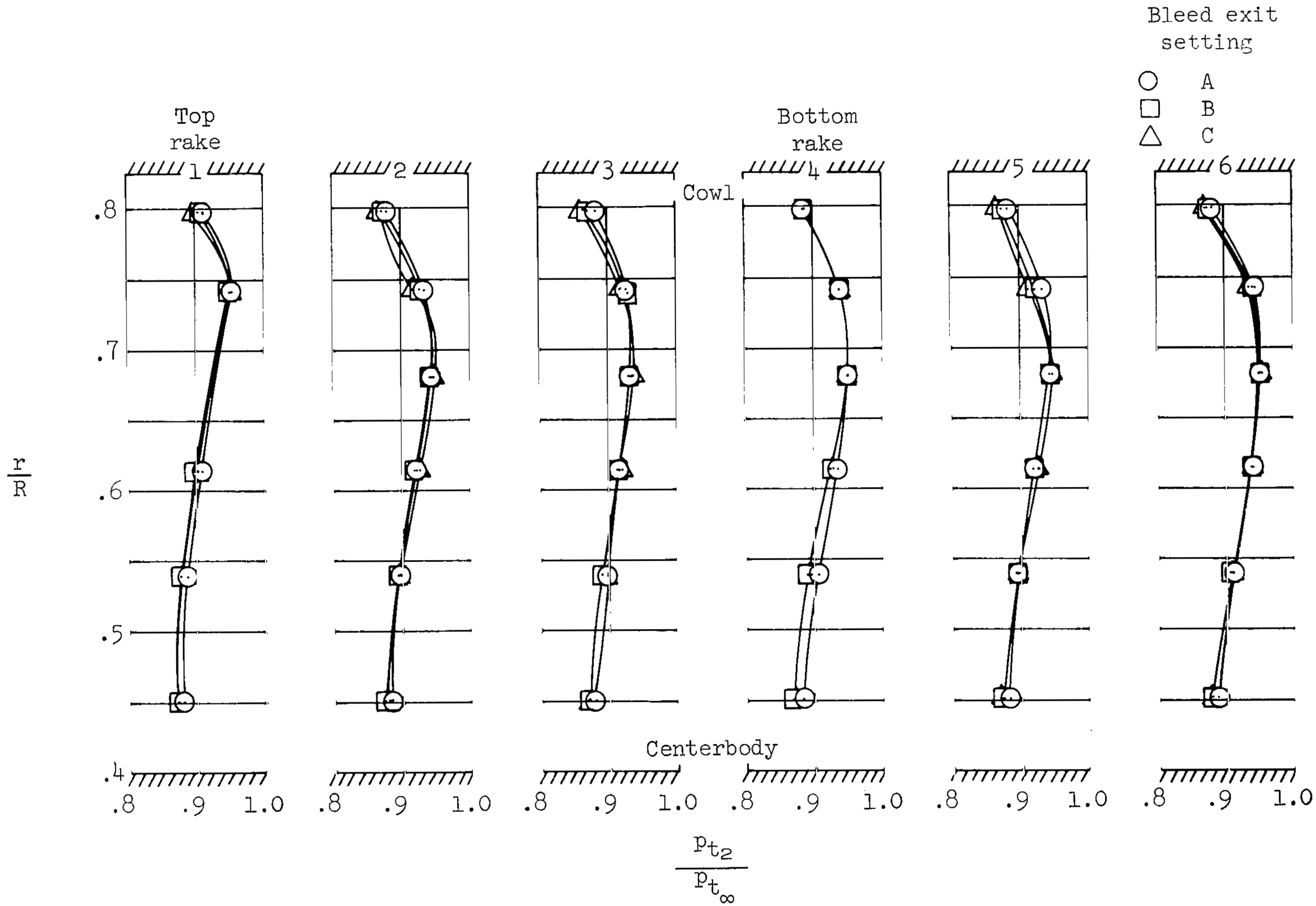
(b) $M_\infty = 3.00$

Figure 23.- Continued.



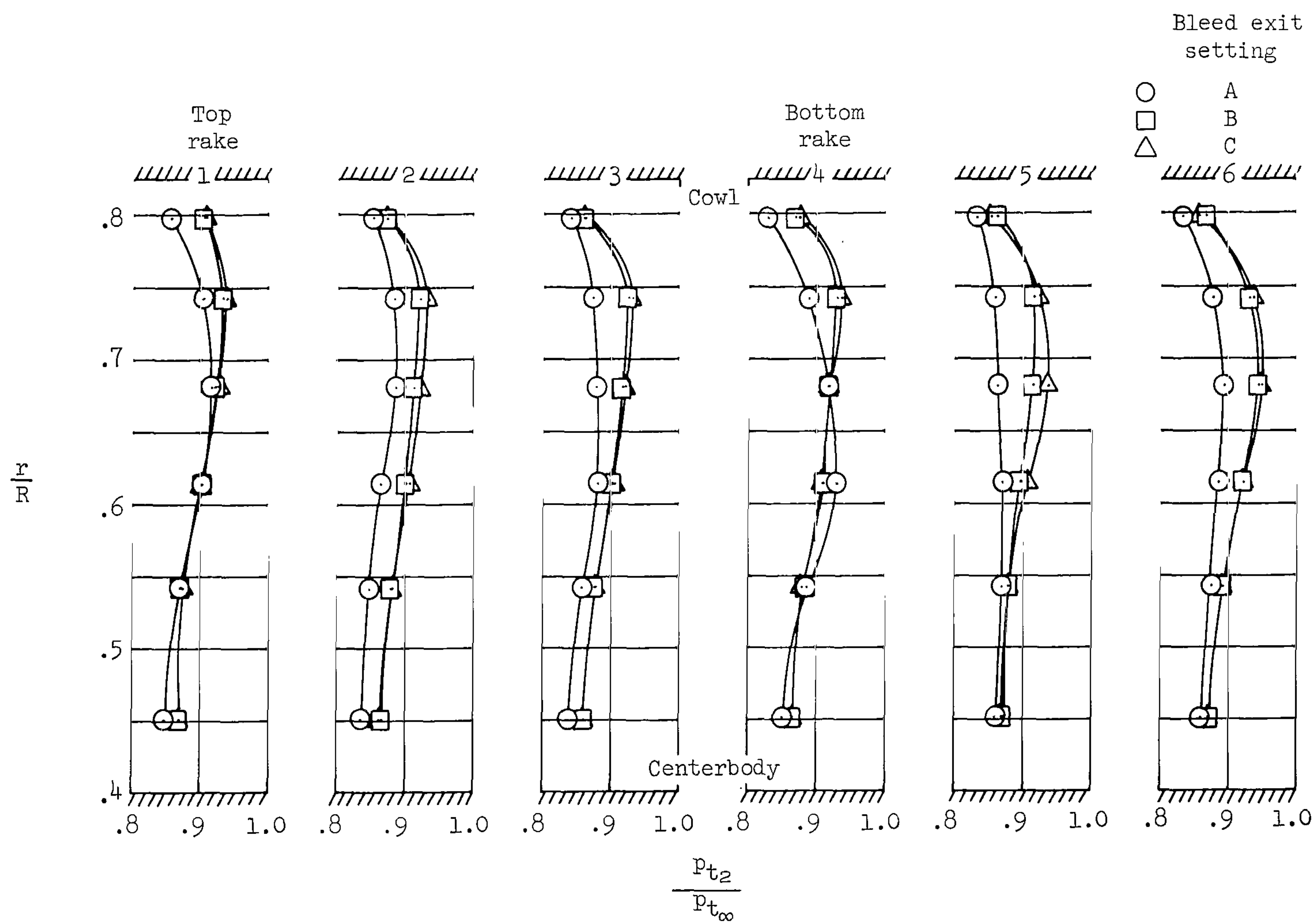
(c) $M_\infty = 2.75$

Figure 23.- Continued.



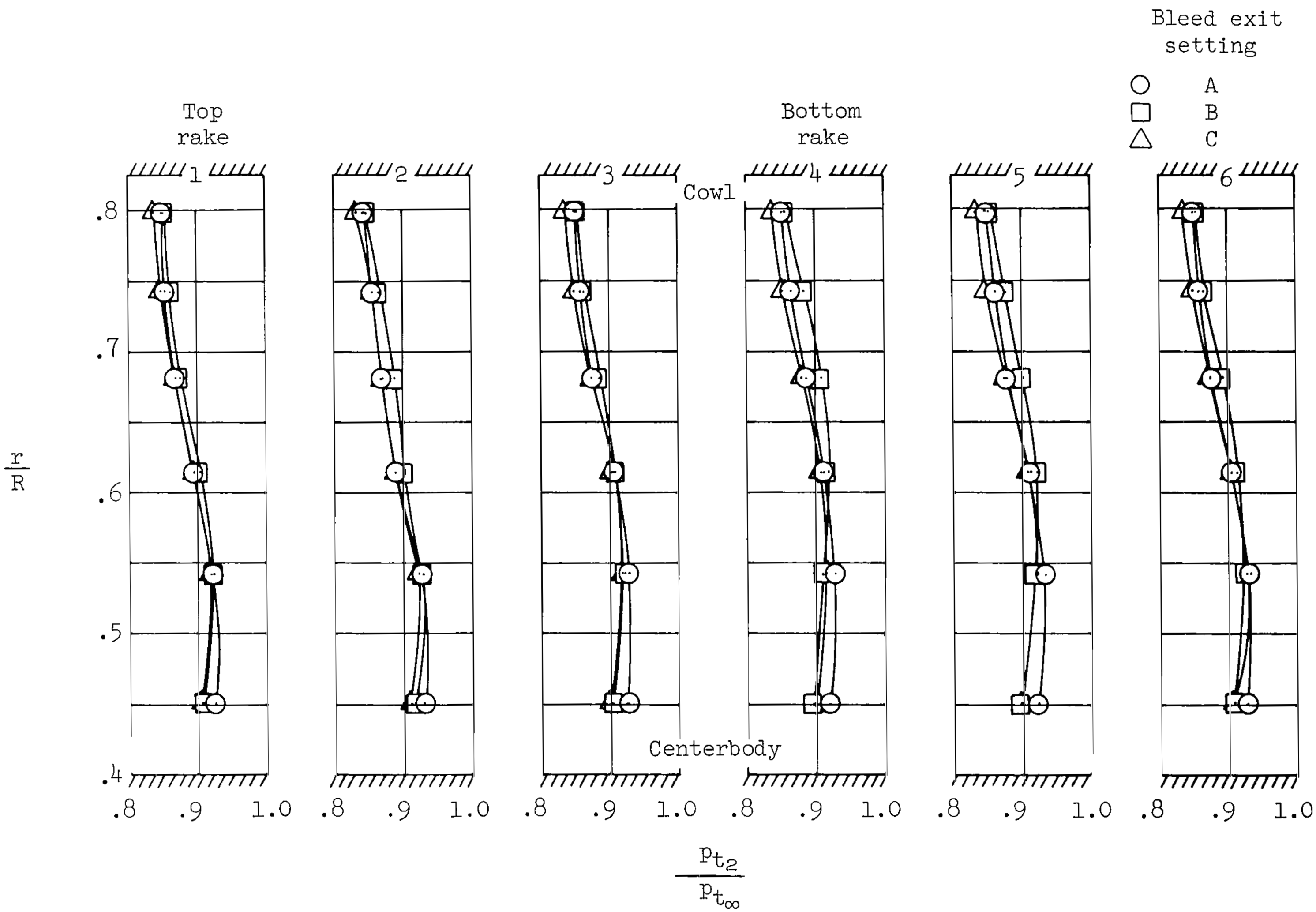
(d) $M_\infty = 2.50$

Figure 23.- Continued.



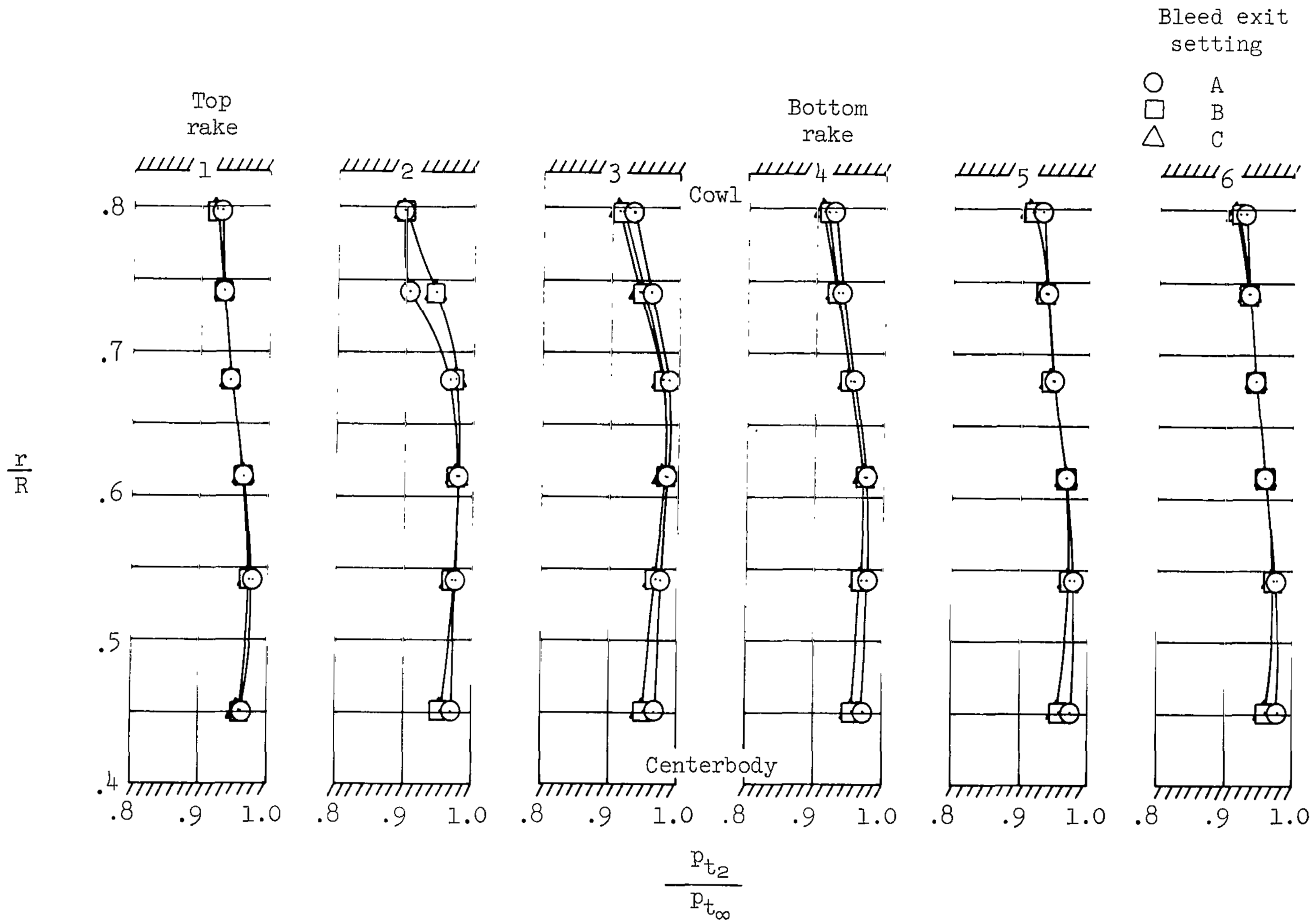
(e) $M_\infty = 2.25$

Figure 23.- Continued.



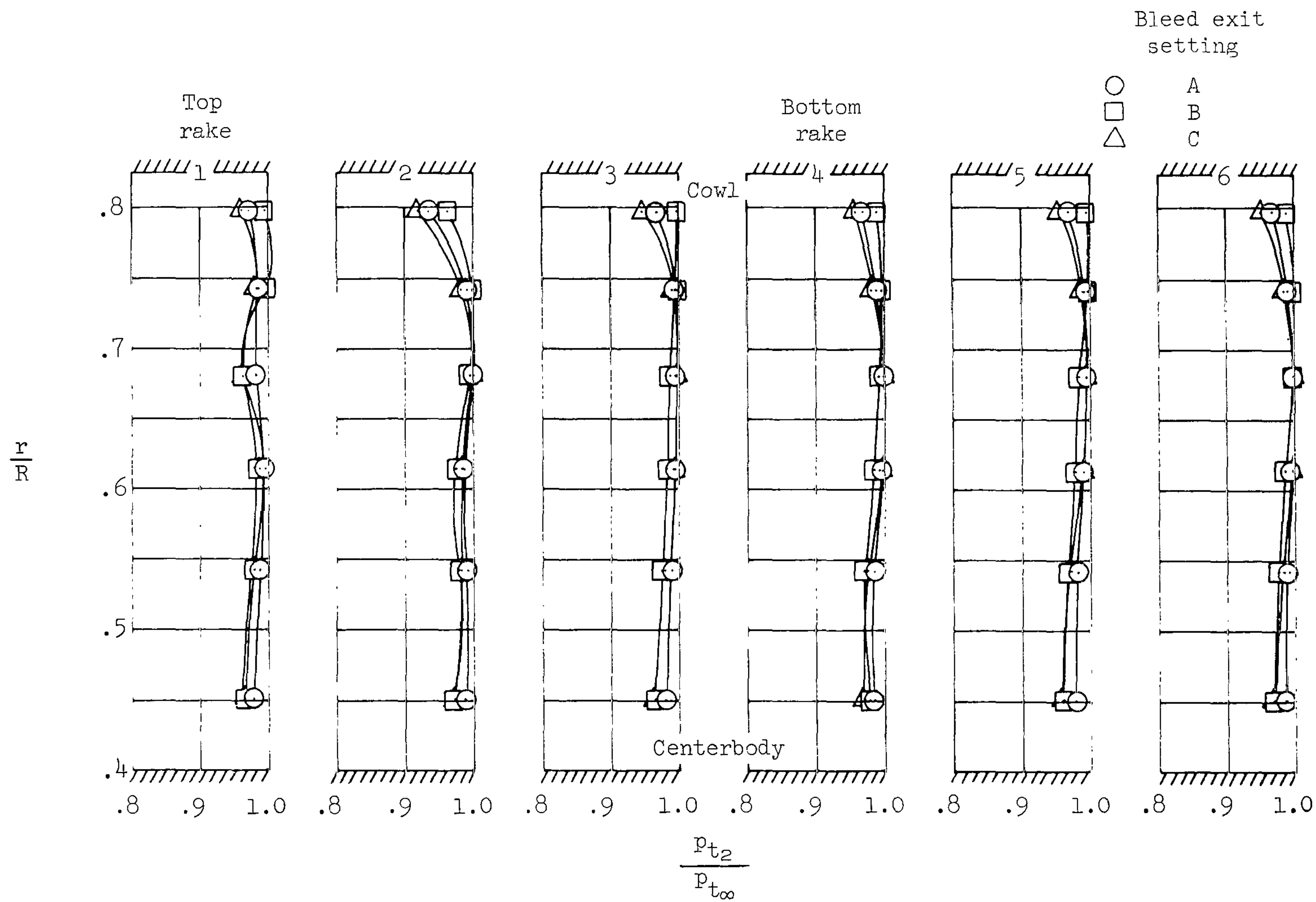
(f) $M_\infty = 2.00$

Figure 23.- Continued.



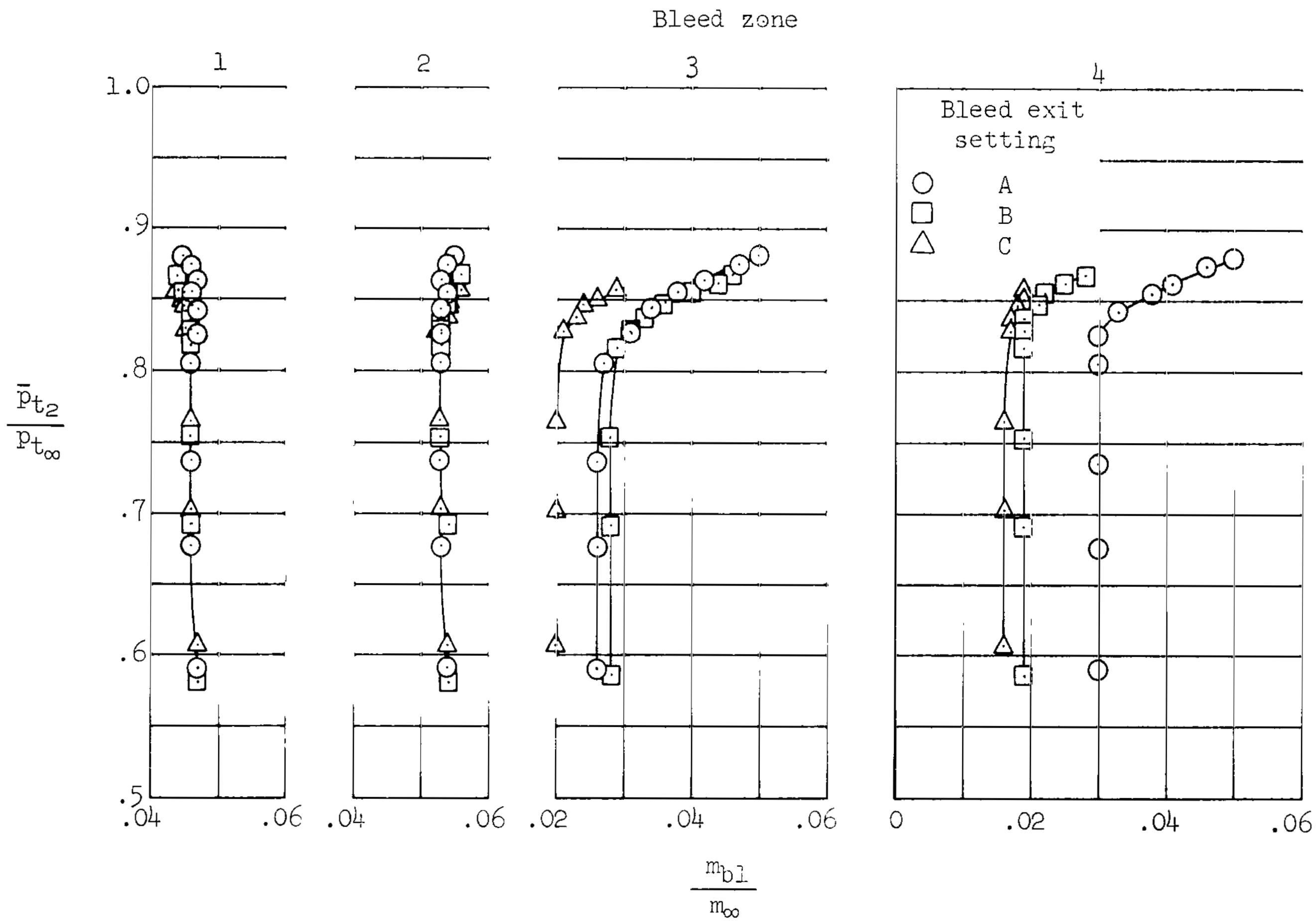
(g) $M_\infty = 1.75$

Figure 23.- Continued.



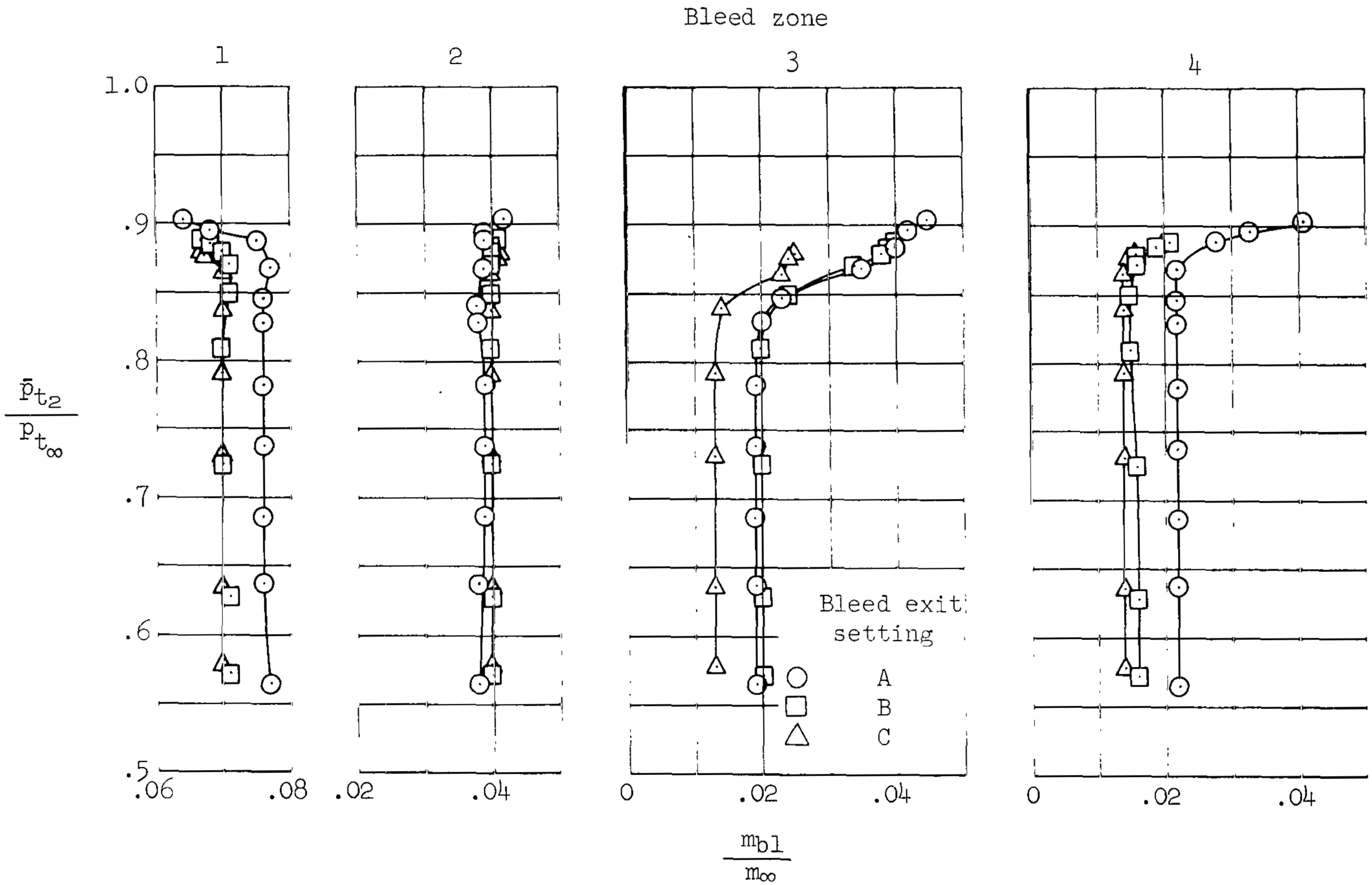
(h) $M_\infty = 1.55$

Figure 23.- Concluded.



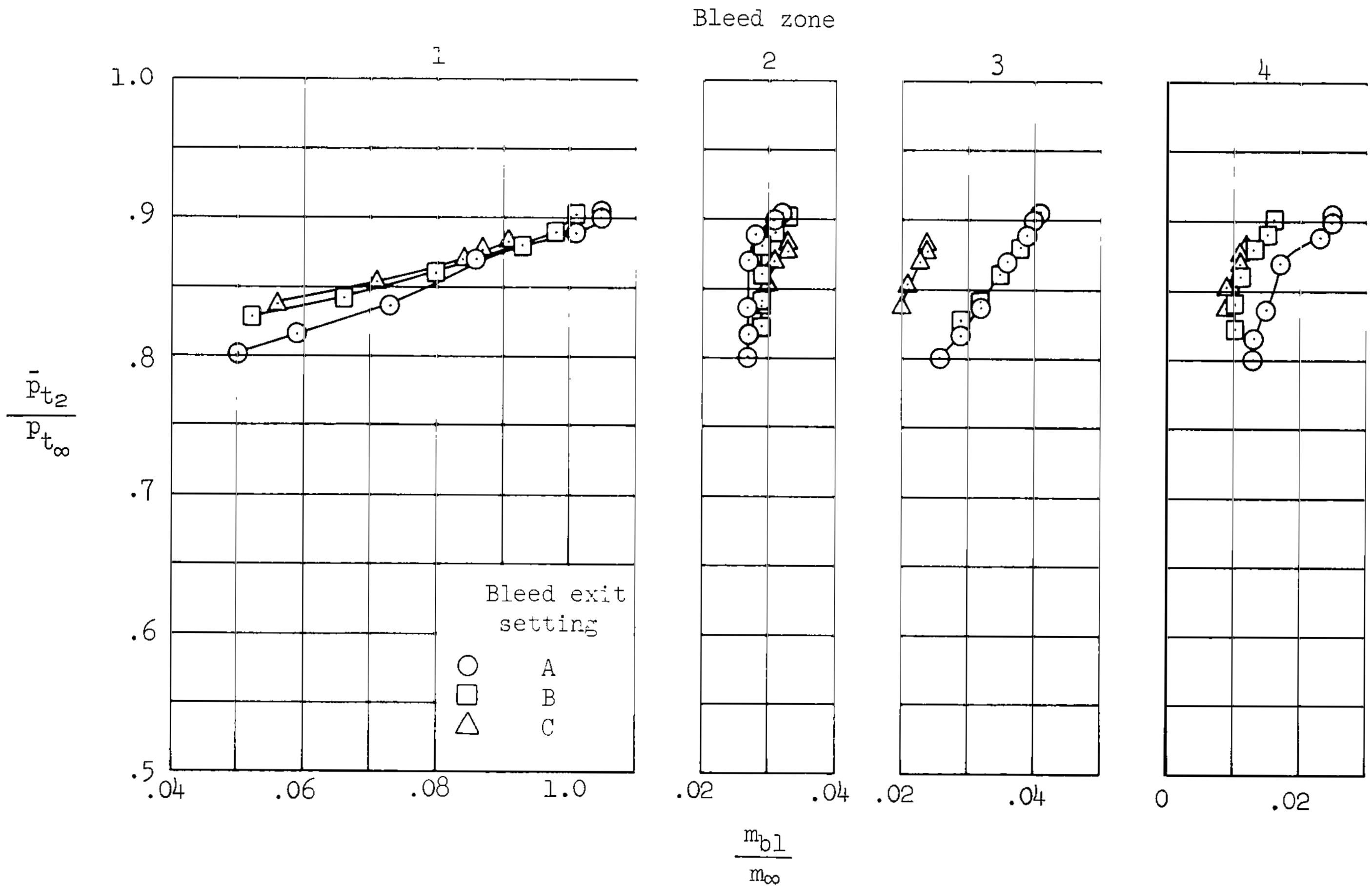
(a) $M_\infty = 3.25$, $(x/R)_{lip} = 2.903$

Figure 24.- Off-design supercritical bleed flow, individual bleed zones; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



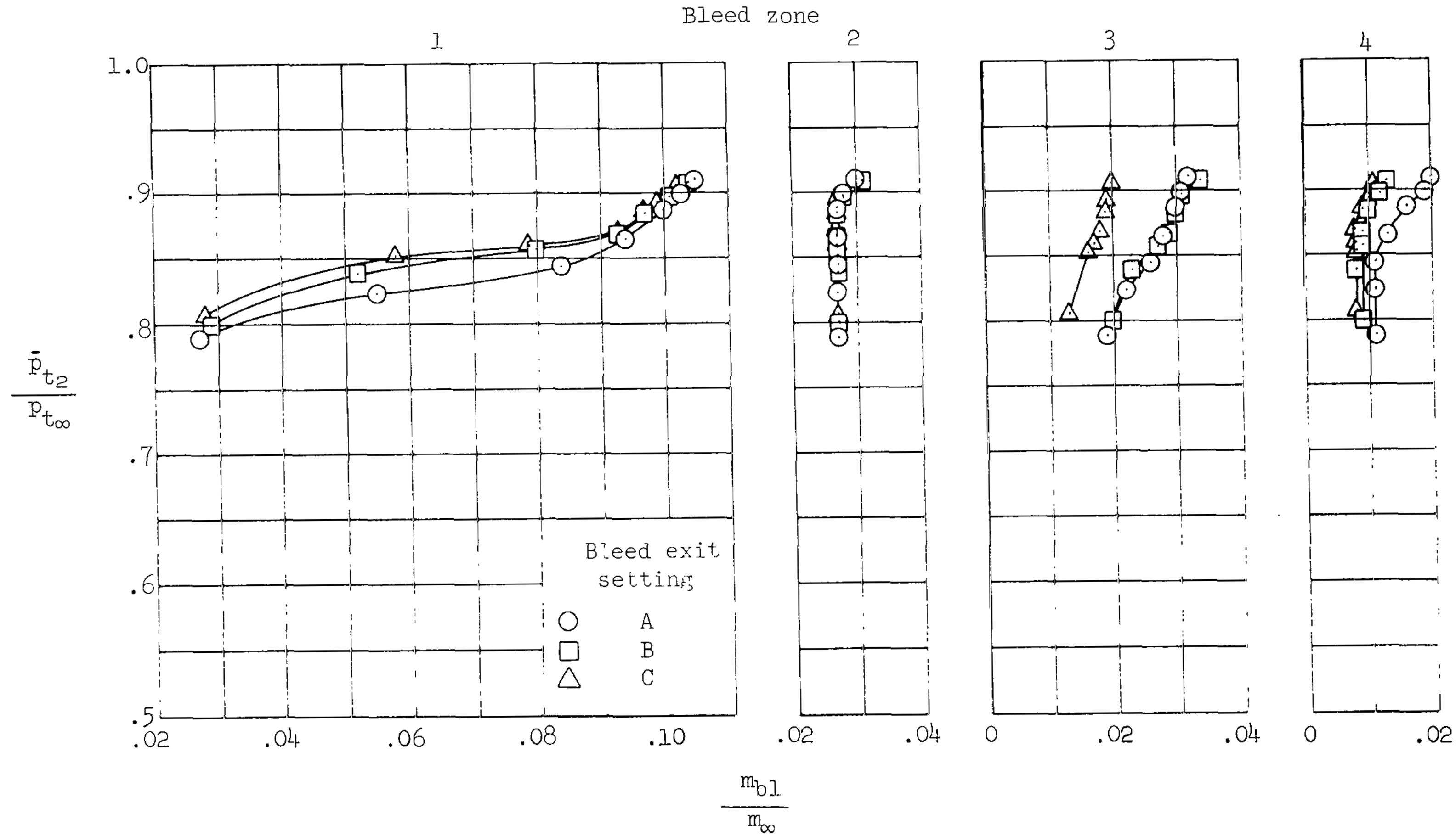
(b) $M_\infty = 3.00$, $(x/R)_{lip} = 3.000$

Figure 24.- Continued.



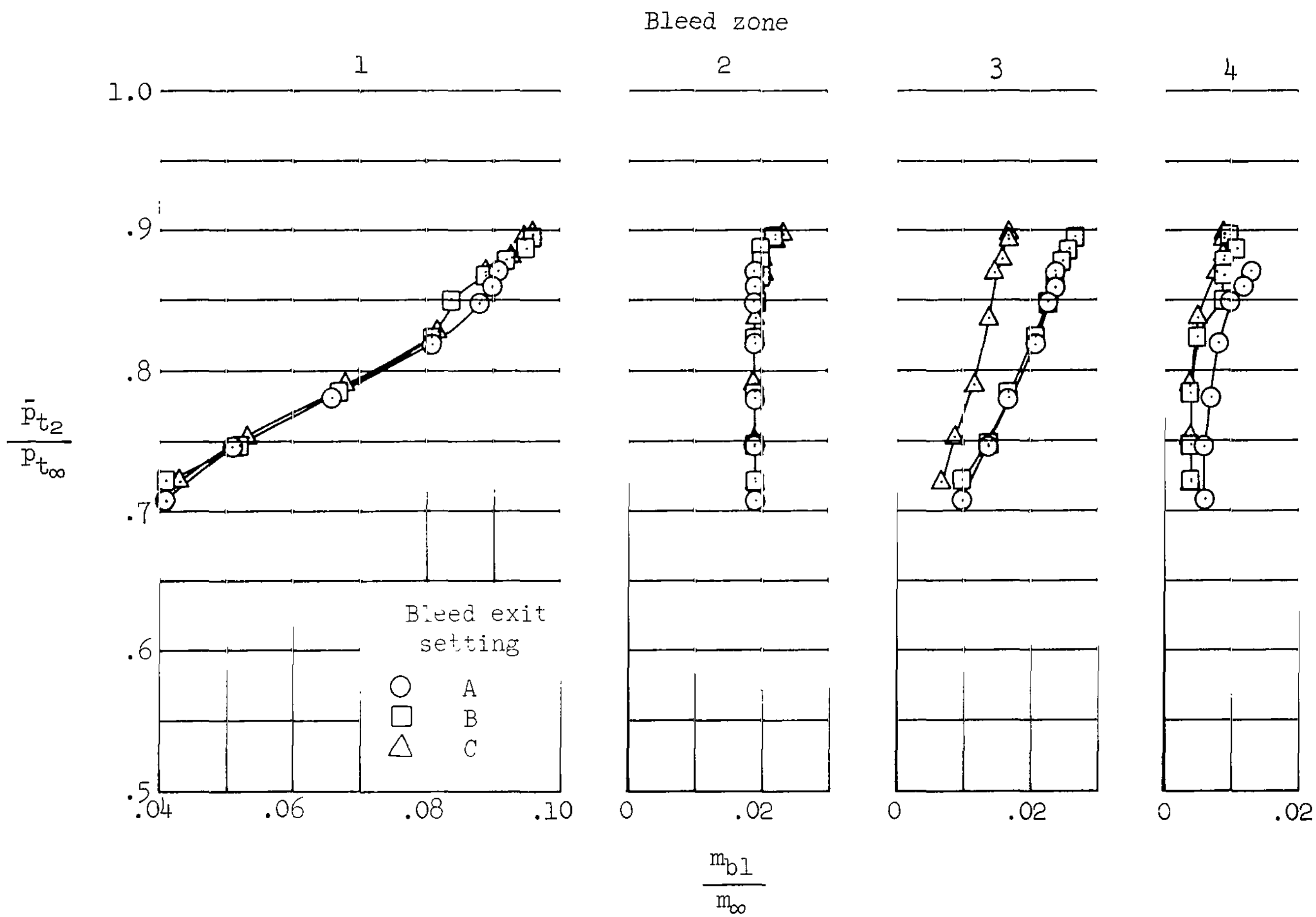
(c) $M_\infty = 2.75$, $(x/R)_{lip} = 3.220$

Figure 24.- Continued.



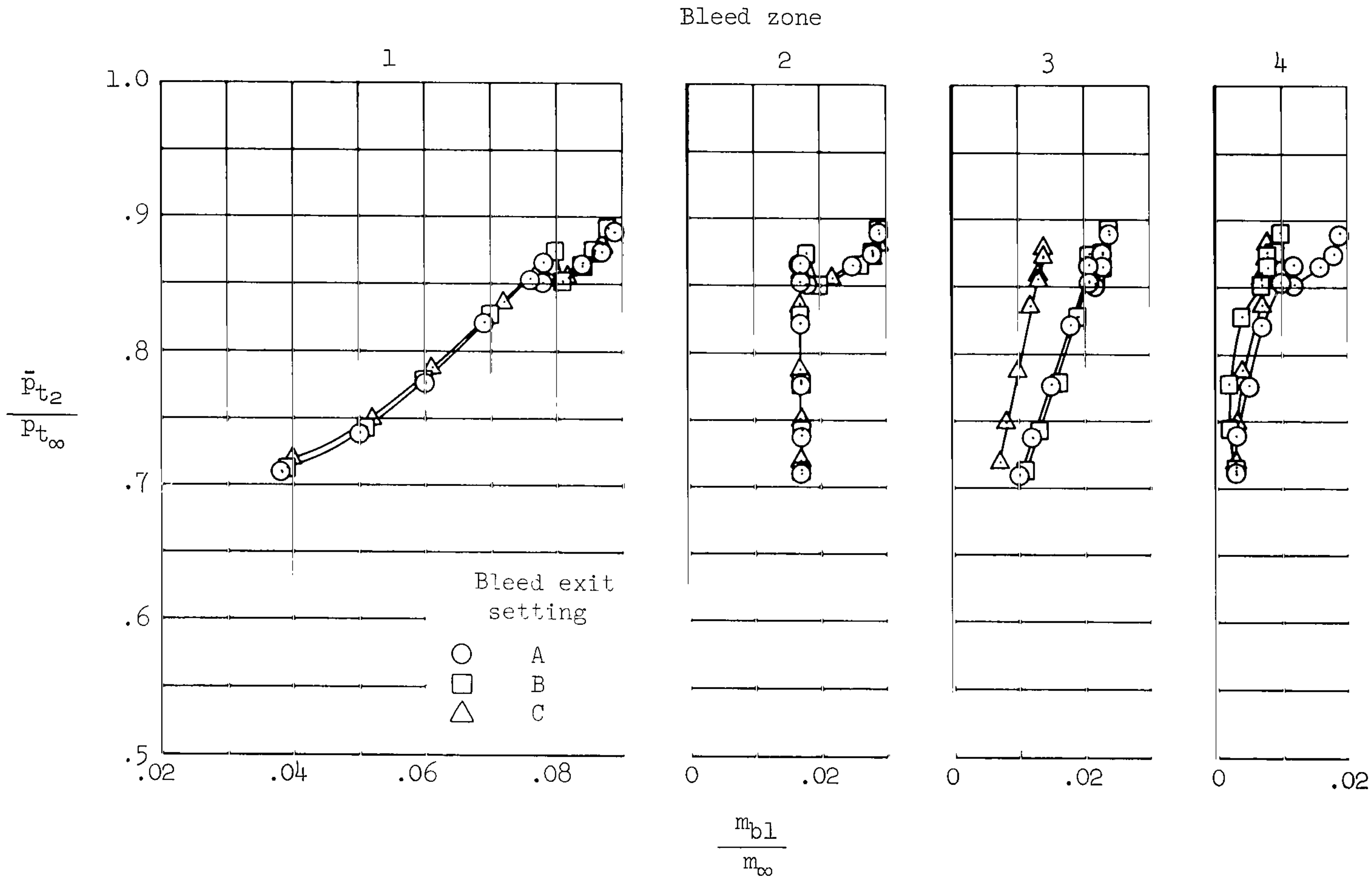
(d) $M_\infty = 2.50$, $(x/R)_{lip} = 3.370$

Figure 24.- Continued.



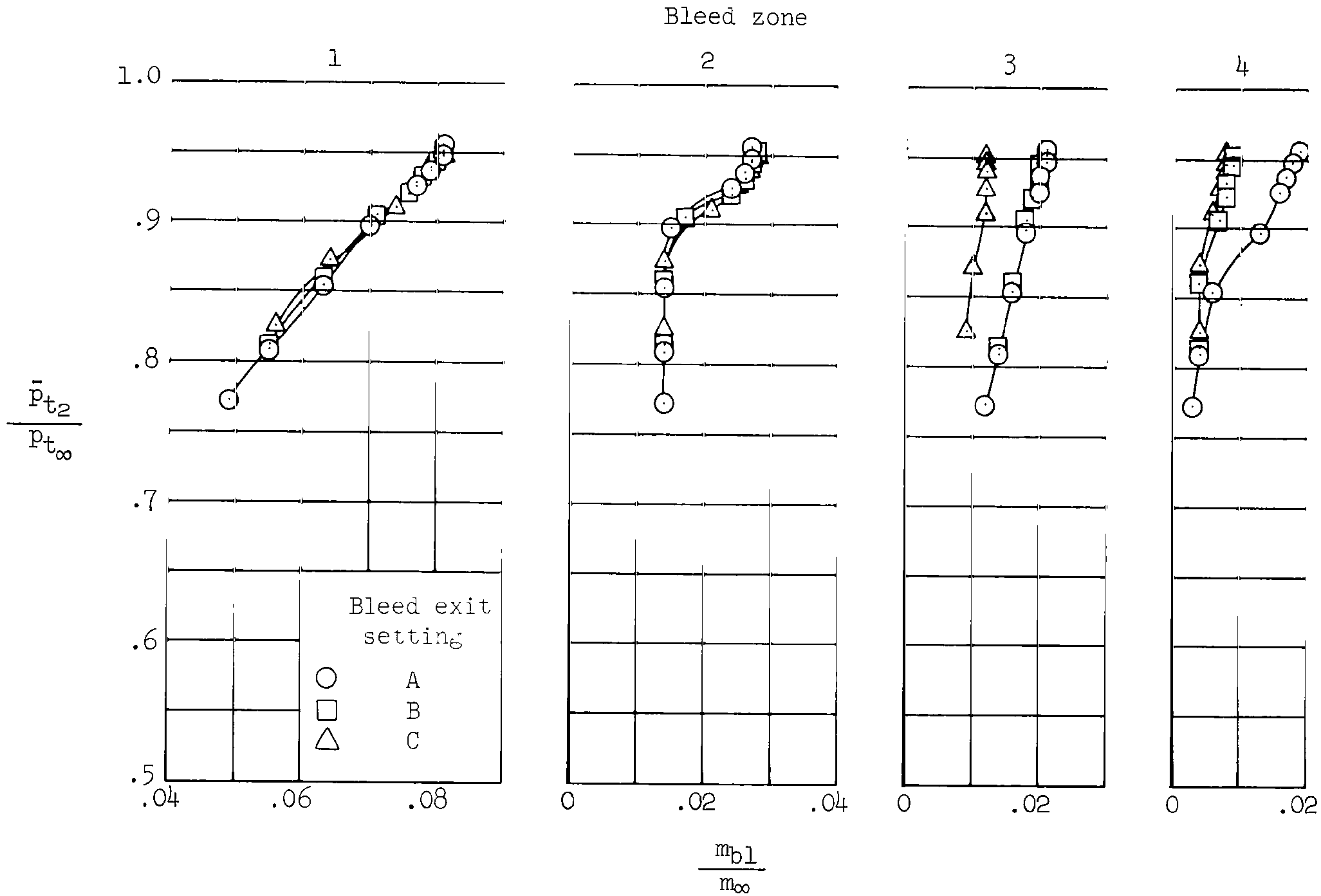
(e) $M_\infty = 2.25$, $(x/R)_{lip} = 3.600$

Figure 24.- Continued.



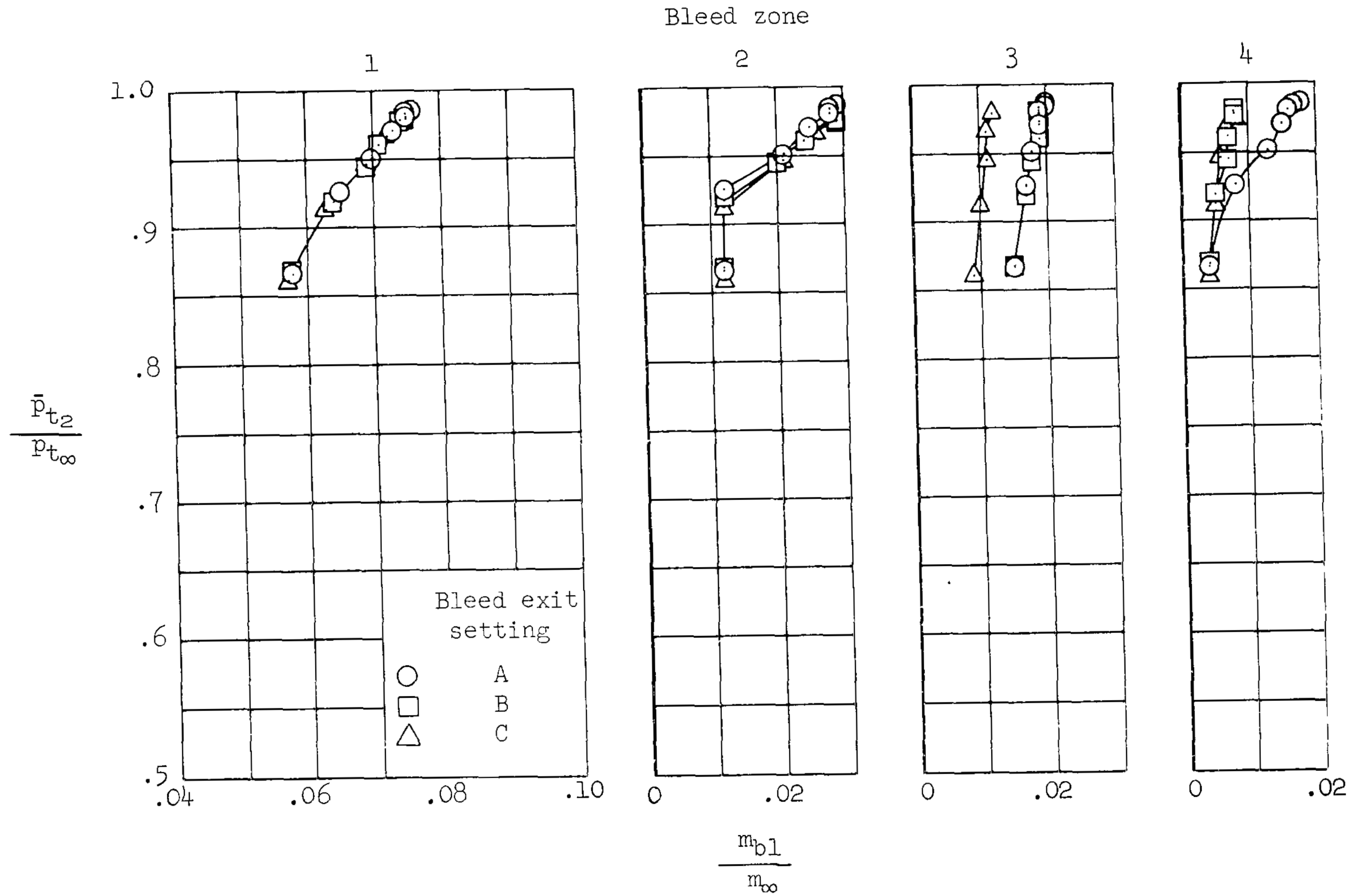
(f) $M_\infty = 2.00$, $(x/R)_{lip} = 3.780$

Figure 24.- Continued.



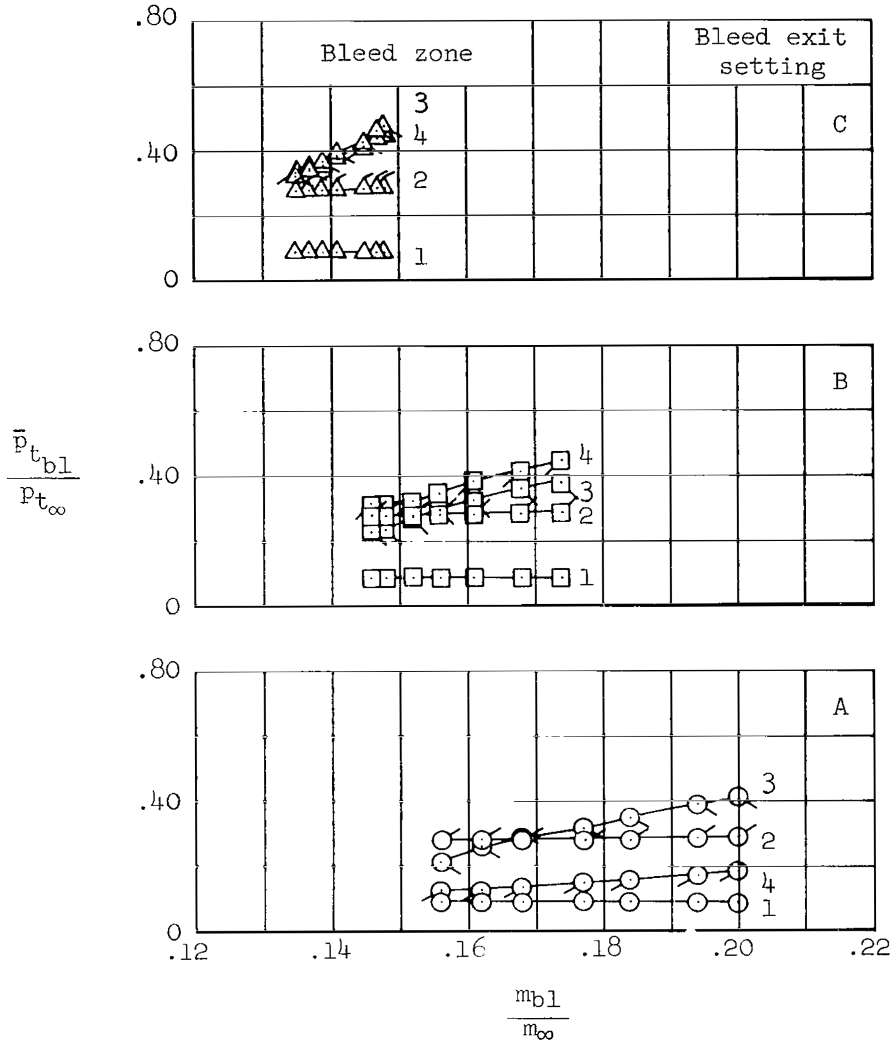
(g) $M_\infty = 1.75$, $(x/R)_{lip} = 3.870$

Figure 24.- Continued.



