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RESEARCH MEMORANDUM

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SUMMARY

An investigation has been made at Mach numbers of 1.61 and 2.01 to examine the characteristics of a series of nine spoiler-type controls on a trapezoidal wing having the leading edge swept back 23°, an aspect ratio of 3.1, and a taper ratio of 0.4. Pressure-distribution measurements were made at angles of attack from -15° to 15° and the Reynolds number of the tests was 3.6×10^6 with boundary-layer transition fixed near the wing leading edge. The results of the tests indicated that the incremental pressure distributions due to the spoiler were in excellent agreement with previous flat-plate results as long as the spoiler was not located too close to a break in the wing surface or to the wing tip. The effect of angle of attack on the pressures measured ahead of the spoiler could be predicted fairly well by a pressure-rise correlation. Angle of attack had little effect on the pressures measured downstream of the spoiler. Deflecting a full-span trailing-edge flap-type control behind a full-span spoiler had no effect on the pressures measured ahead of the spoiler but had a large effect on the pressures behind the spoiler, particularly when the control deflection was toward the spoiler. The effectiveness of the spoiler in reducing the wing lift and bending moment was generally increased by rearward movement of the spoiler, increasing the spoiler span, increasing the gap behind the spoiler, or, at negative angles of attack, by decreasing the Mach number. The incremental pitching moment due to the spoiler became more negative with forward movement of the spoiler or by decreasing the gap behind the spoiler, and, at negative angles of attack, by increasing the spoiler span or decreasing the Mach number.

INTRODUCTION

As part of a general program of research on controls, an investigation is under way in the Langley 4- by 4-foot supersonic pressure tunnel to determine the important parameters in the design of controls for use on a trapezoidal wing at supersonic speeds. Some results of the tests made thus far have been reported in references 1 to 3 showing the control effectiveness, hinge-moment, chordwise pressure-distribution, and spanwise-loading characteristics for a series of flap-type trailing-edge controls on a trapezoidal wing having the leading edge swept back 23°, an aspect ratio of 3.1, and a taper ratio of 0.4.

In order to investigate the effect of spoilers on the flow and force characteristics of the trapezoidal wing of references 1 to 3, a series of nine spoilers having variations in height, span, sweep, and chordwise location were tested. The wing angle-of-attack range for these tests was from -15° to 15° and for some of the tests, a full-span flap-type control was deflected up to $\pm 20^{\circ}$. The tests were conducted at Mach numbers of 1.61 and 2.01 for a Reynolds number of 3.6×10^{6}, based on the wing mean aerodynamic chord of 11.72 inches, and turbulent boundary layer was assured by fixing transition near the wing leading edge. This report will present the chordwise pressure distributions, spanwise loadings, and the integrated spoiler-effectiveness variations for these spoiler configurations on the trapezoidal wing.

SYMBOLS

C_L lift coefficient, $\dfrac{L}{q_\infty S}$

C_b root bending-moment coefficient, $\dfrac{B}{2q_\infty Sb}$

C_m pitching-moment coefficient, $\dfrac{M'}{q_\infty S(MAC)}$

c_m section pitching-moment coefficient (taken about midchord of mean aerodynamic chord)

c_n section normal-force coefficient

C_p pressure coefficient, $\dfrac{p_l - p_\infty}{q_\infty} = \dfrac{2}{\gamma M_\infty^2}\left(\dfrac{p_l - p_\infty}{p_\infty}\right)$

$C_{p,s}$ pressure coefficient at separation point s

$C_{p,x}$ pressure coefficient at point x

$\Delta C_{p,corr.}$	corrected incremental pressure coefficient due to spoiler, $\left(C_{p,x} - C_{p,s}\right)\left(\frac{p_2}{p_1}\right)_{M_1=M_s}\left(\frac{p_1}{p_2}\right)_{M_1=M}$
B	semispan wing-root bending moment
b/2	wing semispan
c	wing local chord
$\bar{c}$	wing average chord
c_R	wing-root chord
h	spoiler height
L	semispan-wing lift
M	Mach number
M'	semispan-wing pitching moment about midchord of mean aerodynamic chord
p	static pressure
q	dynamic pressure, $\frac{\gamma}{2} pM^2$
R	Reynolds number based on mean aerodynamic chord
S	semispan-wing area
x	distance in chordwise direction from wing leading edge
x'	distance in chordwise direction from spoiler
y	distance in spanwise direction from wing-root chord
α	wing angle of attack, streamwise
γ	ratio of specific heat at constant pressure to specific heat at constant volume
Δ	prefix indicating increment due to spoiler

δ control deflection relative to wing, positive when control trailing edge is down

Λ spoiler sweep angle

Subscripts:

1 local conditions before a disturbance

2 local conditions after a disturbance

s local conditions at separation point

∞ free stream

l local

APPARATUS

Wind Tunnel

This investigation was conducted in the Langley 4- by 4-foot supersonic pressure tunnel, which is a rectangular, closed-throat, single-return type of wind tunnel with provisions for the control of the pressure, temperature, and humidity of the enclosed air. Flexible nozzle walls were adjusted to give the desired test-section Mach numbers of 1.61 and 2.01. During the tests, the dewpoint was kept below -20° F at atmospheric pressure so that the effects of water condensation in the supersonic nozzle were negligible.

Model

The wing model used in this investigation was the same as that used in the tests of references 1 to 3. The basic wing had a leading edge swept back 23°, a root chord of 15.88 inches, a tip chord of 6.17 inches, a semispan of 17.02 inches, and a mean aerodynamic chord of 11.72 inches. The wing section was a modified hexagon having a constant ratio of local thickness to local chord of 4.5 percent. The flat midsection extended from the 30-percent chord to the 70-percent chord and the corners joining the flat midsection to the leading- and trailing-edge wedges were rounded to a 22.5-inch radius. The full-span control configurations 4 and 6 of references 1 to 3 were used during this investigation. Configuration 4 had a sharp trailing edge and configuration 6 had a blunt trailing edge. Both of these controls had unswept hinge lines located at the 74.6-percent-chord line, and a hinge-line gap of 0.01 inch (0.08 percent mean aerodynamic chord). For one test with configuration 4, the hinge-line gap was increased to 0.20 inch (1.71-percent mean aerodynamic chord) by moving the control and hinge line rearward.

Sketches of the nine spoiler configurations are shown in figure 1. The spoilers were constructed of 1/16-inch stock brass, bent at a right angle to permit fastening to the wing surface. The support leg faced rearward except for configurations G, H, and I, which were reversed in order to provide maximum rearward location of the spoiler with respect to the hinge-line gap or trailing edge. All the configurations had a height equal to 5 percent of the mean aerodynamic chord except for configurations F and I, for which the heights were 5-percent local chord and 2-percent mean aerodynamic chord, respectively. Configurations C, D, and E were basically the same spoiler with successive portions of the spoiler tips being removed. Configurations G and H were identical except for the enlarged hinge-line gap on configuration H.

The wing was constructed of steel, and the pressure-tube installations were made in grooves in the surface which were faired over with a transparent plastic material. The 144 to 169 pressure orifices were located at five spanwise stations as shown in figure 1. The chordwise locations of the surface pressure orifices are listed in table 1. All screw holes and pits were filled with dental plaster and faired smooth. The semispan wing was mounted horizontally in the tunnel from a turntable in a steel boundary-layer bypass plate which was located vertically in the test section about 10 inches from the side wall.

TESTS

Techniques

The model angle of attack was changed by rotating the turntable in the bypass plate on which the wing was mounted. The angle of attack was measured by a vernier on the outside of the tunnel, inasmuch as the angular deflection of the wing under load was negligible. The control deflections on the full-span trailing-edge control were set with the aid of an electrical control-position indicator mounted inside the wing at the hinge line and were checked with a cathetometer mounted outside the tunnel. The pressure distributions were determined from photographs of the multiple-tube manometer boards to which the pressure leads from the model orifices were connected. Configuration I had pressure orifices on both upper and lower surfaces of the wing and control. The remaining configurations did not have orifices on the lower surface of the control.

Range of Conditions

All the configurations were tested for an angle-of-attack range from -15° to 15° for a control deflection of 0°. Configurations A, B, C, H, and I were also tested for a few control deflections up to $\pm 20^{\circ}$. The tests were made at tunnel stagnation pressures of 13.0 and 15.1 pounds per square inch absolute at Mach numbers of 1.61 and 2.01, respectively, corresponding to a Reynolds number of 3.6×10^{6} based on the wing mean aerodynamic chord. In order to insure a turbulent boundary layer over the model during the tests, 3/16-inch-wide strips of No. 60 carborundum were attached to the wing upper and lower surfaces at a distance of 1/4 inch from the leading edge. These strips completely spanned the model except within 1/4 inch of the orifice stations.

PRECISION OF DATA

The mean Mach numbers in the region occupied by the model are estimated from calibrations to be 1.61 and 2.01 with local variations being smaller than ±0.02. There is no evidence of any significant flow angularities. The estimated accuracies in setting the wing angle of attack and control deflection are $\pm 0.05^{\circ}$ and $\pm 0.1^{\circ}$, respectively. The basic measured quantity C_p is believed to be accurate to ±0.01.

RESULTS AND DISCUSSION

Pressure Distributions

Basic distributions.- Selected upper-surface pressure distributions at the five spanwise stations for the basic configurations without spoilers are presented in figure 2 and for the configurations with spoilers in figure 3. The distributions are shown for angles of attack of 0°, $\pm 6^{\circ}$, and $\pm 12^{\circ}$, the full-span control being undeflected. Distributions were actually obtained for angles of attack from -15° to 15° at 3° increments. The complete tabulated data for these tests are presented in tables 2 to 11. In figure 3, the spoiler-off curves are repeated as dashed lines so that the effect of the spoiler becomes readily apparent. The spoiler location at each station is denoted by the vertical long-dashed line.

In general, the changes in pressure distribution due to the spoiler are the same as have been shown in previous pressure tests (that is, refs. 4 to 8). Some distance ahead of the spoiler, flow separation causes a rapid pressure increase followed by an area of relatively constant pressure up to the spoiler face. At the spoiler, a rapid acceleration of the flow results in a negative pressure peak which in turn is followed by a recompression of the flow in which the pressure approaches that for the spoiler-off configuration at some distance downstream. Due to the fact that the pressure orifices were generally located along lines of constant percent chord and the spoilers were not so located, it was impossible always to provide an orifice immediately ahead of the spoiler base. Such an orifice would be required to pick up the secondary pressure rise occurring because of the stagnation of the circulatory flow in the separated region. (See ref. 5.)

As the wing angle of attack is decreased and the local Mach number is decreased, the separation point moves slightly forward and the initial pressure rise increases. (See fig. 3.) The forward movement of the separation point with decreasing Mach number was shown in reference 9 and indications are that the movement is greater as the supersonic local Mach number approaches unity. This movement of the separation point would tend to make the separation angle less and thus would reduce the pressure rise. A decrease in local Mach number for a given separation angle, however, tends to increase the pressure rise. Apparently, the pressure rise due to the change in separation angle for these conditions is small as compared with the pressure rise due to the Mach number change.

Immediately downstream of the spoiler, there is little change of the pressures with changes in angle of attack. In all cases, the acceleration at the spoiler approaches the vacuum pressure, which is $C_p = -0.35$ at $M_\infty = 2.01$ and $C_p = -0.55$ at $M_\infty = 1.61$. Further downstream, the recompression is much greater at the negative angles of attack as might be expected due to the higher pressure from which the initial disturbance started and to which the flow tends to return.

In reference 9, it was shown that the pressure distributions over spoilers on a flat plate were almost identical when plotted so that the chordwise distances were based on spoiler height. Because of the three-dimensional nature of the flow over the spoilers on the wing in the present tests, such a correlation would not necessarily be expected. Examination of the pressure distributions for configuration F (fig. 3(f)), however, shows similar loadings due to the spoiler at all stations except for the $\alpha = -12^\circ$ condition where leading-edge shock detachment causes an additional effect at the outboard stations. Since this configuration has a spoiler height of 5 percent of the local chord and the pressure distributions are based on the local chord, comparison of the distributions at various stations is the same as if the plots were based on spoiler height. The spanwise effects that do show up in figure 3 that cannot be accounted for on a spoiler-height basis may be attributed to the wing-tip vortex at station 8 and to the boundary layer on the bypass plate at station 1.

Comparison with flat-plate results.- A comparison of the increments in surface-pressure coefficient ΔC_p generated by the presence of the spoiler on the wing with the pressure-coefficient increments induced by the same height spoiler on a flat plate (configuration 3 of ref. 5) is shown in figure 4. An angle of attack of 0° was chosen for this illustration because, at this angle, the local Mach number on the flat midsection of the wing is near the free-stream value and the effect of the spoiler can be compared with available flat-plate data at equal local Mach numbers. To simplify the comparison further, the pressure-increment distribution has been plotted as a function of the distance ahead of or behind the spoiler in spoiler heights. The dashed vertical lines indicate the relative position of the wing spoiler to the wing leading and trailing edges and to the 0.3- and 0.7-chord points where the corners in the wing surface occur due to the intersection of the leading- or trailing-edge wedges with the flat midsection.

The results of figure 4(a) indicate that, for the full-span unswept spoiler configuration G, the agreement with the flat-plate results of reference 5 is excellent except for the tip station (station 8). At this station, the present tests indicate both a decrease in the pressure rise and a decrease in the chordwise extent of the pressure increase as compared with the two-dimensional flat-plate pressures. This effect is ascribed primarily to spillage around the spoiler and wing tips. The reason for the expansion just ahead of the spoiler at this station is not known but, on the basis of figure 5(a) in reference 5, appears to be a consequence of the flow phenomenon about the spoiler tip alone. The expansion and compression behind the spoiler were not affected to any extent by the proximity of station 8 to the wing and spoiler tips. Another observation of interest is that the flow behind the spoiler is apparently independent of the relative position of the wing trailing edge, the viscous wing wake and flow from the other side of the wing effectively providing the same sort of barrier to the upper surface flow as that provided by the wing itself.

