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RESEARCH MEMORANDUM

INVESTIGATION AT MACH NUMBERS FROM 0.80 TO 1.43 OF PRESSURE AND LOAD DISTRIBUTIONS OVER A THIN 45° SWEPTBACK HIGHLY TAPERED WING IN COMBINATION WITH BASIC AND INDENTED BODIES

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NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

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INVESTIGATION AT MACH NUMBERS FROM 0.80 TO 1.43 OF PRESSURE AND LOAD DISTRIBUTIONS OVER A THIN 45° SWEPTBACK HIGHLY TAPERED WING IN COMBINATION WITH BASIC AND INDENTED BODIES

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SUMMARY

Pressure distributions have been obtained in the Langley 8-foot transonic tunnels over a Mach number range from 0.80 to 1.125 and at a Mach number of 1.43 for a 45° sweptback cambered wing having a thickened root, an aspect ratio of 4.0, and a taper ratio of 0.15. Data were obtained for the wing in the presence of a basic Sears-Haack body and a body indented symmetrically for a Mach number of 1.2.

At subsonic Mach numbers the spanwise load distributions were essentially elliptical at low angles of attack, and became more nearly triangular with increase in angle of attack. At supersonic Mach numbers, the distributions remained approximately elliptical up to the highest angle of attack investigated. Calculations of the wing twist due to aeroelasticity indicated angles as high as -6.7° at an angle of attack of 12° and a Mach number of 1.125. Theoretical calculations of the spanwise load distribution at low angles of attack, including the effects of wing flexibility, were in excellent agreement with experimental data at low subsonic Mach numbers but failed to account for an outboard shift in loading at high subsonic Mach numbers. Calculations showed that the effect of aeroelasticity at low subsonic Mach numbers was to shift the center of pressure inboard by approximately 3 percent of the wing semispan.

Indenting the body for a Mach number of 1.2 induced expansion and compression fields which extended in a lateral direction over the wing. Due to the attenuation with spanwise distance of the induced pressure field, the predominant effects of body indentation were generally restricted to the inboard 60 percent of the wing semispan. Body indentation had only small effects on the distribution of loading over the wing and body. The percentage of total load carried by either the basic or indented bodies was approximated by the ratio of mean body diameter to span.

INTRODUCTION

Wind-tunnel investigations at transonic and supersonic speeds of the aerodynamic characteristics of a highly tapered 45° sweptback wing in combination with a Sears-Haack body and several indented bodies (ref. 1) have indicated high lift-drag ratios and favorable longitudinal stability characteristics for the wing-body combinations. For these reasons, this wing has been incorporated in a research program in the Langley 8-foot transonic tunnels to study the effects of indenting the body, in accordance with the supersonic area rule (ref. 2), on the pressure and load distributions over thin wings of trapezoidal, swept, and delta plan forms.

The pressure and load distributions for a 2-percent-thick trapezoidal wing in combination with a basic Sears-Haack body and with indented bodies have been reported in reference 3. In the present paper, the pressure and load distributions are presented for a 45° sweptback cambered wing having an aspect ratio of 4.0 and a taper ratio of 0.15. The wing thickness ratio varied from 6 percent at the root to 3 percent at midspan and then remained constant at 3 percent to the tip. Data were obtained for the wing in the presence of a basic Sears-Haack body and a body which was indented symmetrically for a Mach number of 1.2. This indented body appeared in reference 1 to give the best drag characteristics for the wing-body combination for Mach numbers between 1.05 and 1.43.

For this investigation, the model was tested over the Mach number range of 0.80 to 1.125 and at a Mach number of 1.43. Transition on the wing and body were fixed at 10 percent of the wing chord and body length, respectively. The maximum angle of attack varied from 20° at subsonic speeds to 12° at supersonic speeds.

SYMBOLS

b	wing span, 28.478 in.
$\frac{b'}{2}$	unsupported semispan, distance from outer face of wing mounting block to wing tip, 13.06 in.
c	local chord measured parallel to body center line
$\bar{c}$	wing mean aerodynamic chord, 8.42 in.
c_{av}	average wing chord, 7.12 in.

$c_{m(c/4)}$ wing section pitching-moment coefficient about 0.25c,

$$\int_0^1 \left(C_{P,L} - C_{P,U}\right)(0.25 - x/c)\,d(x/c)$$

$C_{m,w}$ wing pitching-moment coefficient about $0.25\bar{c}$,

$$\int_{\frac{\bar{r}}{b/2}}^{1} c_{m(\bar{c}/4)} \frac{c^2}{c_{av}\bar{c}}\, d\left(\frac{y}{b/2}\right)$$

$c_{m(\bar{c}/4)}$ wing section pitching-moment coefficient about $0.25\bar{c}$,

$$c_{m(c/4)} + \frac{c_{n,w}}{c}(x')$$

$C_{m,fw}$ body pitching-moment coefficient about $0.25\bar{c}$, based on S_w and $\bar{c}$,

$$\frac{2\pi L^2 D_{max}}{S\bar{c}} \int_0^{0.5}\int_0^1 \cos\theta\, \frac{r}{r_{max}}\left(C_{P,L} - C_{P,U}\right)\frac{x_{c/4} - x}{L}\, d\left(\frac{x}{L}\right)d\left(\frac{\theta}{2\pi}\right)$$

C_m total pitching-moment coefficient, $C_{m,w} + C_{m,fw}$

c_n wing section normal-force coefficient, $\int_0^1 \left(C_{P,L} - C_{P,U}\right)d(x/c)$

$C_{N,w}$ wing normal-force coefficient (perpendicular to body axes),

$$\int_{\frac{\bar{r}}{b/2}}^{1} c_n \frac{c}{\bar{c}}\, d\left(\frac{y}{b/2}\right)$$

$C_{N,fw}$ body normal-force coefficient (based on wing area),

$$\frac{2L\pi D_{max}}{S} \int_0^{0.5}\int_0^{1.0} \cos\theta\, \frac{r}{r_{max}}\left(C_{P,L} - C_{P,U}\right)d\left(\frac{x}{L}\right)d\left(\frac{\theta}{2\pi}\right)$$

C_N total normal-force coefficient, $C_{N,w} + C_{N,fw}$

C_B wing bending-moment coefficient referred to body center line,

$$\int_{\frac{\bar{r}}{b/2}}^{1.0} c_n \frac{c}{c_{av}}\left(\frac{y}{b/2}\right)d\left(\frac{y}{b/2}\right)$$

C_T wing twisting-moment coefficient about 0.25-chord line,

$$-\cos\Lambda\, \frac{d}{\bar{c}}\, C_{N,w}$$

C_p pressure coefficient, $\frac{p - p_o}{q_o}$

d distance measured parallel to fuselage center line from 0.25-chord line to a line parallel to 0.25-chord line and passing through center of pressure

L body length, 36.15 in.

M Mach number

P local static pressure

p_o free-stream static pressure

q_o free-stream dynamic pressure

$\bar{r}$ root-mean-square body radius taken between wing-body leading-edge and trailing-edge junctures

r_{max} maximum body radius

r body radius at any station

S wing area

S_e exposed wing area

x distance from leading edge of wing, or nose of body (positive rearward)

x' chordwise distance between $0.25\bar{c}$ and 0.25c

$\frac{x_{cp}}{\bar{c}}$ wing chordwise center of pressure measured from leading edge of mean aerodynamic chord

y spanwise distance measured from body center line

y' spanwise distance measured from outer face of wing mounting block

$\frac{y_{cp}}{b/2}$ wing spanwise center of pressure, based on total wing span

$\frac{\partial \Delta\alpha}{\partial n}$ wing-twist influence coefficient due to normal force at quarter-chord point, deg/lb

$\frac{\partial \Delta\alpha}{\partial m}$ wing-twist influence coefficient due to moment about quarter-chord line, deg/in-lb

α angle of attack, deg

$\Delta\alpha$ angle of twist between chord and body center line, deg

$\Delta\alpha_t$ angle of twist between wing-tip and body center line, deg

θ meridian angle of body orifice station ($\theta = 0^{\circ}$ for station A)

Λ sweepback of 0.25-chord line

Subscripts:

L lower surface

max maximum

o free-stream conditions

U upper surface

APPARATUS AND METHODS

Tunnels

The investigation at subsonic and transonic speeds was made in the Langley 8-foot transonic tunnel. This facility has a dodecagonal test section which has been slotted longitudinally to allow testing through sonic speed with negligible effects of choking and blockage. A description of the tunnel and its calibration is given in reference 4. Data at a Mach number of 1.43 were obtained in the Langley 8-foot transonic pressure tunnel by enclosing the longitudinal slots with specially designed channels which converted the slotted test section to a supersonic nozzle. Details of the resulting nozzle shape and the test-section Mach number distribution have been published in reference 5.

Model

A drawing of the wing-body configurations tested is presented in figure 1. Details of the design of the wing and bodies are given in reference 1. The model of these tests was identical in external design to the force-test models reported in reference 1 except for a slight increase in body length. The wing had 45° sweepback of the quarter-chord

line, an aspect ratio of 4.0, and a taper ratio of 0.15. The wing section was an NACA 65A206, a = 0 at the root, varied linearly in thickness to an NACA 65A203, a = 0.8 (modified) at the 50-percent-semispan station, and then remained constant to the tip. Flush-mounted pressure orifices were located at six semispan stations on both upper and lower surfaces of the wing (fig. 2). The streamwise coordinates of the wing at the spanwise stations for which pressure measurement was made have been tabulated in table I (a).

The wing was attached to a body which was designed to have a steel core integral with the model sting. The shape of the body from the wing leading edge to the model sting was determined by the addition of plastic inserts. The juncture between the plastic body insert and the steel forebody and between the insert and a removable afterbody tail cone (see fig. 2) were filled with a commercial putty and sanded smooth. For these tests, the wing was tested in the presence of a basic Sears-Haack body and a body indented symmetrically for a Mach number of 1.2. Cross-sectional-area diagrams for the wing and body are given in reference 1 along with ordinates for both bodies. However, for convenience, the ordinates for the bodies are also tabulated in this report in table I(b). As shown in figure 2, pressure orifices on the body were located in five longitudinal rows, spaced at intervals of 45° and have been designated as stations A, B, C, D, and E.

Tests and Accuracy

Tests were made in the Langley 8-foot transonic tunnel at Mach numbers of 0.80, 0.90, 0.94, 0.98, 1.03, and 1.125 and in the Langley 8-foot transonic pressure tunnel at a Mach number of 1.43. The maximum random error in measuring free-stream Mach number is believed to be within ±0.005. The local deviation of free-stream Mach number in the test section of the Langley 8-foot transonic tunnel was approximately ±0.003 at subsonic Mach numbers; with increase in Mach number, the deviations increased, but did not exceed ±0.010. The local free-stream Mach number in the test section of the 8-foot transonic pressure tunnel with the nozzle blocks installed varies greatly with relative humidity and stagnation pressure (ref. 5). In order to minimize these effects, all tests were made at atmospheric stagnation pressures, and the stagnation temperature and tunnel air dew point were maintained at 130° and -10° F, respectively. Under these conditions, the average Mach number in the region of the model (test-section stations 116.85 to 153.0 (ref. 5)) was 1.43 and the maximum deviation in local free-stream Mach number did not exceed ±0.015. Schlieren observations indicate that the model was subjected to boundary-reflected disturbances at a Mach number of 1.03; however, examination of the present pressure data indicates that the disturbances had only small effects on the pressures.

Pressure measurements on the wing and body were photographed simultaneously on multitube manometer boards, and the accuracy of these measurements in coefficient form is believed to be within ±0.006. The angle of attack was remotely controlled during these tests and was measured by a pendulum-type inclinometer located in the nose of the model. Pressure measurements were made over an angle-of-attack range which generally varied from 0° to 20° at subsonic speeds and from 0° to 12° at transonic and supersonic speeds. The accuracy of the measured angle of attack is within approximately $\pm 0.1^{\circ}$.

For these tests, 0.10-inch transition strips were located at 10 percent of the chord on both upper and lower surfaces of the wing and at 10 percent of body length. The strips were obtained by spraying the surfaces with a commercial liquid plastic and blowing on carborundum grains (approximately 0.012 inch in diameter) at an estimated density of 40 grains per inch.

Calculation of Wing Twist

Observation of the wing-tip deflection during this investigation indicated that appreciable wing twist due to aeroelastic effects was occurring. In order to evaluate these effects, the influence coefficients due to normal force and pitching-moment loads have been obtained by static deflection calibrations of this wing and are listed in table II. It should be emphasized that the influence coefficients in table II apply to the model wing of this report and that care should be used in applying them to other wings. The variation of wing-tip twist with Mach number for the basic wing-body configuration for all angles of attack and the spanwise variation of twist for a Mach number of 1.125 were calculated by using the influence coefficients tabulated in table II and a method similar to that indicated in reference 6. The results of these calculations are shown in figure 3. The magnitude of the calculated wing twist was appreciable at all angles of attack and had a maximum value of -6.7° at an angle of attack of 12° and a Mach number of 1.125.

RESULTS AND DISCUSSION

Presentation of Results

The aerodynamic characteristics for the wing and bodies are presented as follows:

	Figure
Pressure distributions on the wing	4 and 5
Pressure distributions on the bodies	6 and 7
Spanwise loading variation	8
Effect of aeroelastic wing twist on spanwise loading	9
Wing loading characteristics	10 and 11
Body loading characteristics	12 and 13
Total wing-body loads	14
Wing center-of-pressure characteristics	15
Effect of aeroelastic wing twist on center-of-pressure characteristics	16 and 17

	Table
Pressure coefficients at six spanwise stations	III and V
Pressure coefficients at five longitudinal body stations	IV and VI
Wing section coefficients	VII

These data are for the wing in the presence of either a basic or an indented body and, for clarity, only the data for the wing—basic-body combination have been faired in figures 4 to 8.

Pressure Distribution on Wing—Basic-Body Combination

Wing in presence of body.- The pressure distributions at zero angle of attack show that appreciable loading due to camber occurred over the wing at all Mach numbers (figs. 4 and 5). Camber apparently caused a significant leading-edge-suction pressure to occur on the lower surface of the wing for stations outboard of the wing-body juncture. This suction pressure increased in magnitude at Mach numbers of 1.03 and above, probably due to the combined effects of Mach number and aeroelastic wing twist.

At an angle of attack of 4° and Mach numbers of 0.80, 0.90, and 0.94 (figs. 4(a), 4(c), and 4(e)), the pressure peaks at the leading edge of the outboard regions of the wing become progressively flattened with spanwise distance. Reference 7 shows that for a wing of similar plan form, but higher taper ratio, the flattening of the peaks indicated the presence of a leading-edge separation vortex. At Mach numbers above 0.98, this separation vortex, which is common to thin sweptback wings, appears to be delayed to higher angles of attack. The pressures at the trailing edges of the wing at a Mach number of 0.94 indicate the presence of a shock wave which originated at the wing-trailing-edge—body juncture and extended laterally across the wing. The effect of this disturbance on the pressure distributions on this wing appears to be less than that indicated in reference 8 for a 45° sweptback uncambered wing having a higher taper ratio and thicker sections.

With increase in angle of attack to 8°, at subsonic speeds, the leading-edge separation vortex, which was apparent at the outboard sections of the wing at an angle of attack of 4°, moved inboard with subsequent separation of the flow on the outboard surfaces. It is notable that separation on the outboard surfaces of this wing occurred at relatively low angles of attack (the local section angles of attack would be still lower if wing twist is included). This separation is believed to be due to the lower taper ratio, which tended to produce high leading-edge loads near the wing tips, and to the relatively thin leading edge, two factors that undoubtedly would be conducive to the formation of the leading-edge separation vortex.

With further increase in angle of attack, the leading-edge separation vortex moved inboard so that at an angle of attack of 20°, severe separation occurred over the entire wing (see figs. 4(b), 4(d), and 4(f)).

Body in presence of wing.- The pressure distributions on the basic Sears-Haack body alone over the Mach number range of 0.80 to 1.125 have been published in reference 3. In the present investigation the presence of the wing caused pressure peaks on the body in the region of the wing-body juncture (fig. 6). The location and magnitude of these pressure peaks and in particular, those on the upper surface of the body were, of course, closely associated with the pressures on the wing near the wing-body juncture. With increasing Mach number, the minimum pressure peak on the upper surfaces of the body (and on the lower surfaces at zero angle of attack) show the rearward shift which was noted previously in reference 9. With increasing angle of attack, the magnitude of this minimum pressure peak increased up to an angle of attack of approximately 12°. Above this angle of attack, pressure distributions and schlieren observations indicate that shock-induced separation may have occurred.

Loading Characteristics for Wing—Basic-Body Combination

Wing spanwise load distribution.- At an angle of attack of 0°, a positive loading occurred over the wing due to wing camber at all Mach numbers, with the exception of 1.43 (fig. 8(d)). At a Mach number of 1.43, the loading over the outboard 20 percent of the semispan became negative due to both a decrease in the effectiveness of wing camber and a negative section angle of attack resulting from the wing twist due to the loading on the remainder of the wing. The loading over the wing at subsonic Mach numbers was essentially elliptical in shape at low angles of attack, and became more nearly triangular as the angle of attack was increased. The span loadings at Mach numbers from 0.80 to 0.94 (figs. 8(a) and (b)) show the characteristic peaks in loading associated with the inboard movement of the leading-edge separation vortex. The subsequent flow separation over the outboard regions of the wing resulted in the

loading at the 95-percent-semispan station remaining almost constant as the angle of attack was increased from 4°. For Mach numbers above 0.94, the effects of the leading-edge separation vortex became less pronounced, and, due to the resulting delay in flow separation, the distribution of load remained approximately elliptical up to the highest angle of attack investigated.

The spanwise loadings have been integrated mechanically outboard of the wing-body juncture lines indicated in the figures, and the variation of wing normal force with angle of attack along with the variation of wing pitching moment with wing normal force are presented in figure 10.

Effect of aeroelastic wing twist.- The spanwise load distributions which have been discussed up to this point were for the cambered wing, which, because of large aeroelastic effects, was for these tests essentially a cambered and twisted wing. In order to evaluate some of the effects of aeroelastic wing twist, calculations of the spanwise load distribution for several subsonic Mach numbers and angles of attack have been made for the wing cambered and untwisted as well as cambered and twisted, where the twist assumed for the latter case was the aeroelastic twist which has been calculated from the experimental spanwise load distribution. The theoretical loadings were calculated by using the linearized subsonic theory of reference 10. The calculated spanwise load distributions are compared in figure 9 with the experimental loadings. For the purposes of discussion, the untwisted wing will be considered to represent a rigid wing, and the twisted wing, a flexible wing. At Mach numbers of 0.80 and 0.90, good agreement is obtained at angles of attack of 0° and 4° between the theoretical loadings for a flexible wing and the experimental data. For an angle of attack of 8° and a Mach number of 0.90, separation has occurred over the outboard wing sections and the agreement, as would be expected, is poor. Comparison between the flexible and rigid wing loadings at these Mach numbers clearly shows the loss in loading due to wing twist. At the higher Mach numbers, the magnitude of the theoretical loadings for the flexible wing are in poorer agreement with experimental data; however, the distribution of the loadings over the span are very similar. Reference 10 shows that for a twisted and cambered 45° sweptback wing, which had a higher taper ratio and thicker sections, the theoretical loadings failed to account fully for the outboard spanwise shift in loading which occurs on sweptback wings with increase in Mach number at subsonic speeds. It would appear then that this is also the case for the wing of the present investigation.

Body loads.- The distribution of lateral loadings over the body are shown in figure 8 for several angles of attack at Mach numbers of 0.80 and 1.125, and through the Mach number range for an angle of attack of 8°. The average loading over the body is shown at each angle of attack and Mach number to provide some indication of the magnitude of the body

loading compared with the wing loading. In almost every case, the average loading on the body was approximately equal to the wing section loading at the wing-body juncture.

Comparison of the ratios of body load to total load (fig. 13) indicates that the body carried considerably less load than would be indicated by the ratio of the exposed to the total wing area $\left(1 - \frac{S_e}{S}\right)$. The ratio of body load to total load is, in general, more nearly represented by the ratio of mean body diameter to wing span $\left(\frac{2\bar{r}}{b}\right)$. With increase in Mach number at a constant wing-body normal-force coefficient, a decrease in this loading ratio occurred near a Mach number of 1.0 and was due to a decrease in body load which resulted from a small outboard shift in wing spanwise loading. With increase in total wing-body normal force at a constant Mach number, the ratio of the body loading to total loading increased (fig. 13).

Center-of-Pressure Characteristics for Wing in Presence of Basic Body

Variation with normal force.- The wing pitching moments have been referred to the quarter-chord point of the mean aerodynamic chord, which for this highly tapered wing is located considerably inboard and forward. For this reason, the wing pitching moments at the normal-force coefficient for zero angle of attack indicate a large negative moment due to camber (fig. 10), and the longitudinal location of the center of pressure of the wing at low normal-force coefficients is well rearward of the leading edge of the mean aerodynamic chord (fig. 15(a)). With increase in wing normal force up to a coefficient of 0.4, the center of pressure moved rapidly forward with almost no inboard movement. Above this value, the inboard movement of separation caused an inboard and continual forward movement in the location of the center of pressure. At the higher Mach numbers, the magnitude of these movements with increase in wing normal force was greatly reduced and in some cases eliminated for the range of normal-force coefficients shown. However, unpublished data obtained in the 8-foot transonic pressure tunnel on the center-of-pressure variations of this wing in the presence of the basic body obtained at a Mach number of 1.43 at reduced stagnation pressures and at angles of attack up to 31° show a continual gradual inboard and forward shift with increase in normal force. The maximum values of the inboard and forward shifts for these unpublished data over the normal-force-coefficient range from 0.2 to 1.04 were 4.3 percent and 11.0 percent, respectively. The centers of pressure for this highly tapered wing at high normal-force coefficients do not show the abrupt forward movement which is associated with the pitch-up tendencies of sweptback wings of higher taper ratio (ref. 11).

Variation with Mach number.- Large rearward center-of-pressure shifts occurred with increase in Mach number at a constant normal-force coefficient (fig. 15(b)). This rearward shift at moderate normal-force coefficients was generally of the order of 12 percent, with the most rearward location of the center of pressure occurring near a Mach number of 1.0. A similar but much smaller outboard movement (1 to 4 percent) occurred over the same Mach number range. With increase in Mach number above 1.0, forward and inboard movements occurred at almost all normal-force coefficients. For normal-force coefficients below 0.4, the lateral location of the center of pressure at a Mach number of 1.43 was farther inboard than the subsonic values at a Mach number of 0.80.

Variation with wing twist.- In figure 16, the experimental variation with Mach number of the lateral location of the center of pressure is compared with theoretical values calculated for the wing assumed to be rigid in one case and flexible in another. At the subsonic Mach numbers, the effect of aeroelastic wing twist was to shift the center of pressure inboard by approximately 3 percent. The flexible-wing theory predicts reasonably well the lateral center-of-pressure location at Mach numbers up to 0.94. As mentioned previously, however, the theory does not predict the outboard shift of the center of pressure that occurs between 0.94 and 0.98 Mach number.

The local longitudinal centers of pressure for the section loadings at several spanwise stations are compared in figure 17 with values calculated for the rigid and flexible wings. The results are generally in good agreement with the experimental data. However, the theory does not predict the large rearward shift in the center of pressure with increase in Mach number for the outboard stations.

Effect of Body Indentation

Pressure distributions.- Indenting the body in accordance with the supersonic area rule (ref. 2), caused some changes in the magnitude of the wing pressures at practically all Mach numbers and angles of attack (fig. 4). These changes were generally the effects of pressure fields induced by the change in body shape, and the strength (based on the magnitude of the change in wing pressure coefficient) and spanwise extent of these induced pressure fields varied considerably with free-stream Mach number. Due to the attenuation with spanwise distance of the pressure fields induced by the change in body shape, the predominant effects of body indentation generally extended over only the inboard 60 percent of the wing semispan. Body indentation, at the high subsonic Mach numbers, reduced the interference effects on the wing pressures near the wing-body juncture at low

angles of attack. This essentially substantiates the theoretical analysis of reference 12 which indicates that the major effects of body indentation are restricted to the inboard regions of the wing and that the resulting flow over the wing—indented-body juncture is approximately two-dimensional.

The pressure distributions over the indented body show clearly the effects of the local acceleration and deceleration of the flow caused by the change in body shape. At a Mach number of 1.125 and an angle of attack of 0° (fig. 6(f)), the flow over the upper surface of the body (station A) accelerated to a Mach number of 1.220 over the forward region of the indentation, decelerated to approximately 1.110, and then accelerated to 1.275 in the region of the wing trailing edge. A similar flow variation, but with slightly different local Mach numbers, occurred nearer the wing (station B), and on the lower surfaces of the body (stations D and E). The minimum pressure peaks on the indented body, unlike those on the basic body which shifted rearward with increase in Mach number, were located near the leading and trailing edges of the wing-body juncture at practically all Mach numbers and angles of attack (figs. 6 and 7).

Load characteristics.- The effects of body indentation on the spanwise load distribution varied considerably in magnitude and extent with Mach number. At a Mach number of 1.125 (fig. 8(c)), body indentation increased the loading near the wing root at low angles of attack and over most of the span at high angles of attack. Similar effects are noted for the other Mach numbers, except that for Mach numbers below 1.125, the loading over the midspan was reduced at several angles of attack (see fig. 8(a), $\alpha = 4^{\circ}$ and 8°). The wing-root bending moments for the wing in the presence of either a basic or an indented body (fig. 11) show only small effects due to body indentation. Although body indentation had little effect on the shape of the spanwise load distributions and, consequently, on the wing bending moment, it would be expected that the changes in chordwise loading would affect the wing twisting moment and the magnitude of the aeroelastic deflections. Figure 11 shows that body indentation reduced the maximum wing twisting moment for the wing in the presence of the body by approximately 12 percent at all Mach numbers with the exception of 1.43. However, calculations of the aeroelastic wing twist for the wing in the presence of the indented body indicates that body indentation had negligible effects on wing twist at low angles of attack and caused only small reductions at the higher angles of attack.

The distribution of loading coefficient and the average loading coefficient over the body, in general, shows only small effects due to body indentation (fig. 8). At a Mach number of 1.125, however, the loading at the wing root was increased considerably by body indentation and the average loading coefficient over the indented body is higher than that for the basic body over the entire angle-of-attack range (fig. 8(c)).

Due to the difference in the location of the wing-body juncture, the normal-force coefficient for the basic body is larger throughout the wing normal force and Mach number range than that for the indented body (fig. 12). However, the ratio of body load to total load for the indented body, similar to that for the basic body, is closely approximated at low normal-force coefficients by the ratio of mean body diameter to wing span (fig. 13).

Body indentation had only small effects on the total normal-force coefficients for the wing-body combination except for some increases at high angles of attack at subsonic speeds and throughout the angle-of-attack range at a Mach number of 1.125 (fig. 14). In both cases, the increase in total load was due to increases in loading over the body and the inboard regions of the wing. The pitching-moment coefficients for the wing-body combination (fig. 14) became more positive at all Mach numbers, with the exception of 1.43, due to the pressure fields induced on the upper surface of the wing by the change in body shape.

Center-of-pressure characteristics.- Body indentation generally shifted the longitudinal location of the center of pressure forward on the wing but had almost no effect on the lateral location of the center of pressure (fig. 15). At subsonic speeds, body indentation had only small effects on the forward movement of the center of pressure with increase in wing normal-force coefficient at a constant Mach number. At supersonic speeds, the movement with increase in wing normal-force coefficient was from 2 to 4 percent greater than for the wing in the presence of the basic body. However, body indentation had no effect on the maximum rearward movement of the center of pressure with increase in Mach number at a constant wing normal-force coefficient.

CONCLUSIONS

An investigation of the pressure and load distributions over the Mach number range from 0.80 to 1.125 and at a Mach number of 1.43 for a 45° sweptback cambered wing having a thickened root, an aspect ratio of 4.0, and a taper ratio of 0.15 in the presence of a basic Sears-Haack body and a body indented symmetrically for a Mach number of 1.2 has led to the following conclusions:

1. At subsonic Mach numbers, the span load distributions were essentially elliptical at low angles of attack and became more nearly triangular with increase in angle of attack. At supersonic Mach numbers, the distributions remained approximately elliptical up to the highest angle of attack investigated.

2. Calculations of theoretical span loadings at low angles of attack, considering wing flexibility, were in excellent agreement with experimental loadings at low subsonic Mach numbers but failed to account for an outboard shift in loading at high subsonic Mach numbers.

3. Calculations of the wing twist due to aeroelasticity have indicated angles as high as -6.7° at an angle of attack of 12° and a Mach number of 1.125. Calculations have shown that the effect of this twist at low subsonic Mach numbers was to shift the center of pressure inboard by approximately 3 percent of the wing semispan.

4. With increase in Mach number at moderate wing normal-force coefficients the maximum rearward and outboard shifts in the center of pressure were approximately 12 percent and 4 percent, respectively.

5. Indenting the body for a Mach number of 1.2 induced expansion and compression fields which extended in a lateral direction over the wing. Due to the attenuation of the pressure fields with spanwise distance, the predominant effects of body indentation were generally restricted to the inboard 60 percent of the wing semispan.

6. Body indentation had only small effects on the total normal-force coefficients for the wing-body; and the ratio of body load to total load was approximately the same as the ratio of mean body diameter to span.

7. Body indentation generally shifted the longitudinal location of the center of pressure forward on the wing, but had almost no effect on the lateral location.

Langley Aeronautical Laboratory,
National Advisory Committee for Aeronautics,
Langley Field, Va., April 9, 1957.

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TABLE I.- WING AND BODY ORDINATES

(a) Wing Ordinates

$\frac{x}{c}$, percent chord	Ordinate, percent chord									
	$0\frac{b}{2}$		$0.12\frac{b}{2}$		$0.25\frac{b}{2}$		$0.40\frac{b}{2}$		$0.50\frac{b}{2}$ to $1.00\frac{b}{2}$	
	Upper surface	Lower surface	Upper surface	Lower surface	Upper surface	Lower surface	Upper surface	Lower surface	Upper surface	Lower surface
0	0	0	0	0	0	0	0	0	0	0
.25	.47	-.25	.43	-.24	.37	-.21	.29	-.17	.21	-.13
.50	.62	-.36	.57	-.33	.51	-.30	.40	-.24	.31	-.18
.75	.75	-.43	.68	-.40	.61	-.35	.49	-.28	.38	-.21
1.25	.96	-.53	.89	-.49	.79	-.42	.69	-.33	.49	-.25
2.50	1.37	-.67	1.28	-.62	1.14	-.54	.93	-.43	.72	-.30
5.00	1.95	-.85	1.81	-.70	1.63	-.67	1.35	-.50	1.07	-.34
10.00	2.76	-1.08	2.58	-.97	2.32	-.82	1.93	-.58	1.56	-.36
15.00	3.31	-1.25	3.09	-1.12	2.80	-.93	2.34	-.63	1.92	-.36
20.00	3.71	-1.41	3.48	-1.25	3.16	-1.03	2.66	-.67	2.20	-.35
30.00	4.15	-1.64	3.91	-1.44	3.58	-1.15	3.07	-.71	2.60	-.30
40.00	4.23	-1.77	4.01	-1.53	3.69	-1.21	3.21	-.69	2.78	-.22
50.00	3.93	-1.72	3.74	-1.47	3.49	-1.12	3.09	-.58	2.74	-.08
60.00	3.36	-1.52	3.23	-1.28	3.05	-.94	2.77	-.41	2.52	.08
70.00	2.60	-1.22	2.53	-.99	2.43	-.69	2.28	-.21	2.14	.22
80.00	1.73	-.84	1.71	-.67	1.67	-.43	1.62	-.05	1.57	.30
90.00	.85	-.45	.84	-.35	.83	-.23	.82	-.02	.82	.17
100.00	.01	-.01	.01	-.01	.01	-.01	.01	-.01	.01	-.01

TABLE I.- WING AND BODY ORDINATES - Concluded

(b) Body Ordinates

Forebody	
x, in.	Radius, in.
0	0
.5	.165
1.0	.282
1.5	.378
2.0	.460
2.5	.540
3.0	.612
3.5	.680
4.0	.743
4.5	.806
5.0	.862
5.5	.917
6.0	.969
6.5	1.015
7.0	1.062
7.5	1.106
8.0	1.150
8.5	1.187
9.0	1.222
9.5	1.257
10.0	1.290
10.5	1.320
11.0	1.350

Afterbody		
x, in.	Radius, in.	
	Basic body	Indented body
11.5	1.376	1.376
12.0	1.404	1.404
12.5	1.430	1.427
13.0	1.452	1.440
13.5	1.476	1.440
14.0	1.493	1.433
14.5	1.512	1.416
15.0	1.526	1.390
15.5	1.540	1.359
16.0	1.552	1.323
16.5	1.565	1.283
17.0	1.575	1.242
17.5	1.585	1.203
18.0	1.590	1.173
18.5	1.598	1.149
19.0	1.602	1.133
19.5	1.606	1.126
20.0	1.606	1.133
20.5	1.604	1.150
21.0	1.602	1.175
21.5	1.600	1.202
22.0	1.594	1.236
22.5	1.587	1.269
23.0	1.578	1.306
23.5	1.570	1.341
24.0	1.560	1.363
24.5	1.547	1.375
25.0	1.532	1.380
25.5	1.517	1.380
26.0	1.501	1.376
26.5	1.480	1.370
27.0	1.460	1.362
27.5	1.438	1.349
28.0	1.414	1.335
28.5	1.387	1.319
29.0	1.360	1.300
29.5	1.330	1.280
30.0	1.300	1.255
31.0	1.231	1.201
32.0	1.158	1.138
33.0	1.076	1.065
34.0	.984	.980
35.0	.878	.878
36.0	.762	.762
36.15	.750	.750

TABLE II.- WING DEFLECTION CHARACTERISTICS

Twist measurement station, $\frac{y}{b/2}$	Rate of change in twist angle due to a load at section quarter chord, $\frac{\partial \Delta\alpha}{\partial n}$, deg/lb, at -				
	$\frac{y'}{b'/2} = 0.185$	$\frac{y'}{b'/2} = 0.348$	$\frac{y'}{b'/2} = 0.565$	$\frac{y'}{b'/2} = 0.795$	$\frac{y'}{b'/2} = 0.948$
0.25	-0.0001	-0.0002	-0.0005	-0.0014	-0.0040
.40	0	-.0002	-.0011	-.0032	-.0088
.60	.0003	-.0002	-.0014	-.0129	-.0215
.80	.0003	-.0001	-.0015	-.0182	-.0638
.95	.0005	0	-.0014	-.0173	-.0950
1.00	.0002	-.0001	-.0008	-.0160	-.0850

Twist measurement station, $\frac{y}{b/2}$	Rate of change in twist angle due to a pitching moment about section quarter chord, $\frac{\partial \Delta\alpha}{\partial m}$, deg/in-lb, at -				
	$\frac{y'}{b'/2} = 0.185$	$\frac{y'}{b'/2} = 0.348$	$\frac{y'}{b'/2} = 0.565$	$\frac{y'}{b'/2} = 0.795$	$\frac{y'}{b'/2} = 0.948$
0.25	0.0001	0.0001	0.0002	0.0004	-0.0009
.40	.0001	.0004	.0009	.0015	-.0029
.60	.0002	.0006	.0020	.0048	.0098
.80	.0003	.0007	.0039	.0186	.0334
.95	.0003	.0007	.0043	.0237	.1136
1.00	.0003	.0007	.0044	.0284	.1436

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL

(a) 12-percent-semispan station

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
	M = .800 (α = 3.75° for basic body)													
Upper surface	L. E.	.513	.479	.547	.540	.481	.500	.273	.334	.011	.085	-.344	-.257	
	.022	.136	.080	-.149	-.218	-.566	-.695	-1.403	-1.471	-1.715	-1.766	-1.735	-1.423	.022
	.072	.046	-.055	-.137	-.278	-.354	-.577	-.504	-.883	-.969	-1.305	-1.491	-1.352	.072
	.150	-.062	-.099	-.221	-.268	-.414	-.482	-.608	-.644	-.725	-.814	-.984	-1.257	.150
	.250	-.124	-.127	-.259	-.267	-.439	-.451	-.584	-.629	-.634	-.592	-.841	-1.019	.250
	.350	-.151	-.108	-.278	-.230	-.446	-.382	-.598	-.514	-.509	-.606	-.755	-.838	.350
	.449	-.169	-.095	-.282	-.197	-.442	-.328	-.557	-.407	-.645	-.545	-.675	-.721	.449
	.549	-.195	-.086	-.308	-.175	-.451	-.295	-.501	-.359	-.608	-.528	-.663	-.656	.549
	.652	-.185	-.085	-.272	-.160	-.370	-.267	-.416	-.337	-.573	-.526	-.605	-.606	.652
	.752	-.141	-.069	-.207	-.132	-.272	-.217	-.335	-.303	-.493	-.426	-.573	-.549	.752
	.846	-.089	-.087	-.134	-.136	-.177	-.191	-.238	-.289	-.401	-.389	-.539	-.543	.846
	.924	-.060	-.082	-.085	-.108	-.115	-.140	-.165	-.207	-.331	-.323	-.513	-.469	.924
Lower surface	.018	.363	.363	.356	.351	.348	.330	.330	.318	.315	.302	.307	.300	.018
	.069	-.045	-.132	.127	.066	.308	.272	.468	.433	.606	.581	.732	.715	.069
	.145	-.062	-.116	.077	.045	.236	.218	.373	.359	.497	.488	.609	.610	.145
	.250	-.073	-.047	.047	.079	.186	.217	.307	.333	.415	.439	.514	.545	.250
	.349	-.083	-.014	.025	.092	.150	.212	.258	.311	.355	.401	.445	.494	.349
	.448	-.097	.001	.003	.094	.114	.196	.211	.282	.295	.361	.379	.443	.448
	.549	-.094	-.006	-.007	.071	.095	.167	.181	.244	.254	.313	.331	.386	.549
	.650													.650
	.750	-.069	.015	-.004	.077	.068	.137	.133	.190	.178	.233	.231	.278	.750
	.848	-.030	-.002	.016	.045	.068	.096	.108	.136	.129	.164	.160	.192	.848
	.899	-.014	-.017	.022	.023	.064	.062	.091	.091	.098	.106	.114	.120	.899
	M = .900													
Upper surface	L. E.	.539	.509	.577	.563	.564	.567	.441	.491	.232	.292	-.041	.024	
	.022	.163	.100	-.097	-.157	-.470	-.604	-1.093	-1.105	-1.361	-1.365	-1.479	-1.361	.022
	.072	.071	-.044	-.091	-.251	-.254	-.541	-.438	-.744	-.802	-1.021	-1.423	-1.325	.072
	.150	-.046	-.095	-.189	-.245	-.359	-.406	-.491	-.594	-.618	-.719	-.685	-1.126	.150
	.250	-.122	-.131	-.243	-.265	-.368	-.443	-.496	-.567	-.609	-.666	-.658	-.814	.250
	.350	-.158	-.112	-.279	-.248	-.417	-.416	-.538	-.541	-.624	-.584	-.693	-.738	.350
	.449	-.187	-.098	-.295	-.210	-.433	-.367	-.552	-.502	-.547	-.504	-.718	-.691	.449
	.549	-.240	-.095	-.384	-.198	-.482	-.347	-.589	-.450	-.518	-.476	-.703	-.667	.549
	.652	-.249	-.105	-.403	-.212	-.506	-.369	-.587	-.479	-.570	-.521	-.628	-.635	.652
	.752	-.188	-.089	-.384	-.179	-.530	-.350	-.567	-.427	-.574	-.512	-.620	-.566	.752
	.846	-.116	-.121	-.205	-.200	-.443	-.323	-.433	-.386	-.545	-.430	-.567	-.556	.846
	.924	-.080	-.120	-.103	-.167	-.217	-.195	-.247	-.284	-.509	-.527	-.569	-.612	.924
Lower surface	.018	.418	.420	.405	.405	.395	.382			.358	.344	.329	.328	.018
	.069	-.038	-.140	.132	.058	.320	.277	.476	.442	.621	.601	.755	.746	.069
	.145	-.067	-.138	.079	.035	.246	.223	.382	.368	.515	.510	.635	.642	.145
	.250	-.088	-.051	.044	.081	.194	.228	.315	.347	.433	.464	.542	.580	.250
	.349	-.103	-.013	.020	.098	.157	.226	.265	.328	.373	.430	.476	.533	.349
	.448	-.123	.003	-.009	.102	.117	.212	.214	.301	.313	.390	.410	.485	.448
	.549	-.127	-.012	-.022	.075	.096	.179	.183	.260	.271	.341	.363	.428	.549
	.650													.650
	.750	-.097	.013	-.016	.083	.070	.150	.133	.207	.197	.262	.270	.327	.750
	.848	-.044	-.010	.009	.047	.072	.104	.106	.147	.147	.188	.206	.244	.848
	.899	-.024	-.030	.018	.018	.065	.066	.085	.098	.114	.126	.162	.175	.899
	M = .940													
Upper surface	L. E.	.558	.521	.596	.575	.590	.594	.489	.547	.306	.366	.052		
	.022	.180	.103	-.063	-.131	-.426	-.536	-.986	-.978	-1.216	-1.221	-1.364		.022
	.072	.089	-.043	-.062	-.241	-.202	-.472	-.419	-.676	-.697	-.907	-1.186		.072
	.150	-.031	-.093	-.157	-.220	-.322	-.388	-.446	-.542	-.569	-.631	-.654		.150
	.250	-.111	-.132	-.207	-.277	-.341	-.413	-.456	-.513	-.556	-.605	-.637		.250
	.350	-.151	-.115	-.265	-.248	-.392	-.382	-.504	-.496	-.580	-.593	-.544		.350
	.449	-.185	-.098	-.281	-.209	-.409	-.350	-.514	-.467	-.577	-.533	-.654		.449
	.549	-.251	-.100	-.340	-.193	-.452	-.332	-.555	-.445	-.598	-.476	-.687		.549
	.652	-.299	-.119	-.381	-.220	-.482	-.360	-.572	-.438	-.553	-.486	-.672		.652
	.752	-.292	-.099	-.397	-.203	-.508	-.350	-.580	-.421	-.610	-.483	-.661		.752
	.846	-.202	-.144	-.358	-.228	-.482	-.355	-.545	-.426	-.551	-.428	-.608		.846
	.924	-.108	-.199	-.321	-.300	-.477	-.411	-.473	-.475	-.495	-.497	-.587		.924
Lower surface	.018	.443	.440	.429	.425	.410	.394			.383	.366	.351		.018
	.069	-.025	-.138	.141	.058	.330	.275	.486	.456	.637	.619	.772		.069
	.145	-.062	-.160	.085	.033	.250	.222	.392	.383	.530	.528	.652		.145
	.250	-.089	-.054	.046	.083	.196	.228	.324	.363	.449	.483	.562		.250
	.349	-.109	-.014	.018	.102	.156	.228	.273	.344	.388	.450	.495		.349
	.448	-.138	.003	-.016	.106	.113	.211	.222	.316	.330	.412	.431		.448
	.549	-.161	-.019	-.035	.074	.089	.175	.186	.275	.288	.362	.384		.549
	.650													.650
	.750	-.127	.006	-.037	.082	.053	.147	.138	.219	.217	.286	.297		.750
	.848	-.053	-.019	-.011	.038	.049	.092	.105	.154	.168	.213	.235		.848
	.899	-.028	-.044	-.005	.000	.036	.043	.084	.098	.138	.150	.195		.899

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(a) 12-percent-semispan station - Concluded