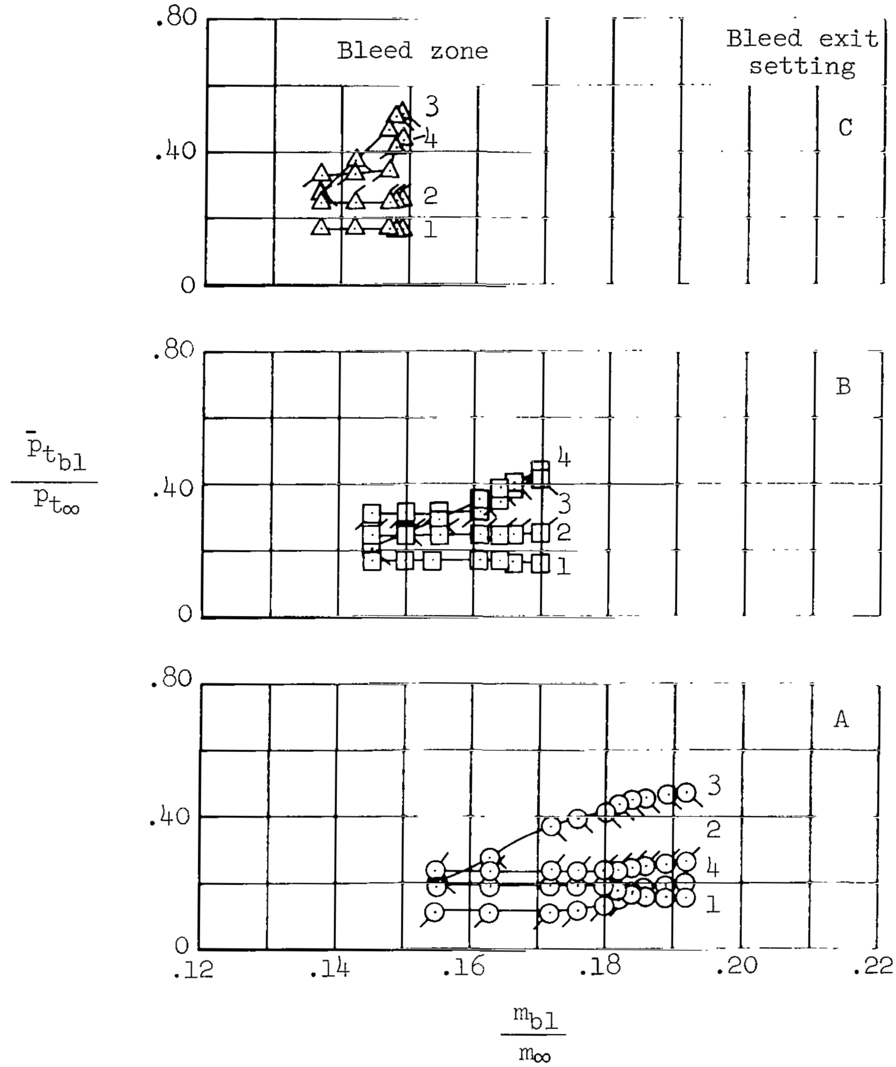
(h) $M_\infty = 1.55$, $(x/R)_{lip} = 3.890$

Figure 24.- Concluded.



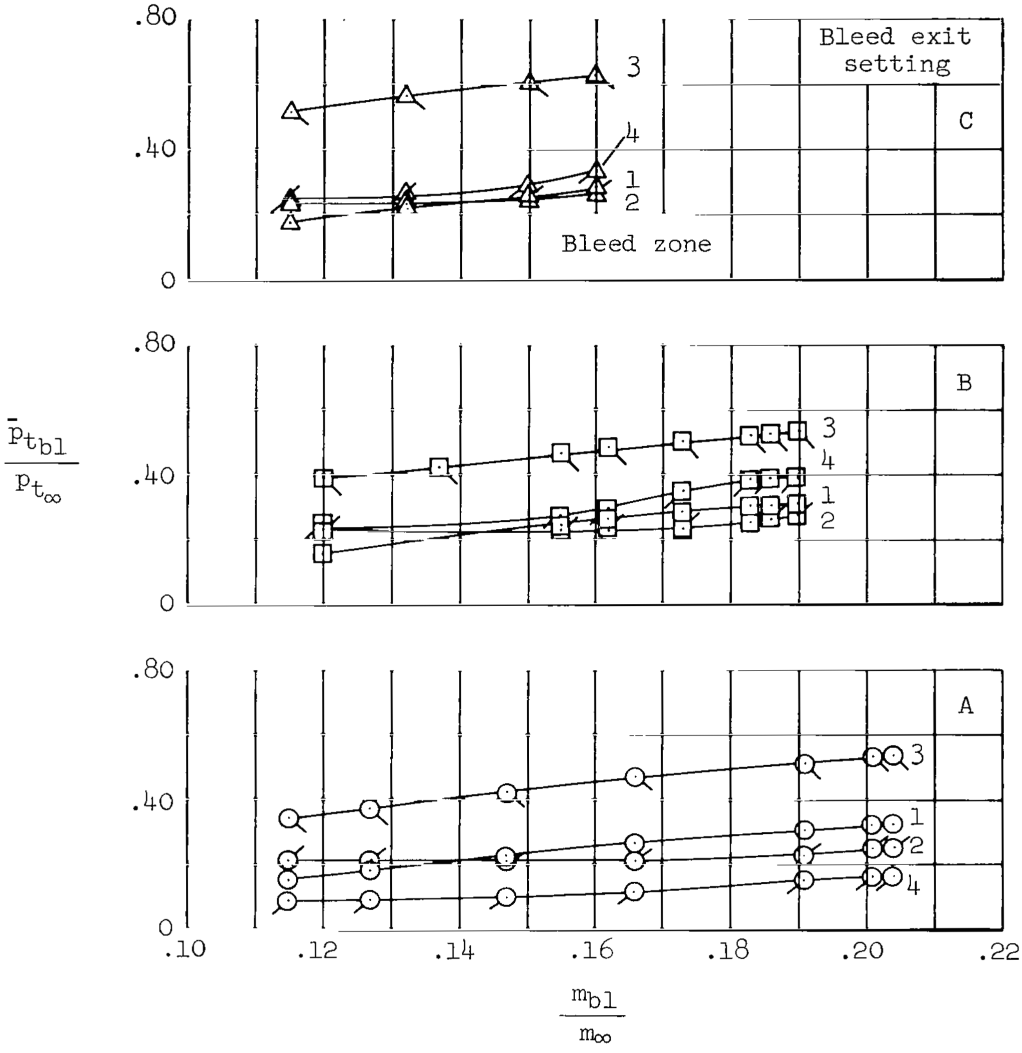
(a) $M_\infty = 3.25$

Figure 25.- Off-design bleed plenum chamber pressure recoveries; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



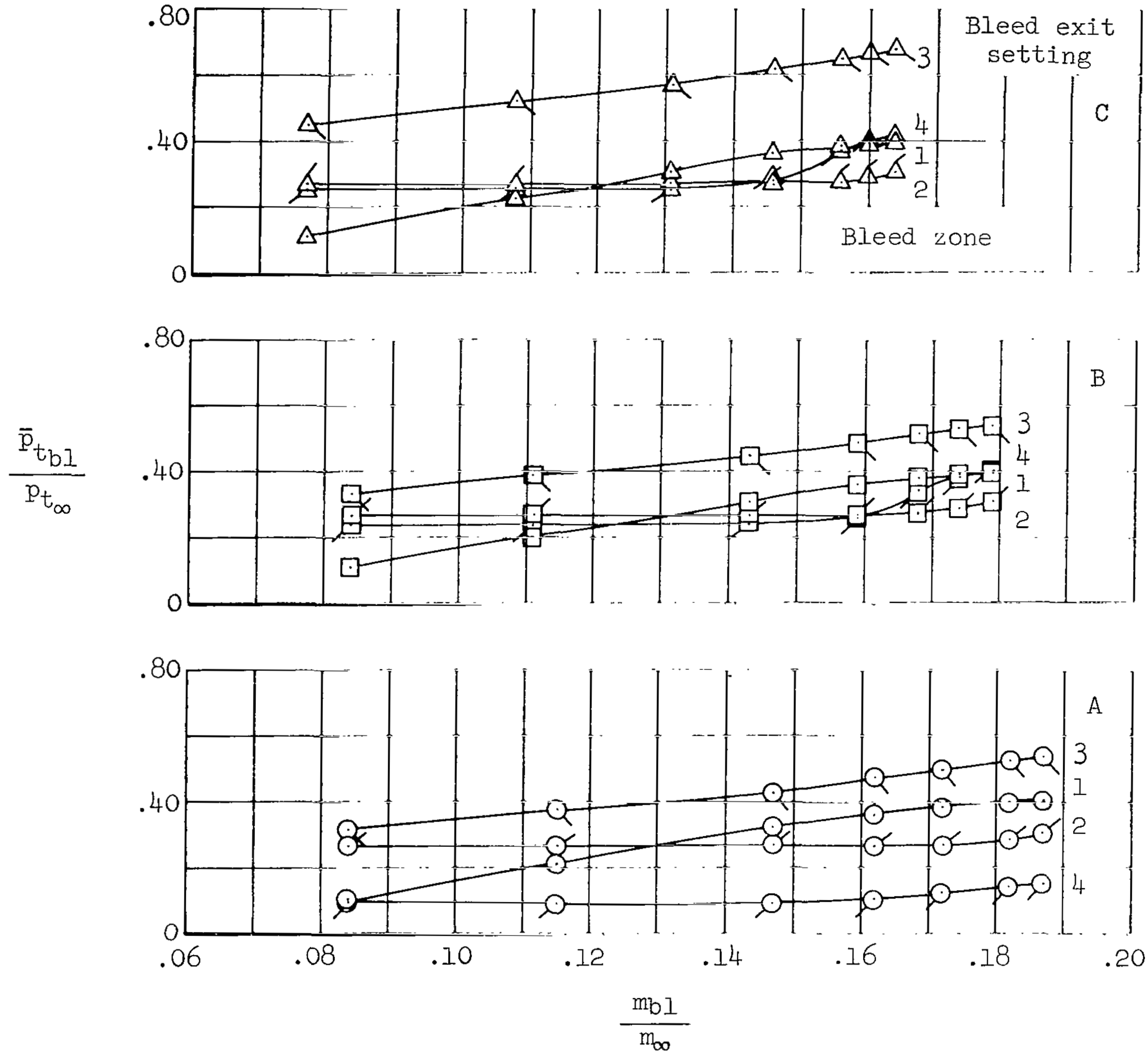
(b) $M_\infty = 3.00$

Figure 25.- Continued.



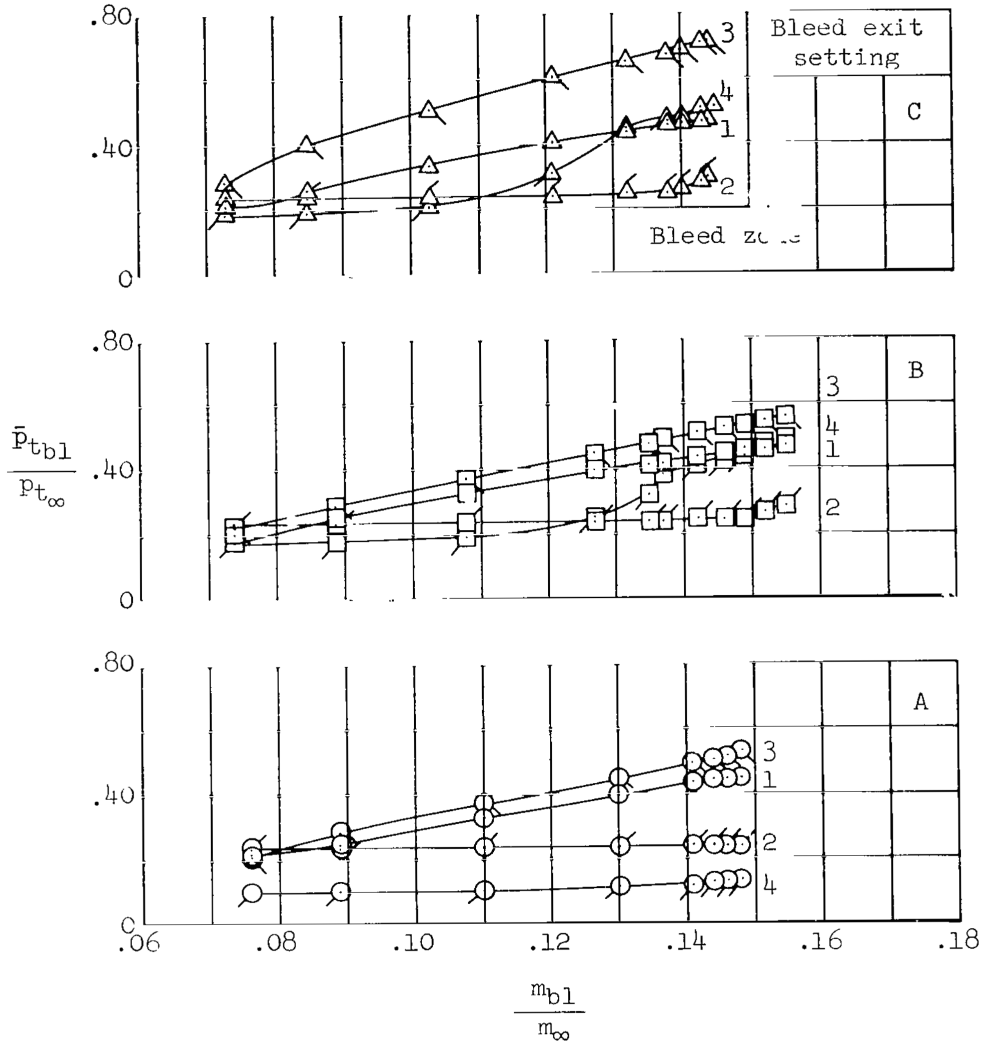
(c) $M_\infty = 2.75$

Figure 25.- Continued.



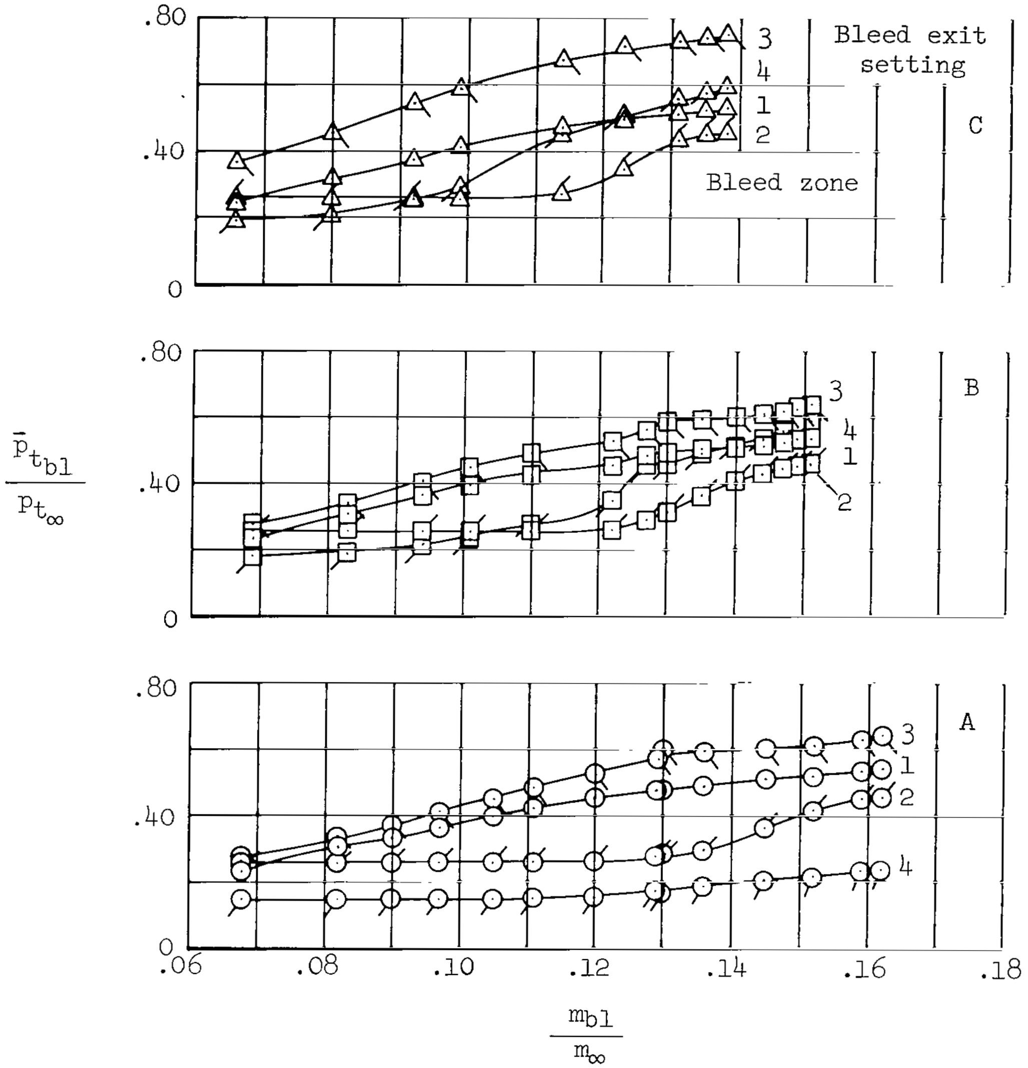
(d) $M_\infty = 2.50$

Figure 25.- Continued.



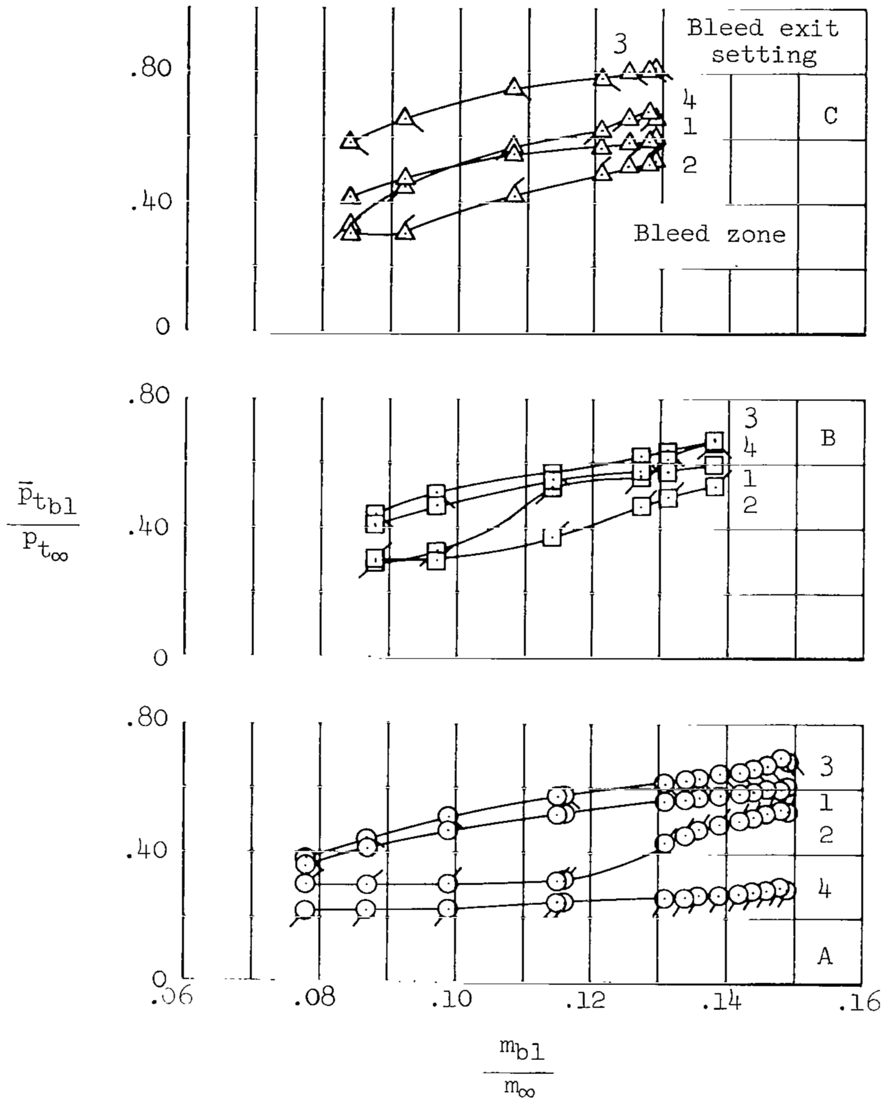
(e) $M_\infty = 2.25$

Figure 25.- Continued.



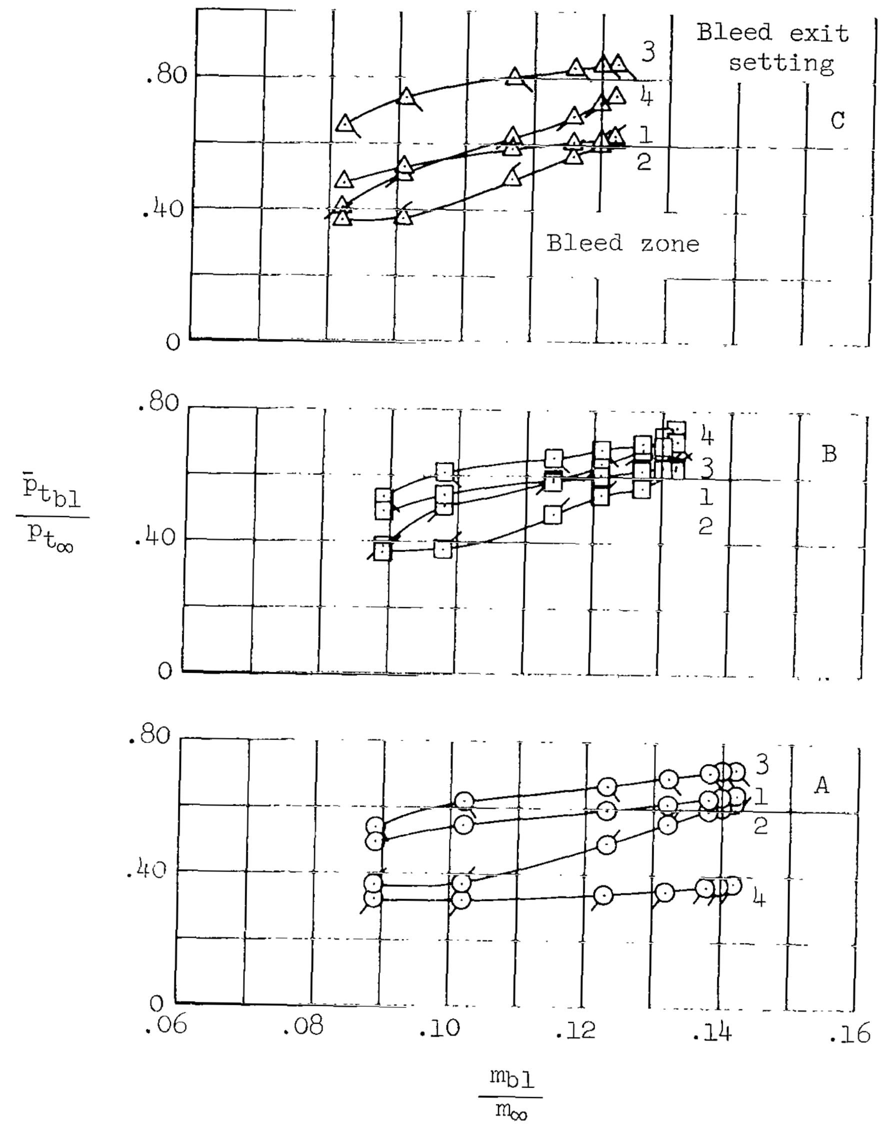
(f) $M_\infty = 2.00$

Figure 25.- Continued.



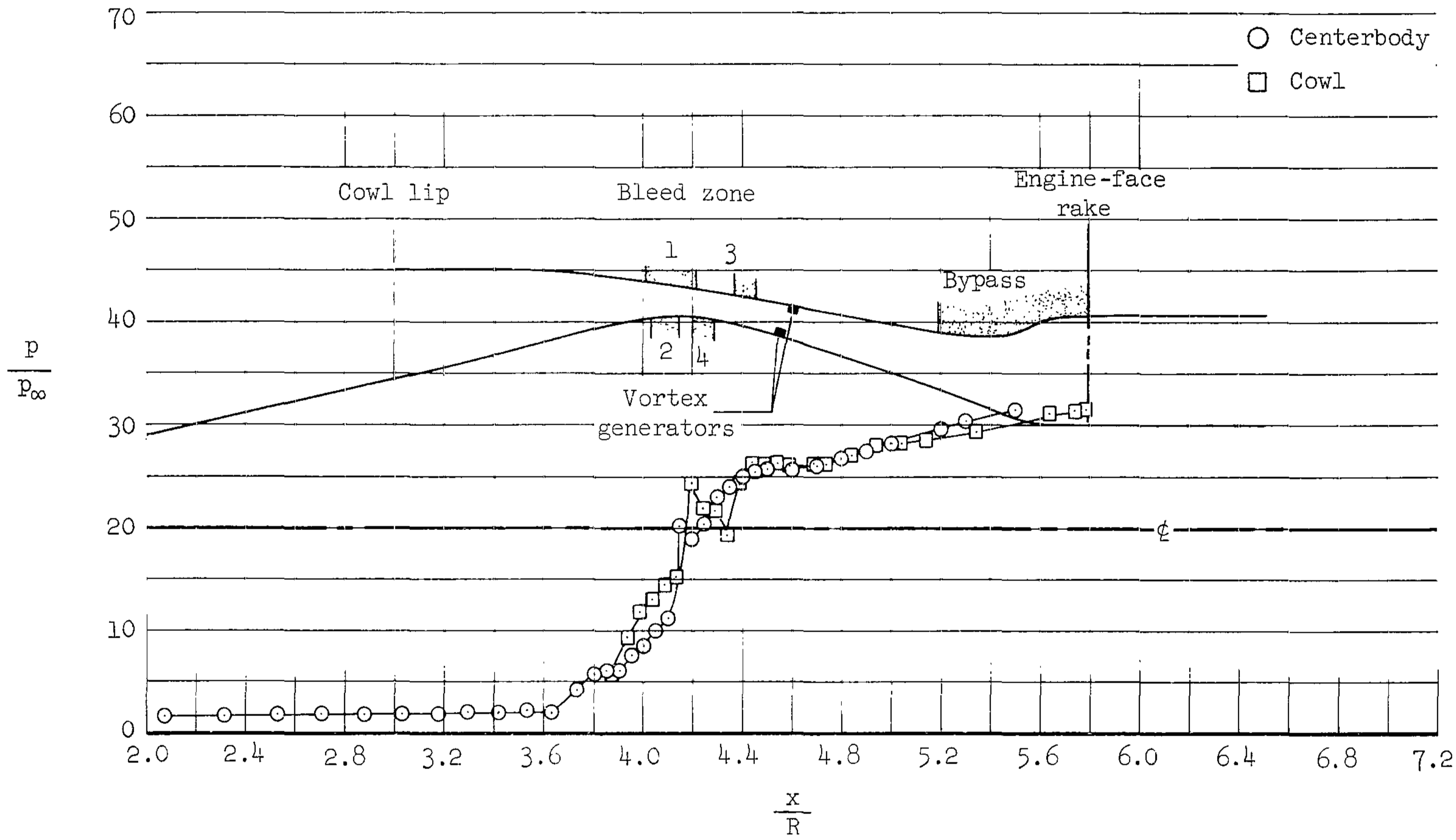
(g) $M_\infty = 1.75$

Figure 25.- Continued.



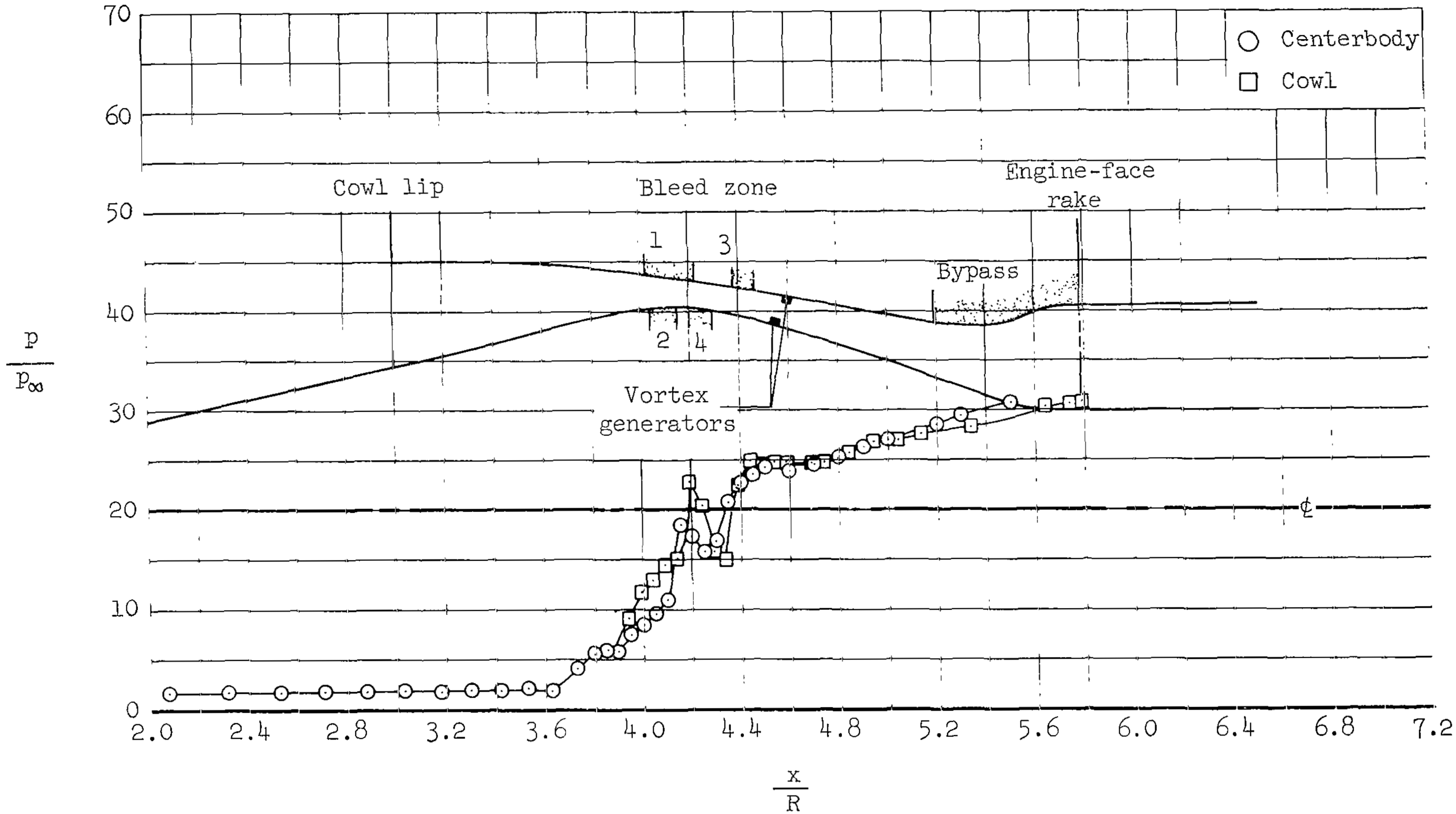
(h) $M_\infty = 1.55$

Figure 25.- Concluded.



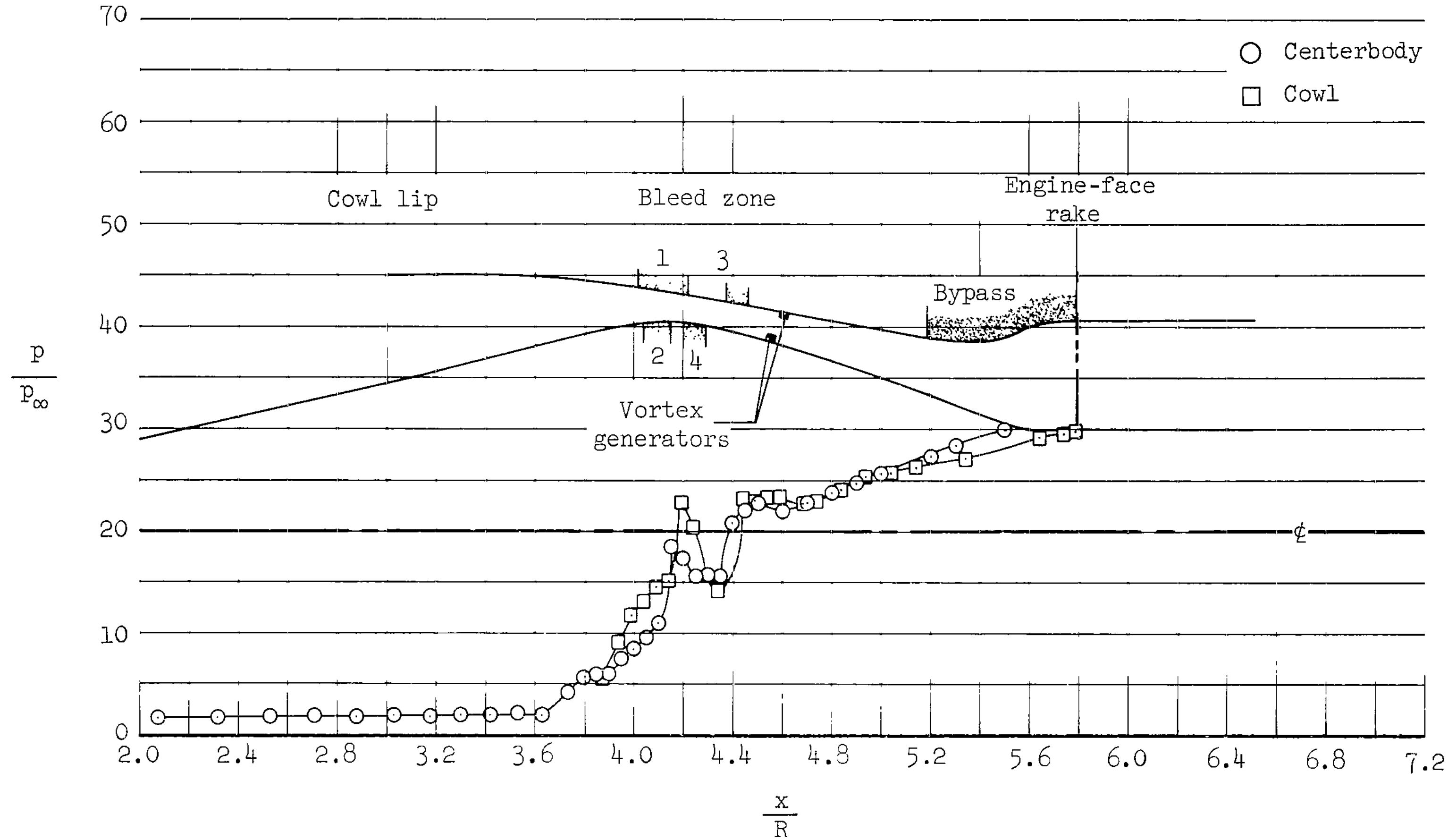
(a) $\bar{p}_{t_2}/p_{t_\infty} = 0.888$, $m_{bl}/m_\infty = 0.170$

Figure 26.- Static pressure distribution, bleed exit setting B; $M_\infty = 3.00$, $(x/R)_{lip} = 3.000$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



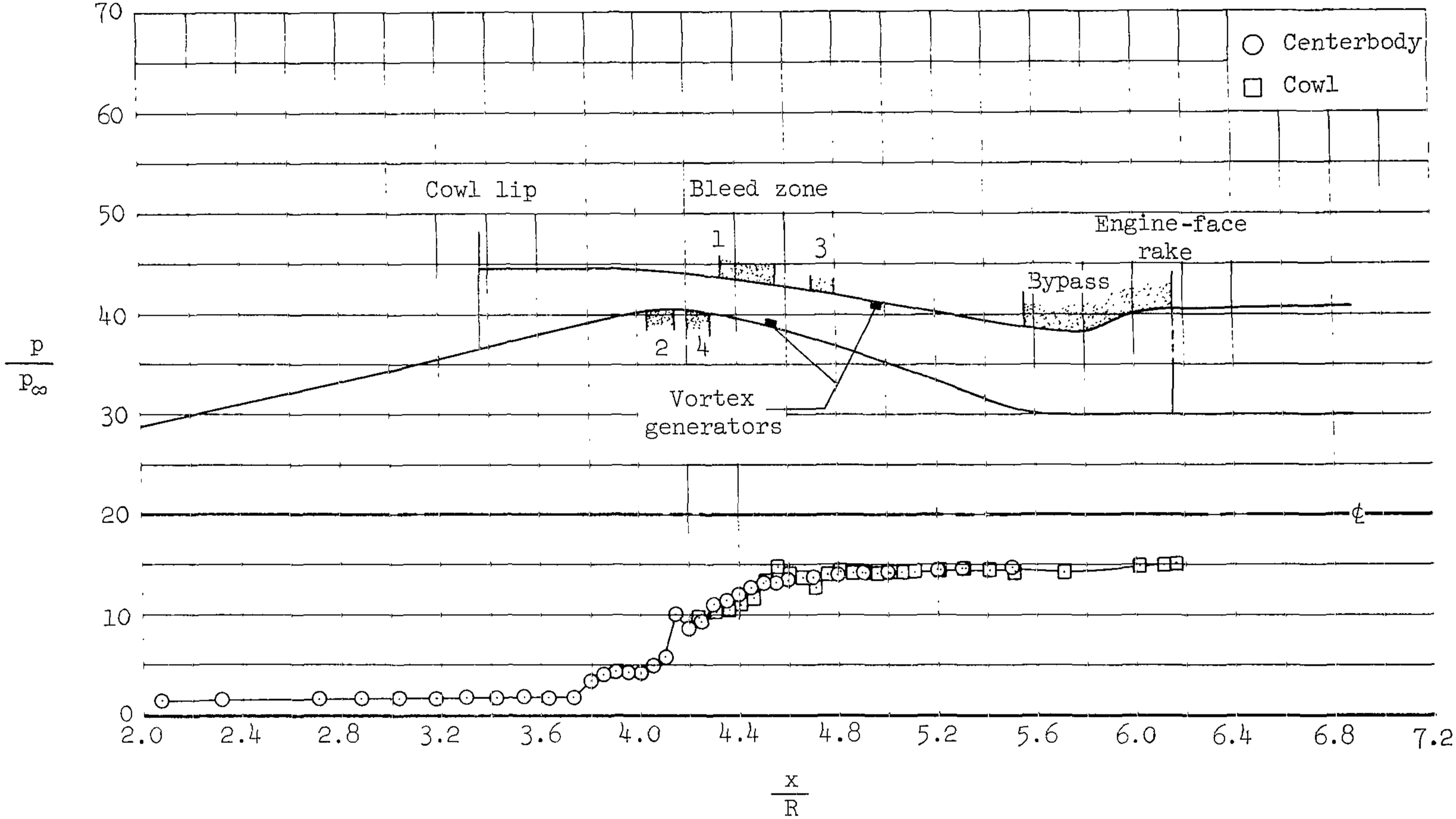
(b) $\bar{p}_{t_2}/p_{t_\infty} = 0.871$, $m_{bl}/m_\infty = 0.161$

Figure 26.- Continued.



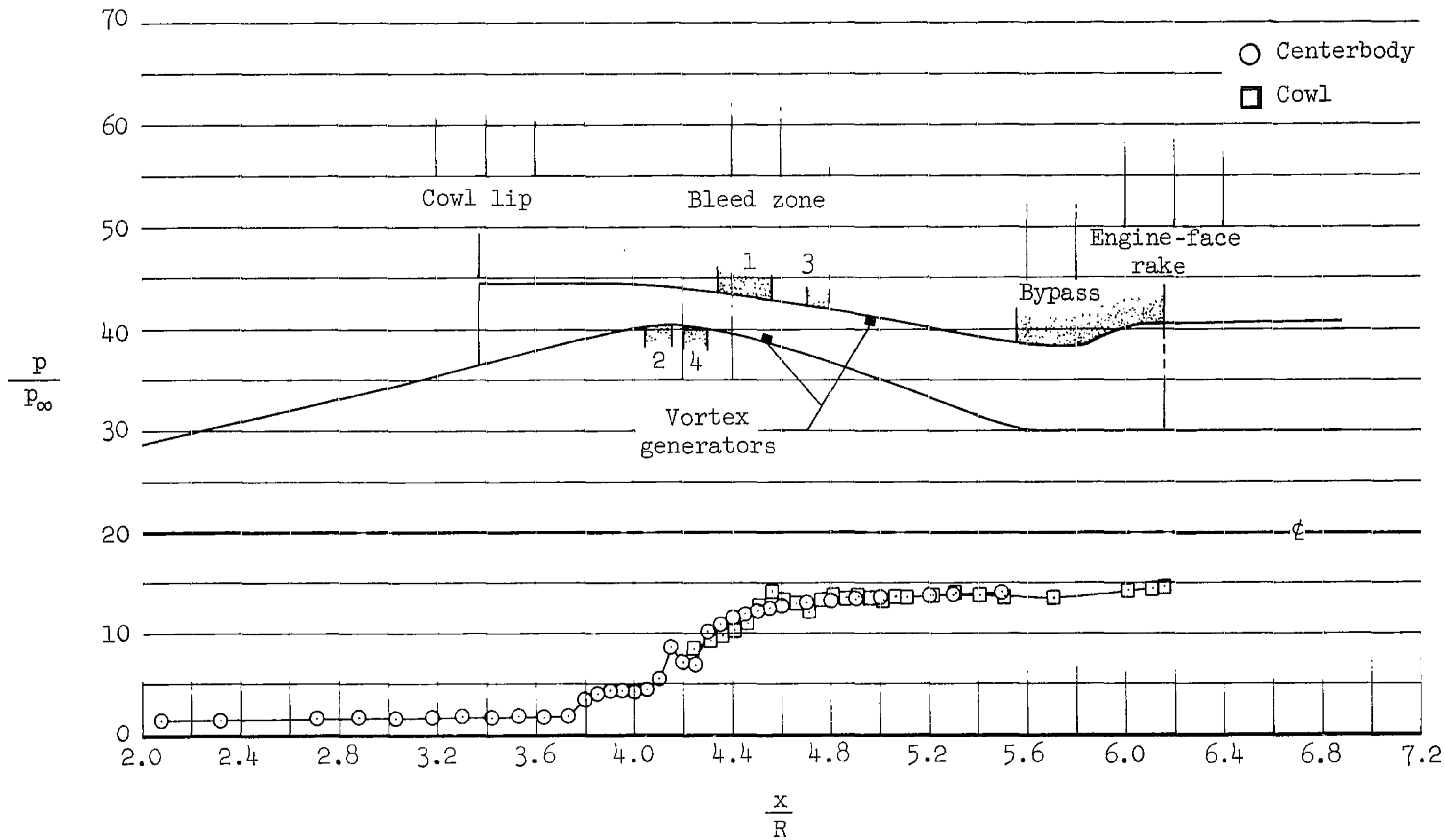
(c) $\bar{p}_{t_2}/p_{t_\infty} = 0.850$, $m_{bl}/m_\infty = 0.150$

Figure 26.- Concluded.



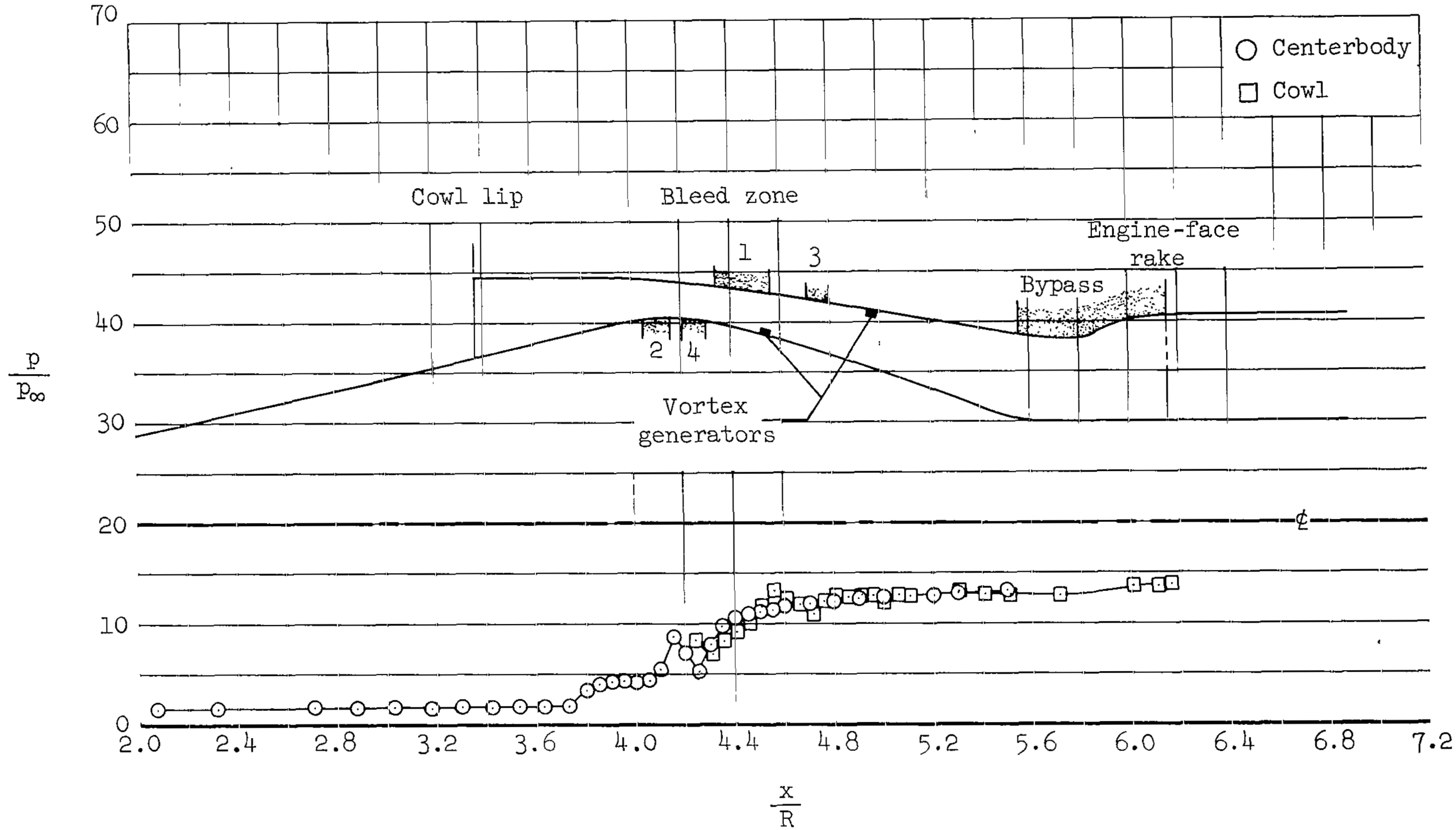
(a) $\bar{p}_{t_2}/p_{t_\infty} = 0.906$, $m_{bl}/m_\infty = 0.179$

Figure 27.- Static pressure distribution, bleed exit setting B; $M_\infty = 2.50$, $(x/R)_{lip} = 3.370$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



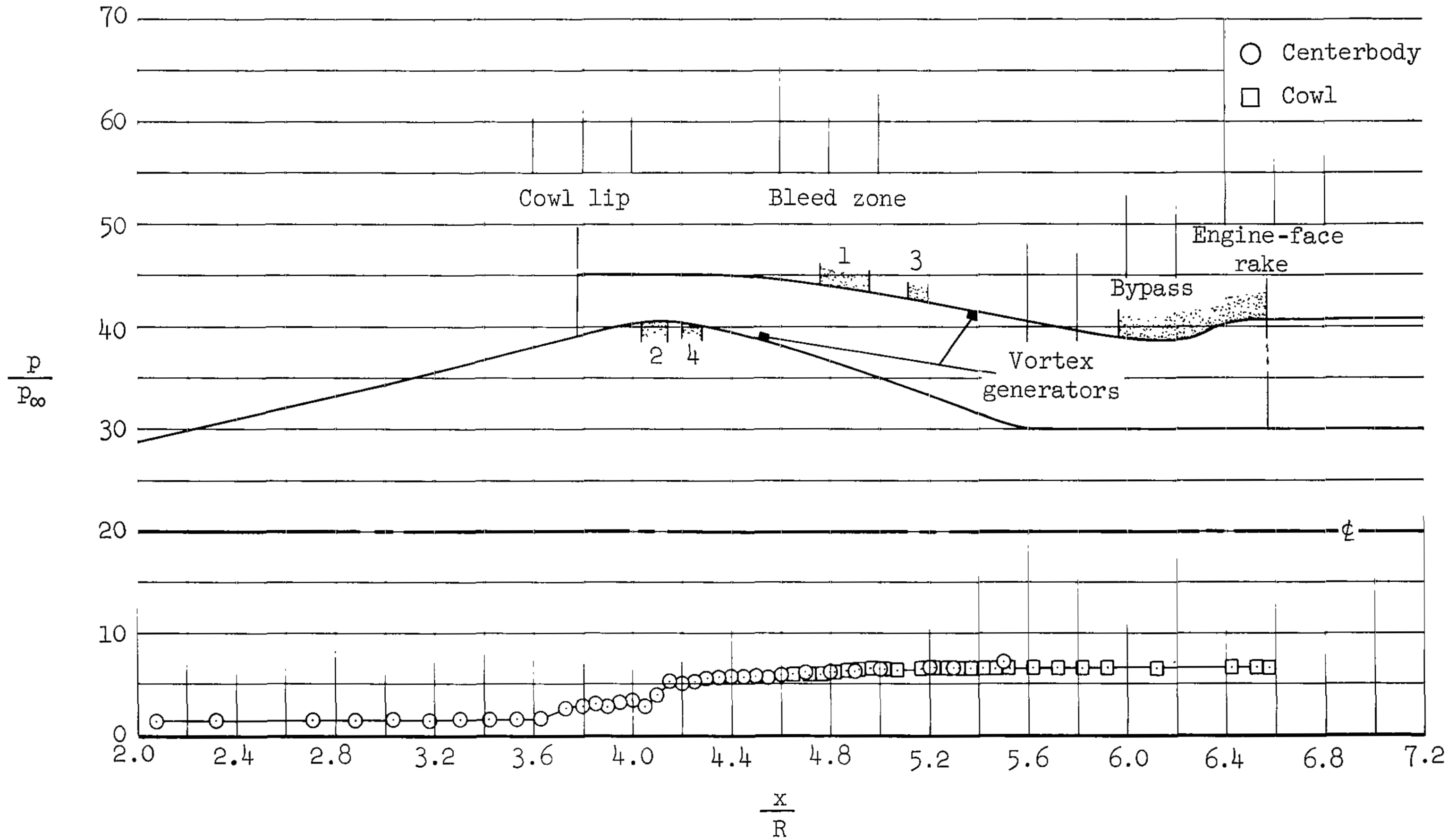
(b) $\bar{p}_{t_2}/p_{t_\infty} = 0.884, \; m_{bl}/m_\infty = 0.164$

Figure 27.- Continued.



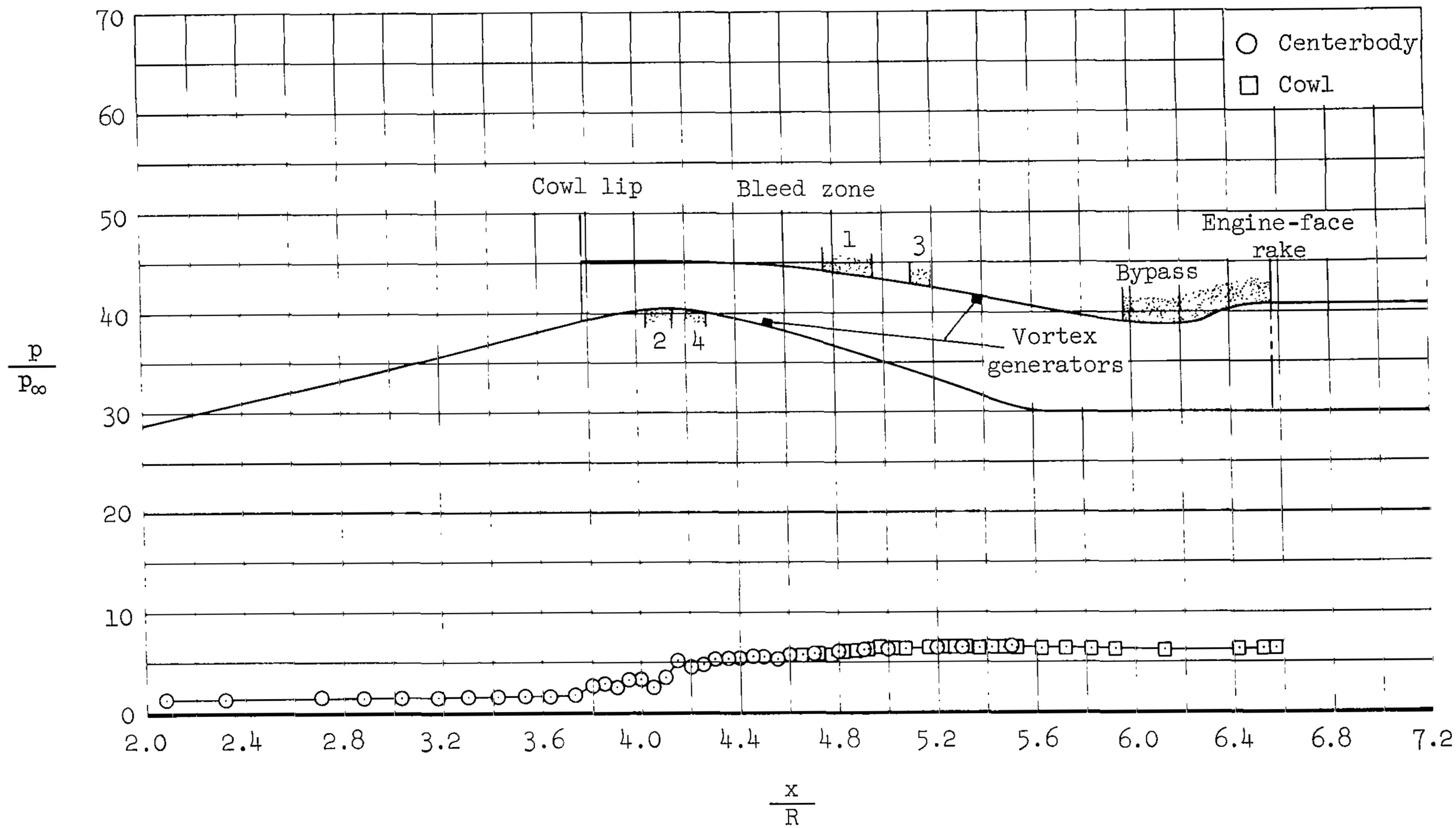
(c) $\bar{p}_{t_2}/p_{t_\infty} = 0.857$, $m_{bl}/m_\infty = 0.143$

Figure 27.- Concluded.