The results presented in figure 4(b) indicate that, when the spoiler is located so as to cause boundary-layer separation ahead of a corner in the wing surface, the agreement between the present results and those of the flat-plate investigation is no longer good. In general, there is a tendency for the pressure distribution to become more triangular and for the pressure rise to become greater. The greater pressure rise may be due in part to the lower Mach number prevailing at the separation point. Behind the spoiler, however, the existence of a corner in the wing surface is of no apparent significance.

At angles of attack, of course, the local Mach numbers on the upper and lower wing surfaces change from the free-stream value and a direct comparison is no longer possible. An empirical method can, nevertheless, be used to correlate the pressures ahead of the spoiler with those of reference 5. Briefly, the correlation procedure consists of taking, at an angle of attack, the increment in pressure coefficient existing between any point in the separated flow region and the pressure coefficient at the point of separation and correcting this increment from the local Mach number at the separation point to the Mach number at which the correlation is desired. The local Mach number was computed from the local static pressure, negligible loss in entropy due to the wing leading-edge shock being assumed. The correction factor is obtained by assuming that all pressure-coefficient increments within the region are increased or decreased in the same proportion as the first-peak pressure-rise ratio and that the change in peak pressure-rise ratio with local Mach number follows the theoretical predictions of reference 10 for the separation of a turbulent boundary layer. This prediction is plotted in figure 5 and is compared with the first-peak pressure-rise ratios determined at station 4 on configurations C and G at various local Mach numbers (angles of attack). The agreement is shown to be good for both configurations and at both test Mach numbers. In equation form, the corrected pressure-coefficient increment is given by

$$\Delta C_{p,corr.} = \left(C_{p,x} - C_{p,s}\right)\left(\frac{p_2}{p_1}\right)_{M_1=M_s}\left(\frac{p_1}{p_2}\right)_{M_1=M}$$

For these tests, it was further assumed that the separation-point location was not affected by moderate changes in local Mach number, although for cases where the movement of the separation point may be of importance, it can be accounted for by "stretching" or "shrinking" the separated-flow region according to the indications of figure 3 in reference 9. Some correlation results obtained with the procedure described above are illustrated in figure 6 for values of M_∞ of 1.61 and 2.01. Also plotted in figure 6 are the actual pressure coefficients for the flow behind the spoiler.

In general, the agreement between the corrected pressure-coefficient increments and the flat-plate data of reference 5 is very good. At high positive angles of attack, there is some tendency for the corrected increments to be somewhat low, possibly because of the increased thickness of the boundary layer on the upper wing surface resulting from the high local Mach numbers. At high negative angles, the agreement again tends to break down for the tests at $M_\infty = 1.61$ because the local Mach number is so low that shock-detachment effects are being superimposed over the usual separation effects.

Behind the spoiler, the mechanism controlling the expansion is not the same as that controlling the separation and, hence, the correlation procedure described for the flow ahead of the spoiler cannot be applied. Also, from figure 3, it can be seen that there is a considerable change in the incremental pressures due to the spoiler with changes in α. As noted previously, however, and shown again in figure 6, the actual pressure coefficients are only slightly affected by α, the most notable feature being the decreased rate of compression at high positive angles of attack and an increased rate at high negative angles as compared with the flat-plate results.

Effect of configuration changes.- Comparison of the pressure distributions for configurations B, C, and G (fig. 3) shows the effect of rearward movement of the full-span spoiler. The rearward shift in the spoiler causes essentially a rearward shift of the incremental pressures due to the spoiler, as might be expected, with some modifications due to the airfoil thickness distribution as discussed in the previous section.

In an attempt to show the effect of spoiler sweep on the pressure distributions, the distributions for configurations A and B at station 7 and configurations A and C at station 8 are compared in figure 7. These stations and configurations were chosen so that the spoiler chordwise location would be identical in either the swept or unswept case. Of course, using station 8 introduces additional complications due to the wing-tip vortex; however, a rough assessment of the sweep effect can be made. Over most of the range, the change in sweep from 0° to 23° caused an increase in the upstream influence of the spoiler and an accompanying increase in pressure ahead of the spoiler. This effect was noted previously in reference 5 for stations located some distance from the spoiler apex, as were stations 7 and 8. In the present tests no comparison was made between a swept and an unswept spoiler located inboard and at approximately the same chordwise positions. The change in pressure distributions along the span shown in reference 5 would indicate that at the inboard stations an unswept spoiler located at the same chordwise position would produce increased pressures over those produced by the swept spoiler tested herein. The distributions downstream of the spoilers (fig. 7) do not show any consistent trend due to sweeping the spoiler.

In order to evaluate the effect of removing the portions of the spoiler tips, the pressure distributions for configurations C, D, and E are plotted for comparison in figure 8. Configuration C is a full-span spoiler. Configuration D was obtained by removing the spoiler tips to within 1/2 inch of stations 3 and 7. Configuration E was obtained by further removing the spoiler tips to 1 inch beyond stations 3 and 7. At station 4, the spoiler cutoffs cause little change in the pressures except in the region ahead of the spoiler at $\alpha = -12^\circ$. In reference 8, it was shown that the spoiler tip effect extended inboard on the spoiler approximately four spoiler heights and outboard approximately two and one-half spoiler heights for a trailing-edge type of spoiler at $M_\infty = 1.86$. In the present tests, station 4 on configuration D is approximately 12 spoiler heights distant from the spoiler tips; it therefore appears that the extent of spanwise influence of the spoiler tips is greatly increased as the local Mach number ahead of the spoiler approaches unity. At stations 3 and 7, the first cutoff causes a reduction in pressures ahead of the spoiler but little change downstream. When the spoiler is cutoff beyond these stations, the pressures ahead of and behind the spoiler location decrease and the acceleration at the spoiler location becomes more gradual. Also, the positive and negative pressure peaks occur at a more rearward position along the chord relative to the spoiler. At still greater distances from the spoiler tip (stations 1 and 8), these regions of positive or negative pressure are back still farther so that the negative pressure region has been swept off the wing and only the effects of the positive pressure rise are discernible near the trailing edge.

In order to examine in more detail the pressure distributions caused by the 5-percent mean-aerodynamic-chord-height spoiler (configuration C) and the 5-percent local-chord-height spoiler (configuration F), figure 9 shows the incremental pressure distributions due to the spoiler for these two configurations. Inboard the 5-percent local-chord-height spoiler tends to give more positive pressures ahead of the spoilers and outboard the 5-percent mean-aerodynamic-chord-height spoiler tends to give more positive pressures. These changes are in the direction that would be anticipated from comparison of the local height differences for the two configurations. Downstream of the spoilers there are only small differences at the inboard stations; however, at stations 7 and 8, the 5-percent mean-aerodynamic-chord-height spoiler produces more negative pressures than does the 5-percent local-chord-height spoiler.

The effect of increasing the gap behind the spoiler (see fig. 1) from 0.01 inch to 0.20 inch is shown by figure 10 to be primarily an effect downstream of the spoiler. In every case, increasing the gap increased the pressure in this region and therefore increased the lift effectiveness of the spoiler. This change in pressure is in direct opposition to the change in pressure found to be due to increasing the gap on the wing without a spoiler in reference 2. The reason for this difference is not understood at present. Note also that, as the angle of attack is increased, this pressure change due to the gap is increased.

Effect of Mach number and control deflection.- The effect of increasing the Mach number from 1.61 to 2.01 on the incremental pressure distribution on configuration C is shown in figure 11. As the Mach number is increased, the magnitude of the pressure-coefficient increments due to the spoiler is decreased. This is in agreement with the Mach number effect found in the flat-plate tests of reference 5.

In order to examine the flow characteristics over a full-span spoiler-flap combination, the pressure distributions have been plotted in figure 12 for configuration C with and without the spoiler, with the trailing-edge control deflected to -20°, 0°, and 20°, and for angles of attack of -6°, 0°, and 6°. The results are similar to those previously presented in reference 4 on a delta wing; however, the distributions in these tests are more accurate because of the greater number of orifices. Deflection of the control to $\delta = \pm 20^{\circ}$ had no effect on the pressures measured ahead of the spoiler. Downstream of the spoiler, control deflection caused considerable change, especially when the control is deflected toward the spoiler. At positive control deflections, the effect is small because either the spoiler or control alone tend to make the pressures on the control approach vacuum pressure and the superposition of the two effects causes only secondary changes. At negative control deflections, however, the effects of the spoiler and of the control are in opposition so that the net effect of the control deflection appears much greater.

The incremental pressures due to the spoiler from figure 12 have been plotted in figure 13 to show the changes with control deflection or angle of attack. The pressures measured ahead of the spoiler are independent of control deflection (fig. 13(a)) except at a negative angle of attack with a negative control deflection, where the control alone caused flow separation at the inboard stations and the increment due to spoiler is therefore less. Downstream the changes in the pressures over the control due to the spoiler increased as the control deflection decreased from 20° to -20°. The change in incremental pressures ahead of the spoiler with angle of attack (fig. 13(b)) is essentially what would be expected due to the decrease in local Mach number as the angle of attack is decreased.

Spanwise Loadings

Total loadings.- The spanwise normal-force and pitching-moment loadings for the various test configurations, determined by a step integration of the chordwise pressure distributions shown previously, are presented in figures 14 and 15. The contribution of the lower surface pressures to these loadings was determined from the distributions of the basic configurations without the spoilers (fig. 2). Because of the rapid changes in pressure along the chordwise rows due to spoiler-induced separation and reattachment, and the lack of sufficient orifices in certain critical areas, it is to be expected that some errors in the section coefficients will exist due to the step-integration procedure. These errors should tend to average out in the integrations of the spanwise loadings in determining the total force and moment coefficients.

In general, all the spoilers tested decreased the normal-force loading over the span of the spoiler as was desired (fig. 14). The effectiveness of the spoiler in producing a negative lift increment tended to increase as the angle of attack was decreased or as the spoiler moved rearward. Configurations A and B, having the most forward spoiler locations, caused a decrease in the pitching moment, the decrease being greatest at the negative angles of attack. As the spoiler was moved rearward, the pitching-moment increment became positive first at the positive angles and then at all angles as the spoiler reached the trailing edge (configuration I).

Incremental loadings.- In order to examine in more detail the loadings due to the spoilers, the incremental spanwise normal-force and pitching-moment loadings are shown in figures 16 and 17. The most obvious conclusion from these figures is that the spanwise-loading variations due to the spoilers are very erratic. From the discussion of the pressure distributions due to the spoiler, the importance of the relative location of the spoiler to corners of the airfoil section was shown. Also, although the independence of the pressure distribution downstream of the spoiler with the location of the wing trailing edge was shown, when the pressure distributions are integrated the relative location of the spoiler with the wing trailing edge becomes important because the integration ends at the trailing edge, whereas the reattachment of the flow may not be completed at this point. These relative locations of the spoiler to the corners or to the trailing edge vary across the span for most of the configurations tested in the present tests. It appears that a greater number of spanwise stations would be necessary to isolate the reasons for the local variations, particularly in view of the inherent scatter caused by the integration procedure used herein.

Despite the problems just mentioned, the variation of the incremental loadings due to the spoiler with angle of attack in figure 18 tend to show very consistent trends. The swept-spoiler configuration A shows greatest lifting effectiveness at an angle of attack of 0° and decreasing effectiveness as α increases positively or negatively. The pitching moment decreases uniformly across the span as α increases. The full-span unswept configurations generally show a decided decrease in incremental normal force and pitching moment with increasing angle of attack and the greatest change occurs for the inboard stations. The partial-span configurations D and E show reversals in normal force and changes in sign in pitching moment at the stations beyond the spoiler tips due to the aforementioned sweepback of the spoiler high- and low-pressure regions and the consequent movement of the low-pressure region off the wing. Note that, at negative angles of attack, considerable normal-force loading remains at these stations beyond the spoiler tips.

Integrated Coefficients

Total coefficients.- The variations of lift, bending-moment, and pitching-moment coefficients with angle of attack for the test configurations with and without the spoilers are presented in figure 19. These were determined from integrations of the spanwise loading plots of figures 14 and 15. The variations of all the coefficients with angle of attack are smooth and the coefficients increase with angle of attack throughout the test range. The change in lift and bending moments produced by the spoilers is approximately constant for all the full-span spoilers tested. The change in pitching moment is greatest for configurations A and I, which are the two configurations most distant from the selected moment center at the midchord of the mean aerodynamic chord.

Incremental coefficients.- In order to examine in more detail the effect of configuration changes on the spoiler effectiveness in producing lift, bending moment (rolling moment), or pitching moment, the incremental coefficients due to the spoilers are compared in figures 20 to 25. From the configurations tested, it is impossible to isolate the effect of spoiler sweep; however, figure 20 shows a comparison of configurations A and B for which the sweeps are different whereas the average chordwise locations are as near as possible. At negative angles of attack, the late reattachment of the flow downstream of the swept spoiler (see fig. 3) causes a large loss in lift and bending-moment effectiveness. The more negative pitching-moment increment due to the swept spoiler is primarily due to its more forward location. This effect is emphasized in figure 21 where rearward movement of the spoiler is the only variable. In this range of chordwise locations, only small variations in lift and bending moment occur, whereas sizable changes in pitching moment result.

Further rearward movement of the spoiler to the trailing edge would increase the incremental lift and bending moment and cause reversals in the pitching-moment increment. (Note the effectiveness of the 2-percent mean-aerodynamic-chord spoiler at the wing trailing edge, fig. 19(i).) The favorable effect of rearward spoiler location on the lift or rolling-moment effectiveness has been shown previously in references 6, 8, 11, and 12.