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
	M = .980													
Upper surface	L. E.	.584	.545	.621	.592	.621	.621	.545	.589					
	.022	.201	.124	-.023	-.095	-.366	-.456	-.877	-.876					.022
	.072	.114	-.026	-.026	-.224	-.144	-.410	-.376	-.610					.072
	.150	-.007	-.078	-.129	-.188	-.271	-.357	-.384	-.494					.150
	.250	-.086	-.119	-.175	-.252	-.301	-.363	-.397	-.467					.250
	.350	-.134	-.110	-.237	-.245	-.351	-.345	-.447	-.453					.350
	.449	-.166	-.086	-.252	-.203	-.366	-.318	-.456	-.426					.449
	.549	-.227	-.086	-.311	-.178	-.417	-.298	-.500	-.407					.549
	.652	-.277	-.120	-.355	-.206	-.443	-.328	-.528	-.438					.652
	.752	-.294	-.097	-.376	-.192	-.470	-.321	-.552	-.426					.752
	.846	-.255	-.132	-.348	-.207	-.451	-.324	-.540	-.418					.846
	.924	-.272	-.217	-.348	-.285	-.464	-.388	-.527	-.454					.924
Lower surface	.018	.466	.463	.456	.448	.431	.421							.018
	.069	.003	-.124	.159	.066	.346	.285	.504	.469					.069
	.145	-.038	-.188	.100	.035	.266	.231	.409	.398					.145
	.250	-.070	-.037	.057	.091	.208	.241	.341	.379					.250
	.349	-.096	.000	.027	.110	.168	.241	.291	.360					.349
	.448	-.125	.014	-.015	.114	.121	.227	.239	.334					.448
	.549	-.155	-.023	-.047	.078	.093	.187	.204	.291					.549
	.650													.650
	.750	-.215	.000	-.082	.081	.049	.154	.154	.237					.750
	.848	-.194	-.038	-.049	.030	.045	.096	.122	.172					.848
	.899	-.191	-.086	-.044	-.020	.031	.044	.101	.115					.899
	M = 1.030													
Upper surface	L. E.	.615	.548	.650	.583	.658	.630	.600	.647					
	.022	.234	.114	.009	-.096	-.311	-.392	-.778	-.761					.022
	.072	.151	-.064	.012	-.244	-.106	-.386	-.318	-.520					.072
	.150	.033	-.056	-.099	-.203	-.216	-.332	-.316	-.421					.150
	.250	-.044	-.140	-.134	-.242	-.248	-.328	-.327	-.400					.250
	.350	-.096	-.133	-.198	-.236	-.302	-.305	-.376	-.388					.350
	.449	-.124	-.102	-.218	-.202	-.317	-.273	-.386	-.363					.449
	.549	-.181	-.087	-.270	-.172	-.359	-.255	-.439	-.343					.549
	.652	-.232	-.113	-.311	-.192	-.384	-.280	-.458	-.371					.652
	.752	-.251	-.097	-.334	-.180	-.408	-.273	-.480	-.358					.752
	.846	-.216	-.106	-.309	-.184	-.393	-.273	-.474	-.347					.846
	.924	-.235	-.184	-.312	-.255	-.406	-.330	-.482	-.407					.924
Lower surface	.018	.498	.493	.489	.479	.467	.459							.018
	.069	.033	-.122	.188	.028	.375	.285	.544	.502					.069
	.145	-.011	-.186	.127	-.046	.297	.247	.450	.431					.145
	.250	-.037	-.136	.081	.078	.241	.267	.381	.414					.250
	.349	-.066	-.058	.051	.114	.202	.272	.332	.398					.349
	.448	-.100	.020	.012	.127	.155	.262	.279	.373					.448
	.549	-.124	.000	-.024	.089	.127	.225	.243	.331					.549
	.650													.650
	.750	-.180	.000	-.069	.105	.086	.197	.195	.282					.750
	.848	-.163	-.020	-.063	.058	.086	.142	.166	.217					.848
	.899	-.166	-.064	-.060	.011	.075	.091	.148	.162					.899
	M = 1.125													
Upper surface	L. E.	.617	.578	.632	.596	.641	.622	.675	.651					
	.022	.196	.144	-.032	-.058	-.297	-.351	-.634	-.616					.022
	.072	.144	-.049	.004	-.192	-.153	-.355	-.272	-.467					.072
	.150	.033	-.067	-.092	-.193	-.191	-.327	-.265	-.424					.150
	.250	-.017	-.104	-.105	-.213	-.198	-.324	-.261	-.355					.250
	.350	-.059	-.117		-.194	-.240	-.281	-.304	-.336					.350
	.449	-.076	-.062	-.168	-.167	-.249	-.244	-.308	-.313					.449
	.549	-.120	-.044	-.208	-.141	-.287	-.216	-.354	-.293					.549
	.652	-.163	-.063	-.244	-.148	-.312	-.238	-.380	-.316					.652
	.752	-.182	-.050	-.264	-.138	-.331	-.231	-.402	-.312					.752
	.846	-.156	-.047		-.133	-.323	-.228	-.391	-.289					.844
	.924	-.170	-.121	-.252	-.189	-.334	-.270	-.392	-.336					.924
Lower surface	.018	.536	.533	.522	.059	.493	.487		.470					.018
	.069	.018	-.079	.157	-.031	.318	.216	.531	.400					.069
	.145	-.003	-.145	.096	-.017	.269	.101	.455	.377					.145
	.250	-.015	-.133	.099	.070	.237	.241	.394	.410					.250
	.349	-.038	-.073	.071	.158	.211	.279	.352	.414					.349
	.448	-.061	.010	.045	.142	.172	.284	.307	.402					.448
	.549	-.077	.024	.024		.144	.248	.278	.365					.549
	.650													.650
	.750	-.120	.030	-.017	.117	.098	.251	.246	.336					.750
	.848	-.105	.031	-.011	.072	.099	.206	.230	.281					.848
	.899	-.110	-.007	-.019	-.011	.099	.159	.218	.231					.899

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(b) 25-percent-semispan station

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
		M = .800 (α = 3.75° for basic body)												
Upper surface	L. E.	.468	.353	.507	.450	-.011	.081	-.506	-.546	-1.078	-1.134	-1.205	-1.204	
	.027	.068	.059	-.328	-.354	-1.452	-1.131	-1.680	-1.554	-1.467	-1.415	-1.157	-1.116	.027
	.076	-.034	-.042	-.286	-.293	-.606	-.697	-1.080	-1.383	-1.336	-1.356	-1.130	-1.076	.076
	.151	-.112	-.089	-.309	-.291	-.585	-.574	-.872	-1.213	-1.302	-1.307	-1.071	-1.031	.151
	.250	-.166	-.129	-.330	-.293	-.554	-.528	-.799	-.804	-1.200	-1.258	-1.026	-.999	.250
	.350	-.190	-.143	-.337	-.278	-.539	-.464	-.654	-.516	-1.051	-1.146	-.967	-.961	.350
	.453	-.198	-.143	-.324	-.255	-.480		-.520		-.872		-.890		.453
	.551	-.191	-.143	-.299	-.236	-.408	-.345	-.530	-.389	-.741	-.780	-.822	-.856	.551
	.652	-.150	-.117	-.232	-.190	-.306	-.268	-.428	-.332	-.638	-.623	-.765	-.805	.652
	.750	-.119	-.105	-.176	-.159	-.226	-.208	-.341	-.280	-.564	-.523	-.723	-.758	.750
	.850	-.069	-.069	-.101	-.099	-.129	-.125	-.229	-.187	-.478	-.428	-.695	-.717	.850
	.925	-.013	-.020	-.029	-.032	-.046	-.050	-.123	-.099	-.377	-.330	-.645	-.659	.925
Lower surface	.025	-.142	-.146	.173	.189	.390	.417	.494	.519	.565	.584	.611	.631	.025
	.074	-.097	-.086			.286	.314	.410	.452	.509	.538	.594	.612	.074
	.151	-.090	-.055	.073	.104	.230	.245	.346	.358	.446	.455	.537	.548	.151
	.248	-.093	-.045	.036	.082	.171	.214	.279	.310	.371	.396	.461	.483	.248
	.347	-.089	-.040	.022	.067	.141	.182	.238	.270	.319	.348	.404	.429	.347
	.445	-.087	-.043	.009	.052	.113	.154	.199	.232	.269	.299	.347	.373	.445
	.552	-.070	-.032	.012	.049	.100	.135	.172	.202	.228	.257	.295	.319	.552
	.650	-.035	-.008	.031	.060	.105	.132	.162	.185	.203	.227		.276	.650
	.754		.003		.057		.113		.151		.176		.208	.754
	.850	.027	.023	.062	.060	.100	.099	.120	.120	.111	.121	.126	.126	.850
	.900	.044	.038	.068	.065	.089	.092	.096	.092	.062	.076	.058	.057	.900
		M = .900												
Upper surface	L. E.	.461	.367	.445	.460	.208	.306	-.171	-.150	-.457	-.700	-.999	-1.028	
	.027	.085	.075	-.272	-.299	-1.179	-1.129	-1.466	-1.486	-1.313	-1.369	-1.017	-1.043	.027
	.076	-.025	-.032	-.251	-.280	-.510	-.534	-1.042	-1.403	-1.254	-1.320	-1.024	-.996	.076
	.151	-.113	-.087	-.295	-.270	-.509	-.578	-.712	-.832	-1.185	-1.188	-1.017	-.989	.151
	.250	-.178	-.135	-.326	-.317	-.516	-.540	-.672	-.672	-1.058	-1.070	-.998	-.965	.250
	.350	-.219	-.151	-.382	-.308	-.528	-.534	-.679	-.654	-.949	-.988	-.951	-.931	.350
	.453	-.236	-.153	-.399	-.284	-.550		-.654		-.837		-.899		.453
	.551	-.248	-.162	-.424	-.286	-.564	-.449	-.634	-.531	-.769	-.808	-.825	-.840	.551
	.652	-.193	-.139	-.408	-.245	-.563	-.415	-.599	-.454	-.686	-.694	-.776	-.798	.652
	.750	-.154	-.147	-.258	-.234	-.541	-.358	-.528	-.407	-.636	-.618	-.738	-.760	.750
	.850	-.086	-.099	-.103	-.149	-.189	-.144	-.333	-.256	-.590	-.554	-.708	-.724	.850
	.925	-.017	-.030	-.021	-.045	-.049	-.046	-.194	-.147	-.496	-.434	-.664	-.680	.925
Lower surface	.025	-.159	-.165	.157	.170	.389	.416	.504	.531	.589	.614	.648	.675	.025
	.074	-.120	-.145			.366	.315	.442	.449	.560	.527	.628	.611	.074
	.151	-.112	-.065	.064	.100	.231	.250	.348	.366	.457	.476	.560	.582	.151
	.248	-.120	-.048	.023	.084	.172	.221	.281	.319	.385	.418	.487	.518	.248
	.347	-.122	-.048	.006	.068	.140	.189	.237	.282	.333	.372	.432	.466	.347
	.445	-.122	-.053	-.008	.050	.110	.161	.197	.243	.284	.324	.377	.413	.445
	.552	-.101	-.042	-.005	.047	.097	.141	.169	.212	.243	.280	.328	.362	.552
	.650	-.059	-.016	.019	.060	.103	.139	.158	.195	.219	.252	.294	.321	.650
	.754		-.008		.053		.118		.158		.197		.256	.754
	.850	.024	.016	.061	.058	.100	.101	.106	.121	.126	.137	.176	.180	.850
	.900	.046	.034	.072	.065	.090	.095	.078	.099	.077	.092	.116	.119	.900
		M = .940												
Upper surface	L. E.	.473	.370	.428	.470	.273	.369	-.097	-.032	-.624	-.558	-.992		
	.027	.097	.077	-.242	-.278	-1.043	-1.040	-1.124	-1.343	-1.240	-1.319	-1.222		.027
	.076	-.016	-.021	-.216	-.267	-.449	-.451	-.893	-1.261	-1.222	-1.291	-1.172		.076
	.151	-.108	-.088	-.269	-.281	-.473	-.505	-.702	-.755	-1.194	-1.149	-1.116		.151
	.250	-.168	-.140	-.318	-.300	-.481	-.510	-.650	-.623	-1.177	-1.086	-1.055		.250
	.350	-.248	-.155	-.353	-.323	-.496	-.509	-.643	-.622	-.971	-.975	-.995		.350
	.453	-.266	-.153	-.381	-.288	-.523		-.633		-.703		-.910		.453
	.551	-.285	-.173	-.402	-.287	-.535	-.441	-.637	-.548	-.696	-.732	-.856		.551
	.652	-.285	-.145	-.411	-.264	-.543	-.409	-.627	-.496	-.649	-.636	-.807		.652
	.750	-.263	-.178	-.411	-.277	-.539	-.411	-.601	-.479	-.633	-.598	-.766		.750
	.850	-.097	-.171	-.377	-.288	-.506	-.393	-.525	-.440	-.587	-.579	-.725		.850
	.925	-.006	-.043	-.135	-.147	-.269	-.207	-.313	-.260	-.476	-.435	-.646		.925
Lower surface	.025	-.155	-.172	.152	.166	.387	.417	.515	.545	.606	.635	.667		.025
	.074	-.099	-.076			.357	.320							.074
	.151	-.117	-.068	.059	.100	.229	.250	.354	.380	.471	.494	.579		.151
	.248	-.133	-.049	.015	.086	.168	.223	.287	.332	.399	.438	.507		.248
	.347	-.147	-.054	-.006	.068	.133	.189	.241	.296	.347	.392	.449		.347
	.445	-.164	-.065	-.025	.048	.099	.158	.201	.256	.298	.344	.397		.445
	.552	-.143	-.052	-.025	.043	.081	.137	.170	.223	.259	.303	.348		.552
	.650	-.082	-.024	-.001	.054	.085	.131	.158	.204	.235	.273	.316		.650
	.754		-.019		.041		.102		.162		.221			.754
	.850	.024	.006	.041	.040	.068	.075	.104	.117	.150	.159	.207		.850
	.900	.048	.027	.049	.045	.048	.060	.071	.090	.104	.120	.152		.900

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(b) 25-percent-semispan station - Concluded

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
	M = .980													
Upper surface	L. E.	.503	.362	.434	.489	.463	.430	.021	.063					
	.027	.116	.082	-.196	-.227	-.955	-.929	-1.153	-1.223					.027
	.076	.004	-.008	-.189	-.219	-.413	-.435	-.834	-1.137					.076
	.151	-.088	-.071	-.228	-.259	-.424	-.444	-.616	-.713					.151
	.250	-.150	-.127	-.284	-.288	-.436	-.461	-.574	-.571					.250
	.350	-.218	-.169	-.314	-.306	-.454	-.468	-.578	-.574					.350
	.453	-.250	-.150	-.355	-.281	-.483		-.584						.453
	.551	-.279	-.158	-.377	-.266	-.495	-.409	-.598	-.520					.551
	.652	-.289	-.156	-.390	-.251	-.505	-.380	-.608	-.484					.652
	.750	-.298	-.169	-.395	-.258	-.502	-.379	-.603	-.463					.750
	.850	-.290	-.204	-.384	-.278	-.491	-.385	-.585	-.465					.850
	.925	-.242	-.195	-.321	-.250	-.421	-.313	-.487	-.358					.925
Lower surface	.025	-.121	-.241	.158	.165	.400	.420	.531	.561					.025
	.074						.326							.074
	.151	-.109	-.058	.066	.104	.238	.257	.370	.395					.151
	.248	-.121	-.038	.018	.093	.174	.227	.302	.349					.248
	.347	-.127	-.052	-.013	.070	.138	.196	.256	.311					.347
	.445	-.164	-.080	-.043	.046	.101	.163	.214	.270					.445
	.552	-.187	-.075	-.059	.040	.079	.141	.183	.238					.552
	.650	-.180	-.031	-.044	.049	.079	.133	.172	.219					.650
	.754		-.050		.023		.098		.176					.754
	.850	-.147	-.072	-.002	.001	.057	.060	.119	.129					.850
	.900	-.099	-.057	.001	.001	.033	.040	.084	.098					.900
	M = 1.030													
Upper surface	L. E.	.522	.384	.456	.473	.490	.472	.106	.167					
	.027	.157	.094	-.148	-.209	-.805	-.821	-1.053	-1.090					.027
	.076	.045	-.009	-.138	-.190	-.319	-.556	-.821	-1.005					.076
	.151	-.042	-.083	-.191	-.238	-.366	-.383	-.545	-.680					.151
	.250	-.117	-.144	-.243	-.277	-.372	-.413	-.491	-.497					.250
	.350	-.172	-.177	-.274	-.298	-.396	-.415	-.498	-.502					.350
	.453	-.208	-.159	-.317	-.283	-.423		-.506						.453
	.551	-.238	-.150	-.334	-.258	-.434	-.363	-.521	-.454					.551
	.652	-.249	-.139	-.349	-.237	-.447	-.329	-.535	-.421					.652
	.750	-.256	-.150	-.349	-.236	-.440	-.322	-.535	-.409					.750
	.850	-.252	-.171	-.343	-.252	-.432	-.330	-.531	-.420					.850
	.925	-.231	-.188	-.314	-.246	-.380	-.270	-.496	-.343					.925
Lower surface	.025	-.082	-.218	.180	.120	.426	.437	.568	.591					.025
	.074						.358							.074
	.151	-.078	-.146	.084	.100	.269	.285	.407	.430					.151
	.248	-.095	-.080	.042	.100	.209	.260	.340	.385					.248
	.347	-.102	-.026	.018	.078	.170	.230	.294	.348					.347
	.445	-.131	-.051	-.021	.049	.134	.199	.252	.308					.445
	.552	-.155	-.083	-.046	.051	.112	.179	.221	.277					.552
	.650	-.147	-.042	-.040	.072	.113	.174	.210	.259					.650
	.754		-.034		.049		.141		.217					.754
	.850	-.134	-.057	-.020	.018	.102	.105	.166	.173					.850
	.900	-.108	-.057	.002	.013	.084	.088	.135	.145					.900
	M = 1.125													
Upper surface	L. E.	.603	.424	.525	.473	.615	.513	.297	.351					
	.027	.157	.093	-.123	-.169	-.625	-.612	-.860	-.848					.027
	.076	.068	.006	-.115	-.174	-.360	-.494	-.789	-.767					.076
	.151	.000	-.061	-.153	-.200	-.323	-.400	-.493	-.726					.151
	.250	-.067	-.106	-.184	-.231	-.302	-.355	-.389	-.442					.250
	.350	-.111	-.135	-.215	-.248	-.328	-.368	-.399	-.437					.350
	.453	-.149	-.135	-.249	-.247	-.340		-.412						.453
	.551	-.167	-.103	-.264	-.210	-.355	-.326	-.425	-.397					.551
	.652	-.188	-.091	-.285	-.189	-.373	-.289	-.441	-.360					.652
	.750	-.193	-.096	-.285	-.181	-.366	-.269	-.433	-.337					.750
	.850	-.193	-.113	-.281	-.189	-.360	-.273	-.426	-.344					.850
	.925	-.188	-.136	-.266	-.190	-.326	-.225	-.396	-.283					.925
Lower surface	.025	-.104	-.184	.168	.046	.413	.365	.577	.580					.025
	.074													.074
	.151	-.031	-.137	.100	.083	.271	.271	.423	.436					.151
	.248	-.056	-.101	.080	.132	.214	.263	.361	.402					.248
	.347	-.050	-.023	.066	.101	.181	.242	.322	.373					.347
	.445	-.078	-.019	.033	.063	.147	.217	.288	.342					.445
	.552	-.098	-.040	.004	.100	.126	.214	.265	.320					.552
	.650	-.091	-.026	.007	.104	.125	.225	.262	.312					.650
	.754		.005		.073		.199		.278					.754
	.850	-.096	-.007	.008	.063	.138	.167	.244	.243					.850
	.900	-.082	-.014	.020	-.010	.146	.138	.222	.223					.900

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(c) 40-percent-semispan station

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
		M = .800 (α = 3.75° for basic body)												
Upper surface	L. E.	.431	.441	.220	.215	-1.299	-1.236	-1.421	-1.384	-.967	-1.095	-.906	-.921	
	.023	.061	.083	-.484	-.476	-1.346	-1.281	-1.395	-1.313	-.978	-1.082	-.906	-.924	.023
	.077	-.080	-.065	-.420	-.408	-1.031	-1.121	-1.340	-1.265	-.988	-1.051	-.843	-.875	.077
	.149	-.136	-.110	-.401	-.365	-.814	-.947	-1.299	-1.233	-1.007	-.995	-.829	-.859	.149
	.249	-.171	-.146	-.373	-.339	-.680	-.667	-1.273	-1.200	-.964	-.951	-.802	-.841	.249
	.353	-.184	-.159	-.351	-.316	-.565	-.493	-1.118	-1.112	-.901	-.924	-.782	-.826	.353
	.449	-.196	-.172	-.335	-.302	-.471	-.420	-.957	-.980	-.862	-.897	-.769	-.814	.449
	.552	-.169	-.153	-.274	-.253	-.366	-.334	-.777	-.813	-.818	-.860	-.753	-.793	.552
	.650	-.139	-.132	-.219	-.207	-.285	-.263	-.622	-.666	-.774	-.814	-.734	-.771	.650
	.755	-.108	-.106	-.163	-.159	-.208	-.191	-.483	-.493	-.732	-.767	-.716	-.748	.755
	.852	-.066	-.068	-.095	-.095	-.126	-.114	-.358	-.319	-.689	-.716	-.699	-.727	.852
	.929	-.013	-.018	-.026	-.027	-.056	-.044	-.244	-.196	-.645	-.672	-.685	-.712	.929
Lower surface	.023	-.190	-.162	.208	.236	.402	.426	.477	.493	.514	.522	.533	.541	.023
	.073	-.088	-.062	.138	.164	.314	.332	.418	.431	.488	.496	.549	.556	.073
	.149	-.087	-.062	.097	.121	.245	.268	.348	.363	.422	.435	.494	.504	.149
	.247	-.051	-.029	.071	.093	.189	.209	.277	.288	.345	.354	.413	.421	.247
	.353	-.071	-.049	.044	.064	.154	.173	.236	.250	.297	.309	.362	.375	.353
	.449	-.055	-.037	.041	.059	.136	.149	.206	.214	.255	.265	.314	.321	.449
	.550	-.042	-.029	.039	.048	.116	.120	.171	.172	.206	.208	.259	.255	.550
	.650	-.007	.000	.056	.063	.116	.121	.157	.159	.174	.179	.209	.212	.650
	.750													.750
	.850	.046	.042	.079	.077	.102	.104	.100	.101	.051	.058	.053	.055	.850
	.900	.057	.052	.079	.078	.092	.095	.073	.077	-.013	-.006	-.023	-.020	.900
		M = .900												
Upper surface	L. E.	.412	.440	.340	.349	-.765	-.814	-1.246	-1.273	-.896	-.983	-.931	-.989	
	.023	.069	.098	-.430	-.433	-1.381	-1.399	-1.236	-1.271	-.869	-.961	-.905	-.951	.023
	.077	-.084	-.062	-.404	-.411	-1.238	-1.284	-1.184	-1.278	-.854	-.908	-.839	-.877	.077
	.149	-.154	-.113	-.407	-.366	-.706	-.830	-1.145	-1.213	-.864	-.902	-.846	-.873	.149
	.249	-.200	-.159	-.418	-.376	-.646	-.618	-1.107	-1.080	-.875	-.885	-.815	-.852	.249
	.353	-.235	-.179	-.435	-.363	-.624	-.589	-1.032	-.993	-.858	-.868	-.799	-.835	.353
	.449	-.257	-.206	-.486	-.380	-.645	-.581	-.928	-.900	-.829	-.849	-.784	-.824	.449
	.552	-.207	-.186	-.469	-.317	-.645	-.540	-.815	-.798	-.800	-.823	-.770	-.809	.552
	.650	-.174	-.169	-.306	-.279	-.593	-.408	-.728	-.695	-.771	-.794	-.750	-.788	.650
	.755	-.128	-.133	-.156	-.203	-.289	-.188	-.639	-.584	-.744	-.762	-.730	-.768	.755
	.852	-.074	-.083	-.082	-.107	-.099	-.095	-.547	-.469	-.713	-.729	-.713	-.748	.852
	.929	-.012	-.021	-.010	-.026	-.035	-.032	-.454	-.359	-.687	-.701	-.700	-.735	.929
Lower surface	.023	-.236	-.185	.173	.215	.393	.422	.479	.500	.541	.552	.563	.582	.023
	.073	-.128	-.079	.117	.156	.300	.328	.408	.429	.507	.514	.570	.590	.073
	.149	-.127	-.078	.074	.113	.237	.265	.341	.364	.430	.452	.517	.534	.149
	.247	-.081	-.040	.054	.090	.181	.211	.267	.291	.353	.372	.438	.453	.247
	.353	-.104	-.064	.024	.059	.145	.173	.228	.254	.307	.329	.390	.409	.353
	.449	-.083	-.051	.024	.052	.128	.151	.197	.219	.265	.284	.344	.358	.449
	.550	-.061	-.043	.025	.043	.109	.121	.162	.175	.219	.228	.288	.296	.550
	.650	-.019	-.012	.048	.059	.114	.122	.149	.161	.189	.199	.249	.257	.650
	.750													.750
	.850	.047	.042	.080	.078	.103	.105	.083	.094	.077	.086	.112	.117	.850
	.900	.060	.054	.085	.081	.091	.095	.047	.062	.023	.031	.049	.055	.900
		M = .940												
Upper surface	L. E.	.407	.439	.405	.396	-.567	-.617	-1.181	-1.203	-1.103	-1.148	-.886		
	.023	.077	.103	-.369	-.409	-1.263	-1.298	-1.324	-1.371	-1.039	-1.084	-.885		.023
	.077	-.085	-.059	-.372	-.416	-1.114	-1.153	-1.234	-1.312	-.996	-.975	-.883		.077
	.149	-.150	-.112	-.373	-.370	-.640	-.818	-1.131	-1.159	-.976	-.941	-.898		.149
	.249	-.224	-.155	-.398	-.367	-.605	-.603	-1.059	-1.054	-.930	-.900	-.880		.249
	.353	-.266	-.207	-.407	-.363	-.586	-.577	-1.007	-.968	-.878	-.873	-.853		.353
	.449	-.324	-.217	-.458	-.386	-.615	-.576	-.925	-.892	-.850	-.855	-.843		.449
	.552	-.310	-.202	-.464	-.367	-.622	-.547	-.827	-.822	-.822	-.835	-.833		.552
	.650	-.251	-.201	-.446	-.330	-.602	-.495	-.746	-.735	-.792	-.806	-.810		.650
	.755	-.123	-.202	-.452	-.335	-.573	-.445	-.668	-.635	-.763	-.780	-.787		.755
	.852	-.063	-.094	-.235	-.241	-.354	-.276	-.576	-.519	-.736	-.750	-.768		.852
	.929	-.001	-.020	-.043	-.059	-.141	-.101	-.486	-.414	-.708	-.719	-.754		.929
Lower surface	.023	-.253	-.195	.148	.208	.385	.418	.484	.512	.552	.570	.583		.023
	.073	-.149	-.087	.102	.152	.291	.324	.411	.438	.517	.530	.586		.073
	.149	-.158	-.087	.057	.110	.227	.260	.341	.373	.441	.468	.532		.149
	.247	-.111	-.048	.037	.085	.168	.205	.267	.300	.364	.389	.451		.247
	.353	-.151	-.076	.002	.052	.131	.166	.228	.261	.320	.348	.408		.353
	.449	-.117	-.062	.003	.043	.110	.140	.196	.224	.280	.303	.363		.449
	.550	-.077	-.053	.004	.032	.089	.107	.161	.180	.235	.248	.311		.550
	.650	-.025	-.022	.030	.045	.091	.105	.146	.164	.208	.220	.273		.650
	.750													.750
	.850	.052	.039	.064	.065	.067	.079	.076	.092	.098	.112	.140		.850
	.900	.067	.052	.068	.070	.052	.067	.051	.061	.055	.063	.091		.900

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(c) 40-percent-semispan station - Concluded

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
						M = .980								
Upper surface	L. E.	.420	.444	.449	.450	-.386	-.421	-1.044	-1.059					
	.023	.094	.121	-.294	-.361	-1.133	-1.153	-1.337	-1.324					.023
	.077	-.066	-.042	-.328	-.371	-.990	-1.019	-1.260	-1.283					.077
	.149	-.140	-.095	-.337	-.352	-.592	-.764	-1.192	-1.220					.149
	.249	-.201	-.163	-.365	-.364	-.559	-.564	-.899	-1.125					.249
	.353	-.248	-.190	-.382	-.349	-.531	-.534	-.779	-.827					.353
	.449	-.306	-.226	-.424	-.368	-.568	-.543	-.684	-.773					.449
	.552	-.317	-.210	-.437	-.354	-.580	-.515	-.671	-.723					.552
	.650	-.313	-.191	-.424	-.319	-.565	-.481	-.665	-.624					.650
	.755	-.326	-.219	-.433	-.317	-.560	-.463	-.644	-.550					.755
	.852	-.319	-.251	-.431	-.327	-.559	-.441	-.618	-.512					.852
	.929	-.143	-.128	-.269	-.210	-.402	-.294	-.405	-.300					.929
Lower surface	.023	-.254	-.219	.136	.199	.384	.420	.497	.526					.023
	.073	-.141	-.097	.097	.148	.291	.325	.421	.451					.073
	.149	-.148	-.090	.044	.110	.227	.261	.352	.385					.149
	.247	-.116	-.059	.019	.083	.166	.205	.277	.311					.247
	.353	-.174	-.105	-.032	.046	.125	.164	.238	.273					.353
	.449	-.186	-.082	-.039	.034	.102	.135	.207	.236					.449
	.550	-.198	-.077	-.040	.017	.078	.098	.172	.190					.550
	.650	-.178	-.071	-.014	.018	.075	.091	.156	.174					.650
	.750													.750
	.850	-.070	-.020	.003	.020	.032	.042	.079	.098					.850
	.900	-.006	.012	.001	.020	.008	.021	.052	.065					.900
						M = 1.030								
Upper surface	L. E.	.442	.414	.479	.489	-.251	-.281	-.892	-.903					
	.023	.134	.119	-.236	-.284	-.998	-1.018	-1.188	-1.186					.023
	.077	-.025	-.045	-.268	-.329	-.868	-.903	-1.116	-1.130					.077
	.149	-.095	-.107	-.300	-.323	-.550	-.790	-1.069	-1.081					.149
	.249	-.164	-.153	-.323	-.347	-.492	-.500	-.855	-1.030					.249
	.353	-.195	-.176	-.337	-.340	-.477	-.491	-.687	-.768					.353
	.449	-.254	-.206	-.374	-.355	-.504	-.491	-.651	-.690					.449
	.552	-.272	-.205	-.390	-.337	-.509	-.465	-.611	-.601					.552
	.650	-.266	-.179	-.384	-.311	-.500	-.426	-.594	-.530					.650
	.755	-.284	-.188	-.388	-.297	-.496	-.409	-.588	-.497					.755
	.852	-.287	-.217	-.397	-.300	-.499	-.389	-.590	-.471					.852
	.929	-.245	-.193	-.321	-.244	-.390	-.262	-.490	-.293					.929
Lower surface	.023	-.275	-.376	.154	.184	.410	.445	.530	.559					.023
	.073	-.122	-.134	.119	.147	.319	.354	.454	.483					.073
	.149	-.126	-.082	.064	.109	.257	.294	.386	.419					.149
	.247	-.083	-.037	.044	.086	.197	.239	.311	.346					.247
	.353	-.143	-.086	-.011	.052	.156	.200	.272	.309					.353
	.449	-.156	-.096	-.033	.049	.134	.174	.241	.274					.449
	.550	-.167	-.090	-.046	.037	.112	.138	.206	.228					.550
	.650	-.152	-.055	-.032	.039	.113	.132	.193	.212					.650
	.750													.750
	.850	-.105	-.045	.007	.018	.077	.079	.121	.138					.850
	.900	-.079	-.033	.010	.017	.055	.059	.093	.107					.900
						M = 1.125								
Upper surface	L. E.	.480	.464	.529	.531	.035	.049	-.606	-.590					
	.023	.173	.151	-.158	-.131	-.757	-.757	-.922	-.915					.023
	.077	.021	-.011	-.195	-.224	-.658	-.676	-.875	-.879					.077
	.149	-.047	-.080	-.210	-.233	-.525	-.626	-.837	-.845					.149
	.249	-.102	-.130	-.259	-.275	-.406	-.476	-.786	-.801					.249
	.353	-.142	-.145	-.266	-.273	-.399	-.443	-.594	-.796					.353
	.449	-.189	-.171	-.305	-.303	-.414	-.447	-.548	-.623					.449
	.552	-.206	-.162	-.325	-.294	-.429	-.440	-.516	-.555					.552
	.650	-.203	-.143	-.325	-.266	-.411	-.380	-.493	-.486					.650
	.755	-.219	-.141	-.322	-.251	-.409	-.351	-.486	-.434					.755
	.852	-.234	-.151	-.328	-.237	-.411	-.336	-.489	-.410					.852
	.929	-.222	-.153	-.304	-.196	-.374	-.249	-.467	-.309					.929
Lower surface	.023	-.232	-.473	.172	.125	.411	.436	.554	.577					.023
	.073	-.079	-.146	.147	.137	.325	.354	.479	.501					.073
	.149	-.081	-.115	.101	.120	.267	.303	.417	.442					.149
	.247		-.054	.086	.082	.209	.255	.349	.379					.247
	.353	-.090	-.050	.040	.061	.166	.230	.314	.349					.353
	.449	-.104	-.052	.018	.060	.143	.216	.289	.320					.449
	.550	-.111	-.056	-.002	.088	.124	.192	.263	.283					.550
	.650	-.099	-.031	.007	-.011	.138	.193	.258	.272					.650
	.750													.750
	.850	-.060	.011	.043	.088	.153	.154	.208	.212					.850
	.900	-.039	.019	.056	.088	.140	.139	.183	.186					.900

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(d) 60-percent-semispan station

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
		M = .800 (α = 3.75° for basic body)												
Upper surface	L. E.	.515	.500	-.053	-.123	-1.080	-1.047	-.885	-.794	-.734	-.741	-.709	-.735	
	.023	.044	.047	-.715	-.741	-1.041	-1.003	-.891	-.783	-.729	-.726	-.705	-.719	.023
	.076	-.023	-.031	-.537	-.516	-1.028	-.994	-.870	-.777	-.706	-.716	-.692	-.715	.076
	.150	-.083	-.073	-.434	-.409	-1.005	-.977	-.853	-.767	-.693	-.701	-.686	-.706	.150
	.250	-.126	-.121	-.376	-.364	-1.005	-.980	-.818	-.749	-.678	-.682	-.680	-.697	.250
	.349	-.144	-.141	-.341	-.330	-.987	-.960	-.778	-.724	-.664	-.662	-.673	-.686	.349
	.450	-.156	-.154	-.311	-.303	-.939	-.923	-.739	-.703	-.649	-.645	-.666	-.674	.450
	.550	-.149	-.148	-.271	-.266	-.820	-.826	-.706	-.682	-.634	-.631	-.657	-.662	.550
	.650	-.153	-.152	-.235	-.234	-.594	-.625	-.669	-.659	-.618	-.616	-.647	-.649	.650
	.750	-.105	-.106	-.164	-.163	-.350	-.379	-.633	-.626	-.597	-.599	-.631	-.626	.750
	.850	-.063	-.065	-.100	-.101	-.171	-.165	-.603	-.607	-.582	-.592	-.623	-.618	.850
	.900	-.039	-.043			-.110	-.096	-.584		-.575		-.616		.900
Lower surface	.038	-.117	-.111	.210	.222	.369	.378	.430	.436	.454	.458	.475	.479	.038
	.091	-.064	-.057	.163	.170	.309	.320	.382	.388	.419	.425	.462	.467	.091
	.147	-.062	-.051	.135	.137	.264	.272	.331	.337	.377	.384	.425	.431	.147
	.252	-.053	-.048	.090	.093	.201	.206	.262	.264	.302	.308	.354	.356	.252
	.348	-.033	-.030	.084	.087	.178	.184	.228	.229	.258	.266	.308	.312	.348
	.447	-.015	-.013	.079	.082	.156	.161	.192	.193	.212	.217	.255	.258	.447
	.549	.013	.012	.089	.088	.147	.150	.165	.163	.173	.175	.207	.209	.549
	.655													.655
	.798													.798
	.875	.072	.068	.095	.092	.101	.102	-.001	-.004	-.033	-.033	-.024	-.023	.875
		M = .900												
Upper surface	L. E.	.512	.507	.113	.081	-1.052	-1.077	-.949	-1.000	-.776	-.777	-.752	-.744	
	.023	.039	.052	-.845	-.818	-1.309	-1.451	-.931	-.927	-.785	-.752	-.749	-.734	.023
	.076	-.031	-.035	-.555	-.527	-1.300	-1.455	-.763	-.835	-.720	-.747	-.717	-.748	.076
	.150	-.110	-.084	-.500	-.426	-1.180	-1.319	-.751	-.805	-.704	-.731	-.705	-.725	.150
	.250	-.150	-.139	-.474	-.405	-.986	-1.012	-.738	-.775	-.695	-.713	-.696	-.714	.250
	.349	-.173	-.166	-.484	-.407	-.918	-.899	-.723	-.747	-.684	-.695	-.691	-.706	.349
	.450	-.182	-.181	-.432	-.380	-.820	-.784	-.705	-.720	-.675	-.680	-.685	-.698	.450
	.550	-.174	-.176	-.267	-.327	-.711	-.601	-.684	-.694	-.663	-.662	-.678	-.689	.550
	.650	-.180	-.186	-.240	-.271	-.564	-.402	-.661	-.667	-.649	-.646	-.671	-.681	.650
	.750	-.119	-.122	-.165	-.182	-.424	-.244	-.628	-.635	-.628	-.618	-.657	-.659	.750
	.850	-.068	-.072	-.091	-.096	-.294	-.136	-.605	-.618	-.614	-.612	-.653	-.658	.850
	.900	-.040	-.048				-.091	-.595		-.613		-.641		.900
Lower surface	.038	-.158	-.134	.181	.205	.345	.364	.412	.425	.455	.465	.489	.495	.038
	.091	-.099	-.077	.141	.157	.289	.308	.363	.381	.421	.433	.477	.484	.091
	.147	-.093	-.069	.114	.127	.246	.261	.317	.333	.379	.392	.442	.450	.147
	.252	-.075	-.065	.074	.084	.184	.199	.248	.262	.307	.318	.372	.379	.252
	.348	-.052	-.045	.072	.080	.165	.178	.214	.229	.266	.277	.329	.336	.348
	.447	-.026	-.025	.072	.077	.147	.157	.179	.193	.223	.231	.279	.285	.447
	.549	.008	.007	.086	.085	.140	.149	.153	.165	.185	.194	.235	.241	.549
	.655													.655
	.798													.798
	.875	.079	.071	.101	.100	.093	.106	.002	.013	.005	.008	.028	.029	.875
		M = .940												
Upper surface	L. E.	.497	.506	.287	.206	-.821	-.834	-1.073	-1.080	-.863	-.829	-.868		
	.023	.023	.052	-.740	-.887	-1.335	-1.332	-1.028	-.962	-.870	-.787	-.890		.023
	.076	-.047	-.039	-.456	-.494	-1.309	-1.338	-.864	-.943	-.763	-.779	-.776		.076
	.150	-.151	-.091	-.463	-.425	-1.195	-1.243	-.860	-.930	-.747	-.764	-.756		.150
	.250	-.193	-.149	-.459	-.397	-1.007	-1.131	-.817	-.858	-.737	-.750	-.752		.250
	.349	-.242	-.197	-.468	-.408	-.750	-.768	-.782	-.832	-.723	-.735	-.742		.349
	.450	-.225	-.210	-.487	-.418	-.665	-.685	-.752	-.797	-.713	-.720	-.732		.450
	.550	-.182	-.222	-.504	-.423	-.660	-.659	-.720	-.753	-.703	-.705	-.722		.550
	.650	-.182	-.217	-.523	-.450	-.662	-.626	-.693	-.711	-.690	-.691	-.714		.650
	.750	-.117	-.127	-.379	-.355	-.573	-.502	-.669	-.663	-.661	-.664	-.682		.750
	.850	-.064	-.074	-.094	-.111	-.393	-.337	-.641	-.638	-.659	-.659	-.692		.850
	.900	-.037	-.039				-.272							.900
Lower surface	.038	-.221	-.151	.142	.187	.324	.346	.405	.424	.462	.475	.499		.038
	.091	-.144	-.094	.109	.144	.268	.289	.356	.377	.428	.443	.488		.091
	.147	-.130	-.083	.085	.114	.224	.244	.310	.334	.386	.403	.453		.147
	.252	-.095	-.079	.048	.069	.162	.179	.242	.261	.315	.329	.387		.252
	.348	-.065	-.060	.047	.065	.141	.157	.208	.227	.276	.289	.344		.348
	.447	-.032	-.032	.052	.064	.123	.137	.175	.194	.234	.247	.296		.447
	.549	.008	.003	.071	.074	.117	.128	.150	.167	.198	.209	.254		.549
	.655													.655
	.798													.798
	.875	.084	.074	.101	.099	.065	.080	.012	.030	.029	.038	.059		.875

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(d) 60-percent-semispan station - Concluded

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
							M = .980							
Upper surface	L. E.	.489	.508	.387	.381	-.549	-.570	-1.172	-1.166					
	.023	.023	.072	-.670	-.801	-1.267	-1.294	-1.263	-1.195					.023
	.076	-.052	-.023	-.367	-.451	-1.179	-1.198	-1.113	-1.133					.076
	.150	-.157	-.076	-.403	-.401	-1.088	-1.121	-1.092	-1.097					.150
	.250	-.207	-.143	-.412	-.402	-.990	-1.039	-1.052	-1.061					.250
	.349	-.253	-.200	-.433	-.389	-.716	-.807	-.996	-.997					.349
	.450	-.290	-.212	-.458	-.391	-.654	-.685	-.957	-.959					.450
	.550	-.325	-.245	-.470	-.396	-.639	-.629	-.910	-.913					.550
	.650	-.366	-.294	-.492	-.417	-.647	-.589	-.862	-.849					.650
	.750	-.388	-.310	-.509	-.422	-.642	-.557	-.788	-.769					.750
	.850	-.265	-.237	-.492	-.386	-.632	-.517	-.745	-.728					.850
	.900	-.094	-.076				-.435							.900
Lower surface	.038	-.321	-.225	.088	.164	.298	.325	.403	.423					.038
	.091	-.212	-.133	.060	.129	.243	.271	.355	.379					.091
	.147	-.213	-.107	.037	.092	.200	.224	.308	.333					.147
	.252	-.213	-.118	.001	.042	.135	.154	.241	.260					.252
	.348	-.207	-.122	-.005	.031	.110	.129	.208	.228					.348
	.447	-.205	-.110	.001	.028	.088	.105	.175	.192					.447
	.549	-.164	-.059	.017	.037	.076	.090	.151	.168					.549
	.655													.655
	.798													.798
	.875	.083	.068	.030	.048	.001	.023	.036	.050					.875
							M = 1.030							
Upper surface	L. E.	.513	.514	-.442	-.504	-.320	-.425	-1.021	-1.038					
	.023	.075	.073	-.575	-.713	-1.145	-1.175	-1.221	-1.218					.023
	.076	-.016	-.015	-.314	-.380	-1.045	-1.065	-1.221	-1.218					.076
	.150	-.113	-.074	-.371	-.361	-.967	-.995	-1.163	-1.185					.150
	.250	-.164	-.129	-.351	-.383	-.891	-.928	-1.104	-1.120					.250
	.349	-.207	-.169	-.381	-.389	-.848	-.846	-1.080	-1.092					.349
	.450	-.243	-.191	-.408	-.397	-.579	-.630	-1.063	-1.077					.450
	.550	-.276	-.217	-.430	-.381	-.564	-.577	-.883	-.971					.550
	.650	-.310	-.262	-.440	-.386	-.574	-.550	-.844	-.831					.650
	.750	-.339	-.275	-.461	-.397	-.578	-.507	-.801	-.749					.750
	.850	-.332	-.272	-.457	-.377	-.570	-.469	-.760	-.707					.850
	.900						-.408							.900
Lower surface	.038	-.331	-.260	.092	.163	.324	.360	.422	.448					.038
	.091	-.204	-.159	.070	.136	.272	.305	.376	.405					.091
	.147	-.190	-.136	.035	.099	.229	.259	.328	.360					.147
	.252	-.189	-.142	-.002	.054	.167	.190	.262	.288					.252
	.348	-.178	-.121	-.026	.034	.143	.165	.227	.253					.348
	.447	-.181	-.097	-.023	.032	.124	.141	.196	.221					.447
	.549	-.157	-.073	.007	.039	.113	.127	.172	.195					.549
	.655													.655
	.798													.798
	.875	-.003	.021	.036	.125	.040	.058	.055	.089					.875
							M = 1.125							
Upper surface	L. E.	.559	.554	.514	.509	-.057	-.128	-.736	-.750					
	.023	.122	.115	-.437	-.439	-.914	-.941	-.984	-.988					.023
	.076	.013	.012	-.201	-.250	-.806	-.828	-.964	-.974					.076
	.150	-.052	-.053	-.312	-.277	-.744	-.776	-.928	-.935					.150
	.250	-.110	-.119	-.287	-.299	-.700	-.729	-.877	-.889					.250
	.349	-.153	-.142	-.303	-.313	-.629	-.702	-.863	-.877					.349
	.450	-.182	-.150	-.323	-.328	-.477	-.647	-.841	-.862					.450
	.550	-.206	-.164	-.349	-.354	-.459	-.512	-.841	-.858					.550
	.650	-.231	-.185	-.367	-.335	-.463	-.486	-.746	-.848					.650
	.750	-.271	-.205	-.377	-.312	-.464	-.479	-.634	-.656					.750
	.850	-.262	-.201	-.383	-.306	-.473	-.470	-.623	-.593					.850
	.900													.900
Lower surface	.038	-.321	-.398	.128	.150	.335	.377	.466	.482					.038
	.091	-.155	-.142	.100	.136	.284	.332	.423	.442					.091
	.147	-.141	-.102	.083	.107	.235	.291	.379	.400					.147
	.252	-.134	-.101	.033	.062	.185	.230	.318	.333					.252
	.348	-.121	-.091	.016	.066	.157	.210	.289	.304					.348
	.447	-.130	-.097	.003	.064	.161	.195	.263	.275					.447
	.549	-.105	-.070	.013	.073	.172	.187	.244	.254					.549
	.655													.655
	.798													.798
	.875	.028	.073	.107	.122	.128	.130	.145	.153					.875

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(e) 80-percent-semispan station