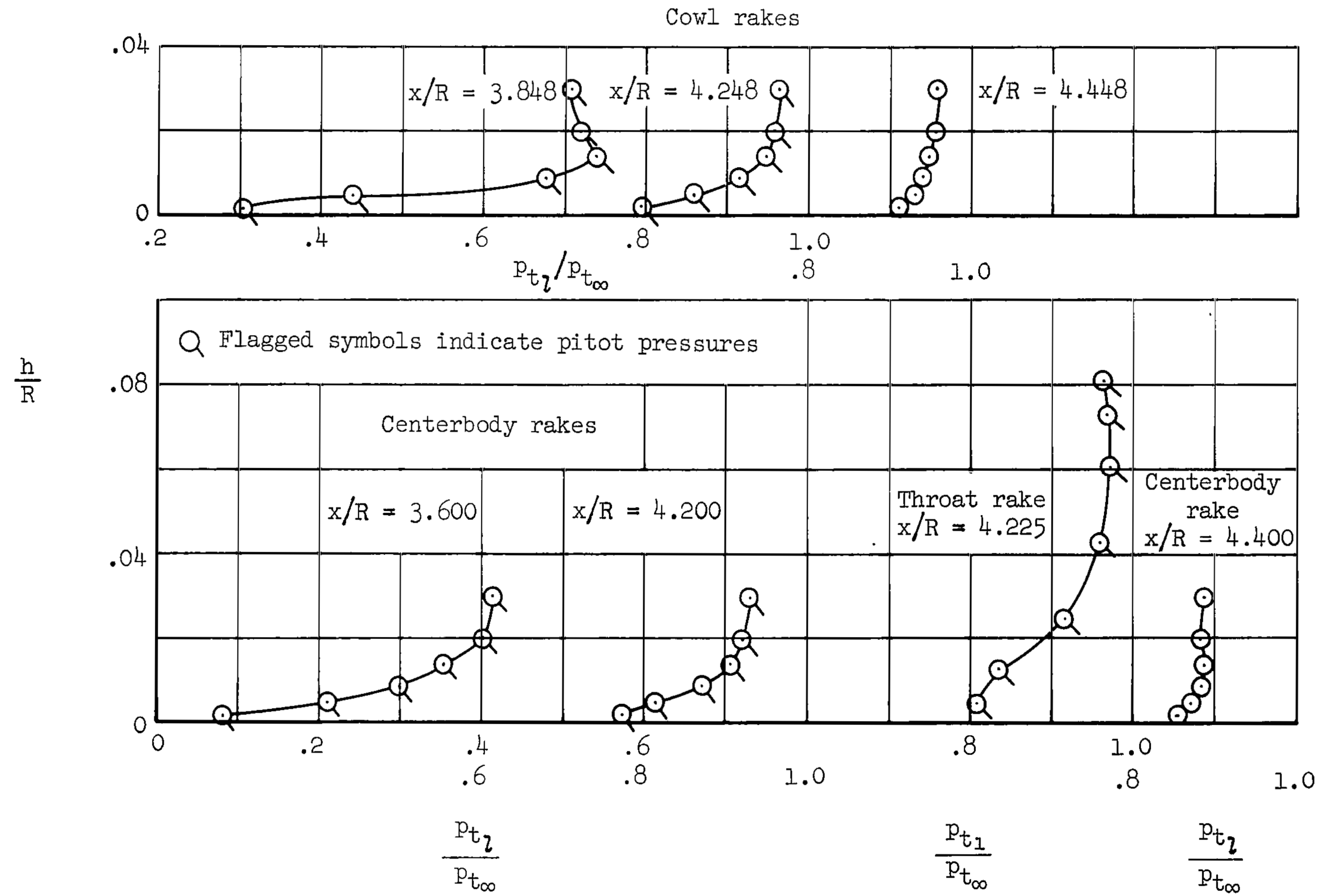
(a) $\bar{p}_{t_2}/p_{t_\infty} = 0.892$, $m_{bl}/m_\infty = 0.151$

Figure 28.- Static pressure distribution, bleed exit setting B; $M_\infty = 2.00$, $(x/R)_{lip} = 3.780$, $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



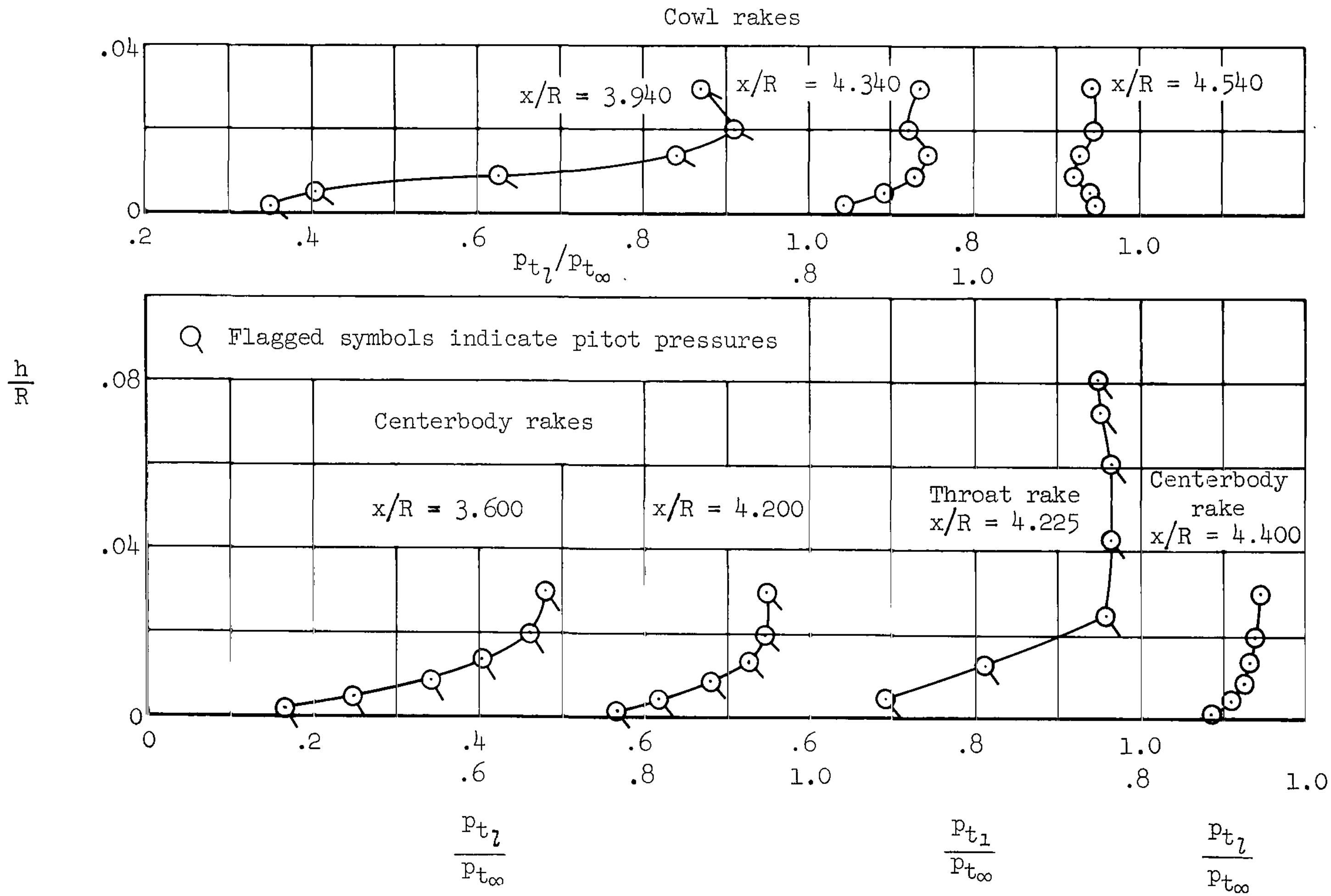
(b) $\bar{p}_{t_2}/p_{t_\infty} = 0.865$, $m_{bl}/m_\infty = 0.140$

Figure 28.- Concluded.



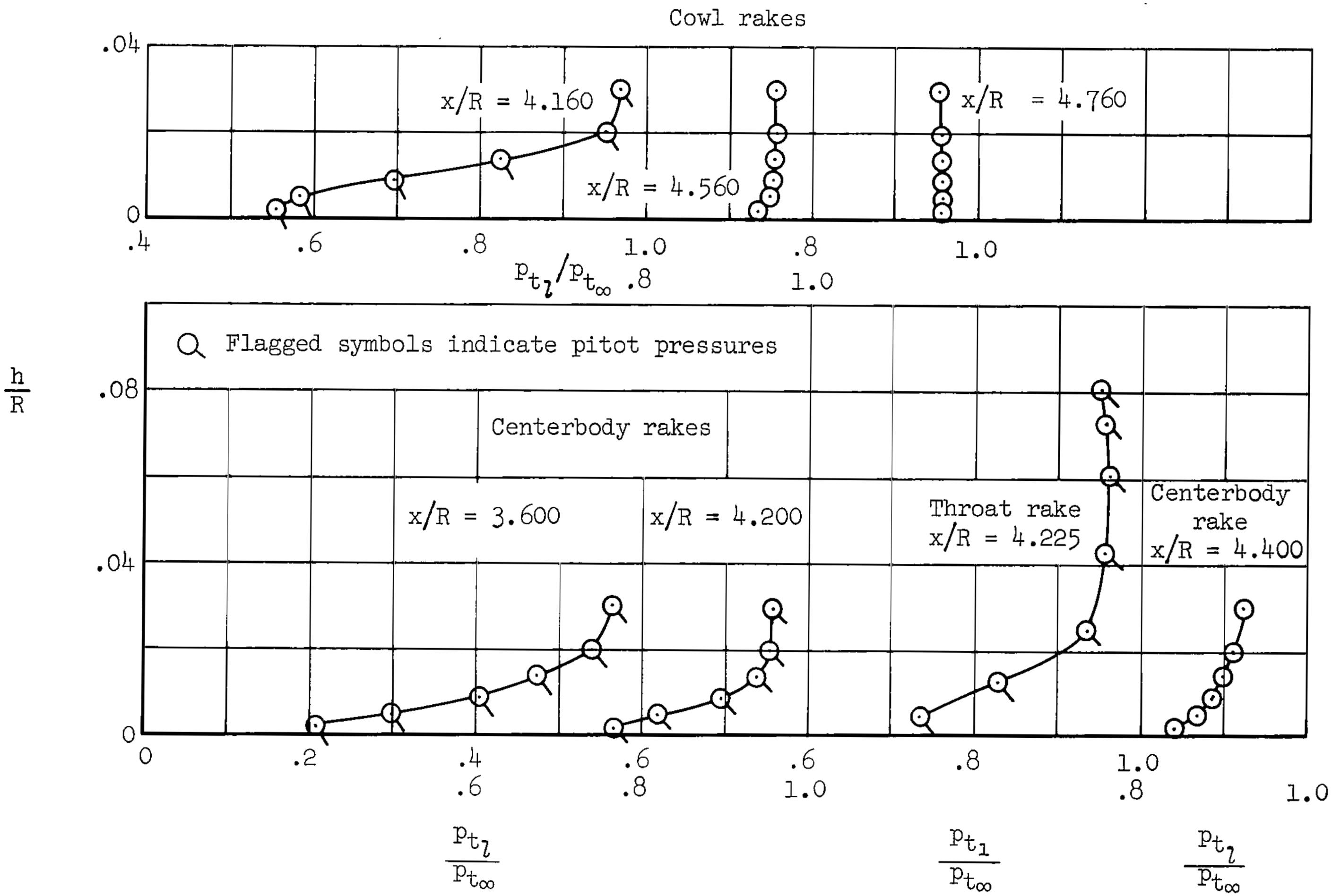
(a) $M_\infty = 3.25$, $(x/R)_{lip} = 2.903$

Figure 29.- Off design pitot pressure profiles, maximum pressure recovery, bleed exit setting A; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



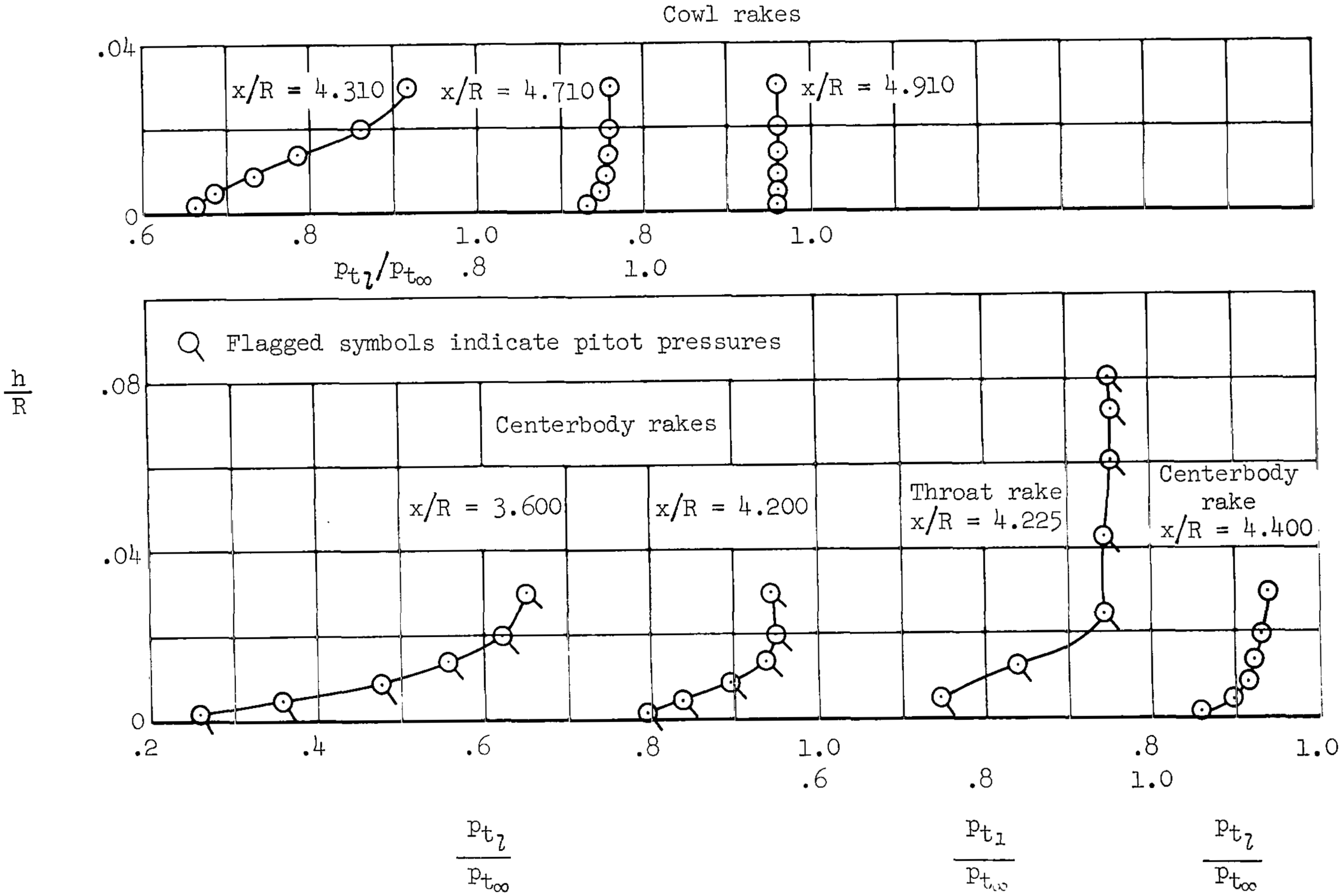
(b) $M_\infty = 3.00$, $(x/R)_{lip} = 3.000$

Figure 29.- Continued.



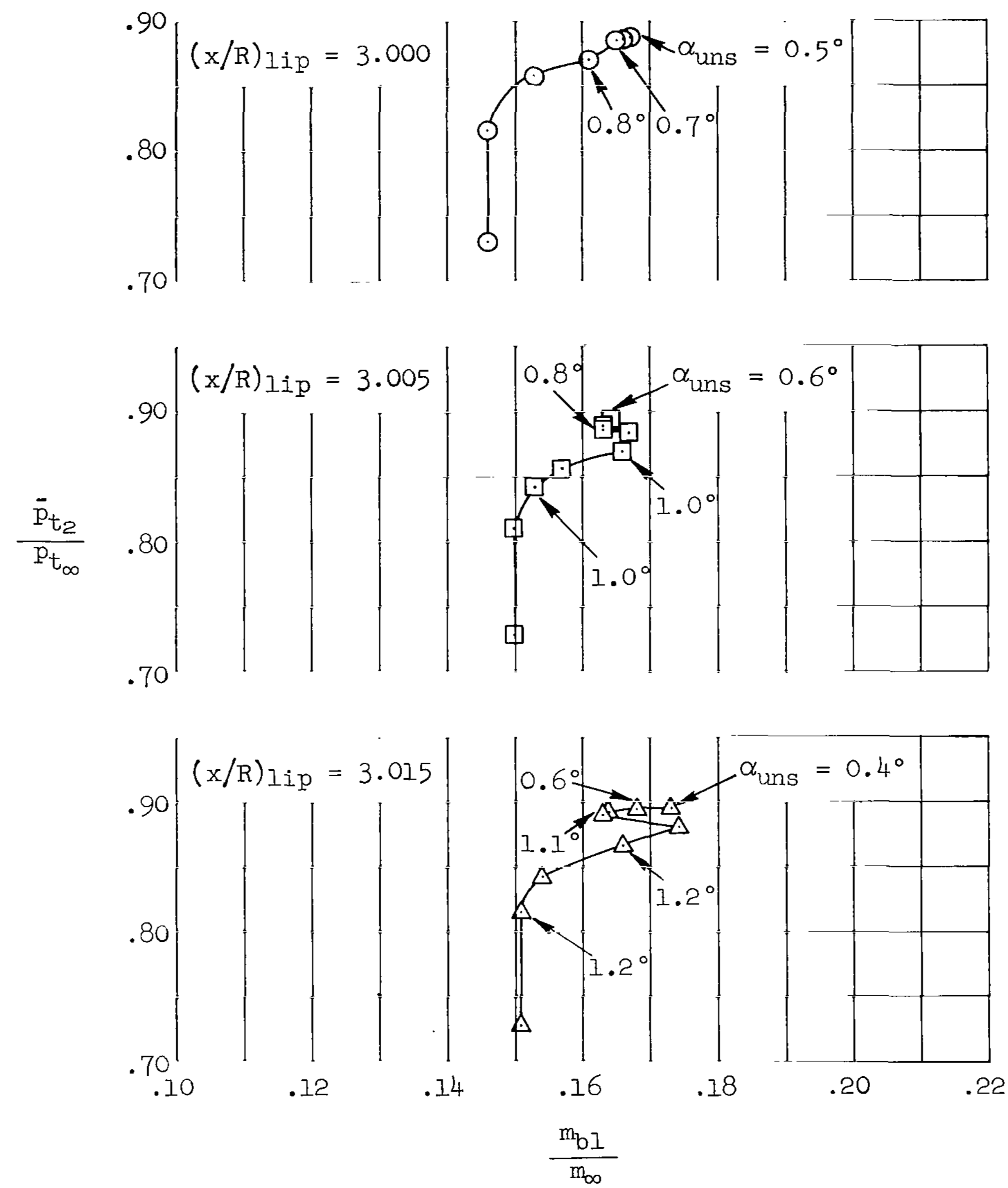
(c) $M_\infty = 2.75$, $(x/R)_{lip} = 3.220$

Figure 29.- Continued.



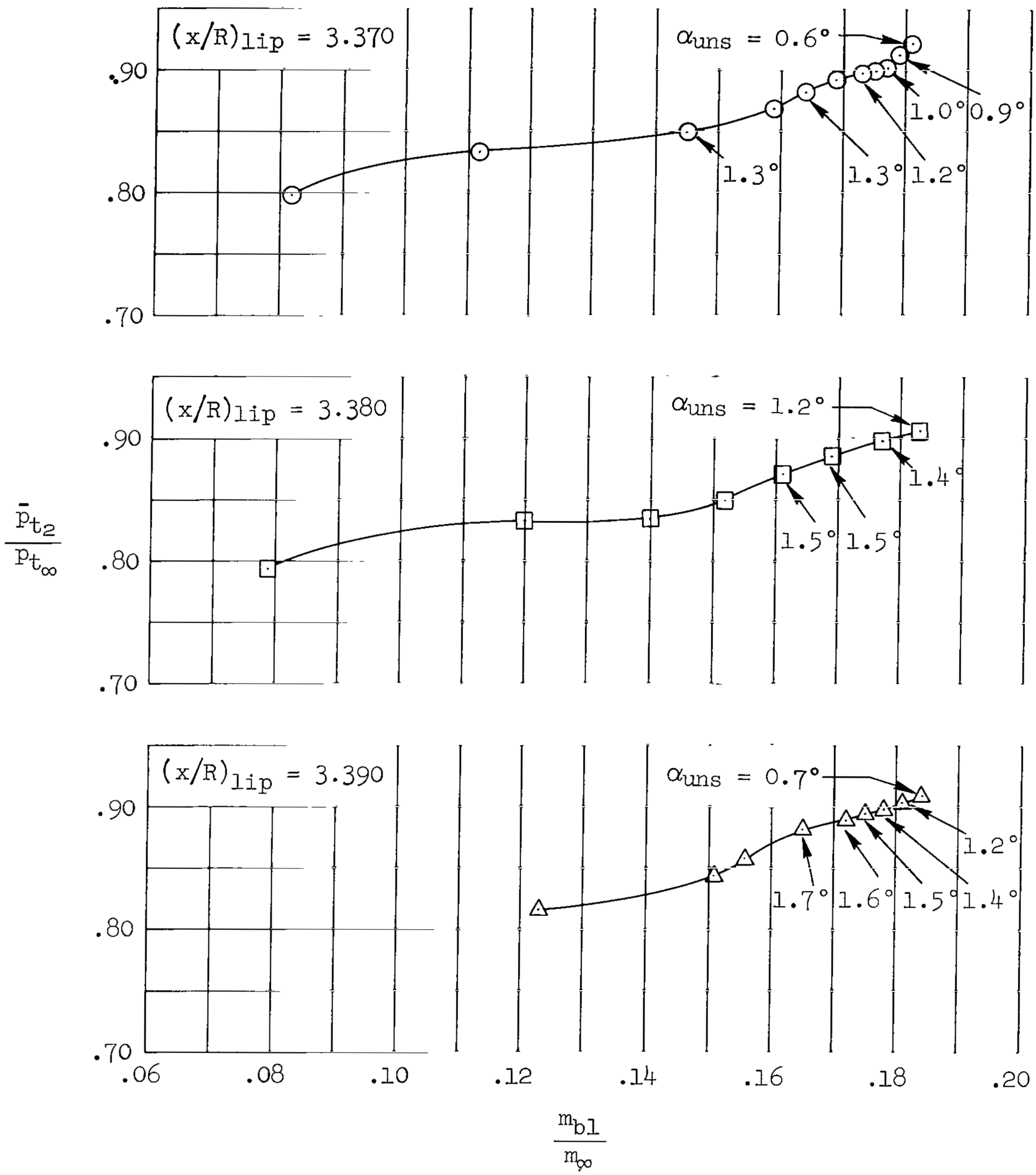
(d) $M_\infty = 2.50$, $(x/R)_{lip} = 3.370$

Figure 29.- Concluded.



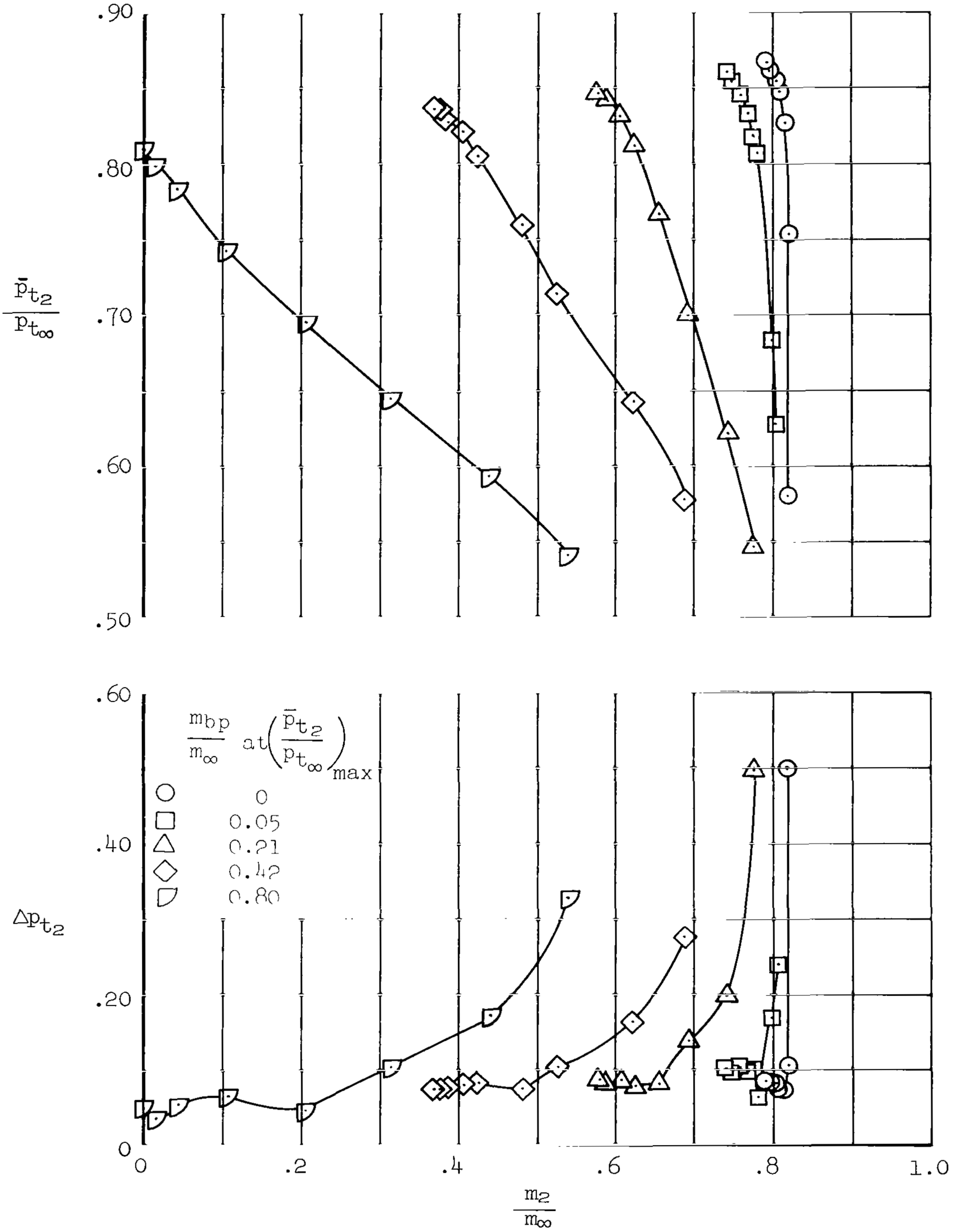
(a) $M_\infty = 3.00$

Figure 30.- Off design inlet tolerance to change in angle of attack, bleed exit setting B; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



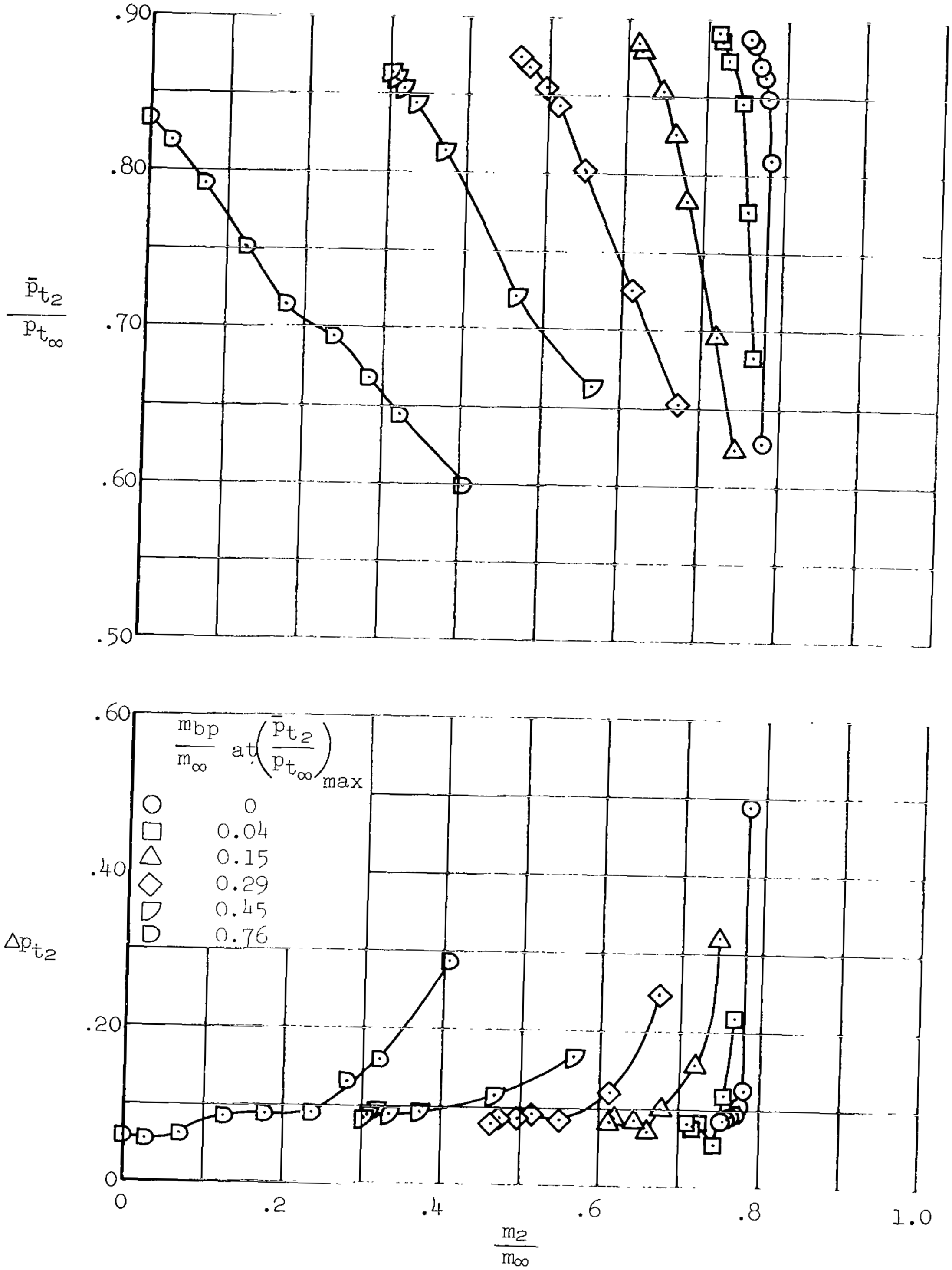
(b) $M_\infty = 2.50$

Figure 30.- Concluded.



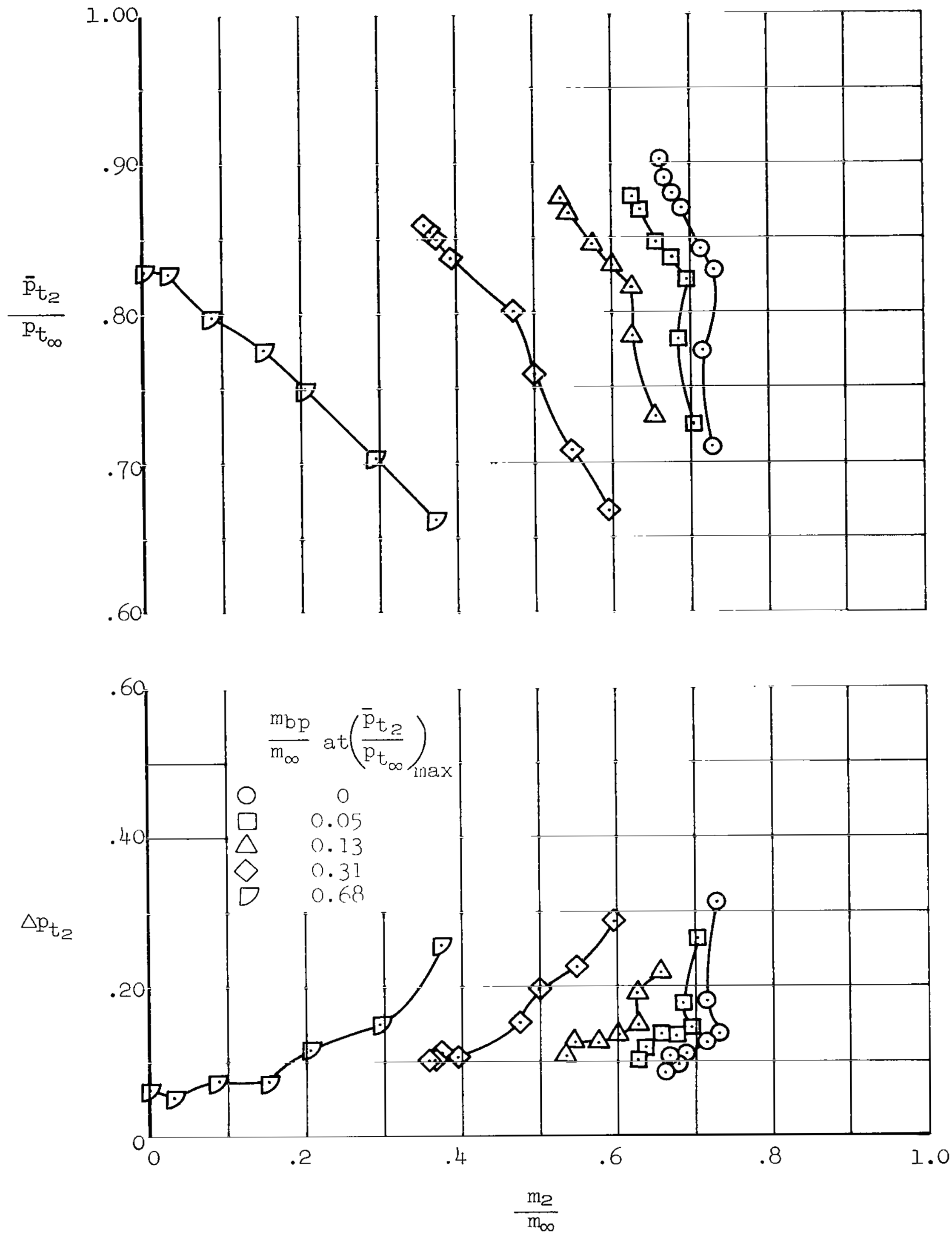
(a) $M_\infty = 3.25$, $(x/R)_{lip} = 2.903$

Figure 31.- Off-design change in mass flow at the engine face for various settings of the bypass exit, bleed exit setting B; $\alpha = 0°$.



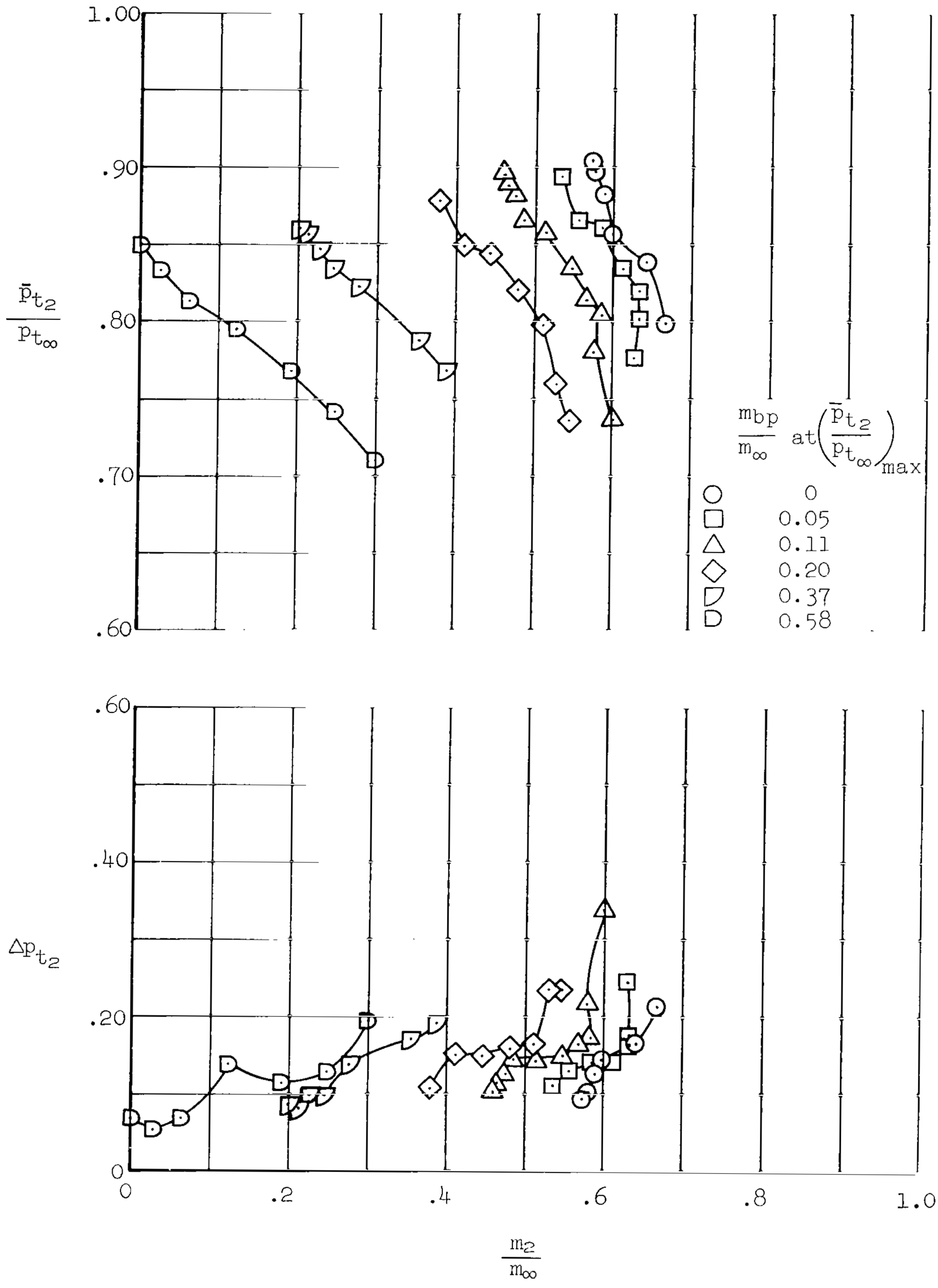
(b) $M_\infty = 3.00$, $(x/R)_{lip} = 3.000$

Figure 31.- Continued.



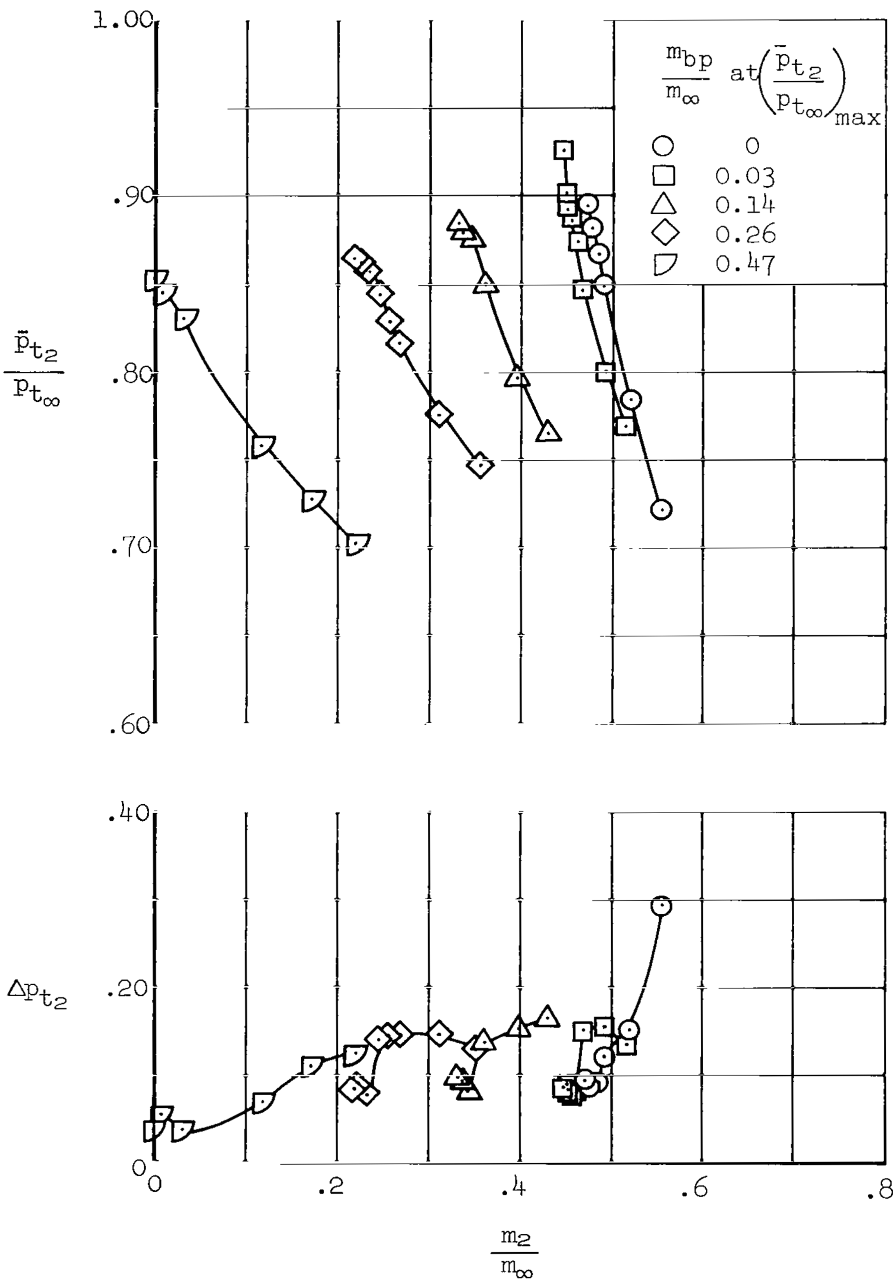
(c) $M_\infty = 2.75$, $(x/R)_{lip} = 3.220$

Figure 31.- Continued.



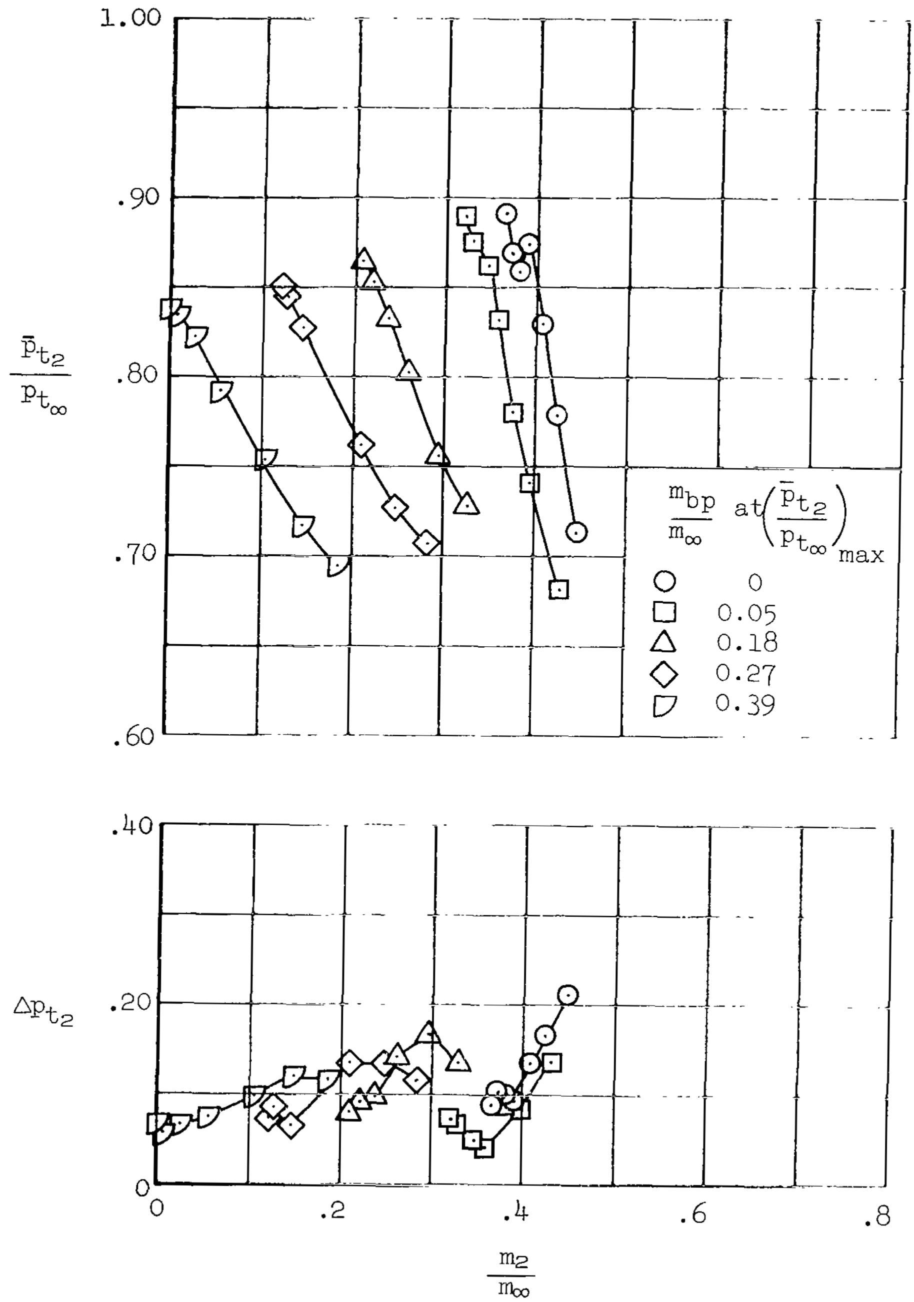
(d) $M_\infty = 2.50$, $(x/R)_{lip} = 3.370$

Figure 31.- Continued.



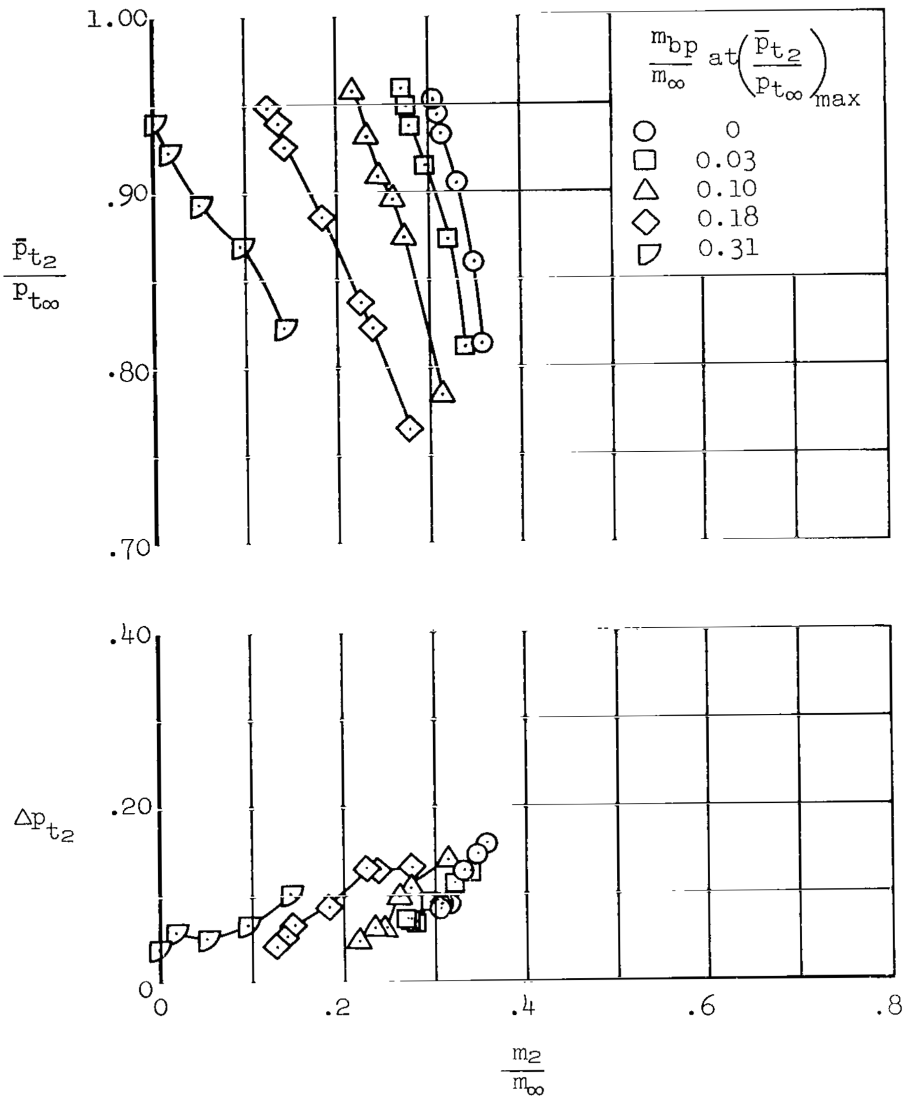
(e) $M_\infty = 2.25$, $(x/R)_{lip} = 3.600$

Figure 31.- Continued.



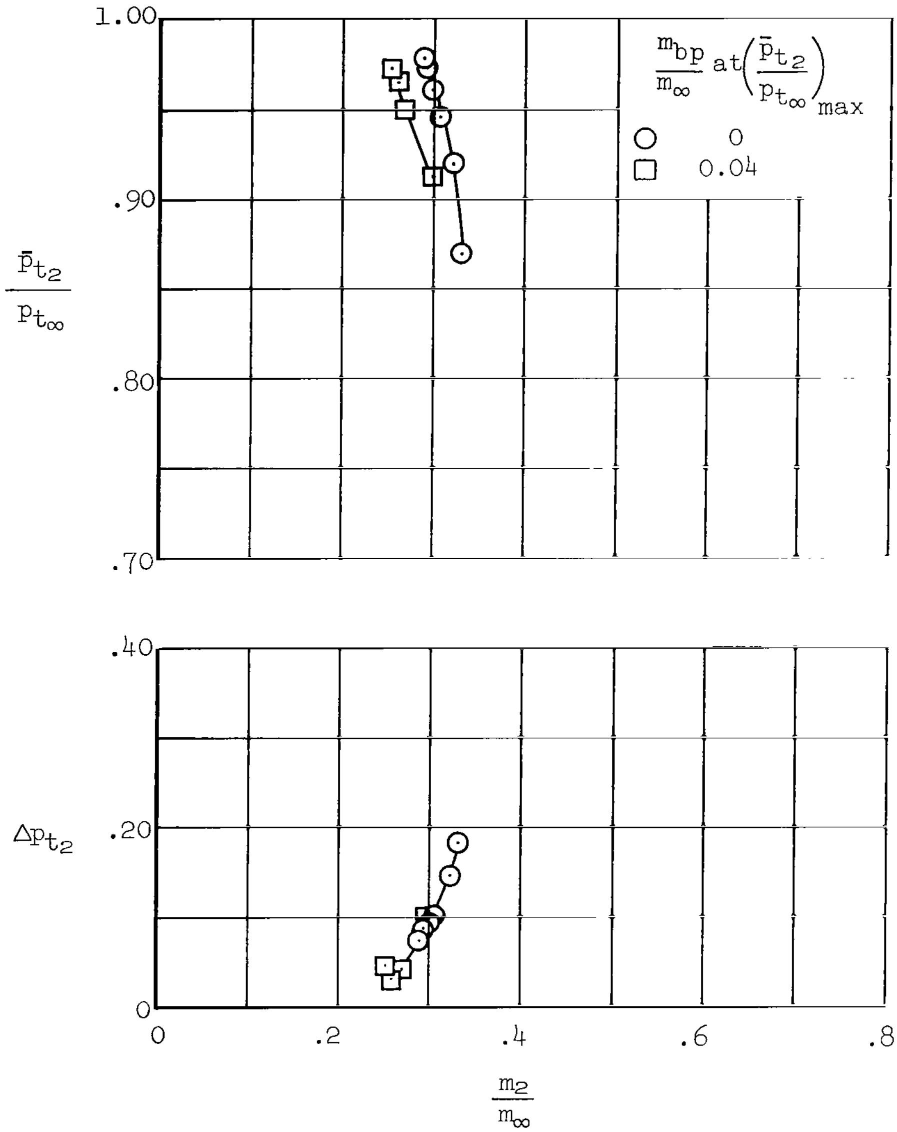
(f) $M_\infty = 2.00$, $(x/R)_{lip} = 3.780$

Figure 31.- Continued.