Reduction of the span from 100- to 58- to 48-percent semispan (fig. 22) caused continuous decreases in the incremental lift, bending moment, and pitching moment except for the pitching moment at positive control deflections. Comparison of the 5-percent mean-aerodynamic-chord-height spoiler to the 5-percent-local-chord-height spoiler (fig. 23) showed negligible change in the spoiler incremental force and moment coefficients. It should be remembered that, if this comparison had been made on partial-span inboard or outboard spoilers, one or the other would have been superior depending on the spanwise location, because of the local variations with height shown in the pressure-distribution section. Increasing the gap behind the spoiler (fig. 24) increased the incremental spoiler lift and bending moment at all angles of attack and made the pitching moments more positive at the positive angles of attack. These changes are a result of the reduction in positive lift downstream of the spoiler due to increasing the gap size. Finally, increasing the Mach number (fig. 25) caused a decrease in the incremental spoiler lift, bending moment, and pitching moment at the negative angles of attack.

CONCLUSIONS

An investigation has been made at Mach numbers of 1.61 and 2.01 to examine the characteristics of several spoiler-type controls on a trapezoidal wing. From an analysis of the chordwise pressure distributions, spanwise loadings, and integrated coefficients, the following conclusions may be made.

1. The incremental pressure distributions due to the spoiler were in excellent agreement with previous flat-plate results as long as the spoiler was not located too close to a break in the wing surface or to the wing tip.

2. The effect of angle of attack on the pressures measured ahead of the spoiler could be predicted fairly well by a pressure-rise correlation. Angle of attack had little effect on the pressures measured downstream of the spoiler.

3. Deflecting a full-span trailing-edge flap-type control behind a full-span spoiler had no effect on the pressures measured ahead of the spoiler but had a large effect on the pressures behind the spoiler, particularly when the control deflection was toward the spoiler.

4. In general, the spanwise loading due to the full-span spoilers was dependent upon the relative location of the spoilers to the corners in the wing section and to the wing trailing edge. Beyond the tips of the partial-span spoilers, a carryover of normal force due to the spoilers was evident and the pitching moment due to the spoilers became more positive because of the rearward influence of the spoiler pressures and the consequent movement of the negative pressures from behind the spoiler off the wing.

5. The effectiveness of the spoiler in reducing wing lift and bending moment was generally increased by rearward movement of the spoiler, increasing the spoiler span, increasing the gap behind the spoiler, or, at negative angles of attack, by decreasing the Mach number.

6. The incremental pitching moments due to the spoiler generally became more negative with forward movement of the spoiler or by decreasing the gap behind the spoiler, and, at negative angles of attack, by increasing the spoiler span or decreasing the Mach number.

Langley Aeronautical Laboratory,
National Advisory Committee for Aeronautics,
Langley Field, Va., May 2, 1956.

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TABLE 1

CHORDWISE LOCATIONS OF ORIFICES

IN FRACTIONS OF c_R FROM APEX

[Station spanwise locations shown in fig. 1]

Orifice number		Stations				
Upper surface	Lower surface	1	3	4	7	8
1	17	0.034	0.157	0.275	0.394	0.469
2	18	.093	.203	.308	.414	.482
3	19	.162	.260	.354	.449	.509
4	20	.260	.342	.420	.499	.549
5	21	.358	.423	.485	.548	.588
6	22	.456	.505	.551	.598	.628
7	23	.554	.586	.617	.648	.667
8	24	.603	.627	.650	.673	.687
9	25	.652	.667	.682	.697	.707
10	26	.701	.708	.715	.722	.727
11	27	.737	.737	.737	.737	.737
12	28	.757	.751	.750	.748	.747
13	29	.774	.769	.764	.760	.756
14	30	.838	.822	.807	.792	.782
15	31	.902	.875	.850	.824	.808
16	32	.976	.934	.893	.852	.826

Table 2

Wing-surface Pressure Coefficients

Configuration A M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 0°$ $\delta = 0°$					
1	.149		.156	.163			.162	.156	1
2	.113		.217	.174			.162	.125	2
3	.551		.723	.692			.453	.166	3
4	.954		.937	.931			.833	.550	4
5	-.271		-.421	.853			.951	.498	5
6	.045		-.312	-.428			.957	.555	6
7	.051		-.203	-.253			-.423	.583	7
8	.032		-.147	-.170			-.423	.518	8
9	.022		-.114	-.166			-.423	.054	9
10	-.020		-.094	-.173			-.400	-.391	10
11	.009		-.108	-.183			-.310	-.391	11
12	-.043		-.106	-.177			-.335	-.408	12
13	-.055		-.097	-.199			-.325	-.395	13
14	-.082		-.091	-.189			-.284	-.364	14
15	-.089		-.081	-.180			-.248	-.299	15
16	-.089		-.064	-.169			-.210	-.246	16
17	.149		.151	.149			.140	.139	17
18	.118		.143	.147			.153	.139	18
19	.127		.143	.147			.152	.116	19
20	.105		.109	.117			.102	.089	20
21	-.005		.011	.039			.046	.172	21
22	.009		-.001	.017				.204	22
23	.005			.010			.012	.177	23
24	-.003		-.020	.005			-.010	.127	24
25	-.002		-.028	-.022			-.016	.065	25
26	-.062		-.061	-.050			-.048	.043	26
				$\alpha = 3°$ $\delta = 0°$					
1	.042		.046	.049			.050	.049	1
2	.032		.127	.088			.051	.070	2
3	.317		.625	.453			.112	.079	3
4	.854		.591	.587			.710	.257	4
5	-.357		-.429	.641			.670	.530	5
6	-.033		-.294	-.419			.693	.432	6
7	-.003		-.209	-.271			-.403	.661	7
8	-.028		-.171	-.201			-.409	.710	8
9	-.039		-.155	-.177			-.394	.143	9
10	-.090		-.165	-.177			-.347	-.373	10
11	-.071		-.165	-.190			-.269	-.358	11
12	-.105		-.170	-.189			-.284	-.357	12
13	-.112		-.160	-.205			-.264	-.351	13
14	-.123		-.143	-.215			-.232	-.335	14
15	-.129		-.137	-.207			-.215	-.320	15
16	-.128		-.123	-.205			-.200	-.301	16
17	.236		.287	.287			.274	.244	17
18	.203		.287	.288			.282	.225	18
19	.203		.275	.289			.283	.173	19
20	.181		.209	.251			.234	.125	20
21	.076		.093	.146			.159	.191	21
22	.079		.080	.103				.264	22
23	.079			.096			.107	.189	23
24	.079		.057	.083			.082	.141	24
25	.069		.047	.069			.073	.143	25
26	.007		.026	.030			.030	.046	26
				$\alpha = 6°$ $\delta = 0°$					
1	-.051		-.048	-.045			-.037	-.034	1
2	-.041		.031	-.015			-.037	.009	2
3	.095		.506	.303			.023	.047	3
4	.736		.439	.393			.335	.303	4
5	-.428		-.448	.425			.517	.303	5
6	-.104		-.326	-.407			.367	.325	6
7	-.063		-.247	-.241			-.408	.299	7
8	-.106		-.209	-.199			-.400	.268	8
9	-.094		-.209	-.199			-.304	-.054	9
10	-.141		-.209	-.215			-.257	-.359	10
11	-.132		-.226	-.231			-.197	-.341	11
12	-.134		-.203	-.214			-.219	-.331	12
13	-.143		-.203	-.240			-.219	-.315	13
14	-.167		-.182	-.240			-.218	-.296	14
15	-.177		-.173	-.239			-.218	-.266	15
16	-.167		-.161	-.220			-.203	-.240	16
17	.332		.468	.501			.492	.408	17
18	.292		.430	.479			.492	.346	18
19	.293		.371	.441			.466	.278	19
20	.265		.300	.357			.381	.182	20
21	.143		.172	.232			.272	.194	21
22	.150		.152	.199				.241	22
23	.150			.178			.188	.218	23
24	.150		.135	.175			.149	.194	24
25	.146		.128	.152			.137	.212	25
26	.071		.090	.108			.098	.127	26

Table 2 continued

Wing-surface Pressure Coefficients

Configuration A M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				α= 6° δ= 20°					
1	-.043		-.043	-.039			-.033	-.030	1
2	-.038		.025	-.020			-.033	.007	2
3	.083		.512	.300			.031	.034	3
4	.756		.446	.404			.365	.295	4
5	-.424		-.446	.444			.537	.305	5
6	-.105		-.323	-.410			.368	.332	6
7	-.083		-.243	-.239			-.420	.317	7
8	-.106		-.206	-.195			-.411	.284	8
9	-.074		-.200	-.195			-.304	-.059	9
10	-.130		-.208	-.209			-.250	-.390	10
11	-.127		-.219	-.224			-.188	-.397	11
12	-.364		-.391	-.392			-.391	-.426	12
13	-.392		-.384	-.411			-.396	-.410	13
14	-.384		-.401	-.419			-.407	-.401	14
15	-.400		-.397	-.419			-.315	-.385	15
16	-.266		-.260	-.300			-.268	-.349	16
17	.330		.470	.495			.482	.396	17
18	.292		.422	.477			.482	.333	18
19	.293		.370	.435			.465	.272	19
20	.258		.294	.348			.380	.186	20
21	.149		.174	.227			.264	.193	21
22	.159		.154	.194				.241	22
23	.146			.175			.182	.210	23
24	.147		.142	.174			.150	.191	24
25	.179		.388	.320			.130	.210	25
26	.491		.523	.548			.499	.263	26
				α= 6° δ= -20°					
1	-.050		-.047	-.048			-.044	-.038	1
2	-.046		.025	-.018			-.045	.007	2
3	.083		.502	.302			.016	.041	3
4	.732		.436	.382			.289	.308	4
5	-.429		-.437	.413			.459	.293	5
6	-.107		-.328	-.384			.356	.312	6
7	-.092		-.246	-.243			-.311	.269	7
8	-.114		-.213	-.195			-.311	.234	8
9	-.087		-.183	-.167			-.271	.015	9
10	-.131		-.015	-.127			-.216	-.229	10
11	.093		.055	.000			-.126	-.229	11
12	.200		.150	.125			-.062	-.194	12
13	.351		.169	.151			-.022	-.189	13
14	.386		.218	.146			.090	-.128	14
15	.339		.235	.146			.137	-.076	15
16	.304		.202	.146			.143	-.053	16
17	.336		.480	.507			.508	.412	17
18	.307		.437	.482			.508	.349	18
19	.296		.380	.444			.476	.282	19
20	.270		.305	.360			.377	.185	20
21	.148		.177	.233			.272	.204	21
22	.166		.153	.191				.225	22
23	.160			.184			.184	.210	23
24	.153		.138	.175			.149	.191	24
25	.146		.139	.164			.134	.204	25
26	.077		.101	.120			.096	.128	26
				α= 9° δ= 0°					
1	-.109		-.114	-.126			-.134	-.109	1
2	-.091		-.057	-.107			-.119	-.052	2
3	.028		.316	.186			-.074	-.064	3
4	.666		.332	.278			.184	.113	4
5	-.426		-.455	.218			.231	.224	5
6	-.149		-.378	-.419			.170	.177	6
7	-.120		-.311	-.237			-.423	.204	7
8	-.141		-.272	-.218			-.403	.186	8
9	-.133		-.254	-.239			-.322	-.098	9
10	-.176		-.248	-.268			-.279	-.374	10
11	-.179		-.265	-.286			-.213	-.349	11
12	-.194		-.246	-.264			-.241	-.344	12
13	-.203		-.252	-.288			-.232	-.338	13
14	-.213		-.239	-.288			-.223	-.328	14
15	-.234		-.230	-.288			-.223	-.319	15
16	-.220		-.213	-.282			-.223	-.290	16
17	.467		.688	.742			.777	.597	17
18	.415		.561	.630			.692	.456	18
19	.422		.499	.575			.613	.348	19
20	.380		.427	.447			.473	.244	20
21	.251		.255	.313			.340	.144	21
22	.259		.245	.269				.185	22
23	.249			.258			.242	.205	23
24	.245		.231	.246			.218	.186	24
25	.241		.225	.228			.196	.215	25
26	.162		.178	.183			.165	.132	26