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
	M = .800 (α = 3.75° for basic body)													
Upper surface	.025	.010	.003	-.956	-.946	-.589	-.607	-.513	-.518	-.522	-.521	-.590	-.591	.025
	.073	-.069	-.059	-.860	-.942	-.576	-.593	-.505	-.511	-.515	-.516	-.573	-.585	.073
	.146	-.105	-.115	-.678	-.694	-.560	-.577	-.492	-.495	-.504	-.504	-.568	-.571	.146
	.247	-.130	-.129	-.473	-.465	-.536	-.550	-.478	-.478	-.494	-.491	-.563	-.563	.247
	.352	-.147	-.147	-.372	-.362	-.513	-.523	-.465	-.464	-.482	-.482	-.557	-.555	.352
	.453	-.159	-.160	-.326	-.321	-.489	-.498	-.453	-.452	-.476	-.472	-.551	-.550	.453
	.550	-.163	-.164	-.289	-.286	-.470	-.473	-.442	-.443	-.466	-.462	-.545	-.542	.550
	.603	-.152	-.157	-.259	-.258	-.460	-.464	-.437	-.437	-.462	-.460	-.538	-.539	.603
	.651	-.147	-.149	-.232	-.232	-.455	-.457	-.431	-.432	-.459	-.455	-.538	-.535	.651
	.750	-.121	-.124	-.184	-.183	-.445	-.443	-.425	-.427	-.454	-.450	-.532	-.528	.750
	.851	-.061	-.066	-.098	-.101	-.433	-.429	-.417	-.420	-.443	-.440	-.518	-.514	.851
Lower surface	.061	-.048	-.045	.227	.227	.332	.333	.364	.360	.383	.378	.394	.392	.061
	.147	-.021	-.019	.203	.201	.287	.286	.314	.312	.345	.336	.365	.362	.147
	.248	-.011	-.013	.143	.141	.216	.219	.244	.242	.274	.272	.305	.304	.248
	.352	-.006	-.008	.116	.115	.169	.174	.190	.187	.218	.214	.248	.248	.352
	.453	.008	.005	.103	.103	.135	.140	.143	.145	.168	.167	.196	.195	.453
	.549	.031	.027	.102	.103	.113	.118	.111	.112	.131	.132	.154	.155	.549
	.612	.041	.038	.104	.103	.093	.096	.087	.087	.102	.101	.124	.124	.612
	.706	.058	.055	.102	.100	.057	.061	.044	.044	.054		.068	.069	.706
	.791	.077	.073	.108	.105	.028	.031	.009	.009	.017	.016	.022	.024	.791
	M = .900													
Upper surface	.025	.020	.008	-1.215	-1.123	-.824	-.805	-.540	-.542	-.579	-.572	-.641	-.643	.025
	.073	-.072	-.062	-1.084	-.964	-.681	-.719	-.526	-.537	-.571	-.556	-.595	-.606	.073
	.146	-.116	-.133	-.794	-.715	-.688	-.689	-.511	-.516	-.557	-.548	-.606	-.611	.146
	.247	-.146	-.147	-.442	-.461	-.677	-.655	-.497	-.501	-.547	-.539	-.604	-.612	.247
	.352	-.167	-.171	-.342	-.421	-.650	-.629	-.484	-.487	-.539	-.531	-.600	-.609	.352
	.453	-.181	-.185	-.345	-.395	-.627	-.608	-.477	-.479	-.534	-.523	-.594	-.605	.453
	.550	-.188	-.195	-.341	-.360	-.599	-.587	-.471	-.470	-.526	-.514	-.584	-.598	.550
	.603	-.177	-.184	-.315	-.333	-.578	-.573	-.469	-.467	-.528	-.509	-.575	-.589	.603
	.651	-.169	-.174	-.269	-.268	-.566	-.562	-.468	-.464	-.521	-.508	-.582	-.594	.651
	.750	-.137	-.147	-.183	-.186	-.537	-.536	-.468	-.463	-.515	-.501	-.577	-.585	.750
	.851	-.069	-.075	-.082	-.085	-.494	-.504	-.462	-.457	-.506	-.490	-.566	-.575	.851
Lower surface	.061	-.071	-.068	.217	.215	.323	.329	.351	.356	.380	.380	.395	.396	.061
	.147	-.040	-.037	.197	.195	.279	.286	.307	.310	.341	.339	.369	.368	.147
	.248	-.025	-.026	.140	.138	.215	.224	.239	.245	.273	.277	.313	.312	.248
	.352	-.015	-.017	.115	.113	.172	.181	.186	.192	.220	.222	.259	.259	.352
	.453	.002	.000	.105	.103	.141	.150	.144	.151	.173	.177	.211	.212	.453
	.549	.029	.027	.109	.106	.122	.133	.115	.123	.138	.144	.171	.175	.549
	.612	.041	.038	.108	.107	.106	.113	.092	.097	.112	.116	.142	.143	.612
	.706	.061	.057	.109	.106	.074	.082	.049	.056	.065	.070	.090	.090	.706
	.791	.081	.077	.114	.113	.048	.055	.018	.023	.029	.032	.048	.048	.791
	M = .940													
Upper surface	.025	.009	-.005	-1.035	-1.063	-.912	-.915	-.617	-.609	-.634	-.636	-.721		.025
	.073	-.087	-.066	-.900	-.847	-.696	-.740	-.803	-.639	-.683	-.617	-.664		.073
	.146	-.121	-.152	-.704	-.743	-.710	-.743	-.760	-.582	-.642	-.597	-.645		.146
	.247	-.157	-.171	-.531	-.499	-.731	-.727	-.561	-.549	-.597	-.594	-.651		.247
	.352	-.179	-.193	-.548	-.504	-.706	-.701	-.548	-.536	-.586	-.584	-.644		.352
	.453	-.194	-.206	-.581	-.529	-.674	-.670	-.539	-.525	-.583	-.577	-.638		.453
	.550	-.204	-.210	-.614	-.549	-.634	-.627	-.536	-.514	-.575	-.568	-.629		.550
	.603	-.192	-.193	-.621	-.540	-.608	-.603	-.539	-.511	-.570	-.560	-.621		.603
	.651	-.181	-.192	-.548	-.459	-.598	-.591	-.527	-.507	-.571	-.561	-.626		.651
	.750	-.145	-.159	-.158	-.183	-.566	-.559	-.526	-.506	-.566	-.553	-.620		.750
	.851	-.067	-.079	-.033	-.044	-.527	-.519	-.515	-.499	-.555	-.541	-.610		.851
Lower surface	.061	-.075	-.078	.178	.189	.292	.301	.338	.349	.379	.382	.401		.061
	.147	-.043	-.046	.167	.175	.254	.258	.299	.306	.340	.342	.375		.147
	.248	-.027	-.033	.114	.123	.188	.198	.229	.243	.277	.283	.323		.248
	.352	-.016	-.020	.095	.100	.145	.156	.179	.192	.225	.231	.271		.352
	.453	.004	-.001	.089	.092	.119	.127	.139	.154	.182	.188	.226		.453
	.549	.032	.027	.098	.100	.101	.113	.114	.130	.150	.158	.188		.549
	.612	.044	.039	.100	.102	.085	.093	.093	.105	.126	.131	.162		.612
	.706	.065	.059	.104	.104	.057	.066	.053	.069	.081	.089	.112		.706
	.791	.087	.080	.114	.114	.036	.044	.025	.040	.047	.055	.072		.791

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(e) 80-percent-semispan station - Concluded

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
	M = .980													
Upper surface	.025	.014	.031	-.786	-.914	-1.225	-1.290	-.980	-.989					.025
	.073	-.110	-.063	-.658	-.689	-.890	-1.148	-.991	-.875					.073
	.146	-.176	-.148	-.587	-.651	-.898	-1.155	-.969	-.844					.146
	.247	-.242	-.176	-.475	-.441	-1.069	-1.120	-.782	-.761					.247
	.352	-.292	-.222	-.492	-.465	-1.051	-1.095	-.767	-.741					.352
	.453	-.337	-.266	-.519	-.491	-1.030	-1.083	-.750	-.728					.453
	.550	-.371	-.304	-.555	-.518	-.996	-1.055	-.737	-.714					.550
	.603	-.385	-.322	-.569	-.527	-.958	-1.026	-.732	-.706					.603
	.651	-.416	-.354	-.585	-.544		-1.013	-.720	-.699					.651
	.750	-.386	-.383	-.621	-.573	-.880	-.666	-.713	-.690					.750
	.851	-.020	-.082	-.563	-.473	-.655	-.642	-.692	-.668					.851
Lower surface	.061	-.310	-.157	.100	.137	.237	.250	.331	.343					.061
	.147	-.271	-.146	.091	.127	.202	.211	.295	.301					.147
	.248	-.224	-.083	.042	.073	.132	.150	.225	.240					.248
	.352	-.093	-.050	.023	.050	.093	.112	.180	.192					.352
	.453	-.007	-.024	.019	.044	.068	.087	.144	.157					.453
	.549	.035	.011	.032	.054	.057	.081	.123	.138					.549
	.612	.052	.028	.034	.054	.046	.067	.104	.114					.612
	.706	.076	.053	.037	.056	.028	.055	.070	.083					.706
	.791	.100	.078	.044	.063	.018	.046	.047	.058					.791
	M = 1.030													
Upper surface	.025	.068	.061	-.627	-.780	-1.136	-1.167	-1.238	-1.091					.025
	.073	-.051	-.038	-.497	-.497	-.913	-1.071	-1.078	-1.022					.073
	.146	-.117	-.128	-.494	-.478	-.887	-1.039	-.964	-1.010					.146
	.247	-.183	-.166	-.412	-.427	-.966	-.993	-1.152	-.930					.247
	.352	-.235	-.204	-.428	-.425	-.945	-.969	-1.125	-.907					.352
	.453	-.278	-.240	-.450	-.452	-.933	-.962	-1.109	-.872					.453
	.550	-.317	-.268	-.475	-.479	-.922	-.955	-1.077	-.849					.550
	.603	-.329	-.281	-.485	-.489	-.913	-.949	-1.001	-.836					.603
	.651	-.349	-.306	-.502	-.502	-.922	-.956	-.920	-.817					.651
	.750	-.394	-.343	-.542	-.536	-.914	-.945	-.772	-.789					.750
	.851	-.390	-.346	-.548	-.526	-.809	-.626	-.757	-.741					.851
Lower surface	.061	-.303	-.215	.081	.119	.255	.268	.332	.359					.061
	.147	-.249	-.171	.069	.066	.223	.230	.297	.319					.147
	.248	-.212	-.133	.036	.042	.154	.170	.229	.261					.248
	.352	-.205	-.128	.025	.033	.115	.131	.185	.217					.352
	.453	-.190	-.106	.025	.045	.090	.107	.153	.185					.453
	.549	-.140	-.067	.041	.048	.082	.102	.134	.170					.549
	.612	-.104	-.042	.043	.049	.070	.086	.118	.149					.612
	.706	-.041	-.008	.043	.055	.052	.073	.090	.122					.706
	.791	-.002	.017	.046		.044	.064	.071	.101					.791
	M = 1.125													
Upper surface	.025	.128	.126	-.412	-.463	-.884	-.921	-1.003	-1.008					.025
	.073	.037	.038	-.276	-.162	-.784	-.857	-.837	-.899					.073
	.146	-.045	-.041	-.276	-.180	-.739	-.819	-.760	-.852					.146
	.247	-.109	-.099	-.348	-.373	-.750	-.780	-.911	-.920					.247
	.352	-.158	-.145	-.341	-.347	-.736	-.765	-.897	-.905					.352
	.453	-.200	-.176	-.364	-.367	-.730	-.761	-.885	-.899					.453
	.550	-.239	-.213	-.382	-.379	-.726	-.759	-.871	-.877					.550
	.603	-.255	-.223	-.396	-.374	-.724	-.759	-.856	-.856					.603
	.651	-.275	-.240	-.415	-.404	-.728	-.764		-.809					.651
	.750	-.320	-.287	-.449	-.441	-.732	-.768	-.855	-.644					.750
	.851	-.323	-.281	-.458	-.452	-.730	-.759	-.632	-.622					.851
Lower surface	.061	-.254	-.226	.119	.157	.284	.303	.386	.391					.061
	.147	-.193	-.155	.081	.136	.282	.271	.352	.355					.147
	.248	-.156	-.114	.039	.093	.203	.218	.291	.300					.248
	.352	-.155	-.109	.023	.074	.173	.185	.252	.259					.352
	.453	-.149	-.093	.026	.068	.154	.163	.222	.231					.453
	.549	-.128	-.050	.049	.082	.154	.163	.208	.219					.549
	.612	-.111	-.025	.062	.088	.147	.151	.193	.201					.612
	.706	-.058	.015	.088	.102	.137	.139	.172	.178					.706
	.791	-.005	.046	.104	.111	.132	.133	.158	.163					.791

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Continued

(f) 95-percent-semispan station

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
	M = .800 (α = 3.75° for basic body)													
Upper surface	.071	.016	-.003	-.851	-.927	-.339	-.331	-.318	-.331	-.378	-.369	-.448	-.445	.071
	.143	-.092	-.070	-.725	-.759	-.333	-.323	-.317	-.327	-.378	-.369	-.445	-.442	.143
	.243	-.121	-.120	-.556	-.465	-.325	-.315	-.316	-.326	-.377	-.369	-.444	-.439	.243
	.344	-.149	-.148	-.368	-.292	-.317	-.304	-.316	-.323	-.375	-.367	-.443	-.437	.344
	.446	-.154	-.154	-.267	-.225	-.305	-.293	-.315	-.321	-.375	-.367	-.445	-.438	.446
	.549	-.138	-.139	-.215	-.192	-.295	-.284	-.313	-.315	-.373	-.364	-.443	-.436	.549
	.646	-.115	-.120	-.177	-.166	-.285	-.273	-.313	-.315	-.374	-.364	-.444	-.435	.646
	.751		-.083		-.124	-.278	-.264	-.313	-.311	-.372	-.362	-.442	-.431	.751
Lower surface	.100	-.011	-.013	.219	.224	.252	.261	.281	.281	.296	.296	.306	.308	.100
	.193	-.023	-.028	.157	.159	.178	.168	.208	.196	.230	.221	.252	.245	.193
	.248	-.021	-.024	.116	.116	.133	.136	.160	.159	.184	.182	.207	.206	.248
	.344	-.017	-.020	.073	.071	.072	.076	.097	.094	.119	.115	.139	.139	.344
	.446	-.003	-.005	.049	.047	.025	.028	.041	.038	.055	.054	.073	.074	.446
	.541													.541
	.587	.041	.034	.057	.057	.002	.010	.003	.004	.004	.007	.010	.014	.587
	.692													.692
	M = .900													
Upper surface	.071	.020	-.001	-1.059	-1.027	-.379	-.388	-.381	-.361	-.435	-.424	-.500	-.502	.071
	.143	-.100	-.078	-.848	-.824	-.373	-.381	-.381	-.361	-.433	-.421	-.496	-.499	.143
	.243	-.139	-.137	-.647	-.599	-.367	-.371	-.382	-.363	-.431	-.420	-.493	-.496	.243
	.344	-.182	-.181	-.444	-.428	-.359	-.359	-.384	-.363	-.430	-.419	-.492	-.494	.344
	.446	-.184	-.189	-.293	-.284	-.354	-.352	-.385	-.364	-.432	-.419	-.491	-.493	.446
	.549	-.154	-.159	-.217	-.206	-.349	-.342	-.385	-.362	-.430	-.416	-.489	-.491	.549
	.646	-.124	-.129	-.176	-.166	-.346	-.340	-.387	-.363	-.432	-.416	-.490	-.490	.646
	.751		-.085		-.125	-.346	-.336	-.387	-.363	-.430	-.414	-.487	-.487	.751
Lower surface	.100	-.023	-.026	.224	.224	.269	.279	.272	.280	.292	.295	.305	.305	.100
	.193	-.036	-.041	.161	.162	.191	.187	.202	.197	.228	.225	.255	.250	.193
	.248	-.032	-.033	.119	.117	.144	.154	.153	.160	.184	.188	.213	.214	.248
	.344	-.026	-.030	.072	.069	.083	.090	.088	.094	.118	.122	.149	.150	.344
	.446	-.008	-.011	.040	.037	.036	.032	.031	.031	.052	.056	.083	.084	.446
	.541													.541
	.587	.042	.038	.050	.048	-.008	.001	-.025	-.015	-.010	-.003	.012	.013	.587
	.692													.692
	M = .940													
Upper surface	.071	.018	-.011	-1.166	-1.117	-.450	-.431	-.453	-.418	-.483	-.471	-.546		.071
	.143	-.105	-.084	-1.129	-1.015	-.441	-.423	-.450	-.416	-.481	-.470	-.542		.143
	.243	-.142	-.139	-.919	-.792	-.435	-.414	-.450	-.416	-.478	-.466	-.537		.243
	.344	-.202	-.198	-.687	-.617	-.426	-.406	-.448	-.414	-.476	-.462	-.533		.344
	.446	-.241	-.247	-.439	-.426	-.419	-.399	-.450	-.415	-.476	-.461	-.533		.446
	.549	-.155	-.167	-.185	-.182	-.411	-.393	-.448	-.413	-.475	-.459	-.529		.549
	.646	-.119	-.126	-.087	-.103	-.409	-.393	-.451	-.413	-.476	-.458	-.529		.646
	.751		-.083		-.079	-.406	-.392	-.453	-.413	-.475	-.455	-.524		.751
Lower surface	.100	-.020	-.025	.210	.213	.248	.260	.261	.282	.292	.302	.311		.100
	.193	-.035	-.042	.151	.151	.176	.171	.195	.201	.232	.235	.264		.193
	.248	-.033	-.034	.110	.108	.130	.140	.147	.167	.190	.202	.224		.248
	.344	-.030	-.033	.064	.058	.069	.078	.087	.103	.130	.138	.166		.344
	.446	-.011	-.012	.020	.013	.018	.017	.031	.040	.072	.073	.102		.446
	.541													.541
	.587	.045	.038	.023	.018	-.035	-.022	-.036	-.015	-.003	.009	.029		.587
	.692													.692

TABLE III.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC TUNNEL - Concluded

(f) 95-percent-semispan station - Concluded

	x/c	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
	M = .980													
Upper surface	.071	.000	-.026	-.762	-.887	-1.152	-1.216	-.587	-.540					.071
	.143	-.162	-.118	-.713	-.826	-1.092	-1.163	-.584	-.538					.143
	.243	-.231	-.205	-.575	-.575	-1.041	-1.050	-.581	-.535					.243
	.344	-.286	-.266	-.564	-.526	-1.008	-.892	-.577	-.534					.344
	.446	-.349	-.334	-.601	-.565	-.868	-.799	-.575	-.535					.446
	.549	-.235	-.358	-.627	-.589	-.808	-.729	-.573	-.533					.549
	.646	-.008	-.122	-.619	-.573	-.787	-.707	-.573	-.537					.646
	.751				-.534	-.760	-.638	-.571	-.537					.751
Lower surface	.100	-.034	-.071	.125	.158	.195	.221	.263	.282					.100
	.193	-.041	-.083	.075	.104	.129	.136	.200	.206					.193
	.248	-.028	-.056	.043	.067	.089	.113	.158	.175					.248
	.344	-.025	-.053	.005	.022	.040	.060	.103	.117					.344
	.446	-.005	-.035	-.045	-.028	-.009	-.001	.049	.055					.446
	.541													.541
	.587	.060	.029	-.074	-.056	-.075	-.051	-.022	-.005					.587
	.692													.692
	M = 1.030													
Upper surface	.071	.061	.033	-.406	-.719	-1.066	-1.097	-1.230	-.711					.071
	.143	-.084	-.066	-.602	-.710	-1.010	-1.028	-1.184	-.698					.143
	.243	-.164	-.158	-.501	-.550	-.949	-.975	-1.133	-.682					.243
	.344	-.220	-.209	-.475	-.487	-.933	-.959	-1.106	-.674					.344
	.446	-.280	-.266	-.512	-.513	-.919	-.955	-1.036	-.670					.446
	.549	-.363	-.349	-.545	-.542	-.917	-.952	-.860	-.664					.549
	.646	-.430	-.399	-.542	-.528	-.886	-.903	-.761	-.664					.646
	.751		-.386		-.533	-.880	-.601	-.730	-.661					.751
Lower surface	.100	-.521	-.239	.113	.082	.198	.231	.260	.300					.100
	.193	-.303	-.203	.061	.063	.137	.152	.200	.227					.193
	.248	-.256	-.179	.035	.034	.103	.135	.163	.202					.248
	.344	-.195	-.143	.017	-.008	.065	.090	.119	.151					.344
	.446	-.116	-.104	-.020	-.079	.027	.039	.074	.096					.446
	.541													.541
	.587	-.020	-.040	-.054	-.008	-.039	-.016	.005	.037					.587
	.692													.692
	M = 1.125													
Upper surface	.071	.124	.092	-.173	-.349	-.820	-.840	-.977	-.984					.071
	.143	-.024	.010	-.484	-.367	-.789	-.792	-.933	-.939					.143
	.243	-.099	-.081	-.418	-.379	-.738	-.758	-.898	-.905					.243
	.344	-.156	-.130	-.402	-.382	-.728	-.745	-.884	-.888					.344
	.446	-.209	-.176	-.387	-.394	-.719	-.746	-.877	-.877					.446
	.549	-.269	-.242	-.421	-.427	-.716	-.747	-.873	-.813					.549
	.646	-.337	-.312	-.435	-.434	-.698	-.721	-.863	-.709					.646
	.751		-.328		-.433	-.701	-.718	-.847	-.630					.751
Lower surface	.100	-.475	-.343	.112	.158	.251	.268	.320	.340					.100
	.193	-.281	-.229	.064	.087	.194	.186	.260	.272					.193
	.248	-.248	-.198	.041	.071	.163	.179	.228	.254					.248
	.344	-.232	-.188	.044	.069	.146	.154	.195	.215					.344
	.446	-.199	-.111	.049	.060	.125	.121	.164	.174					.446
	.541													.541
	.587	-.071	.014	.038	.037	.067	.074	.103	.122					.587
	.692													.692

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL

(a) Station A

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .800 (α = 3.75° for basic body)													
.055	.068	.062	.031	.035	-.003	-.008	-.021	-.025	-.030	-.030	-.037	-.037	.055
.166	.009	.003	-.015	-.018	-.033	-.041	-.035	-.039	-.031	-.035	-.030	-.039	.166
.277	-.006	-.022	-.027	-.038	-.037	-.054	-.028	-.044	-.017	-.032	-.023	-.030	.277
.367	.044	-.107	-.005	-.143	-.053	-.200	-.077	-.247	-.118	-.303	-.136	-.324	.367
.387	-.003	-.060	-.059	-.123	-.147	-.215	-.213	-.291	-.291	-.391	-.316	-.400	.387
.415	-.034	-.074	-.110	-.154	-.231	-.276	-.325	-.380	-.417	-.494	-.438	-.534	.415
.443	-.080	-.072	-.163	-.160	-.306	-.302	-.421	-.433	-.481	-.464	-.515	-.618	.443
.498	-.138	-.003	-.222	-.094	-.382	-.189	-.496	-.256	-.506	-.333	-.506	-.371	.498
.553	-.151	.002	-.226	-.068	-.358	-.144	-.397	-.165	-.461	-.237	-.448	-.238	.553
.581	-.150	-.010	-.213	-.074	-.322	-.138	-.367	-.156	-.442	-.206	-.433	-.209	.581
.609		-.024		-.076		-.120		-.148		-.184		-.200	.609
.636	-.106	-.086	-.141	-.128	-.194	-.192	-.241	-.235	-.352	-.301	-.395	-.344	.636
.664	-.079	-.126	-.100	-.154	-.136	-.200	-.180	-.250	-.294	-.347	-.393	-.518	.664
.692	-.051	-.086	-.063	-.100	-.084	-.129	-.122	-.165	-.225	-.245	-.364	-.432	.692
.719		-.055		-.059		-.078		-.107		-.176		-.356	.719
.774	-.003	-.048	-.001	-.044	-.008	-.060	-.029	-.075	-.087	-.127	-.218	-.251	.774
.830	-.026	-.023	-.018	-.015	-.029	-.027	-.043	-.032	-.080	-.059	-.159	-.120	.830
.871	.017	.007	.050	.013	.056	.009	.052	.004	.035	-.008	.011	-.053	.871
.954	.045	.040	.053	.051	.049	.044	.047	.048	.042	.048	.052	.060	.954
M = .900													
.055	.079	.075	.042	.050	.019	.016	-.008	-.007	-.016	-.015	-.019	-.022	.055
.166	.012	.006	-.011	-.011	-.020	-.024	-.027	-.023	-.014	-.018	-.011	-.018	.166
.277	-.005	-.022	-.021	-.033	-.017	-.033	.000	-.012	.023	.011	.022	.016	.277
.367	.067	-.105	.027	-.127	.006	-.149	.001	-.162	-.017	-.193	-.046	-.224	.367
.387	.023	-.047	-.025	-.101	-.074	-.172	-.118	-.223	-.179	-.288	-.250	-.385	.387
.415	-.015	-.067	-.084	-.144	-.159	-.233	-.226	-.317	-.320	-.437	-.400	-.451	.415
.443	-.069	-.071	-.149	-.166	-.245	-.297	-.332	-.401	-.423	-.527	-.404	-.552	.443
.498	-.148	-.008	-.230	-.107	-.343	-.226	-.449	-.338	-.514	-.394	-.508	-.408	.498
.553	-.194	-.008	-.302	-.097	-.414	-.209	-.506	-.285	-.372	-.203	-.508	-.283	.553
.581	-.200	-.025	-.337	-.114	-.447	-.224	-.538	-.242	-.470	-.187	-.481	-.205	.581
.609		-.043		-.121		-.240		-.291		-.247		-.258	.609
.636	-.130	-.115	-.208	-.188	-.476	-.322	-.482	-.340	-.470	-.380	-.424	-.341	.636
.664	-.090	-.165	-.104	-.221	-.192	-.266	-.177	-.357	-.457	-.487	-.405	-.464	.664
.692	-.048	-.095	-.052	-.104	-.030	-.097	-.088	-.145	-.446	-.572	-.434	-.564	.692
.719		-.054		-.052		-.052		-.113		-.155		-.365	.719
.774	.002	-.048	.009	-.037	.022	-.047	-.048	-.101	-.131	-.163	-.302	-.352	.774
.830	-.028	-.024	-.016	-.011	-.017	-.018	-.061	-.048	-.121	-.090	-.256	-.219	.830
.871	.024	.009	.059	.019	.071	.017	.054	-.001	.036	-.026	-.022	-.097	.871
.954	.047	.044	.056	.056	.062	.053	.052	.052	.044	.044	.010	.022	.954
M = .940													
.055	.084	.077	.051	.054	.024	.022	.000	.003	-.009	-.003	-.004		.055
.166	.013	.006	-.006	-.012	-.020	-.023	-.019	-.017	-.008	-.009	-.009		.166
.277	-.008	-.025	-.017	-.034	-.011	-.028	.011	.003	.042	.031	.046		.277
.367	.082	-.103	.053	-.117	.036	-.119	.041	-.116	.032	-.137	.013		.367
.387	.041	-.038	.000	-.087	-.042	-.149	-.063	-.183	-.107	-.242	-.180		.387
.415	.003	-.064	-.059	-.131	-.128	-.204	-.169	-.269	-.247	-.367	-.335		.415
.443	-.057	-.075	-.124	-.172	-.214	-.267	-.273	-.358	-.355	-.478	-.429		.443
.498	-.139	-.012	-.216	-.108	-.318	-.214	-.387	-.308	-.452	-.404	-.411		.498
.553	-.216	-.014	-.280	-.099	-.386	-.207	-.454	-.274	-.484	-.263	-.468		.553
.581	-.248	-.036	-.320	-.124	-.418	-.210	-.492	-.246	-.453	-.172	-.471		.581
.609		-.051		-.143		-.243		-.265		-.220			.609
.636	-.235	-.130	-.356	-.210	-.461	-.333	-.507	-.377	-.488	-.328	-.499		.636
.664	-.102	-.247	-.354	-.339	-.465	-.446	-.499	-.484	-.471	-.438	-.467		.664
.692	-.032	-.100	-.148	-.251	-.445	-.511	-.463	-.541	-.425	-.538	-.452		.692
.719		-.050		-.043		-.028		-.092		-.466			.719
.774	.009	-.049	.032	-.027	.038	-.019	-.029	-.068	-.201	-.239	-.277		.774
.830	-.026	-.026	.002	-.005	.003	-.009	-.073	-.054	-.152	-.095	-.283		.830
.871	.031	.008	.069	.021	.078	.022	.028	-.006	-.007	-.036	-.068		.871
.954	.051	.044	.062	.060	.072	.058	.061	.058	.043	.044	-.010		.954

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL - Continued

(a) Station A - Concluded

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .980													
.055	.093	.090	.061	.064	.034	.033	.010	.011					.055
.166	.015	.009	-.003	-.010	-.016	-.022	-.014	-.015					.166
.277	-.005	-.030	-.013	-.037	-.003	-.026	.027	.012					.277
.367	.110	-.100	.083	-.098	.071	-.084	.082	-.073					.367
.387	.069	-.022	.034	-.060	-.002	-.116	-.015	-.143					.387
.415	.029	-.052	-.024	-.101	-.083	-.168	-.122	-.226					.415
.443	-.033	-.071	-.093	-.146	-.171	-.226	-.220	-.315					.443
.498	-.121	.000	-.184	-.108	-.279	-.184	-.337	-.272					.498
.553	-.191	-.003	-.255	-.087	-.345	-.176	-.406	-.239					.553
.581	-.232	-.026	-.291	-.106	-.380	-.176	-.443	-.222					.581
.609		-.051		-.129		-.218		-.292					.609
.636	-.267	-.117	-.338	-.190	-.423	-.305	-.487	-.378					.636
.664	-.273	-.249	-.348	-.313	-.434	-.408	-.502	-.465					.664
.692	-.268	-.285	-.348	-.360	-.449	-.475	-.529	-.535					.692
.719		-.125		-.199		-.340		-.422					.719
.774	.034	-.036		-.065	-.098	-.160	-.081	-.130					.774
.830	.009	-.010	.022	.010	-.019	-.011	-.126	-.138					.830
.871	.058	.017	.087	.039	.082	.032	.015	-.045					.871
.954	.068	.055	.090	.076	.102	.087	.070	.049					.954
M = 1.030													
.055	.127	.122	.089	.096	.070	.071	.045	.044					.055
.166	.056	.049	.034	.029	.010	.012	.005	.007					.166
.277	.016	.010	-.002	-.010	-.027	-.026	-.004	-.012					.277
.367	.133	-.159	.109	-.170	.105	-.132	.143	-.015					.367
.387	.107	-.045	.072	-.086	.042	-.108	.052	-.081					.387
.415	.071	-.029	.015	-.105	-.034	-.141	-.056	-.166					.415
.443	.010	-.073	-.055	-.149	-.118	-.198	-.152	-.255					.443
.498	-.078	-.020	-.148	-.107	-.224	-.148	-.266	-.220					.498
.553	-.148	-.008	-.216	-.084	-.288	-.133	-.333	-.181					.553
.581	-.183	-.025	-.247	-.093	-.320	-.125	-.366	-.161					.581
.609		-.042		-.114		-.173		-.230					.609
.636	-.221	-.097	-.293	-.169	-.362	-.253	-.417	-.308					.636
.664	-.232	-.213	-.305	-.282	-.374	-.345	-.434	-.391					.664
.692	-.238	-.262	-.317	-.332	-.392	-.409	-.462	-.467					.692
.719		-.187		-.245		-.326		-.464					.719
.774	-.074	-.116	-.074	-.121	-.092	-.134	-.142	-.151					.774
.830	-.073	-.110	-.057	-.093	-.103	-.114	-.134	-.095					.830
.871	.030	-.031	.040	-.023	.023	-.037	.016	-.045					.871
.954	-.050	.054	-.026	.019	-.027	-.033	-.040	-.105					.954
M = 1.125													
.055	.091	.090	.056	.067	.033	.028	.010	.008					.055
.166	.020	.019	-.004	-.001	-.016	-.015	-.023	-.026					.166
.277	.003	.001	-.023	-.018	-.029	-.028	-.023	-.027					.277
.367	.032	-.125	.021	-.134	.025	-.133	.071	-.123					.367
.387	.064	-.107	.035	-.096	.019	-.123	.062	-.126					.387
.415	.094	-.012	.035	-.067	-.028	-.133	-.021	-.168					.415
.443	.040	-.045	-.027	-.118	-.015	-.200	-.096	-.245					.443
.498	-.027	-.004	-.106	-.082	-.154	-.141	-.200	-.180					.498
.553	-.081	.036	-.152	-.048	-.211	-.095	-.265	-.129					.553
.581	-.107	.028	-.181	-.050	-.237	-.079	-.297	-.105					.581
.609		.007		-.071		-.129		-.174					.609
.636	-.154	-.040	-.224	-.114	-.288	-.202	-.341	-.246					.636
.664	-.168	-.145	-.237	-.206	-.305	-.275	-.354	-.321					.664
.692	-.183	-.195	-.251	-.258	-.327	-.341	-.367	-.389					.692
.719		-.174		-.227		-.329		-.402					.719
.774	-.063	-.092	-.068	-.090	-.050	-.087	-.087	-.102					.774
.830	-.063	-.077	-.063	-.075	-.057	-.072	-.069	-.088					.830
.871	.021	-.011	.059	-.012	.055	-.021	.074	-.017					.871
.954	-.054	-.075	-.014	-.036	.011	-.008	.055	.000					.954

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL - Continued

(b) Station B

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .800 (α = 3.75° for basic body)													
.166	.012	.005	-.017	-.018	-.055	-.060	-.081	-.087	-.102	-.103	-.125	-.128	.166
.277													.277
.367	.049	-.067	-.013	-.132	-.103	-.227	-.179	-.309	-.241	-.357	-.297	-.364	.367
.387	.078	-.062	-.006	-.167	-.137	-.318	-.235	-.454	-.364	-.577	-.418	-.565	.387
.443	-.079	-.090	-.185	-.200	-.341	-.362	-.470	-.529	-.582	-.552	-.654	-.759	.443
.498	-.146	-.034	-.241	-.128	-.404	-.279	-.540	-.390	-.568	-.482	-.644	-.605	.498
.553	-.170		-.256		-.386		-.447		-.539		-.623		.553
.609	-.102	-.043	-.165	-.095	-.250	-.174	-.304	-.254	-.443	-.425	-.601	-.719	.609
.664	-.075	-.114	-.095	-.139	-.132	-.179	-.194	-.269	-.367	-.501	-.653	-.649	.664
.719	-.020	-.044	-.023	-.048	-.033	-.059	-.078	-.104	-.188	-.191	-.428	-.351	.719
.774	-.003	-.030	.001	-.027	-.008	-.037	-.027	-.058	-.068	-.091	-.184	-.203	.774
.830	.006	-.030	.007	-.023	-.005	-.030	-.002	-.042	-.002	-.052	-.077	-.101	.830
.871	.015	.016	.023	.015	.017	.008	.026	.004	.028	.002	-.020	-.030	.871
M = .900													
.166	.014	.010	-.011	-.013	-.039	-.045	-.068	-.071	-.082	-.087	-.104	-.108	.166
.277													.277
.367	.073	-.060	.024	-.108	-.036	-.163	-.088	-.203	-.124	-.220	-.185	-.259	.367
.387	.109	-.045	.033	-.141	-.056	-.272	-.146	-.361	-.248	-.436	-.351	-.495	.387
.443	-.068	-.088	-.165	-.206	-.281	-.346	-.393	-.473	-.506	-.600	-.472	-.648	.443
.498	-.156	-.037	-.248	-.144	-.370	-.310	-.490	-.445	-.576	-.481	-.602	-.571	.498
.553	-.217		-.339		-.446		-.557		-.459		-.634		.553
.609	-.147	-.060	-.334	-.144	-.484	-.302	-.526	-.383	-.493	-.447	-.593	-.634	.609
.664	-.084	-.152	-.099	-.198	-.184	-.220	-.222	-.344	-.537	-.672	-.633	-.807	.664
.719	-.014	-.044	-.009	-.041	.000	-.057	-.085	-.121	-.247	-.230	-.410	-.364	.719
.774	.002	-.032	.011	-.022	.012	-.026	-.054	-.089	-.129	-.145	-.249	-.301	.774
.830	.002	-.032	.008	-.019	.002	-.023	-.027	-.061	-.071	-.087	-.168	-.202	.830
.871	.014	.014	.025	.018	.024	.014	.016	-.007	-.006	-.021	-.088	-.104	.871
M = .940													
.166	.015	.010	-.008	-.013	-.036	-.042	-.065	-.063	-.073	-.073	-.091		.166
.277													.277
.367	.089	-.060	.048	-.096	-.007	-.131	-.047	-.151	-.071	-.160	-.122		.367
.387	.128	-.038	.061	-.129	-.023	-.237	-.103	-.303	-.189	-.368	-.270		.387
.443	-.055	-.088	-.135	-.211	-.252	-.316	-.342	-.425	-.437	-.523	-.554		.443
.498	-.150	-.034	-.233	-.145	-.343	-.290	-.438	-.405	-.512	-.498	-.461		.498
.553	-.239		-.310		-.419								.553
.609	-.244	-.067	-.340	-.166	-.461	-.301	-.534	-.363	-.503	-.394	-.648		.609
.664	-.092	-.237	-.347	-.336	-.484	-.462	-.527	-.533	-.508	-.602	-.638		.664
.719	.000	-.042	-.004	-.039	-.063	-.053	-.118	-.151	-.280	-.303	-.376		.719
.774	.010	-.033	.031	-.014	.020	-.009	-.050	-.068	-.194	-.205	-.248		.774
.830	.002	-.034	.021	-.014	.018	-.016	-.046	-.064	-.118	-.108	-.224		.830
.871	.015	.014	.034	.020	.035	.014	.002	-.016	-.036	-.043	-.112		.871

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL - Continued

(b) Station B - Concluded

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .980													
.166	.018	.011	-.002	-.008	-.034	-.040	-.057	-.061					.166
.277													.277
.367	.114	-.049	.079	-.075	.092	-.091	-.001	-.101					.367
.387	.155	-.020	.096	-.104	.017	-.194	-.056	-.250					.387
.443	-.029	-.088	-.107	-.182	-.212	-.273	-.287	-.377					.443
.498	-.129	-.026	-.198	-.138	-.300	-.257	-.386	-.365					.498
.553	-.216		-.282		-.379								.553
.609	-.243	-.068	-.319	-.155	-.425	-.272	-.507	-.373					.609
.664	-.277	-.250	-.351	-.318	-.455	-.424	-.547	-.523					.664
.719	-.085	-.109	-.167	-.177	-.251	-.268	-.309	-.299					.719
.774	.030	-.024	-.009	-.058	-.114	-.148	-.129	-.136					.774
.830	.030	-.019	.030	-.002	-.007	-.029	-.100	-.152					.830
.871	.039	.022	.056	.036	.035	.021	-.029	-.060					.871
M = 1.030													
.166	.059	.053	.035	.027	-.007	-.004	-.040	-.037					.166
.277													.277
.367	.140	-.104	.107	-.113	.069	-.107	.060	-.041					.367
.387	.190	-.050	.130	-.129	.054	-.183	.000	-.181					.387
.443	.014	-.088	-.074	-.182	-.161	-.242	-.220	-.312					.443
.498	-.087	-.043	-.161	-.138	-.251	-.219	-.314	-.306					.498
.553	-.164		-.241		-.318								.553
.609	-.201	-.065	-.281	-.143	-.368	-.223	-.437	-.313					.609
.664	-.233	-.219	-.310	-.285	-.397	-.361	-.481	-.456					.664
.719	-.153	-.160	-.181	-.193	-.215	-.226	-.289	-.258					.719
.774	-.075	-.101	-.082	-.112	-.112	-.126	-.187	-.142					.774
.830	-.049	-.118	-.046	-.109	-.085	-.128	-.119	-.134					.830
.871	.003	-.031	-.014	-.027	-.063	-.046	-.058	-.068					.871
M = 1.125													
.166	.024	.024	-.001	.003	-.031	-.031	-.065	-.069					.166
.277													.277
.367	.031	-.097	.010	-.111	.000	-.123	.008	-.125					.367
.387	.170	-.042	.104	-.102	.029	-.171	-.012	-.212					.387
.443	.034	-.057	-.052	-.145	-.126	-.240	-.181	-.290					.443
.498	-.033	-.022	-.117	-.100	-.189	-.202	-.253	-.271					.498
.553	-.098		-.174		-.228								.553
.609	-.137	-.016	-.216	-.093	-.300	-.175	-.375	-.267					.609
.664	-.169	-.148	-.246	-.214	-.325	-.295	-.405	-.379					.664
.719	-.126	-.121	-.152	-.148	-.171	-.185	-.192	-.195					.719
.774	-.060	-.078	-.071	-.080	-.078	-.087	-.121	-.114					.774
.830	-.050	-.091	-.058	-.093	-.053	-.092	-.065	-.117					.830
.871	-.037	-.017	-.033	-.024	-.034	-.038	-.021	-.047					.871

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL - Continued

(c) Station C

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .800 (α = 3.75° for basic body)													
.055	.079	.076	.063	.064	.004	.000	-.048	-.057	-.154	-.145	-.275	-.270	.055
.166	.010	.002	-.005	-.007	-.055	-.061	-.112	-.117	-.202	-.206	-.317	-.321	.166
.277	-.006	-.022	-.020	-.033	-.071	-.087	-.125	-.142	-.205	-.218	-.302	-.312	.277
.353	.097	.015	.080	.005	.030	-.031	-.013	-.058	-.067	-.093	-.130	-.136	.353
.367	.385	.320	.375	.346	.236	.253	.020	.183	-.246	.053	-.511	-.033	.367
.692	.050	.005	.057	.012	.046	.009	.004	-.006	-.048	-.071	-.188	-.221	.692
.719	.024	-.016	.031	-.007	.029	-.006	.009	-.021	-.061	-.083	-.230	-.205	.719
.774	-.005	-.024	.006	-.015	-.008	-.020	-.029	-.033	-.081	-.083	-.206	-.166	.774
.830	.002	-.007	.007	.003	.002	-.004	-.010	-.008	-.030	-.030	-.102	-.076	.830
.871	.015	.022	.017	.025	.013	.029	.003	.021	-.005	.007	-.050	-.030	.871
.954	.056	.031	.061	.035	.057	.018	.059	.019	.067	.029	.053	.021	.954
M = .900													
.055	.088	.085	.074	.078	.024	.021	-.031	-.038	-.128	-.129	-.249	-.246	.055
.166	.012	.006	.001	-.002	-.040	-.046	-.099	-.101	-.181	-.186	-.296	-.300	.166
.277	-.006	-.024	-.018	-.030	-.051	-.070	-.102	-.116	-.165	-.181	-.256	-.269	.277
.353	.110	.011	.098	.011	.077	.004	.052	.004	.025	-.004	-.022	-.032	.353
.367	.399	.323	.396	.353	.311	.278	.157	.251	-.050	.158	-.280	.085	.367
.692	.054	.006	.062	.009	.044	.015	-.034	-.011	-.115	-.140	-.168	-.211	.692
.719	.031	-.016	.043	-.002	.054	.009	-.005	-.033	-.130	-.143	-.248	-.265	.719
.774	-.002	-.024	.016	-.011	.019	-.013	-.054	-.063	-.161	-.155	-.323	-.298	.774
.830	.000	-.009	.008	.007	.013	.001	-.030	-.029	-.097	-.083	-.235	-.196	.830
.871	.015	.021	.019	.032	.027	.035	.001	.011	-.040	-.032	-.140	-.116	.871
.954	.059	.034	.065	.040	.073	.028	.066	.025	.063	.031	.020	.003	.954
M = .940													
.055	.093	.089	.082	.081	.031	.027	-.031	-.026	-.116	-.115	-.226		.055
.166	.012	.006	.003	-.001	-.039	-.044	-.096	-.095	-.173	-.176	-.284		.166
.277	-.008	-.027	-.016	-.033	-.048	-.068	-.094	-.105	-.151	-.163	-.230		.277
.353	.121	.007	.113	.009	.095	.018	.079	.034	.062	.035	.026		.353
.367	.408	.324	.409	.355	.336	.287	.198	.277	.013	.199	-.196		.367
.692	.060	.002	.009	-.039	-.067	-.099	-.126	-.113	-.120	-.154	-.152		.692
.719	.043	-.017	.037	-.013	-.008	-.033	-.047	-.085	-.134	-.164	-.224		.719
.774	.006	-.026	.029	-.007	.014	-.010	-.057	-.073	-.208	-.237	-.318		.774
.830	.002	-.012	.018	.010	.013	.000	-.058	-.052	-.172	-.165	-.300		.830
.871	.017	.019	.027	.034	.025	.034	-.021	-.008	-.084	-.063	-.190		.871
.954	.062	.032	.071	.041	.076	.033	.066	.033	.051	.028	-.013		.954