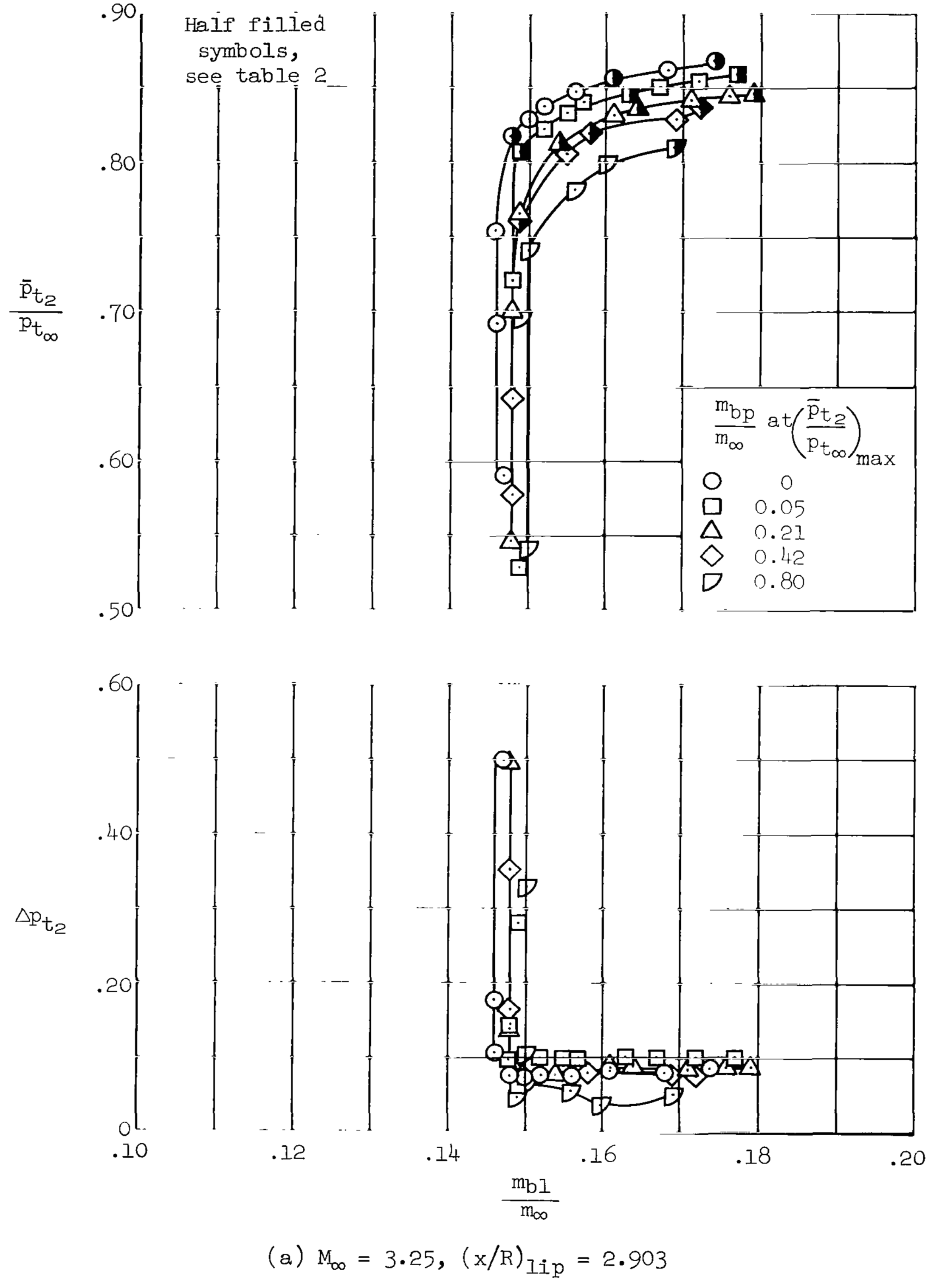
(g) $M_\infty = 1.75$, $(x/R)_{lip} = 3.870$

Figure 31.- Continued.



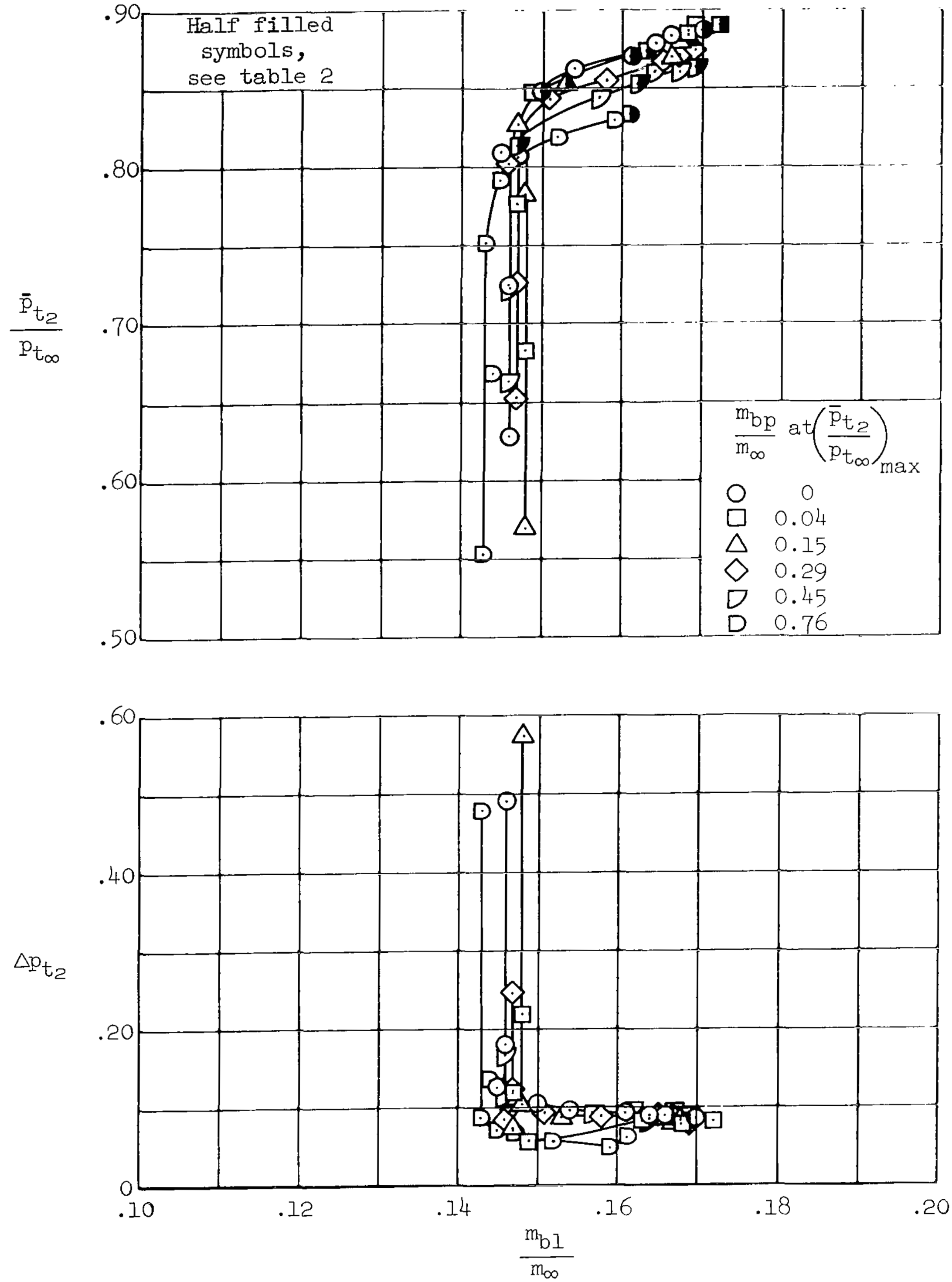
(h) $M_\infty = 1.55$, $(x/R)_{lip} = 3.890$

Figure 31.- Concluded.



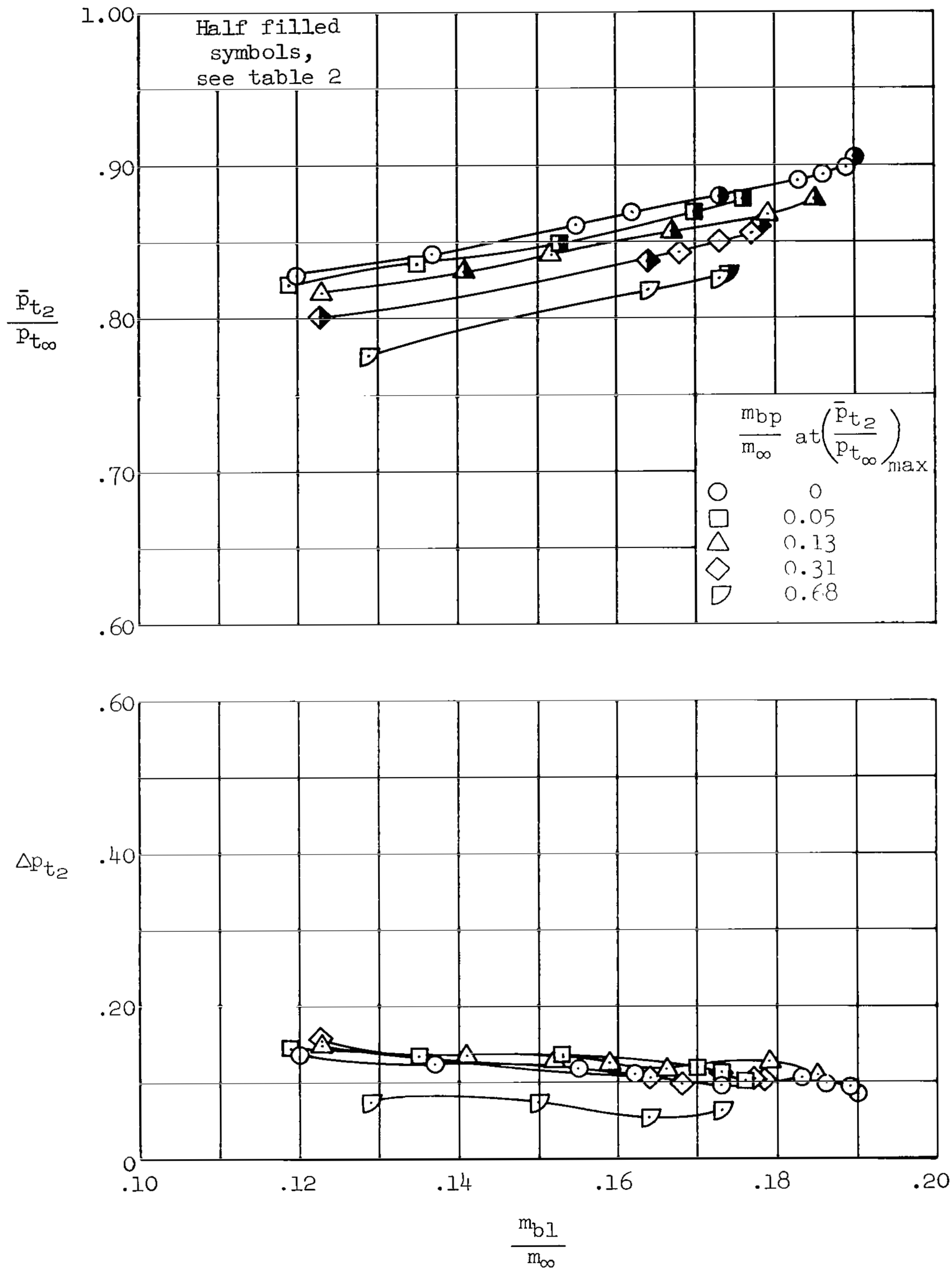
(a) $M_\infty = 3.25$, $(x/R)_{lip} = 2.903$

Figure 32.- Off-design supercritical performance for various settings of the bypass exit, bleed exit setting B; $\alpha = 0°$.



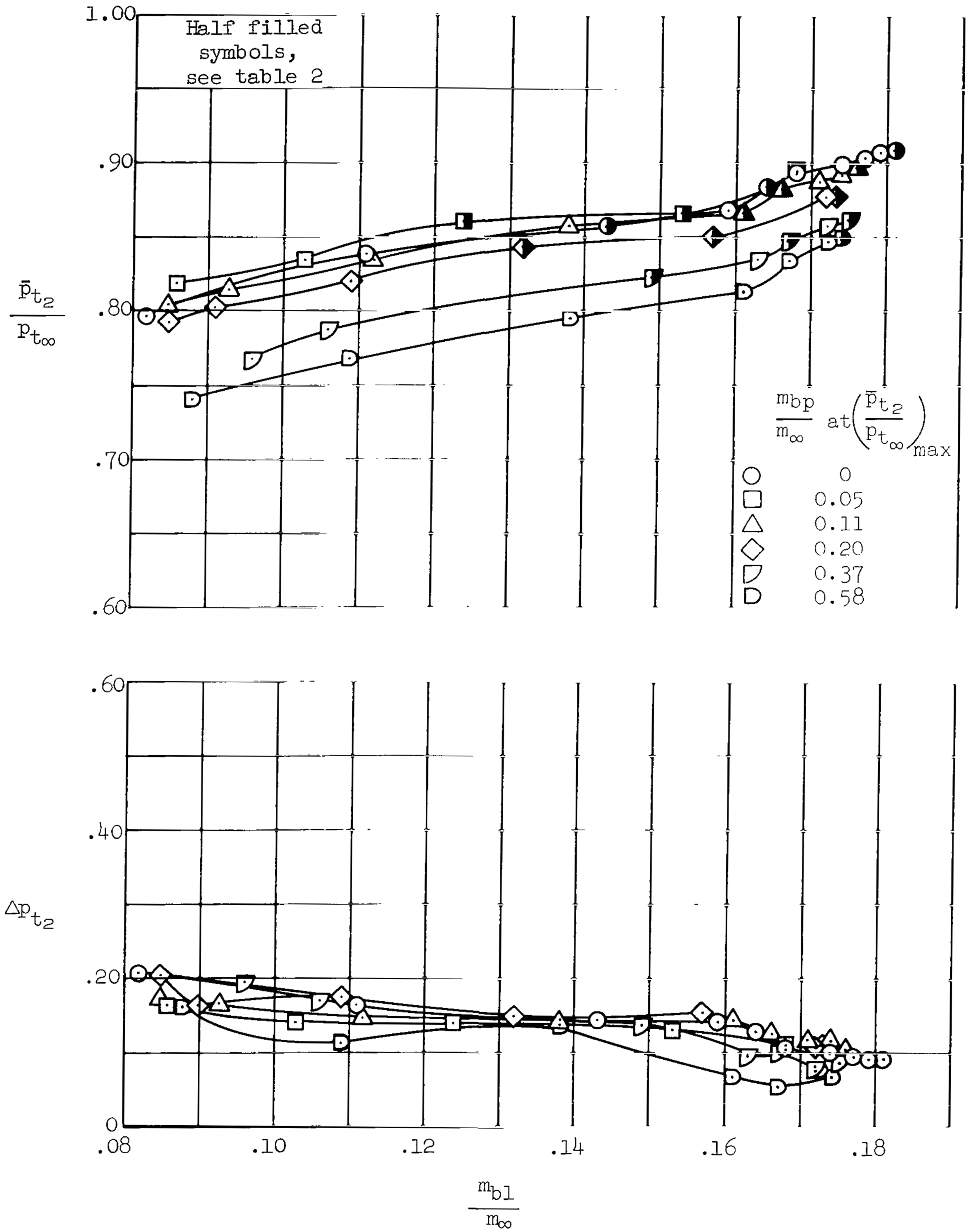
(b) $M_\infty = 3.00$, $(x/R)_{lip} = 3.000$

Figure 32.- Continued.



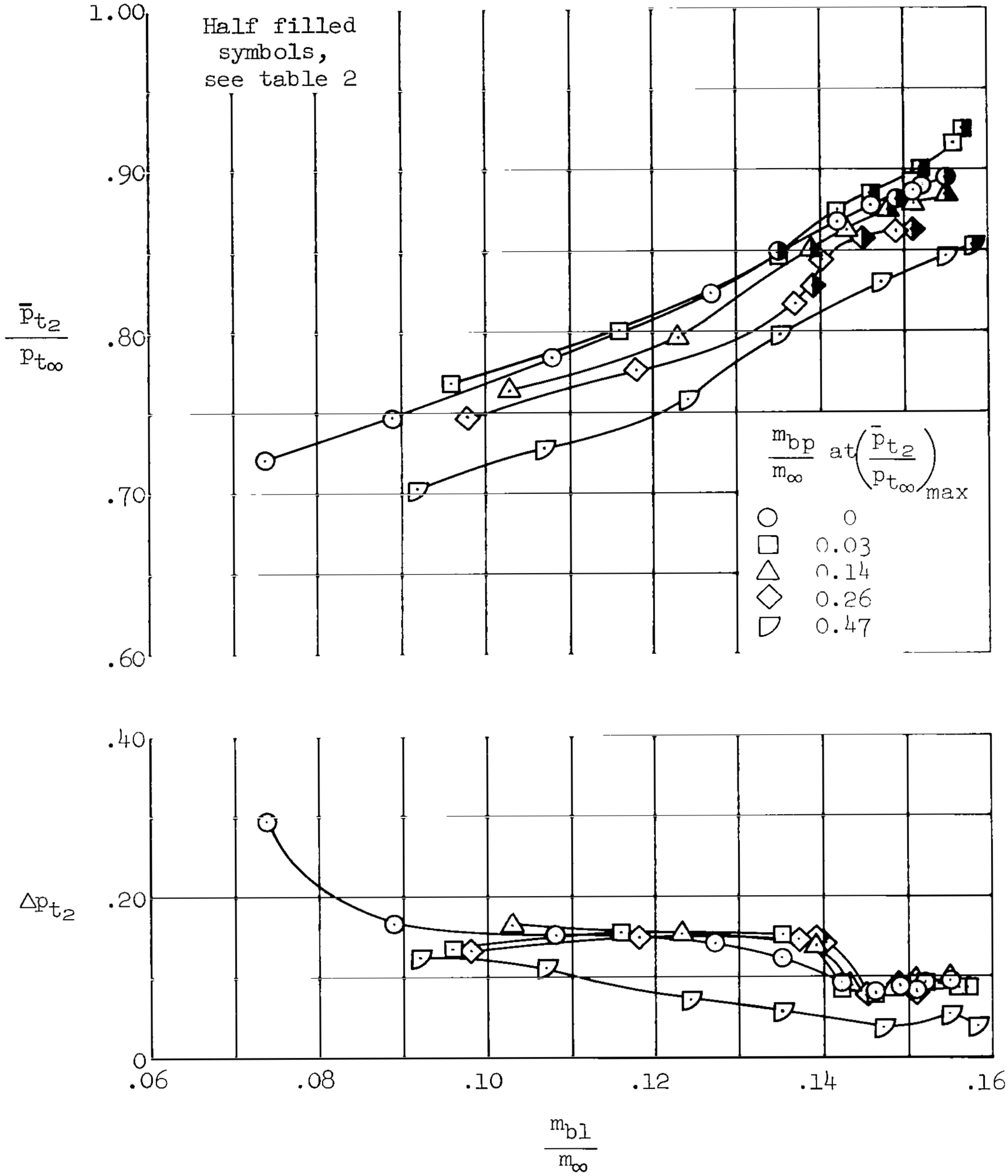
(c) $M_\infty = 2.75$, $(x/R)_{lip} = 3.220$

Figure 32.- Continued.



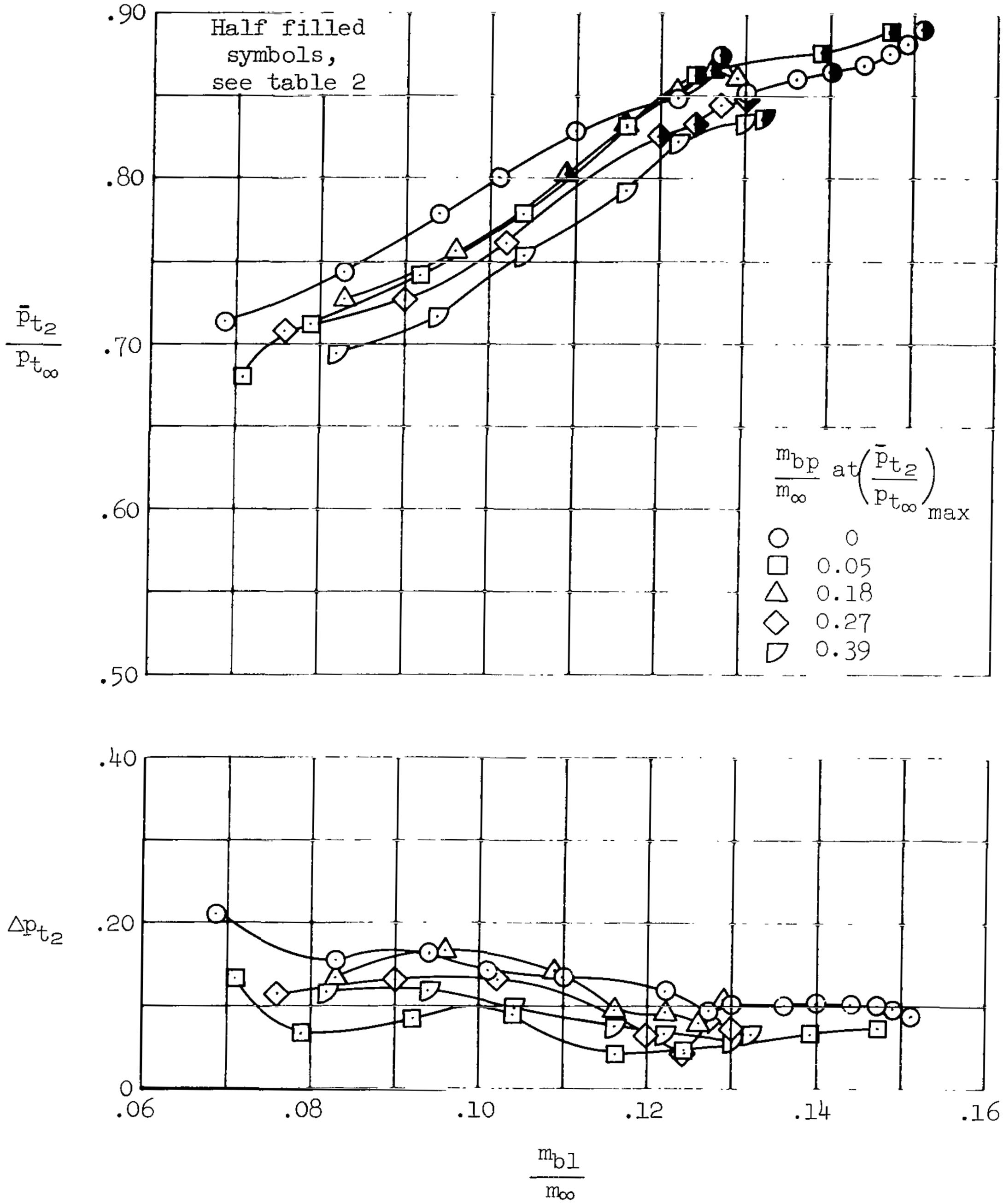
(d) $M_\infty = 2.50$, $(x/R)_{lip} = 3.370$

Figure 32.- Continued.



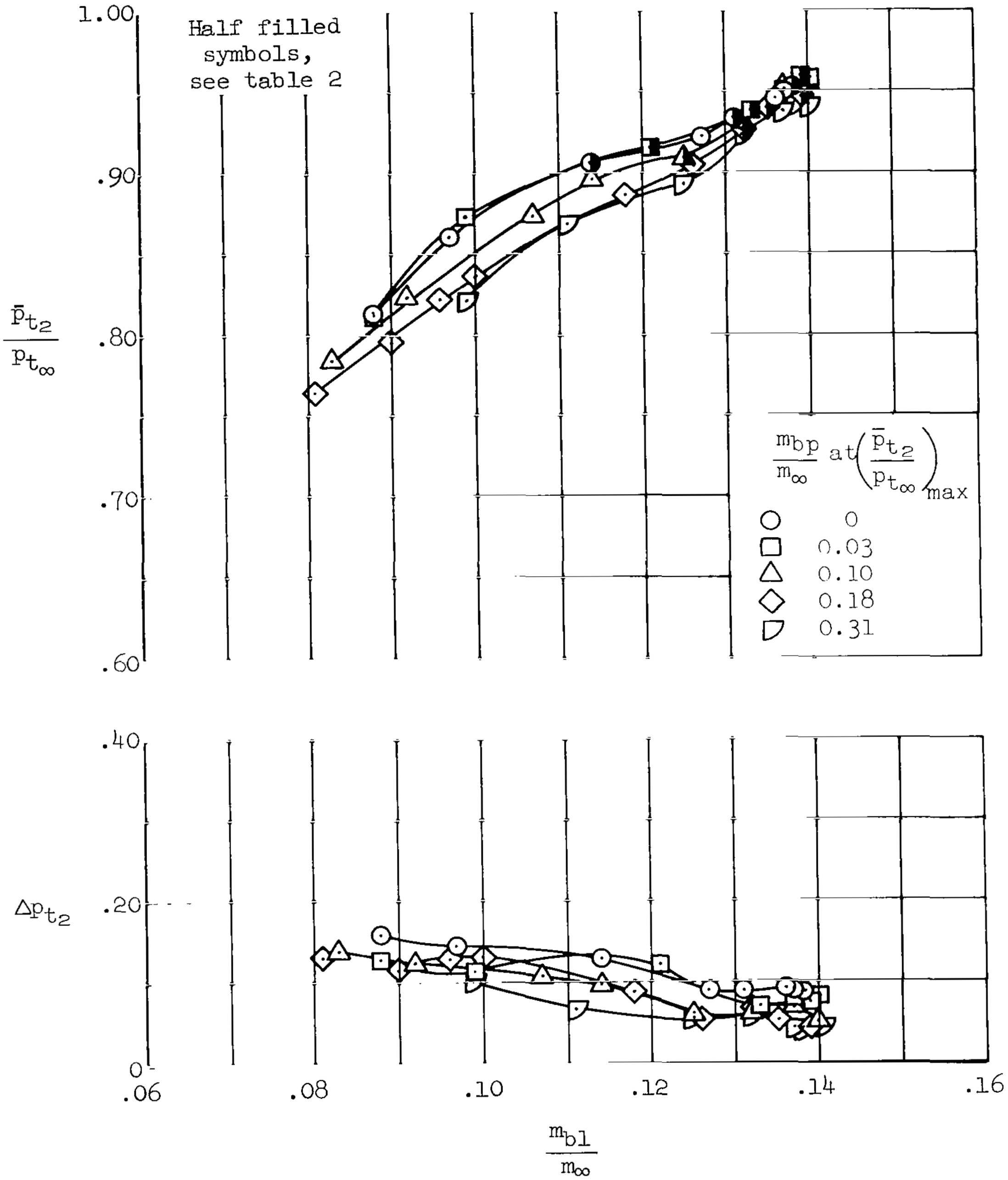
(e) $M_\infty = 2.25$, $(x/R)_{lip} = 3.600$

Figure 32.- Continued.



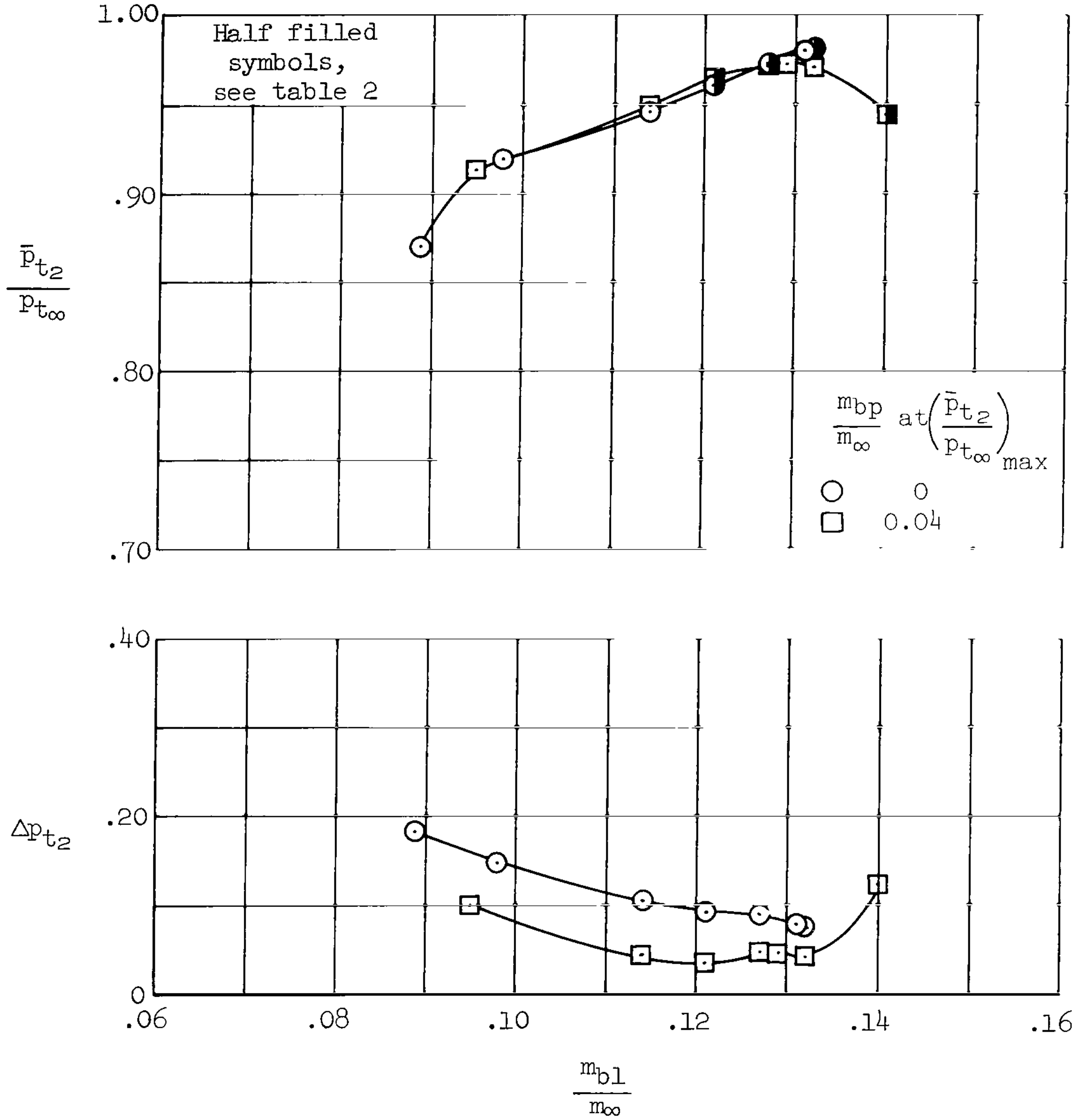
(f) $M_\infty = 2.00$, $(x/R)_{lip} = 3.780$

Figure 32.- Continued.



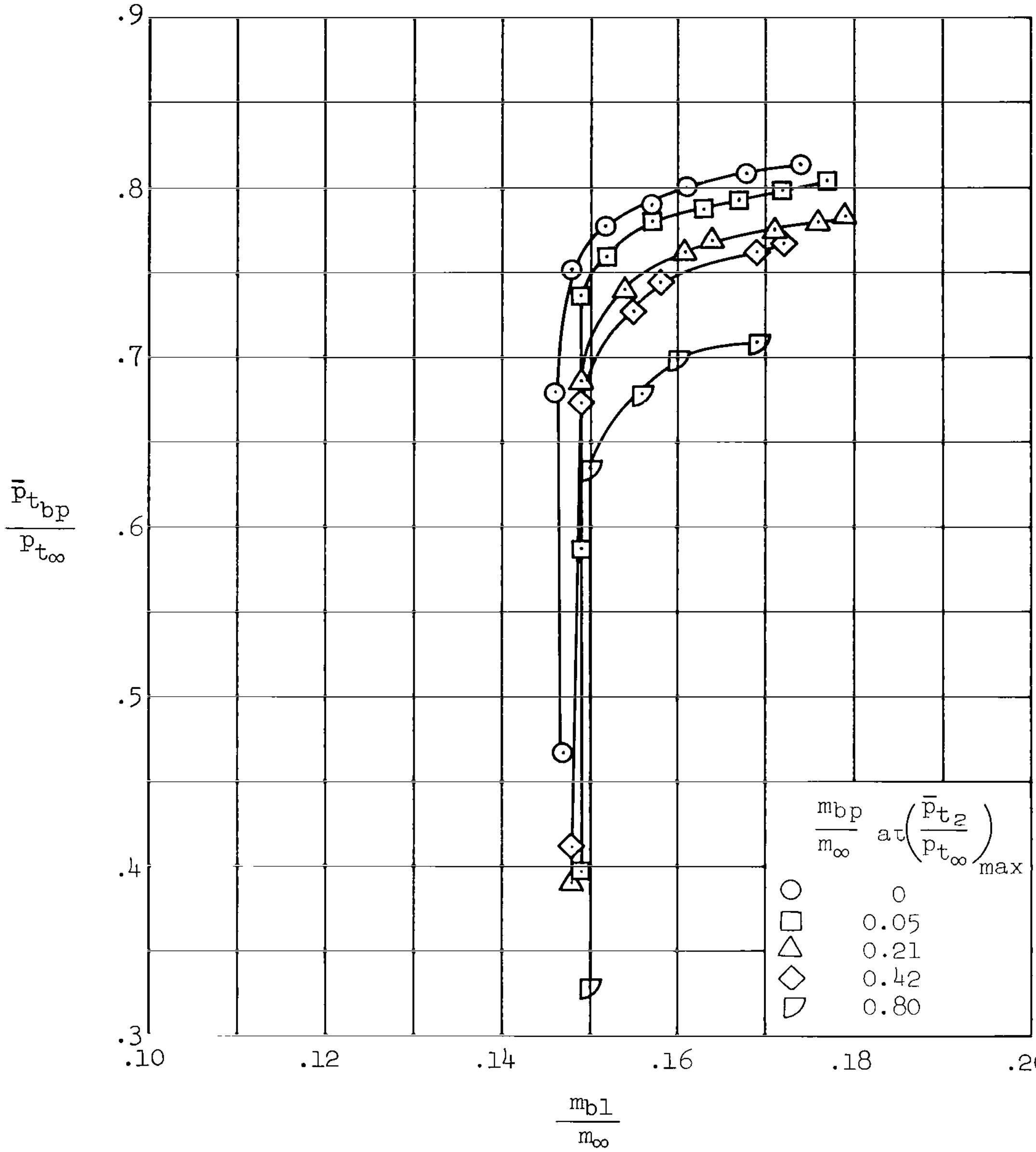
(g) $M_\infty = 1.75$, $(x/R)_{lip} = 3.870$

Figure 32.- Continued.



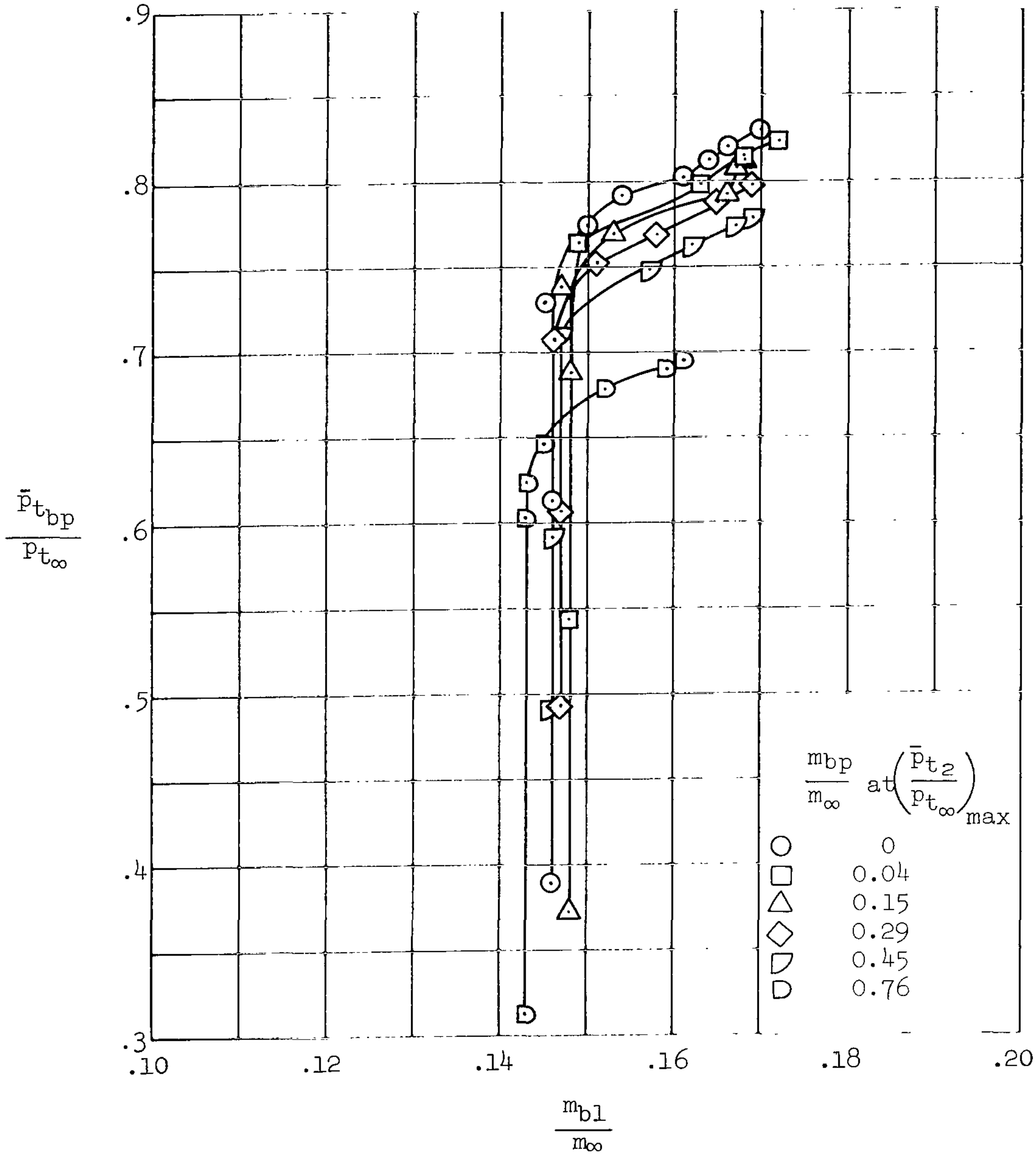
(h) $M_\infty = 1.55$, $(x/R)_{lip} = 3.890$

Figure 32.- Concluded.



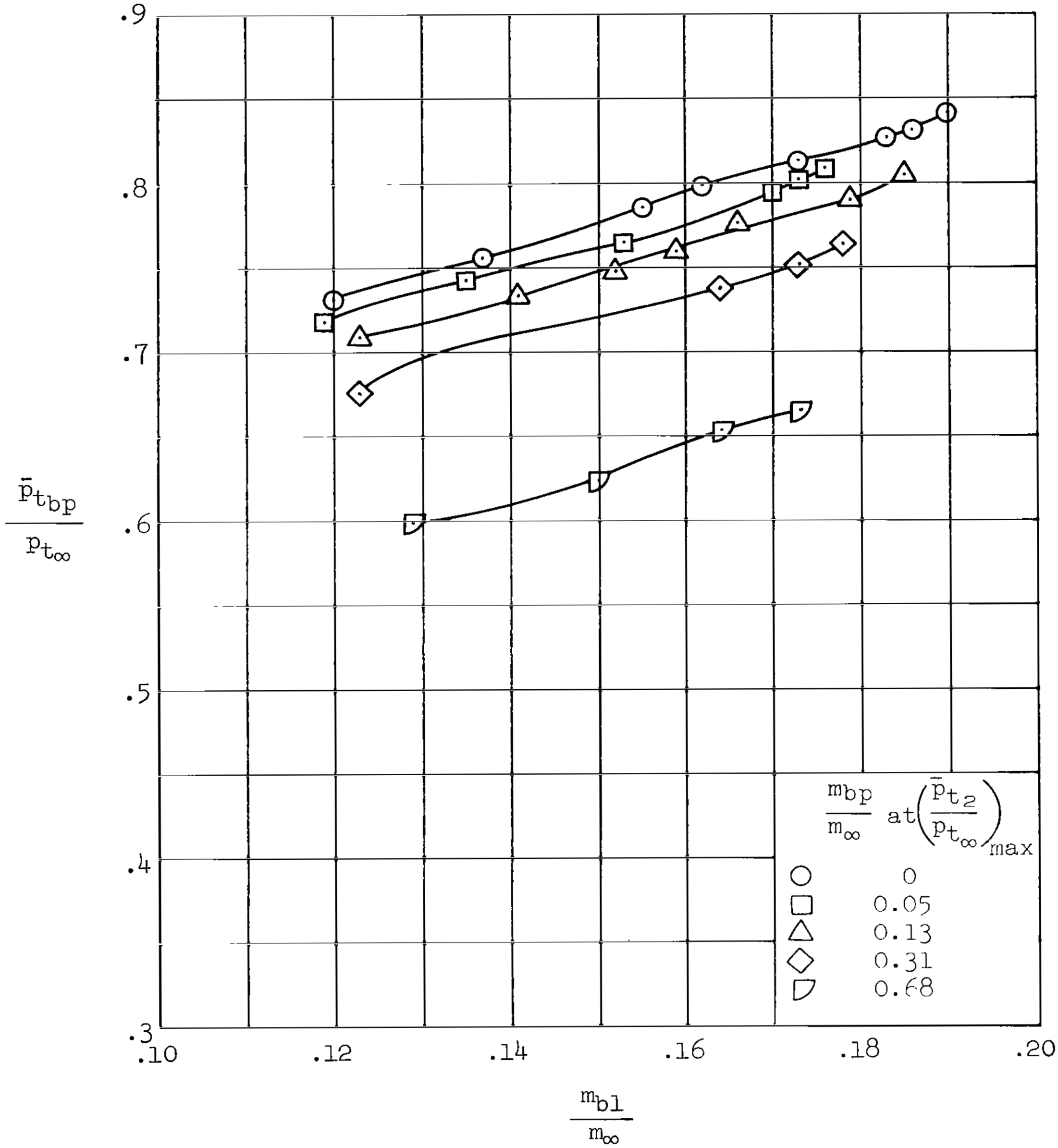
(a) $M_\infty = 3.25$

Figure 33.- Off-design bypass plenum chamber pressure recovery, bleed exit setting B; $\alpha = 0°$.



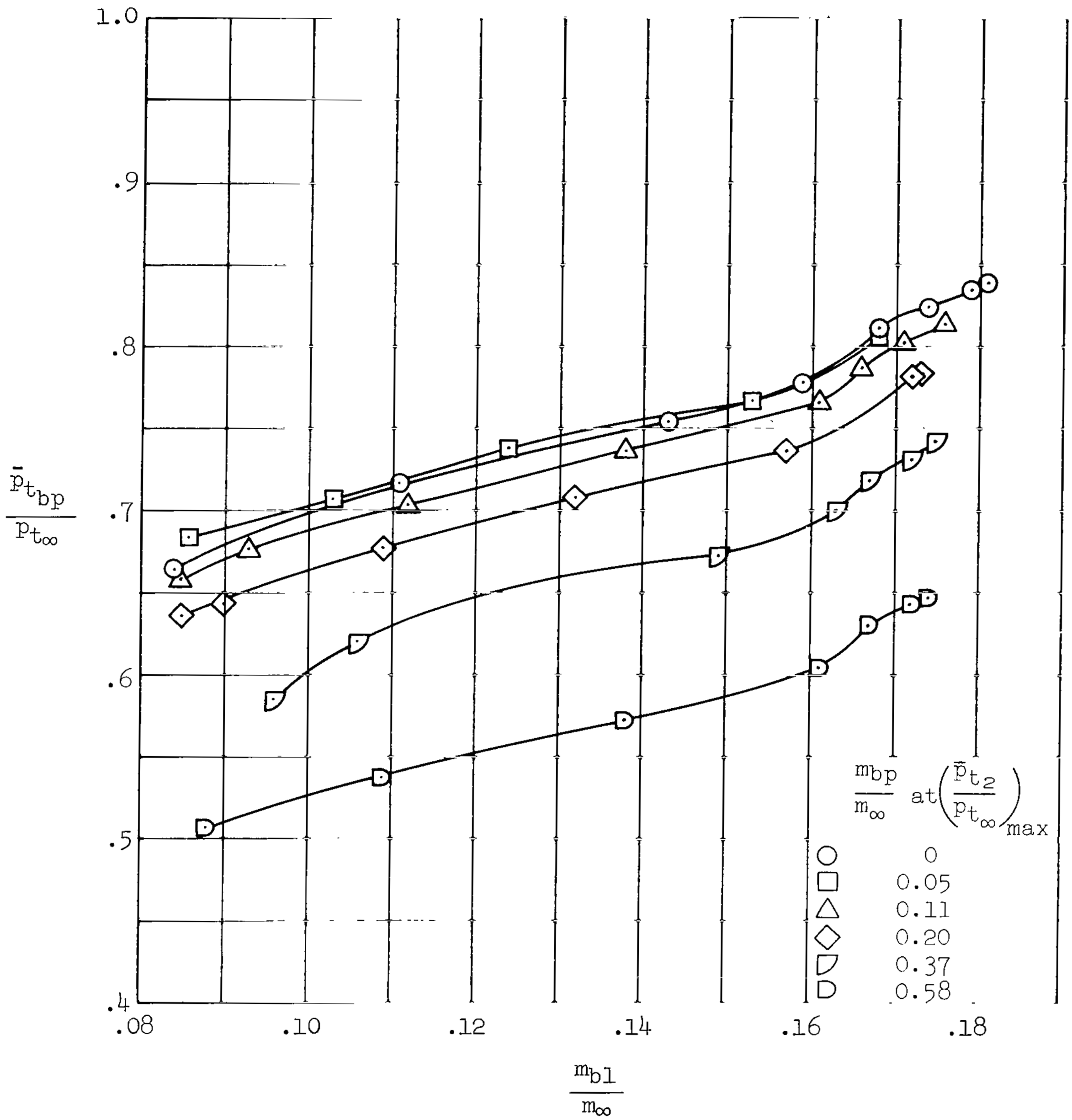
(b) $M_\infty = 3.00$

Figure 33.- Continued.



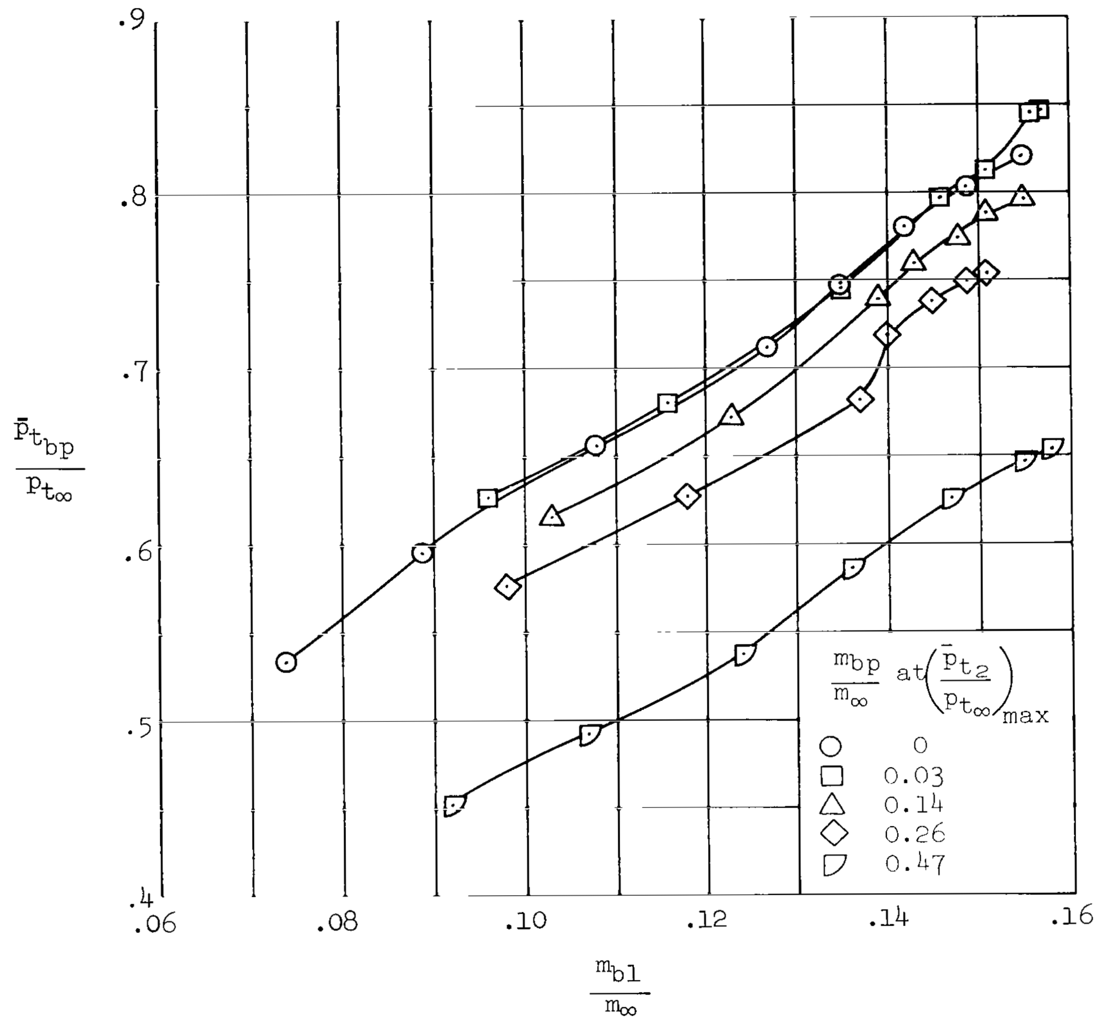
(c) $M_\infty = 2.75$

Figure 33.- Continued.



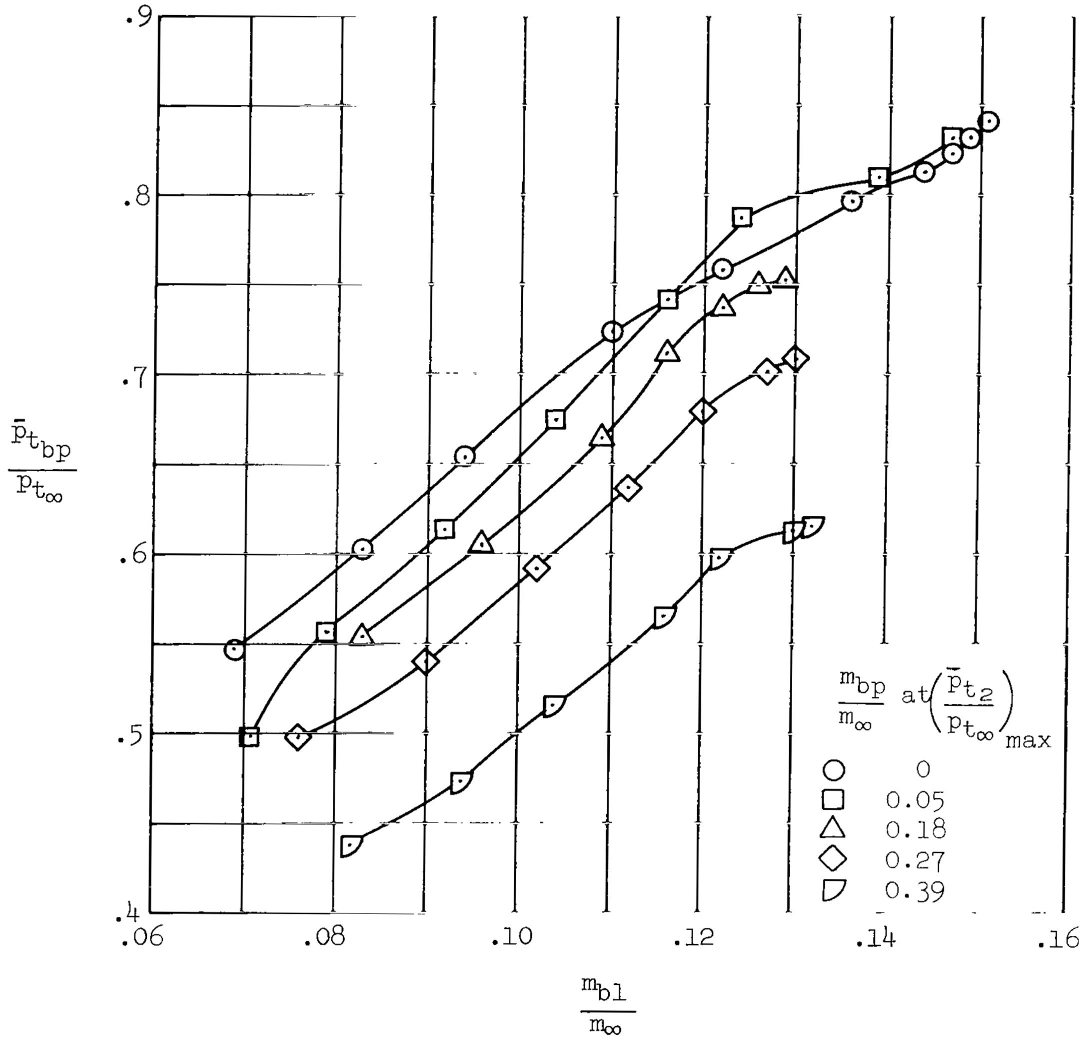
(d) $M_\infty = 2.50$

Figure 33.- Continued.