Table 2 continued

Wing-surface Pressure Coefficients

Configuration A M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				α=12°	δ=0°				
1	-.192		-.210	-.231			-.247	-.241	1
2	-.154		-.183	-.190			-.213	-.154	2
3	-.041		.044	.138			-.201	-.153	3
4	-.530		.221	.122			.132	-.164	4
5	-.408		-.477	.047			.138	.028	5
6	-.203		-.421	-.449			.096	.062	6
7	-.171		-.371	-.308			-.447	.023	7
8	-.196		-.350	-.281			-.433	.015	8
9	-.191		-.325	-.284			-.373	-.200	9
10	-.233		-.303	-.298			-.339	-.395	10
11	-.242		-.315	-.307			-.259	-.397	11
12	-.239		-.299	-.290			-.306	-.389	12
13	-.258		-.298	-.312			-.293	-.379	13
14	-.263		-.282	-.312			-.282	-.380	14
15	-.279		-.272	-.308			-.277	-.353	15
16	-.253		-.261	-.308			-.241	-.325	16
17	.600		.861	.933			.955	.721	17
18	.534		.701	.792			.848	.546	18
19	.540		.633	.707			.732	.418	19
20	.495		.511	.539			.567	.309	20
21	.340		.341	.395			.425	.189	21
22	.355		.341	.364				.134	22
23	.330			.356			.324	.166	23
24	.329		.329	.343			.291	.144	24
25	.324		.318	.325			.272	.186	25
26	.243		.267	.279			.238	.129	26
				α= 15°	δ= 0°				
1	-.242		-.313	-.351			-.367	-.357	1
2	-.196		-.198	-.286			-.309	-.253	2
3	-.178		.079	-.149			-.278	-.253	3
4	.621		.102	.058			.010	-.309	4
5	-.481		-.477	.009			.044	-.128	5
6	-.247		-.412	-.464			.016	-.121	6
7	-.199		-.376	-.367			-.458	-.105	7
8	-.236		-.354	-.336			-.453	-.111	8
9	-.220		-.342	-.333			-.412	-.278	9
10	-.246		-.328	-.342			-.385	-.431	10
11	-.259		-.346	-.346			-.303	-.429	11
12	-.256		-.338	-.330			-.352	-.412	12
13	-.264		-.338	-.339			-.338	-.412	13
14	-.284		-.326	-.339			-.311	-.412	14
15	-.308		-.327	-.339			-.256	-.381	15
16	-.308		-.202	-.319			-.186	-.335	16
17	.777		1.033	1.069			1.074	.813	17
18	.701		.854	.919			.964	.633	18
19	.712		.758	.808			.833	.501	19
20	.594		.597	.634			.659	.379	20
21	.440		.428	.489			.519	.244	21
22	.486		.480	.502				.204	22
23	.477			.519			.449	.172	23
24	.493		.505	.506			.426	.146	24
25	.484		.477	.479			.411	.207	25
26	.384		.405	.406			.362	.144	26
				α= −3°	δ= 0°				
1	.225		.294	.477			.805	.624	1
2	.182		.483	.814			.798	.503	2
3	.657		.893	.882			.797	.459	3
4	1.029		1.077	1.026			.828	.426	4
5	-.243		-.431	1.077			.965	.462	5
6	.099		-.342	-.416			.970	.478	6
7	.051		-.199	-.380			-.400	.520	7
8	.089		-.104	-.314			-.399	.469	8
9	.084		-.048	-.237			-.397	.042	9
10	.029		-.029	-.185			-.395	-.365	10
11	.050		-.042	-.171			-.324	-.365	11
12	.026		-.022	-.151			-.346	-.378	12
13	.015		-.022	-.151			-.342	-.374	13
14	-.021		-.005	-.128			-.301	-.357	14
15	-.022		.000	-.107			-.257	-.323	15
16	-.022		.005	-.095			-.203	-.285	16
17	.006		.018	.025			.016	.071	17
18	.008		.018	.026			.024	.124	18
19	.022		.018	.040			.024	.109	19
20	-.016		-.001	.005			-.011	.063	20
21	-.092		-.081	-.063			-.066	.023	21
22	-.087		-.090	-.087				-.001	22
23	-.092			-.090			-.088	-.043	23
24	-.094		-.104	-.093			-.091	-.082	24
25	-.096		-.113	-.097			-.083	-.073	25
26	-.145		-.136	-.129			-.095	-.129	26

Table 2 continued

Wing-surface Pressure Coefficients

Configuration A M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -6°$ $\delta = 0°$					
1	.344		.693	.966			.974	.763	1
2	.283		.875	.905			.920	.595	2
3	.850		.966	.924			.872	.508	3
4	1.173		1.114	1.020			.864	.454	4
5	-.218		-.379	1.104			.982	.469	5
6	.186		-.333	-.381			1.002	.467	6
7	.143		-.168	-.364			-.377	.507	7
8	.144		-.054	-.308			-.374	.446	8
9	.137		.022	-.226			-.371	.032	9
10	.082		.042	-.158			-.371	-.341	10
11	.109		.030	-.144			-.309	-.341	11
12	.060		.037	-.117			-.344	-.342	12
13	.055		.043	-.111			-.343	-.342	13
14	.028		.055	-.086			-.315	-.341	14
15	.027		.055	-.054			-.255	-.321	15
16	.027		.057	-.033			-.215	-.312	16
17	-.060		-.053	-.116			-.144	-.098	17
18	-.040		-.051	-.068			-.092	.031	18
19	-.019		-.052	-.061			-.067	.015	19
20	-.066		-.067	-.083			-.089	-.034	20
21	-.137		-.138	-.129			-.142	-.077	21
22	-.129		-.139	-.149				-.132	22
23	-.132			-.153			-.164	-.170	23
24	-.134		-.156	-.155			-.165	-.210	24
25	-.138		-.155	-.162			-.146	-.188	25
26	-.173		-.178	-.182			-.156	-.226	26
				$\alpha = -6°$ $\delta = 20°$					
1	.342		.764	.976			.985	.766	1
2	.285		.880	.916			.925	.598	2
3	.861		.968	.927			.875	.517	3
4	1.188		1.114	1.020			.867	.450	4
5	-.228		-.377	1.102			.979	.471	5
6	.183		-.335	-.379			1.002	.471	6
7	.154		-.171	-.370			-.391	.506	7
8	.145		-.057	-.313			-.394	.439	8
9	.141		.022	-.227			-.394	.002	9
10	.084		.050	-.157			-.397	-.355	10
11	.104		.042	-.132			-.334	-.355	11
12	-.272		-.295	-.351			-.417	-.355	12
13	-.320		-.289	-.355			-.395	-.355	13
14	-.292		-.304	-.355			-.365	-.370	14
15	-.319		-.303	-.357			-.337	-.363	15
16	-.280		-.303	-.332			-.325	-.363	16
17	-.075		-.059	-.138			-.158	-.109	17
18	-.048		-.061	-.085			-.102	.016	18
19	-.031		-.061	-.074			-.078	-.005	19
20	-.074		-.078	-.096			-.101	-.042	20
21	-.146		-.149	-.143			-.147	-.091	21
22	-.137		-.147	-.160				-.153	22
23	-.141			-.166			-.166	-.193	23
24	-.145		-.149	-.167			-.167	-.235	24
25	-.145		-.164	-.174			-.149	-.208	25
26	-.184		-.184	-.186			.011	-.240	26
				$\alpha = -6°$ $\delta = -20°$					
1	.355		.745	.968			.973	.761	1
2	.299		.876	.912			.919	.604	2
3	.862		.971	.924			.872	.522	3
4	1.189		1.118	1.016			.861	.453	4
5	-.183		-.199	1.101			.977	.476	5
6	.154		-.186	-.104			.997	.476	6
7	.184		-.083	-.141			-.117	.514	7
8	.173		-.007	-.133			-.133	.438	8
9	.187		.097	-.105			-.144	.009	9
10	.305		.183	-.057			-.153	-.323	10
11	.552		.219	-.029			-.127	-.252	11
12	.708		.282	.022			-.125	-.235	12
13	.897		.326	.041			-.148	-.232	13
14	.753		.421	.146			-.133	-.232	14
15	.680		.481	.230			-.093	-.220	15
16	.617		.417	.232			-.049	-.228	16
17	-.066		-.059	-.129			-.162	-.092	17
18	-.044		-.061	-.079			-.105	.031	18
19	-.027		-.060	-.073			-.081	.002	19
20	-.070		-.075	-.092			-.107	-.033	20
21	-.140		-.146	-.139			-.152	-.079	21
22	-.135		-.148	-.158				-.148	22
23	-.138			-.164			-.173	-.175	23
24	-.139		-.149	-.164			-.178	-.216	24
25	-.140		-.164	-.171			-.154	-.187	25
26	-.182		-.185	-.189			-.163	-.226	26

Table 2 concluded

Wing-surface Pressure Coefficients

Configuration A M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
α=-9° δ=0°									
1	.459		1.018	1.095			1.067	.845	1
2	.435		.972	1.003			.996	.674	2
3	1.017		1.012	.982			.927	.573	3
4	1.390		1.147	1.038			.896	.480	4
5	-.316		-.330	1.131			.986	.481	5
6	.261		-.305	-.326			1.022	.465	6
7	.215		-.117	-.340			-.359	.509	7
8	.204		.018	-.305			-.382	.435	8
9	.201		.097	-.217			-.386	.023	9
10	.150		.111	-.143			-.388	-.355	10
11	.185		.089	-.122			-.316	-.342	11
12	.118		.089	-.074			-.344	-.347	12
13	.111		.100	-.062			-.336	-.342	13
14	.093		.102	-.026			-.268	-.343	14
15	.087		.102	.009			-.198	-.343	15
16	.087		.102	.032			-.167	-.331	16
17	-.135		-.200	-.286			-.310	-.246	17
18	-.102		-.147	-.199			-.224	-.117	18
19	-.088		-.130	-.163			-.179	-.108	19
20	-.126		-.139	-.174			-.187	-.130	20
21	-.186		-.206	-.215			-.221	-.194	21
22	-.171		-.205	-.232				-.251	22
23	-.175			-.234			-.238	-.285	23
24	-.173		-.196	-.235			-.240	-.315	24
25	-.179		-.204	-.240			-.220	-.282	25
26	-.218		-.225	-.255			-.219	-.311	26
α= -12° δ= 0°									
1	.690		1.158	1.182			1.139	.913	1
2	.852		1.057	1.077			1.069	.739	2
3	1.072		1.058	1.030			.990	.622	3
4	1.381		1.191	1.060			.934	.533	4
5	-.290		-.261	1.163			1.001	.509	5
6	.350		-.267	-.286			1.045	.474	6
7	.315		-.092	-.288			-.343	.515	7
8	.296		.049	-.266			-.349	.437	8
9	.294		.169	-.190			-.353	.002	9
10	.226		.190	-.105			-.359	-.417	10
11	.247		.166	-.079			-.296	-.395	11
12	.187		.178	-.016			-.319	-.391	12
13	.160		.192	-.002			-.299	-.385	13
14	.160		.194	.047			-.242	-.384	14
15	.160		.192	.086			-.177	-.365	15
16	.160		.175	.108			-.137	-.351	16
17	-.214		-.364	-.430			-.437	-.364	17
18	-.157		-.257	-.306			-.332	-.235	18
19	-.145		-.234	-.262			-.289	-.235	19
20	-.167		-.236	-.258			-.272	-.255	20
21	-.223		-.283	-.287			-.297	-.298	21
22	-.215		-.281	-.298				-.339	22
23	-.220			-.302			-.304	-.370	23
24	-.224		-.259	-.303			-.312	-.390	24
25	-.226		-.258	-.307			-.299	-.367	25
26	-.265		-.276	-.320			-.286	-.384	26
α= -15° δ= 0°									
1	.965		1.233	1.238			1.192	.962	1
2	.969		1.119	1.131			1.123	.791	2
3	1.120		1.096	1.075			1.038	.683	3
4	1.382		1.214	1.081			.971	.566	4
5	-.225		-.170	1.179			1.019	.536	5
6	.468		-.195	-.196			1.077	.490	6
7	.418		-.044	-.207			-.273	.520	7
8	.426		.114	-.195			-.278	.449	8
9	.439		.273	-.142			-.283	-.037	9
10	.336		.312	-.061			-.290	-.434	10
11	.384		.282	-.019			-.247	-.374	11
12	.274		.290	.049			-.282	-.360	12
13	.248		.303	.076			-.264	-.346	13
14	.256		.303	.148			-.209	-.346	14
15	.256		.300	.194			-.148	-.346	15
16	.256		.279	.181			-.117	-.339	16
17	-.276		-.464	-.474			-.469	-.427	17
18	-.183		-.340	-.378			-.397	-.331	18
19	-.180		-.305	-.330			-.351	-.314	19
20	-.202		-.290	-.317			-.336	-.323	20
21	-.257		-.340	-.335			-.350	-.369	21
22	-.254		-.336	-.345				-.399	22
23	-.264			-.345			-.350	-.413	23
24	-.263		-.303	-.346			-.355	-.429	24
25	-.267		-.294	-.349			-.347	-.397	25
26	-.297		-.307	-.359			-.330	-.418	26

Table 3

Wing-surface Pressure Coefficients

Configuration B M= 1.61 R= 3.6×10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
$\alpha = 0^\circ$ $\delta = 0^\circ$									
1	.130		.151	.155			.152	.167	1
2	.109		.149	.158			.152	.126	2
3	.113		.144	.152			.152	.500	3
4	.102		.114	.122			.457	.515	4
5	-.003		.037	.422			.579	.382	5
6	.381		.442	.550			.799	.436	6
7	.410		.423	1.152			-.395	-.328	7
8	.404		.588	-.386			-.368	-.223	8
9	-.368		-.330	-.340			-.336	-.150	9
10	-.248		-.175	-.248			-.284	-.095	10
11	-.170		-.143	-.193			-.215	-.081	11
12	-.131		-.134	-.163			-.220	-.101	12
13	-.110		-.113	-.145			-.206	-.090	13
14	-.100		-.080	-.121			-.161	-.071	14
15	-.087		-.081	-.115			-.151	-.075	15
16	-.074		-.096	-.107			-.124	-.074	16
$\alpha = 3^\circ$ $\delta = 0^\circ$									
1	.026		.032	.042			.039	.075	1
2	.021		.038	.043			.039	.063	2
3	.022		.029	.040			.057	.186	3
4	.013		.011	.017			.328	.445	4
5	-.081		-.068	.242			.503	.356	5
6	.260		.307	.377			.470	.438	6
7	.305		.286	1.148			-.400	-.330	7
8	.299		.486	-.410			-.347	-.244	8
9	-.409		-.361	-.361			-.272	-.156	9
10	-.294		-.227	-.273			-.250	-.126	10
11	-.223		-.199	-.224			-.198	-.126	11
12	-.174		-.188	-.195			-.211	-.164	12
13	-.159		-.169	-.192			-.207	-.149	13
14	-.144		-.151	-.174			-.185	-.149	14
15	-.133		-.148	-.166			-.163	-.165	15
16	-.115		-.129	-.155			-.135	-.193	16
$\alpha = 6^\circ$ $\delta = 0^\circ$									
1	-.057		-.051	-.051			-.047	-.010	1
2	-.045		-.050	-.045			-.048	.009	2
3	-.039		-.056	-.050			-.026	.068	3
4	-.054		-.072	-.068			.199	.357	4
5	-.138		-.135	.154			.365	.246	5
6	.153		.202	.272			.339	.761	6
7	.225		.185	.524			-.416	-.410	7
8	.241		.367	-.426			-.367	-.376	8
9	-.437		-.386	-.362			-.305	-.325	9
10	-.334		-.267	-.283			-.271	-.284	10
11	-.264		-.244	-.249			-.218	-.304	11
12	-.223		-.230	-.239			-.255	-.325	12
13	-.208		-.225	-.239			-.238	-.323	13
14	-.191		-.201	-.223			-.209	-.331	14
15	-.188		-.198	-.213			-.183	-.331	15
16	-.171		-.155	-.192			-.129	-.331	16