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL - Continued

(c) Station C - Concluded

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .980													
.055	.104	.101	.095	.092	.043	.039	-.015	-.016					.055
.166	.014	.007	.007	.002	-.035	-.041	-.089	-.093					.166
.277	-.008	-.032	-.012	-.037	-.043	-.068	-.078	-.097					.277
.353	.141	.005	.136	.011	.121	.036	.113	.063					.353
.367	.422	.327	.426	.358	.364	.298	.245	.301					.367
.692	-.071	-.088	-.080	-.099	-.130	-.154	-.174	-.145					.692
.719	-.023	-.063	-.084	-.103	-.141	-.156	-.152	-.152					.719
.774	.021	-.024	-.017	-.053	-.123	-.142	-.117	-.135					.774
.830	.026	-.001	.017	.012	-.038	-.026	-.153	-.160					.830
.871	.036	.030	.039	.045	.003	.018	-.084	-.083					.871
.954	.075	.043	.090	.055	.091	.054	.055	.003					.954
M = 1.030													
.055	.136	.133	.121	.124	.078	.078	.016	.015					.055
.166	.055	.049	.042	.038	-.008	-.007	-.074	-.073					.166
.277	.012	.007	.002	-.005	-.060	-.061	-.115	-.118					.277
.353	.134	-.059	.131	-.080	.141	-.133	.160	.102					.353
.367	.424	.311	.422	.328	.363	.218	.286	.320					.367
.692	-.084	-.093	-.076	-.102	-.088	-.114	-.149	-.122					.692
.719	-.089	-.115	-.087	-.112	-.102	-.114	-.140	-.116					.719
.774	-.078	-.095	-.084	-.101	-.114	-.120	-.156	-.133					.774
.830	-.046	-.091	-.046	-.086	-.104	-.116	-.162	-.132					.830
.871	.004	-.023	-.022	-.005	-.072	-.045	-.085	-.089					.871
.954	-.039	.032	-.056	-.034	-.063	-.109	-.094	-.208					.954
M = 1.125													
.055	.098	.098	.088	.093	.043	.040	-.013	-.014					.055
.166	.021	.020	.008	.012	-.033	-.036	-.093	-.099					.166
.277	.002	.000	-.016	-.012	-.057	-.060	-.124	-.133					.277
.353	-.014	-.058	-.038	-.071	-.096	-.127	-.162	-.204					.353
.367	.366	.292	.348	.302	.276	.158	.129	.086					.367
.692	-.051	-.049	-.048	-.052	-.049	-.064	-.079	-.087					.692
.719	-.057	-.073	-.055	-.065	-.056	-.067	-.070	-.058					.719
.774	-.062	-.068	-.061	-.060	-.072	-.083	-.100	-.109					.774
.830	-.046	-.070	-.059	-.071	-.077	-.081	-.108	-.105					.830
.871	-.021	-.004	-.032	-.014	-.034	-.039	-.035	-.068					.871
.954	-.041	-.089	-.043	-.093	-.039	-.095	-.002	-.104					.954

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL - Continued

(d) Station D

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .800 (α = 3.75° for basic body)													
.166	.012	.003	.027	.020	.026	.022	.035	.030	.030	.024	.026	.025	.166
.277	-.006	-.022	.009	-.005	.010	-.004	.024	.007	.026	.012	.028	.017	.277
.367	.045	-.079	.095	-.025	.118	.018	.155	.068	.183	.114	.207	.163	.367
.387	-.023	-.103	.065	-.006	.139		.215		.278		.340		.387
.443	-.070	-.047	.037	.056	.145	.170	.249	.271	.342	.368	.435	.462	.443
.498	-.082	.046	.025	.130	.120	.222	.216	.303	.299	.376	.385	.453	.498
.553	-.072	.027	.016	.103	.094	.181	.172	.254	.237	.315	.309	.379	.553
.609	-.056	.038	.009	.098	.069	.152	.124	.204	.165	.241	.213	.288	.609
.664	-.023	-.062	.017	-.023	.046	.008	.067	.036	.067	.044	.074	.047	.664
.719	-.001	-.029	.016	-.008	.021	.001	.015	-.001	-.039	-.037	-.126	-.118	.719
.774	.009	-.038	.020	-.024	.017	-.025	.005	-.034	-.049	-.083	-.165	-.178	.774
.830	.000	-.023	.006	-.012	-.003	-.016	-.018	-.024	-.052	-.059	-.157	-.128	.830
.871	.032	.008	.025	.015	.026	.007	.023	.005	.012	-.013	-.043	-.056	.871
M = .900													
.166	.013	.006	.029	.025	.038	.033	.045	.044	.048	.046	.048	.049	.166
.277	-.008	-.023	.008	-.005	.022	.005	.035	.023	.048	.035	.056	.046	.277
.367	.066	-.075	.111	-.026	.147	.031	.183	.091	.220	.147	.248	.199	.367
.387	-.012	-.106	.079	-.004	.169		.245		.318		.384		.387
.443	-.078	-.053	.041	.060	.166	.186	.268	.291	.371	.399	.471	.503	.443
.498	-.099	.049	.020	.139	.138	.240	.233	.324	.327	.408	.421	.492	.498
.553	-.099	.021	.004	.105	.106	.196	.184	.272	.262	.345	.348	.422	.553
.609	-.075	.038	-.001	.106	.073	.167	.127	.220	.185	.274	.255	.337	.609
.664	-.023	-.075	.018	-.030	.054	.009	.065	.036	.083	.056	.127	.098	.664
.719	.002	-.026	.024	-.005	.036	.008	-.011	-.017	-.087	-.082	-.119	-.118	.719
.774	.011	-.039	.028	-.022	.034	-.021	-.029	-.068	-.135	-.167	-.250	-.298	.774
.830	-.003	-.023	.009	-.011	.009	-.015	-.044	-.051	-.128	-.125	-.295	-.278	.830
.871	.033	.011	.028	.021	.033	.017	.013	-.004	-.018	-.041	-.093	-.129	.871
M = .940													
.166	.014	.006	.033	.024	.040	.035	.047	.050	.054	.056	.060		.166
.277	-.008	-.026	.009	-.007	.023	.005	.040	.030	.058	.049	.071		.277
.367	.082	-.075	.125	-.027	.159	.034	.200	.107	.241	.168	.272		.367
.387	.000	-.105	.091	.000	.181		.265		.344		.414		.387
.443	-.077	-.055	.044	.062	.172	.191	.283	.308	.392	.420	.496		.443
.498	-.111	.050	.016	.143	.139	.246	.247	.339	.349	.428	.448		.498
.553	-.136	.012	-.009	.104	.099	.196	.193	.286	.283	.367	.375		.553
.609	-.099	.033	-.022	.102	.059	.164	.131	.232	.205	.298	.284		.609
.664	-.022	-.093	-.005	-.055	.022	-.021	.066	.029	.113	.078	.168		.664
.719	.011	-.026	.013	-.015	-.013	-.028	-.038	-.053	-.073	-.079	-.074		.719
.774	.017	-.042	.037	-.022	.020	-.033	-.054	-.098	-.177	-.233	-.237		.774
.830	.001	-.026	.017	-.008	-.001	-.024	-.080	-.087	-.215	-.250	-.333		.830
.871	.033	.011	.037	.026	.034	.017	-.006	-.017	-.042	-.058	-.129		.871

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL - Continued

(d) Station D - Concluded

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .980													
.166	.017	.008	.036	.029	.042	.037	.054	.054					.166
.277	-.009	-.032	.010	-.012	.025	.003	.048	.035					.277
.367	.107	-.067	.147	-.023	.179	.046	.223	.125					.367
.387	.027	-.087	.112	.012	.201		.290						.387
.443	-.057	-.068	.059	.071	.188	.203	.304	.328					.443
.498	-.098	.062	.023	.153	.150	.258	.266	.358					.498
.553	-.134	.001	-.023	.105	.103	.204	.210	.304					.553
.609	-.185	.026	-.064	.103	.055	.171	.146	.254					.609
.664	-.192	-.155	-.044	-.088	.014	-.030	.082	.047					.664
.719	-.024	-.050	-.077	-.078	-.106	-.108	-.087	-.078					.719
.774	.030	-.043	-.007	-.070	-.106	-.159	-.089	-.145					.774
.830	.021	-.017	.010	-.012	-.048	-.057	-.144	-.182					.830
.871	.053	.022	.048	.038	.029	.012	-.027	-.081					.871
M = 1.030													
.166	.056	.049	.072	.064	.068	.069	.069	.072					.166
.277	.013	.007	.027	.021	.009	.010	.022	.019					.277
.367	.131	-.111	.164	-.142	.198	-.182	.261	.152					.367
.387	.053	-.118	.139	-.056	.232		.334						.387
.443	-.027	-.148	.084	.045	.222	.229	.348	.364					.443
.498	-.071	.041	.049	.163	.185	.289	.307	.394					.498
.553	-.100	.022	.001	.114	.138	.241	.250	.342					.553
.609	-.153	.027	-.054	.128	.091	.214	.188	.296					.609
.664	-.170	-.128	-.060	-.052	.061	.021	.134	.095					.664
.719	-.113	-.122	-.077	-.088	-.064	-.068	-.056	-.040					.719
.774	-.062	-.112	-.064	-.109	-.086	-.128	-.104	-.126					.774
.830	-.045	-.101	-.042	-.104	-.094	-.135	-.133	-.130					.830
.871	.031	-.028	.014	-.001	-.008	-.050	-.007	-.079					.871
M = 1.125													
.166	.023	.020	.038	.038	.043	.046	.057	.054					.166
.277	-.002	.000	.012	.016	.014	.013	.010	.007					.277
.367	.081	-.120	.072	-.131	.041	-.154	.024	-.174					.367
.387	.042	-.077	.085	-.050	.132		.288						.387
.443	-.004	-.130	.090	-.037	.223	.185	.362	.346					.443
.498	-.023	.010	.074	.159	.204	.305	.328	.406					.498
.553	-.045	.054	.053	.163	.155	.263	.282	.369					.553
.609	-.093	.055	-.001	.160	.102	.266	.239	.349					.609
.664	-.115	-.059	-.022	.016	.104	.098	.210	.167					.664
.719	-.086	-.085	-.047	-.048	.005	-.013	.025	.022					.719
.774	-.051	-.087	-.035	-.068	-.037	-.079	-.040	-.075					.774
.830	-.037	-.072	-.043	-.077	-.060	-.095	-.082	-.109					.830
.871	.008	-.007	.004	-.016	.020	-.042	.037	-.069					.871

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL - Continued

(e) Station E

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .800 (α = 3.75° for basic body)													
.055	.075	.078	.119	.127	.175	.176	.247	.243	.325	.320	.414	.412	.055
.166	.017	.009	.049	.045	.094	.090	.155	.149	.225	.217	.307	.303	.166
.277	-.003	-.020	.027	.013	.073	.061	.136	.124	.211	.195	.298	.288	.277
.367	.026	-.125	.090	-.067	.168	.004	.253	.095	.340	.190	.436	.302	.367
.387	-.062	-.109	.013	-.033	.093	.052	.189	.146	.285	.241	.388	.348	.387
.443	-.080	-.036	.016	.050	.109	.147	.209	.235	.303	.322	.403	.415	.443
.498	-.071	.054	.023	.135	.112	.223	.202	.301	.285	.373	.371	.449	.498
.553	-.081	.042	.003	.117	.078	.199	.156	.267	.220	.327	.294	.394	.553
.609	-.042	.034	.018	.096	.093	.154	.137	.208	.177	.251	.229	.300	.609
.664	.000	-.073	.037	-.032	.079	.008	.109	.044	.115	.061	.133	.079	.664
.719	-.011	-.034	.011	-.007	.021	.004	.026	.018	-.009	-.004	-.046	-.039	.719
.774	.006	-.036	.019	-.017	.019	-.021	.015	-.017	-.026	-.052	-.091	-.105	.774
.830	-.008	-.004	-.003	.004	-.008	-.002	-.015	-.004	-.041	-.022	-.096	-.056	.830
.871	.017	.015	.024	.022	.018	.018	.017	.018	.010	.007	-.022	-.007	.871
.954	.064	.040	.062	.038	.052	.029	.052	.022	.055	.014	.044	.015	.954
M = .900													
.055	.082	.090	.129	.139	.194	.192	.260	.259	.342	.341	.433	.435	.055
.166	.018	.011	.052	.049	.108	.101	.163	.159	.236	.233	.321	.322	.166
.277	-.005	-.019	.026	.014	.081	.067	.143	.130	.222	.211	.313	.308	.277
.367	.044	-.136	.104	-.079	.192	.007	.274	.105	.365	.211	.465	.331	.367
.387	-.057	-.109	.022	-.029	.119	.067	.210	.167	.312	.270	.420	.382	.387
.443	-.088	-.039	.022	.056	.137	.163	.236	.257	.336	.355	.440	.457	.443
.498	-.091	.059	.017	.147	.129	.242	.219	.323	.312	.406	.408	.491	.498
.553	-.108	.036	-.005	.121	.095	.212	.169	.285	.248	.359	.334	.438	.553
.609	-.063	.035	.008	.104	.084	.170	.138	.226	.198	.283	.269	.349	.609
.664	-.005	-.086	.038	-.038	.081	.009	.098	.044	.125	.073	.175	.126	.664
.719	+.007	-.030	.018	-.003	.034	.013	.000	.003	-.044	-.030	-.037	-.031	.719
.774	.009	-.035	.025	-.015	.034	-.018	-.019	-.048	-.103	-.123	-.164	-.198	.774
.830	-.010	-.006	-.002	.004	-.003	.001	-.047	-.030	-.111	-.082	-.223	-.178	.830
.871	.017	.018	.025	.027	.029	.027	.005	.009	-.026	-.016	-.084	-.068	.871
.954	.066	.043	.067	.041	.065	.036	.054	.023	.045	.009	.009	-.024	.954
M = .940													
.055	.089	.095	.136	.145	.200	.198	.265	.271	.349	.353	.441		.055
.166	.019	.012	.054	.050	.107	.102	.165	.166	.241	.243	.330		.166
.277	-.005	-.023	.027	.010	.081	.066	.145	.139	.228	.221	.323		.277
.367	.058	-.145	.116	-.090	.201	.004	.280	.115	.378	.228	.478		.367
.387	-.046	-.108	.032	-.027	.127	.075	.230	.185	.337	.292	.447		.387
.443	-.087	-.042	.026	.059	.145	.170	.260	.275	.367	.376	.475		.443
.498	-.102	.059	.014	.151	.133	.248	.237	.340	.339	.427	.440		.498
.553	-.145	.030	-.020	.120	.088	.214	.189	.298	.280	.380	.373		.553
.609	-.087	.030	-.012	.101	.070	.169	.136	.240	.211	.307	.291		.609
.664	-.002	-.104	.020	-.059	.054	-.017	.090	.041	.141	.096	.202		.664
.719	.001	-.032	.007	-.011	-.006	-.015	-.018	-.021	-.025	-.022	.006		.719
.774	.016	-.039	.032	-.015	.018	-.029	-.045	-.075	-.134	-.165	-.146		.774
.830	-.008	-.009	.004	.005	-.012	-.008	-.086	-.063	-.199	-.186	-.245		.830
.871	.019	.017	.033	.031	.027	.025	-.009	-.003	-.053	-.028	-.210		.871
.954	.069	.041	.070	.041	.065	.033	.051	.023	.034	.001	.001		.954

TABLE IV.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC TUNNEL - Concluded

(e) Station E - Concluded

x/L	α = 0°		α = 4°		α = 8°		α = 12°		α = 16°		α = 20°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
M = .980													
.055	.100	.104	.148	.155	.210	.207	.275	.279					.055
.166	.021	.014	.058	.052	.110	.103	.169	.168					.166
.277	-.005	-.029	.028	.006	.083	.063	.151	.141					.277
.367	.084	-.143	.137	-.100	.219	.002	.301	.128					.367
.387	-.022	-.080	.052	-.011	.145	.088	.251	.203					.387
.443	-.065	-.047	.042	.069	.163	.183	.281	.296					.443
.498	-.088	.073	.019	.161	.143	.259	.257	.360					.498
.553	-.142	.019	-.034	.120	.093	.221	.207	.318					.553
.609	-.172	.026	-.057	.105	.066	.177	.152	.259					.609
.664	-.168	-.164	-.019	-.095	.043	-.028	.106	.058					.664
.719	-.024	-.045	-.075	-.068	-.086	-.083	-.046	-.035					.719
.774	.028	-.039	-.008	-.063	-.100	-.142	-.065	-.102					.774
.830	.011	-.003	-.004	.002	-.051	-.032	-.131	-.125					.830
.871	.035	.025	.041	.044	.019	.024	-.080	-.077					.871
.954	.080	.046	.085	.051	.073	.040	.037	-.072					.954
M = 1.030													
.055	.134	.136	.175	.186	.241	.242	.306	.305					.055
.166	.062	.056	.091	.089	.133	.133	.185	.186					.166
.277	.016	.010	.045	.038	.064	.067	.129	.123					.277
.367	.109	-.145	.154	-.108	.233	-.078	.336	.145					.367
.387	.004	-.135	.074	-.138	.172	.084	.293	.236					.387
.443	-.030	-.123	.068	.049	.198	.211	.324	.331					.443
.498	-.061	.054	.043	.173	.178	.293	.299	.398					.498
.553	-.107	.039	-.007	.128	.130	.257	.250	.355					.553
.609	-.139	.028	-.047	.128	.099	.220	.193	.303					.609
.664	-.145	-.138	-.041	-.059	.088	.022	.155	.105					.664
.719	-.130	-.125	-.076	-.080	-.045	-.044	-.010	.007					.719
.774	-.061	-.105	-.062	-.096	-.077	-.105	-.075	-.084					.774
.830	-.053	-.079	-.047	-.078	-.094	-.096	-.115	-.068					.830
.871	.015	-.023	-.002	.007	-.055	-.044	-.082	-.058					.871
.954	-.039	.034	-.104	-.081	-.130	-.160	-.172	-.228					.954
M = 1.125													
.055	.097	.103	.142	.154	.208	.211	.278	.278					.055
.166	.026	.024	.057	.059	.108	.111	.171	.165					.166
.277	.001	.002	.028	.030	.069	.071	.112	.115					.277
.367	.071	-.092	.101	-.067	.146	-.036	.194	.004					.367
.387	-.047	-.142	-.055	-.143	-.041	-.124	.024	-.089					.387
.443	-.007	-.106	.077	-.021	.208	.183	.339	.337					.443
.498	-.027	.025	.067	.172	.194	.312	.321	.418					.498
.553	-.048	.072	.053	.179	.154	.279	.288	.387					.553
.609	-.080	.056	.006	.162	.108	.272	.243	.352					.609
.664	-.099	-.065	-.006	.012	.118	.097	.229	.173					.664
.719	-.112	-.100	-.047	-.045	.038	.022	.077	.070					.719
.774	-.050	-.077	-.037	-.054	-.026	-.050	-.011	-.028					.774
.830	-.043	-.050	-.046	-.047	-.052	-.055	-.051	-.051					.830
.871	-.020	-.002	-.035	-.017	-.037	-.039	-.024	-.048					.871
.954	-.051	-.108	-.079	-.122	-.108	-.108	-.086	-.112					.954

TABLE V.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC PRESSURE TUNNEL

(a) M = 1.43

	x/c	α = -2°		α = 0°		α = 2°		α = 4°		α = 8°		α = 12°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
	12-percent-semispan station													
Upper surface	L. E.	.586	.573	.632	.600	.646	.616	.648	.621	.706	.644	.719	.656	
	.022	.286	.259	.182	.155	.076	.059	.003	-.023	-.239	-.257	-.432	-.435	.022
	.072	.183	.080	.102	.014	.037	-.042	-.024	-.093	-.168	-.226	-.313	-.391	.072
	.150	.083	.008	.044	-.043	.016	-.074	-.033	-.129	-.120	-.229	-.193	-.307	.150
	.250	.047	-.046	.012	-.072	-.042	-.125	-.084	-.173	-.153	-.235	-.200	-.272	.250
	.350	.013	-.021	-.036	-.078	-.086	-.130	-.110	-.154	-.176	-.214	-.229	-.255	.350
	.449	-.013	-.015	-.057	-.064	-.089	-.094	-.128	-.137	-.183	-.185	-.231	-.242	.449
	.549	-.047	.015	-.082	-.024	-.118	-.068	-.154	-.108	-.212	-.169	-.261	-.231	.549
	.652													.652
	.752	-.083	.010	-.119	-.031	-.147	-.068	-.173	-.103	-.227	-.173	-.281	-.250	.752
	.846	-.094	.028	-.126	-.014	-.151	-.049	-.182	-.092	-.229	-.165	-.278	-.210	.846
	.924	-.087	-.015	-.117	-.046	-.153	-.084	-.178	-.114	-.227	-.175	-.278	-.222	.924
Lower surface	.018	-.136	-.246	.078	-.042	.147	.082	.216	.175	.385	.343	.552	.490	.018
	.069	-.020	-.136	.023	-.084	.092	-.015	.158	.048	.285	.176	.442	.349	.069
	.145	-.012	-.098	.030	-.063	.073	-.016	.137	.048	.240	.146	.378	.283	.145
	.250	-.041	-.129	.008	-.074	.051	-.042	.081	-.001	.195	.111	.296	.219	.250
	.349	-.064	-.103	-.032	-.074	.012	-.021	.069	.019	.136	.105	.252	.226	.349
	.448	-.047	-.056	-.015	-.019	.021	.017	.066	.070	.153	.162	.265	.295	.448
	.549	-.087	-.034	-.047	.015	-.003	.065	.035	.111	.139	.229	.231	.335	.549
	.650													.650
	.750	-.081	-.015	-.047	.023	-.010	.063	.027	.101	.121	.201	.222	.316	.750
	.848	-.090	.009	-.057	.051	-.020	.089	.018	.132	.109	.229	.213	.333	.848
	.899	-.098	-.006	-.063	.037	-.030	.075	.009	.113	.093	.201	.192	.295	.899
	25-percent-semispan station													
Upper surface	L. E.	.570	.740	.604	.767	.627	.747	.620	.671	.568	.608	.512	.528	.000
	.027	.250	.231	.166	.124	.059	.038	-.092	-.085	-.317	-.285	-.498	-.438	.027
	.076	.146	.111	.094	.073	.017	-.009	-.067	-.106	-.297	-.278	-.449	-.422	.076
	.151	.073	.037	.012	-.021	-.051	-.094	-.093	-.171	-.273	-.292	-.436	-.425	.151
	.250	.003	-.036	-.047	-.090	-.095	-.139	-.145	-.182	-.225	-.309	-.425	-.438	.250
	.350	-.024	-.079	-.067	-.121	-.116	-.167	-.164	-.209	-.231	-.285	-.285	-.433	.350
	.453	-.055	-.081	-.102	-.138	-.146	-.185	-.188	-.229	-.257	-.297	-.299	-.358	.453
	.551	-.088	-.072	-.129	-.126	-.162	-.171	-.194	-.205	-.258	-.275	-.308	-.331	.551
	.652	-.107	-.055	-.142	-.097	-.177	-.142	-.213	-.184	-.268	-.239	-.322	-.305	.652
	.750	-.094	-.022	-.133	-.066	-.171	-.108	-.200	-.140	-.261	-.209	-.309	-.268	.750
	.850	-.098	-.016	-.136	-.056	-.165	-.088	-.191	-.125	-.255	-.193	-.304	-.255	.850
	.925	-.098	-.026	-.131	-.059	-.159	-.094	-.195	-.131	-.246	-.170	-.298	-.250	.925
Lower surface	.025	-.247	-.256	-.036	-.092	.087	.033	.193	.145	.354	.319	.487	.462	.025
	.074	-.090	-.212	-.022	-.116	.036	-.001	.112	.085	.257	.210	.386	.342	.074
	.151	-.083	-.112	-.017	-.041	.040	.008	.086	.049	.219	.180	.330	.297	.151
	.248	-.031	-.136	-.035	-.084	-.029	-.037	-.026	.012	-.024	.119	-.036	.241	.248
	.347	-.079	-.125	-.036	-.082	.008	-.032	.064	.018	.176	.121	.284	.317	.347
	.445	-.092	-.117	-.052	-.072	-.010	-.018	.037	.047	.148	.195	.256	.302	.445
	.552	-.093	-.067	-.057	-.026	-.018	.018	.027	.068	.122	.172	.227	.280	.552
	.650	-.092	-.054	-.053	-.011	-.017	.027	.026	.069	.121	.161	.226	.265	.650
	.754	-.096	-.057	-.060	-.019	-.015	.028	.022	.076	.109	.183	.215	.311	.754
	.850	-.085	-.016	-.049	.026	-.013	.066	.031	.113	.120	.207	.215	.302	.850
	.900	-.074	.095	-.039	.095	-.003	.096	.040	.102	.133	.113	.232	.128	.900
	40-percent-semispan station													
Upper surface	L. E.	.578	.542	.588	.556	.611	.569	.661	.571	.578	.475	.141	.114	.000
	.023	.288	.266	.216	.199	.123	.107	.001	.007	-.307	-.270	-.490	-.453	.023
	.077	.142	.114	.068	.031	-.002	-.016	-.109	-.125	-.314	-.290	-.467	-.437	.077
	.149	.060	.037		-.027	-.070	-.115	-.167	-.171	-.332	-.322	-.474	-.453	.149
	.249	.007	-.032	-.059	-.087	-.121	-.142	-.178	-.213	-.333	-.333	-.476	-.458	.249
	.353	-.026	-.066	-.085	-.120	-.147	-.173	-.199	-.225	-.315	-.343	-.478	-.461	.353
	.449	-.068	-.091	-.118	-.154	-.167	-.205	-.203	-.242	-.312	-.362	-.482	-.479	.449
	.552	-.102	-.124	-.151	-.173	-.179	-.218	-.232	-.267	-.316	-.374	-.471	-.486	.552
	.650	-.100	-.084	-.133	-.136	-.188	-.201	-.239	-.258	-.311	-.349	-.455	-.484	.650
	.755	-.106	-.074	-.153	-.127	-.194	-.177	-.229	-.227	-.308	-.320	-.394	-.447	.755
	.852	-.116	-.078	-.152	-.117	-.196	-.157	-.236	-.205	-.300	-.287	-.344	-.398	.852
	.929	-.115	-.058	-.153	-.103	-.196	-.150	-.236	-.191	-.302	-.205	-.334	-.287	.929
Lower surface	.023	-.408	-.400	-.277	-.298	-.001	-.044	.152	.113	.359	.315	.498	.477	.023
	.073	-.308	-.307	-.007	-.050	.052	.018	.125	.092	.283	.248	.417	.387	.073
	.149	-.080	-.216	-.030	-.077	.037	-.008	.105	.066	.240	.212	.381	.354	.149
	.247													.247
	.353	-.098	-.135	-.053	-.087	.002	-.026	.065	.035	.169	.157	.277	.314	.353
	.449	-.110	-.142	-.065	-.093	-.013	-.038	.042	.034	.155	.183	.259	.290	.449
	.550	-.115	-.132	-.079	-.083	-.030	-.017	.022	.051	.127	.163	.236	.275	.550
	.650	-.104	-.090	-.066	-.039	-.025	.007	.024	.056	.123	.160	.231	.282	.650
	.750	-.097	-.071	-.055	-.023	-.009	.029	.034	.076	.127	.184	.238	.305	.750
	.850	-.091	-.039	-.051	.007	-.007	.055	.045	.112	.135	.210	.244	.303	.850
	.900	-.067	-.016	-.027	.031	.017	.079	.067	.129	.159	.220	.257	.300	.900

TABLE V.- PRESSURE COEFFICIENTS FOR WING IN PRESENCE OF BASIC AND INDENTED BODY IN 8-FOOT TRANSONIC PRESSURE TUNNEL.- Concluded

(a) M = 1.43 - Concluded.

	x/c	α = -2°		α = 0°		α = 2°		α = 4°		α = 8°		α = 12°		x/c
		Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
	60-percent-semispan station													
Upper surface	L. E.	.624	.609	.633	.600	.602	.612	.539	.599	.411	.533	-.047	.056	.000
	.023	.247	.231	.158	.149	.050	.046	-.168	-.153	-.423	-.394	-.569	-.539	.023
	.076	.161	.095	.087	.094	.019	.096	-.087	.103	-.360	.112	-.518	.127	.076
	.150	.096	.080	.037	.020	-.033	-.071	-.123	-.127	-.323	-.308	-.443	-.428	.150
	.250	.023	.004	-.036	-.052	-.102	-.123	-.182	-.179	-.359	-.344	-.490	-.469	.250
	.349	-.015	-.039	-.072	-.093	-.136	-.142	-.194	-.217	-.366	-.354	-.492	-.474	.349
	.450	-.047	-.080	-.106	-.132	-.166	-.181	-.220	-.248	-.367	-.359	-.492	-.471	.450
	.550	-.083	-.114	-.137	-.166	-.192	-.215	-.246	-.273	-.379	-.372	-.499	-.480	.550
	.650	-.110	-.128	-.156	-.191	-.212	-.236	-.264	-.278	-.384	-.381	-.506	-.485	.650
	.750	-.142	-.159	-.182	-.216	-.227	-.264	-.272	-.297	-.389	-.389	-.504	-.483	.750
	.850	-.156	-.158	-.197	-.214	-.233	-.265	-.282	-.304	-.388	-.396	-.505	-.487	.850
	.900	-.163	-.154	-.201	-.214	-.238	-.266	-.285	-.308	-.375	-.396	-.496	-.484	.900
Lower surface	.038	-.368	-.360	-.241	-.259	-.002	-.030	.133	.106	.319	.283	.441	.449	.038
	.091	-.295	-.270	-.125	-.151	.032	.046	.120	.121	.273	.281	.404	.430	.091
	.147	-.277	-.278	-.068	-.126	.040	-.007	.117	.075	.247	.227	.371	.377	.147
	.252	-.226	-.250	-.055	-.077	.017	-.013	.086	.058	.204	.212	.321	.339	.252
	.348													.348
	.447	-.111	-.145	-.068	-.098	-.006	-.037	.053	.042	.153	.173	.263	.282	.447
	.549	-.098	-.138	-.056	-.088	-.010	-.025	.044	.062	.145	.166	.248	.293	.549
	.655	-.085	-.123	-.045	-.065	.001	.014	.046	.066	.146	.167	.247	.298	.653
	.798	-.045	-.043	-.008	.016	.036	.063	.084	.112	.173	.220	.272	.308	.798
	.875	-.021		.020	.050	.063	.093	.105	.139	.194	.240	.285	.310	.875
	80-percent-semispan station													
Upper surface	.045	.277	.229	.196	.156	.098	.075	-.042	-.042	-.344	-.326	-.531	-.506	.025
	.073	.168	.176	.101	.104	.009	.029	-.132	-.097	-.339	-.306	-.500	-.470	.073
	.146	.089	.068	.020	.011	-.100	-.099	-.183	-.163	-.366	-.343	-.505	-.486	.146
	.247	.037	.022	-.023	-.031	-.083	-.107	-.186	-.182	-.364	-.342	-.495	-.481	.247
	.352	.003	-.021	-.055	-.072	-.116	-.121	-.199	-.197	-.361	-.344	-.488	-.472	.352
	.453	-.037	-.061	-.089	-.105	-.148	-.152	-.226	-.222	-.363	-.351	-.486	-.468	.453
	.550	-.076	-.096	-.123	-.137	-.179	-.185	-.252	-.250	-.388	-.377	-.501	-.489	.550
	.603	-.092	-.110	-.140	-.153	-.193	-.199	-.260	-.259	-.391	-.379	-.502	-.485	.603
	.651	-.107	-.122	-.156	-.169	-.208	-.214	-.270	-.272	-.401	-.391	-.507	-.495	.651
	.750													.750
	.851	-.158	-.167	-.195	-.215	-.245	-.256	-.291	-.309	-.415	-.408	-.486	-.499	.851
Lower surface	.061	-.346	-.335	-.253	-.248	.029	.054	.130	.113	.288	.301	.405	.424	.061
	.147	-.334	-.319	-.236	-.235	-.026	-.051	.102	.068	.239	.240	.359	.368	.147
	.248	-.293	-.288	-.100	-.191	-.007	-.030	.079	.052	.200	.207	.310	.337	.248
	.352	-.282	-.277	-.070	-.106	-.016	-.039	.055	.034	.169	.176	.278	.313	.352
	.453	-.269	-.268	-.080	-.102	-.026	-.048	.040	.026	.149	.158	.264	.300	.453
	.549	-.241	-.255	-.083	-.104	-.030	-.050	.038	.030	.142	.159	.265	.296	.549
	.612	-.182	-.247	-.081	-.102	-.026	-.048	.039	.041	.148	.173	.271	.298	.612
	.706	-.118	-.208	-.068	-.089	-.012	-.027	.048	.072	.174	.216	.286	.312	.706
	.791	-.079	-.138	-.032	-.056	.031	.028	.092	.115	.208	.243	.301	.316	.791
	95-percent-semispan station													
Upper surface	.071	.185	.171	.134	.126	.053	.082	-.037	.022	-.313	-.281	-.497	-.482	.071
	.143	.124	.067	.067	.011	-.006	-.084	-.115	-.138	-.311	-.313	-.486	-.480	.143
	.243	.059	.043	.013	.003	-.047	-.060	-.143	-.137	-.322	-.309	-.472	-.464	.243
	.344	.003	-.011	-.036	-.049	-.092	-.104	-.173	-.169	-.327	-.315	-.458	-.447	.344
	.446	-.044	-.059	-.087	-.095	-.137	-.145	-.212	-.206	-.350	-.338	-.474	-.461	.446
	.549	-.089	-.102	-.130	-.137	-.179	-.183	-.244	-.238	-.374	-.362	-.487	-.474	.549
	.646	-.128	-.142	-.167	-.177	-.214	-.218	-.270	-.265	-.381	-.370	-.486	-.474	.646
	.751	-.154	-.164	-.189	-.196	-.228	-.227	-.265	-.261	-.352	-.342	-.444	-.432	.751
Lower surface	.100	.043	-.314	.433	-.231	.155	-.046	.166	.062	.256	.226	.393	.385	.100
	.193	-.316	-.309	-.240	-.230	-.029	-.083	.070	.040	.196	.194	.314	.333	.193
	.248	-.303	-.291	-.223	-.217	-.027	-.057	.061	.037	.178	.180	.294	.318	.248
	.344	-.285	-.281	-.221	-.221	-.036	-.064	.047	.018	.157	.154	.284	.303	.344
	.446	-.274	-.269	-.184	-.206	-.041	-.061	.036	.019	.152	.159	.286	.310	.446
	.541	-.266	-.269	-.122	-.192	-.050	-.073	.026	.017	.148	.160	.290	.301	.541
	.587	-.268	-.267	-.102	-.168	-.041	-.066	.031	.029	.158	.180	.297	.306	.587
	.692	-.215	-.217	-.039	-.083	-.004	-.037	.048	.052	.176	.206	.286	.289	.692

TABLE VI.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC PRESSURE TUNNEL

(a) M = 1.43

x/L	α = -2°		α = 0°		α = 2°		α = 4°		α = 8°		α = 12°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
Station A													
.055	.129	.131	.100	.101	.074	.074	.069	.059	.034	.031	.009	.011	.055
.166	.027	.025	.016	.016	.009	.009	.015	.010	.002		-.001	-.008	.166
.277													.277
.367	.007	-.069	.002	-.071	.013	-.063	.006	-.068	-.001	-.076	-.002	-.085	.367
.387	-.019	-.081	-.021	-.083	-.009	-.074	-.011	-.077	-.019	-.081	-.015	-.083	.387
.415	.040	-.057	.046	-.039	.033	-.043	.025	-.052	-.007	-.073	-.006	-.066	.415
.443	.112	.022	.072	-.013	.045	-.041	.019	-.066	-.022	-.118	-.062	-.165	.443
.498	.055	.054	.022	.020	-.019	-.023	-.046	-.060	-.096	-.103	-.146	-.147	.498
.553	-.002	.105	-.036	.063	-.062	.029	-.088	.002	-.144	-.056	-.186	-.088	.553
.581	-.012	.089	-.049	.050	-.074	.023	-.104	-.005	-.158	-.041	-.195	-.065	.581
.609	-.027	.066	-.058	.033	-.091	-.001	-.118	-.034	-.171	-.075	-.219	-.103	.609
.636	-.048	.039	-.083	.002	-.112	-.031	-.137	-.058	-.185	-.110	-.234	-.155	.636
.664	-.067	-.034	-.098	-.067	-.125	-.093	-.152	-.124	-.197	-.171	-.244	-.210	.664
.692	-.088	-.082	-.122	-.118	-.149	-.146	-.172	-.171	-.225	-.223	-.264	-.255	.692
.719	-.093	-.096	-.126	-.128	-.151	-.154	-.177	-.185	-.222	-.233	-.270	-.280	.719
.774	-.069	-.072	-.080	-.084	-.084	-.092	-.084	-.093	-.084	-.101	-.102	-.104	.774
.830	-.052	-.074	-.055	-.075	-.052	-.071	-.047	-.065	-.032	-.051	-.020	-.040	.830
.871	-.045	-.042	-.037	-.036	-.024	-.027	-.012	-.017		-.006	.009	.007	.871
.954	-.096	-.107	-.082	-.096	-.061	-.077	-.039	-.059	-.028	-.045	-.040	-.054	.954
Station B													
.166	.025	.027	.023	.023	.022	.023	.009	.006	-.004	-.006	-.051	-.051	.166
.277	.029	.028	.015	.017	.006	.009	-.019	-.016	-.030	-.030	-.054	-.051	.277
.367	.012	-.049	.004	-.056	.001	-.058	.016	-.045	-.011	-.077	-.046	-.110	.367
.387	.082	-.068	.069	-.076	.072	-.072	.051	-.084	.007	-.115	-.041	-.146	.387
.443	.086		.053		.014		-.015		-.081		-.138		.443
.498	.032	.036	-.007	-.006	-.043	-.044	-.077	-.084	-.131	-.151	-.202	-.229	.498
.553	-.015	.066	-.053	.009	-.087	-.032	-.112	-.071	-.178	-.139	-.228	-.186	.553
.609	-.048	.050	-.082	.009	-.110	-.025	-.141	-.064	-.196	-.127	-.259	-.226	.609
.664	-.086	-.050	-.126	-.087	-.152	-.114	-.176	-.143	-.227	-.198	-.297	-.269	.664
.719	-.080	-.072	-.100	-.088	-.116	-.104	-.122	-.115	-.137	-.137	-.143	-.148	.719
.774	-.054	-.060	-.062	-.068	-.074	-.080	-.081	-.090	-.104	-.110	-.124	-.114	.774
.830	-.051	-.090	-.050	-.086	-.053	-.086	-.054	-.089	-.062	-.096	-.081	-.109	.830
.871	-.030	-.044	-.028	-.039	-.025	-.035	-.019	-.028	-.040	-.044	-.040	-.049	.871
Station C													
.055	.092	.093	.097	.096	.087	.087	.072	.072	.045	.043	-.001	-.002	.055
.166													.166
.277													.277
.353													.353
.367	.274	.300	.276	.297	.261	.285	.256	.280	.227	.272	.145	.205	.367
.692	-.033	-.030	-.032	-.030	-.024	-.030	-.018	-.030	-.025	-.027	-.032	-.040	.692
.719	-.038	-.044	-.033	-.040	-.036	-.039	-.035	-.039	-.046	-.032	-.039	-.035	.719
.774													.774
.830	-.047	-.060	-.050	-.060	-.050	-.059	-.055	-.063	-.072	-.081	-.100	-.099	.830
.871	-.055		-.055		-.058		-.065		-.082		-.107		.871
.954													.954

TABLE VI.- PRESSURE COEFFICIENTS FOR BASIC AND INDENTED BODY IN PRESENCE OF WING IN 8-FOOT TRANSONIC PRESSURE TUNNEL.- Concluded

(a) M = 1.43 - Concluded.

x/L	α = -2°		α = 0°		α = 2°		α = 4°		α = 8°		α = 12°		x/L
	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	Basic body	Indented body	
Station D													
.166	.021	.022	.027	.028	.031	.032	.046	.047	.073	.073	.082	.085	.166
.277													.277
.367	.033	-.072	.039	-.076	.037	-.084	.033	-.088	.023	-.085	.012	-.095	.367
.387	.031	-.053	.038	-.052	.039	-.053	.026	-.071	.016	-.072	-.010	-.077	.387
.443	-.025	-.117	-.001	-.093	.040	-.056	.067	-.029	.148	.047	.221	.114	.443
.498	-.034	-.048	-.021	-.010	.023	.034	.055	.075	.137	.154	.240	.202	.498
.553	-.066	.005	-.031	.042	.007	.085	.048	.125	.137	.218	.255	.333	.553
.609	-.080	.009	-.050	.047	-.016	.086	.020	.127	.102	.221	.210	.331	.609
.664	-.105	-.042	-.073	-.008	-.037	.027	.001	.067	.085	.145	.179	.243	.664
.719	-.087	-.082	-.066	-.061	-.043	-.039	-.017	-.013	.045	.046	.108	.107	.719
.774	-.052	-.067	-.047	-.062	-.037	-.052	-.025	-.041	-.007	-.025	.019	.002	.774
.830	-.031	-.058	-.031	-.056	-.029	-.054	-.025	-.050	-.027	-.051	-.020	-.047	.830
.871	-.026	-.040	-.022	-.038	-.022	-.039	-.028	-.046	-.045	-.058	-.057	-.070	.871
Station E													
.055	.072	.072	.097	.098	.118	.119	.138	.143	.207	.202	.286	.292	.055
.166	.026	.027	.024	.026	.036	.038	.059	.061	.120	.122	.181	.186	.166
.277													.277
.367													.367
.387	-.033	-.125	-.022	-.123	-.022	-.129	-.014	-.123	.021	-.095	.075	-.056	.387
.443	-.016	-.095	.003	-.085	.027	-.059	.052	-.046	.090	-.028	.112	-.016	.443
.498	-.029	-.031	-.001	.010	.033	.053	.069	.100	.157	.201	.247	.308	.498
.553	-.043	.021	-.011	.056	.029	.100	.068	.140	.149	.227	.265	.347	.553
.609	-.072	.009	-.040	.048	-.008	.085	.031	.127	.129	.228	.224	.337	.609
.664	-.093	-.054	-.058	-.015	-.021	.022	.014	.058	.098	.143	.195	.237	.664
.719	-.108	-.101	-.073	-.067	-.042	-.034	-.006	.004	.080	.086	.174	.173	.719
.774	-.063	-.073	-.052	-.062	-.044	-.054	-.027	-.037	.014	.002	.057	.042	.774
.830	-.033	-.050	-.036	-.051	-.034	-.047	-.025	-.036	-.011	-.023	.023	.010	.830
.871	-.036	-.001	-.039	-.004	-.041	-.004	-.044	-.004	-.041	.002	-.016	.031	.871
.954													.954

TABLE VII.- WING SECTION COEFFICIENTS

(a) Wing in presence of basic body

M	α, deg	Section normal-force coefficient, c_n						Section pitching-moment coefficient, $c_m(c/4)$					
		$0.12\frac{b}{2}$	$0.25\frac{b}{2}$	$0.40\frac{b}{2}$	$0.60\frac{b}{2}$	$0.80\frac{b}{2}$	$0.95\frac{b}{2}$	$0.12\frac{b}{2}$	$0.25\frac{b}{2}$	$0.40\frac{b}{2}$	$0.60\frac{b}{2}$	$0.80\frac{b}{2}$	$0.95\frac{b}{2}$
0.80	0	0.057	0.063	0.084	0.098	0.128	0.101	-0.019	-0.022	-0.033	-0.041	-0.042	-0.039
	3.75	.263	.294	.343	.395	.483	.443	-.046	-.043	-.043	-.047	-.042	-.026
	8.00	.497	.569	.656	.876	.625	.355	-.073	-.052	-.044	-.100	-.108	-.052
	12.00	.701	.808	1.059	.899	.587	.394	-.092	-.077	-.120	-.157	-.099	-.066
	16.00	.907	1.119	1.069	.822	.628	.439	-.127	-.138	-.184	-.144	-.109	-.067
	20.00	1.131	1.194	1.033	.866	.713	.525	-.159	-.199	-.188	-.158	-.129	-.094
.90	0	.055	.065	.087	.099	.132	.121	-.024	-.036	-.039	-.047	-.047	-.044
	4.00	.291	.328	.381	.425	.519	.499	-.065	-.059	-.055	-.048	-.039	-.026
	8.00	.545	.629	.722	.895	.746	.409	-.110	-.095	-.071	-.101	-.132	-.063
	12.00	.739	.834	1.052	.847	.618	.418	-.127	-.108	-.157	-.154	-.111	-.066
	16.00	.914	1.114	1.038	.859	.683	.491	-.156	-.162	-.195	-.157	-.126	-.085
	20.00	1.134	1.210	1.076	.914	.763	.556	-.189	-.217	-.207	-.175	-.144	-.093
.94	0	.064	.077	.089	.108	.142	.128	-.033	-.042	-.045	-.048	-.049	-.046
	4.00	.297	.345	.407	.468	.579	.537	-.080	-.081	-.080	-.075	-.067	-.005
	8.00	.549	.630	.723	.873	.761	.444	-.128	-.113	-.097	-.106	-.137	-.068
	12.00	.757	.837	1.054	.897	.699	.472	-.148	-.129	-.160	-.159	-.119	-.073
	16.00	.916	1.120	1.103	.918	.752	.537	-.167	-.162	-.204	-.172	-.139	-.091
	20.00	1.117	1.277	1.158	.980	.830	.608	-.199	-.219	-.227	-.186	-.159	-.106
.98	0	.043	.062	.085	.107	.152	.111	-.023	-.039	-.052	-.075	-.071	-.016
	4.00	.271	.327	.383	.465	.594	.557	-.071	-.085	-.089	-.108	-.131	-.089
	8.00	.516	.608	.706	.861	.972	.859	-.121	-.116	-.115	-.128	-.174	-.125
	12.00	.737	.840	.978	1.069	.905	.597	-.156	-.150	-.139	-.183	-.163	-.099
1.05	0	.032	.054	.068	.088	.115	.101	-.018	-.035	-.044	-.076	-.092	-.119
	4.00	.246	.302	.361	.433	.545	.508	-.061	-.077	-.069	-.115	-.132	-.102
	8.00	.501	.581	.673	.817	.999	.913	-.115	-.119	-.116	-.129	-.206	-.163
	12.00	.717	.822	.961	1.139	1.126	.970	-.152	-.151	-.149	-.202	-.214	-.140
1.125	0	.027	.038	.054	.063	.068	.033	-.014	-.031	-.044	-.065	-.079	-.105
	4.00	.228	.278	.331	.396	.450	.489	-.056	-.073	-.085	-.106	-.126	-.125
	8.00	.456	.539	.627	.747	.908	.817	-.102	-.111	-.119	-.137	-.207	-.165
	12.00	.674	.777	.904	1.047	1.047	1.014	-.148	-.149	-.157	-.199	-.213	-.207
1.43	-2.00	-.070	-.063	-.083	-.097	-.176	-.205	-.003	-.014	-.019	-.038	-.020	-.007
	0	.021	.035	.033	.039	-.012	-.059	-.018	-.028	-.035	-.054	-.048	-.039
	2.00	.106	.129	.146	.173	.159	.134	-.034	-.042	-.052	-.073	-.070	-.068
	4.00	.185	.229	.268	.309	.310	.267	-.049	-.059	-.074	-.094	-.094	-.088
	8.00	.365	.428	.501	.571	.591	.534	-.080	-.091	-.110	-.136	-.149	-.129
	12.00	.533	.619	.726	.799	.797	.755	-.111	-.125	-.155	-.189	-.194	-.171