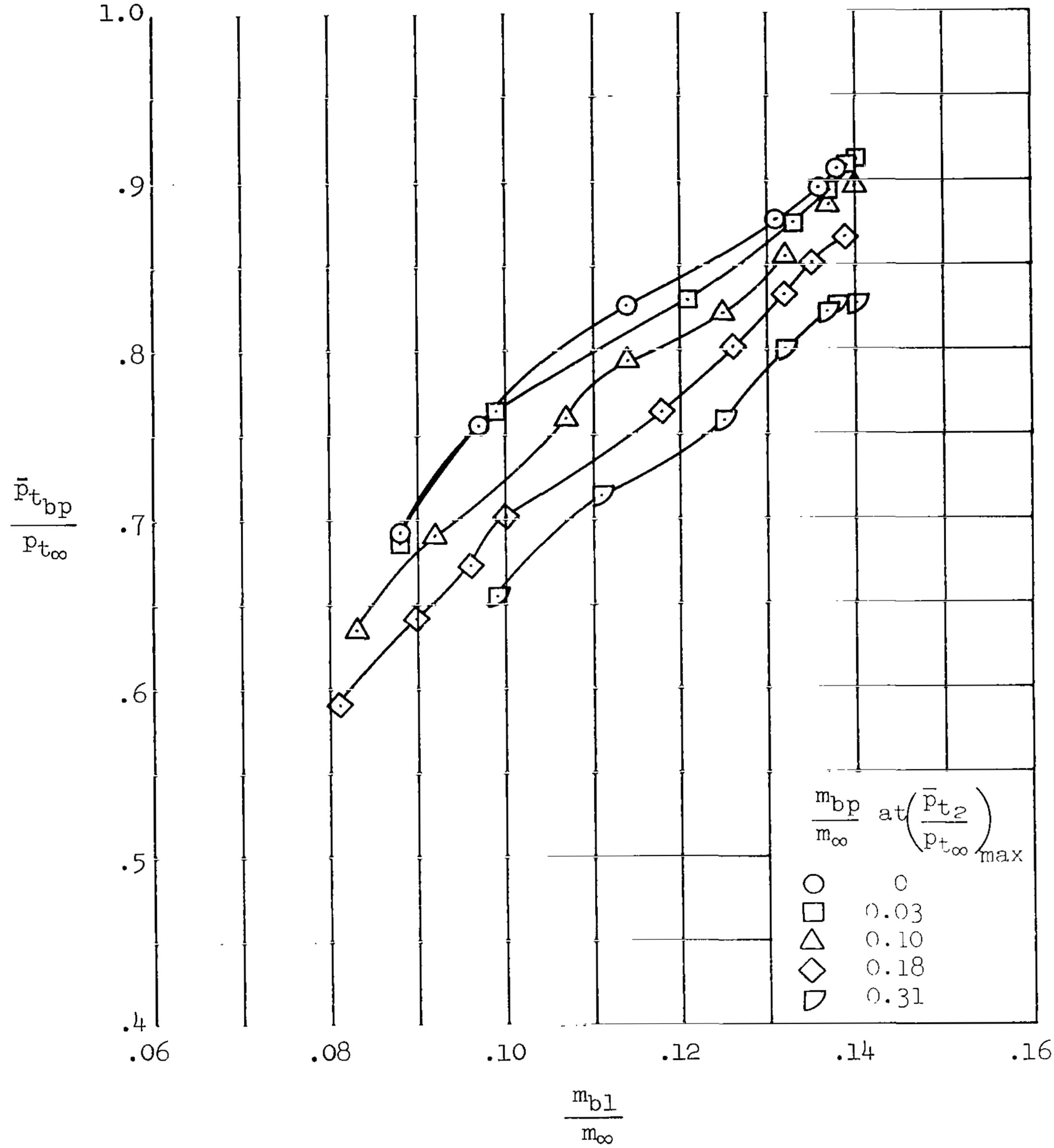
(e) $M_\infty = 2.25$

Figure 33.- Continued.



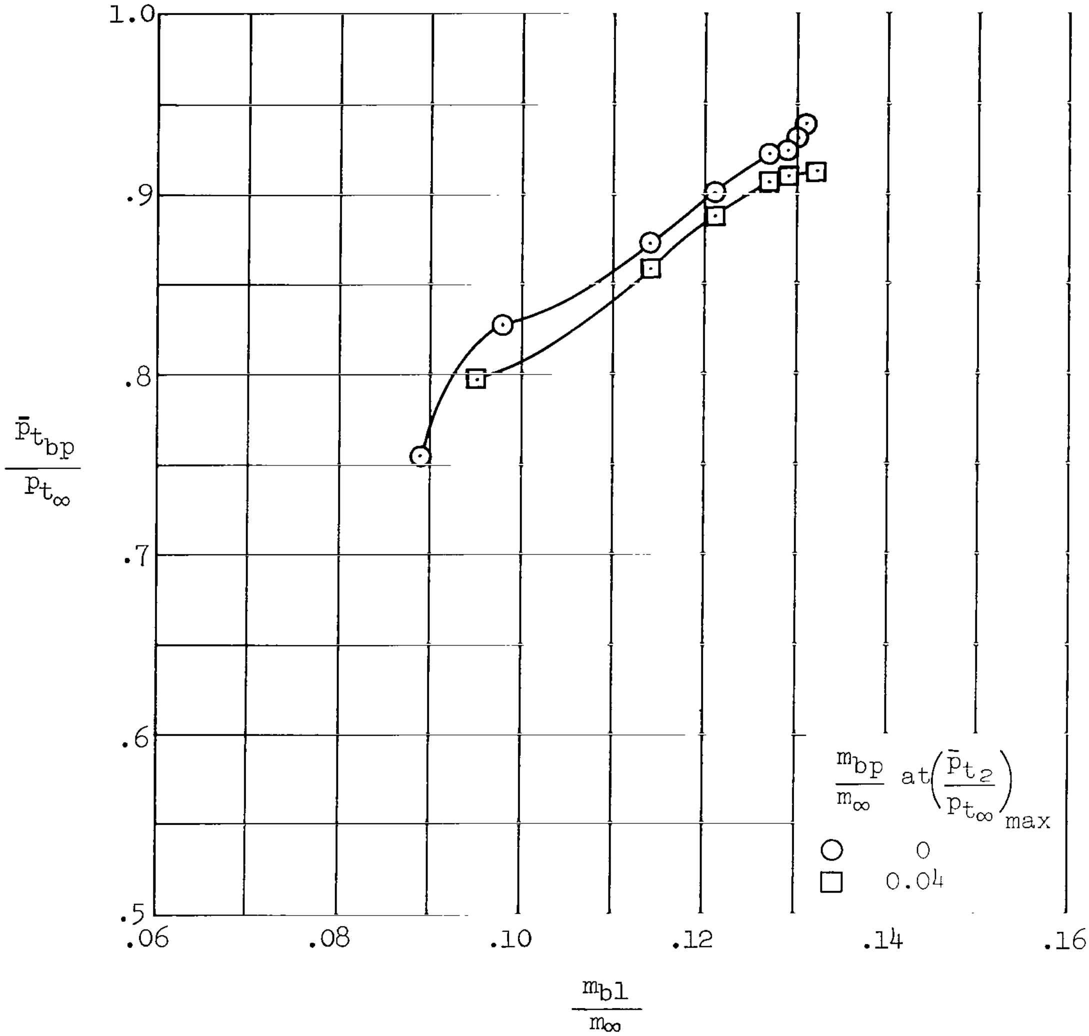
(f) $M_\infty = 2.00$

Figure 33.- Continued.



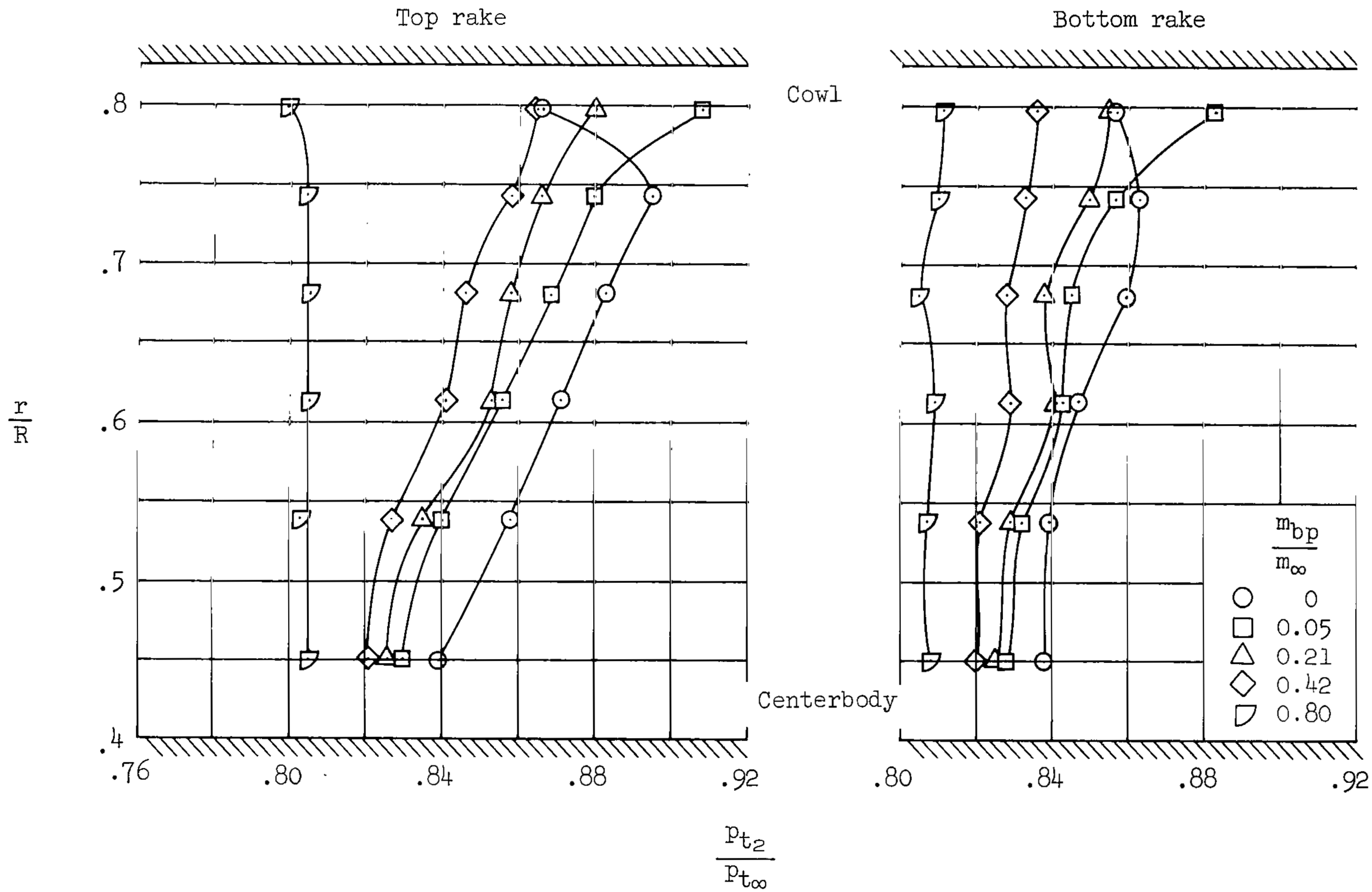
(g) $M_\infty = 1.75$

Figure 33.- Continued.



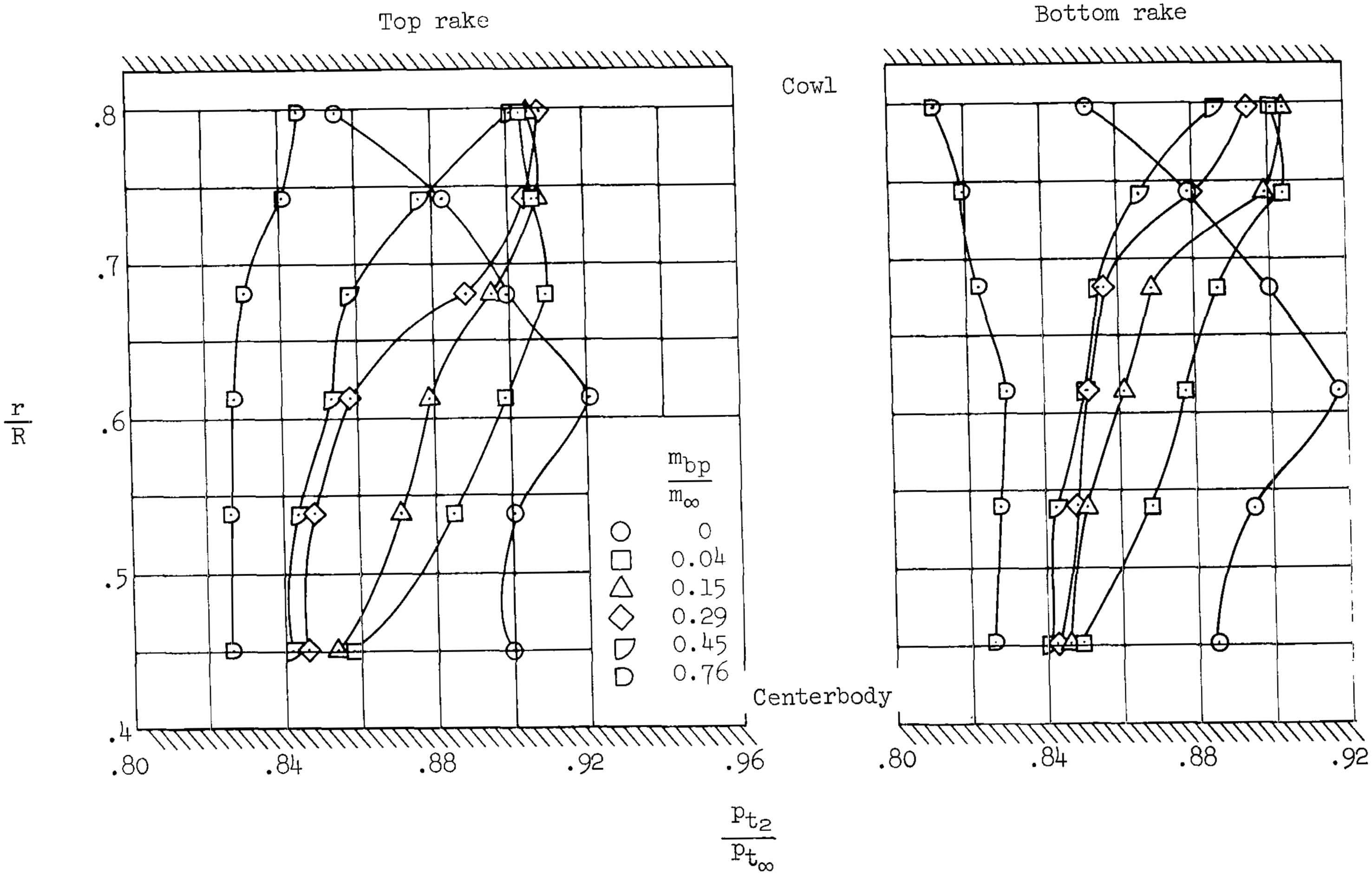
(h) $M_\infty = 1.55$

Figure 33.- Concluded.



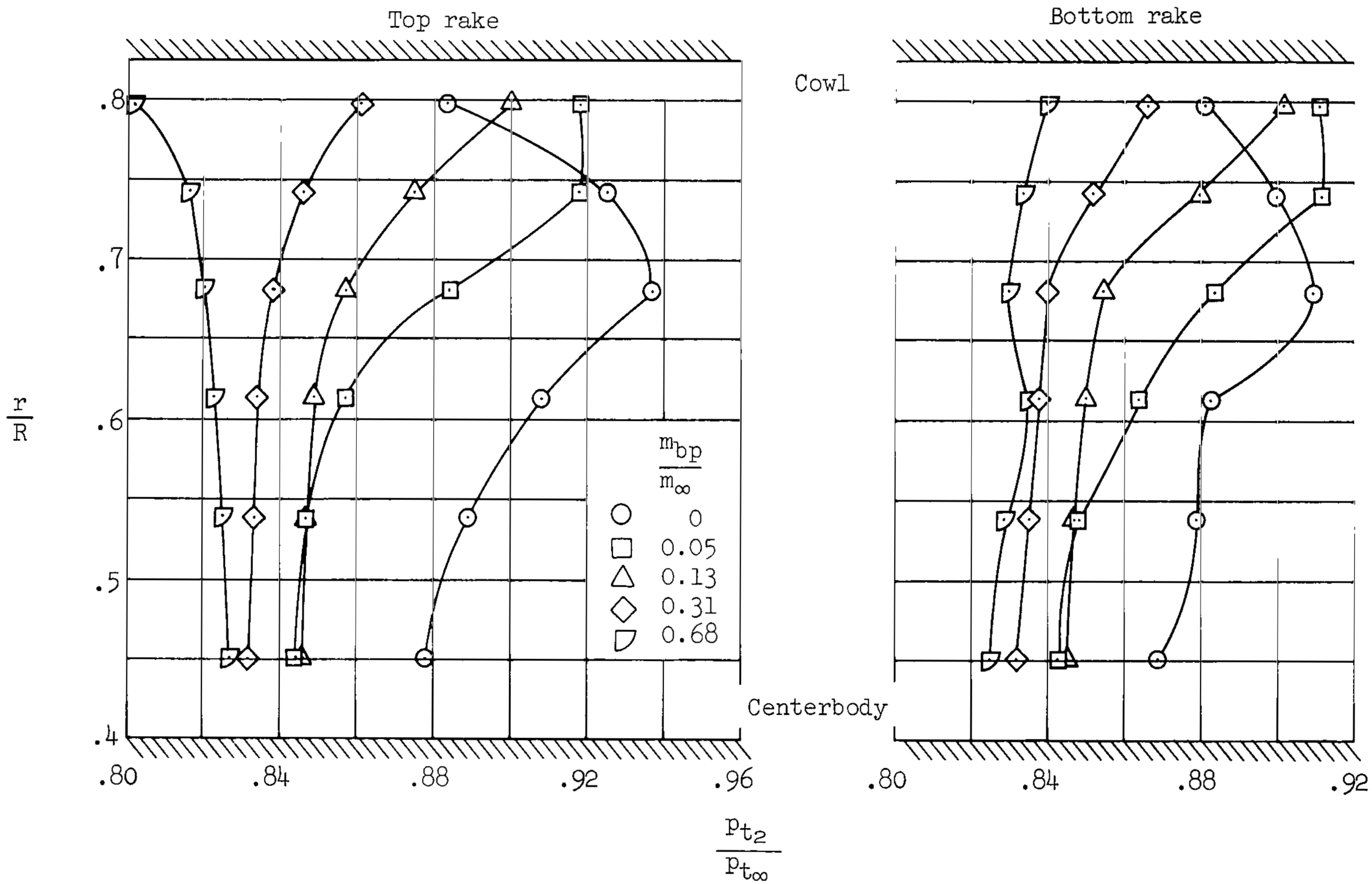
(a) $M_\infty = 3.25$

Figure 34.- Off-design effect of bypass on engine-face distortion profiles, maximum pressure recovery, bleed exit setting B; $\alpha = 0°$.



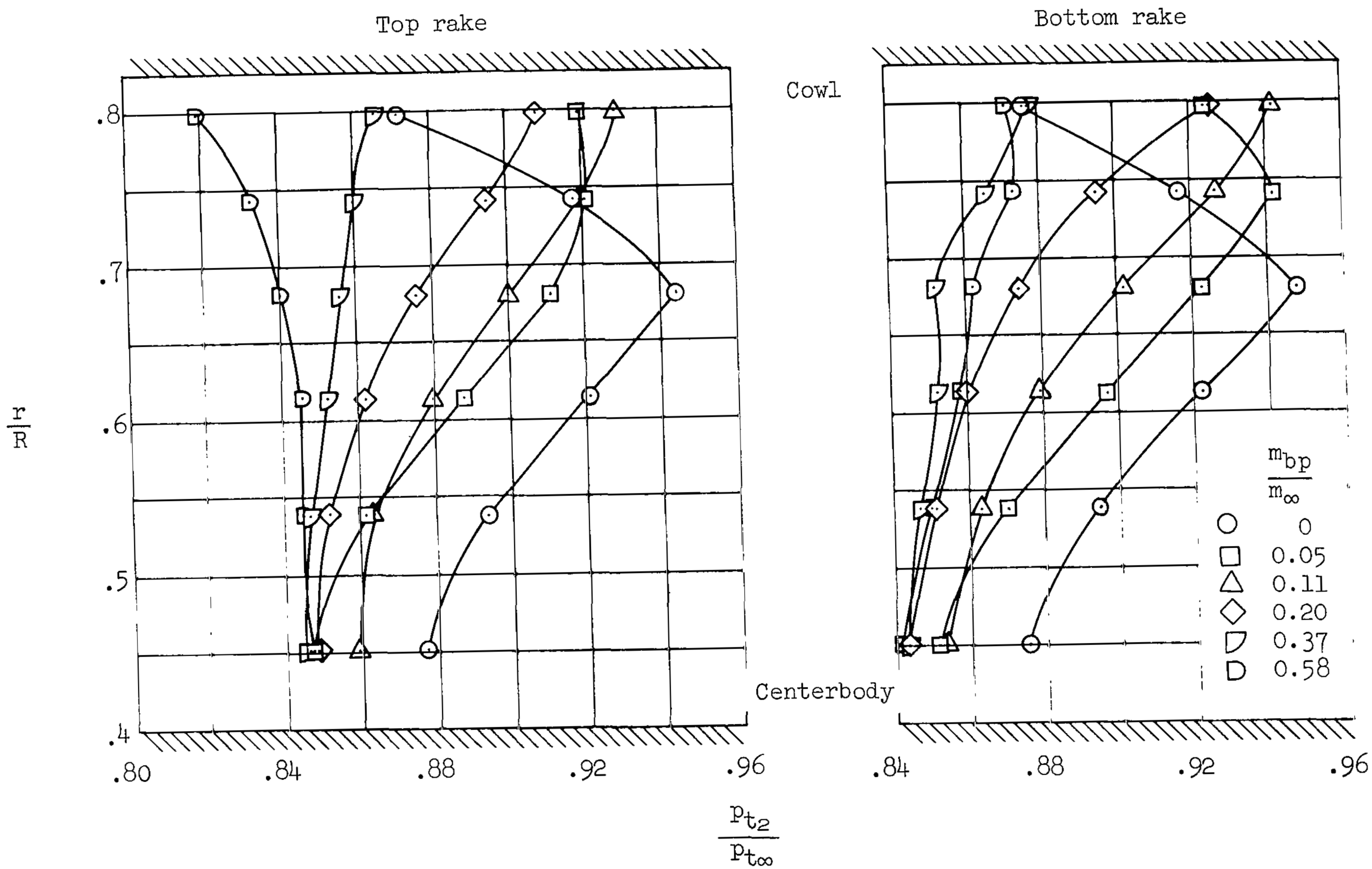
(b) $M_\infty = 3.00$

Figure 34.- Continued.



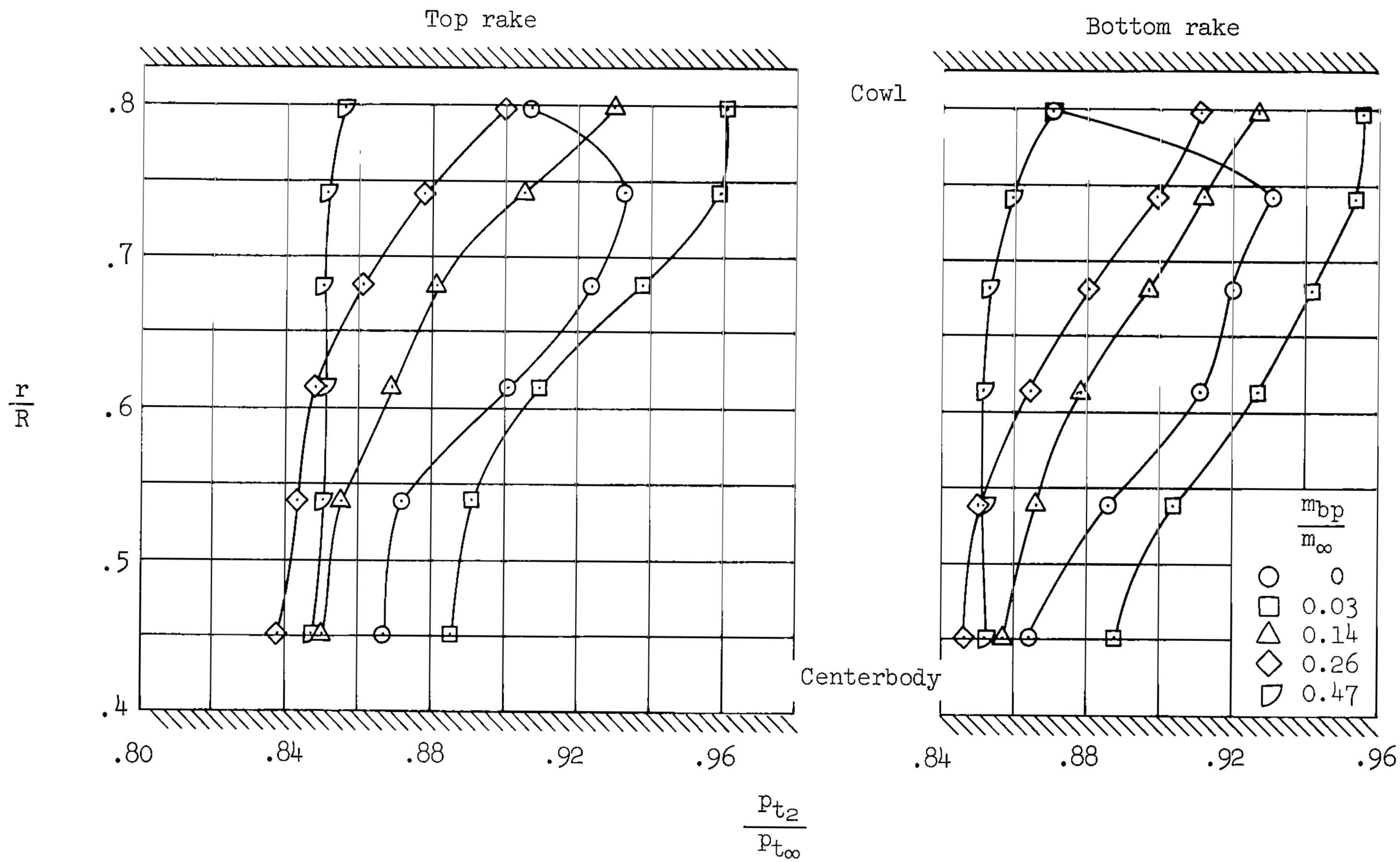
(c) $M_\infty = 2.75$

Figure 34.- Continued.



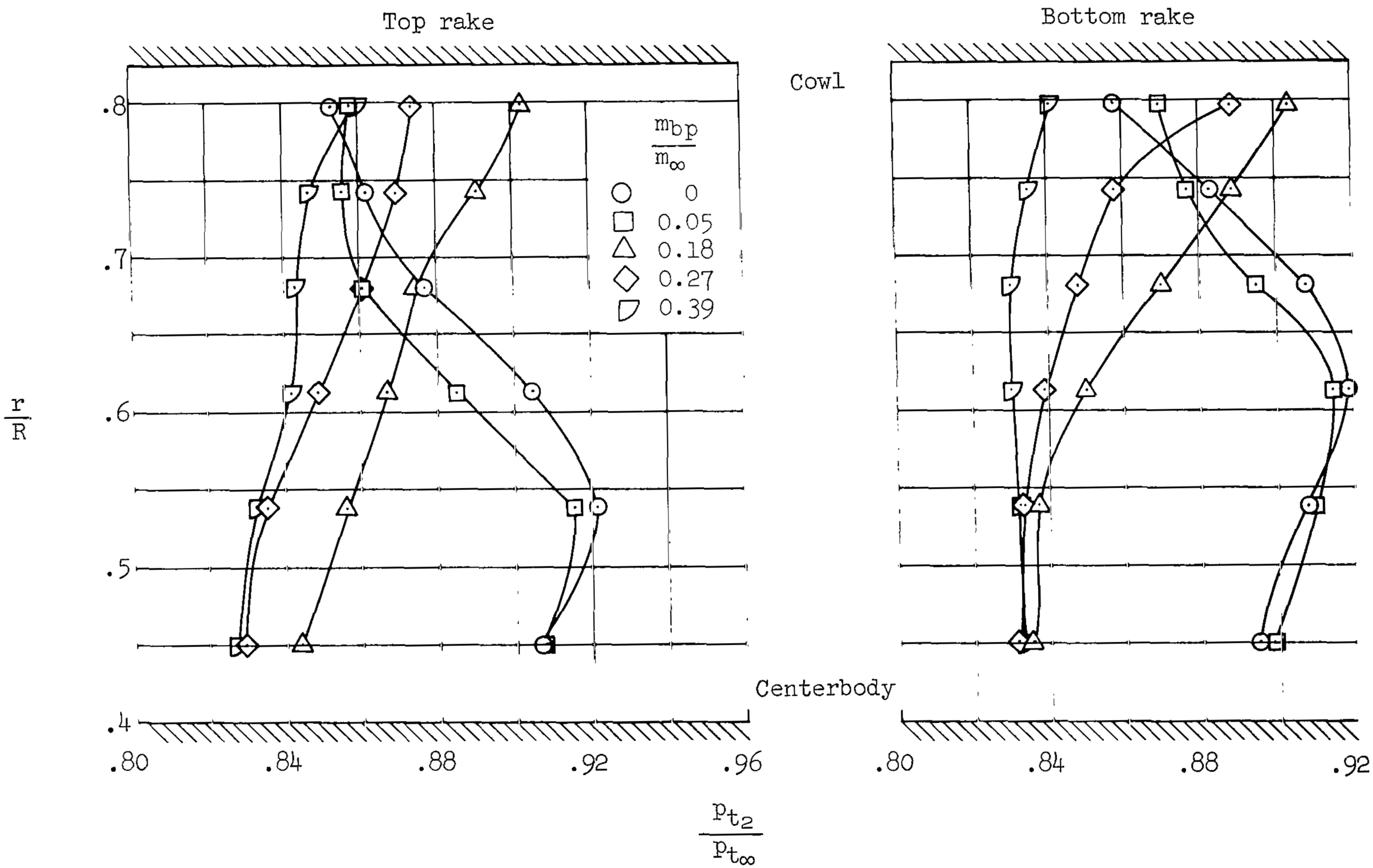
(d) $M_\infty = 2.50$

Figure 34.- Continued.



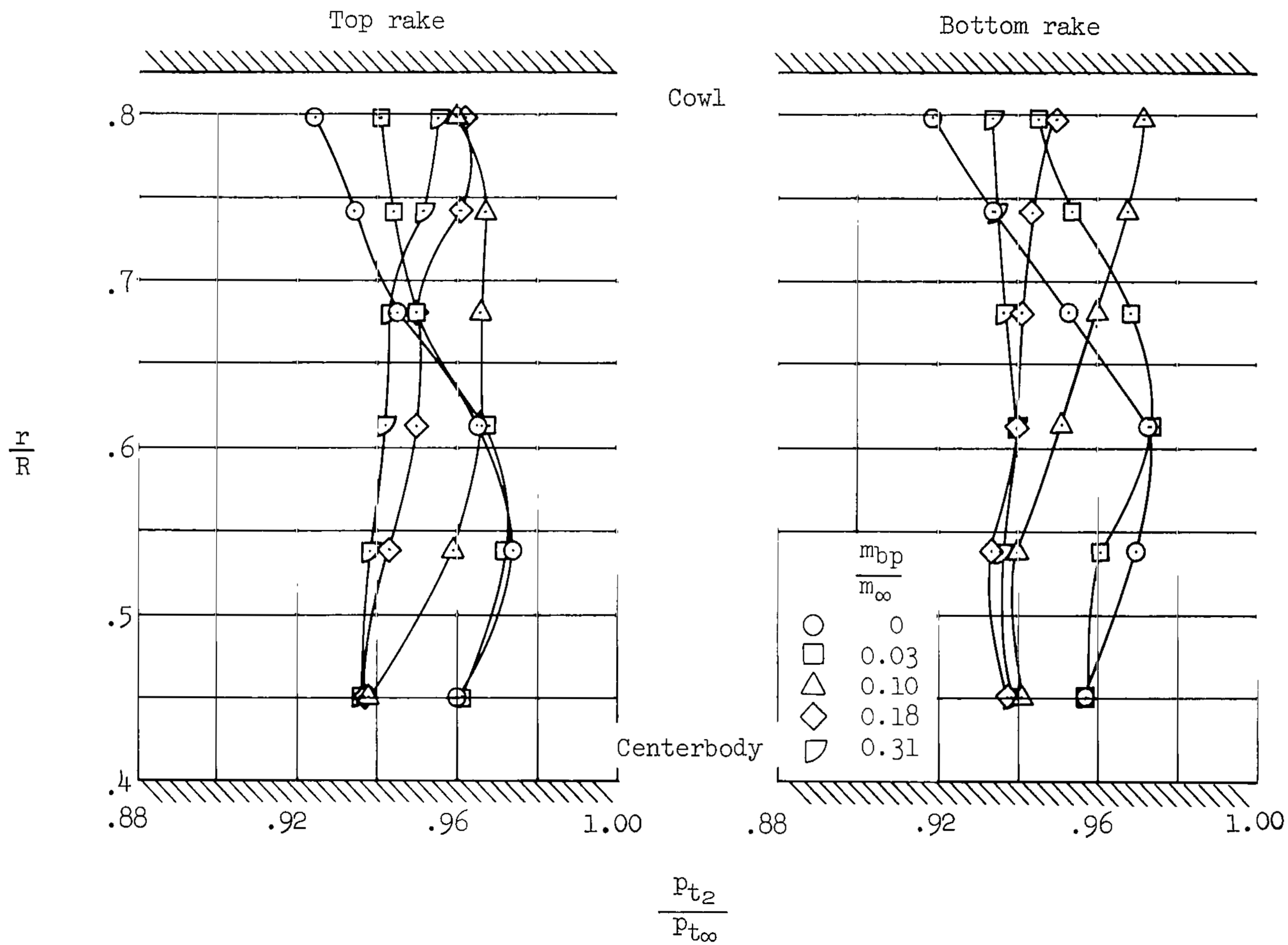
(e) $M_\infty = 2.25$

Figure 34.- Continued.



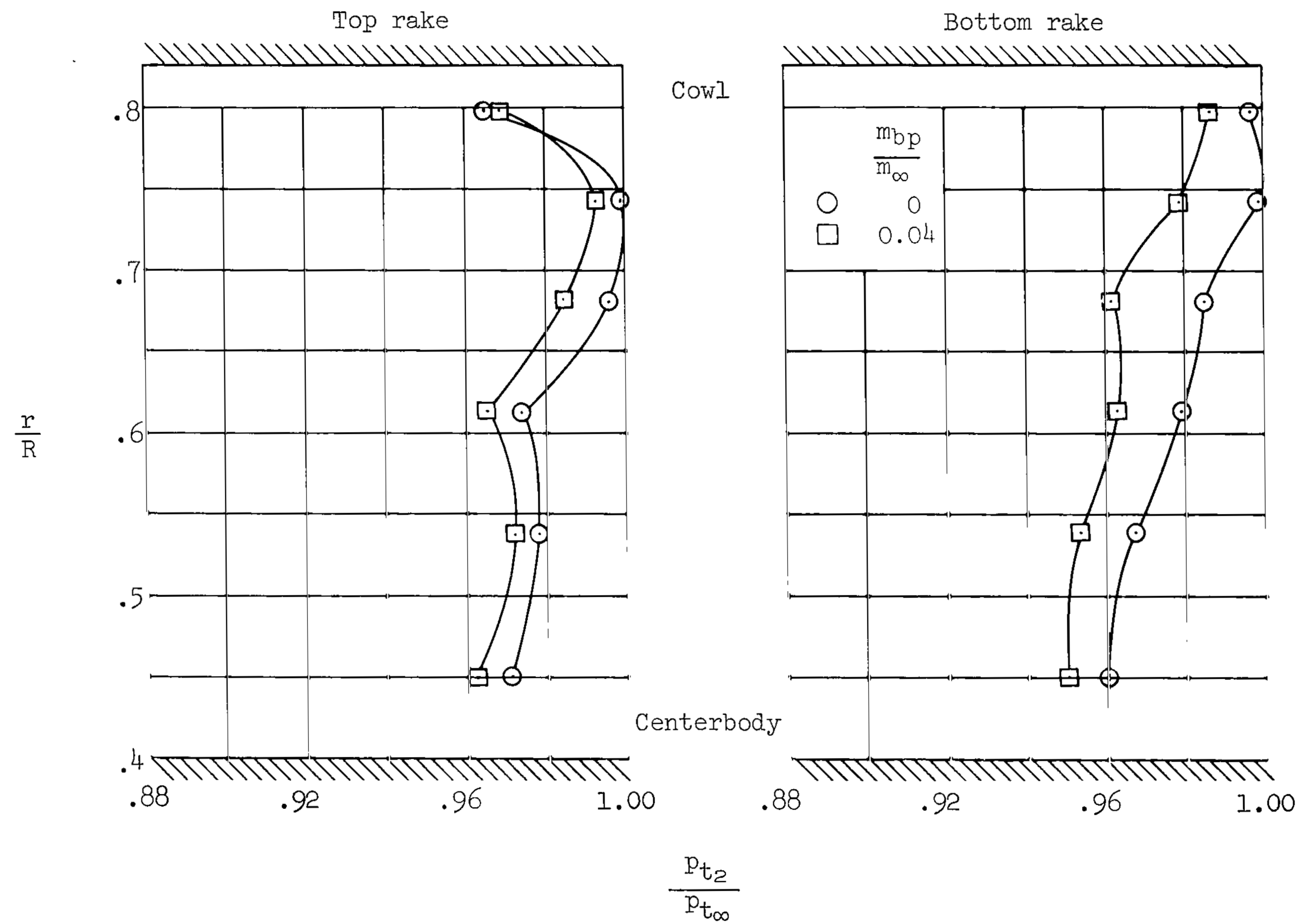
(f) $M_\infty = 2.00$

Figure 34.- Continued.



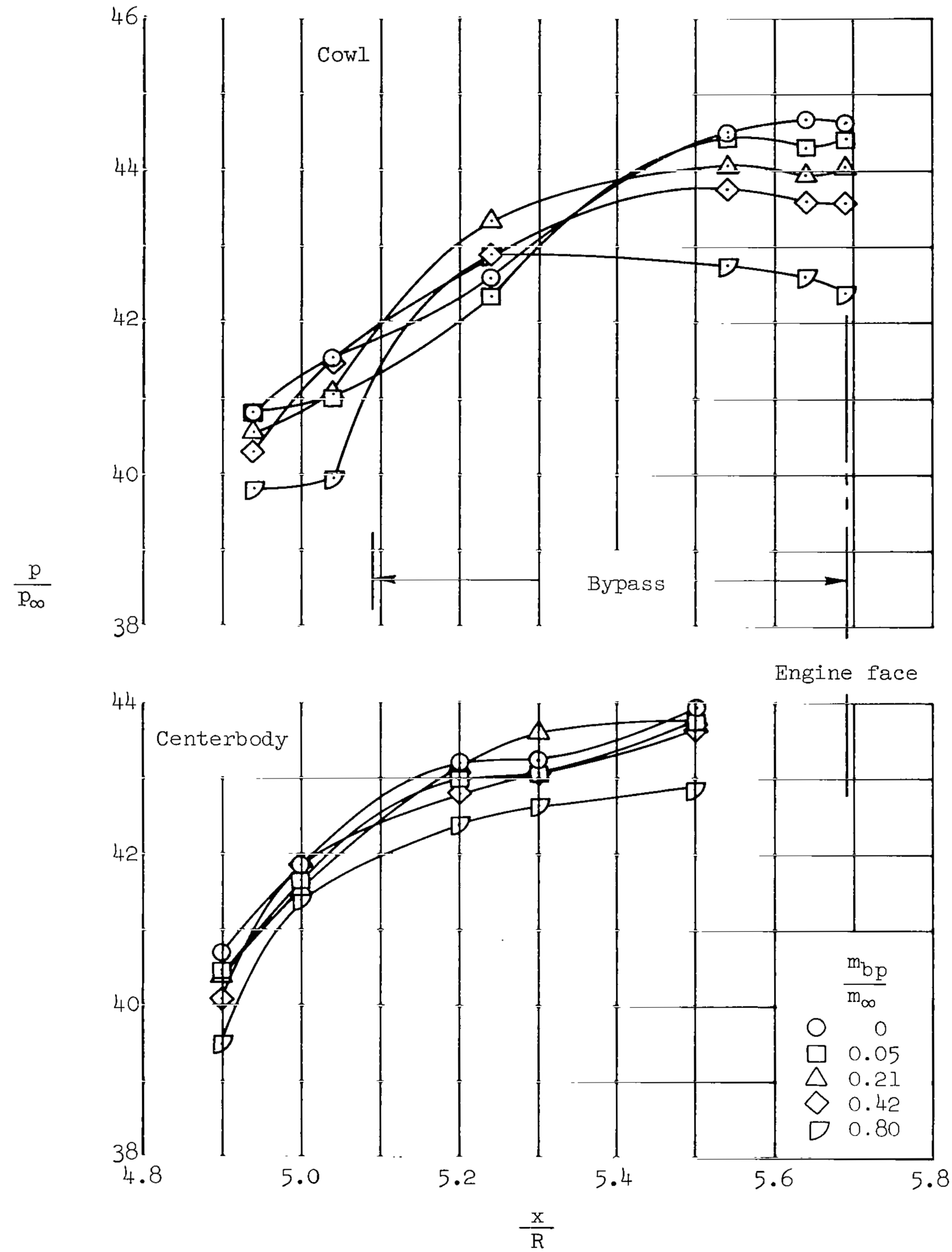
(g) $M_\infty = 1.75$

Figure 34.- Continued.



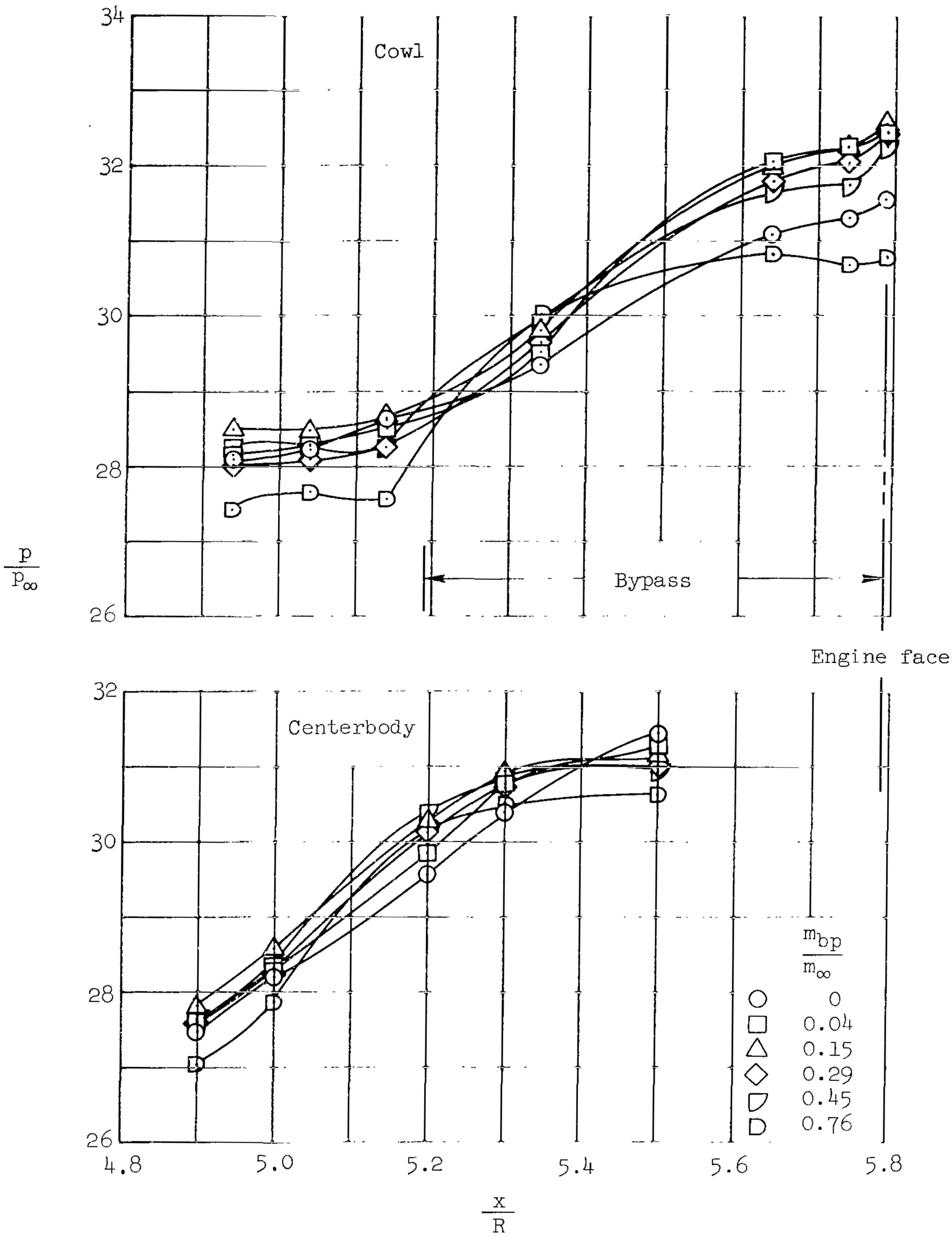
(h) $M_\infty = 1.55$

Figure 34.- Concluded.



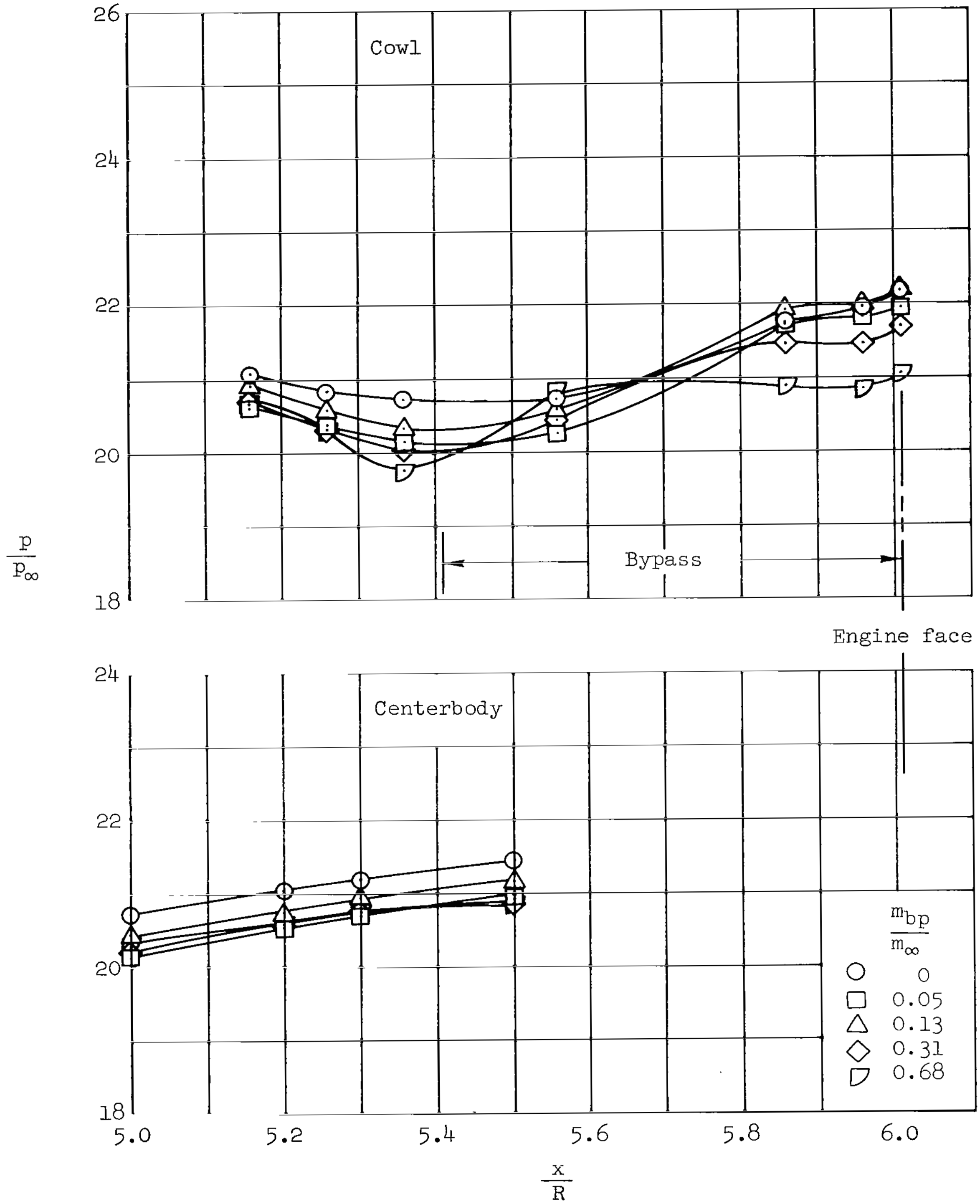
(a) $M_\infty = 3.25$, $(x/R)_{lip} = 2.903$

Figure 35.- Off-design effect of bypass on the static pressure distributions, bleed exit setting B, maximum pressure recovery; $\alpha = 0°$.



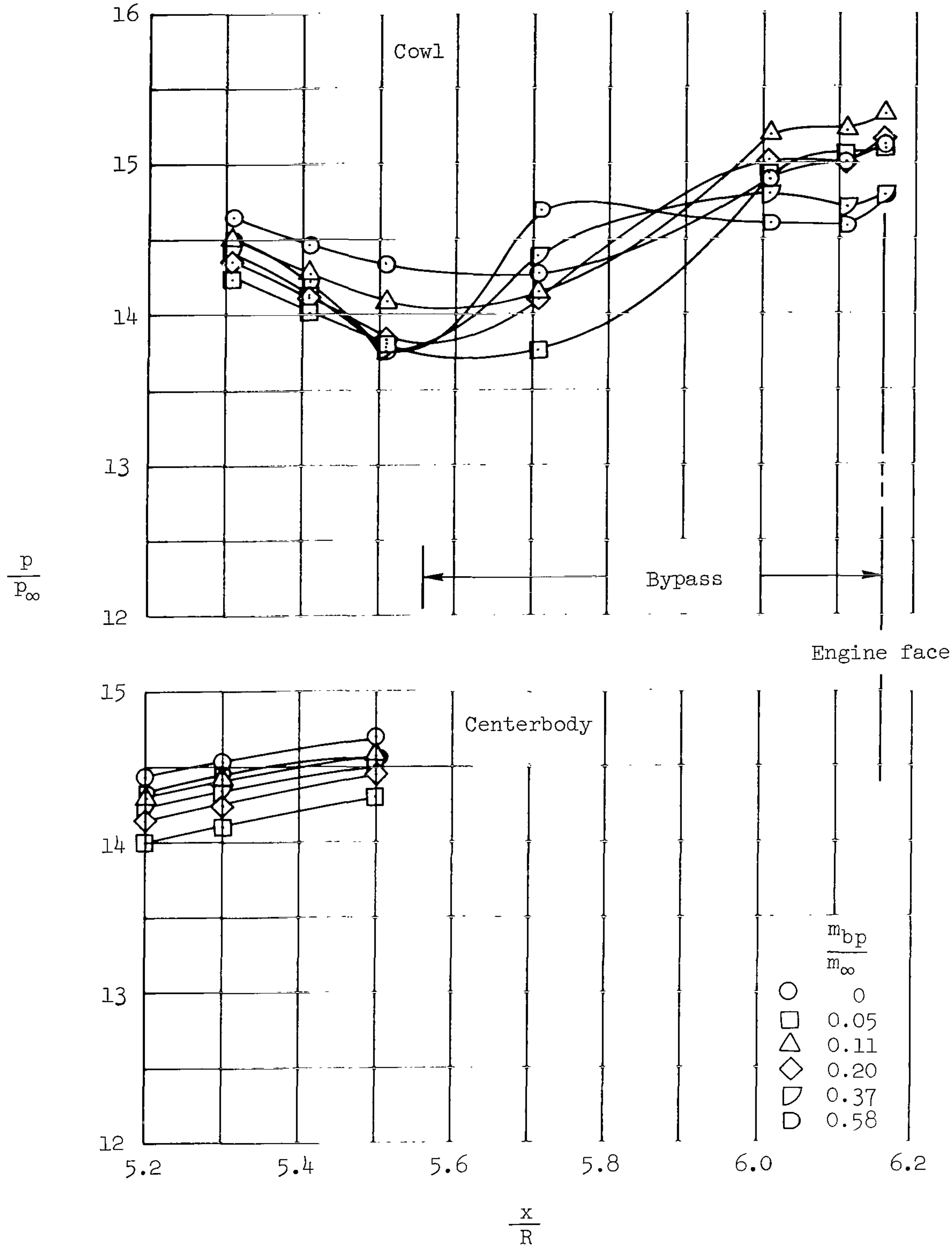
(b) $M_\infty = 3.00$, $(x/R)_{lip} = 3.000$

Figure 35.- Continued.