Table 3 continued

Wing-surface Pressure Coefficients

Configuration B M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 6°$ $\delta = 20°$					
1	-.054		-.047	-.044			-.051	-.009	1
2	-.033		-.044	-.041			-.047	.010	2
3	-.031		-.049	-.045			-.025	.081	3
4	-.051		-.068	-.062			.201	.372	4
5	-.134		-.127	.161			.365	.244	5
6	.164		.208	.276			.336	.763	6
7	.214		.189	.511			-.424	-.406	7
8	.244		.365	-.427			-.370	-.379	8
9	-.435		-.383	-.361			-.311	-.307	9
10	-.329		-.265	-.285			-.288	-.254	10
11	-.258		-.247	-.259			-.236	-.254	11
12	-.378		-.406	-.403			-.422	-.416	12
13	-.390		-.406	-.414			-.422	-.416	13
14	-.390		-.406	-.414			-.410	-.447	14
15	-.300		-.296	-.323			-.329	-.447	15
16	-.238		-.260	-.278			-.261	-.447	16
				$\alpha = 6°$ $\delta = -20°$					
1	-.050		-.048	-.050			-.060	-.018	1
2	-.044		-.048	-.048			-.057	.010	2
3	-.028		-.051	-.049			-.032	.076	3
4	-.055		-.067	-.068			.186	.364	4
5	-.135		-.132	.157			.351	.238	5
6	.157		.205	.269			.323	.711	6
7	.213		.189	.496			-.268	-.267	7
8	.246		.379	-.212			-.247	-.250	8
9	-.207		-.190	-.222			-.221	-.214	9
10	-.166		-.153	-.180			-.182	-.171	10
11	-.123		-.134	-.152			-.129	-.171	11
12	-.071		-.087	-.105			-.115	-.068	12
13	-.037		-.065	-.089			-.095	-.057	13
14	.078		.046	-.011			-.038	.058	14
15	.164		.106	.049			.009	.086	15
16	.153		.106	.062			.011	.079	16
				$\alpha = 9°$ $\delta = 0°$					
1	-.134		-.130	-.133			-.142	-.094	1
2	-.091		-.125	-.124			-.133	-.043	2
3	-.091		-.134	-.127			-.134	-.043	3
4	-.108		-.148	-.146			.188	.241	4
5	-.185		-.169	.105			.247	.124	5
6	.041		.111	.171			.194	.765	6
7	.161		.099	.325			-.423	-.416	7
8	.161		.215	-.442			-.402	-.377	8
9	-.454		-.416	-.363			-.360	-.346	9
10	-.368		-.314	-.319			-.329	-.308	10
11	-.294		-.296	-.296			-.266	-.344	11
12	-.262		-.286	-.281			-.289	-.356	12
13	-.246		-.262	-.280			-.273	-.377	13
14	-.232		-.251	-.267			-.256	-.382	14
15	-.232		-.238	-.262			-.228	-.378	15
16	-.222		-.131	-.204			-.161	-.378	16

Table 3 continued

Wing-surface Pressure Coefficients

Configuration B M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 12°$ $\delta = 0°$					
1	-.210		-.227	-.253			-.276	-.270	1
2	-.179		-.205	-.209			-.234	-.137	2
3	-.159		-.207	-.204			-.214	-.129	3
4	-.171		-.217	-.212			.082	.170	4
5	-.237		-.188	.030			.116	-.030	5
6	-.147		.020	.055			.052	.403	6
7	.087		.026	.176			-.450	-.462	7
8	.075		.045	-.452			-.422	-.409	8
9	-.477		-.435	-.401			-.372	-.377	9
10	-.392		-.347	-.360			-.354	-.360	10
11	-.332		-.345	-.346			-.293	-.379	11
12	-.298		-.320	-.337			-.323	-.392	12
13	-.278		-.309	-.321			-.315	-.401	13
14	-.264		-.289	-.318			-.300	-.422	14
15	-.260		-.232	-.309			-.264	-.426	15
16	-.260		-.170	-.203			-.196	-.417	16
				$\alpha = 15°$ $\delta = 0°$					
1	-.260		-.316	-.353			-.373	-.326	1
2	-.211		-.267	-.288			-.310	-.227	2
3	-.194		-.264	-.261			-.276	-.211	3
4	-.206		-.269	-.271			-.033	-.092	4
5	-.263		-.145	-.060			.033	-.081	5
6	-.249		-.048	-.031			-.016	.145	6
7	.037		-.049	.094			-.465	-.467	7
8	.031		-.035	-.469			-.447	-.404	8
9	-.479		-.444	-.427			-.408	-.357	9
10	-.404		-.362	-.397			-.387	-.357	10
11	-.350		-.360	-.382			-.319	-.378	11
12	-.321		-.319	-.363			-.366	-.397	12
13	-.307		-.309	-.357			-.355	-.410	13
14	-.281		-.270	-.350			-.334	-.435	14
15	-.280		-.249	-.314			-.300	-.435	15
16	-.241		-.201	-.191			-.215	-.416	16
				$\alpha = -3°$ $\delta = 0°$					
1	.220		.284	.288			.292	.284	1
2	.184		.273	.281			.281	.195	2
3	.196		.262	.287			.296	.640	3
4	.184		.204	.253			.774	.651	4
5	.066		.322	.675			.777	.512	5
6	.493		.579	.744			.944	.579	6
7	.442		.557	1.050			-.402	-.345	7
8	.508		.727	-.372			-.364	-.280	8
9	-.335		-.304	-.328			-.321	-.185	9
10	-.213		-.120	-.223			-.244	-.147	10
11	-.122		-.090	-.159			-.178	-.128	11
12	-.081		-.066	-.119			-.186	-.139	12
13	-.060		-.047	-.107			-.167	-.113	13
14	-.047		-.041	-.079			-.144	-.084	14
15	-.036		-.041	-.075			-.140	-.070	15
16	-.036		-.058	-.048			-.140	-.065	16

Table 3 continued

Wing-surface Pressure Coefficients

Configuration B M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
$\alpha = -6°$ $\delta = 0°$									
1	.339		.475	.487			.482	.589	1
2	.284		.428	.479			.524	.538	2
3	.292		.373	.443			.834	.626	3
4	.281		.307	.426			.995	.834	4
5	.345		.606	.870			1.141	.855	5
6	.635		.762	1.072			1.090	.629	6
7	.634		.744	1.397			-.402	-.401	7
8	.634		.984	-.377			-.364	-.364	8
9	-.301		-.315	-.334			-.337	-.325	9
10	-.163		-.125	-.243			-.283	-.270	10
11	-.061		-.061	-.183			-.215	-.239	11
12	-.014		-.026	-.132			-.228	-.214	12
13	.002		-.012	-.107			-.206	-.193	13
14	.020		.005	-.058			-.166	-.139	14
15	.016		.005	-.036			-.140	-.108	15
16	-.001		-.007	-.032			-.133	-.091	16
$\alpha = -6°$ $\delta = 20°$									
1	.345		.481	.497			.504	.613	1
2	.287		.430	.490			.589	.554	2
3	.299		.378	.445			.838	.628	3
4	.289		.307	.440			.989	.826	4
5	.404		.621	.882			1.146	.841	5
6	.645		.774	1.082			1.103	.634	6
7	.661		.762	1.431			-.423	-.413	7
8	.637		1.005	-.388			-.391	-.378	8
9	-.315		-.326	-.350			-.355	-.332	9
10	-.117		-.131	-.254			-.297	-.286	10
11	-.108		-.061	-.188			-.235	-.261	11
12	-.280		-.319	-.348			-.395	-.321	12
13	-.257		-.330	-.342			-.382	-.303	13
14	-.266		-.330	-.342			-.392	-.328	14
15	-.289		-.313	-.351			-.395	-.332	15
16	-.215		-.326	-.351			-.283	-.318	16
$\alpha = -6°$ $\delta = -20°$									
1	.352		.487	.496			.493	.602	1
2	.296		.432	.488			.555	.537	2
3	.302		.381	.446			.840	.629	3
4	.291		.313	.426			.993	.825	4
5	.408		.623	.883			1.146	.848	5
6	.651		.777	1.072			1.102	.624	6
7	.675		.767	1.437			-.180	-.180	7
8	.649		1.016	-.099			-.161	-.193	8
9	.103		.011	-.104			-.184	-.193	9
10	.098		.039	-.051			-.149	-.182	10
11	.172		.076	-.009			-.090	-.191	11
12	.222		.150	.055			-.074	-.190	12
13	.268		.186	.086			-.044	-.180	13
14	.400		.371	.249			.073	-.139	14
15	.454		.470	.401			.148	-.080	15
16	.371		.414	.419			.166	-.034	16

Table 3 concluded

Wing-surface Pressure Coefficients

Configuration B M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -9°$ $\delta = 0°$					
1	.482		.719	.796			1.057	.878	1
2	.414		.585	.715			1.009	.747	2
3	.440		.523	.771			.991	.704	3
4	.406		.441	.877			1.040	.770	4
5	.727		.862	1.050			1.228	.892	5
6	.845		1.049	1.213			1.234	.672	6
7	.873		1.111	1.283			-.391	-.392	7
8	.871		1.336	-.397			-.395	-.369	8
9	-.314		-.356	-.358			-.373	-.378	9
10	-.140		-.236	-.256			-.332	-.346	10
11	-.012		-.154	-.186			-.247	-.332	11
12	.042		-.076	-.129			-.240	-.281	12
13	.053		-.034	-.107			-.213	-.255	13
14	.064		.017	-.048			-.131	-.174	14
15	.064		.027	-.030			-.095	-.133	15
16	.041		.032	-.011			-.069	-.110	16
				$\alpha = -12°$ $\delta = 0°$					
1	.598		.861	1.068			1.162	.967	1
2	.506		.718	.981			1.106	.813	2
3	.544		.697	.950			1.060	.762	3
4	.508		.785	.960			1.073	.792	4
5	.810		.939	1.076			1.235	.885	5
6	1.043		1.142	1.252			1.265	.646	6
7	1.100		1.213	1.278			-.415	-.403	7
8	1.129		1.278	-.397			-.408	-.395	8
9	-.384		-.383	-.376			-.378	-.385	9
10	-.206		-.256	-.281			-.336	-.320	10
11	-.065		-.168	-.202			-.246	-.284	11
12	-.020		-.087	-.132			-.219	-.230	12
13	.014		-.044	-.096			-.182	-.190	13
14	.046		.001	-.031			-.089	-.148	14
15	.060		.036	.001			-.052	-.126	15
16	.059		.053	.030			-.025	-.117	16
				$\alpha = -15°$ $\delta = 0°$					
1	.831		1.175	1.255			1.253	1.032	1
2	.798		1.035	1.150			1.193	.884	2
3	.861		.978	1.092			1.137	.808	3
4	.841		.938	1.051			1.126	.791	4
5	.901		.998	1.115			1.245	.873	5
6	1.081		1.173	1.289			1.293	.563	6
7	1.206		1.266	1.317			-.407	-.437	7
8	1.159		1.286	-.383			-.387	-.426	8
9	-.408		-.374	-.368			-.379	-.397	9
10	-.289		-.278	-.310			-.312	-.273	10
11	-.127		-.193	-.831			-.207	-.227	11
12	-.046		-.096	-.126			-.160	-.154	12
13	-.006		-.041	-.074			-.118	-.119	13
14	.071		.047	.046			-.021	-.087	14
15	.106		.096	.086			.032	-.065	15
16	.147		.138	.107			.068	-.065	16

Table 4

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 0°$ $\delta = 0°$					
1	.132		.165	.159			.144	.119	1
2	.103		.148	.150			.167	.105	2
3	.115		.143	.164			.155	.093	3
4	.100		.111	.127			.109	.065	4
5	.000		.004	.040			.121	.357	5
6	-.009		-.004	.388			.444	.304	6
7	.351		.379	.437			.542	.175	7
8	.378		.398	.433			.469	.167	8
9	.392		.376	.426			.976	-.149	9
10	.628		.141	.597			-.234	-.391	10
11	-.406		-.399	-.409			-.333	-.396	11
12	-.358		-.361	-.374			-.382	-.353	12
13	-.316		-.309	-.343			-.380	-.317	13
14	-.185		-.190	-.230			-.315	-.215	14
15	-.141		-.141	-.174			-.251	-.149	15
16	-.117		-.125	-.140			-.190	-.115	16
17	.133		.137	.131			.142	.111	17
18	.109		.135	.149			.163	.132	18
19	.106		.140	.142			.151	.088	19
20	.082		.099	.112			.105	.047	20
21	-.015		.000	.033			.040	.022	21
22	-.003		-.012	.008				.225	22
23	-.011			-.003			.008	.052	23
24	-.024		-.029	-.005			-.008	-.027	24
25	-.014		-.037	-.028			-.025	-.062	25
26	-.078		-.073	-.057			-.050	-.103	26
				$\alpha = 0°$ $\delta = 10°$					
1	.139		.164	.161			.139	.120	1
2	.109		.155	.164			.168	.106	2
3	.129		.152	.174			.155	.099	3
4	.106		.123	.141			.113	.057	4
5	.010		.010	.052			.131	.364	5
6	.008		.008	.404			.442	.304	6
7	.360		.391	.432			.545	.173	7
8	.387		.409	.436			.468	.162	8
9	.400		.388	.428			.969	-.146	9
10	.642		.186	.606			-.210	-.425	10
11	-.447		-.437	-.448			-.363	-.427	11
12	-.410		-.400	-.416			-.436	-.353	12
13	-.372		-.366	-.388			-.430	-.321	13
14	-.319		-.327	-.330			-.378	-.290	14
15	-.311		-.306	-.315			-.317	-.294	15
16	-.287		-.282	-.301			-.245	-.308	16
17	.143		.154	.137			.137	.103	17
18	.107		.141	.149			.158	.128	18
19	.105		.150	.143			.145	.086	19
20	.097		.105	.116			.106	.044	20
21	.000		.007	.035			.033	.019	21
22	-.003		-.003	.011				.211	22
23	.004			-.001			.004	.046	23
24	-.005		-.020	-.004			-.011	-.036	24
25	-.006		-.031	-.025			-.022	-.070	25
26	-.066		-.058	-.053			-.050	-.105	26
				$\alpha = 0°$ $\delta = 20°$					
1	.139		.169	.171			.164	.127	1
2	.109		.159	.164			.176	.109	2
3	.130		.162	.174			.162	.104	3
4	.106		.123	.141			.124	.065	4
5	-.002		.013	.052			.137	.375	5
6	.002		.017	.402			.451	.311	6
7	.356		.387	.445			.548	.183	7
8	.387		.401	.440			.479	.170	8
9	.408		.387	.434			.983	-.141	9
10	.643		.193	.607			-.179	-.438	10
11	-.464		-.455	-.455			.143	-.429	11
12	-.424		-.419	-.442			-.430	-.363	12
13	-.422		-.414	-.431			-.432	-.363	13
14	-.398		-.411	-.417			-.404	-.406	14
15	-.406		-.405	-.411			-.348	-.429	15
16	-.232		-.254	-.253			-.308	-.398	16
17	.136		.156	.133			.159	.099	17
18	.111		.145	.150			.152	.130	18
19	.119		.153	.138			.105	.085	19
20	.095		.110	.116			.108	.048	20
21	-.009		.008	.032			.040	.026	21
22	.004		-.004	.012				.222	22
23	-.006			.003			.007	.053	23
24	-.005		-.021	-.003			-.005	-.025	24
25	-.010		-.034	-.023			-.017	-.058	25
26	.115		.179	.131			.217	-.090	26