TABLE VII.- WING SECTION COEFFICIENTS - Concluded

(b) Wing in presence of indented body

M	α, deg	Section normal-force coefficient, c_n						Section pitching-moment coefficient, $c_{m(c/4)}$					
		$0.12\frac{b}{2}$	$0.25\frac{b}{2}$	$0.40\frac{b}{2}$	$0.60\frac{b}{2}$	$0.80\frac{b}{2}$	$0.95\frac{b}{2}$	$0.12\frac{b}{2}$	$0.25\frac{b}{2}$	$0.40\frac{b}{2}$	$0.60\frac{b}{2}$	$0.80\frac{b}{2}$	$0.95\frac{b}{2}$
0.80	0	0.063	0.063	0.081	0.092	0.126	0.103	-0.022	-0.027	-0.030	-0.039	-0.043	-0.039
	4.00	.268	.291	.335	.382	.483	.407	-.042	-.039	-.041	-.044	-.041	-.014
	8.00	.505	.543	.636	.862	.628	.343	-.064	-.049	-.039	-.104	-.109	-.050
	12.00	.722	.803	1.037	.856	.589	.384	-.087	-.053	-.121	-.153	-.100	-.061
	16.00	.936	1.154	1.102	.822	.624	.441	-.122	-.139	-.195	-.146	-.109	-.073
	20.00	1.188	1.210	1.069	.876	.716	.516	-.164	-.207	-.195	-.157	-.128	-.089
.90	0	.071	.070	.089	.101	.142	.121	-.025	-.035	-.038	-.044	-.051	-.043
	4.00	.285	.312	.366	.413	.517	.463	-.056	-.052	-.051	-.050	-.045	-.019
	8.00	.557	.604	.689	.854	.743	.412	-.092	-.073	-.052	-.062	-.133	-.063
	12.00	.771	.841	1.045	.877	.627	.417	-.118	-.090	-.140	-.155	-.114	-.070
	16.00	.955	1.157	1.079	.872	.683	.478	-.156	-.162	-.202	-.159	-.124	-.079
	20.00	1.207	1.228	1.128	.931	.781	.553	-.194	-.223	-.212	-.175	-.148	-.091
.94	0	.072	.074	.092	.108	.149	.119	-.032	-.037	-.042	-.050	-.052	-.043
	4.00	.300	.333	.396	.449	.567	.510	-.068	-.065	-.068	-.068	-.061	-.002
	8.00	.567	.609	.714	.901	.762	.438	-.109	-.095	-.077	-.099	-.129	-.071
	12.00	.786	.852	1.066	.947	.678	.459	-.141	-.109	-.152	-.169	-.126	-.074
	16.00	.943	1.145	1.121	.924	.744	.529	-.162	-.162	-.209	-.173	-.139	-.089
.98	0	.065	.070	.090	.119	.176	.112	-.028	-.037	-.047	-.071	-.071	-.027
	4.00	.289	.317	.376	.463	.595	.590	-.064	-.065	-.069	-.092	-.119	-.092
	8.00	.540	.594	.704	.874	1.058	.814	-.108	-.099	-.092	-.121	-.186	-.097
	12.00	.767	.841	1.021	1.105	.887	.589	-.143	-.122	-.127	-.198	-.162	-.104
1.03	0	.064	.052	.074	.096	.144	.150	-.027	-.038	-.045	-.069	-.088	-.102
	4.00	.282	.312	.368	.463	.543	.539	-.065	-.068	-.073	-.104	-.127	-.101
	8.00	.525	.583	.680	.828	1.001	.846	-.103	-.092	-.095	-.113	-.173	-.108
	12.00	.741	.816	.966	1.162	1.047	.748	-.138	-.124	-.125	-.201	-.203	-.139
1.125	0	.047	.038	.058	.070	.102	.082	-.023	-.033	-.047	-.065	-.083	-.103
	4.00	.237	.272	.337	.403	.464	.474	-.057	-.058	-.081	-.099	-.128	-.108
	8.00	.498	.562	.658	.781	.955	.832	-.108	-.101	-.106	-.123	-.209	-.172
	12.00	.704	.788	.923	1.070	1.037	.958	-.143	-.130	-.141	-.201	-.202	-.159
1.43	-2.00	-.074	-.073	-.098	-.088	-.176	-.192	-.004	-.012	-.018	-.058	-.013	-.009
	0.00	.014	.037	.037	.046	-.017	-.071	-.019	-.029	-.039	-.064	-.046	-.035
	2.00	.105	.138	.157	.188	.155	.107	-.037	-.047	-.062	-.082	-.068	-.062
	4.00	.192	.236	.280	.323	.309	.249	-.055	-.061	-.084	-.105	-.102	-.084
	8.00	.378	.443	.509	.577	.587	.532	-.089	-.098	-.118	-.149	-.152	-.139
	12.00	.566	.654	.752	.799	.817	.685	-.128	-.135	-.168	-.194	-.202	-.171

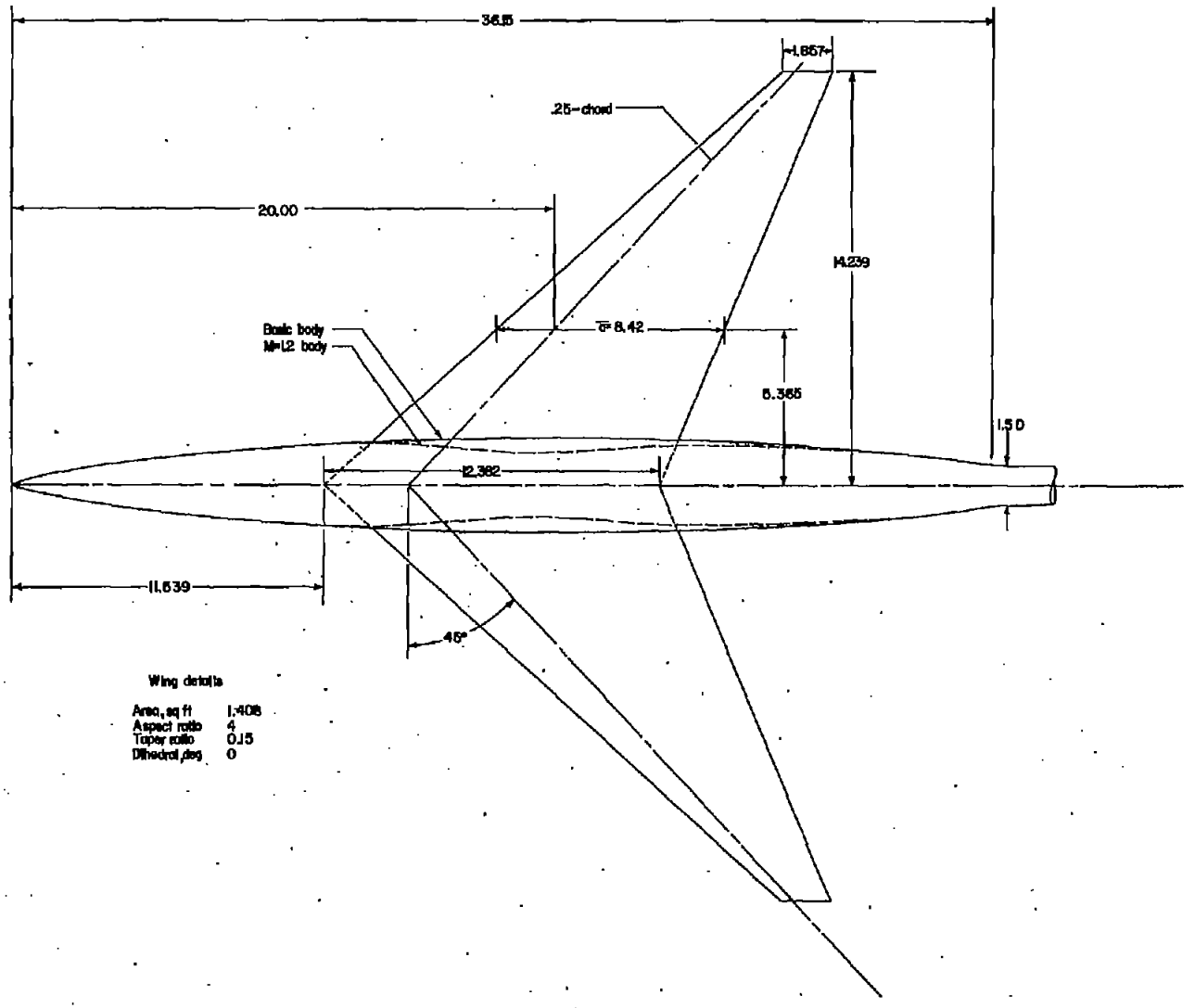


Figure 1.- Details of both wing—basic-body and wing—indented-body configurations. All dimensions are in inches.

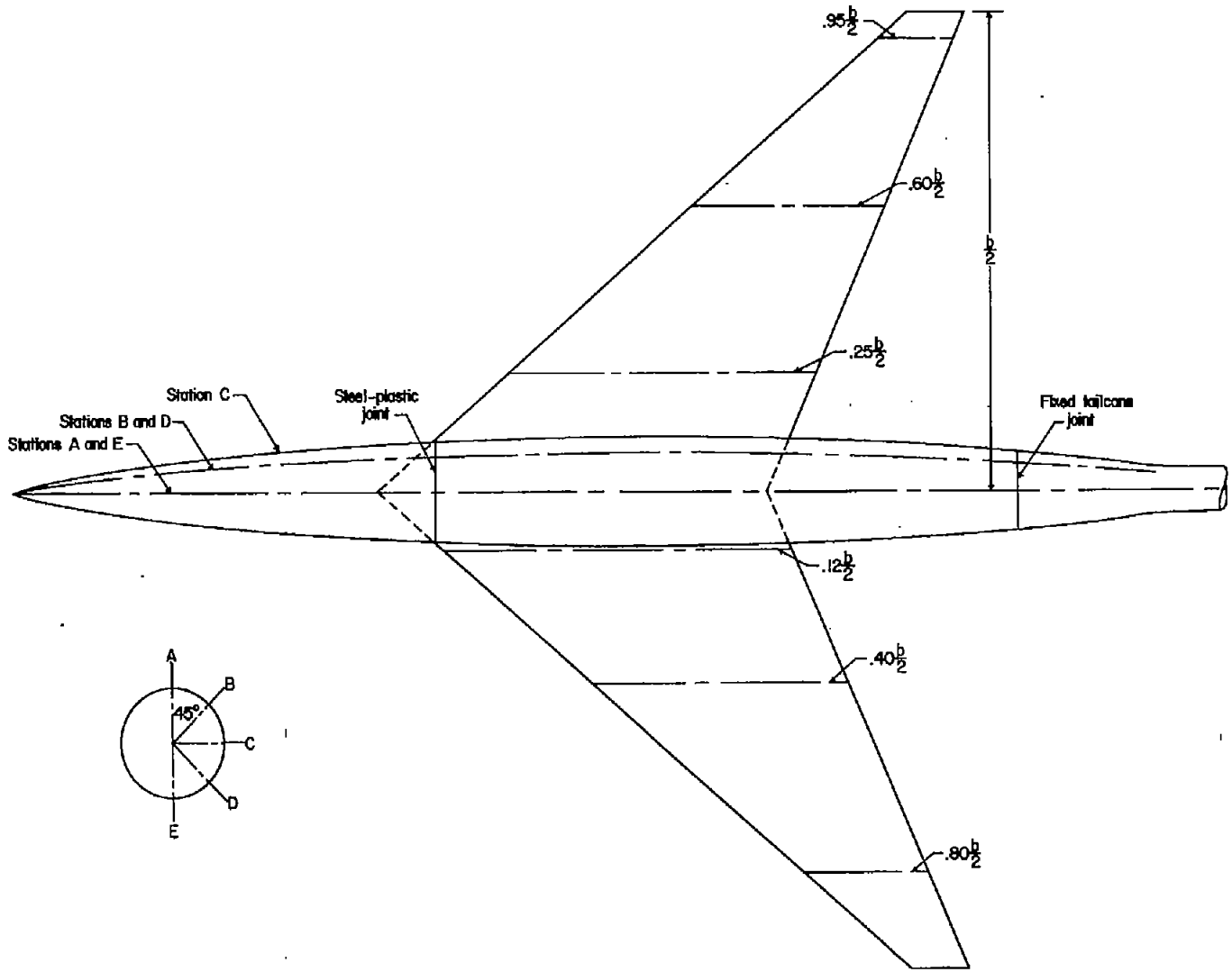


Figure 2.- Location of pressure orifices on wing and body.

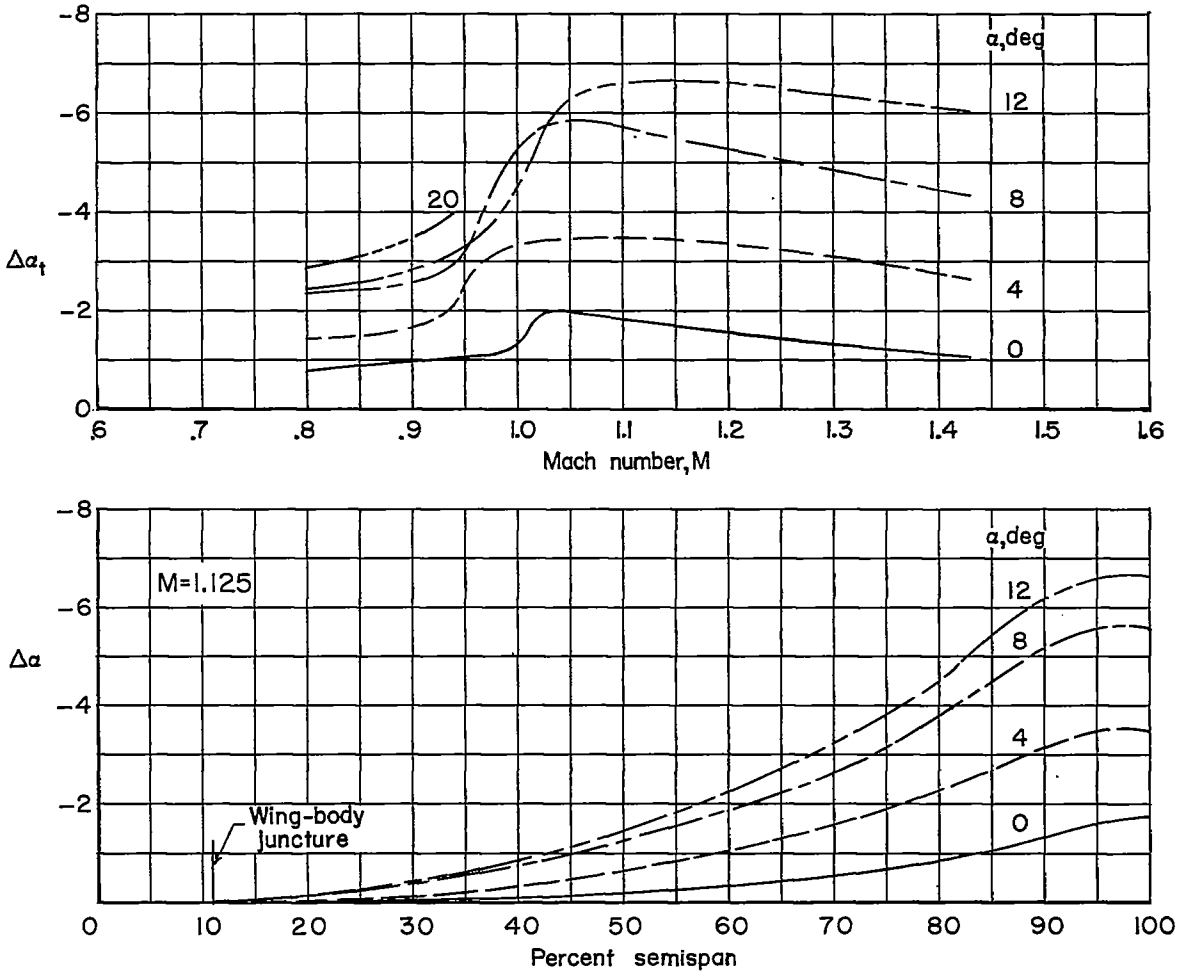
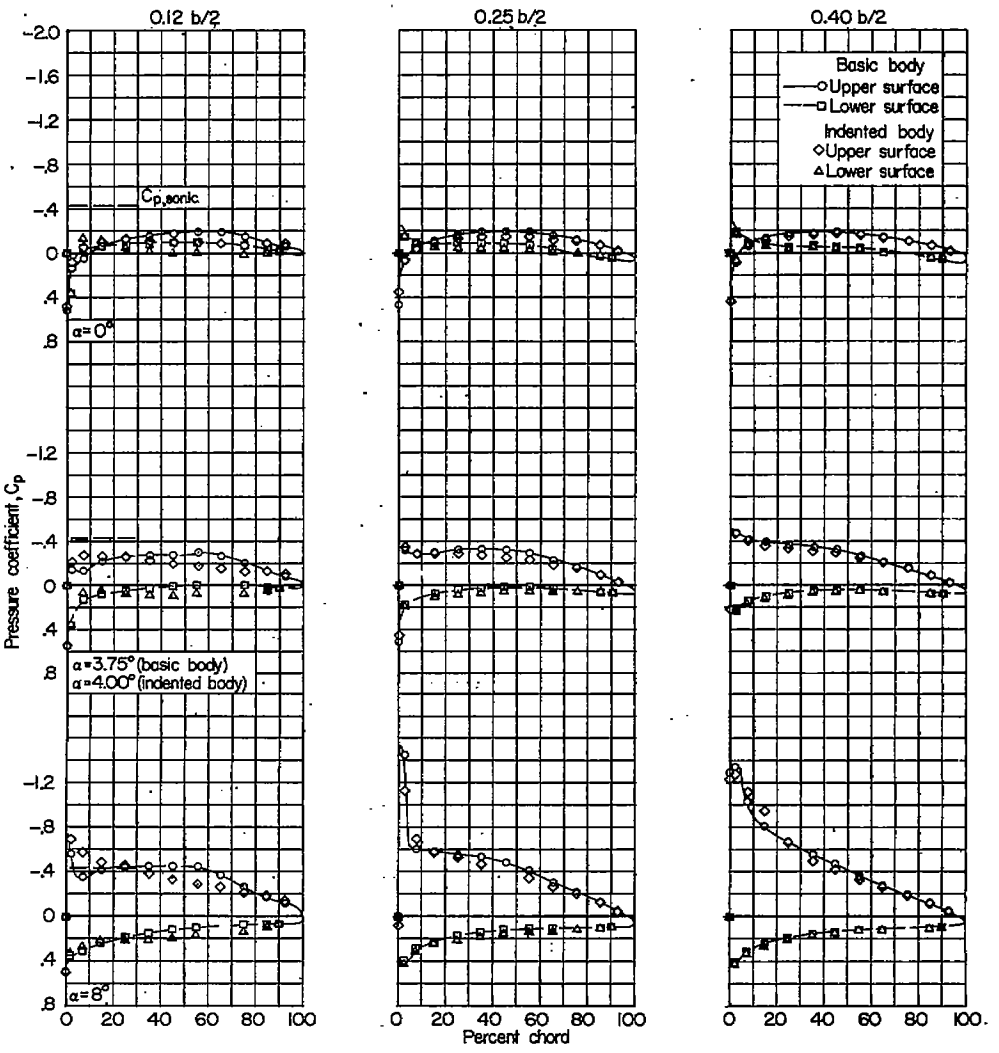
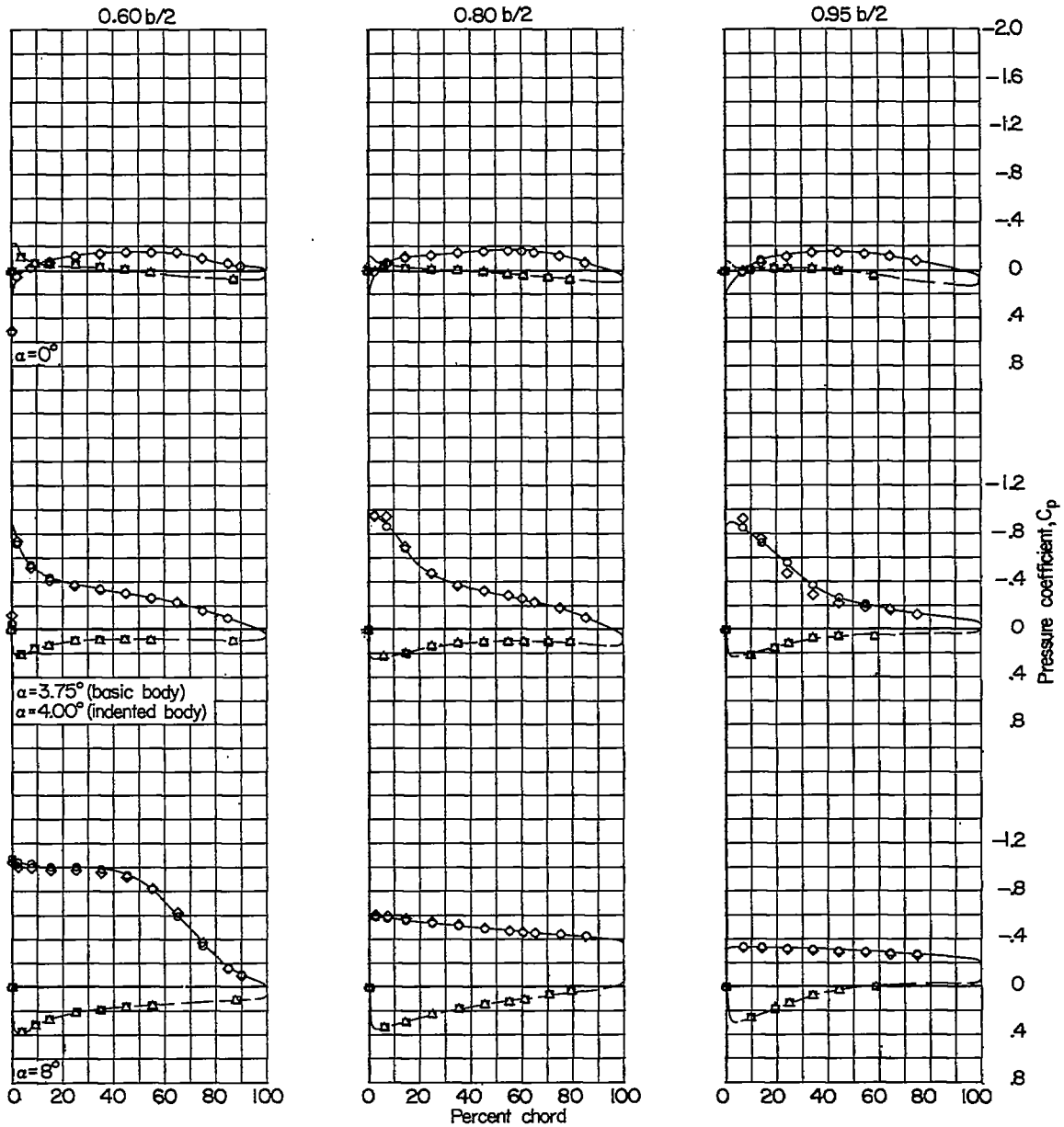


Figure 3.- Calculated variation of wing tip twist with Mach number and spanwise variation of wing twist at M = 1.125.



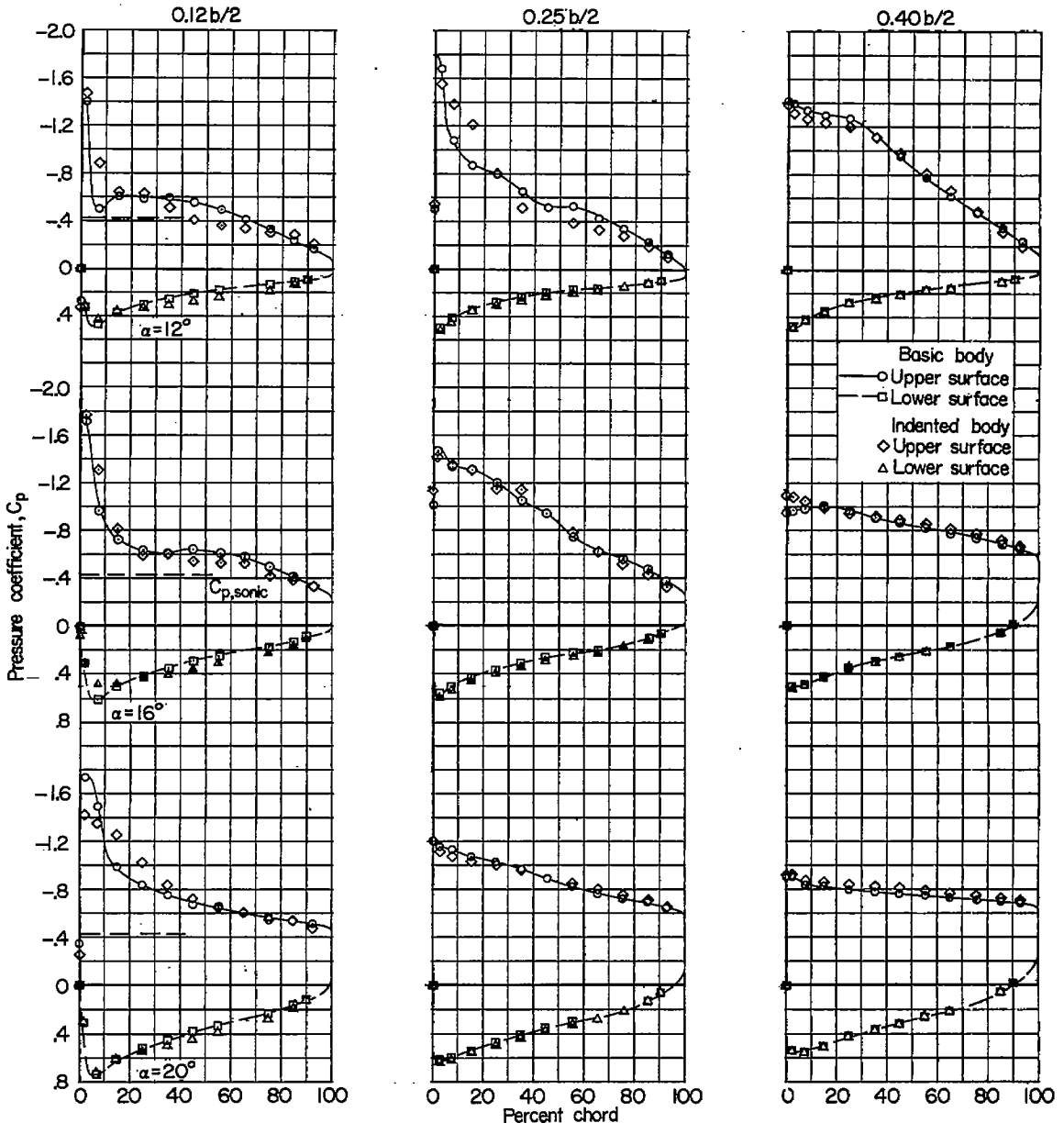
(a) M = 0.80; α = 0°, 4°, and 8°.

Figure 4.- Pressure measurements of wing in presence of both a basic and an indented body as obtained in Langley 8-foot transonic tunnel.



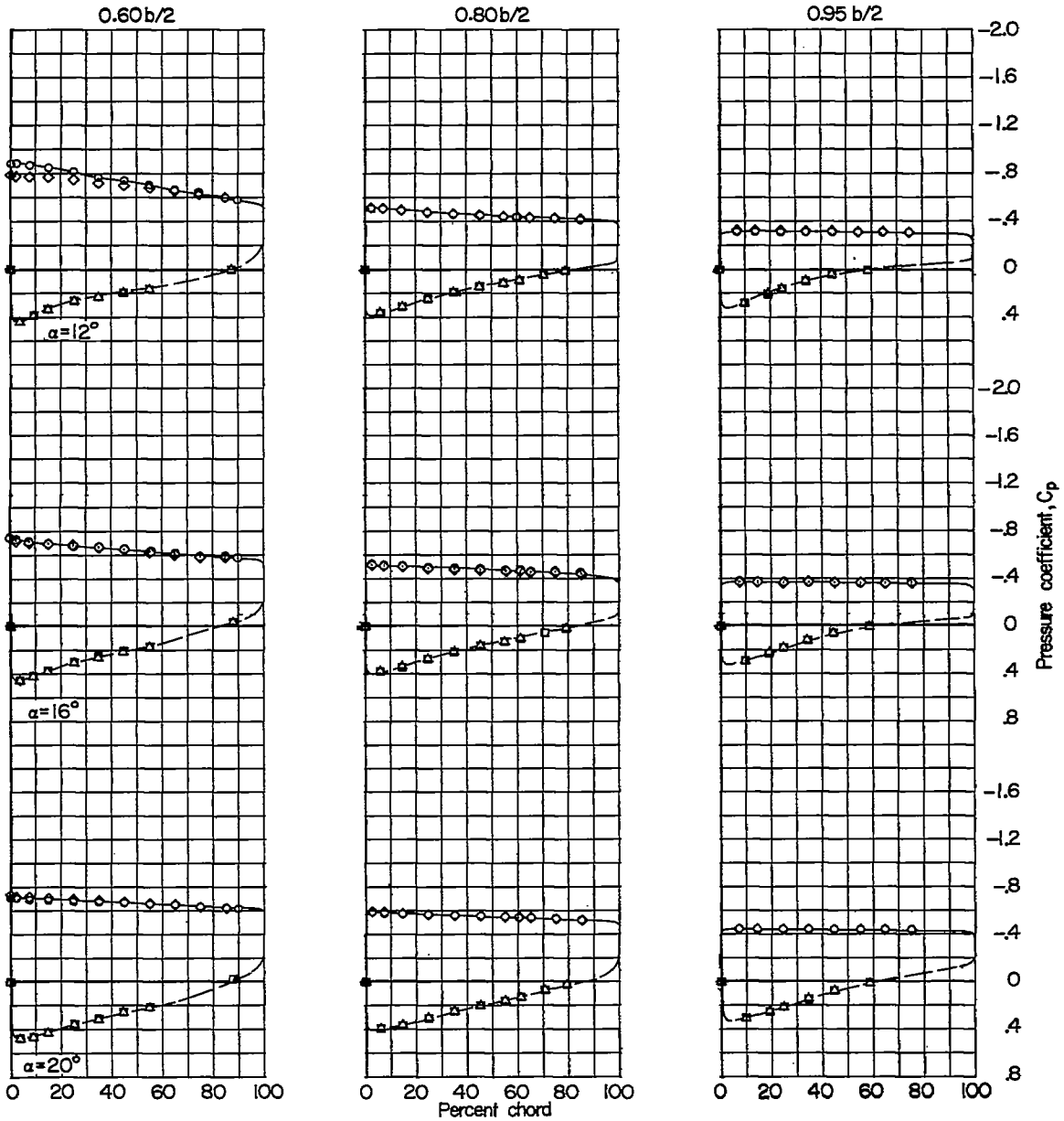
(a) Concluded.

Figure 4.- Continued.



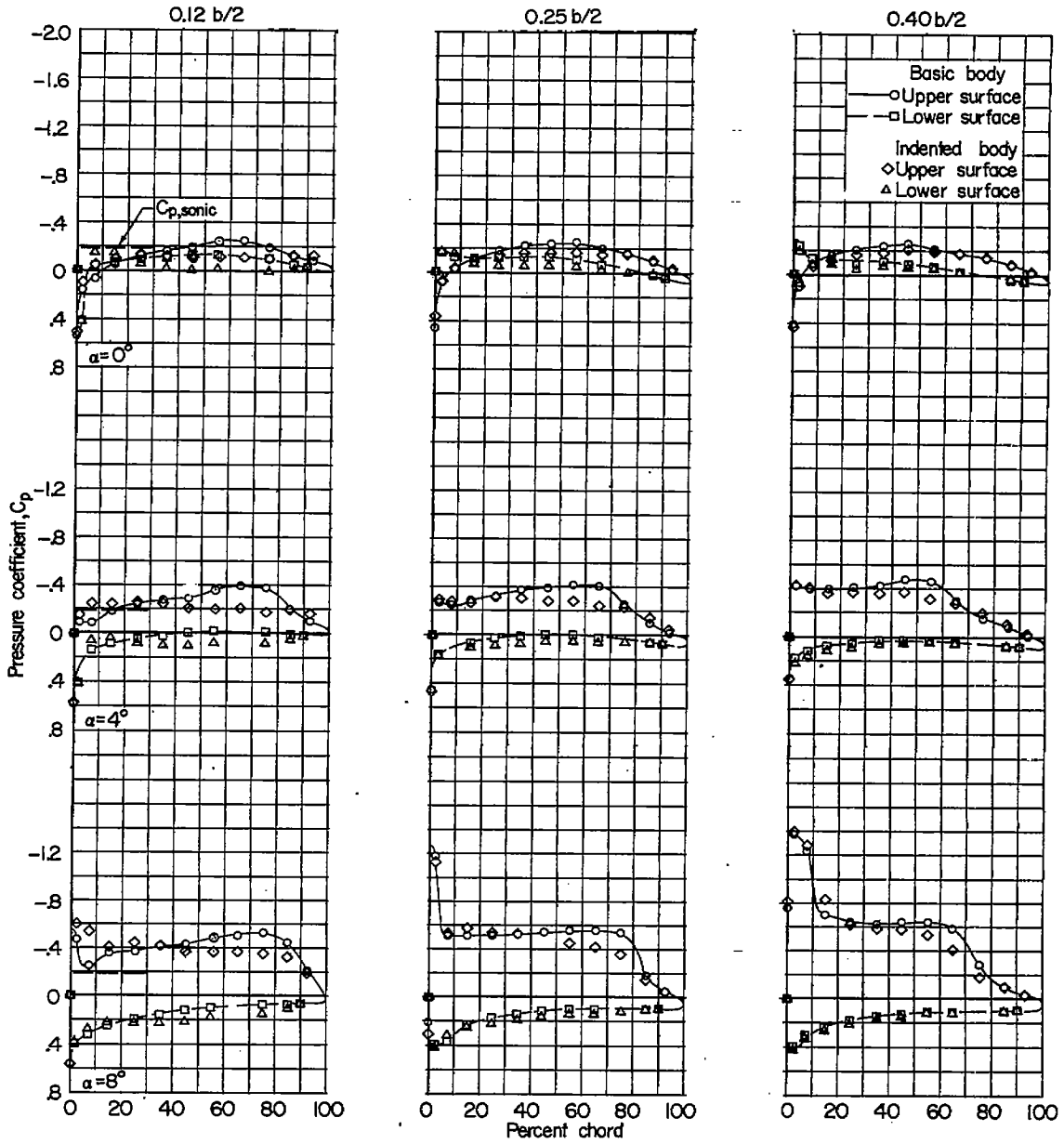
(b) M = 0.80; α = 12°, 16°, and 20°.

Figure 4.- Continued.



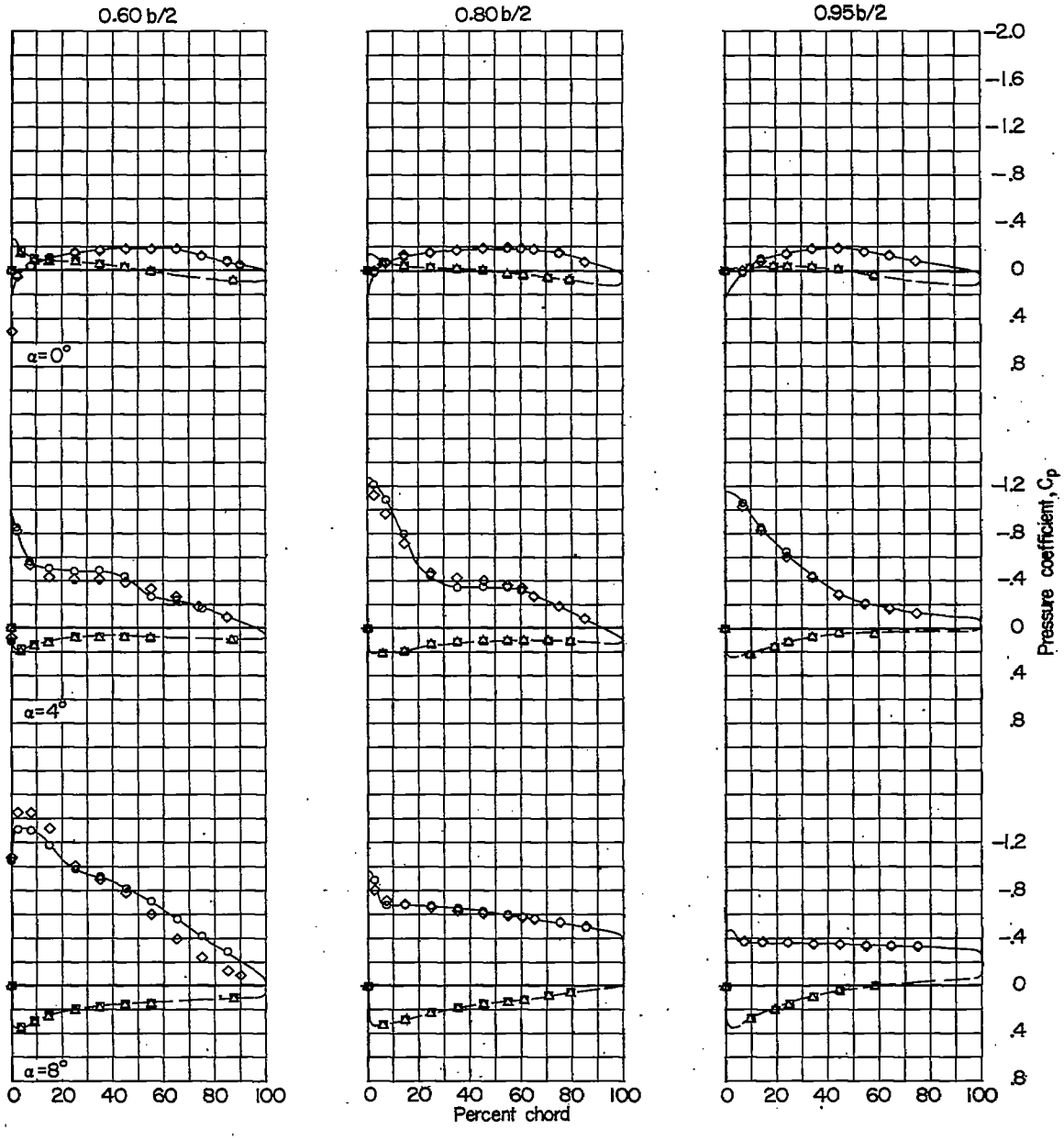
(b) Concluded.

Figure 4.- Continued.



(c) M = 0.90; α = 0°, 4°, and 8°.

Figure 4.- Continued.



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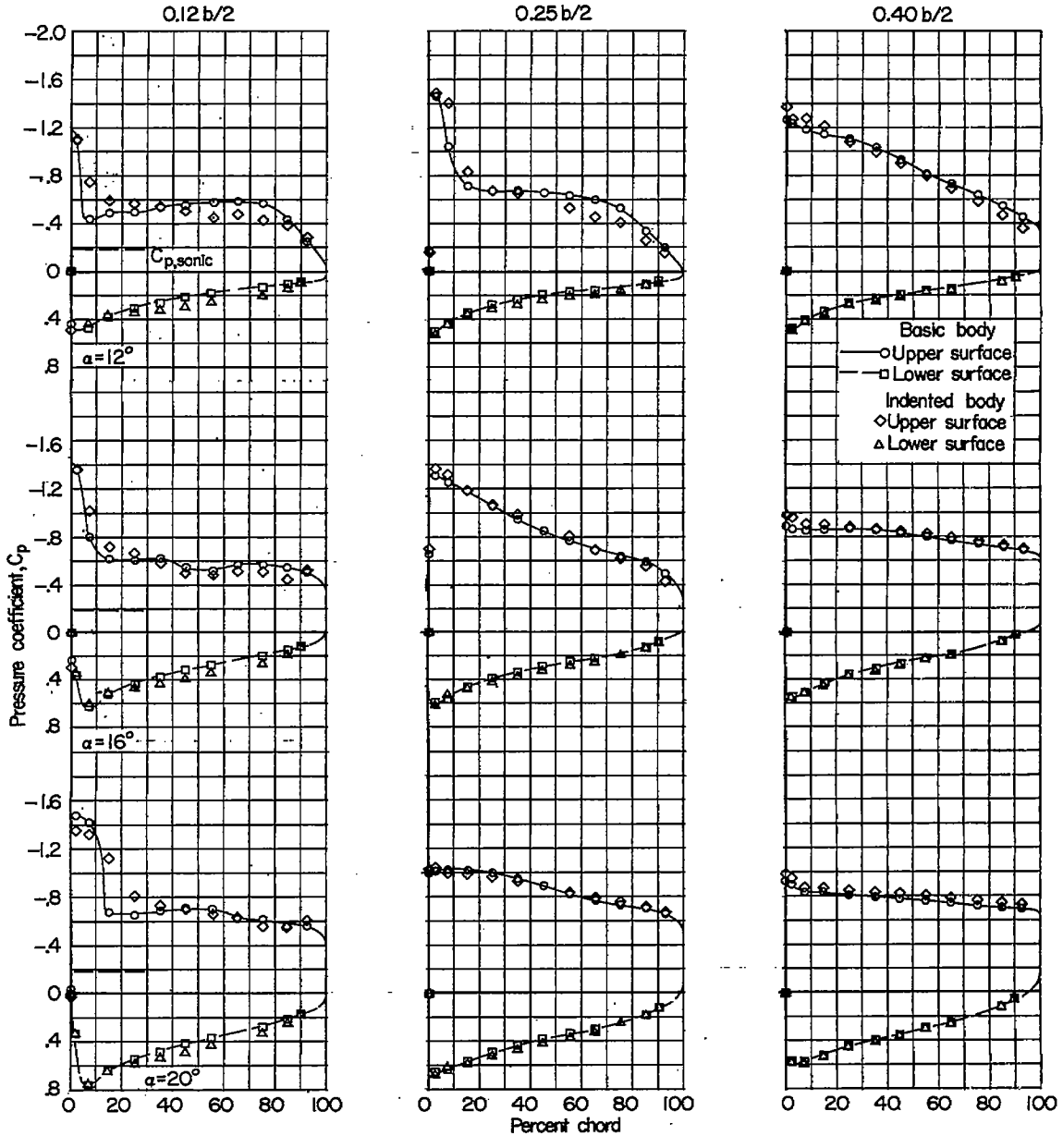

(d) M = 0.90; α = 12°, 16°, and 20°.

Figure 4.- Continued.