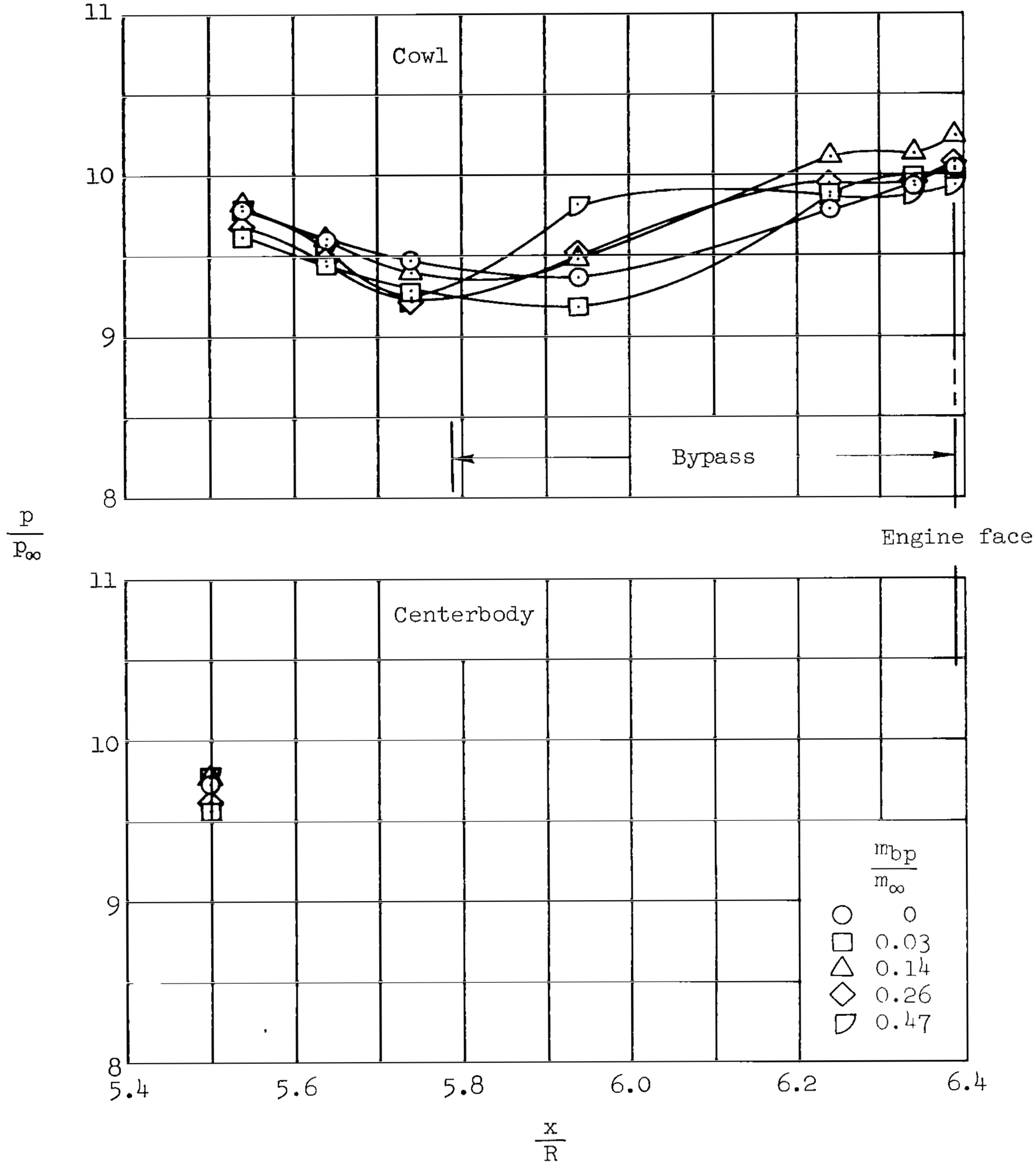
(c) $M_\infty = 2.75$, $(x/R)_{lip} = 3.220$

Figure 35.- Continued.



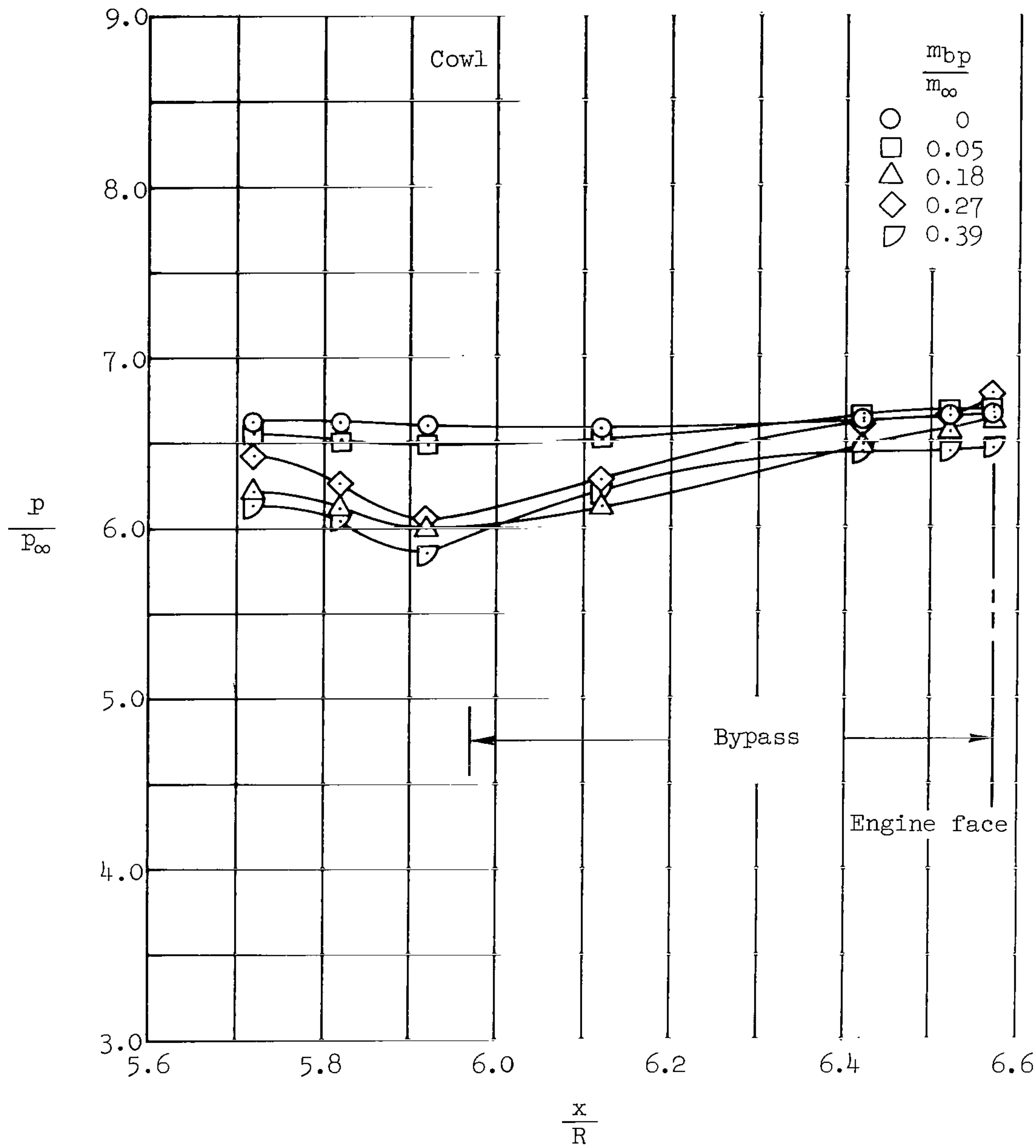
(d) $M_\infty = 2.50$, $(x/R)_{lip} = 3.370$

Figure 35.- Continued.



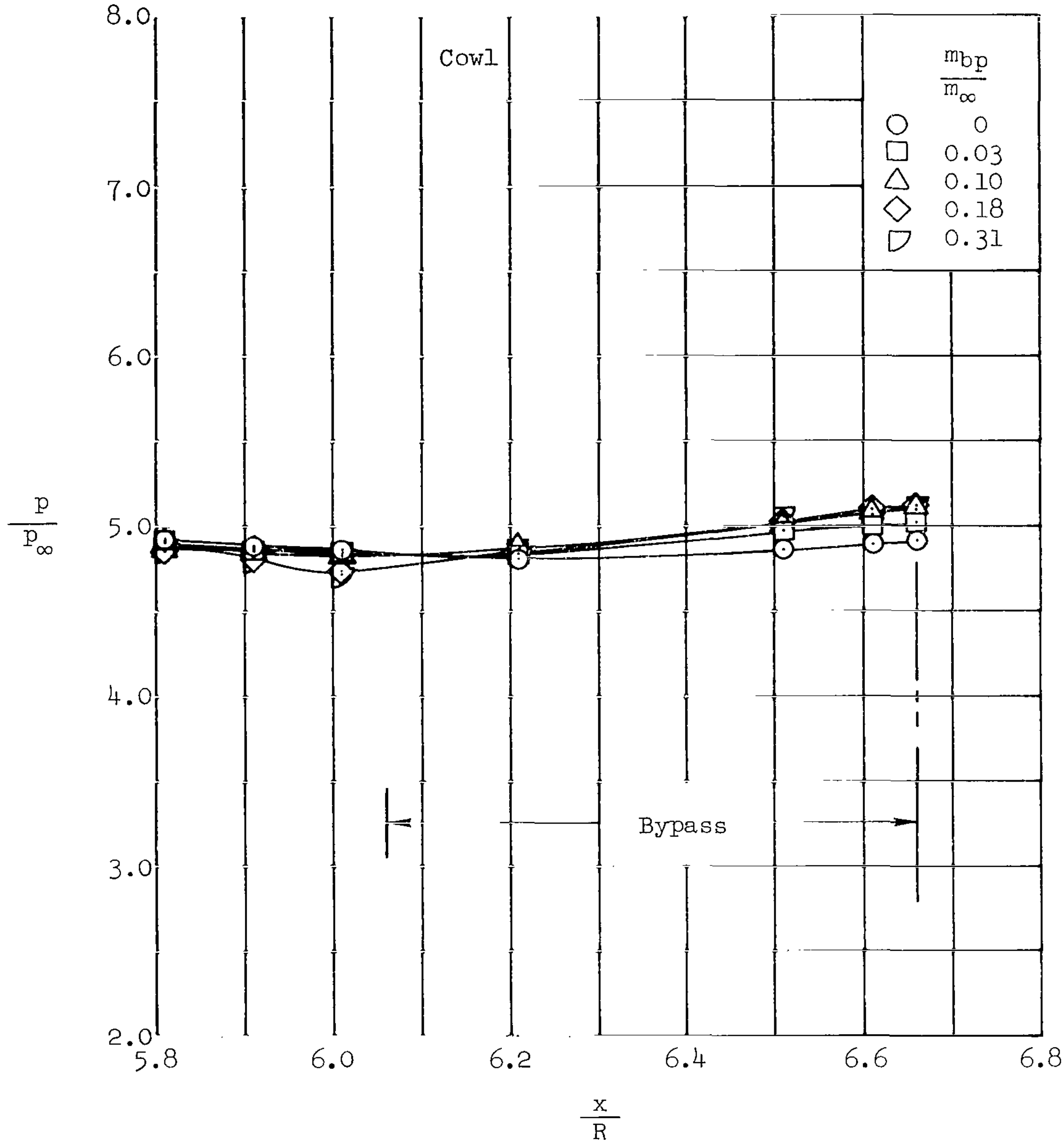
(e) $M_\infty = 2.25$, $(x/R)_{lip} = 3.600$

Figure 35.- Continued.



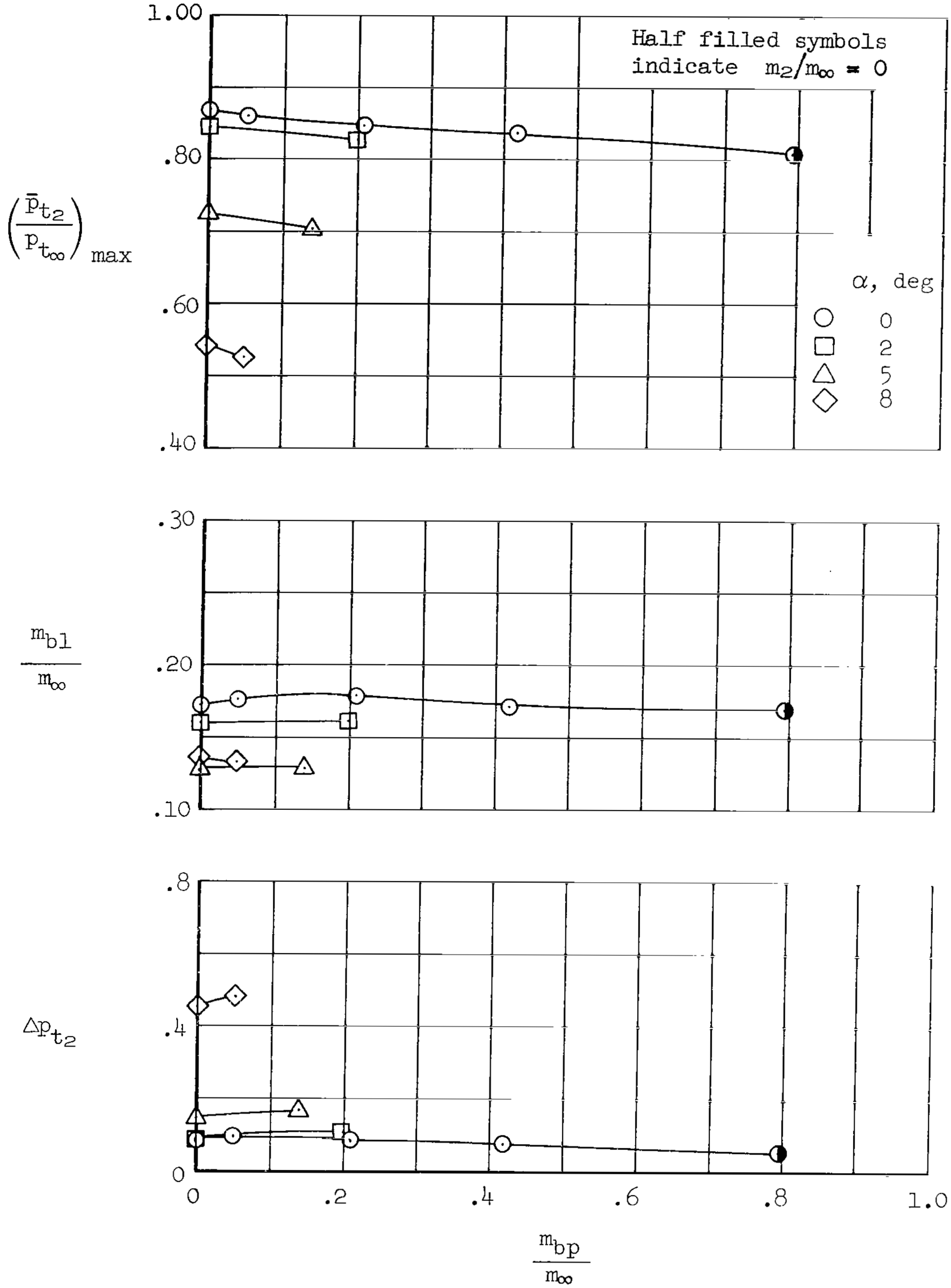
(f) $M_\infty = 2.00$, $(x/R)_{lip} = 3.780$

Figure 35.- Continued.



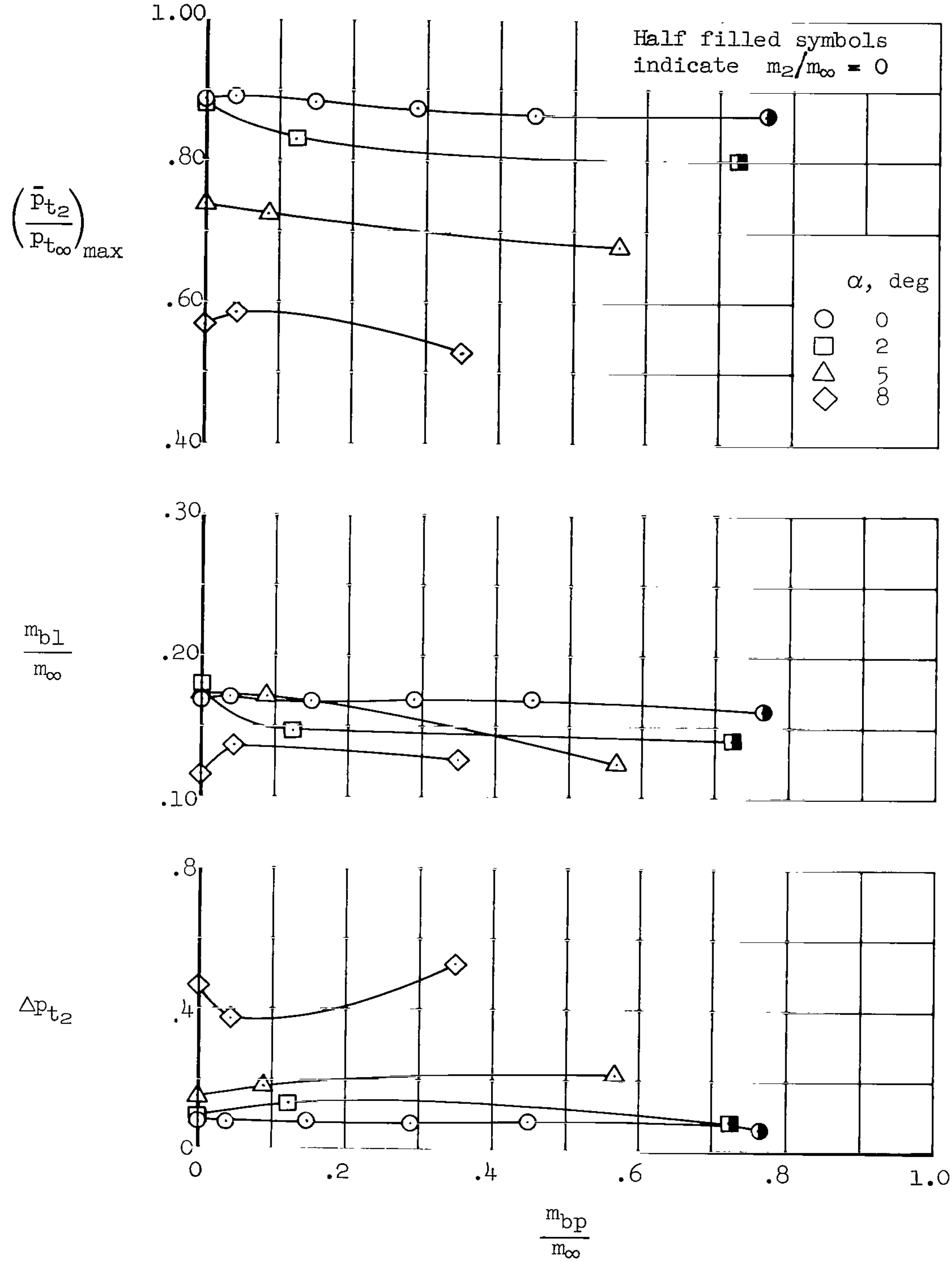
(g) $M_\infty = 1.75$, $(x/R)_{lip} = 3.870$

Figure 35.- Concluded.



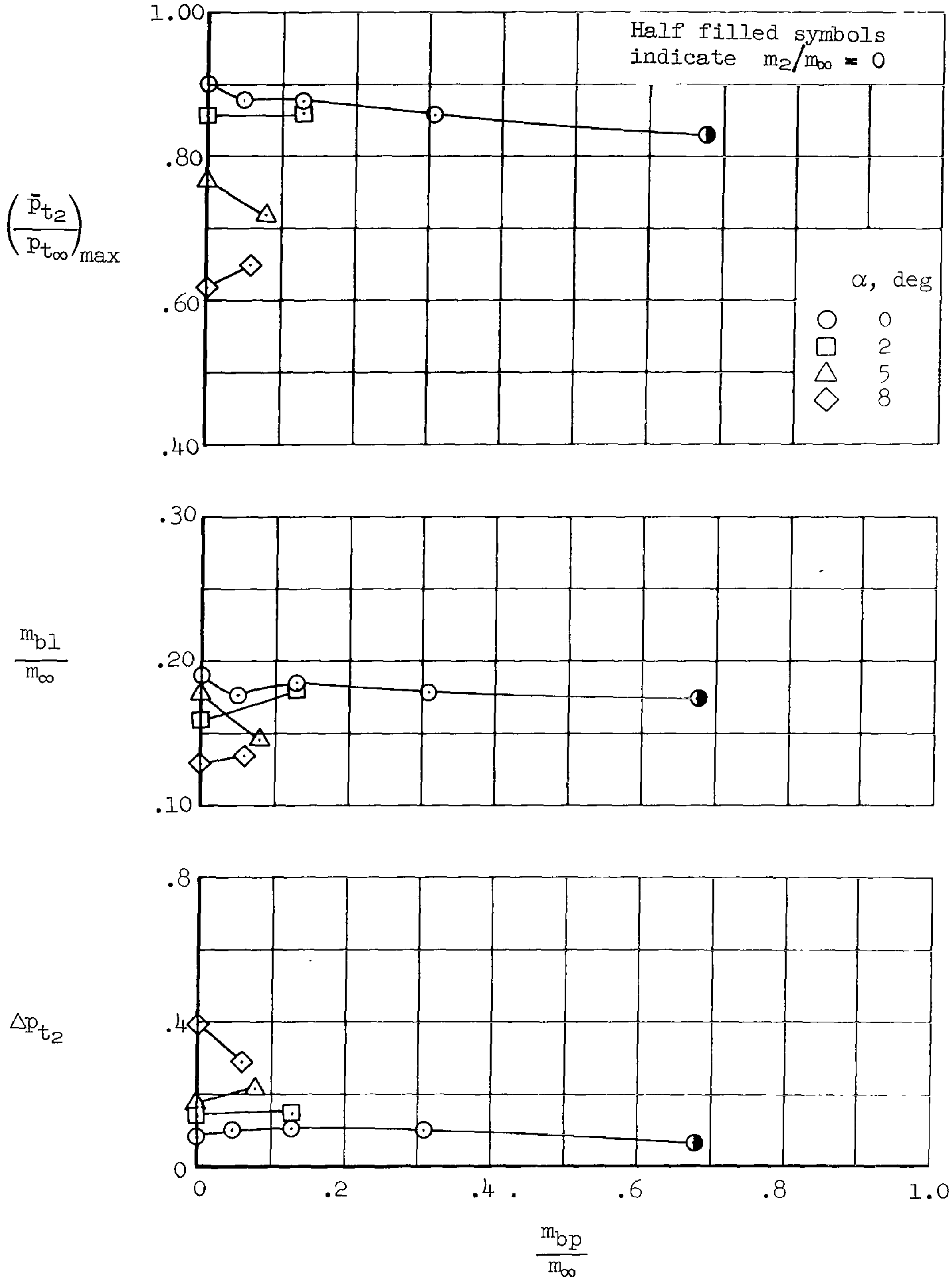
(a) $M_\infty = 3.25$

Figure 36.- Off-design maximum performance at angle of attack for various amounts of bypass mass flow, bleed exit setting B.



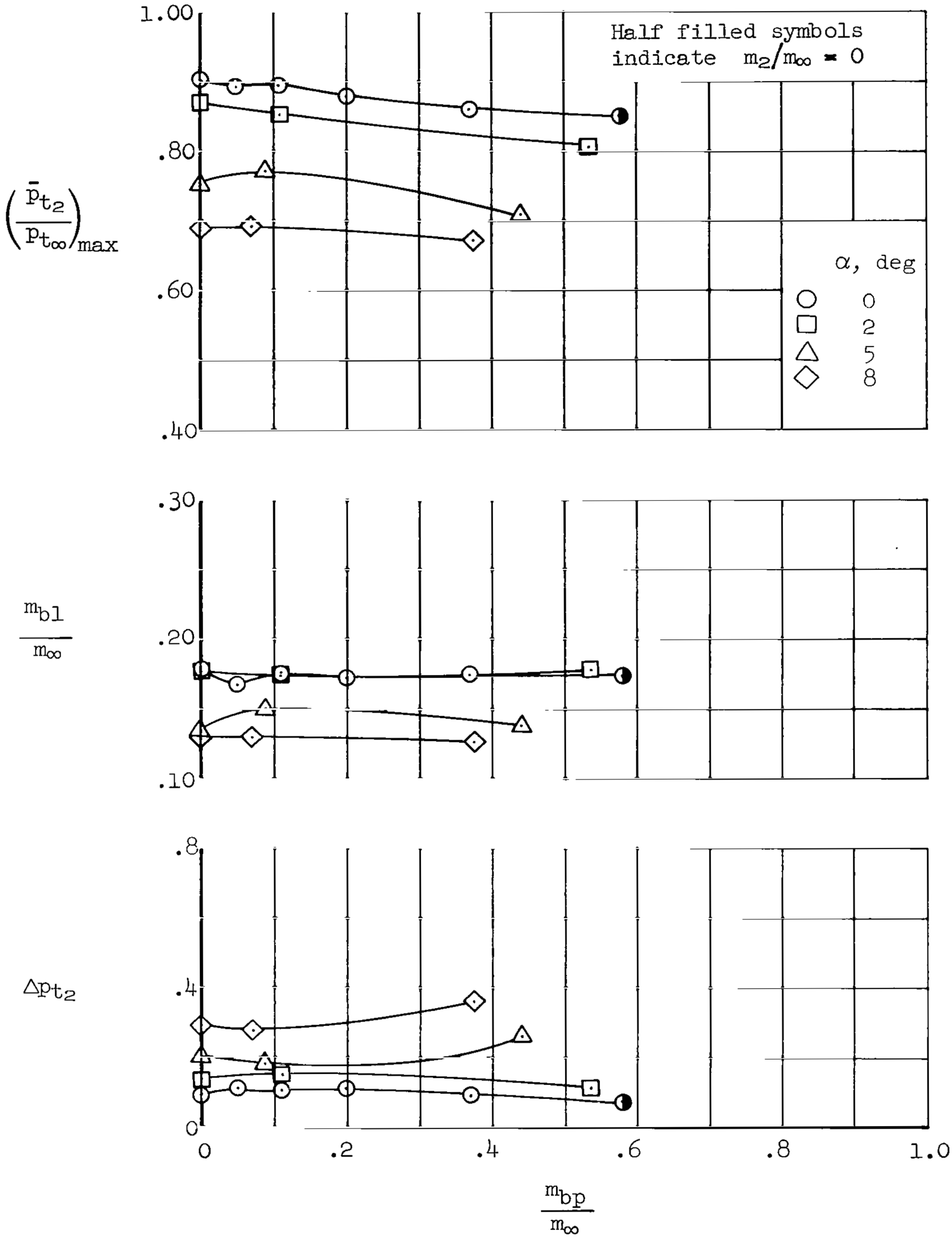
(b) $M_\infty = 3.00$

Figure 36.- Continued.



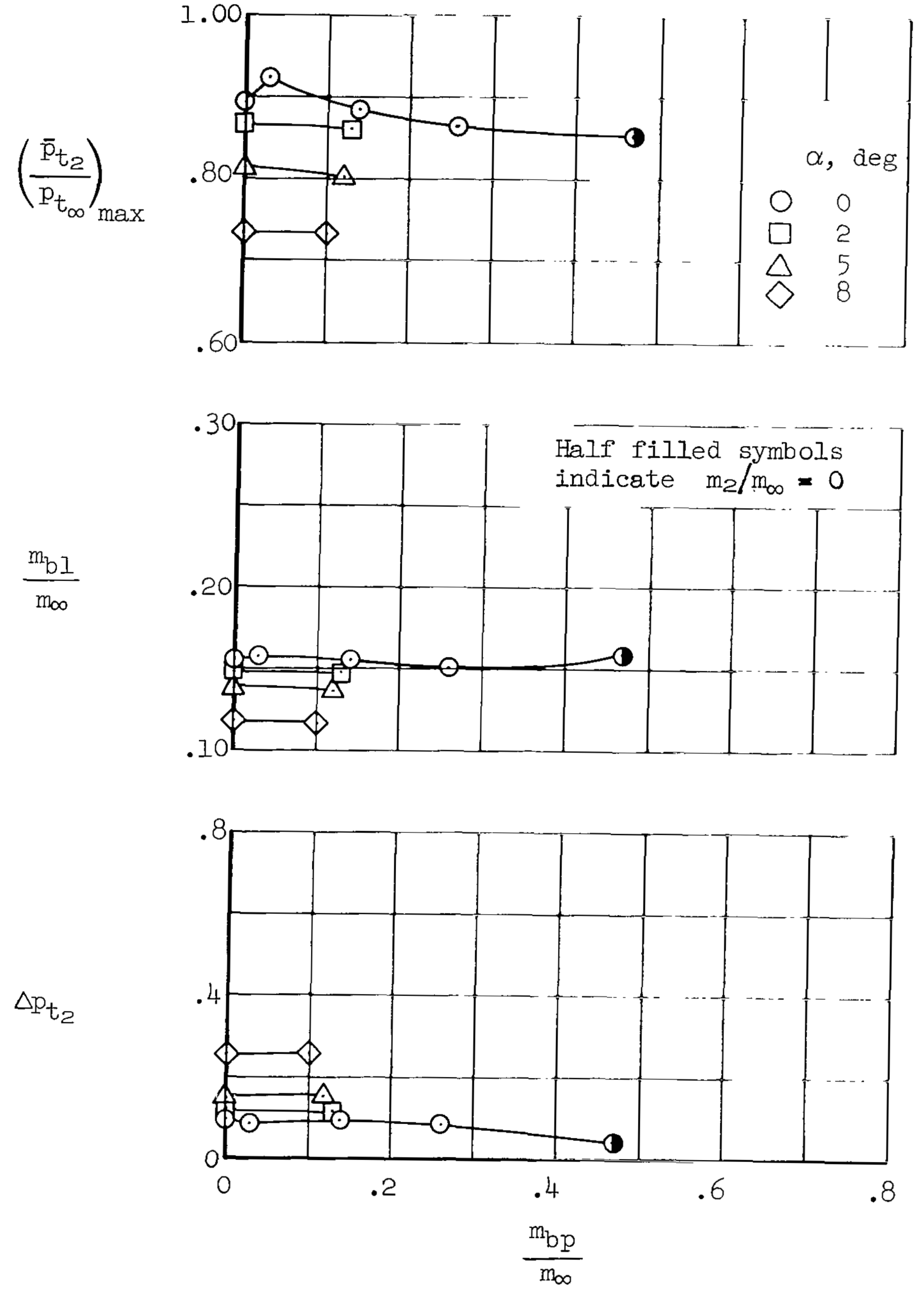
(c) $M_\infty = 2.75$

Figure 36.- Continued.



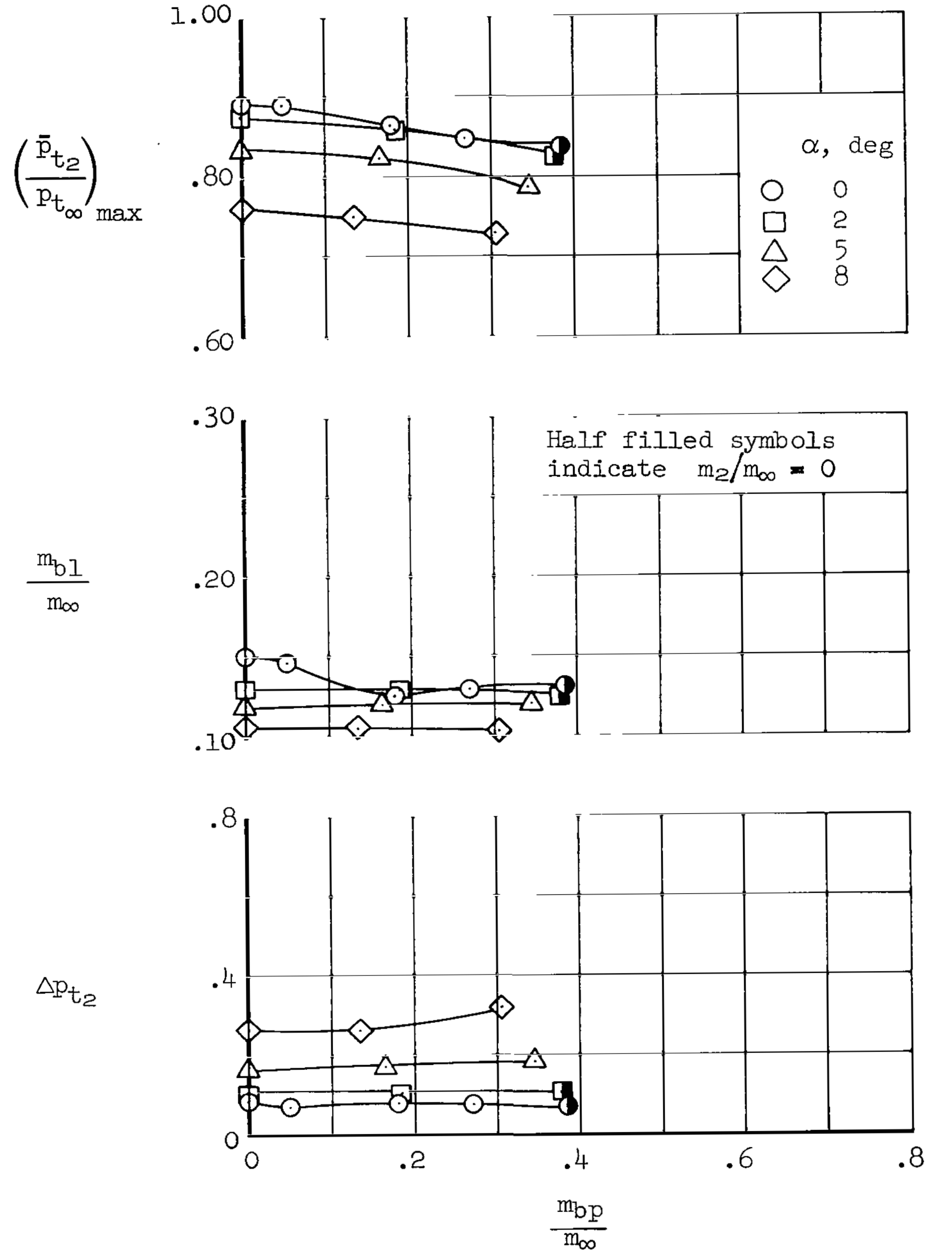
(d) $M_\infty = 2.50$

Figure 36.- Continued.



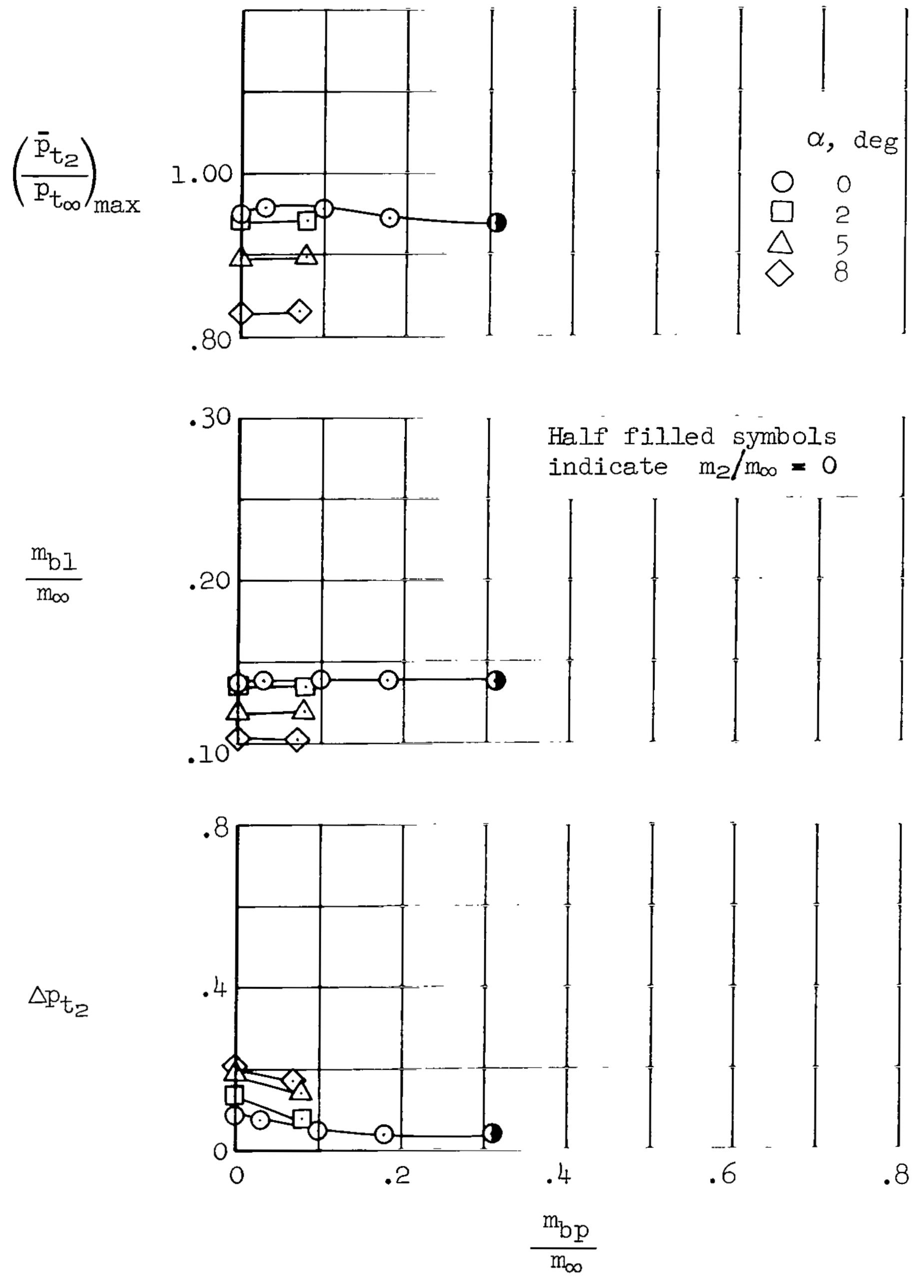
(e) $M_\infty = 2.25$

Figure 36.- Continued.



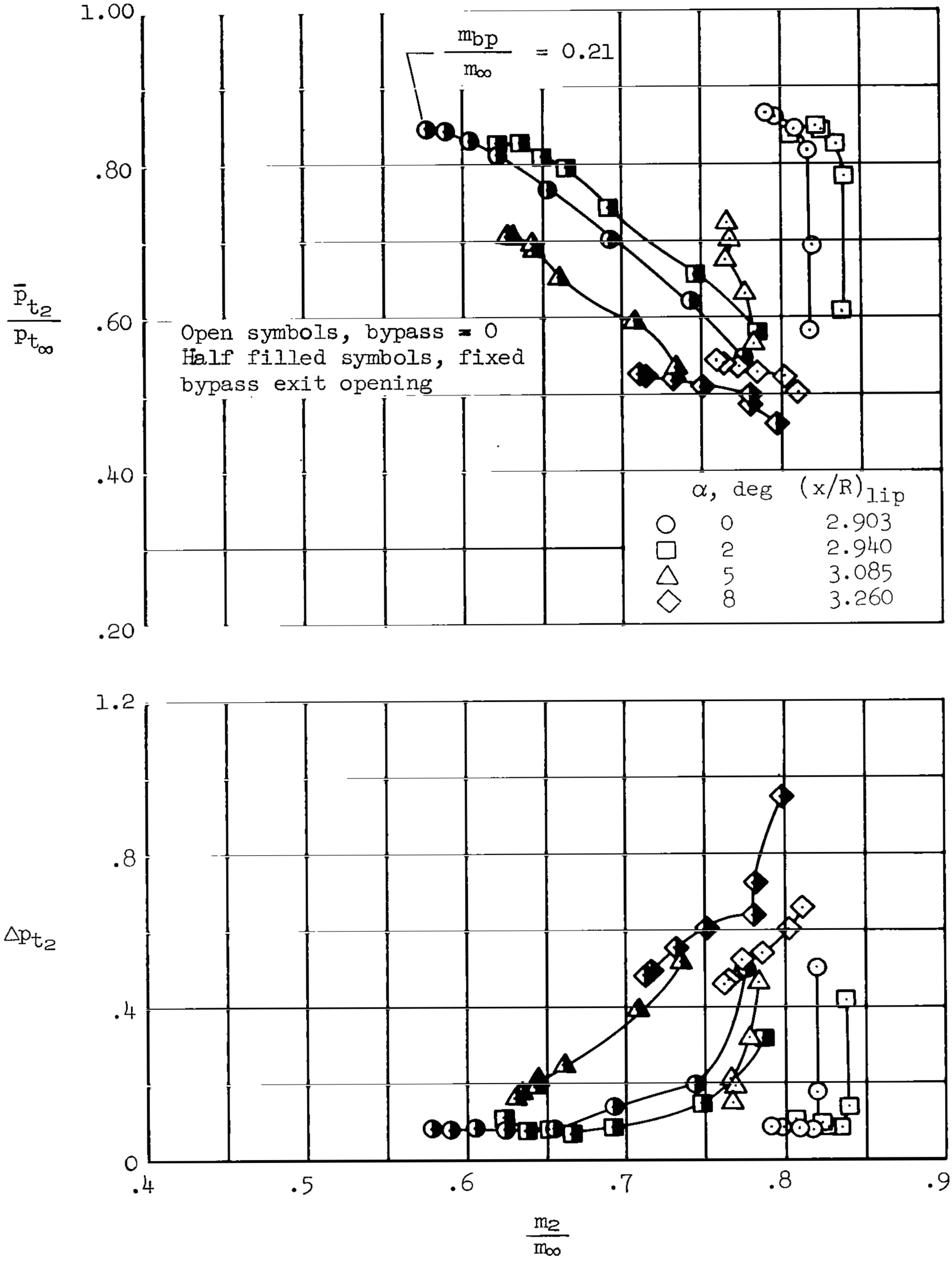
(f) $M_\infty = 2.00$

Figure 36.- Continued.



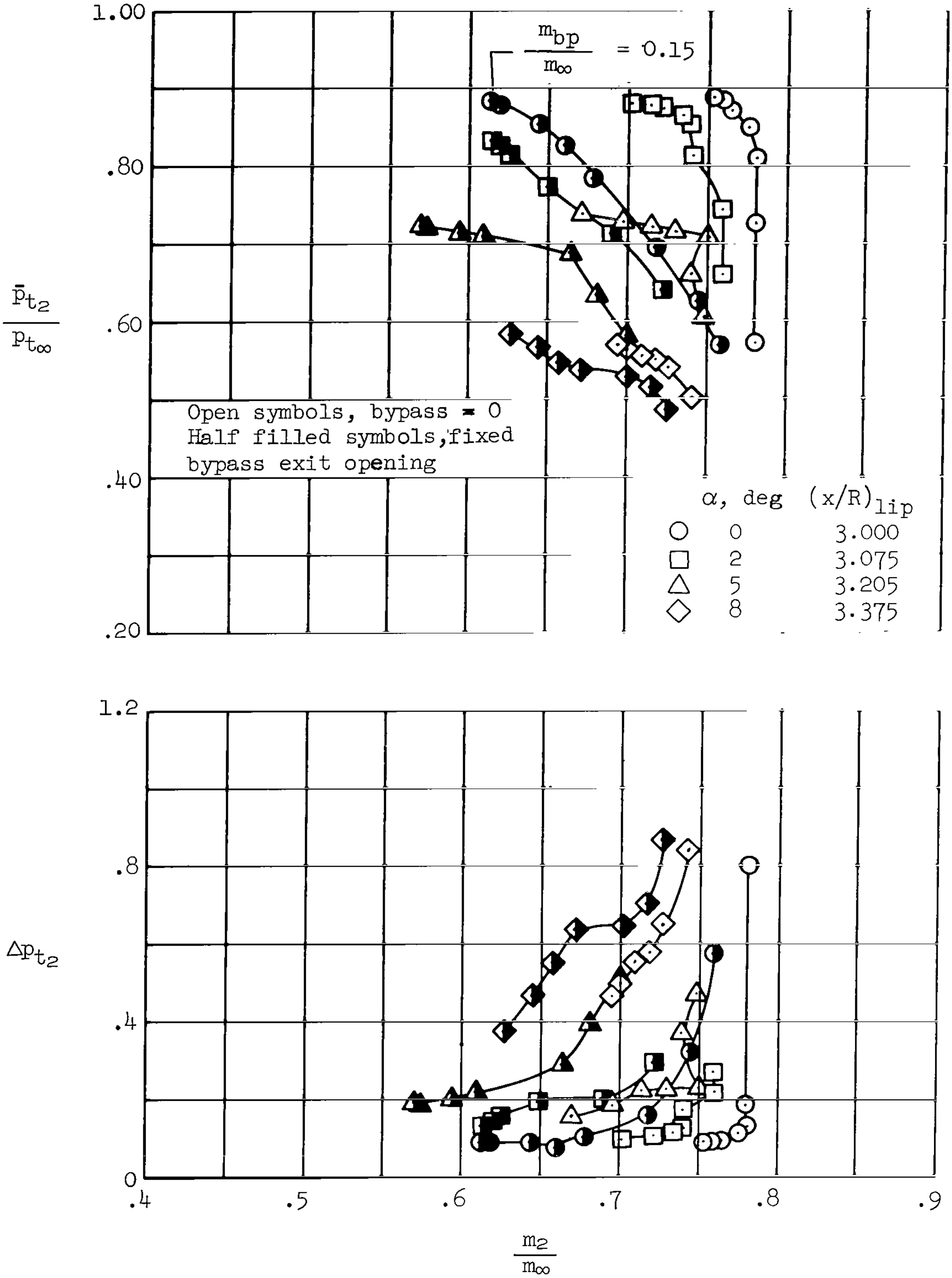
(g) $M_\infty = 1.75$

Figure 36.- Concluded.



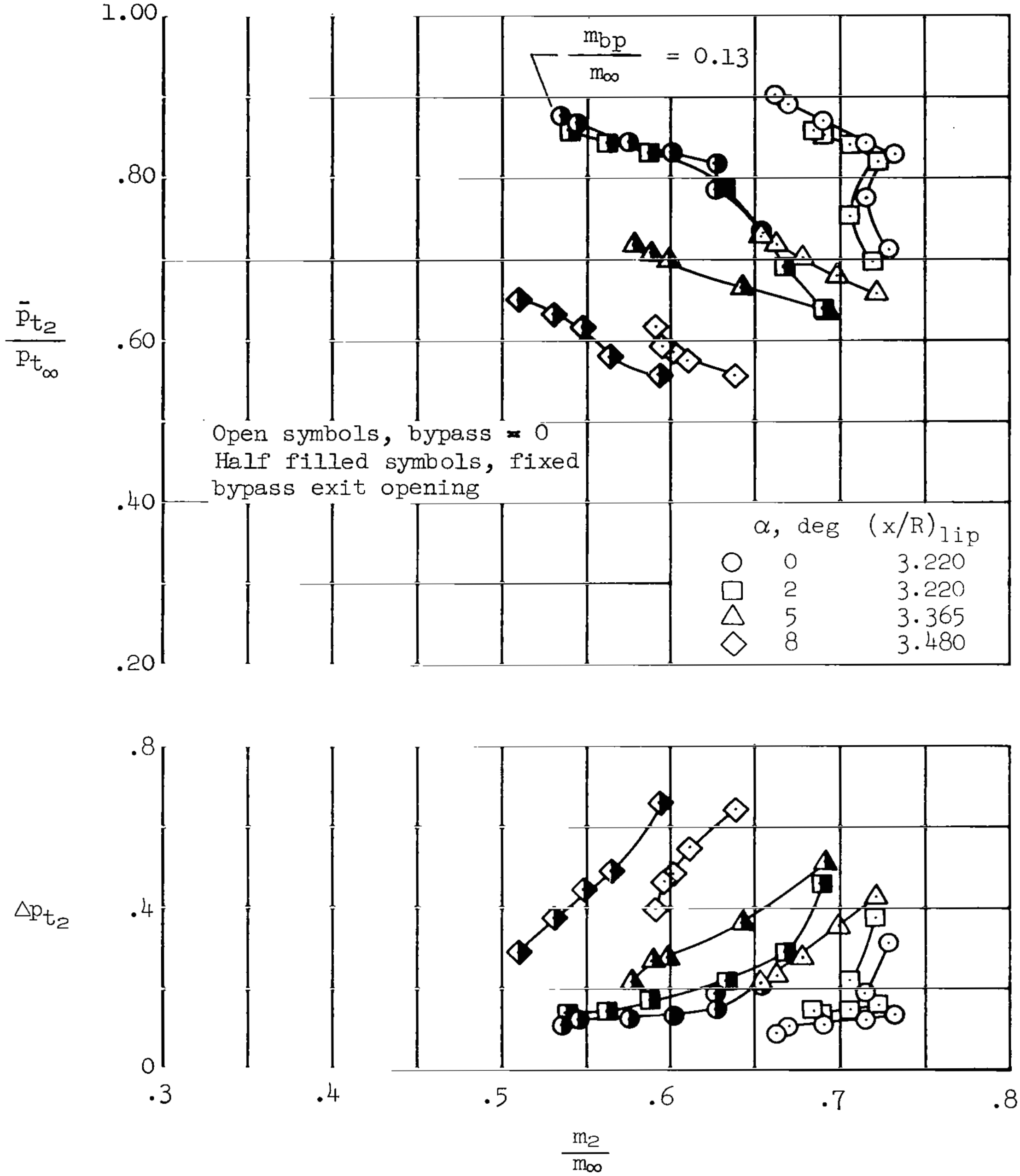
(a) $M_\infty = 3.25$

Figure 37.- Off-design supercritical performance at angle of attack with and without bypass, bleed exit setting B.



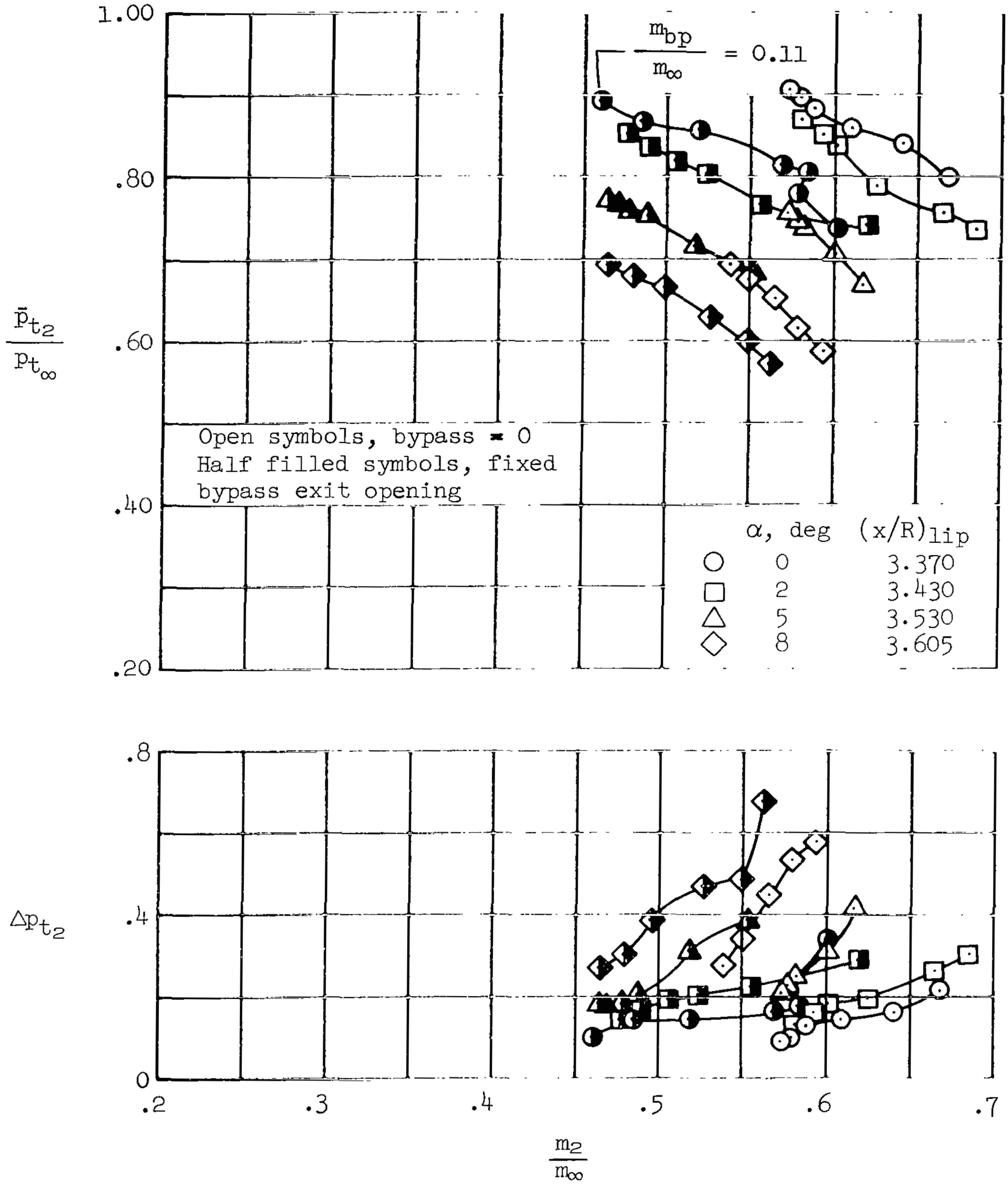
(b) $M_\infty = 3.00$

Figure 37.- Continued.