Table 4 continued

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 0°$ $\delta = -10°$					
1	.133		.152	.168			.159	.109	1
2	.109		.153	.158			.168	.094	2
3	.123		.153	.168			.157	.096	3
4	.103		.115	.131			.117	.051	4
5	-.003		.012	.045			.141	.364	5
6	.006		.006	.396			.458	.300	6
7	.348		.383	.440			.544	.183	7
8	.381		.405	.445			.480	.163	8
9	.397		.387	.435			.973	-.148	9
10	.637		.143	.605			-.206	-.322	10
11	-.259		-.251	-.270			-.257	-.338	11
12	-.248		-.248	-.272			-.306	-.306	12
13	-.209		-.237	-.267			-.312	-.279	13
14	-.047		-.065	-.124			-.248	-.165	14
15	.053		.023	-.027			-.143	-.103	15
16	.056		.047	.010			-.069	-.070	16
17	.125		.158	.136			.154	.109	17
18	.109		.138	.154			.177	.126	18
19	.113		.151	.147			.151	.086	19
20	.091		.109	.124			.120	.037	20
21	-.011		.011	.040			.049	.017	21
22	.001		-.008	.021				.214	22
23	-.006			.011			.016	.056	23
24	-.009		-.026	.000			.004	-.027	24
25	-.007		-.035	-.021			-.004	-.062	25
26	-.065		-.061	-.046			-.037	-.101	26
				$\alpha = 0°$ $\delta = -20°$					
1	.144		.167	.178			.147	.122	1
2	.116		.162	.160			.168	.112	2
3	.133		.162	.173			.157	.109	3
4	.116		.126	.138			.115	.067	4
5	.010		.018	.051			.131	.374	5
6	.020		.012	.400			.449	.319	6
7	.366		.396	.443			.546	.186	7
8	.397		.411	.443			.462	.180	8
9	.422		.389	.433			.975	-.091	9
10	.659		.196	.592			-.145	-.162	10
11	-.009		-.006	-.073			-.161	-.167	11
12	-.017		-.021	-.079			-.183	-.174	12
13	-.014		-.038	-.096			-.179	-.173	13
14	.161		.119	.059			-.075	-.144	14
15	.314		.267	.190			.061	-.077	15
16	.305		.280	.233			.169	-.033	16
17	.144		.157	.149			.150	.120	17
18	.120		.148	.160			.171	.137	18
19	.116		.157	.155			.156	.094	19
20	.097		.112	.125			.113	.052	20
21	.001		.010	.043			.048	.026	21
22	.015		.000	.020				.230	22
23	.009			.011			.012	.075	23
24	.005		-.014	.007			-.003	-.011	24
25	.002		-.028	-.020			-.014	-.036	25
26	-.055		-.057	-.046			-.042	-.080	26
				$\alpha = 3°$ $\delta = 0°$					
1	.011		.032	.047			.049	.011	1
2	.023		.025	.040			.060	.030	2
3	.003		.029	.048			.049	.043	3
4	-.007		-.002	.028			.015	.020	4
5	-.089		-.083	-.048			.009	.221	5
6	-.099		-.088	.274			.342	.277	6
7	.242		.259	.310			.374	.141	7
8	.265		.275	.314			.302	.163	8
9	.276		.255	.300			.801	-.144	9
10	.562		.083	.467			-.271	-.388	10
11	-.437		-.407	-.403			-.320	-.395	11
12	-.366		-.390	-.396			-.396	-.389	12
13	-.342		-.343	-.371			-.393	-.375	13
14	-.236		-.242	-.278			-.322	-.305	14
15	-.186		-.212	-.224			-.257	-.258	15
16	-.169		-.164	-.173			-.199	-.272	16
17	.220		.307	.310			.305	.243	17
18	.193		.286	.298			.299	.222	18
19	.184		.264	.304			.311	.149	19
20	.168		.201	.254			.250	.090	20
21	.053		.087	.146			.170	.037	21
22	.063		.068	.109				.193	22
23	.068			.098			.123	.137	23
24	.052		.052	.089			.103	.090	24
25	.060		.047	.042			.084	.057	25
26	-.006		.017	.040			.045	-.016	26

Table 4 continued

Wing-surface Pressure Coefficients

Configuration C $M = 1.61$ $R = 3.6 \times 10^6$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 6°$ $\delta = 0°$					
1	-.051		-.045	-.038			-.039	-.054	1
2	-.035		-.043	-.044			-.037	-.019	2
3	-.028		-.049	-.047			-.033	-.005	3
4	-.050		-.073	-.064			-.065	-.037	4
5	-.131		-.145	-.131			-.010	.033	5
6	-.116		-.142	.162			.259	.188	6
7	.182		.164	.207			.265	.075	7
8	.200		.193	.204			.216	.053	8
9	.222		.166	.193			.409	-.163	9
10	.567		.029	.322			-.333	-.424	10
11	-.434		-.428	-.421			-.322	-.429	11
12	-.403		-.419	-.415			-.396	-.426	12
13	-.371		-.387	-.395			-.377	-.417	13
14	-.252		-.301	-.316			-.304	-.391	14
15	-.230		-.247	-.253			-.245	-.391	15
16	-.226		-.164	-.162			-.193	-.414	16
17	.349		.499	.478			.538	.385	17
18	.309		.437	.487			.540	.327	18
19	.298		.384	.453			.500	.245	19
20	.279		.308	.364			.405	.167	20
21	.157		.179	.240			.295	.069	21
22	.168		.158	.202				.086	22
23	.159			.195			.196	.119	23
24	.154		.143	.181			.174	.080	24
25	.153		.135	.164			.150	.093	25
26	.084		.099	.120			.120	.042	26
				$\alpha = 6°$ $\delta = 10°$					
1	-.049		-.048	-.043			-.047	-.053	1
2	-.024		-.045	-.043			-.039	-.012	2
3	-.034		-.048	-.046			-.043	.004	3
4	-.044		-.070	-.068			-.075	-.031	4
5	-.126		-.147	-.124			-.027	.057	5
6	-.116		-.139	.166			.240	.193	6
7	.165		.169	.203			.249	.078	7
8	.203		.194	.205			.208	.077	8
9	.223		.159	.194			.404	-.158	9
10	.560		.041	.335			-.332	-.442	10
11	-.471		-.467	-.464			-.355	-.459	11
12	-.431		-.452	-.452			-.420	-.459	12
13	-.410		-.416	-.435			-.410	-.453	13
14	-.371		-.394	-.395			-.353	-.487	14
15	-.361		-.377	-.364			-.300	-.482	15
16	-.212		-.207	-.221			-.258	-.494	16
17	.353		.503	.487			.517	.388	17
18	.310		.435	.495			.522	.330	18
19	.300		.383	.447			.488	.254	19
20	.279		.306	.354			.393	.175	20
21	.162		.178	.235			.278	.086	21
22	.172		.158	.199				.094	22
23	.162			.185			.188	.119	23
24	.161		.142	.174			.165	.083	24
25	.158		.134	.152			.137	.099	25
26	.082		.100	.113			.100	.037	26
				$\alpha = 6°$ $\delta = 20°$					
1	-.046		-.042	-.032			-.043	-.063	1
2	-.031		-.040	-.041			-.037	-.022	2
3	-.023		-.043	-.035			-.045	-.010	3
4	-.049		-.065	-.056			-.074	-.037	4
5	-.129		-.135	-.122			-.032	.052	5
6	-.121		.170	.172			.243	.189	6
7	.159		.194	.206			.256	.070	7
8	.203		.194	.213			.210	.069	8
9	.231		.171	.196			.414	-.167	9
10	.563		.063	.331			-.317	-.484	10
11	-.477		-.476	-.468			-.355	-.499	11
12	-.467		-.483	-.475			-.452	-.495	12
13	-.467		-.474	-.459			-.432	-.501	13
14	-.448		-.461	-.405			-.385	-.505	14
15	-.348		-.336	-.342			-.348	-.506	15
16	-.268		-.285	-.303			-.312	-.493	16
17	.352		.503	.482			.507	.362	17
18	.313		.444	.493			.514	.309	18
19	.304		.385	.437			.482	.241	19
20	.279		.310	.351			.385	.161	20
21	.162		.179	.228			.277	.065	21
22	.170		.162	.194				.082	22
23	.162			.180			.188	.112	23
24	.160		.146	.170			.161	.082	24
25	.311		.466	.173			.165	.093	25
26	.527		.548	.559			.510	.247	26

Table 4 continued

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 6°$ $\delta = -10°$					
1	-.057		-.041	-.039			-.050	-.062	1
2	-.031		-.049	-.044			-.044	-.025	2
3	-.023		-.047	-.035			-.050	-.007	3
4	-.052		-.071	-.066			-.081	-.040	4
5	-.120		-.143	-.121			-.015	.032	5
6	-.128		-.146	.162			.239	.182	6
7	.145		.172	.196			.249	.061	7
8	.199		.194	.200			.198	.058	8
9	.221		.157	.190			.390	-.158	9
10	.567		.034	.320			-.303	-.362	10
11	-.342		-.315	-.325			-.281	-.369	11
12	-.337		-.305	-.319			-.342	-.350	12
13	-.295		-.306	-.322			-.333	-.341	13
14	-.162		-.196	-.236			-.249	-.274	14
15	-.063		-.114	-.159			-.177	-.167	15
16	-.040		-.064	-.107			-.125	-.112	16
17	.352		.498	.483			.521	.382	17
18	.312		.448	.498			.529	.326	18
19	.301		.387	.454			.484	.248	19
20	.275		.313	.359			.389	.179	20
21	.156		.180	.235			.276	.077	21
22	.168		.162	.199				.082	22
23	.158			.186			.194	.106	23
24	.152		.150	.175			.168	.083	24
25	.160		.143	.157			.143	.090	25
26	.086		.103	.117			.106	.040	26
				$\alpha = 6°$ $\delta = -20°$					
1	-.060		-.049	-.046			-.057	-.058	1
2	-.036		-.047	-.046			-.048	-.016	2
3	-.027		-.051	-.046			-.052	-.005	3
4	-.054		-.068	-.066			-.082	-.037	4
5	-.135		-.148	-.125			-.010	.031	5
6	-.124		-.143	.168			.239	.183	6
7	.143		.163	.200			.245	.068	7
8	.199		.191	.201			.197	.054	8
9	.222		.161	.188			.389	-.127	9
10	.564		.064	.311			-.188	-.251	10
11	-.165		-.143	-.177			-.179	-.249	11
12	-.162		-.148	-.183			-.217	-.254	12
13	-.147		-.159	-.184			-.230	-.258	13
14	.010		-.061	-.114			-.169	-.198	14
15	.149		.073	-.015			-.084	-.120	15
16	.163		.099	.026			-.040	-.051	16
17	.353		.504	.489			.531	.391	17
18	.308		.447	.504			.531	.338	18
19	.299		.391	.456			.498	.247	19
20	.279		.312	.362			.402	.170	20
21	.162		.179	.238			.278	.082	21
22	.174		.163	.204				.083	22
23	.167			.190			.191	.110	23
24	.162		.151	.178			.165	.085	24
25	.158		.143	.158			.144	.104	25
26	.088		.105	.116			.110	.054	26
				$\alpha = 9°$ $\delta = 0°$					
1	-.130		-.121	-.120			-.129	-.147	1
2	-.098		-.121	-.119			-.120	-.072	2
3	-.086		-.130	-.117			-.116	-.085	3
4	-.112		-.148	-.141			-.145	-.128	4
5	-.183		-.201	-.200			.011	-.163	5
6	-.174		-.205	.089			.157	.048	6
7	.075		.070	.110			.134	-.007	7
8	.121		.092	.115			.111	-.098	8
9	.144		.065	.104			.191	-.177	9
10	.501		-.013	.184			-.366	-.437	10
11	-.448		-.422	-.412			-.333	-.441	11
12	-.409		-.433	-.430			-.416	-.454	12
13	-.393		-.403	-.403			-.398	-.452	13
14	-.321		-.329	-.343			-.333	-.451	14
15	-.272		-.267	-.280			-.284	-.437	15
16	-.237		-.162	-.212			-.233	-.430	16
17	.467		.687	.762			.800	.582	17
18	.409		.565	.644			.722	.445	18
19	.413		.508	.588			.640	.332	19
20	.377		.429	.463			.497	.230	20
21	.238		.259	.330			.373	.114	21
22	.259		.250	.281				.070	22
23	.248			.265			.268	.086	23
24	.243		.236	.261			.243	.065	24
25	.238		.225	.246			.211	.093	25
26	.162		.181	.200			.176	.037	26