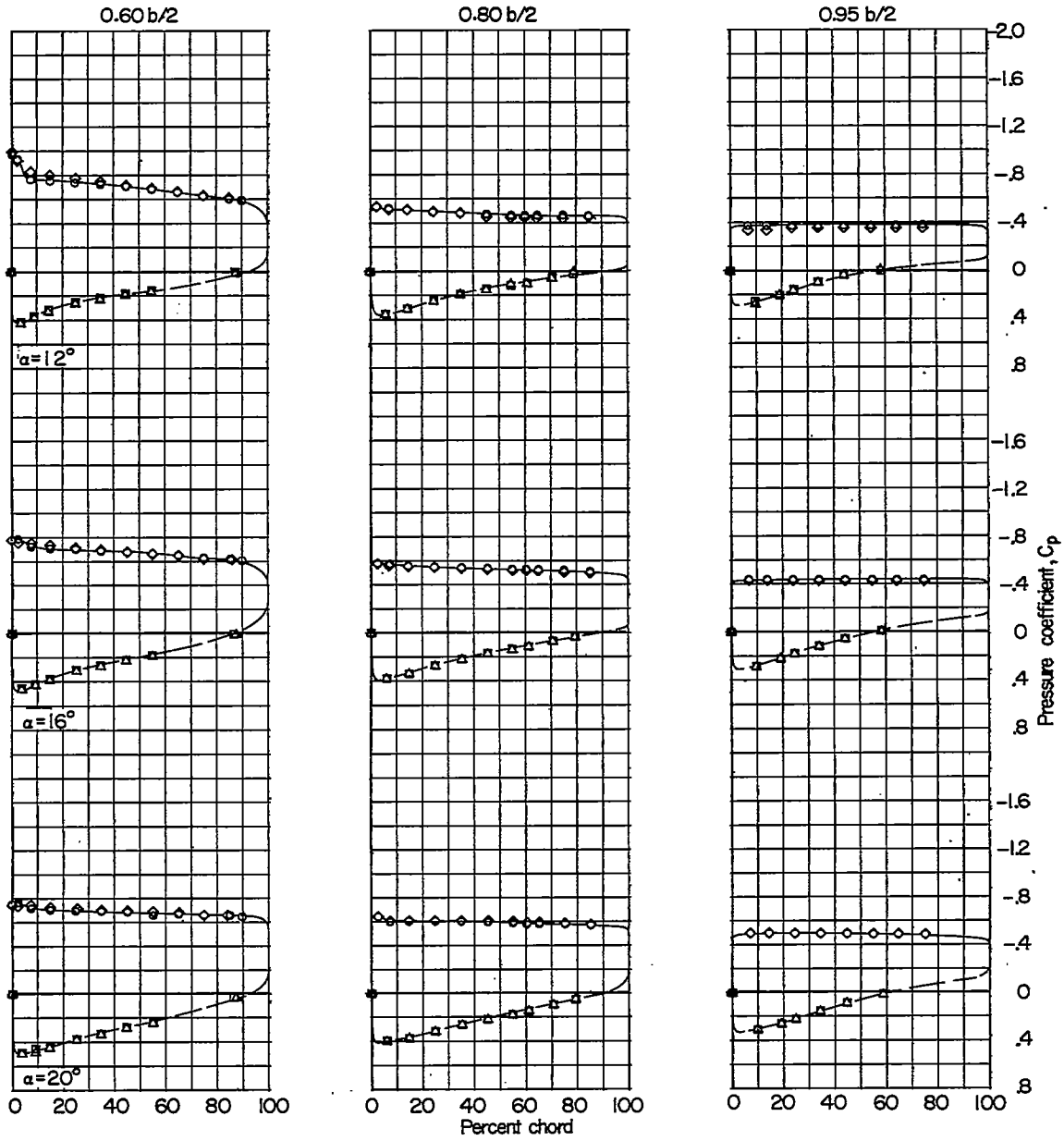

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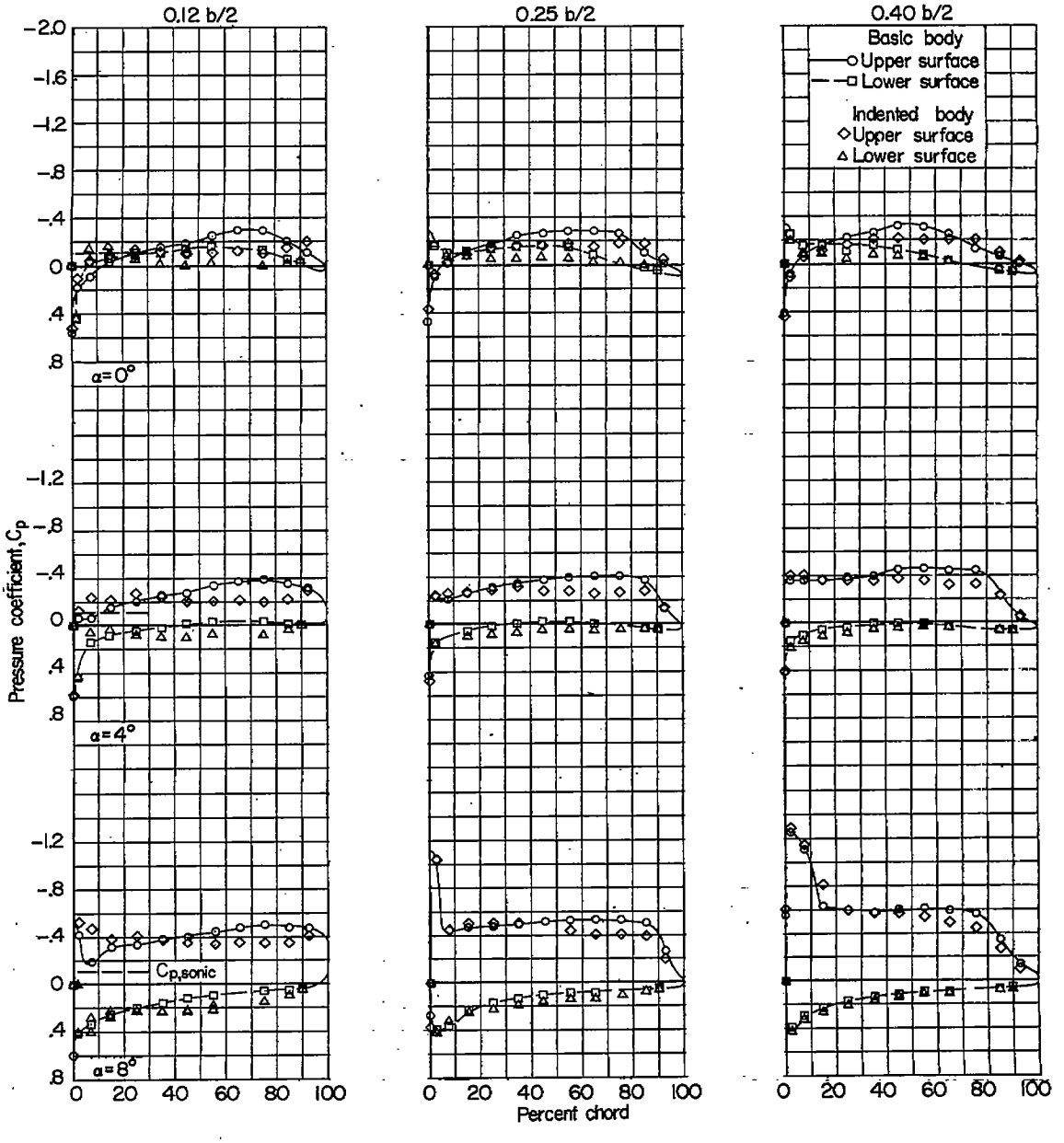
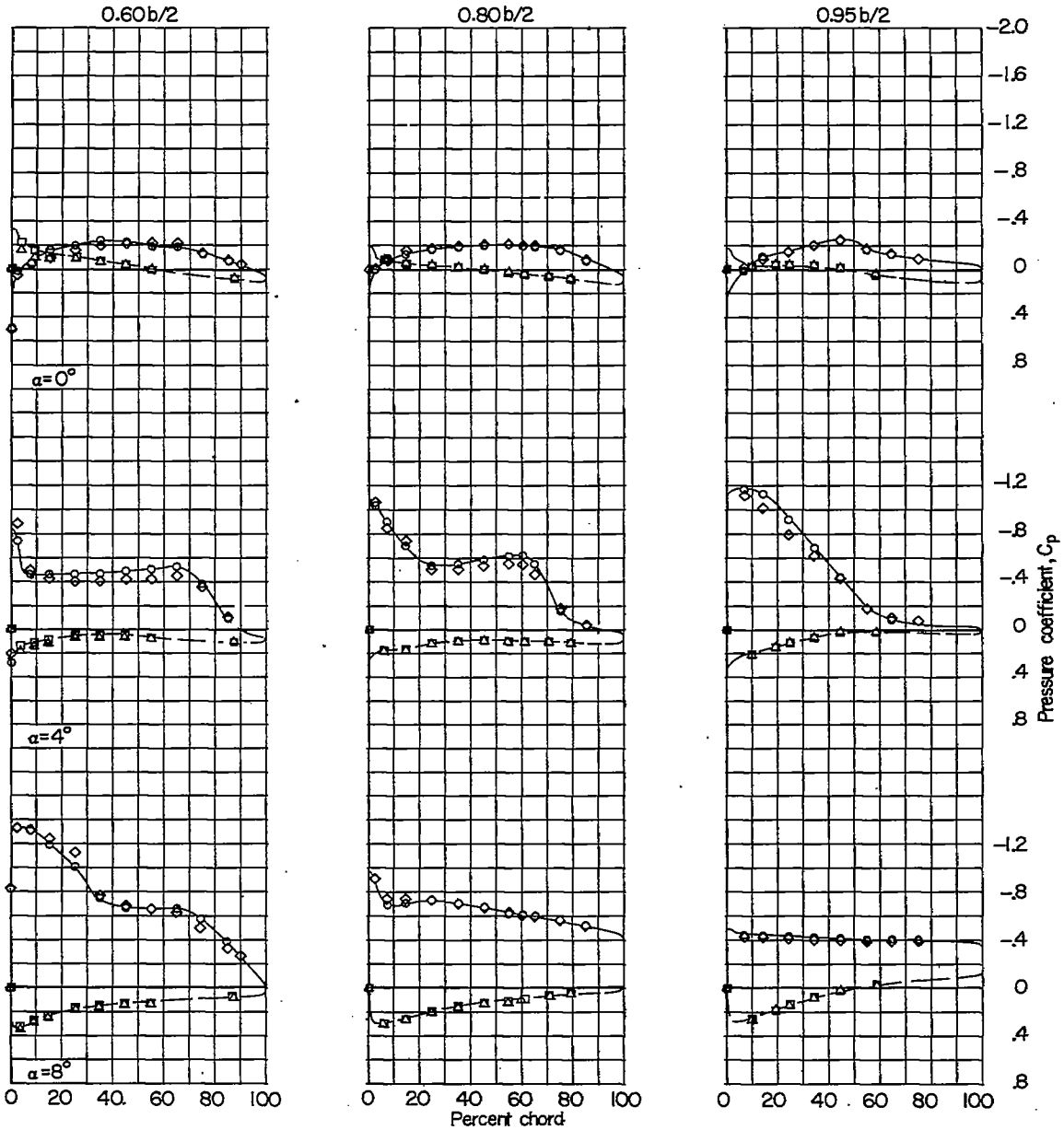
Figure 4.- Continued.



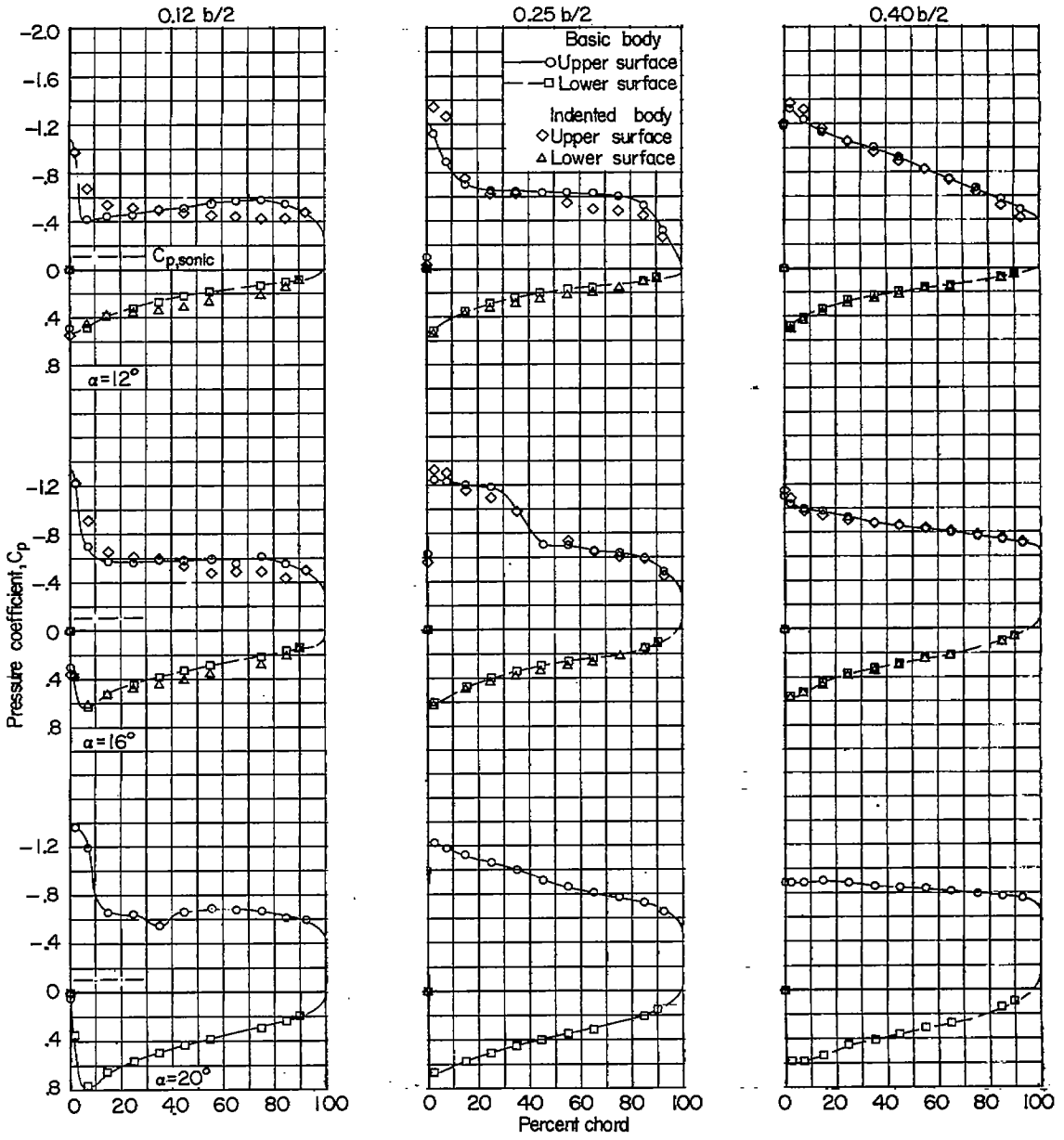
(e) M = 0.94; α = 0°, 4°, and 8°.

Figure 4.- Continued.



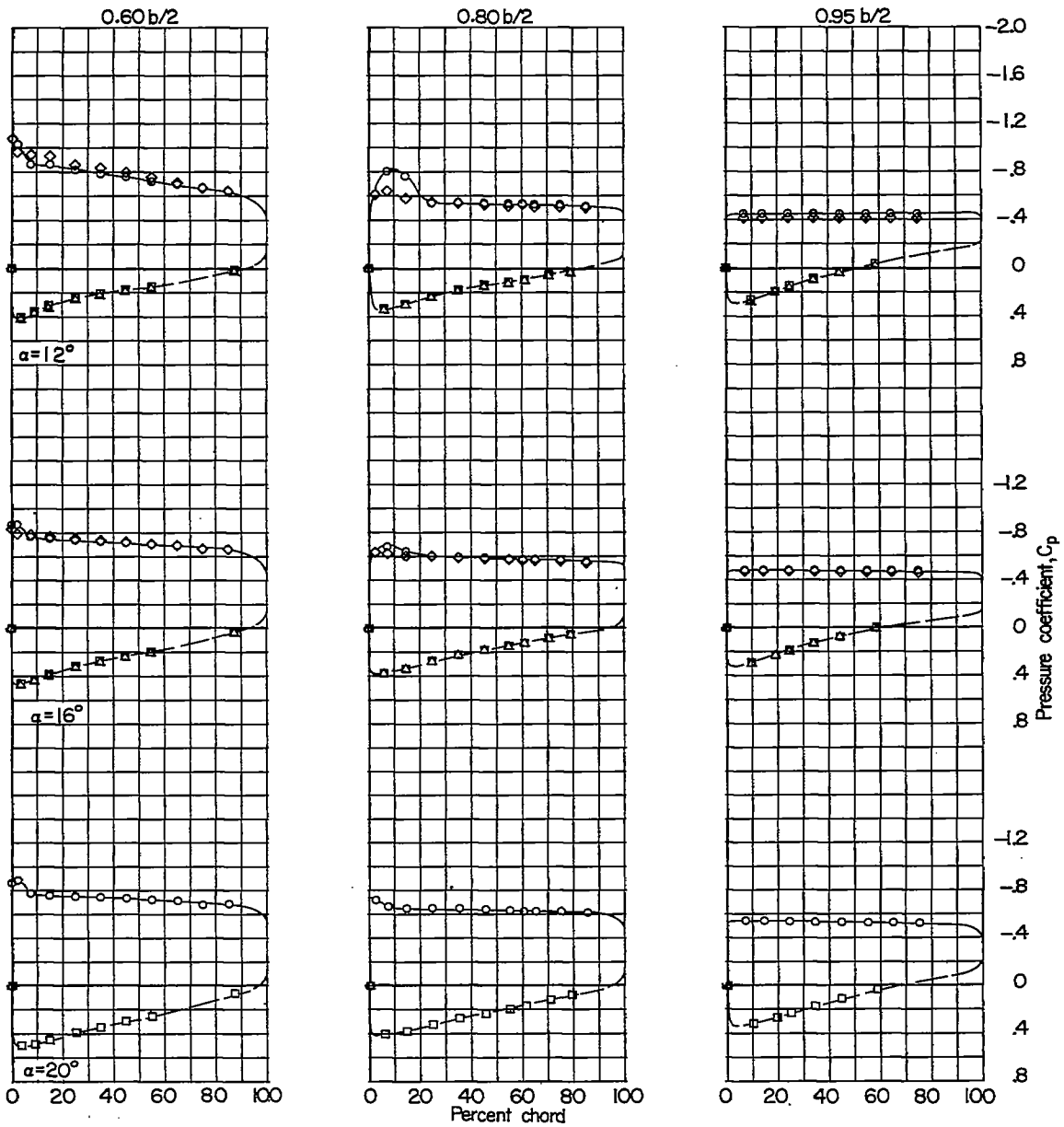
(e) Concluded.

Figure 4.- Continued.



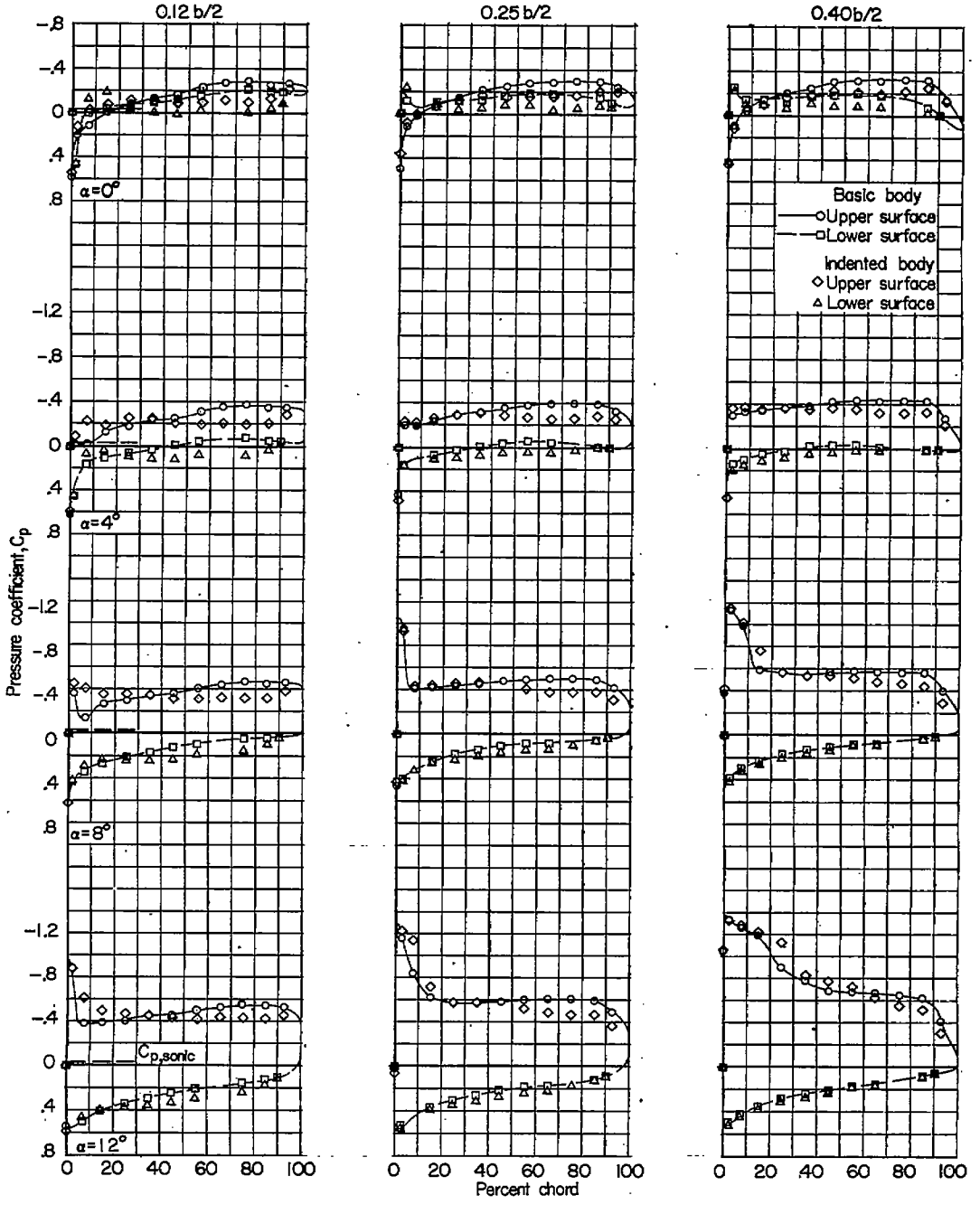
(f) M = 0.94; α = 12°, 16°, and 20°.

Figure 4.- Continued.



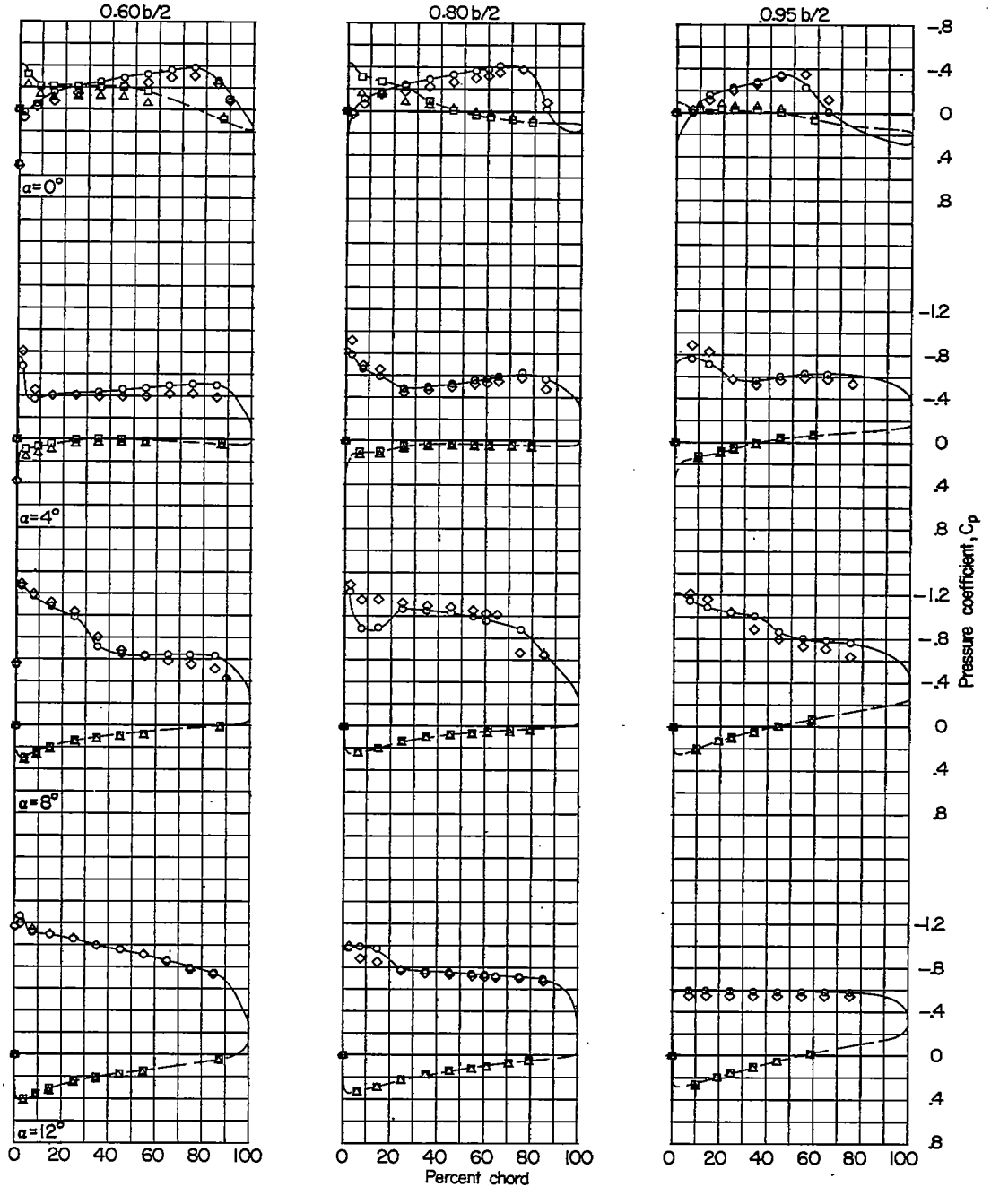
(f) Concluded.

Figure 4.- Continued.



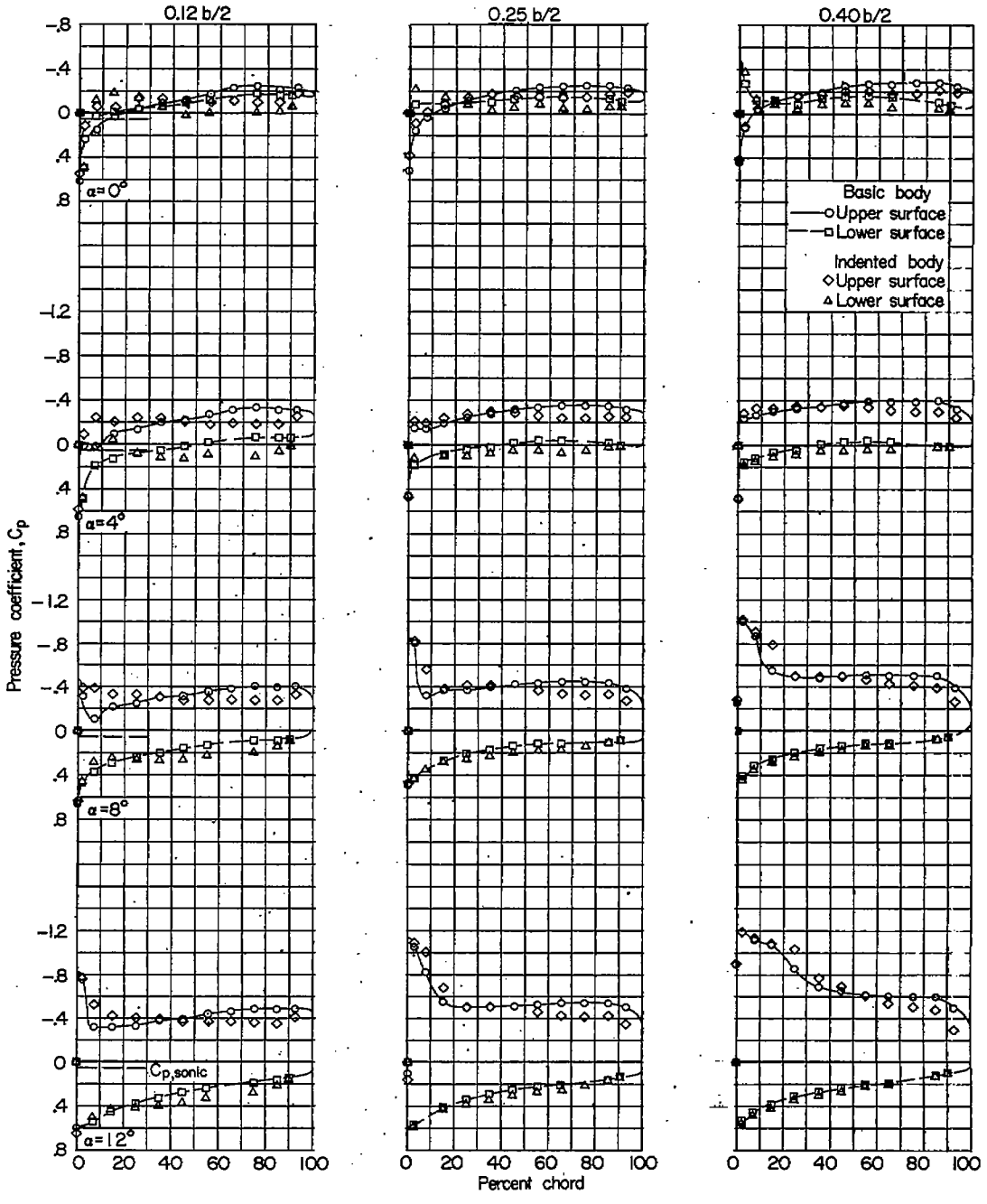
(g) M = 0.98; α = 0°, 4°, 8°, and 12°.

Figure 4.- Continued.



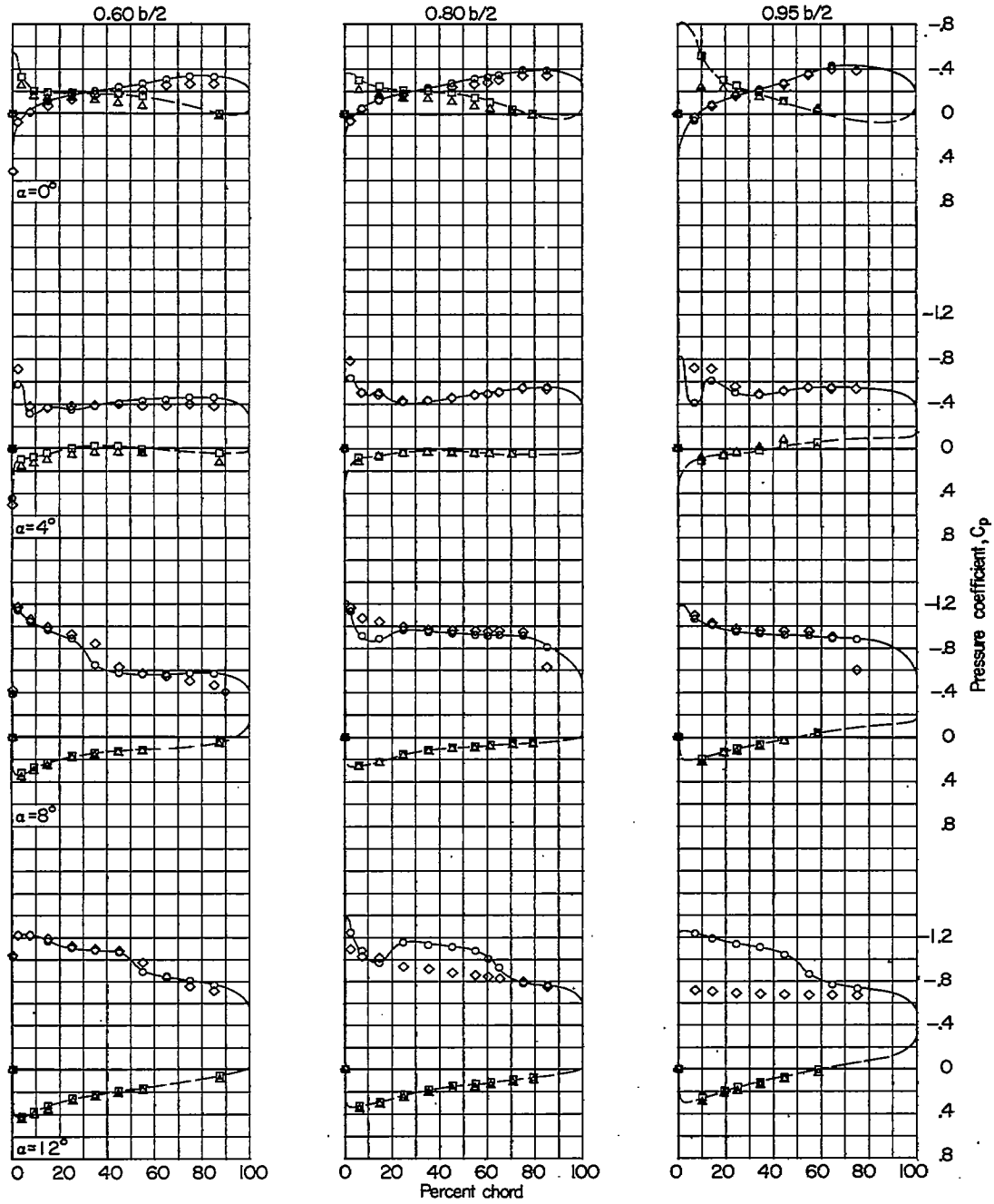
(g) Concluded.

Figure 4.- Continued.



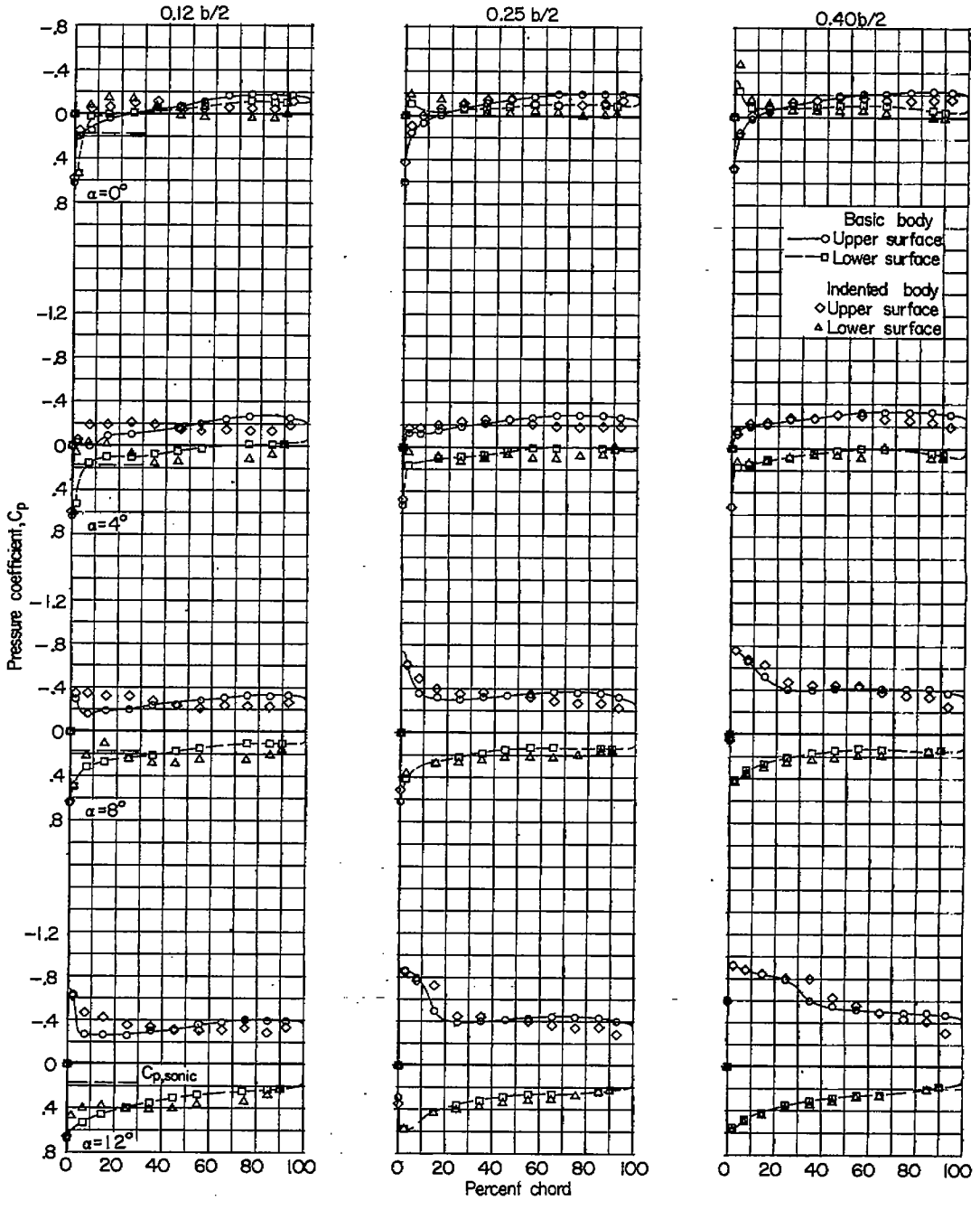
(h) M = 1.03; α = 0°, 4°, 8°, and 12°.

Figure 4.- Continued.



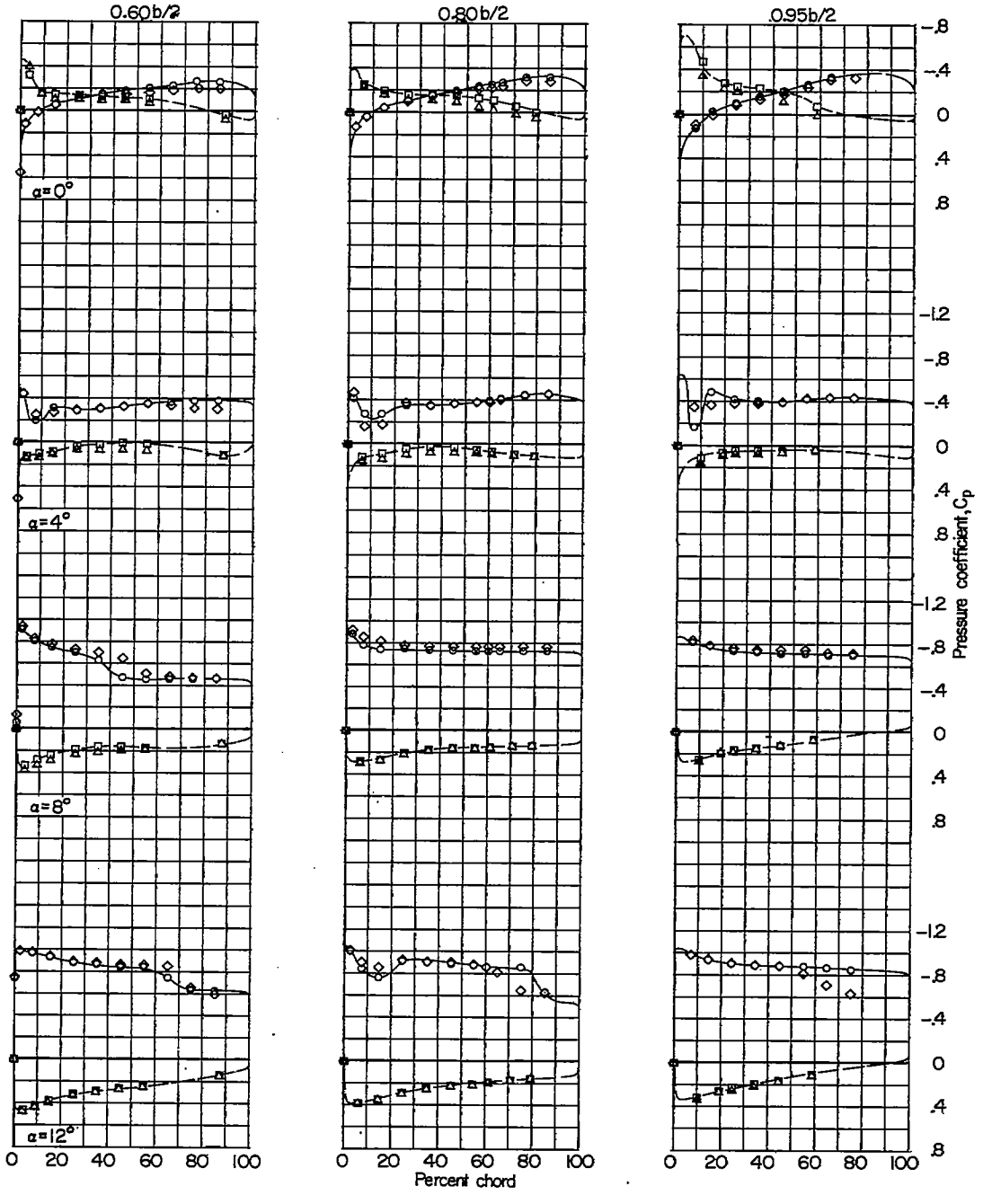
(h) Concluded.

Figure 4.- Continued.



(i) M = 1.125; α = 0°, 4°, 8°, and 12°.

Figure 4.- Continued.



(i) Concluded.

Figure 4.- Concluded.

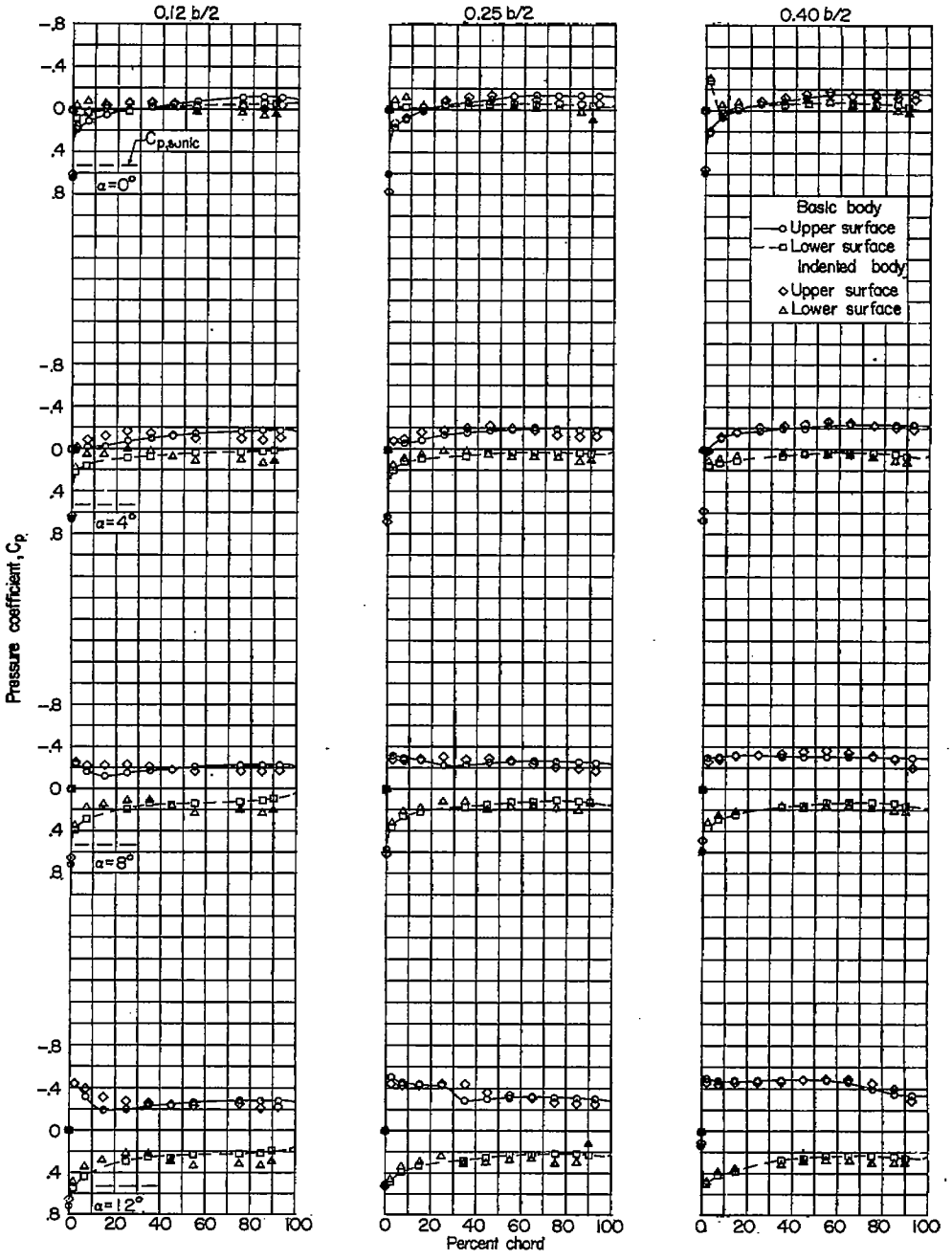


Figure 5.- Pressure measurements of wing in presence of both a basic and an indented body as obtained in Langley 8-foot transonic pressure tunnel with nozzle blocks installed. M = 1.43; α = 0°, 4°, 8°, and 12°.