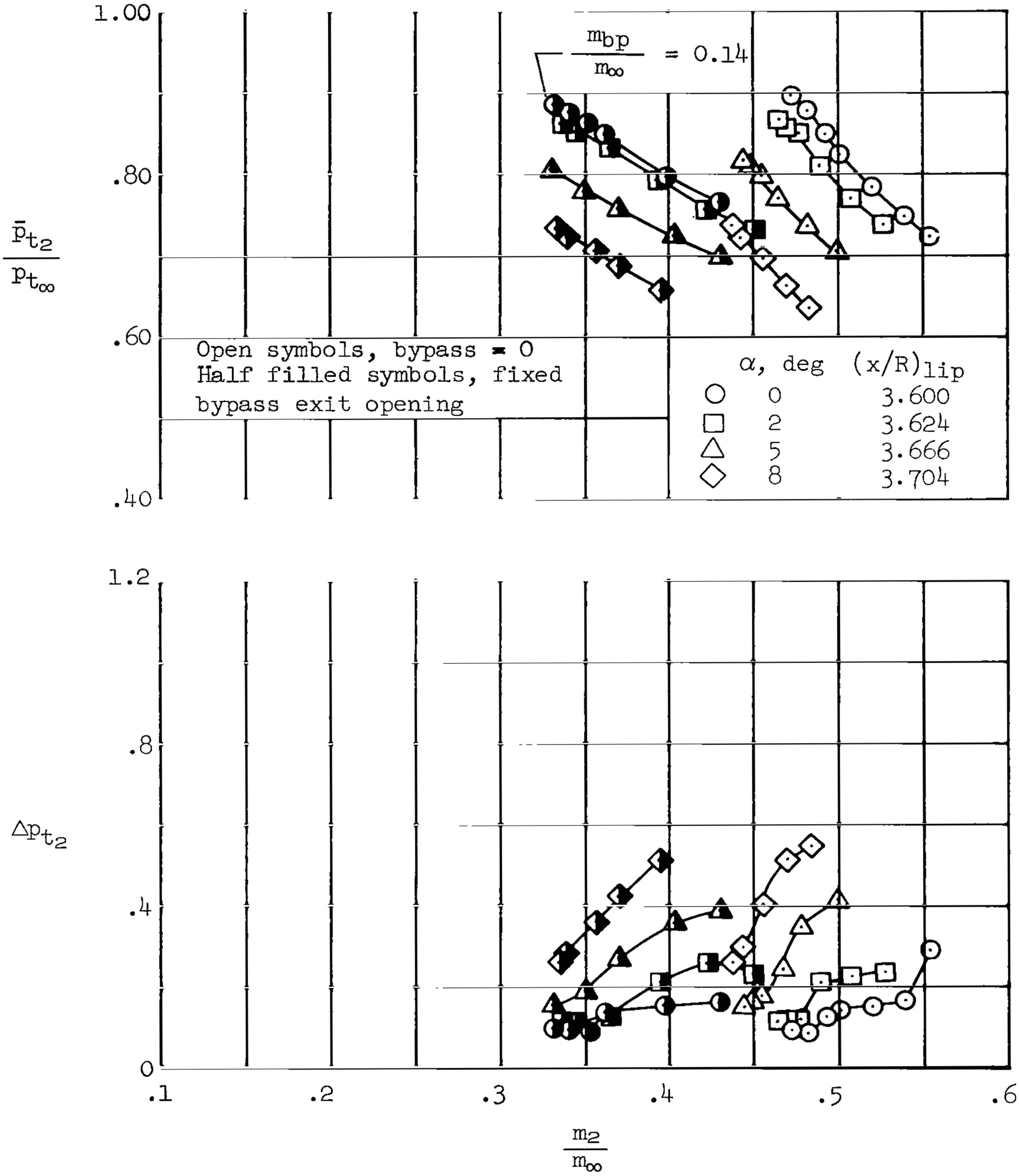
(c) $M_\infty = 2.75$

Figure 37.- Continued.



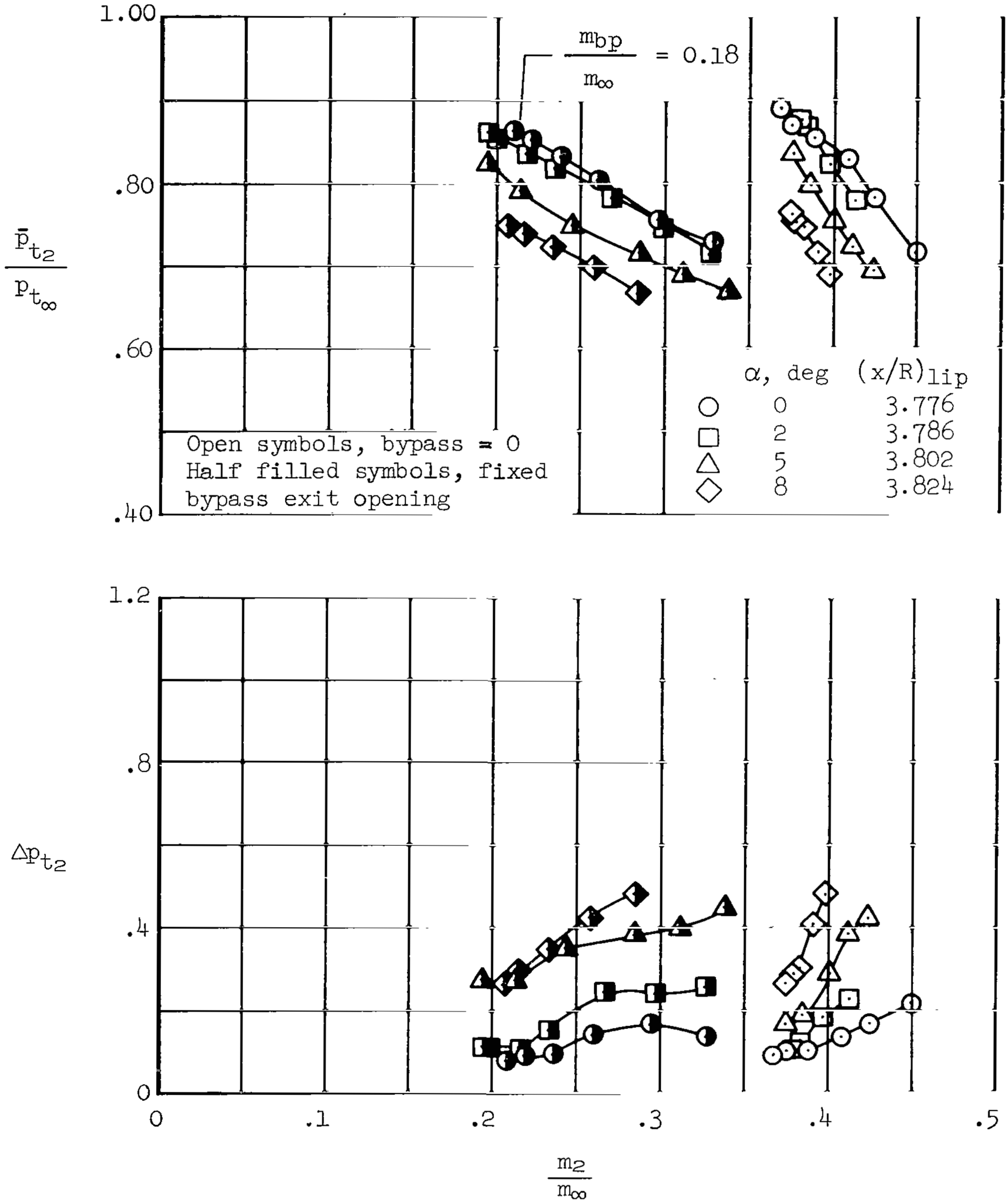
(d) $M_\infty = 2.50$

Figure 37.- Continued.



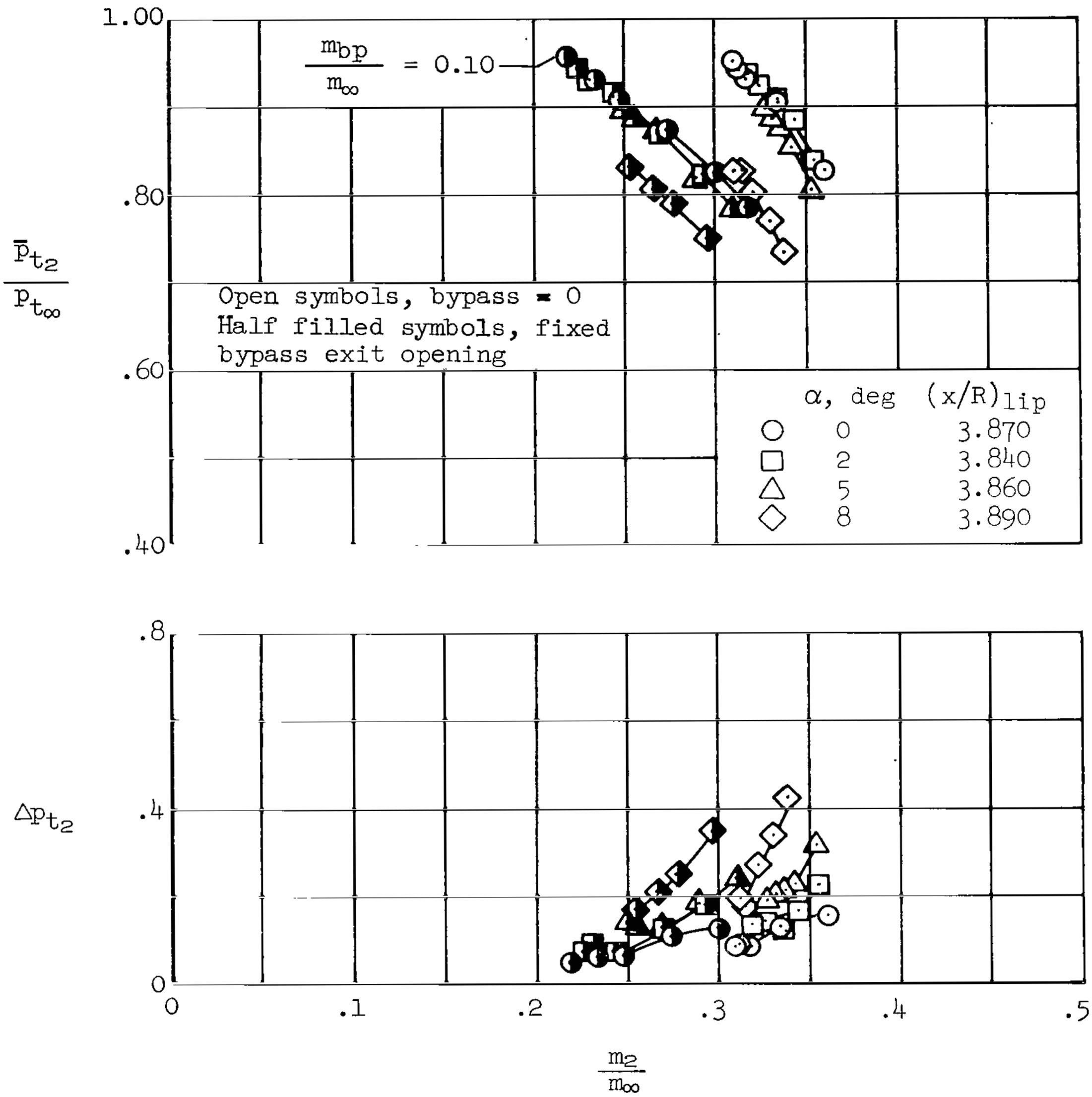
(e) $M_\infty = 2.25$

Figure 37.- Continued.



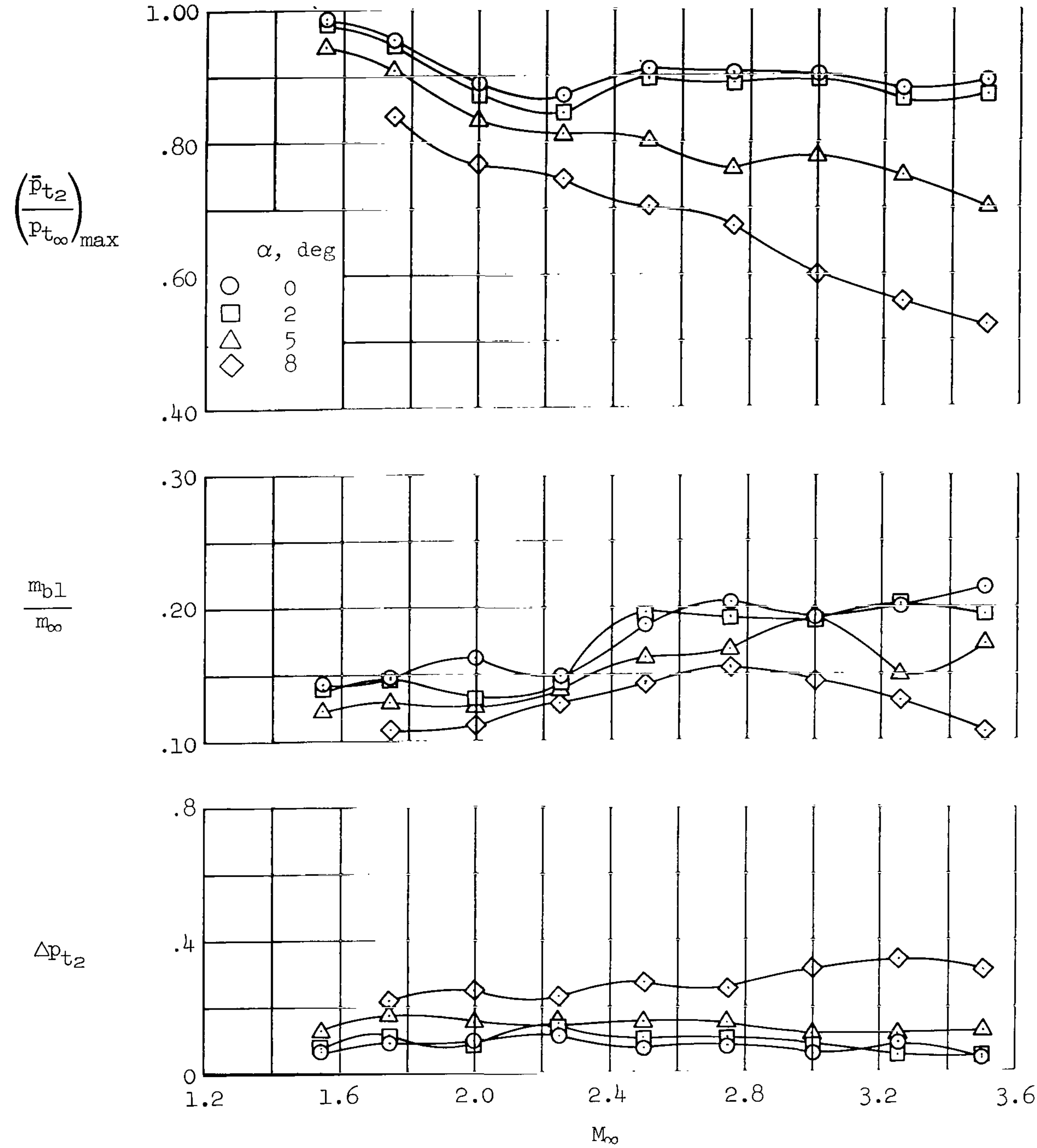
(f) $M_\infty = 2.00$

Figure 37.- Continued.



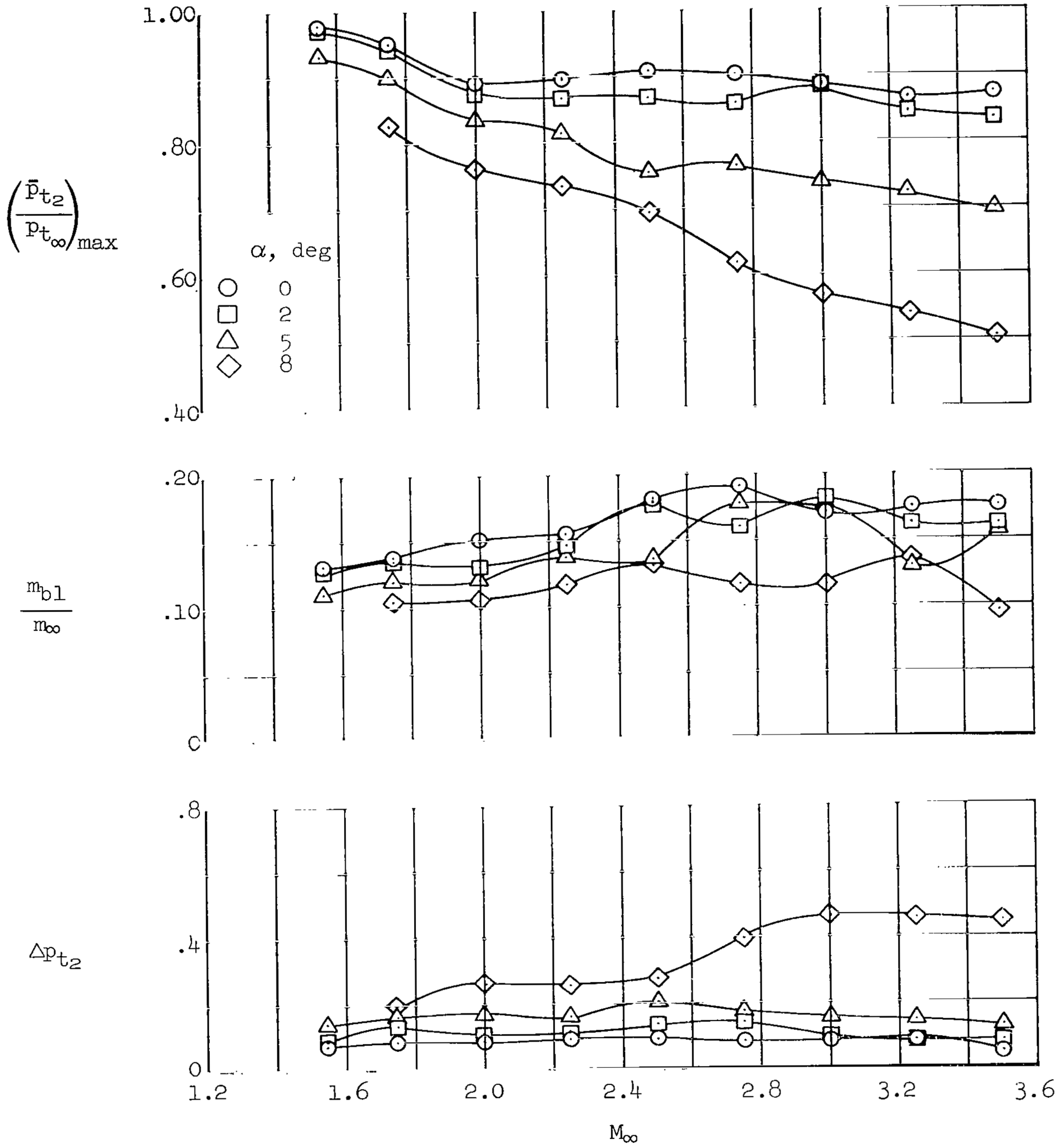
(g) $M_\infty = 1.75$

Figure 37.- Concluded.



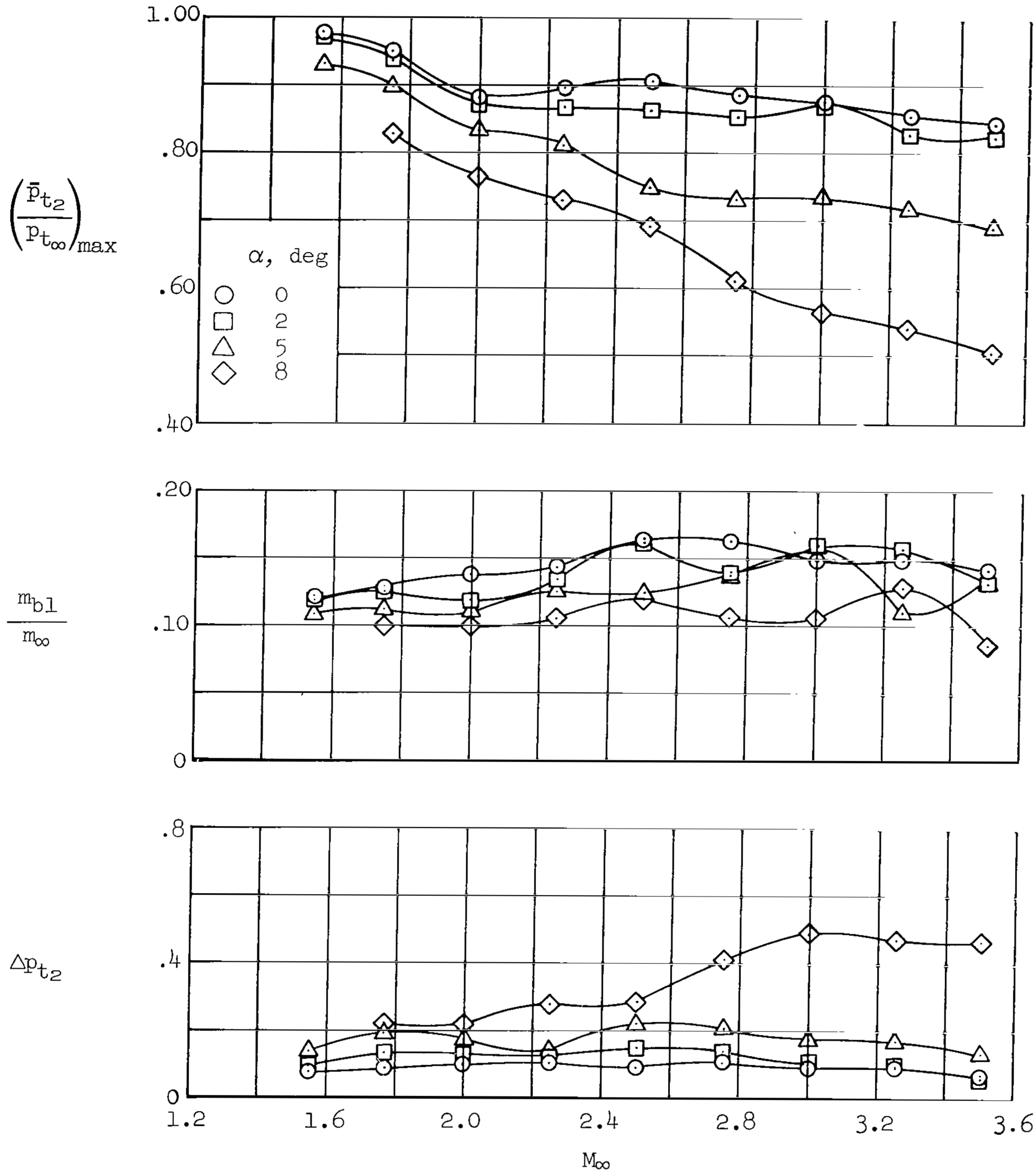
(a) Bleed exit setting A

Figure 38.- Maximum performance at angle of attack; $m_{bp}/m_\infty = 0$.



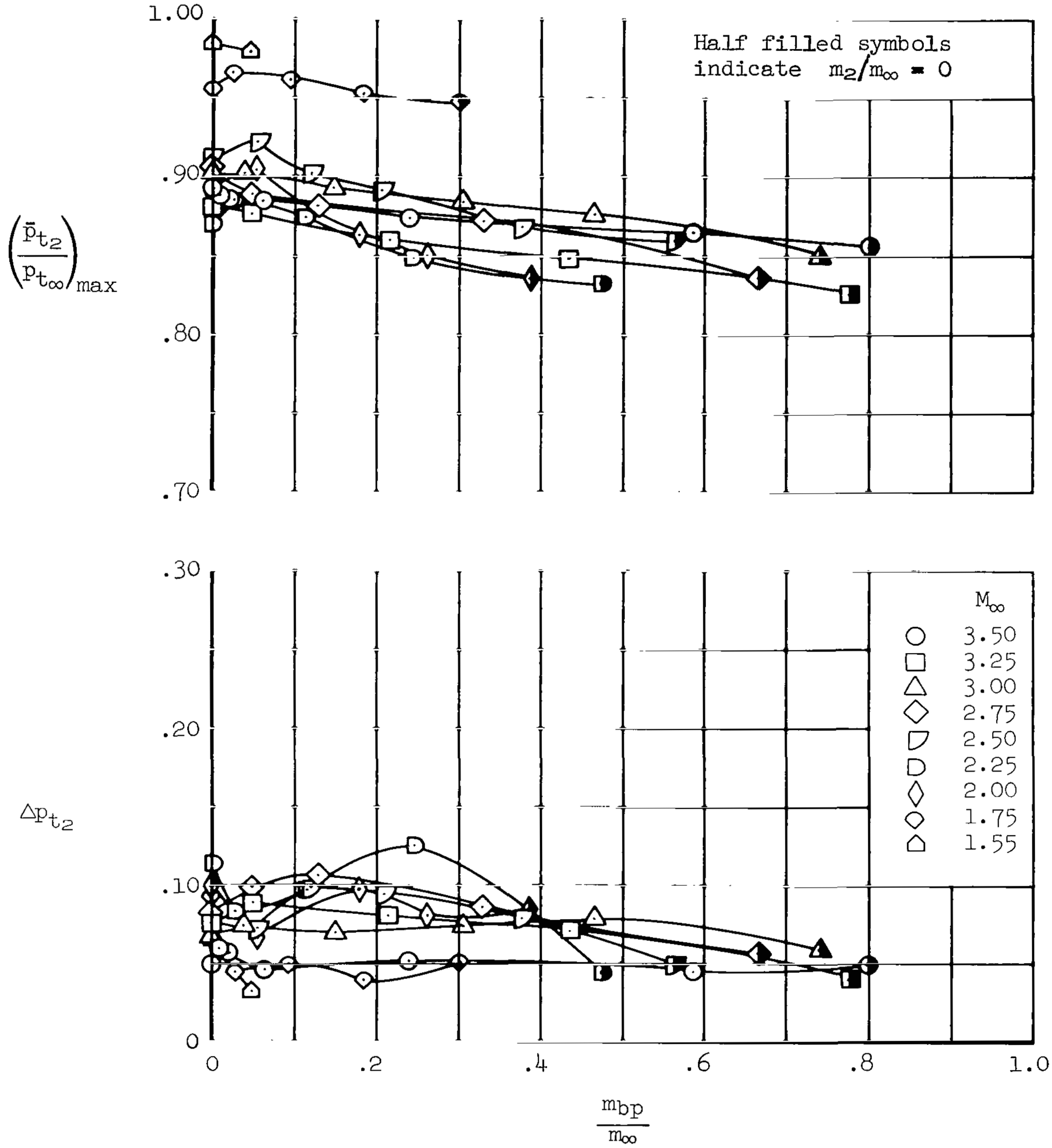
(b) Bleed exit setting B

Figure 38.- Continued.



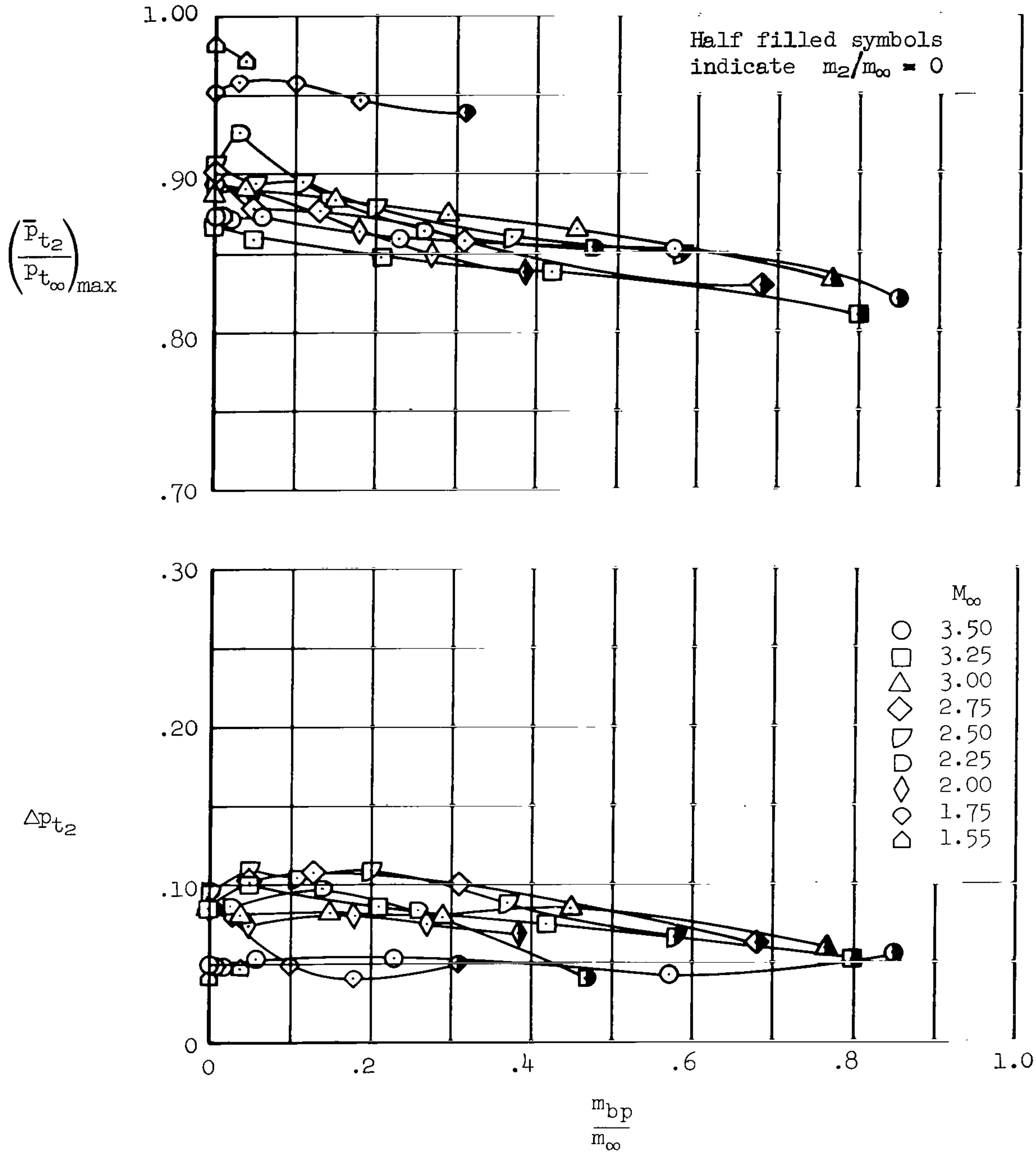
(c) Bleed exit setting C

Figure 38.- Concluded.



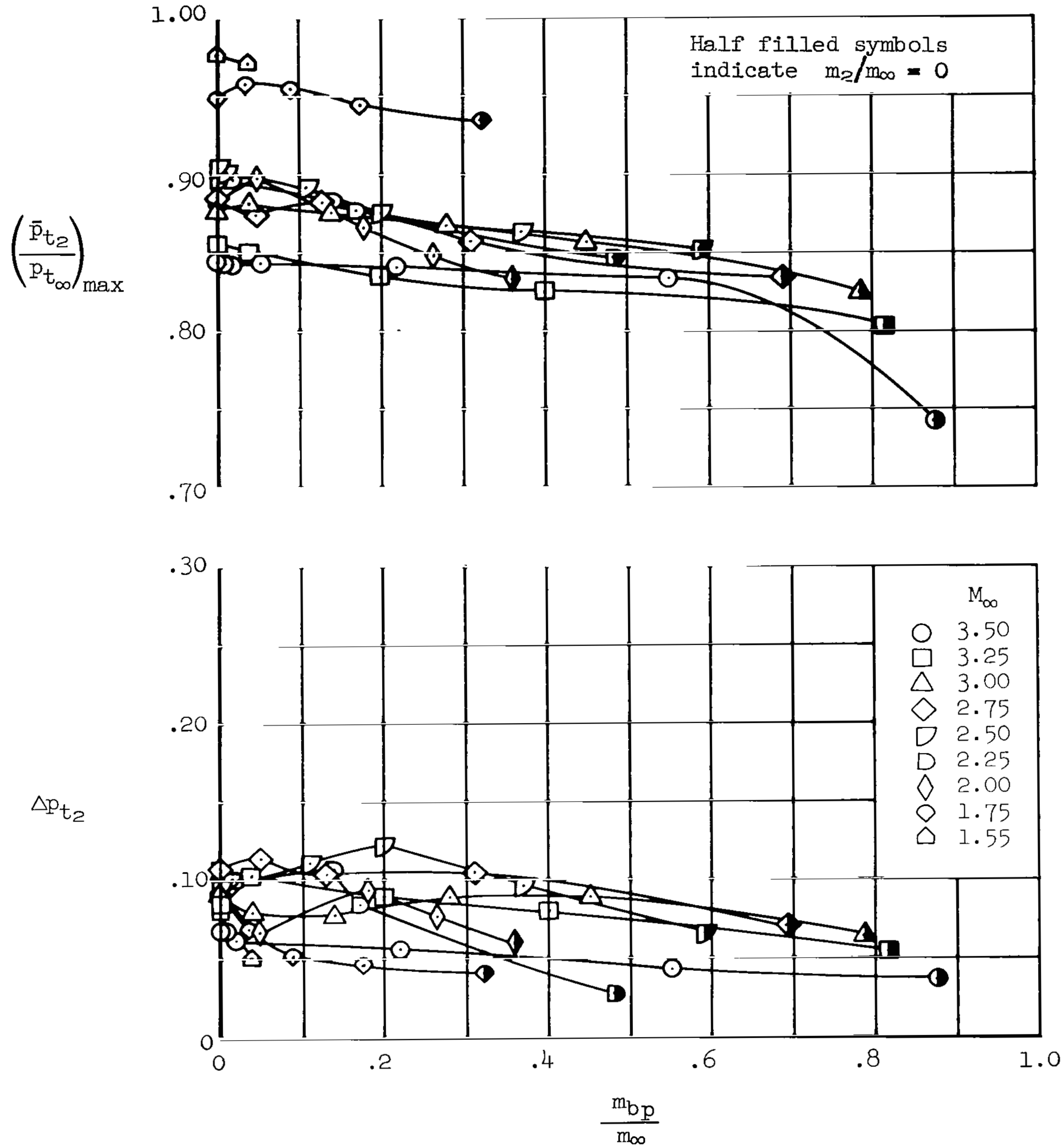
(a) Bleed exit setting A

Figure 39.- Maximum performance for various amounts of bypass mass flow; $\alpha = 0°$.



(b) Bleed exit setting B

Figure 39.- Continued.



(c) Bleed exit setting C

Figure 39.- Concluded.

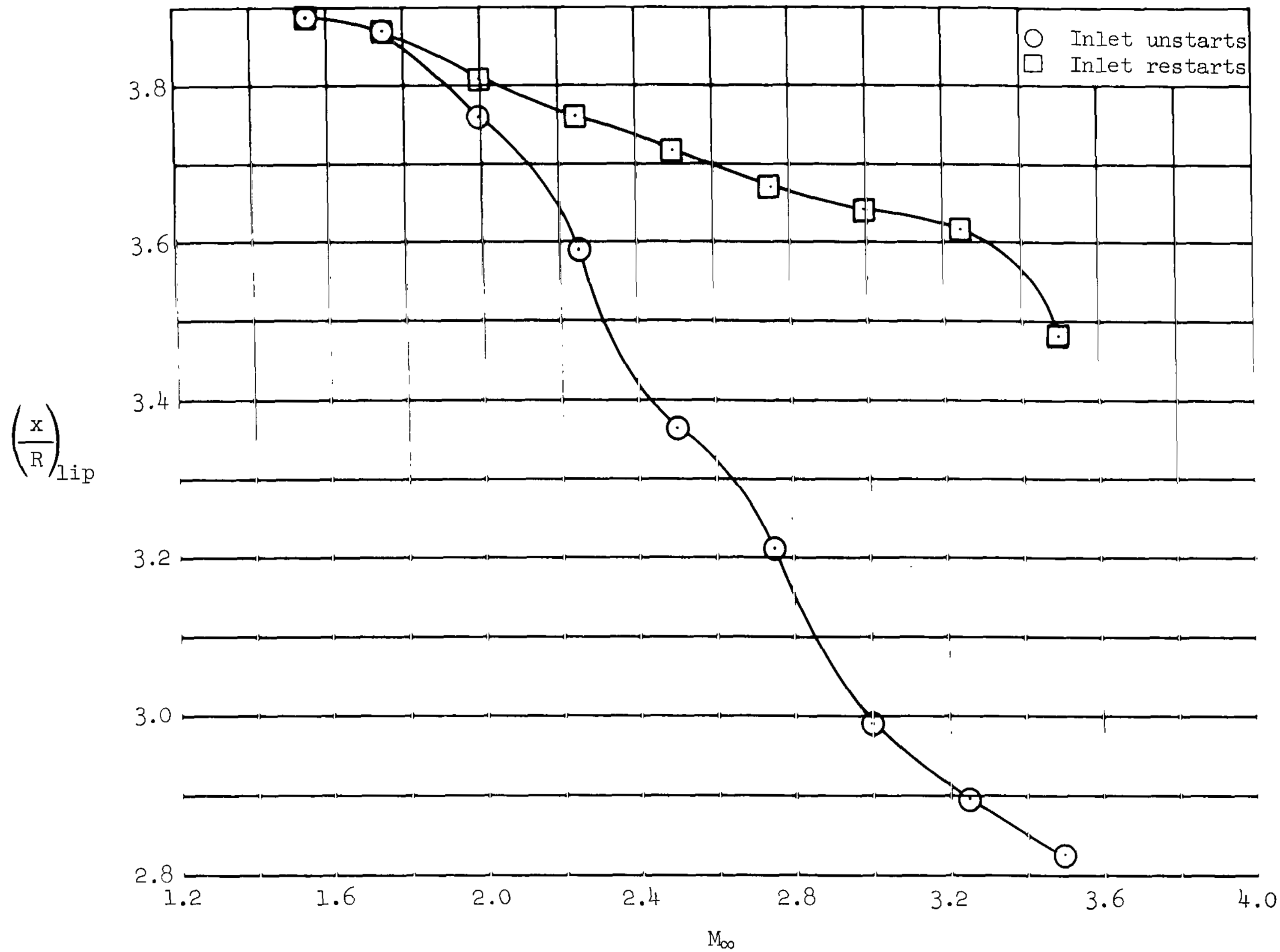


Figure 40.- Inlet unstart and restart cowl-lip position; $\alpha = 0^\circ$.

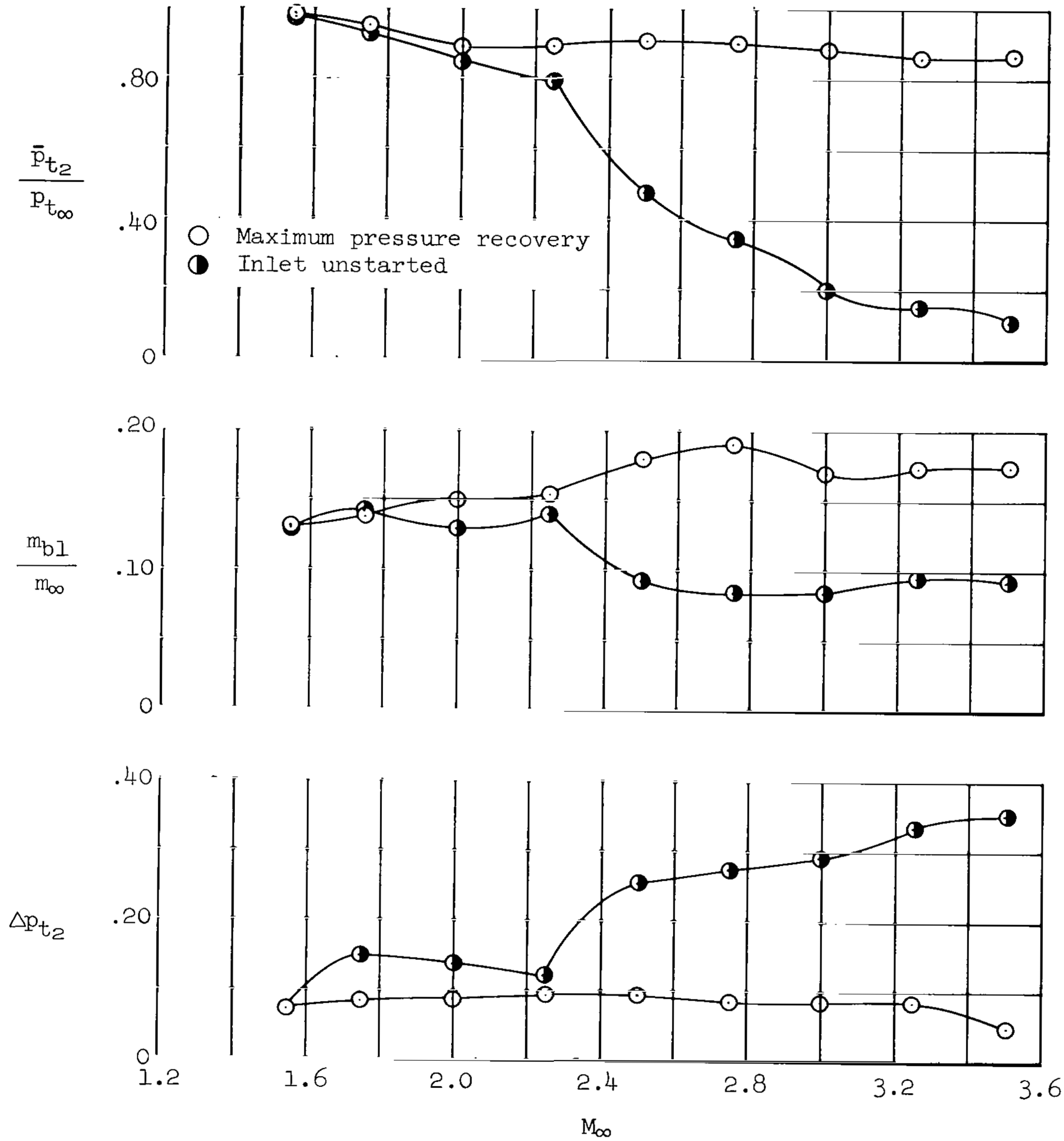


Figure 41.- Effect of unstarting the inlet on the main performance parameters, bleed exit setting B; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.

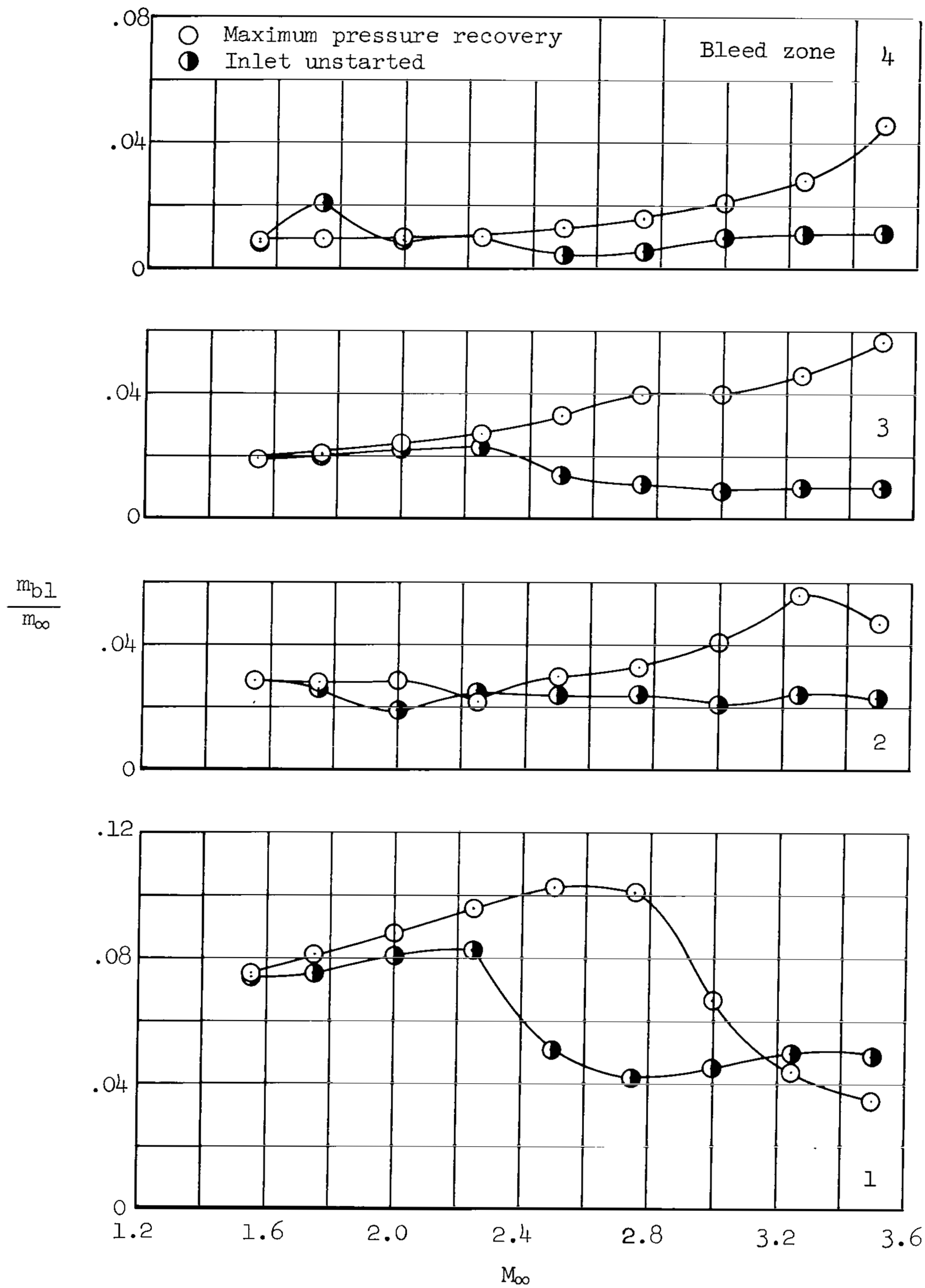


Figure 42.- Effect of unstarting the inlet on the individual bleed flows, bleed exit setting B; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.