Table 4 continued

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 12°$ $\delta = 0°$					
1	-.205		-.234	-.263			-.266	-.270	1
2	-.166		-.209	-.210			-.223	-.168	2
3	-.153		-.204	-.200			-.207	-.175	3
4	-.167		-.219	-.219			-.225	-.235	4
5	-.231		-.282	-.261			-.023	-.266	5
6	-.222		-.275	-.045			.030	-.088	6
7	-.022		-.034	.001			.007	-.114	7
8	.042		-.019	.002			-.003	-.199	8
9	.071		-.051	.002			.045	-.200	9
10	.390		-.065	.063			-.387	-.442	10
11	-.447		-.414	-.393			-.343	-.447	11
12	-.417		-.405	-.388			-.405	-.458	12
13	-.391		-.388	-.388			-.403	-.462	13
14	-.340		-.317	-.336			-.351	-.458	14
15	-.285		-.259	-.295			-.312	-.447	15
16	-.124		-.210	-.256			-.267	-.414	16
17	.622		.891	.964			.988	.726	17
18	.548		.731	.814			.878	.558	18
19	.577		.660	.728			.759	.437	19
20	.511		.519	.554			.599	.319	20
21	.348		.352	.414			.446	.185	21
22	.370		.356	.390				.127	22
23	.341			.381			.352	.104	23
24	.347		.347	.371			.327	.077	24
25	.341		.337	.349			.303	.115	25
26	.253		.278	.298			.261	.067	26
				$\alpha = 12°$ $\delta = 10°$					
1	-.210		-.233	-.250			-.263	-.272	1
2	-.163		-.201	-.209			-.221	-.179	2
3	-.149		-.197	-.197			-.204	-.180	3
4	-.162		-.216	-.215			-.224	-.241	4
5	-.231		-.269	-.256			-.016	-.288	5
6	-.227		-.270	-.029			.035	-.093	6
7	-.052		-.032	.006			.016	-.127	7
8	.045		-.011	.007			.006	-.200	8
9	.082		-.048	-.002			.057	-.200	9
10	.396		-.043	.073			-.379	-.459	10
11	-.423		-.387	-.366			-.340	-.458	11
12	-.409		-.390	-.385			-.422	-.471	12
13	-.387		-.391	-.393			-.416	-.471	13
14	-.337		-.350	-.367			-.399	-.467	14
15	-.295		-.324	-.341			-.367	-.468	15
16	-.253		-.296	-.333			-.333	-.448	16
17	.627		.887	.962			.987	.716	17
18	.555		.739	.834			.881	.547	18
19	.581		.656	.730			.763	.425	19
20	.503		.525	.557			.603	.316	20
21	.350		.341	.419			.459	.174	21
22	.365		.358	.389				.110	22
23	.346			.383			.359	.096	23
24	.353		.351	.372			.328	.065	24
25	.340		.337	.351			.309	.100	25
26	.263		.286	.304			.267	.061	26
				$\alpha = 12°$ $\delta = 10°$					
1	-.204		-.228	-.250			-.260	-.280	1
2	-.182		-.200	-.204			-.219	-.165	2
3	-.150		-.204	-.193			-.201	-.167	3
4	-.164		-.211	-.208			-.222	-.228	4
5	-.228		-.273	-.256			.000	-.267	5
6	-.224		-.265	-.024			.037	-.072	6
7	-.075		-.031	.004			.019	-.096	7
8	.044		-.016	.003			.007	-.183	8
9	.078		-.043	.003			.054	-.135	9
10	.381		-.021	.067			-.379	-.469	10
11	-.439		-.406	-.396			-.345	-.475	11
12	-.426		-.404	-.408			-.435	-.501	12
13	-.398		-.388	-.405			-.442	-.501	13
14	-.371		-.372	-.389			-.422	-.496	14
15	-.361		-.369	-.384			-.410	-.479	15
16	-.343		-.353	-.374			-.379	-.452	16
17	.625		.887	.958			.978	.714	17
18	.550		.732	.821			.879	.551	18
19	.573		.656	.721			.759	.420	19
20	.505		.517	.552			.600	.327	20
21	.345		.352	.415			.448	.174	21
22	.366		.357	.385				.116	22
23	.650			.774			.675	.278	23
24	.793		.797	.855			.771	.358	24
25	.843		.873	.922			.855	.467	25
26	.884		.918	.975			.926	.517	26

Table 4 continued

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 12°$ $\delta = -10°$					
1	-.205		-.227	-.255			-.270	-.282	1
2	-.163		-.200	-.213			-.234	-.188	2
3	-.153		-.202	-.201			-.216	-.178	3
4	-.170		-.213	-.216			-.228	-.249	4
5	-.229		-.273	-.263			-.026	-.282	5
6	-.226		-.269	-.043			.020	-.100	6
7	-.084		-.037	.002			.006	-.130	7
8	.047		-.013	.001			-.010	-.210	8
9	.068		-.041	-.004			.046	-.206	9
10	.387		-.025	.052			-.361	-.433	10
11	-.384		-.347	-.353			-.321	-.416	11
12	-.378		-.345	-.356			-.375	-.416	12
13	-.346		-.347	-.358			-.382	-.420	13
14	-.246		-.268	-.305			-.326	-.404	14
15	-.168		-.193	-.245			-.258	-.358	15
16	-.112		-.135	-.193			-.227	-.306	16
17	.629		.893	.966			.986	.714	17
18	.549		.736	.823			.879	.556	18
19	.584		.665	.728			.758	.422	19
20	.511		.510	.553			.599	.312	20
21	.352		.357	.416			.449	.173	21
22	.372		.359	.384				.120	22
23	.349			.379			.354	.100	23
24	.344		.352	.369			.329	.065	24
25	.345		.341	.351			.308	.106	25
26	.258		.288	.297			.270	.064	26
				$\alpha = 12°$ $\delta = -20°$					
1	-.203		-.227	-.258			-.271	-.283	1
2	-.164		-.205	-.214			-.229	-.200	2
3	-.149		-.212	-.202			-.213	-.190	3
4	-.171		-.219	-.227			-.224	-.258	4
5	-.224		-.276	-.263			-.016	-.291	5
6	-.225		-.269	-.042			.025	-.094	6
7	-.086		-.029	-.004			.006	-.136	7
8	.050		-.011	.004			-.003	-.212	8
9	.068		-.039	.001			.045	-.196	9
10	.387		-.017	.052			-.276	-.343	10
11	-.270		-.239	-.262			-.257	-.342	11
12	-.279		-.253	-.269			-.308	-.338	12
13	-.248		-.249	-.268			-.314	-.338	13
14	-.125		-.185	-.237			-.259	-.326	14
15	.014		-.079	-.165			-.193	-.243	15
16	.035		-.046	-.122			-.152	-.175	16
17	.633		.891	.968			.991	.710	17
18	.559		.741	.833			.884	.552	18
19	.582		.656	.732			.763	.416	19
20	.512		.527	.560			.605	.306	20
21	.351		.358	.414			.458	.174	21
22	.372		.361	.387				.110	22
23	.351			.384			.358	.091	23
24	.354		.352	.376			.334	.075	24
25	.342		.340	.352			.311	.106	25
26	.259		.291	.304			.266	.054	26
				$\alpha = 15°$ $\delta = 0°$					
1	-.261		-.325	-.368			-.364	-.379	1
2	-.214		-.270	-.288			-.315	-.263	2
3	-.184		-.260	-.263			-.277	-.259	3
4	-.203		-.272	-.272			-.287	-.324	4
5	-.272		-.322	-.314			-.069	-.351	5
6	-.261		-.299	-.107			-.038	-.161	6
7	-.127		-.102	-.086			-.092	-.210	7
8	-.013		-.084	-.077			-.104	-.248	8
9	.010		-.123	-.079			-.036	-.233	9
10	.280		-.084	-.025			-.380	-.431	10
11	-.419		-.376	-.362			-.333	-.430	11
12	-.394		-.382	-.362			-.403	-.450	12
13	-.368		-.368	-.371			-.400	-.451	13
14	-.321		-.319	-.341			-.368	-.451	14
15	-.256		-.288	-.314			-.327	-.442	15
16	-.182		-.238	-.287			-.293	-.398	16
17	.781		1.036	1.072			1.082	.794	17
18	.689		.857	.926			.966	.629	18
19	.707		.752	.810			.846	.493	19
20	.588		.598	.632			.675	.372	20
21	.438		.428	.485			.532	.230	21
22	.478		.481	.514				.191	22
23	.472			.523			.460	.164	23
24	.492		.512	.510			.436	.126	24
25	.476		.479	.477			.417	.158	25
26	.380		.404	.412			.368	.112	26

Table 4 continued

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -3°$ $\delta = 0°$					
1	.233		.307	.306			.300	.232	1
2	.195		.278	.290			.276	.174	2
3	.203		.262	.298			.292	.138	3
4	.193		.207	.251			.232	.089	4
5	.072		.086	.143			.382	.424	5
6	.063		.178	.527			.606	.343	6
7	.266		.493	.561			.651	.203	7
8	.491		.517	.561			.577	.198	8
9	.507		.493	.559			.931	-.103	9
10	.632		.312	.760			-.160	-.385	10
11	-.370		-.368	-.384			-.318	-.394	11
12	-.346		-.345	-.368			-.377	-.342	12
13	-.291		-.284	-.321			-.364	-.306	13
14	-.148		-.143	-.188			-.254	-.207	14
15	-.090		-.096	-.117			-.191	-.157	15
16	-.075		-.073	-.100			-.154	-.121	16
17	.046		.038	.029			.048	.019	17
18	.044		.046	.047			.130	.049	18
19	.043		.046	.039			.044	.040	19
20	.015		.016	.017			.006	.004	20
21	-.076		-.063	-.048			-.045	.027	21
22	-.062		-.078	-.074				.133	22
23	-.065			-.077			-.072	-.083	23
24	-.071		-.090	-.080			-.082	-.152	24
25	-.067		-.096	-.087			-.086	-.163	25
26	-.122		-.122	-.117			-.105	-.188	26
				$\alpha = -6°$ $\delta = 0°$					
1	.357		.508	.510			.518	.436	1
2	.304		.444	.499			.530	.326	2
3	.314		.390	.461			.497	.270	3
4	.300		.319	.365			.393	.161	4
5	.159		.180	.238			.706	.519	5
6	.178		.563	.684			.811	.495	6
7	.547		.634	.730			.839	.405	7
8	.622		.656	.731			.843	.468	8
9	.641		.638	.732			.945	.048	9
10	.724		.333	.891			-.083	-.396	10
11	-.335		-.346	-.365			-.308	-.411	11
12	-.316		-.314	-.346			-.352	-.391	12
13	-.249		-.238	-.291			-.319	-.369	13
14	-.070		-.085	-.131			-.216	-.288	14
15	-.017		-.025	-.065			-.163	-.221	15
16	-.016		-.014	-.048			-.140	-.177	16
17	-.053		-.053	-.064			-.043	-.047	17
18	-.037		-.051	-.049			-.030	.005	18
19	-.029		-.053	-.052			-.042	-.007	19
20	-.067		-.071	-.070			-.074	-.052	20
21	-.134		-.143	-.126			-.126	-.079	21
22	-.126		-.149	-.149				.026	22
23	-.130			-.153			-.145	-.228	23
24	-.137		-.151	-.159			-.153	-.280	24
25	-.128		-.162	-.163			-.145	-.275	25
26	-.178		-.182	-.180			-.149	-.310	26
				$\alpha = -6°$ $\delta = 10°$					
1	.354		.511	.510			.509	.431	1
2	.305		.440	.504			.528	.331	2
3	.308		.392	.462			.493	.275	3
4	.299		.322	.371			.387	.163	4
5	.162		.179	.239			.705	.510	5
6	.173		.566	.688			.804	.492	6
7	.590		.633	.732			.837	.399	7
8	.628		.656	.731			.842	.466	8
9	.637		.640	.731			.934	.053	9
10	.732		.354	.898			-.081	-.433	10
11	-.430		-.407	-.422			-.341	-.453	11
12	-.359		-.353	-.384			-.400	-.436	12
13	-.322		-.311	-.346			-.375	-.401	13
14	-.237		-.248	-.279			-.331	-.329	14
15	-.232		-.237	-.257			-.311	-.272	15
16	-.216		-.232	-.248			-.299	-.226	16
17	-.060		-.056	-.068			-.051	-.046	17
18	-.039		-.061	-.052			-.048	.000	18
19	-.029		-.058	-.057			-.051	-.009	19
20	-.065		-.072	-.079			-.081	-.049	20
21	-.137		-.145	-.132			-.132	-.088	21
22	-.122		-.150	-.154				.017	22
23	-.131			-.160			-.150	-.233	23
24	-.135		-.152	-.161			-.159	-.287	24
25	-.140		-.162	-.168			-.152	-.284	25
26	-.183		-.183	-.184			-.157	-.315	26

Table 4 continued

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

$\alpha = -6^\circ$ $\delta = 20^\circ$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	.353		.512	.515			.519	.441	1
2	.299		.445	.504			.533	.330	2
3	.313		.395	.467			.496	.279	3
4	.295		.326	.376			.390	.165	4
5	.161		.179	.239			.706	.517	5
6	.180		.566	.690			.816	.499	6
7	.606		.631	.737			.845	.406	7
8	.636		.658	.737			.850	.467	8
9	.639		.641	.737			.945	.072	9
10	.733		.395	.903			-.063	-.464	10
11	-.444		-.428	-.443			-.344	-.464	11
12	-.399		-.401	-.427			-.440	-.441	12
13	-.388		-.377	-.410			-.420	-.426	13
14	-.358		-.371	-.383			-.404	-.362	14
15	-.369		-.368	-.379			-.379	-.329	15
16	-.252		-.353	-.382			-.309	-.296	16
17	-.058		-.057	-.074			-.049	-.037	17
18	-.044		-.055	-.050			-.043	.007	18
19	-.028		-.055	-.053			-.048	-.014	19
20	-.064		-.073	-.073			-.084	-.049	20
21	-.135		-.148	-.130			-.132	-.086	21
22	-.126		-.144	-.151				.012	22
23	-.127			-.157			-.150	-.230	23
24	-.134		-.147	-.159			-.159	-.291	24
25	-.128		-.157	-.167			-.149	-.280	25
26	-.174		-.178	-.182			.069	-.310	26