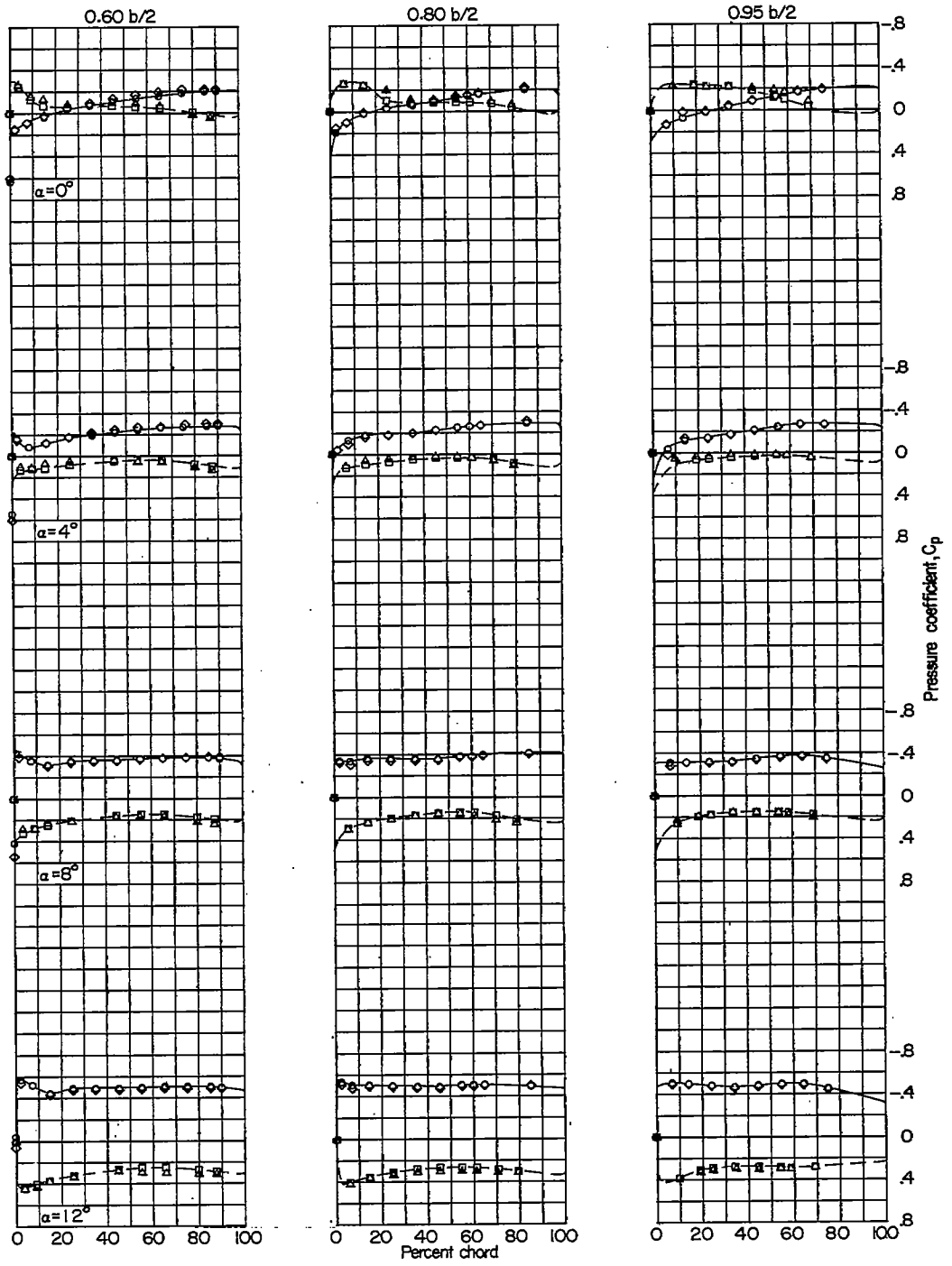
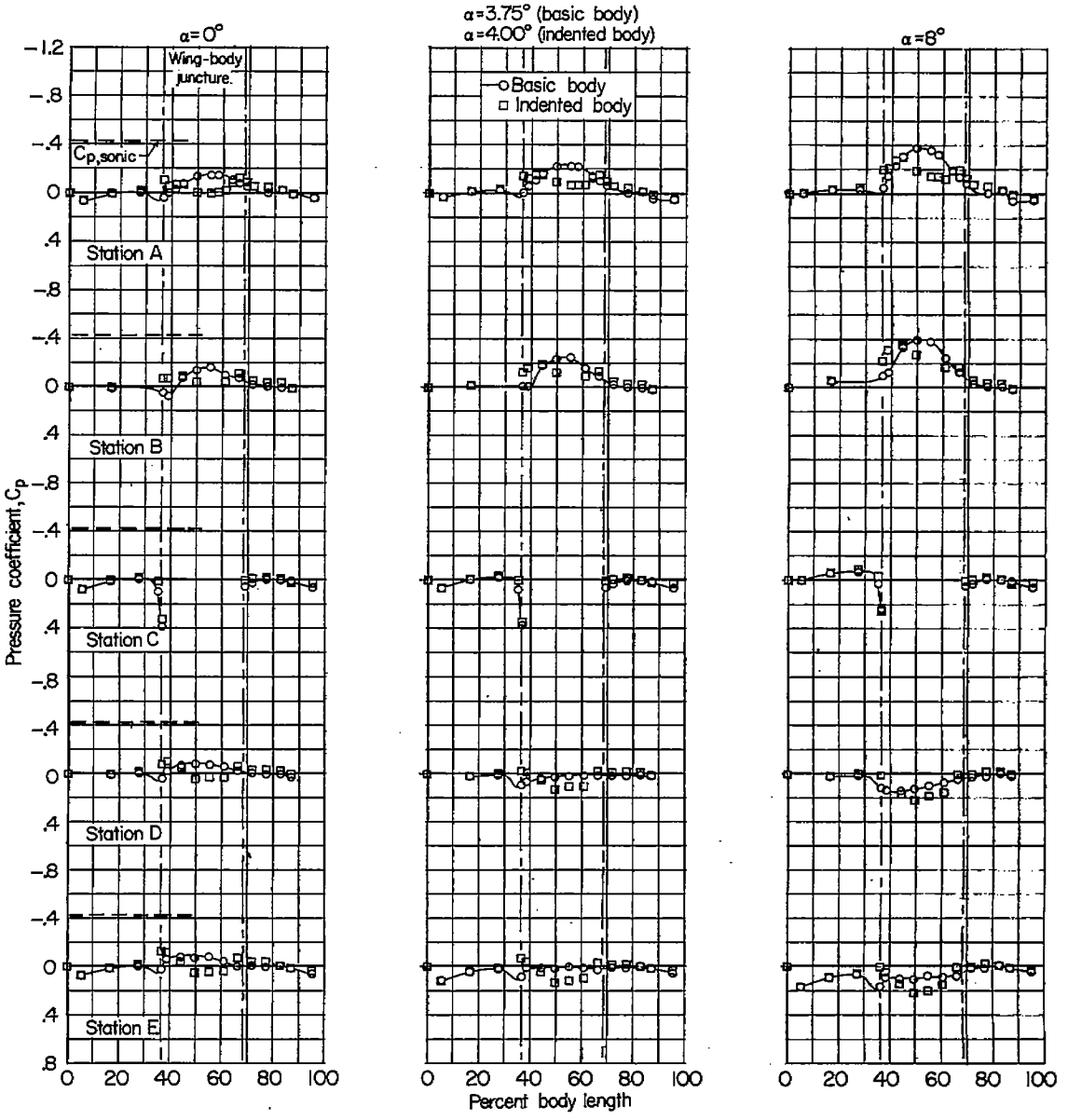
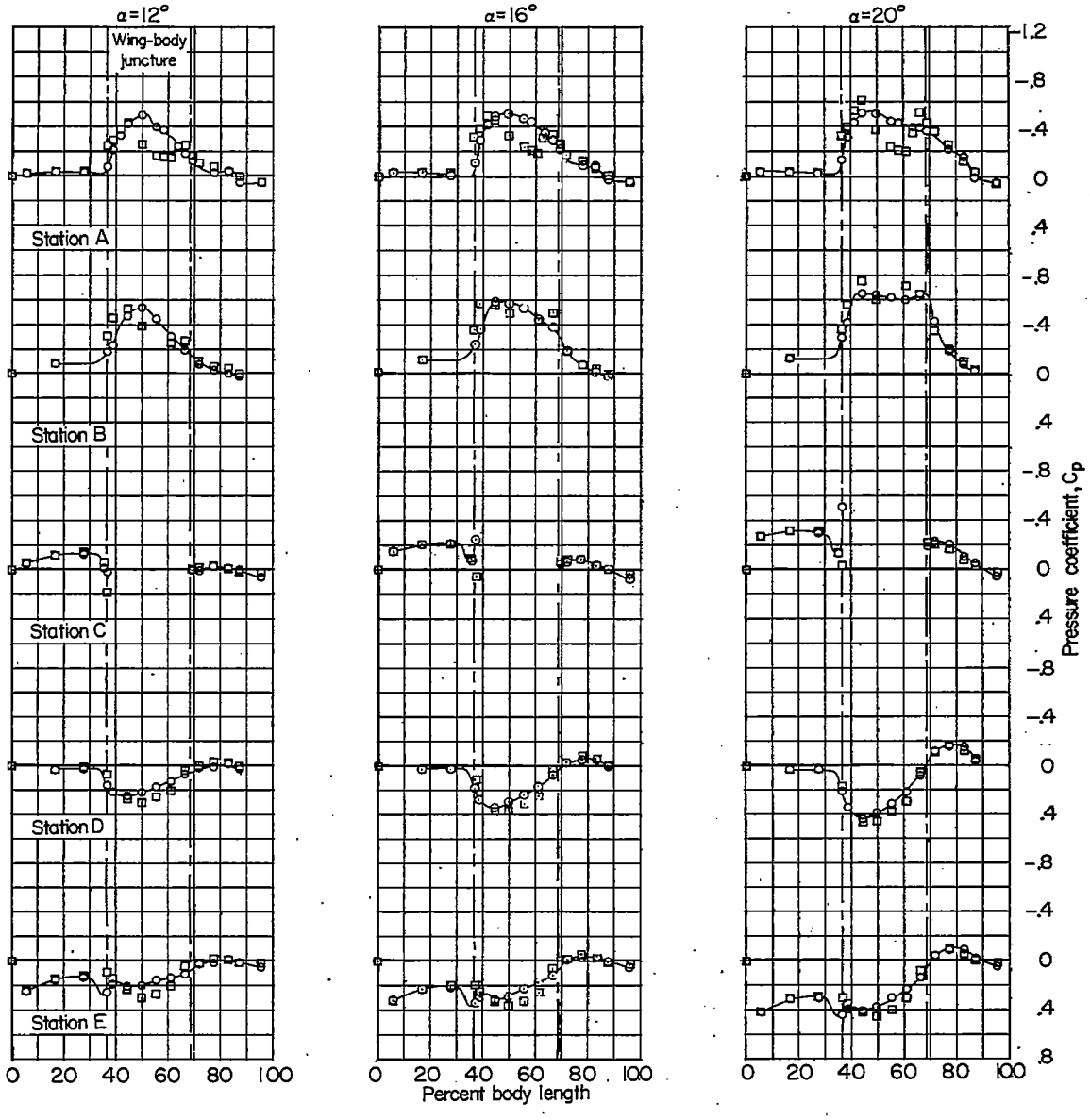


Figure 5.- Concluded.



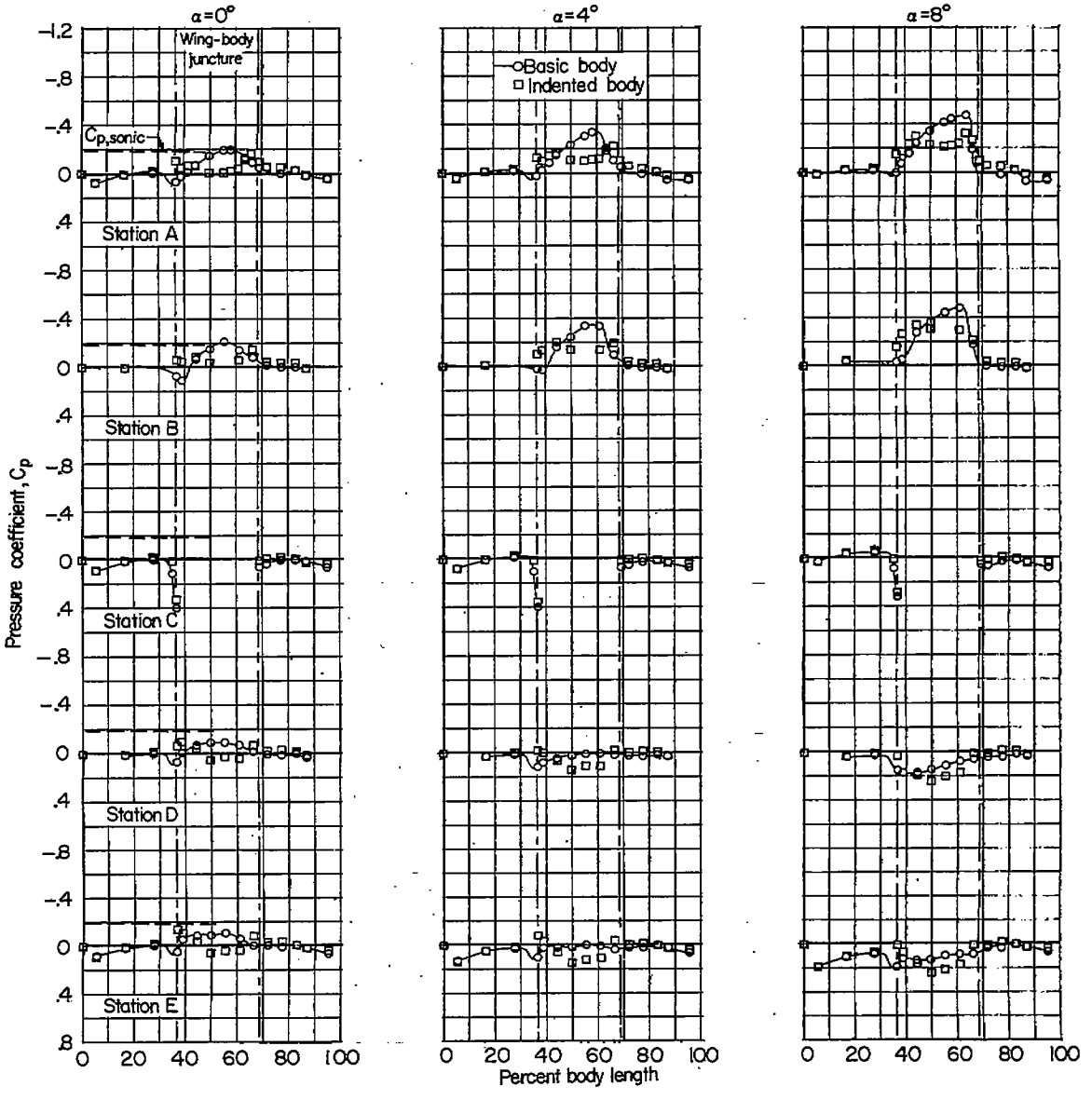
(a) M = 0.80.

Figure 6.- Pressure measurements of a basic and an indented body in presence of wing as obtained in Langley 8-foot transonic tunnel.



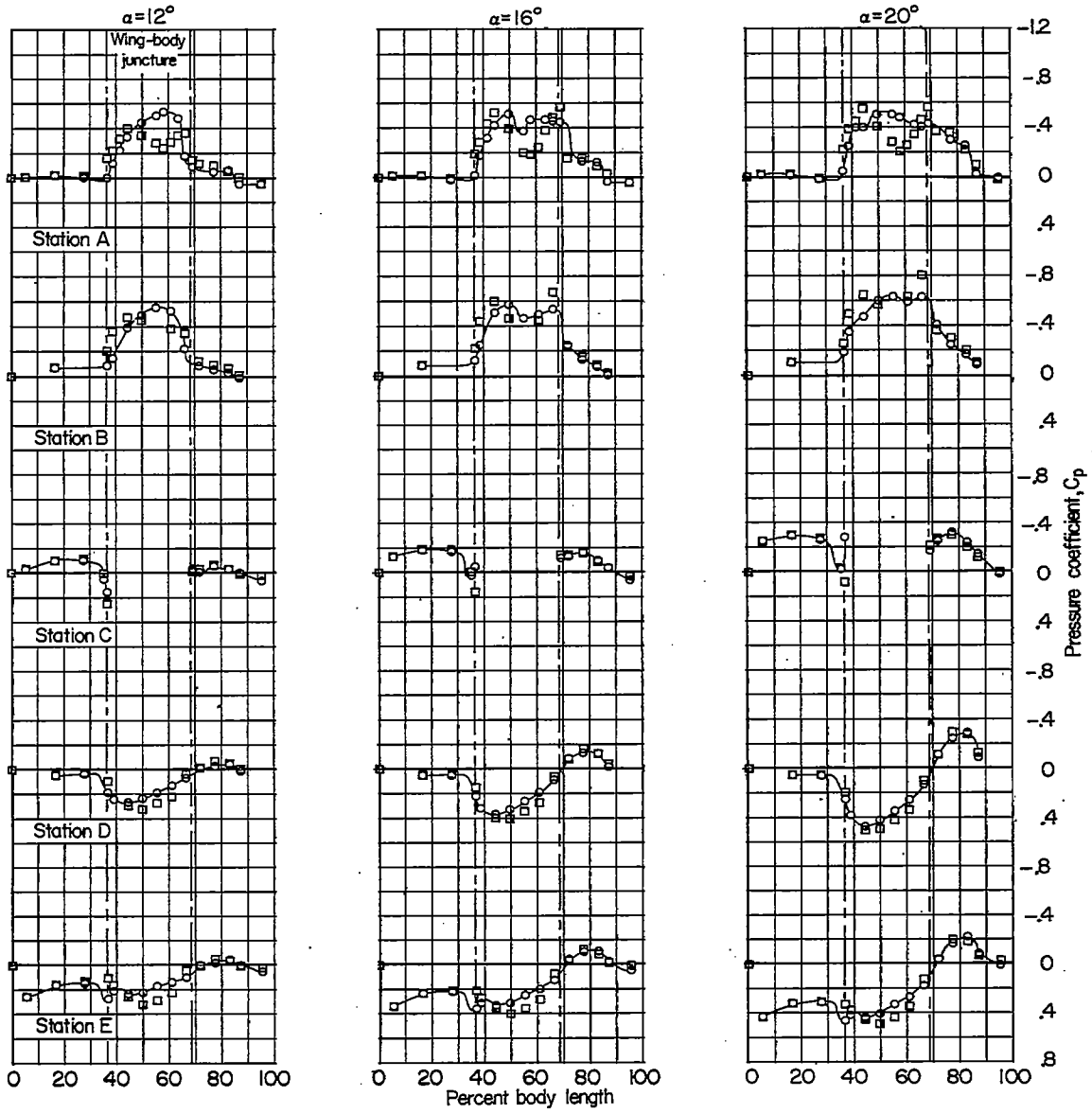
(a) Concluded.

Figure 6.- Continued.



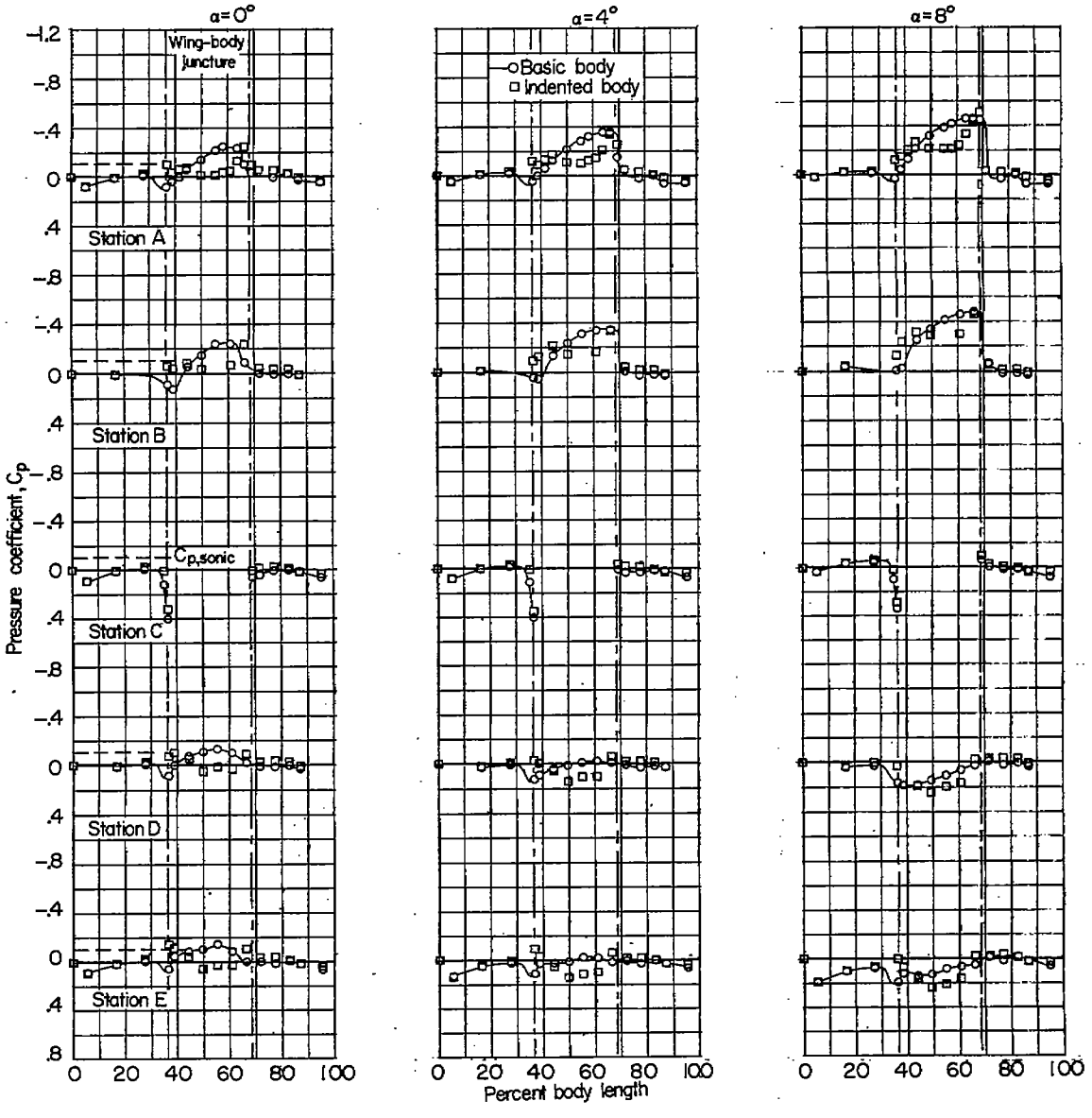
(b) M = 0.90.

Figure 6.- Continued.



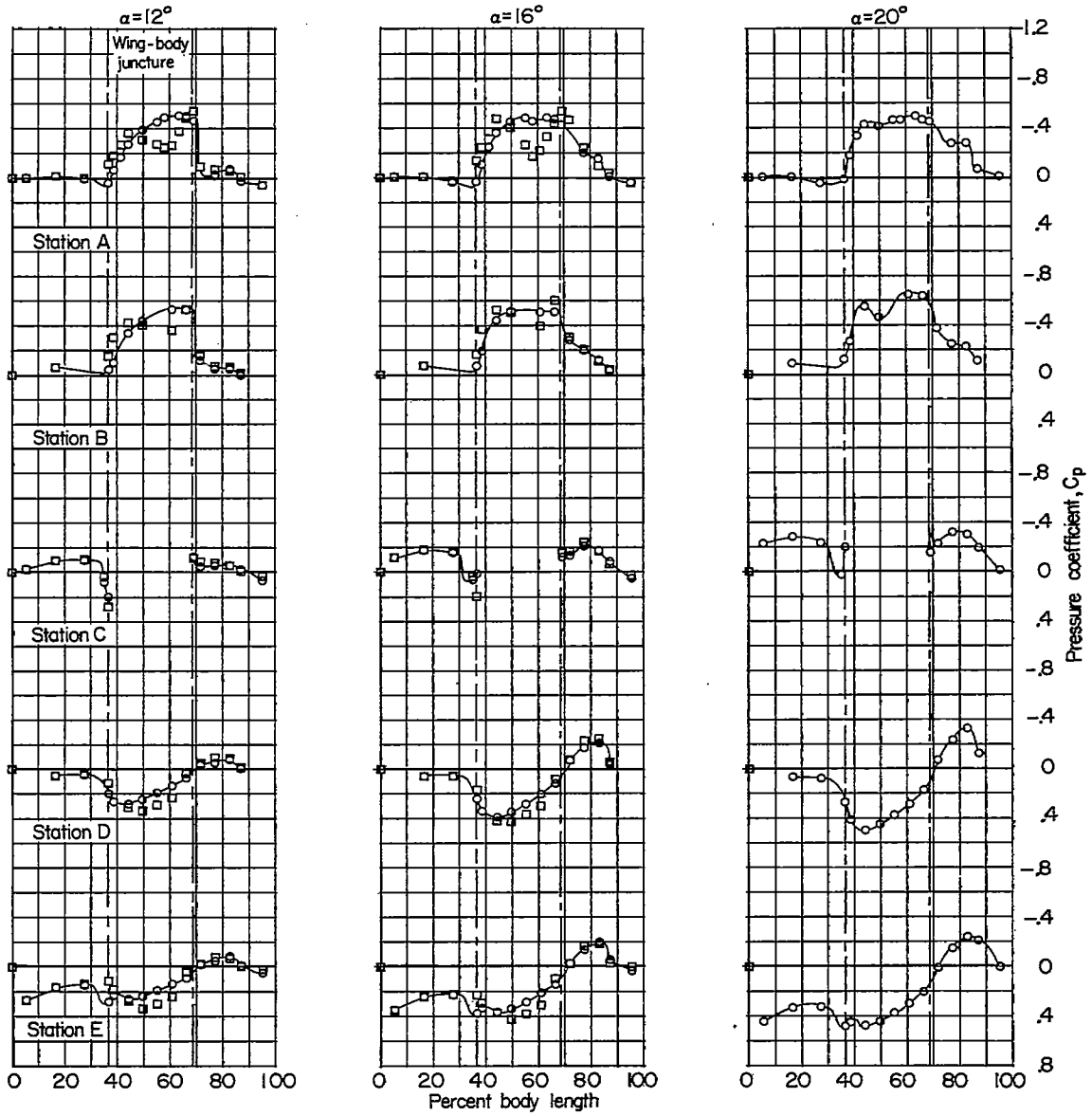
(b) Concluded.

Figure 6.- Continued.



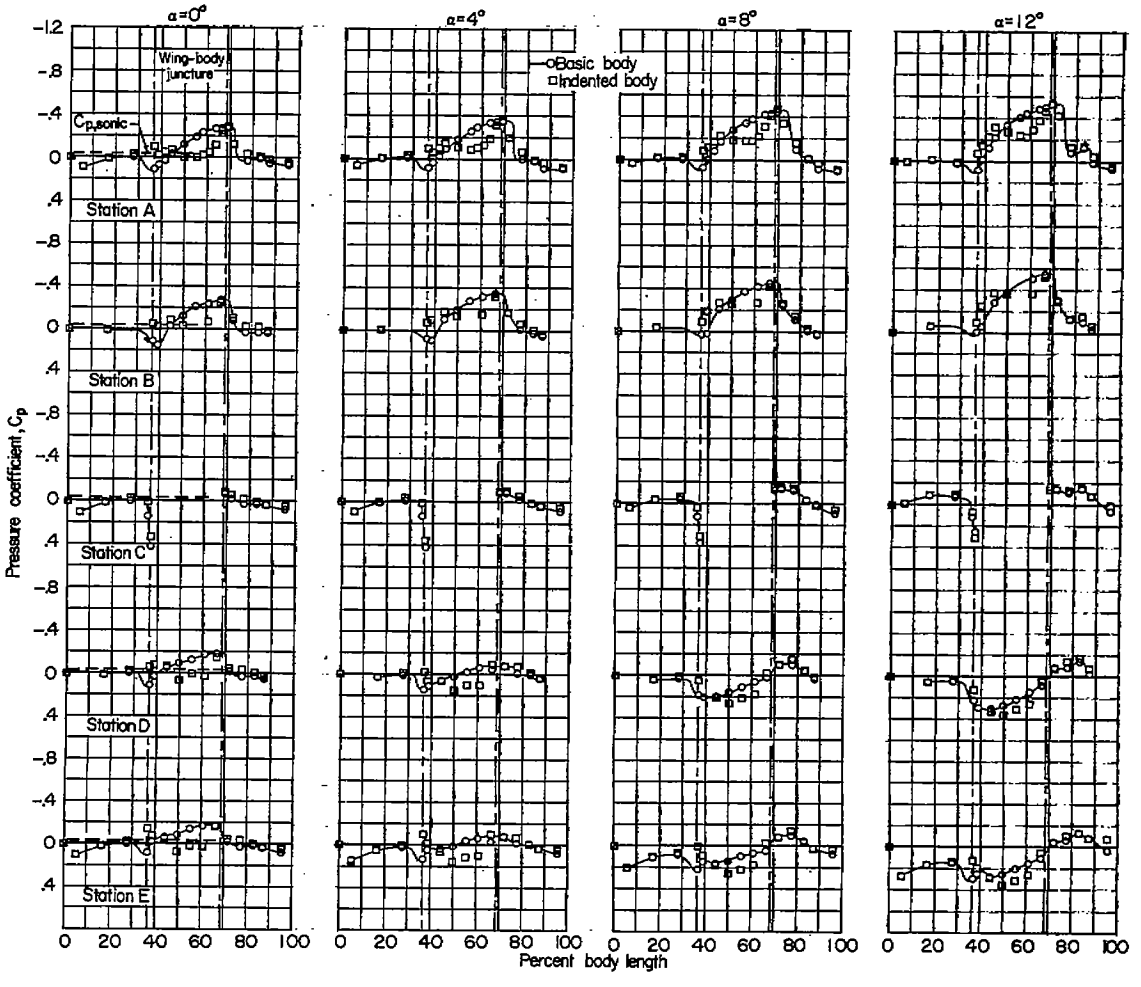
(c) M = 0.94.

Figure 6.- Continued.



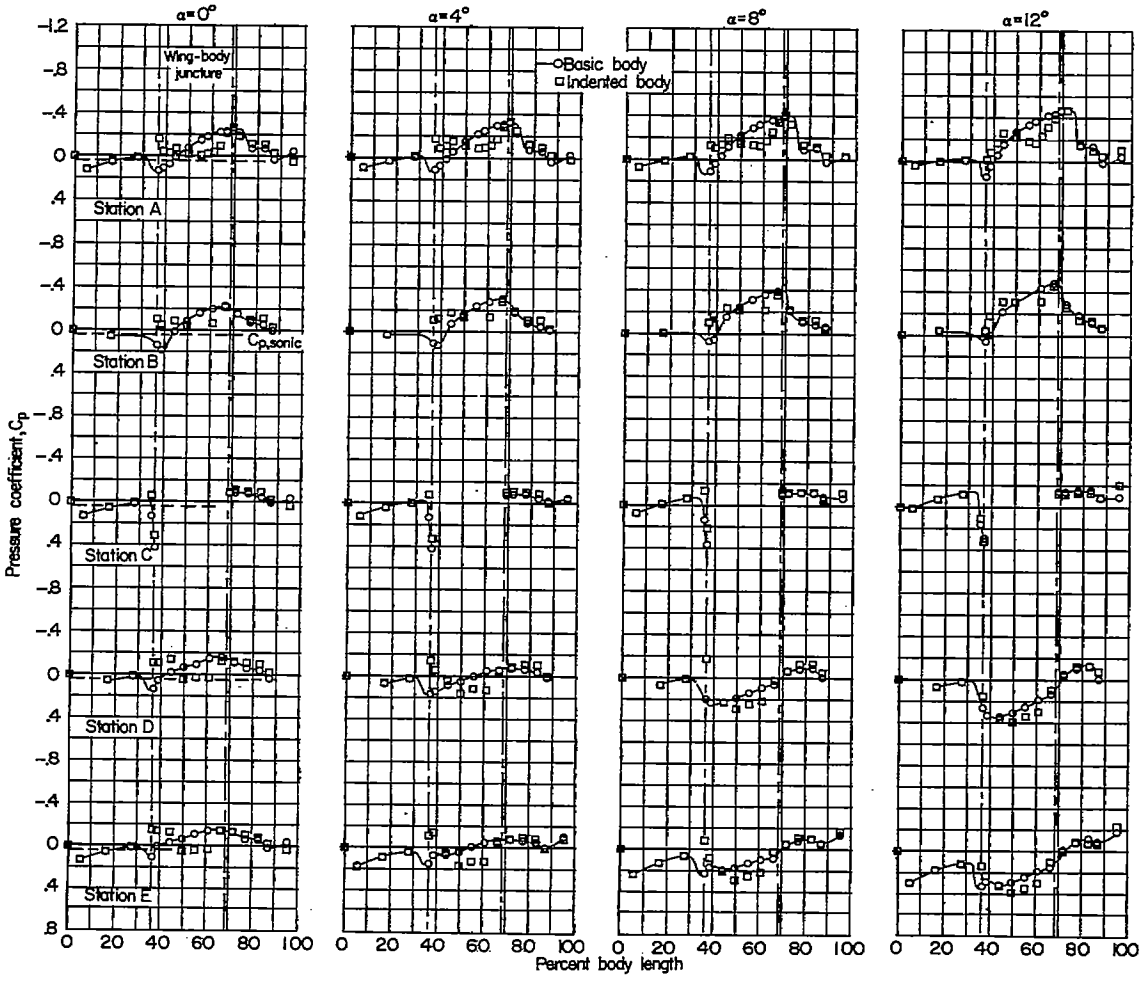
(c) Concluded.

Figure 6.- Continued.



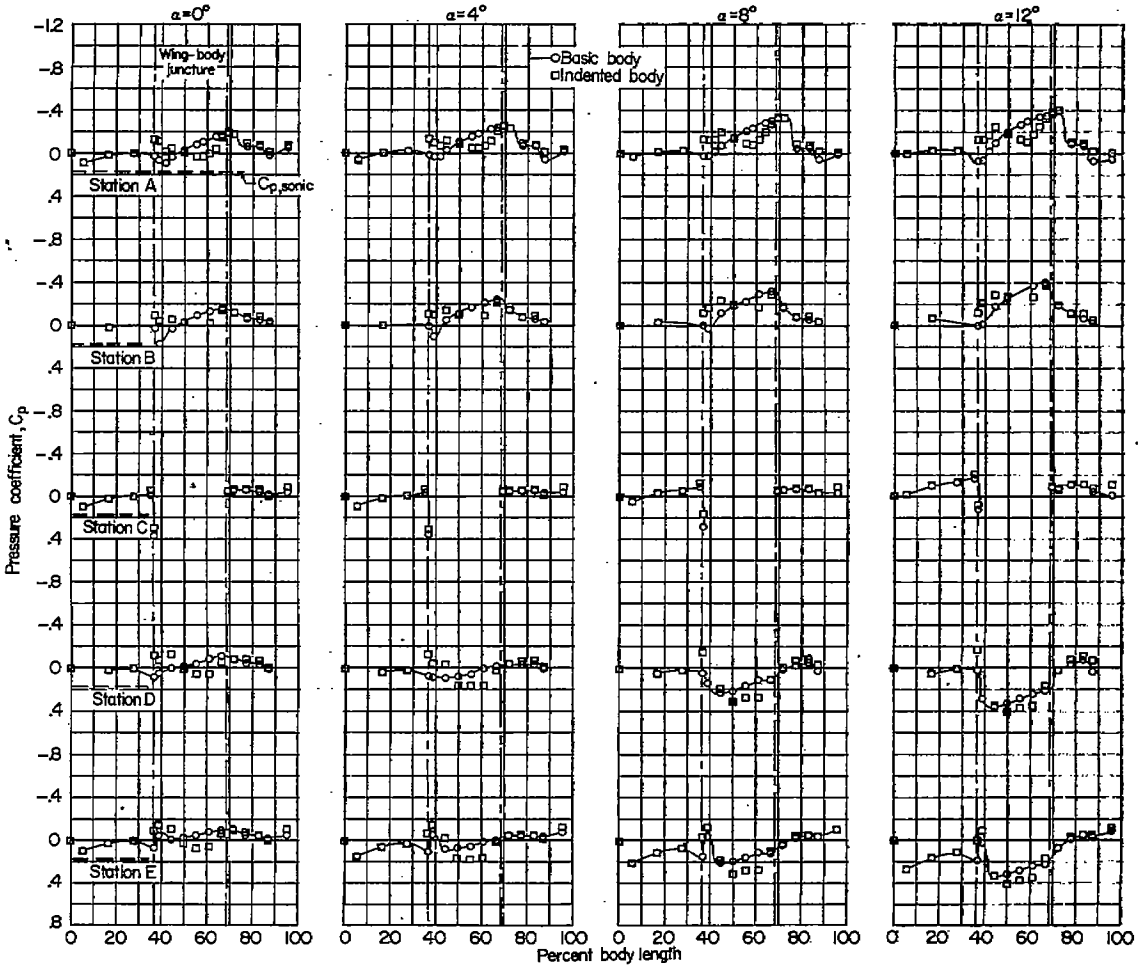
(d) M = 0.98.

Figure 6.- Continued.



(e) M = 1.03.

Figure 6.- Continued.



(f) M = 1.125.

Figure 6.- Concluded.

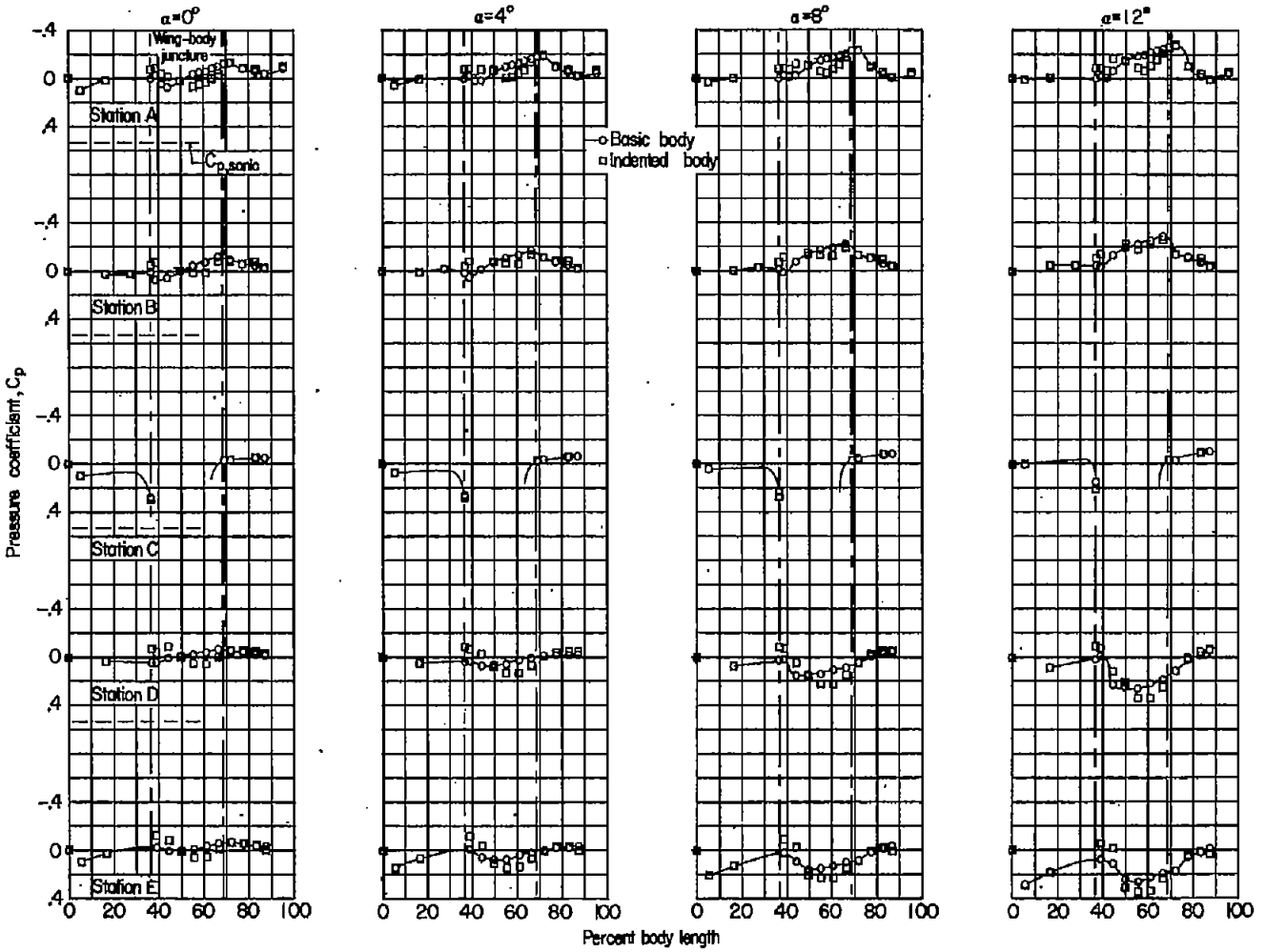
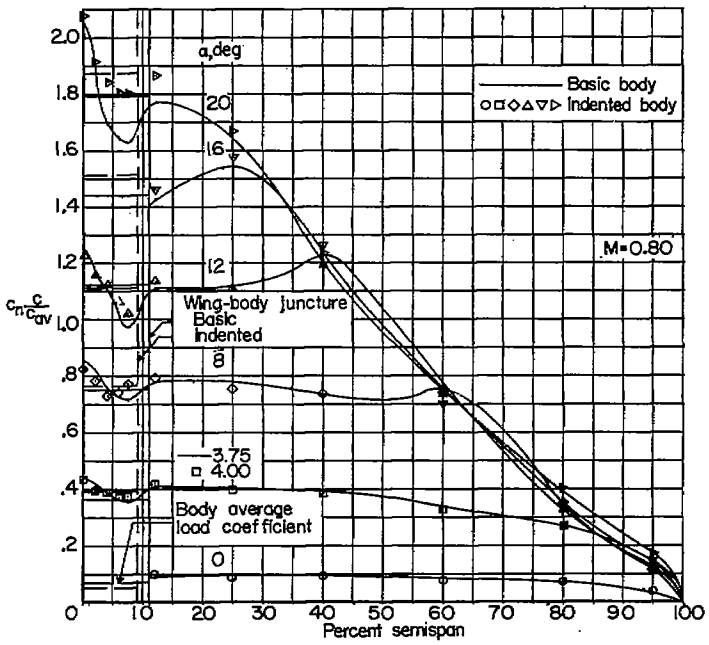
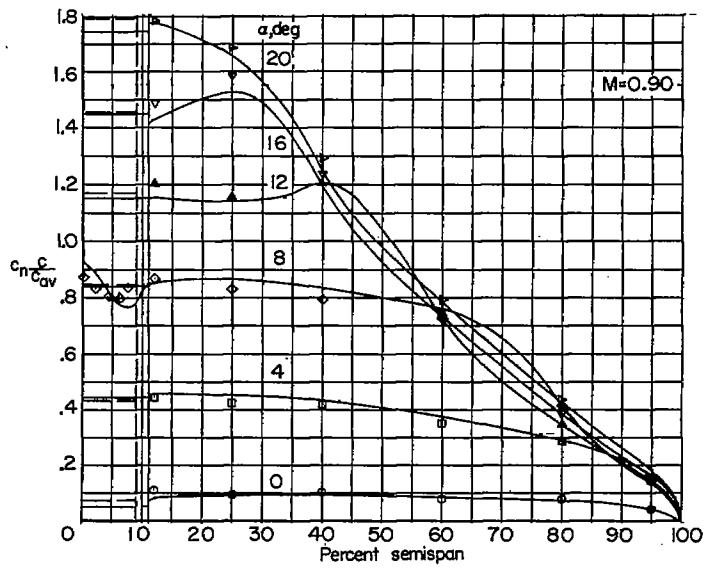


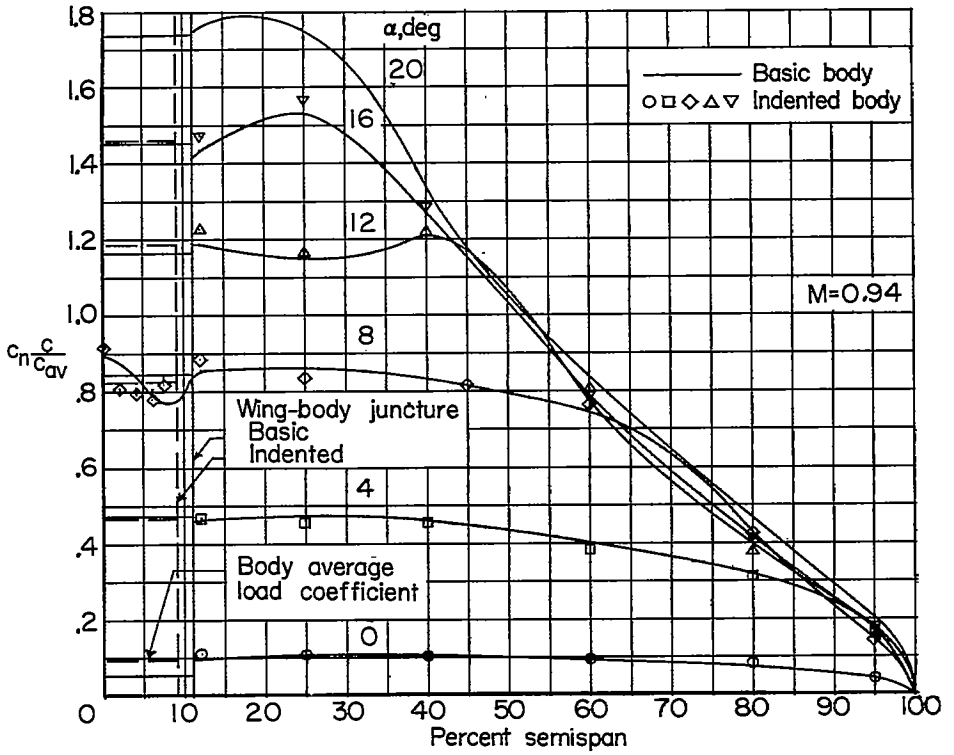
Figure 7.- Pressure measurements at Mach number of 1.43 of a basic and an indented body in presence of wing as obtained in Langley 8-foot transonic pressure tunnel with nozzle blocks installed.