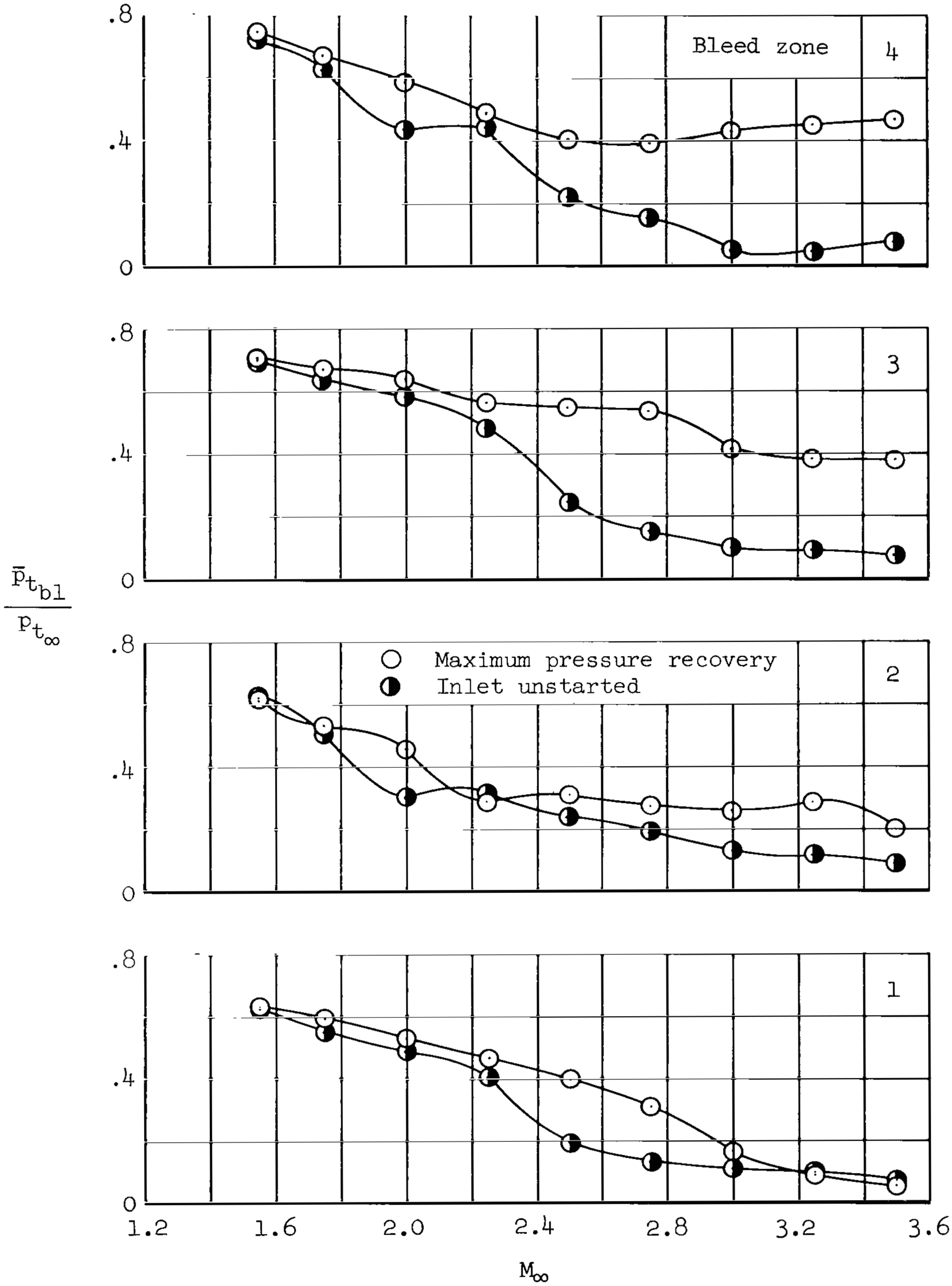
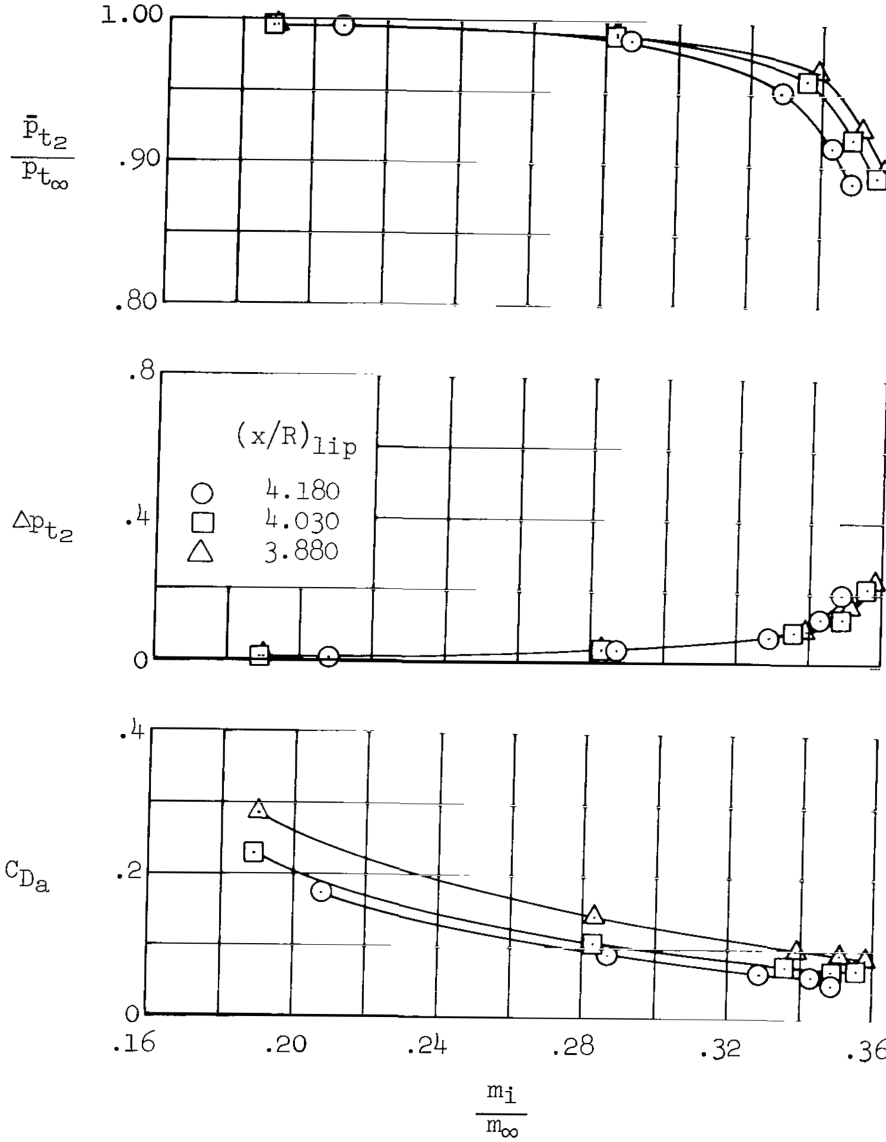
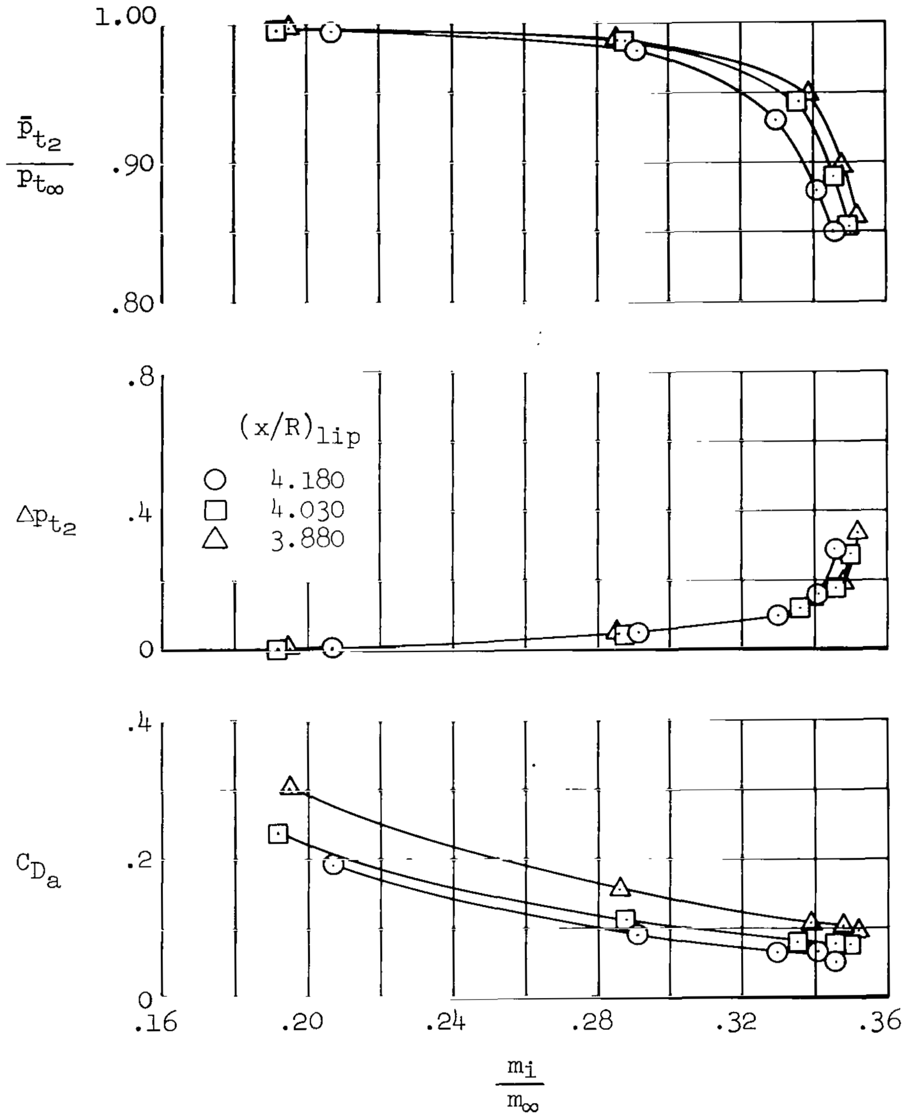


Figure 43.- Effect of unstarting the inlet on the individual bleed plenum chamber pressure recoveries, bleed exit setting B; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



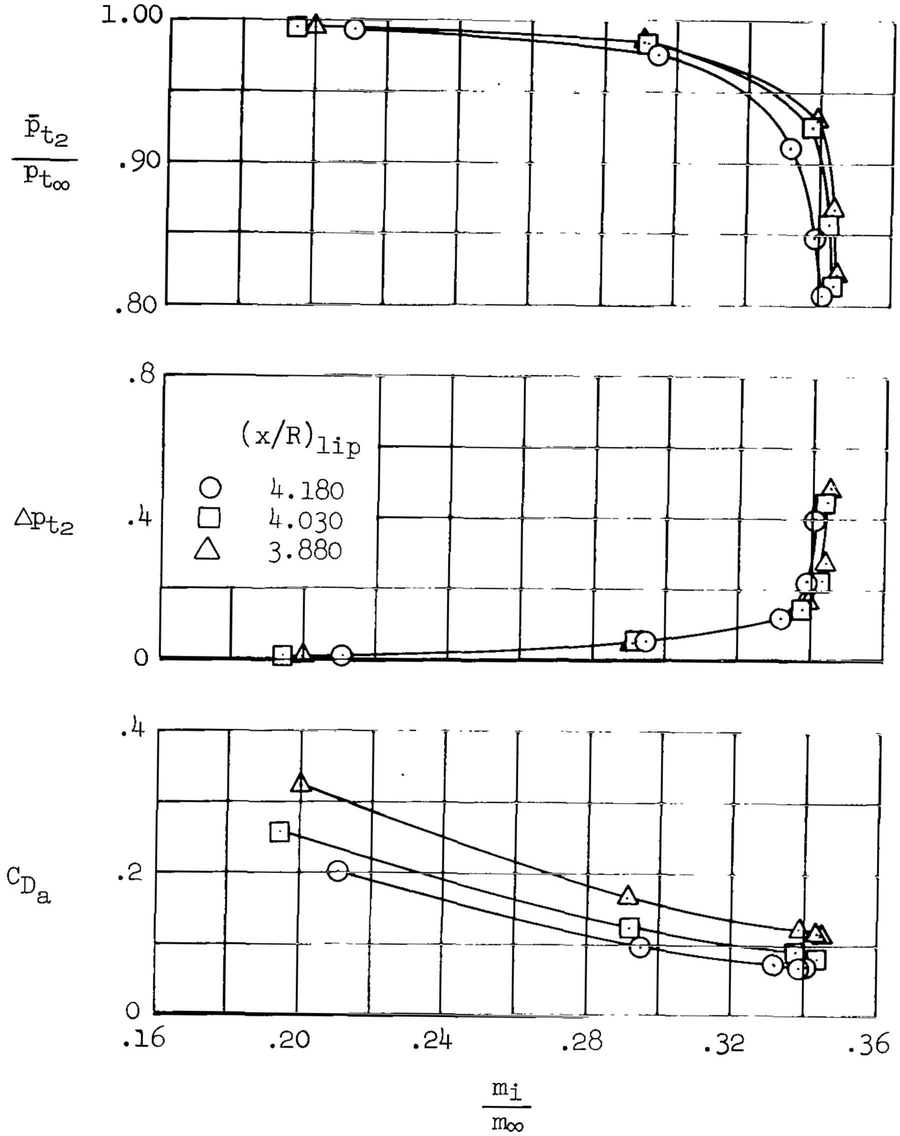
(a) $M_\infty = 0.6$

Figure 44.- Transonic performance, bleed exit setting B; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



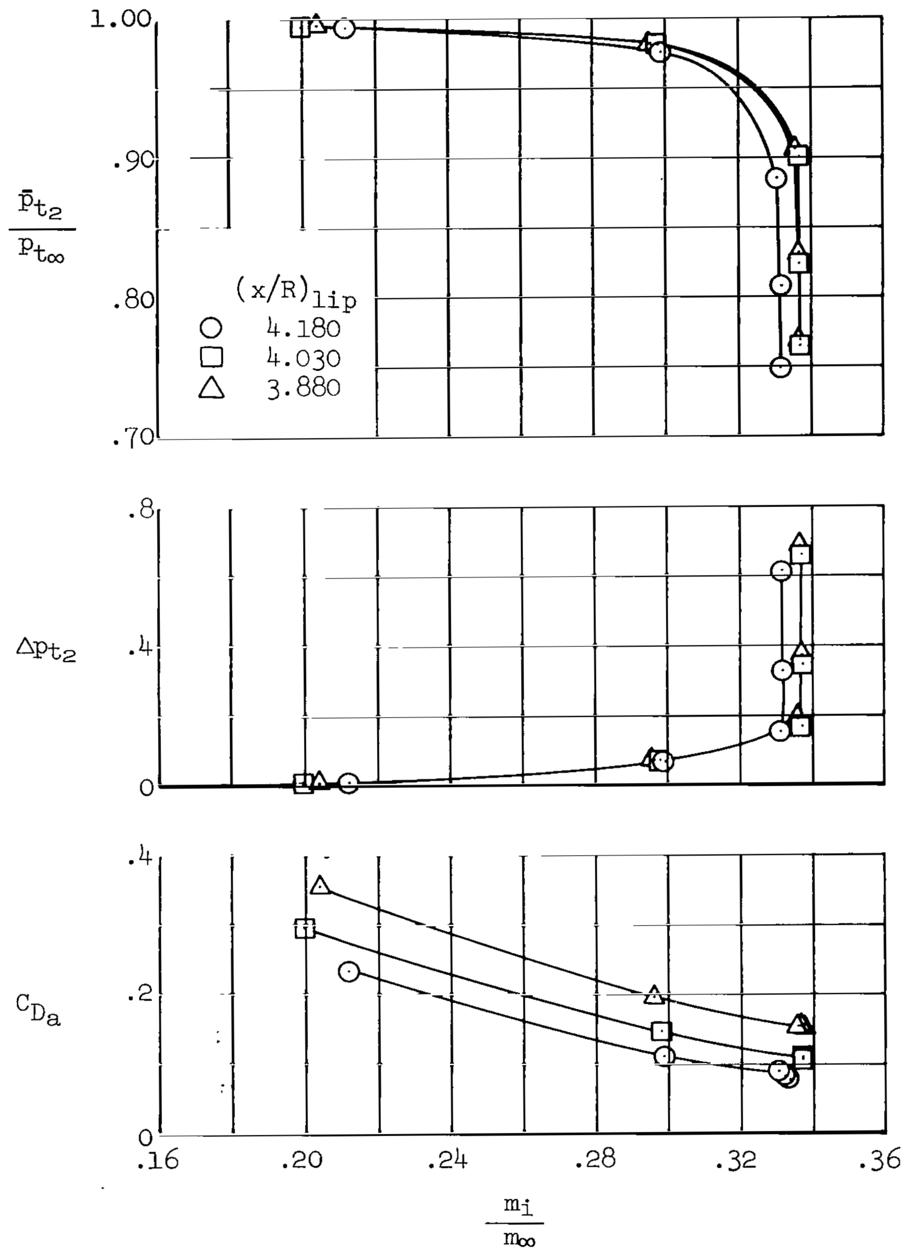
(b) $M_\infty = 0.7$

Figure 44.- Continued.



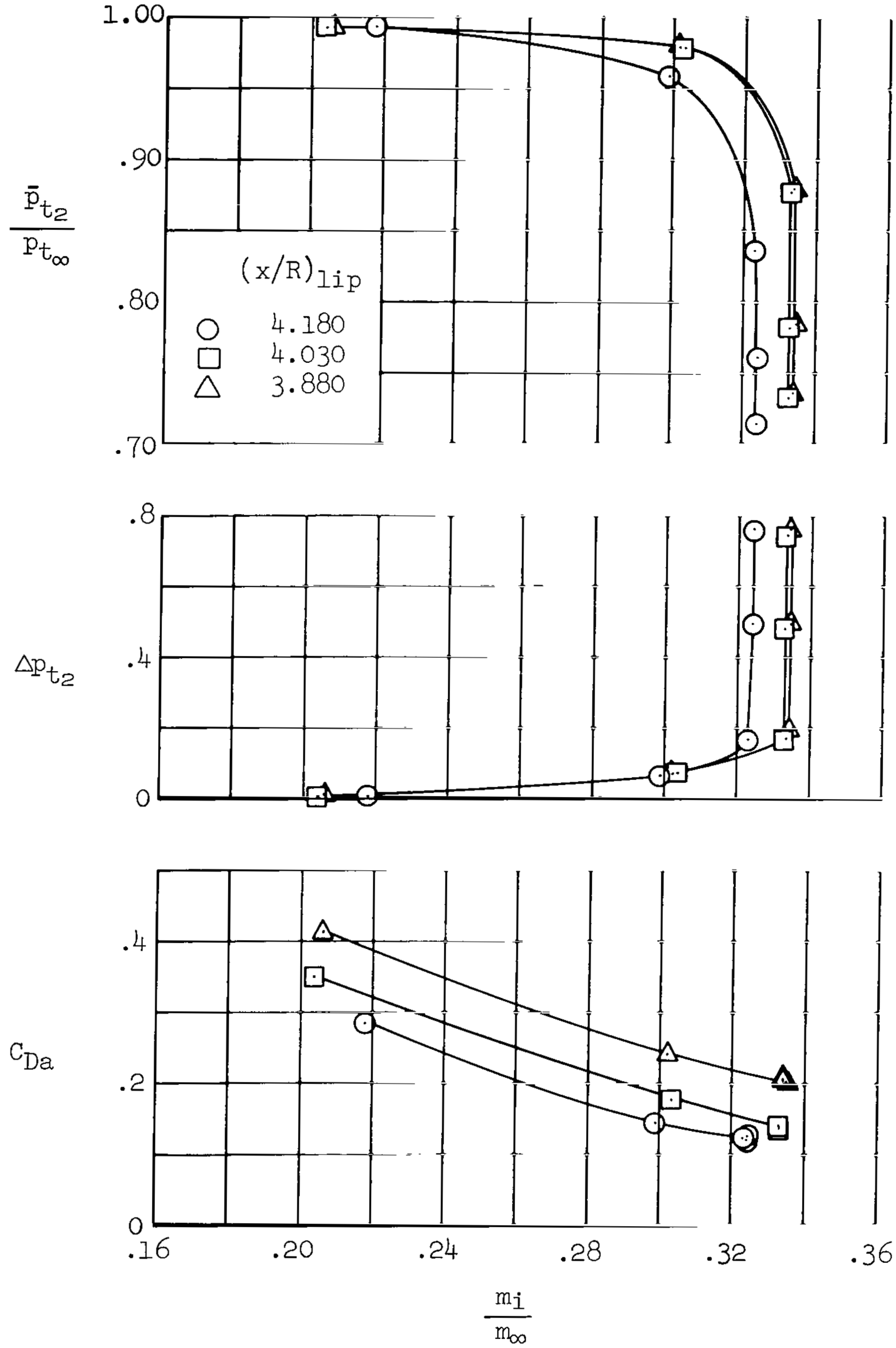
(c) $M_\infty = 0.8$

Figure 44.- Continued.



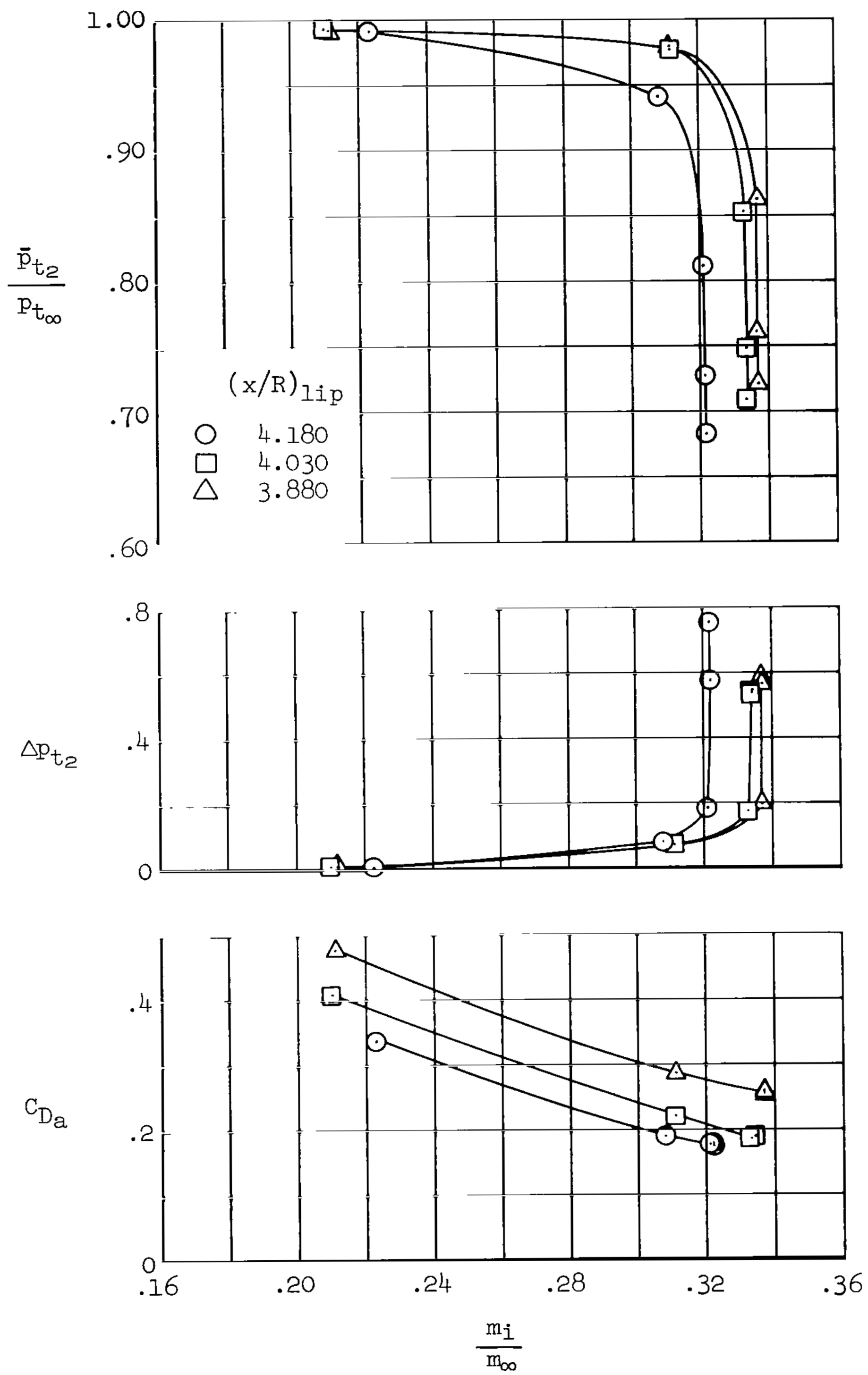
(d) $M_\infty = 0.9$

Figure 44.- Continued.



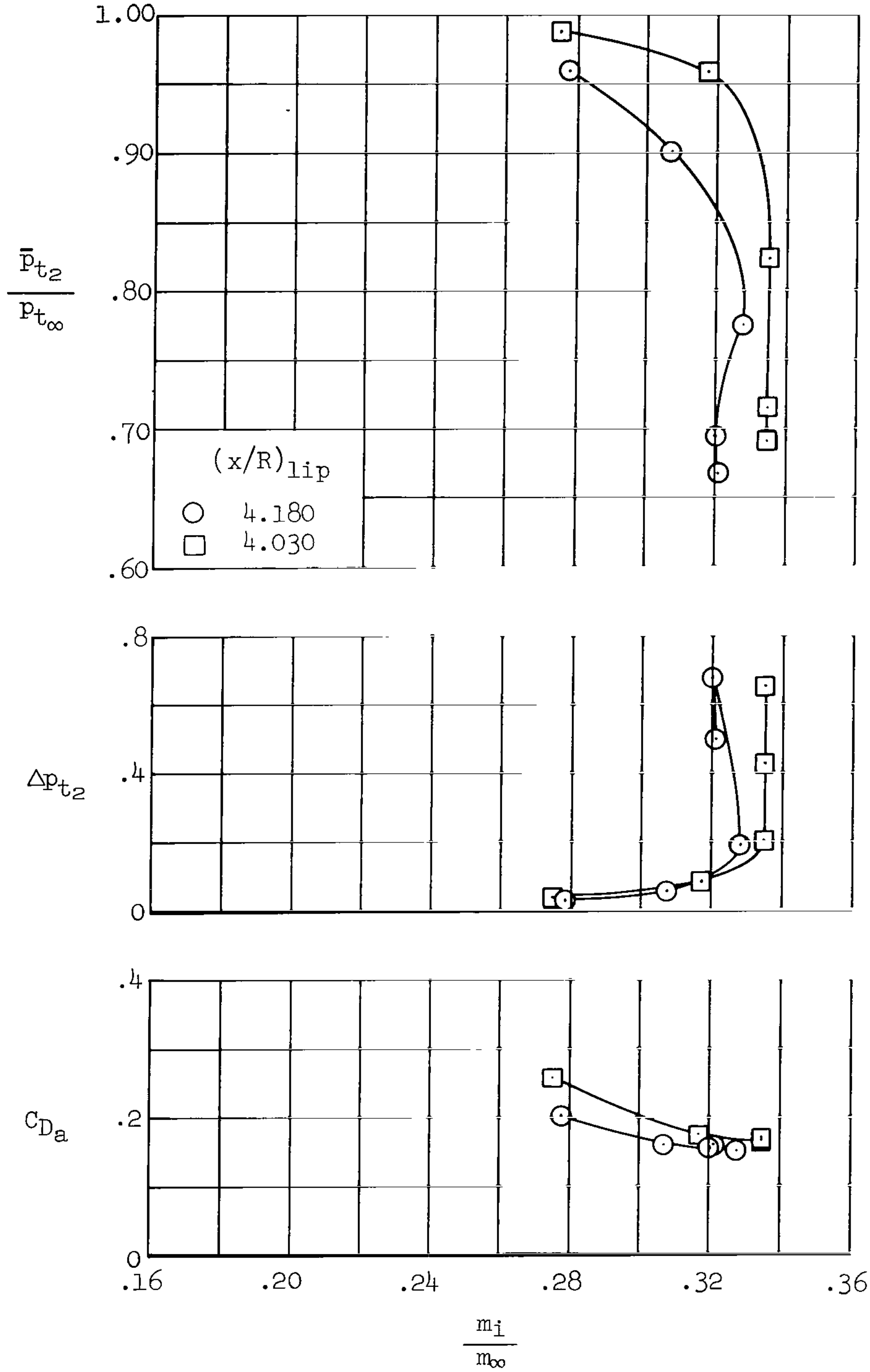
(e) $M_\infty = 1.0$

Figure 44.- Continued.



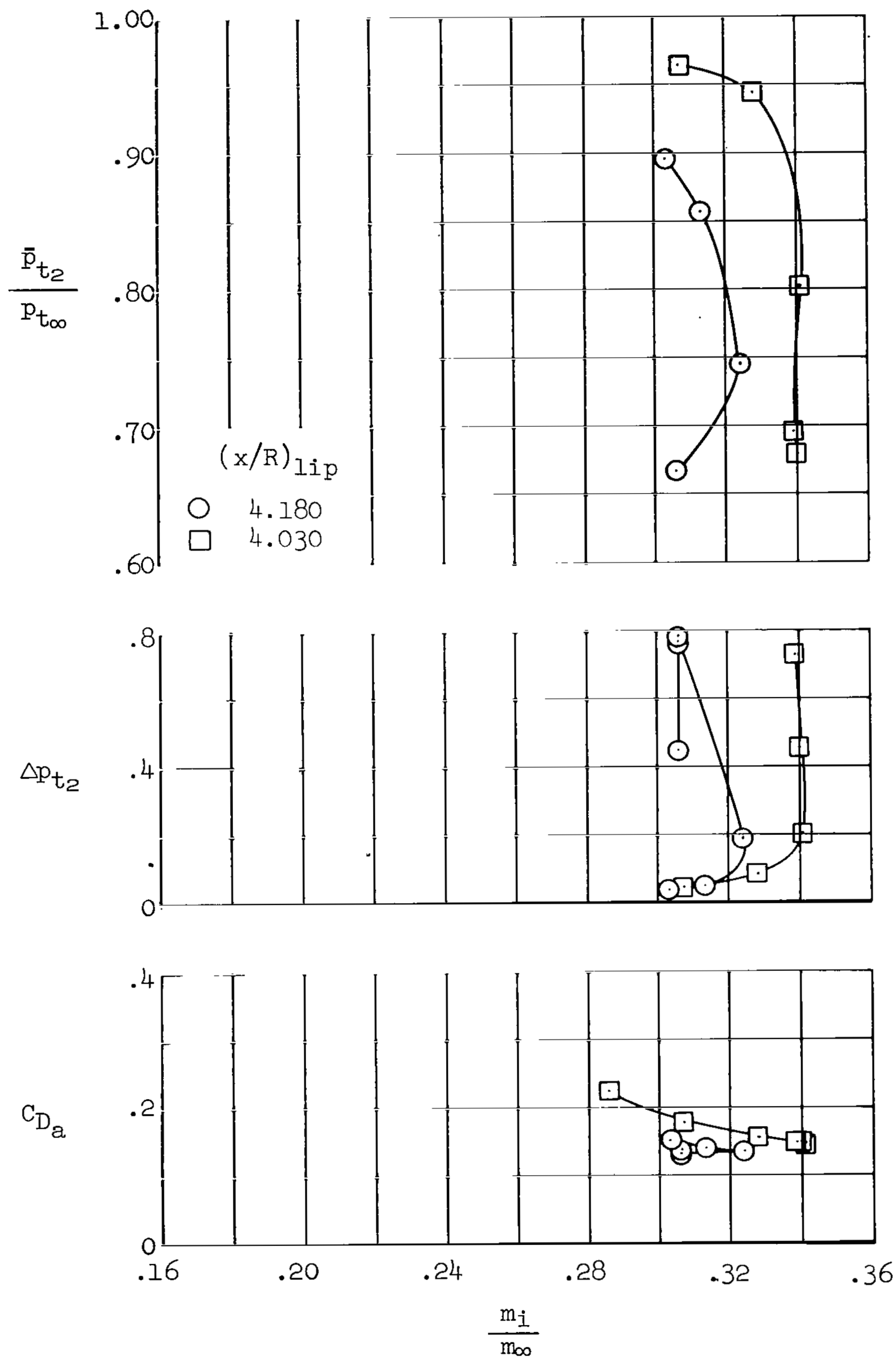
(f) $M_\infty = 1.1$

Figure 44.- Continued.



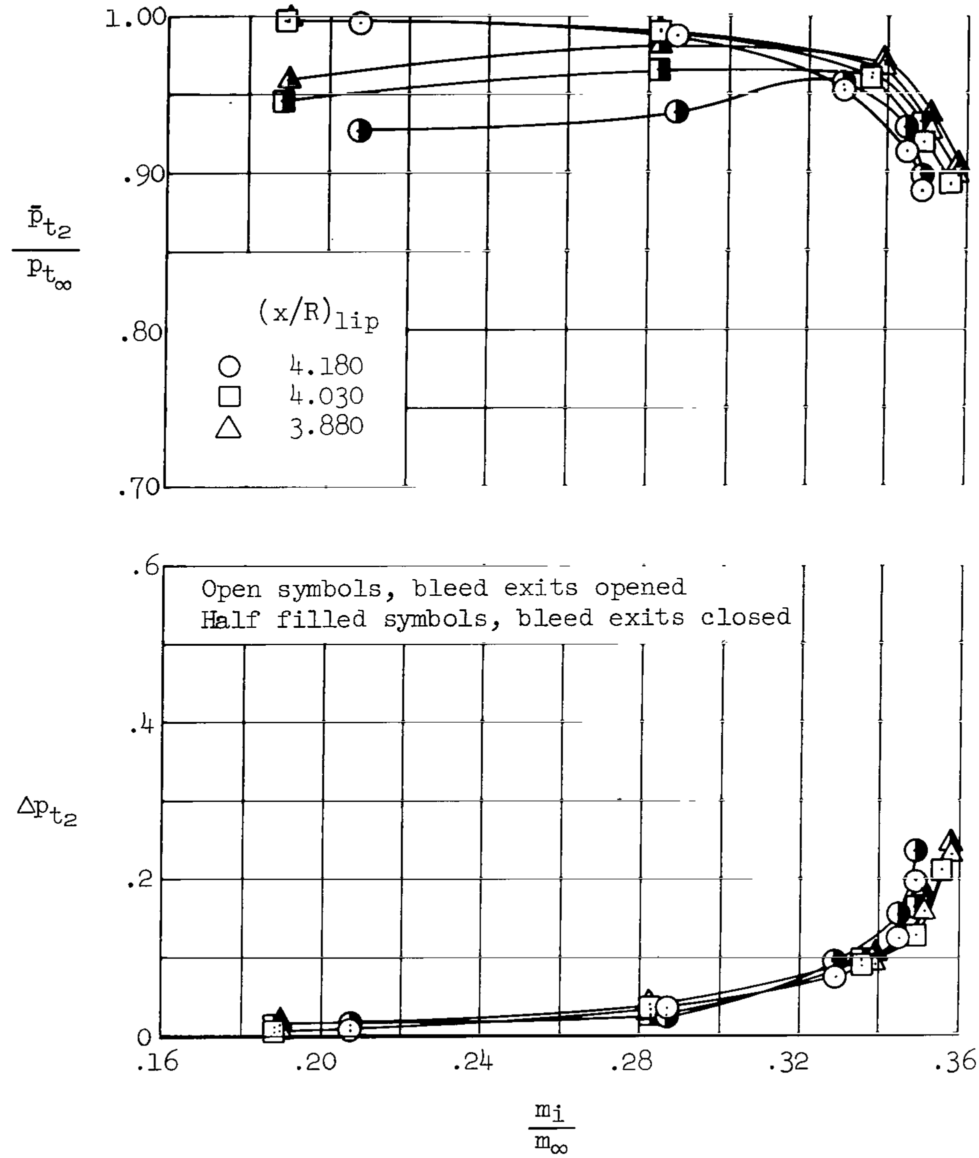
(g) $M_\infty = 1.2$

Figure 44.- Continued.



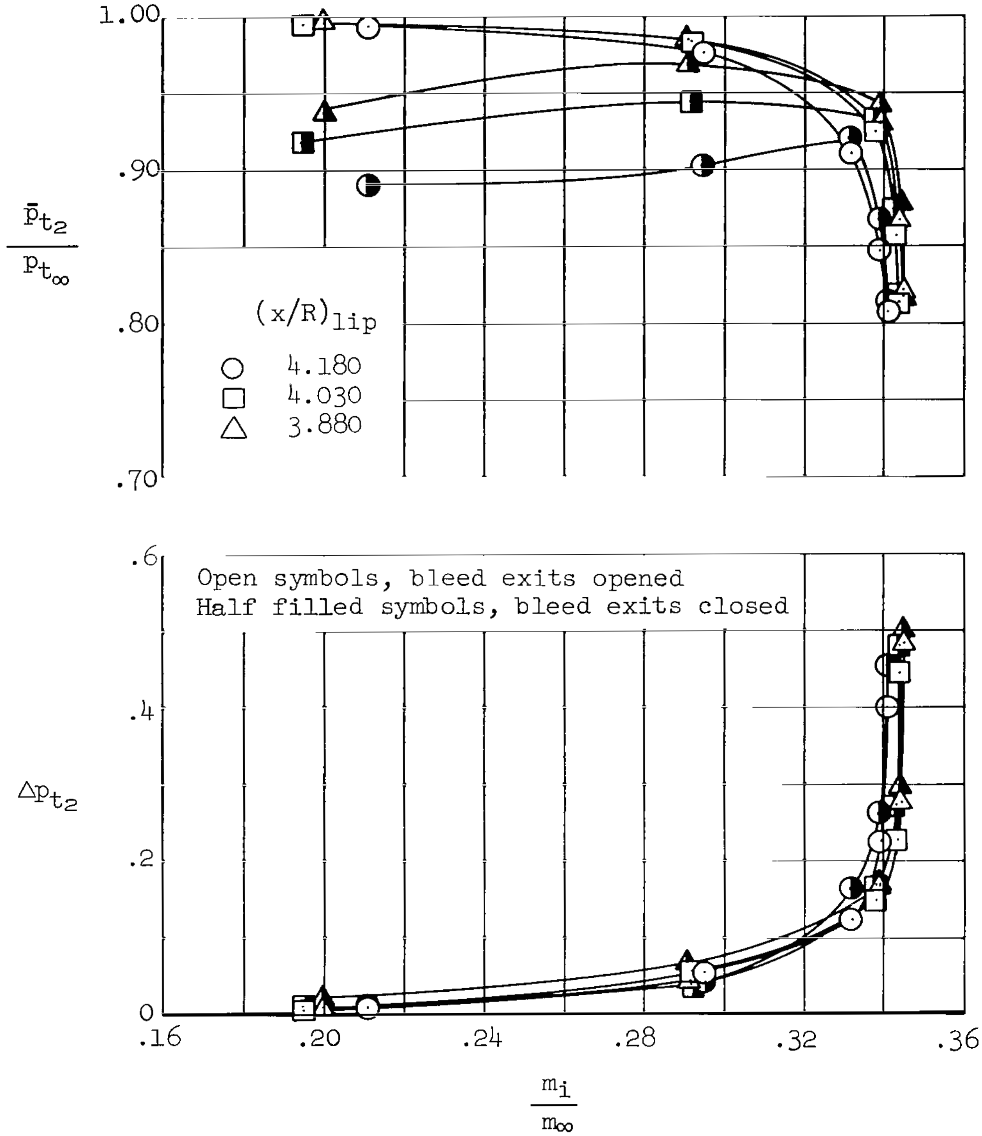
(h) $M_\infty = 1.3$

Figure 44.- Concluded.



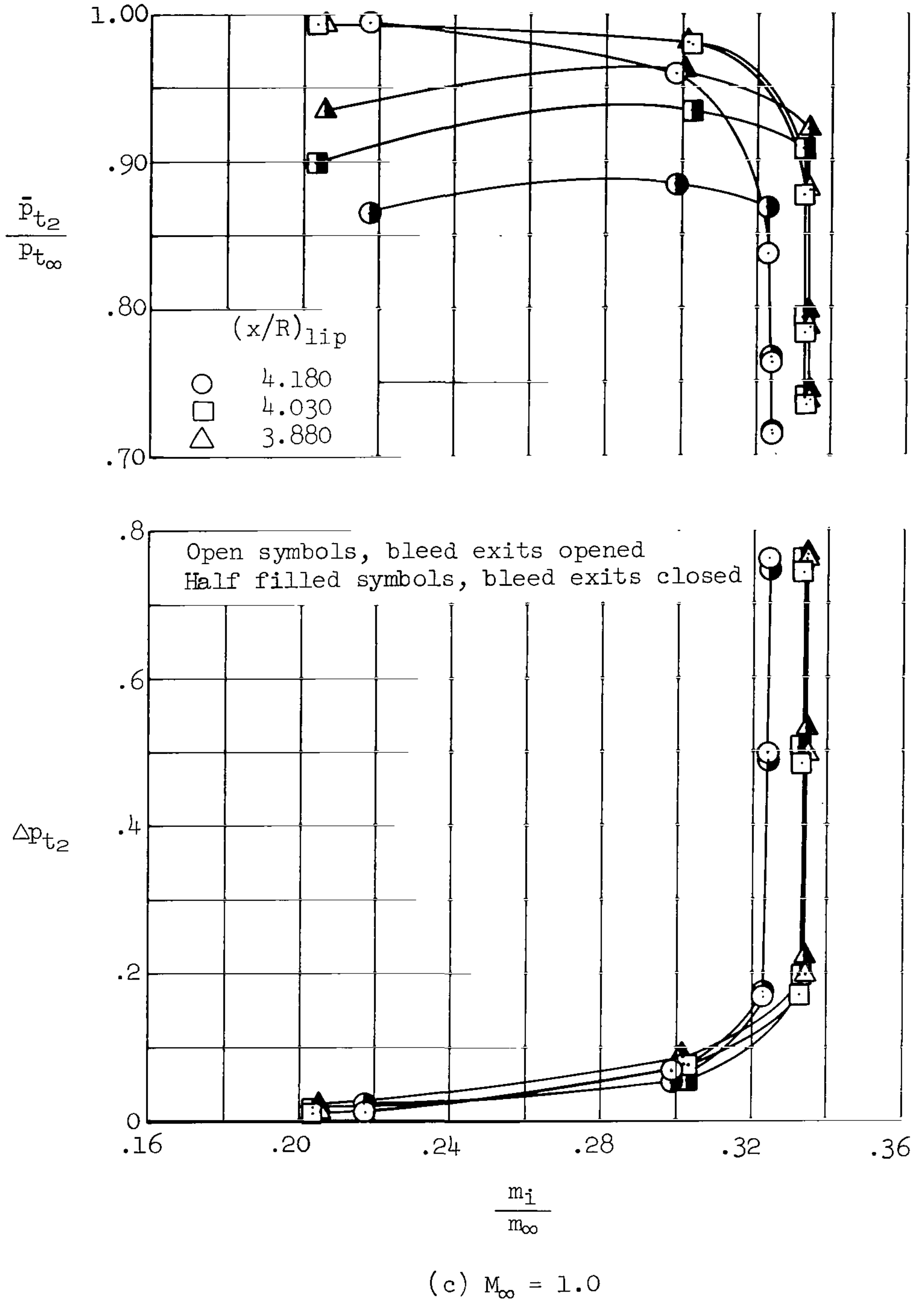
(a) $M_\infty = 0.6$

Figure 45.- Transonic performance with and without bleed; $\alpha = 0°$, $m_{bp}/m_\infty = 0$.



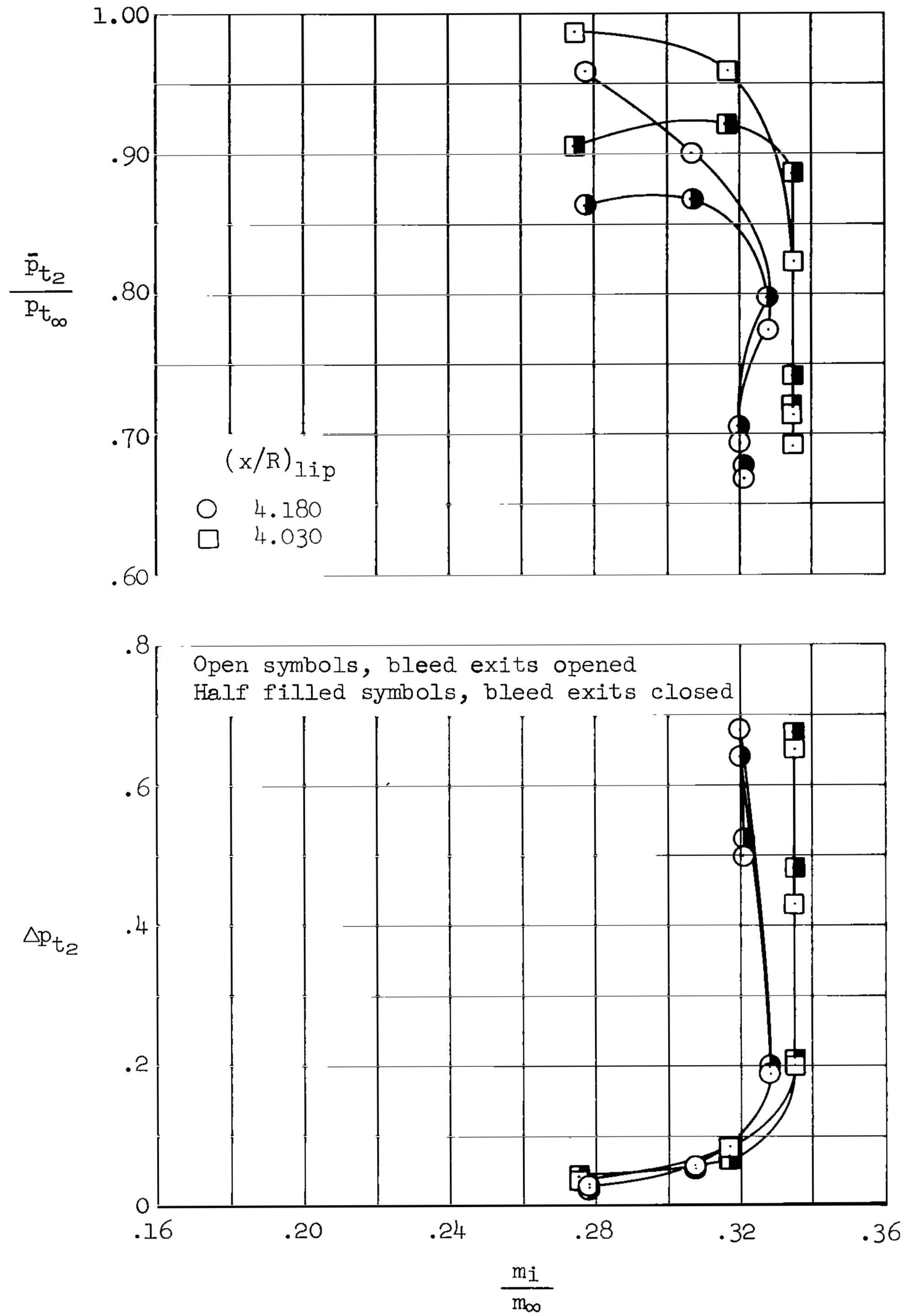
(b) $M_\infty = 0.8$

Figure 45.- Continued.



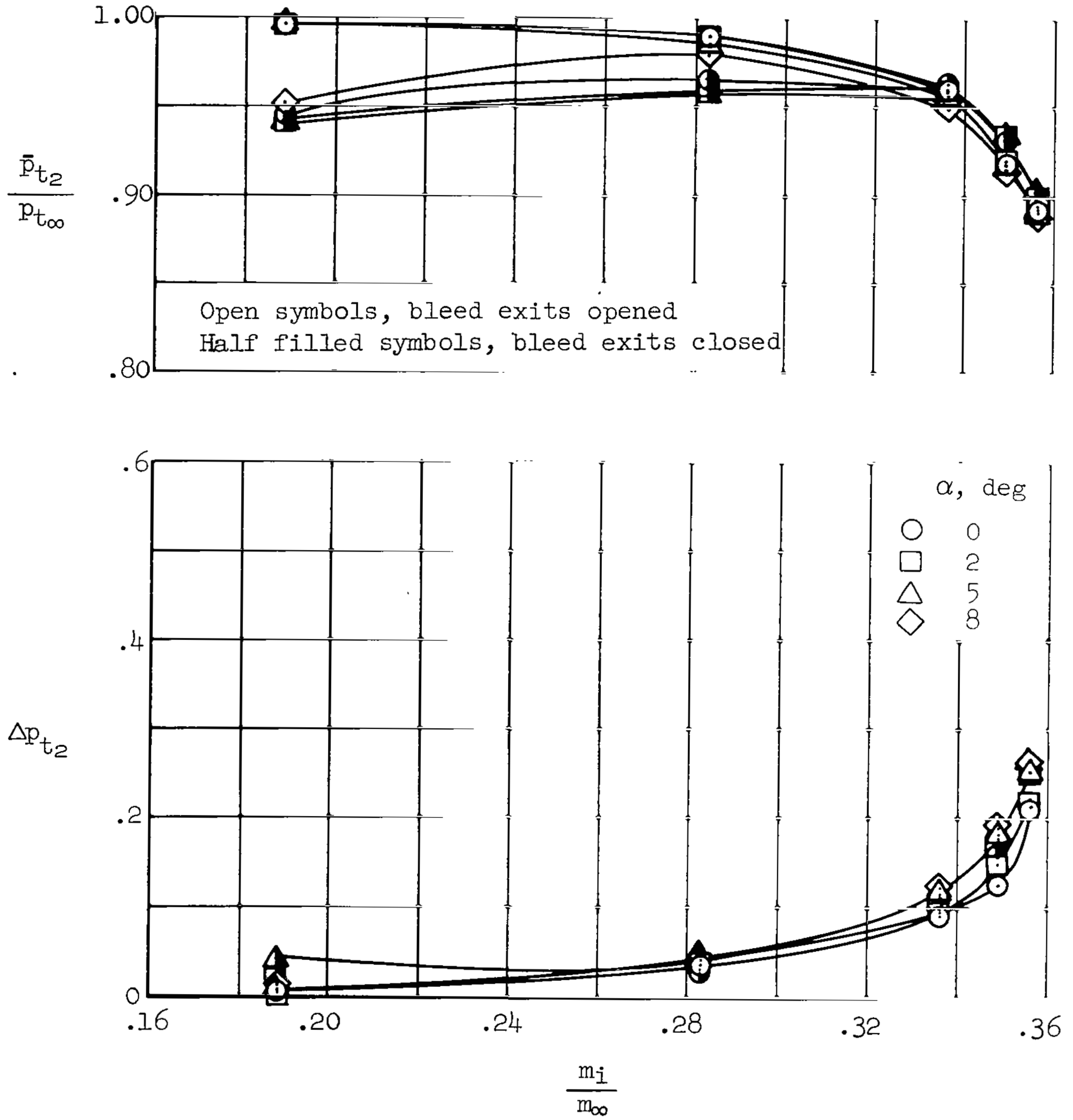
(c) $M_\infty = 1.0$

Figure 45.- Continued.



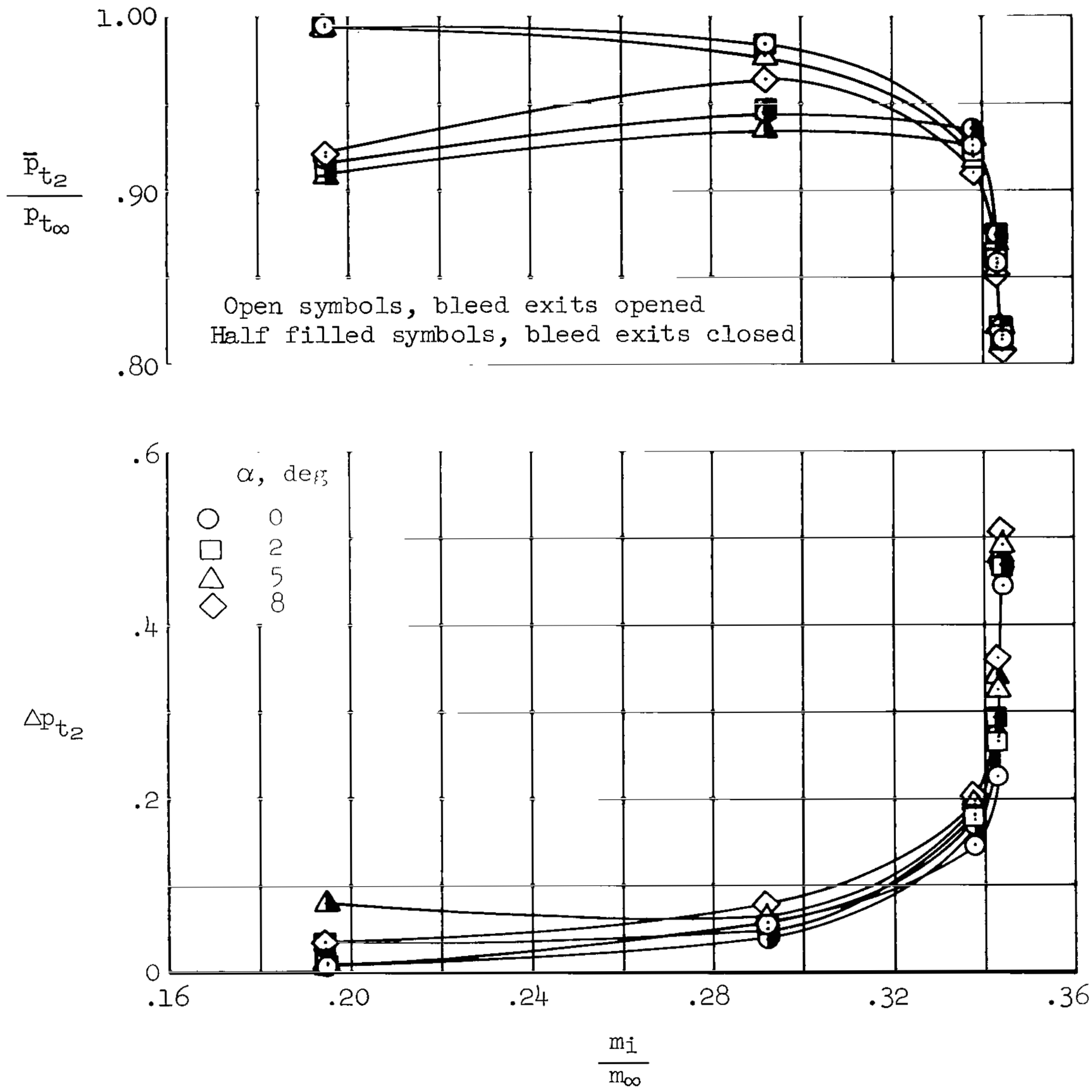
(d) $M_\infty = 1.2$

Figure 45.- Concluded.



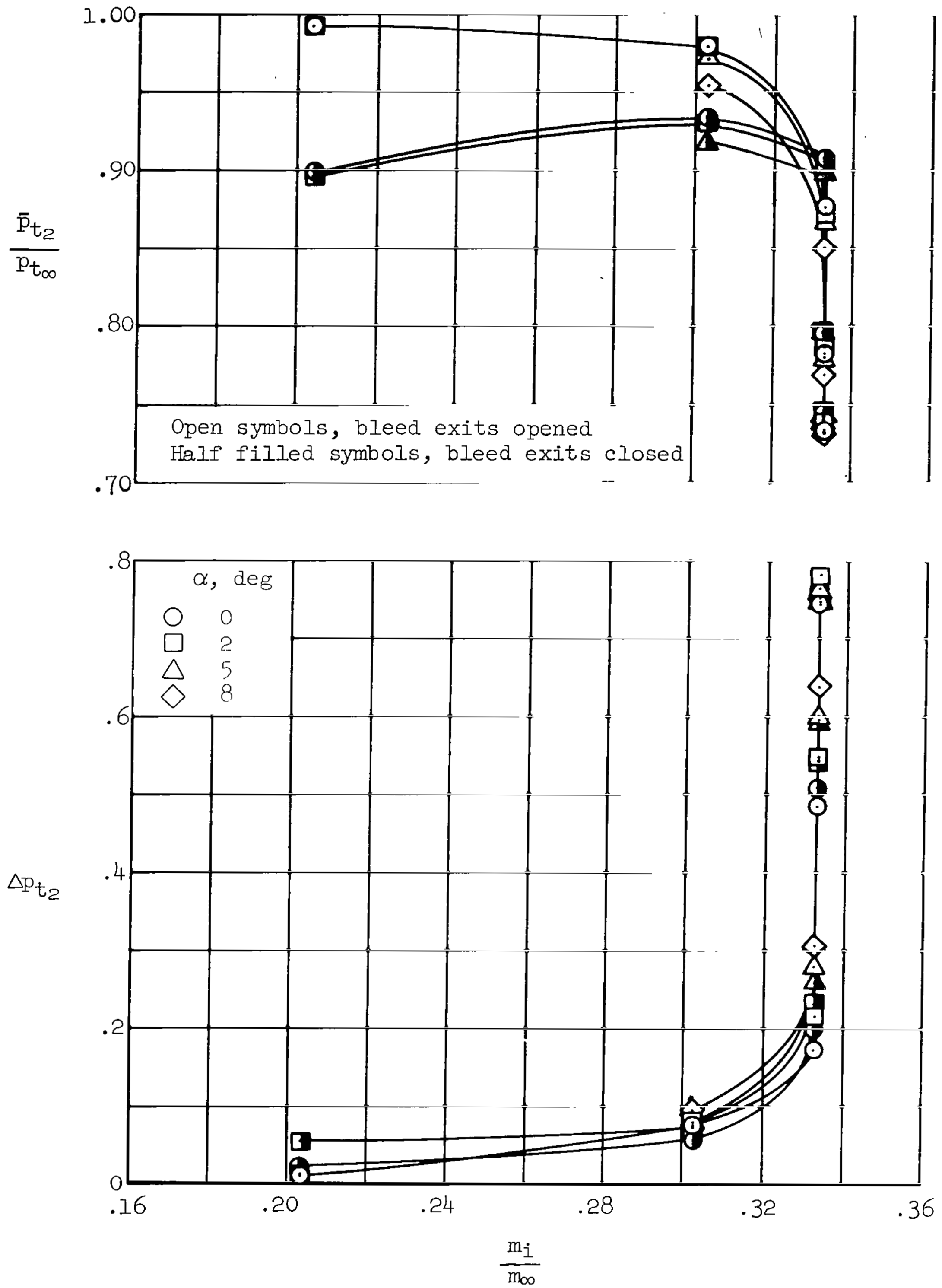
(a) $M_\infty = 0.6$

Figure 46.- Transonic performance at angle of attack; $(x/R)_{lip} = 4.030$, $m_{bp}/m_\infty = 0$.



(b) $M_\infty = 0.8$

Figure 46.- Continued.



(c) $M_\infty = 1.0$

Figure 46.- Concluded.

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