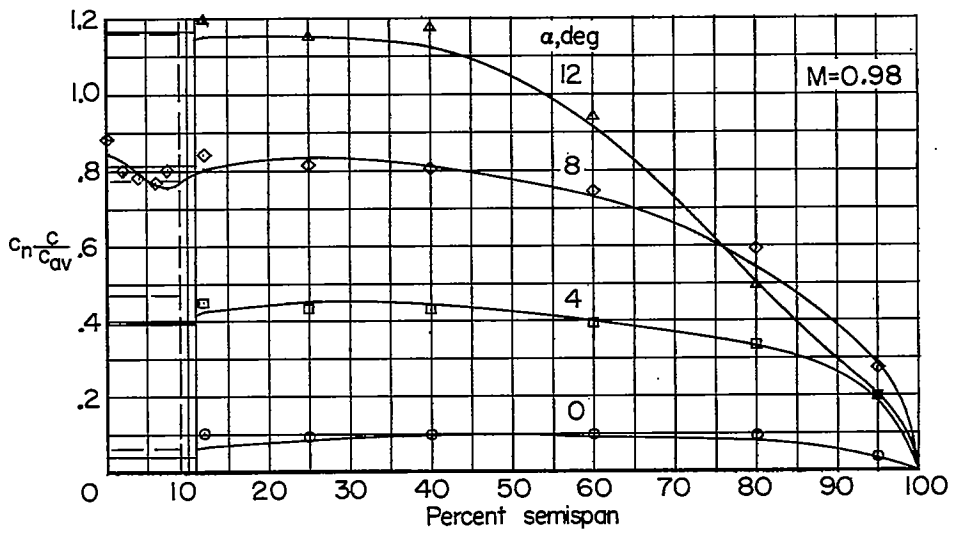




(a) M = 0.80 and 0.90.

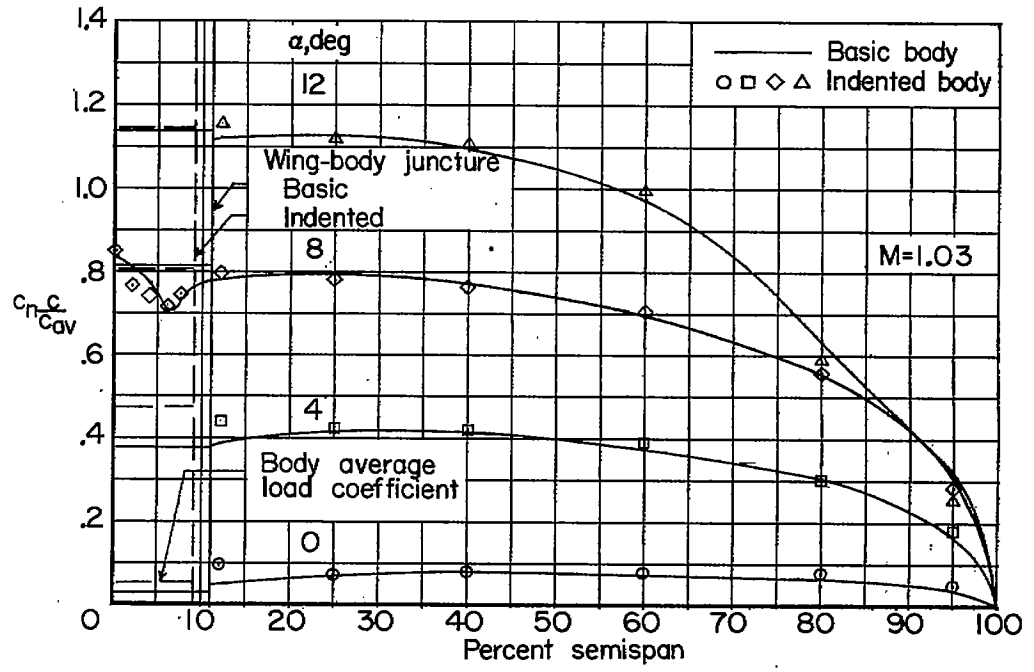
Figure 8.- Spanwise distribution of section normal-loading coefficient for several angles of attack for both wing—basic-body and wing—indented-body configurations.

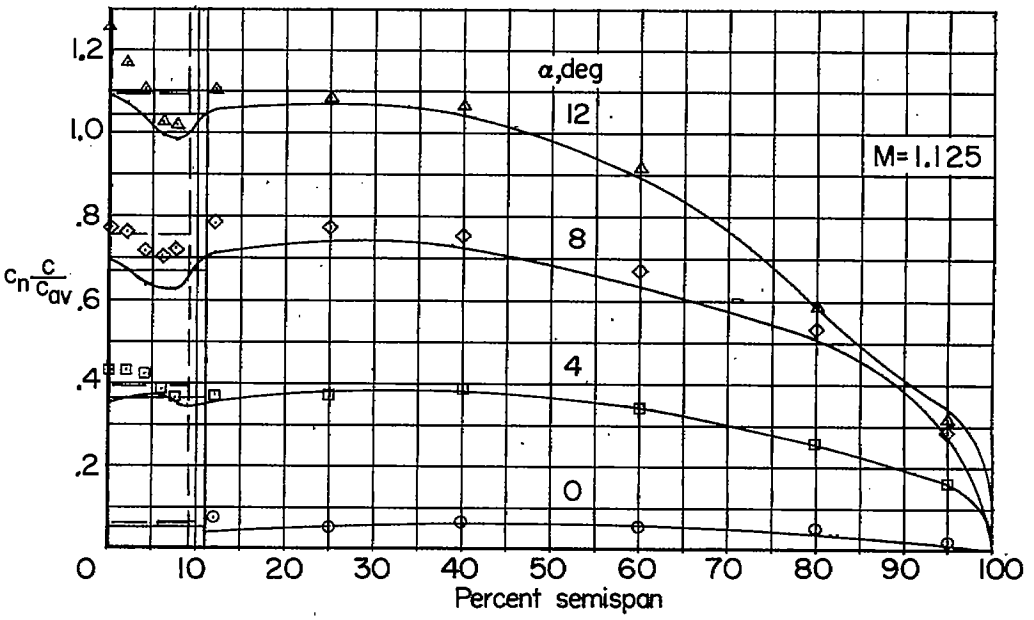




(b) M = 0.94 and 0.98.

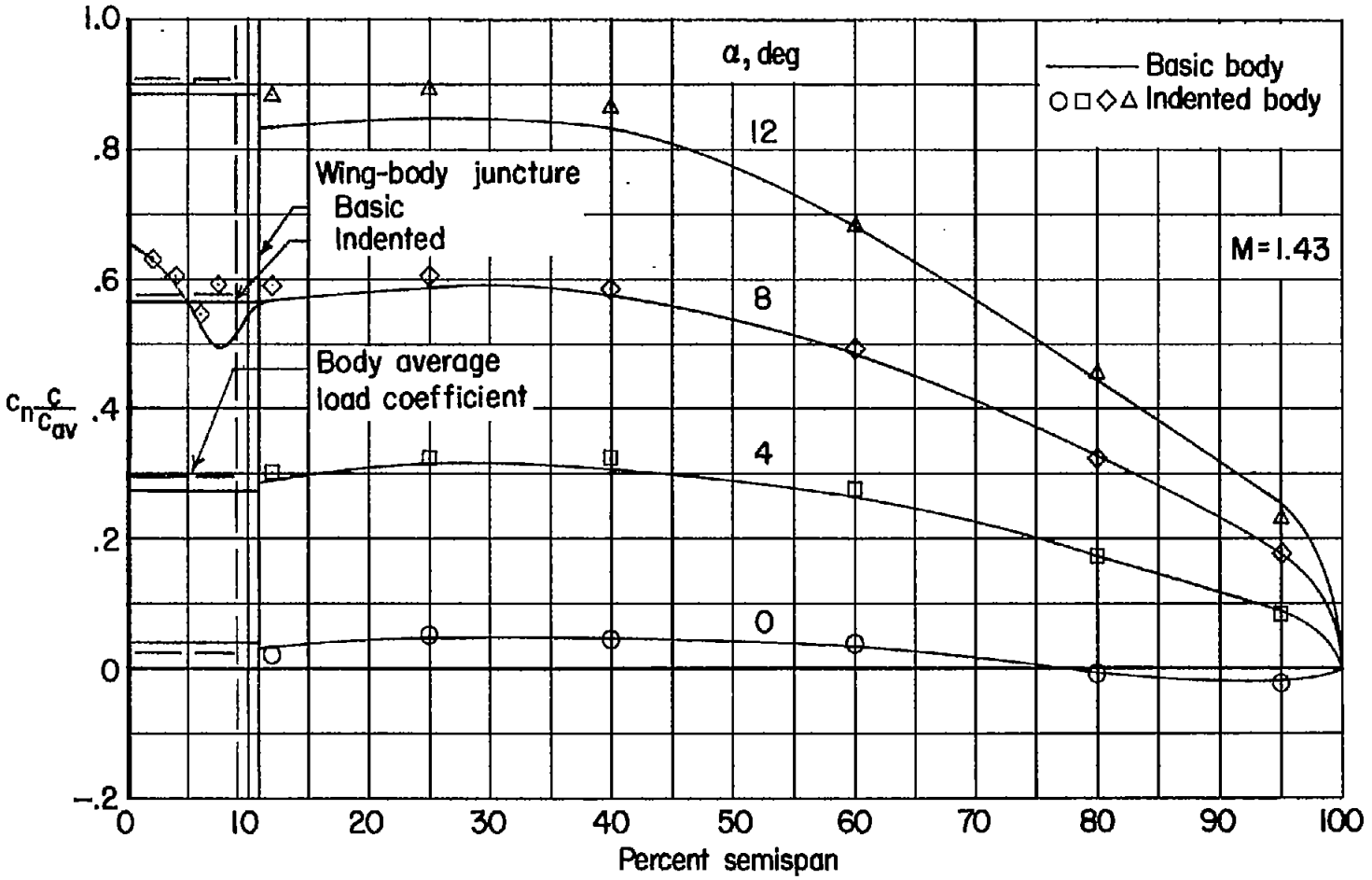
Figure 8.- Continued.





(c) M = 1.03 and 1.125.

Figure 8.- Continued.



(d) M = 1.43.

Figure 8.- Concluded.

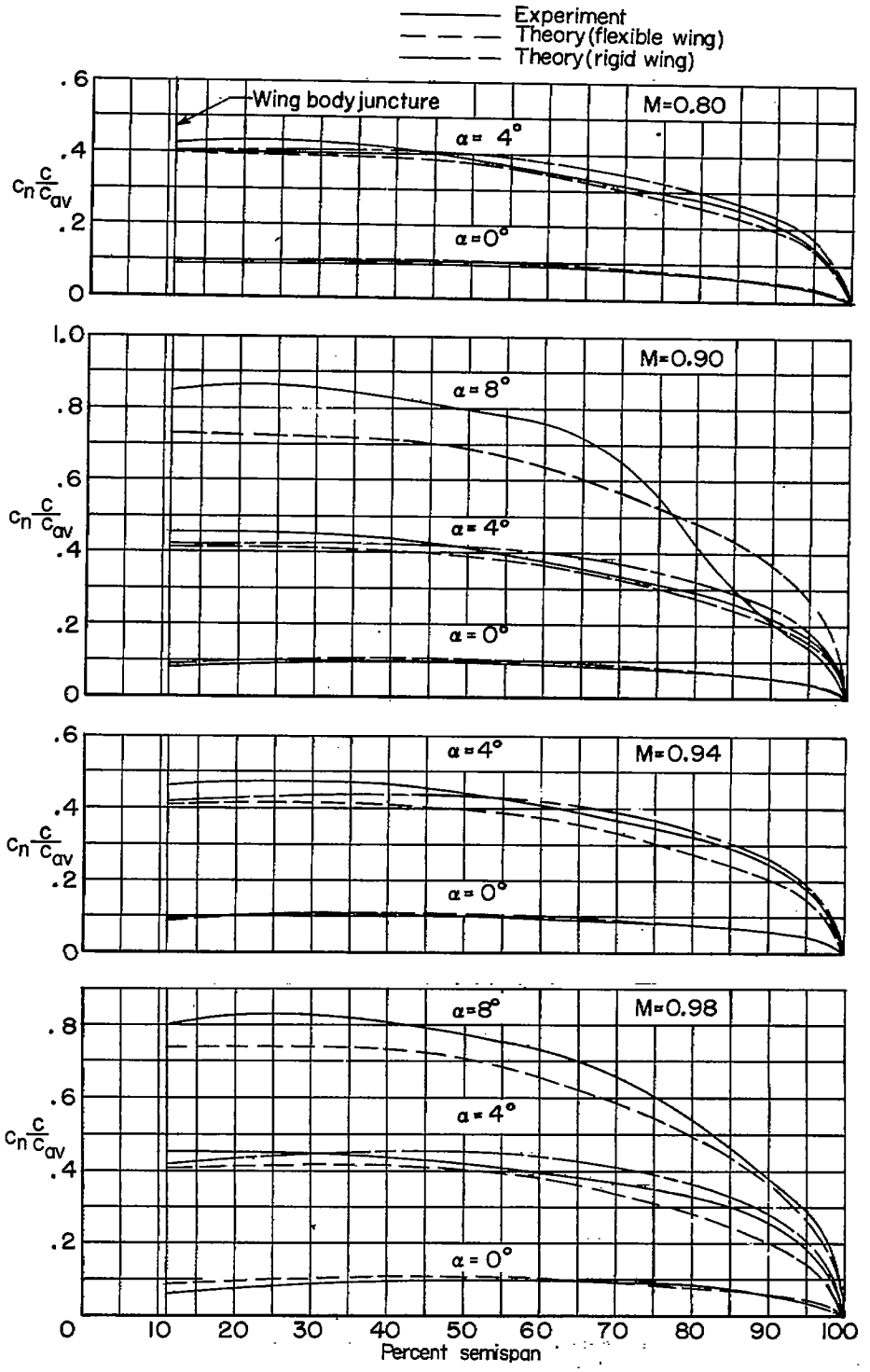


Figure 9.- Comparison of calculated span load distributions for a flexible and rigid wing with experimental distributions for several Mach numbers.

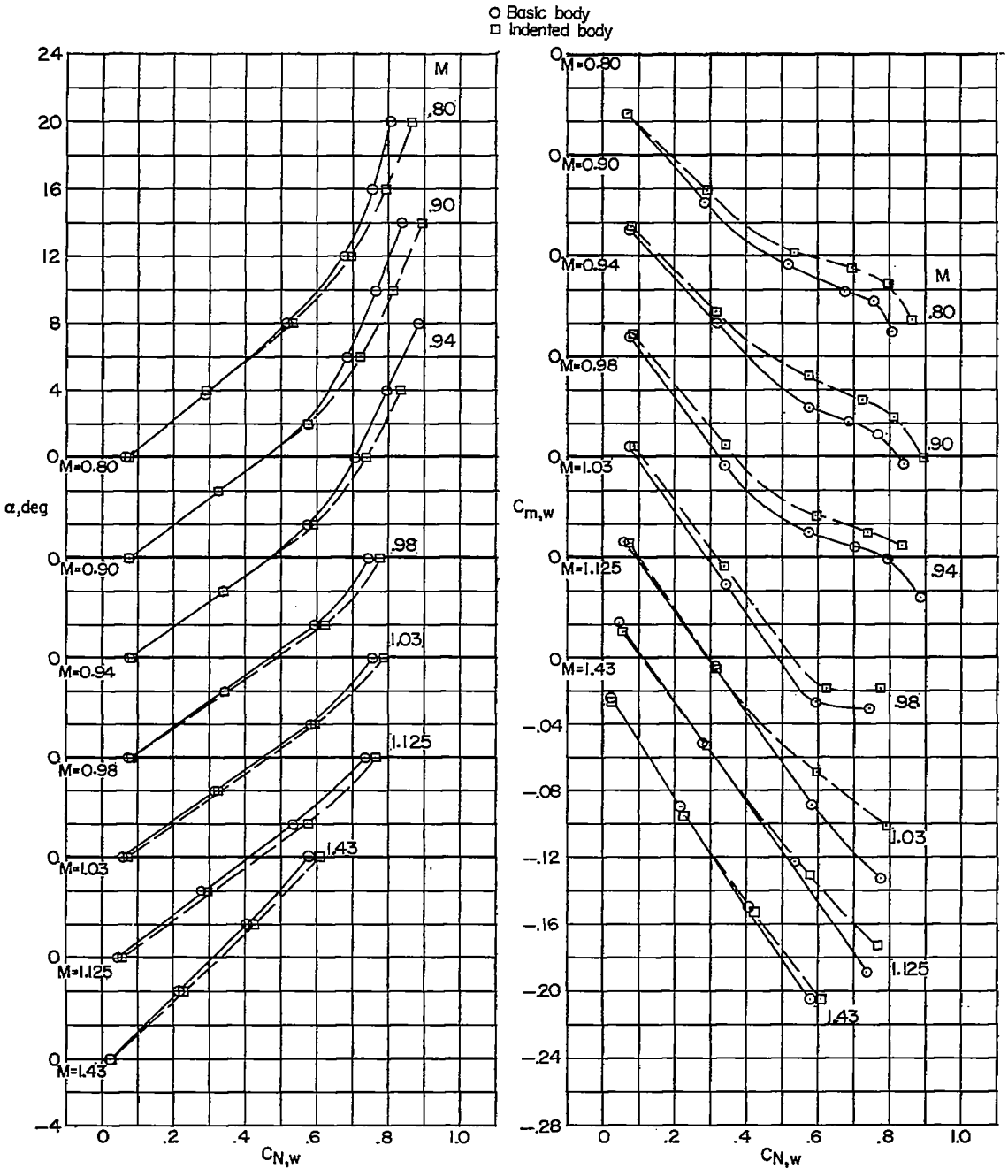


Figure 10.- Variation of angle of attack and wing pitching-moment coefficient with wing normal-force coefficient for wing in presence of a basic and an indented body.

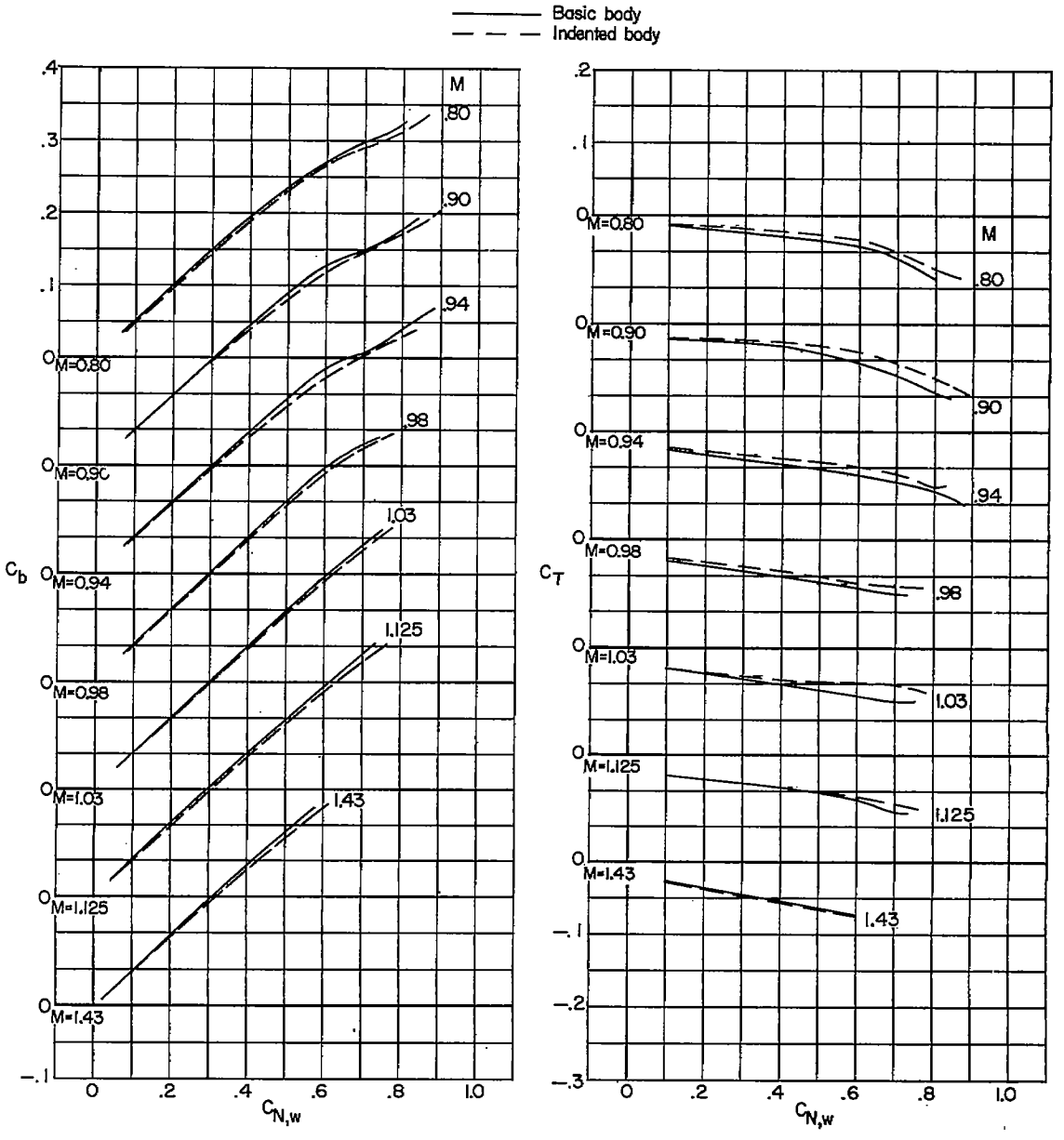


Figure 11.- Effect of body shape on variation of wing root-bending-moment coefficient and wing twisting-moment coefficient with wing normal-force coefficient.

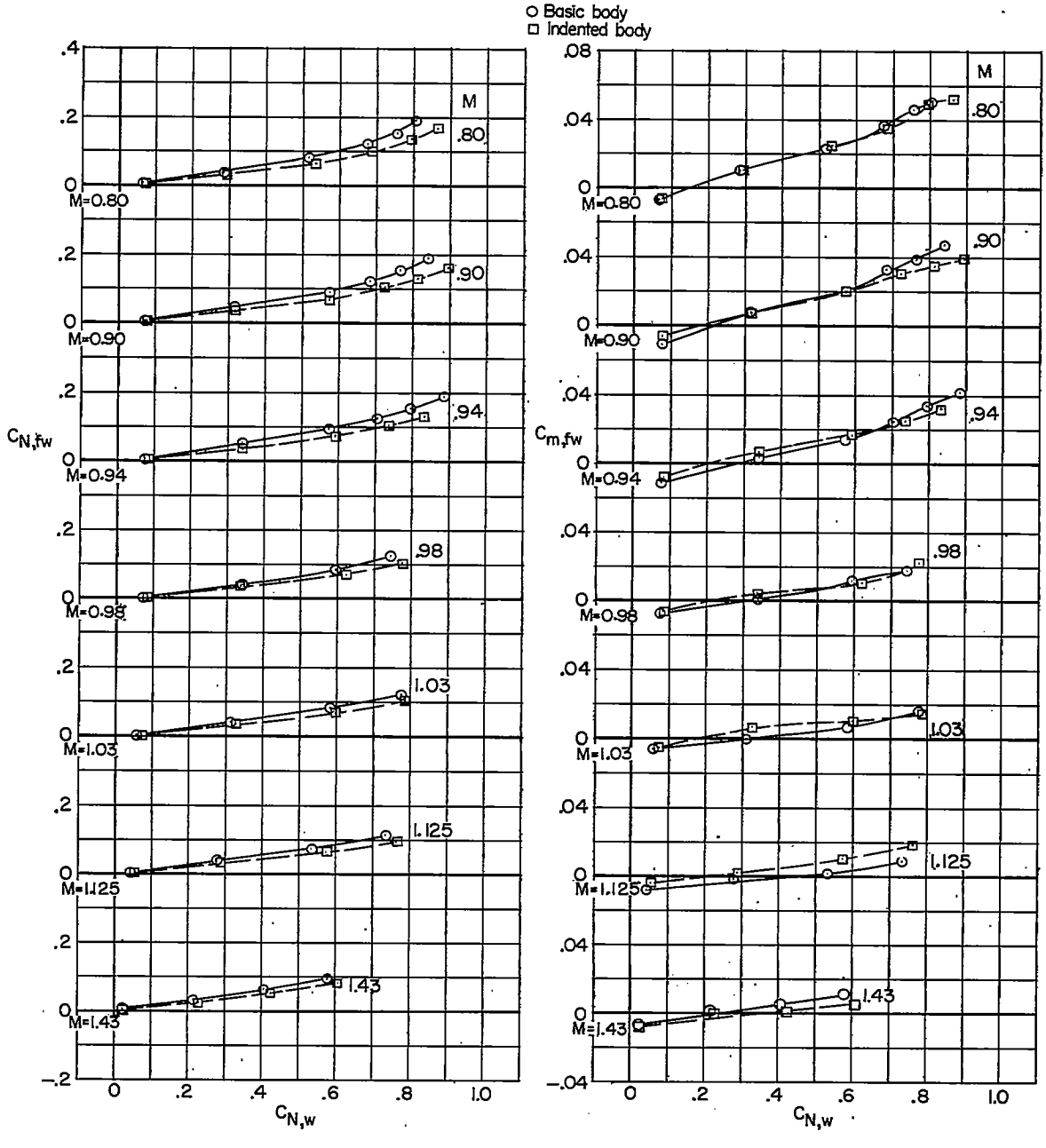


Figure 12.- Variation of body normal-force coefficient and pitching-moment coefficient with wing normal-force coefficient for basic and indented bodies in presence of wing.

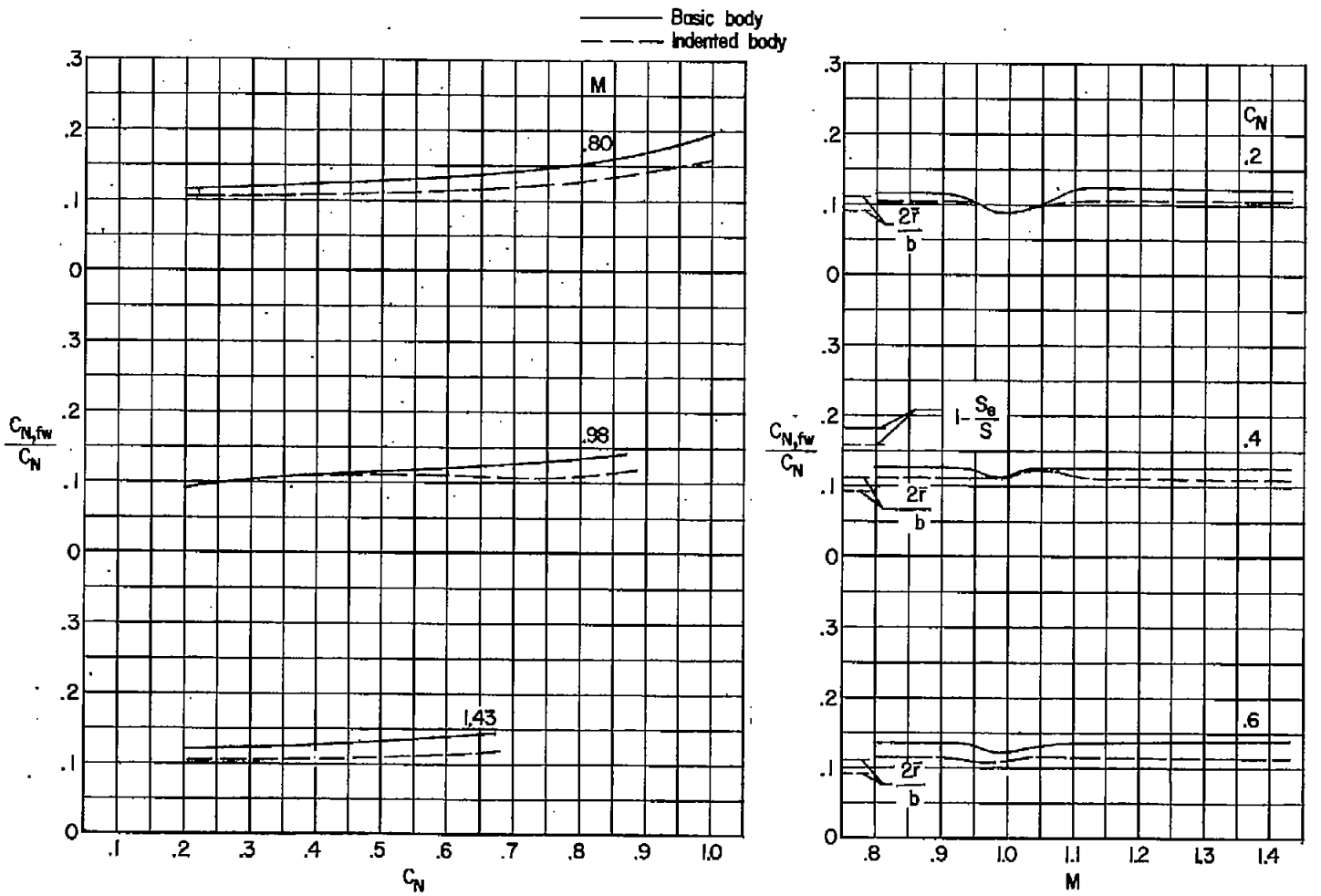


Figure 13.- Effect of body shape on ratio of body load to total load.

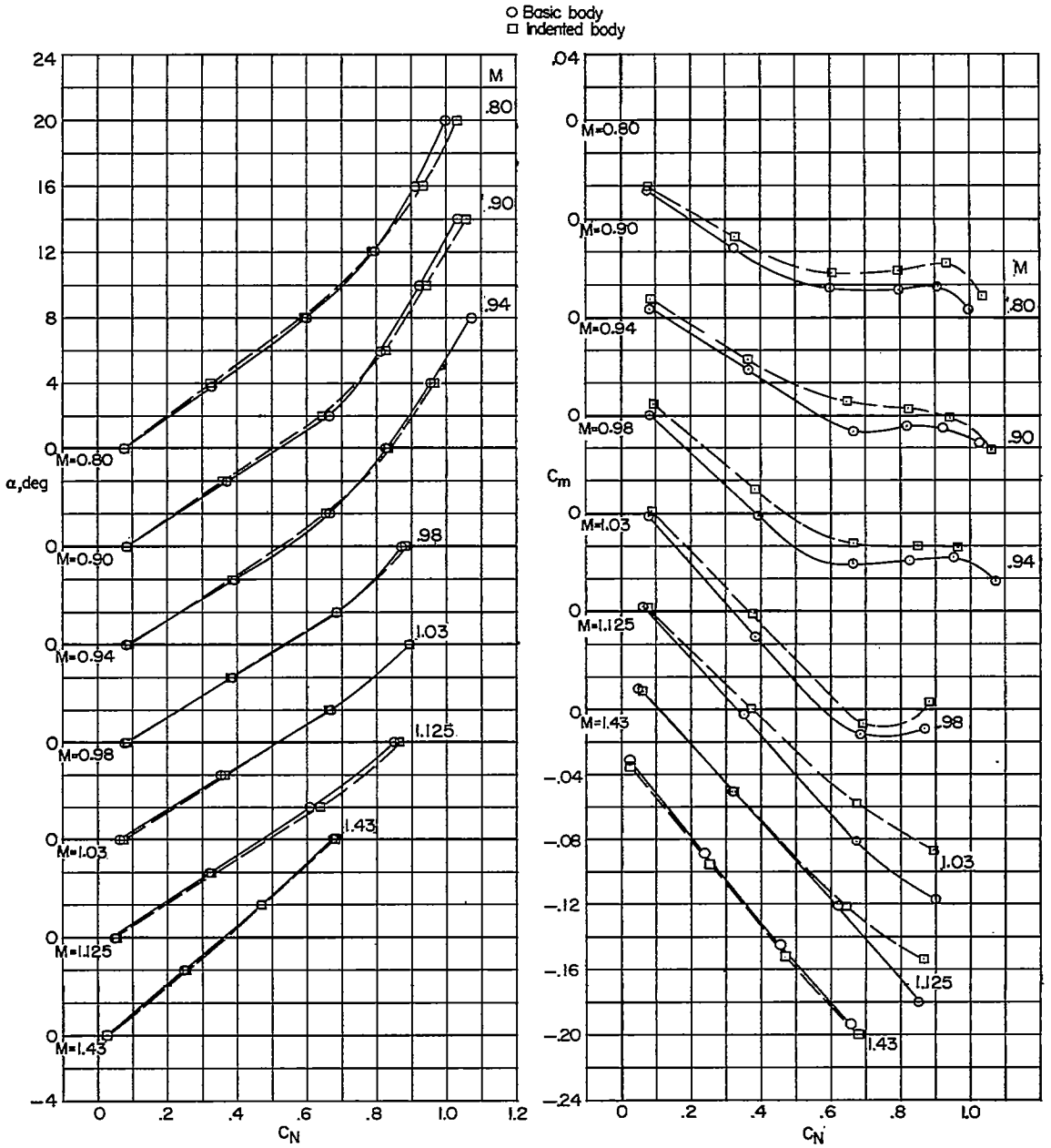
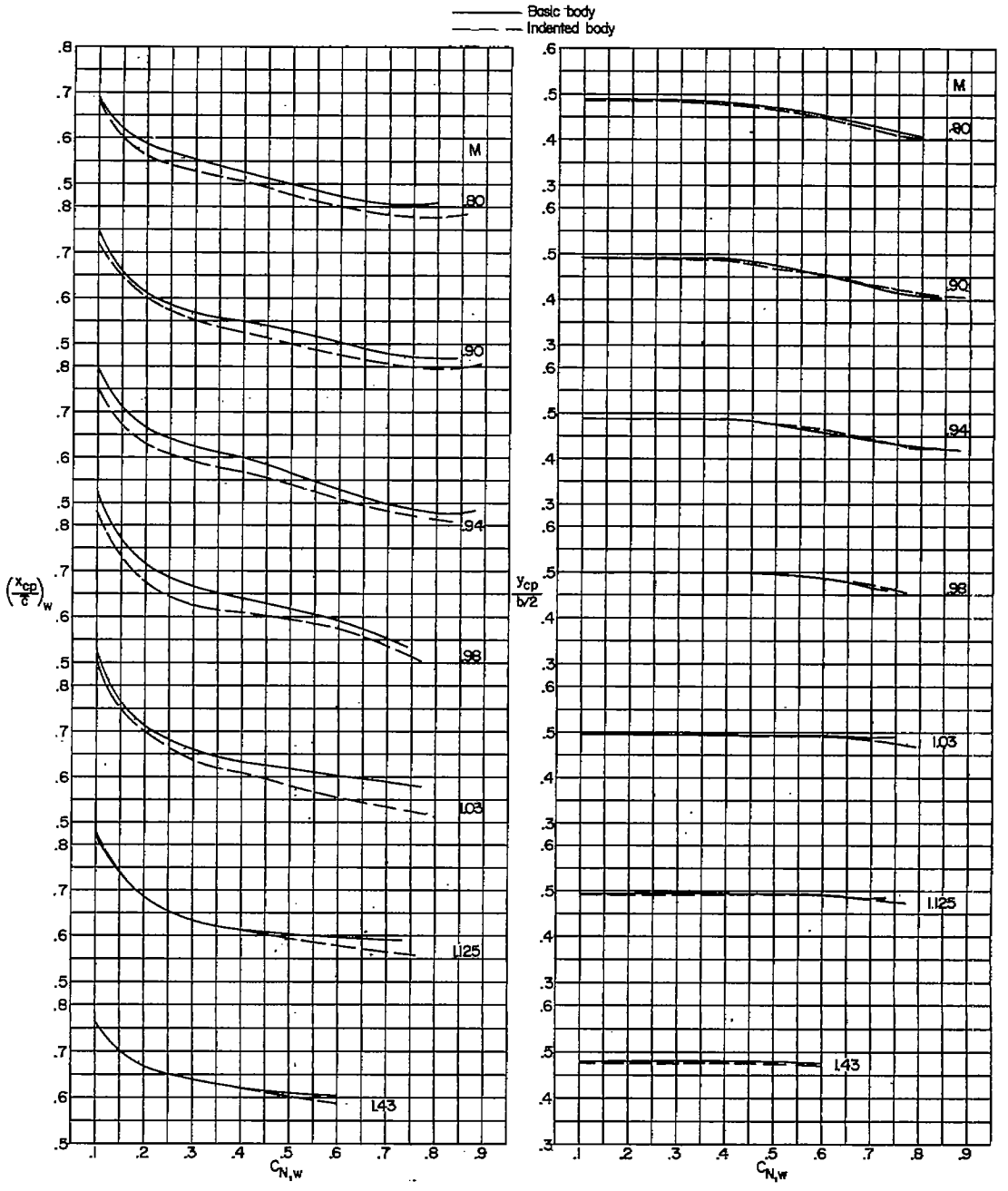
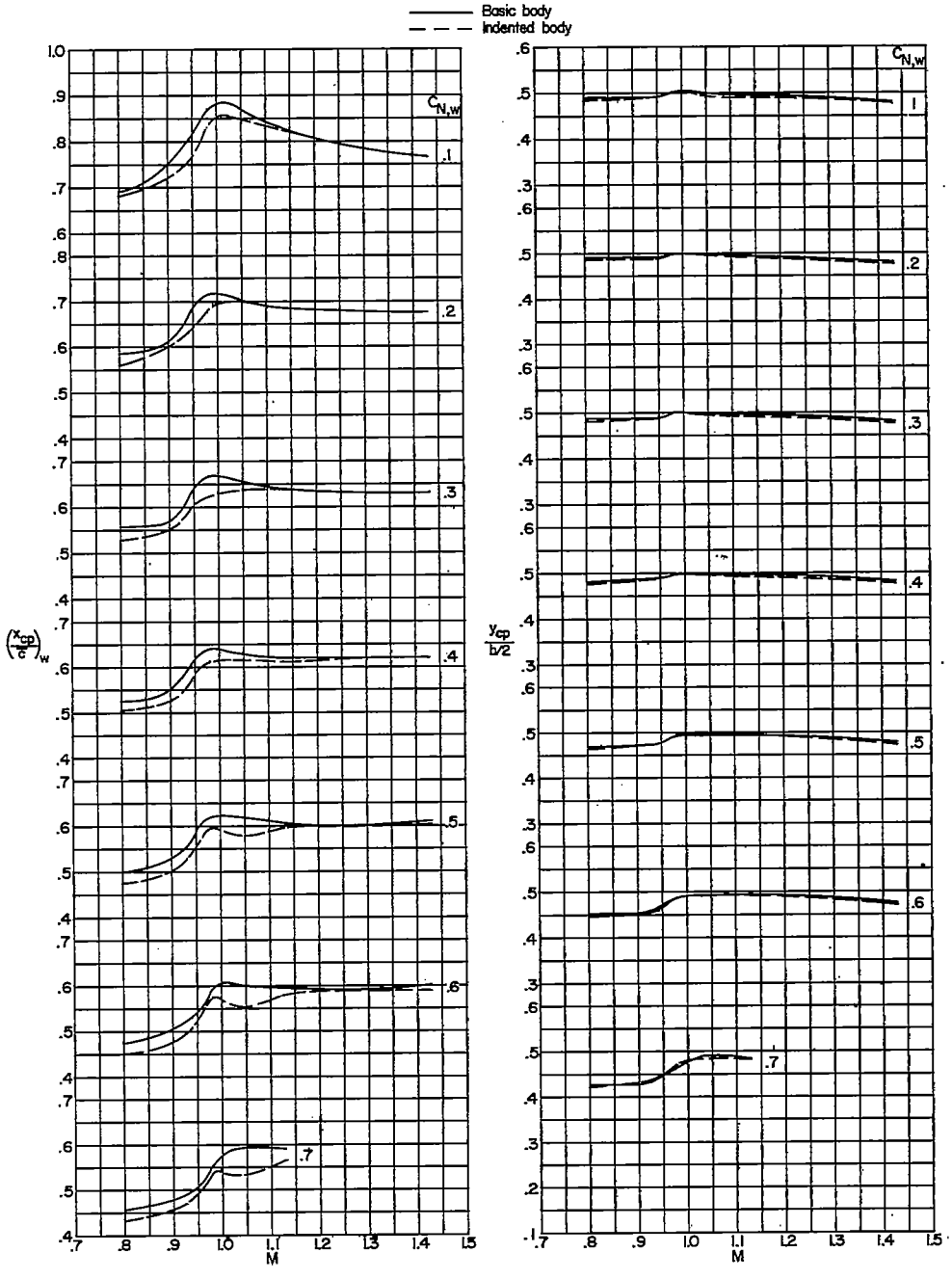


Figure 14.- Variation of angle of attack and total pitching-moment coefficient with total normal-force coefficient for wing—basic-body and wing—indented-body configurations.



(a) Variation with wing normal-force coefficient.

Figure 15.- Effect of body shape on variation of longitudinal and lateral location of center of pressure.



(b) Variation with Mach number.

Figure 15.- Concluded.

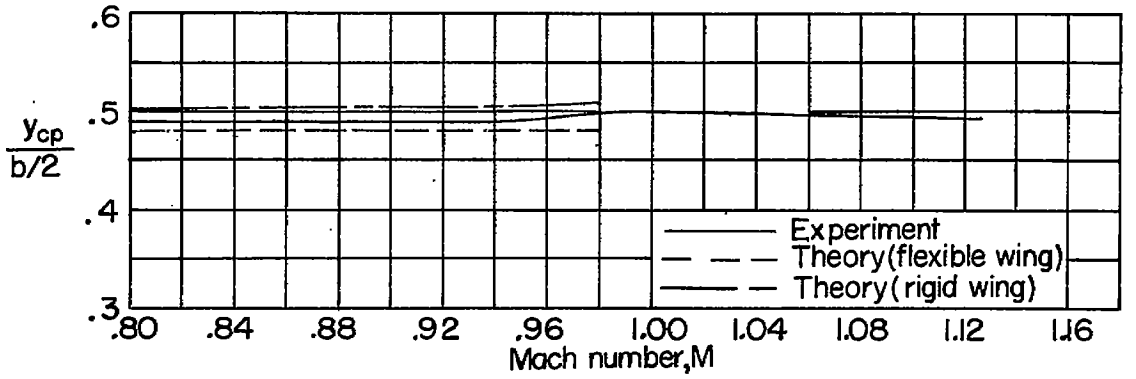


Figure 16.- Comparison of lateral location of center of pressure calculated for flexible and rigid wings with experimental data. $\alpha = 4^{\circ}$.

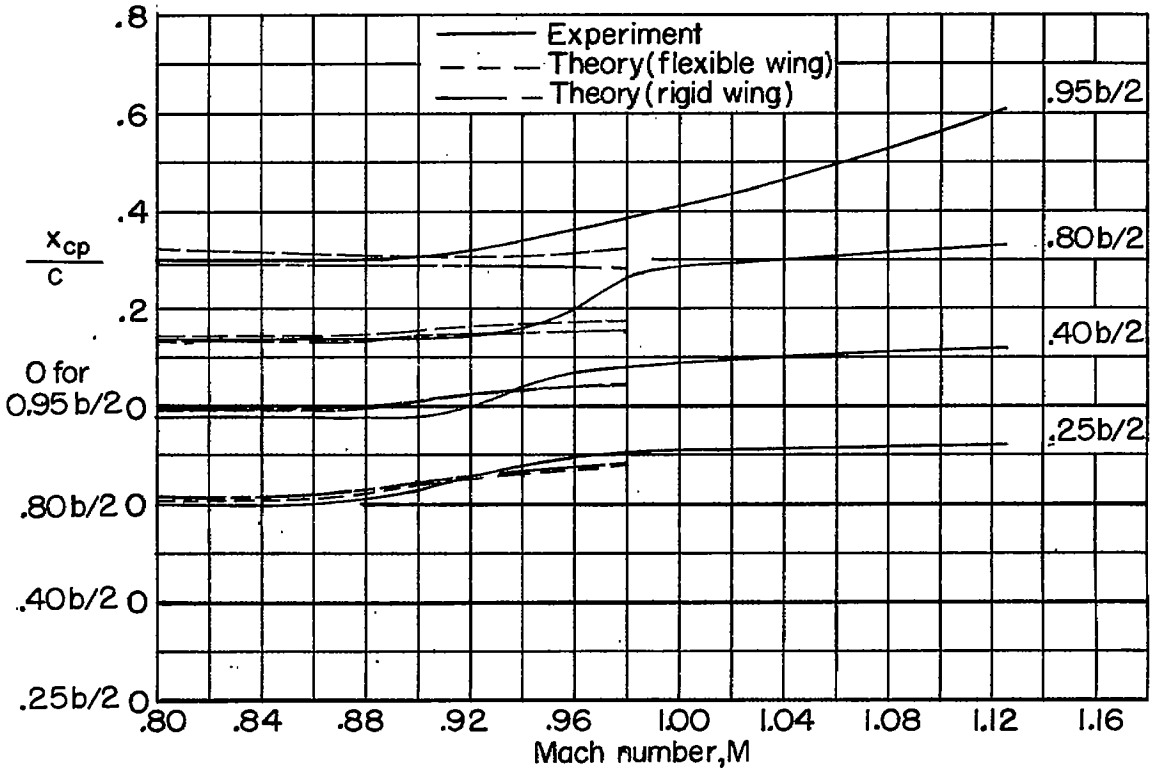


Figure 17.- Comparison of longitudinal location of the section center of pressure calculated for flexible and rigid wings with experimental data. $\alpha = 4^{\circ}$.

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