$\alpha = -6^\circ$ $\delta = -10^\circ$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	.348		.510	.505			.501	.421	1
2	.291		.442	.493			.516	.320	2
3	.307		.391	.461			.480	.263	3
4	.290		.319	.364			.377	.163	4
5	.152		.175	.239			.687	.527	5
6	.170		.556	.675			.800	.485	6
7	.601		.633	.715			.830	.385	7
8	.620		.651	.715			.827	.445	8
9	.628		.637	.715			.927	.000	9
10	.728		.263	.878			-.102	-.324	10
11	-.147		-.167	-.241			-.255	-.330	11
12	-.159		-.196	-.251			-.314	-.333	12
13	-.141		-.167	-.215			-.299	-.329	13
14	.073		.069	-.015			-.132	-.279	14
15	.194		.180	.110			-.038	-.204	15
16	.175		.177	.135			.000	-.148	16
17	-.064		-.061	-.075			-.052	-.052	17
18	-.042		-.054	-.058			-.054	-.007	18
19	-.029		-.060	-.065			-.058	-.015	19
20	-.062		-.071	-.085			-.086	-.048	20
21	-.136		-.144	-.141			-.137	-.080	21
22	-.124		-.146	-.162				.007	22
23	-.129			-.168			-.161	-.231	23
24	-.139		-.156	-.170			-.164	-.294	24
25	-.136		-.162	-.179			-.162	-.277	25
26	-.184		-.188	-.199			-.163	-.295	26

$\alpha = -6^\circ$ $\delta = -20^\circ$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	.356		.512	.501			.510	.435	1
2	.299		.444	.495			.524	.312	2
3	.309		.394	.455			.494	.278	3
4	.297		.319	.370			.390	.161	4
5	.156		.182	.236			.701	.521	5
6	.182		.564	.680			.809	.496	6
7	.609		.635	.731			.841	.399	7
8	.627		.649	.732			.838	.458	8
9	.632		.642	.732			.935	-.007	9
10	.731		.334	.887			-.054	-.219	10
11	.152		.128	.025			-.072	-.231	11
12	.135		.109	-.005			-.117	-.243	12
13	.133		.083	-.023			-.144	-.257	13
14	.326		.295	.191			-.006	-.220	14
15	.492		.471	.369			.132	-.094	15
16	.453		.450	.388			.186	-.005	16
17	-.052		-.061	-.067			-.041	-.035	17
18	-.030		-.059	-.048			-.038	.011	18
19	-.021		-.059	-.048			-.044	-.001	19
20	-.057		-.079	-.065			-.072	-.035	20
21	-.134		-.147	-.122			-.124	-.063	21
22	-.125		-.148	-.149				.033	22
23	-.128			-.151			-.145	-.211	23
24	-.137		-.149	-.148			-.150	-.261	24
25	-.132		-.159	-.162			-.148	-.231	25
26	-.175		-.180	-.177			-.150	-.230	26

Table 4 continued

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -9°$ $\delta = 0°$					
1	.460		.681	.761			.786	.611	1
2	.394		.561	.656			.717	.459	2
3	.416		.503	.595			.629	.348	3
4	.391		.427	.470			.504	.291	4
5	.246		.257	.451			.830	.521	5
6	.599		.726	.863			1.021	.640	6
7	.700		.788	.934			1.064	.577	7
8	.762		.805	.954			1.027	.604	8
9	.775		.822	.934			1.110	.040	9
10	.797		.312	1.096			-.009	-.384	10
11	-.322		-.338	-.371			-.332	-.400	11
12	-.290		-.324	-.364			-.387	-.409	12
13	-.220		-.258	-.322			-.384	-.403	13
14	-.037		-.061	-.158			-.289	-.366	14
15	.030		.012	-.067			-.212	-.312	15
16	.030		.021	-.032			-.148	-.256	16
17	-.128		-.133	-.139			-.127	-.117	17
18	-.088		-.123	-.123			-.105	-.048	18
19	-.079		-.133	-.119			-.121	-.073	19
20	-.116		-.135	-.143			-.146	-.117	20
21	-.177		-.209	-.190			-.190	-.162	21
22	-.168		-.203	-.209				-.224	22
23	-.178			-.215			-.208	-.290	23
24	-.178		-.206	-.217			-.213	-.364	24
25	-.180		-.206	-.223			-.206	-.362	25
26	-.219		-.229	-.241			-.209	-.390	26
				$\alpha = -12°$ $\delta = 0°$					
1	.608		.855	.930			1.021	.792	1
2	.518		.710	.808			.946	.629	2
3	.546		.640	.722			.881	.537	3
4	.511		.519	.697			.836	.499	4
5	.347		.544	.843			.918	.553	5
6	.822		.911	1.026			1.083	.635	6
7	.897		1.024	1.158			1.182	.676	7
8	.985		1.089	1.184			1.180	.601	8
9	1.010		1.100	1.162			1.219	.037	9
10	1.035		.345	1.235			.049	-.433	10
11	-.346		-.374	-.390			-.346	-.442	11
12	-.331		-.372	-.395			-.406	-.425	12
13	-.267		-.337	-.391			-.411	-.426	13
14	-.036		-.137	-.277			-.364	-.408	14
15	.037		-.012	-.138			-.280	-.351	15
16	.065		.026	-.061			-.199	-.288	16
17	-.190		-.217	-.245			-.275	-.306	17
18	-.143		-.190	-.207			-.207	-.174	18
19	-.130		-.190	-.191			-.197	-.194	19
20	-.166		-.205	-.209			-.216	-.231	20
21	-.223		-.258	-.251			-.255	-.300	21
22	-.207		-.265	-.259				-.368	22
23	-.214			-.266			-.272	-.382	23
24	-.219		-.266	-.270			-.278	-.404	24
25	-.224		-.255	-.276			-.258	-.387	25
26	-.256		-.268	-.292			-.251	-.429	26
				$\alpha = -12°$ $\delta = 10°$					
1	.604		.850	.939			1.017	.821	1
2	.514		.715	.805			.957	.648	2
3	.546		.635	.726			.891	.556	3
4	.508		.516	.704			.846	.504	4
5	.346		.560	.840			.914	.564	5
6	.820		.914	1.026			1.084	.647	6
7	.934		1.025	1.169			1.183	.685	7
8	.988		1.090	1.192			1.183	.611	8
9	1.013		1.104	1.169			1.226	.061	9
10	1.038		.355	1.243			.082	-.464	10
11	-.428		-.437	-.455			-.371	-.468	11
12	-.373		-.432	-.452			-.461	-.483	12
13	-.316		-.388	-.436			-.456	-.478	13
14	-.212		-.275	-.346			-.388	-.433	14
15	-.175		-.219	-.283			-.348	-.391	15
16	-.168		-.200	-.254			-.326	-.343	16
17	-.192		-.221	-.244			-.280	-.294	17
18	-.143		-.197	-.203			-.221	-.172	18
19	-.141		-.193	-.190			-.194	-.191	19
20	-.165		-.208	-.208			-.216	-.226	20
21	-.228		-.259	-.254			-.253	-.298	21
22	-.216		-.270	-.265				-.364	22
23	-.221			-.271			-.273	-.379	23
24	-.227		-.257	-.271			-.277	-.389	24
25	-.222		-.257	-.281			-.261	-.378	25
26	-.262		-.272	-.294			-.250	-.417	26

Table 4 continued

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -12°$ $\delta = 20°$					
1	.616		.867	.950			1.042	.827	1
2	.515		.721	.819			.969	.652	2
3	.554		.649	.742			.903	.564	3
4	.521		.522	.733			.858	.513	4
5	.351		.645	.855			.927	.569	5
6	.830		.923	1.035			1.085	.645	6
7	.962		1.041	1.172			1.192	.697	7
8	1.009		1.104	1.197			1.186	.615	8
9	1.029		1.124	1.181			1.224	.080	9
10	1.061		.344	1.244			.106	-.489	10
11	-.452		-.470	-.493			-.384	-.494	11
12	-.411		-.461	-.499			-.503	-.503	12
13	-.380		-.435	-.474			-.493	-.500	13
14	-.332		-.379	-.420			-.442	-.475	14
15	-.337		-.361	-.398			-.430	-.429	15
16	-.327		-.347	-.377			-.419	-.388	16
17	-.188		-.220	-.243			-.296	-.322	17
18	-.142		-.200	-.208			-.239	-.179	18
19	-.133		-.192	-.189			-.206	-.198	19
20	-.164		-.204	-.208			-.223	-.231	20
21	-.219		-.268	-.249			-.256	-.308	21
22	-.206		-.271	-.263				-.367	22
23	-.213			-.273			-.276	-.383	23
24	-.219		-.257	-.270			-.281	-.395	24
25	-.222		-.248	-.283			-.257	-.383	25
26	-.254		-.265	-.297			-.104	-.421	26
				$\alpha = -12°$ $\delta = -10°$					
1	.612		.865	.951			1.035	.814	1
2	.523		.723	.815			.959	.642	2
3	.554		.652	.736			.890	.550	3
4	.516		.520	.718			.850	.504	4
5	.355		.598	.846			.917	.556	5
6	.830		.917	1.030			1.080	.638	6
7	.962		1.038	1.165			1.187	.688	7
8	1.004		1.105	1.191			1.187	.608	8
9	1.025		1.118	1.167			1.223	.046	9
10	1.058		.352	1.233			.063	-.412	10
11	-.162		-.201	-.258			-.272	-.406	11
12	-.193		-.220	-.264			-.312	-.394	12
13	-.154		-.236	-.277			-.316	-.403	13
14	.143		-.015	-.177			-.298	-.372	14
15	.304		.198	.026			-.175	-.282	15
16	.280		.251	.126			-.064	-.198	16
17	-.187		-.219	-.255			-.286	-.308	17
18	-.140		-.192	-.208			-.230	-.178	18
19	-.131		-.192	-.191			-.195	-.204	19
20	-.162		-.202	-.212			-.219	-.240	20
21	-.220		-.259	-.251			-.256	-.304	21
22	-.207		-.268	-.264				-.373	22
23	-.216			-.269			-.273	-.394	23
24	-.220		-.253	-.280			-.276	-.398	24
25	-.224		-.245	-.284			-.256	-.383	25
26	-.257		-.267	-.296			-.249	-.431	26
				$\alpha = -12°$ $\delta = -20°$					
1	.608		.863	.943			1.035	.826	1
2	.516		.710	.810			.963	.647	2
3	.556		.637	.736			.896	.555	3
4	.514		.519	.718			.847	.509	4
5	.351		.610	.846			.924	.567	5
6	.827		.916	1.024			1.089	.643	6
7	.959		1.036	1.169			1.185	.698	7
8	1.002		1.096	1.194			1.188	.614	8
9	1.025		1.114	1.169			1.225	.035	9
10	1.055		.421	1.234			.029	-.316	10
11	.179		.085	-.019			-.102	-.298	11
12	.143		.067	-.033			-.147	-.293	12
13	.125		.042	-.063			-.152	-.294	13
14	.389		.217	.025			-.154	-.295	14
15	.653		.494	.272			.009	-.177	15
16	.567		.552	.366			.122	-.077	16
17	-.190		-.222	-.253			-.285	-.301	17
18	-.143		-.200	-.200			-.229	-.168	18
19	-.133		-.190	-.190			-.200	-.190	19
20	-.159		-.209	-.212			-.217	-.221	20
21	-.223		-.258	-.254			-.250	-.298	21
22	-.208		-.272	-.265				-.358	22
23	-.216			-.269			-.274	-.379	23
24	-.223		-.256	-.271			-.281	-.388	24
25	-.220		-.251	-.277			-.253	-.380	25
26	-.258		-.274	-.291			-.250	-.416	26

Table 4 concluded

Wing-surface Pressure Coefficients

Configuration C M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -15°$	$\delta = 0°$				
1	.813		1.127	1.208			1.208	.951	1
2	.750		.982	1.100			1.137	.782	2
3	.800		.910	1.023			1.062	.677	3
4	.776		.854	.955			.986	.599	4
5	.813		.892	.978			.999	.603	5
6	.957		1.005	1.078			1.101	.638	6
7	1.069		1.127	1.224			1.233	.729	7
8	1.178		1.207	1.264			1.234	.635	8
9	1.209		1.246	1.257			1.250	.074	9
10	1.417		.400	1.293			.098	- .437	10
11	- .375		- .352	- .365			- .338	- .438	11
12	- .346		- .369	- .379			- .394	- .453	12
13	- .338		- .361	- .388			- .400	- .457	13
14	- .121		- .205	- .320			- .377	- .425	14
15	.040		- .033	- .156			- .282	- .347	15
16	.084		.042	- .033			- .182	- .272	16
17	- .260		- .369	- .421			- .437	- .440	17
18	- .193		- .290	- .348			- .327	- .357	18
19	- .189		- .273	- .309			- .352	- .342	19
20	- .214		- .275	- .295			- .329	- .366	20
21	- .263		- .321	- .320			- .349	- .409	21
22	- .253		- .327	- .333				- .452	22
23	- .263			- .340			- .355	- .450	23
24	- .268		- .312	- .339			- .352	- .462	24
25	- .269		- .300	- .349			- .346	- .436	25
26	- .295		- .314	- .352			- .330	- .461	26

Table 5

Wing-surface Pressure Coefficients

Configuration D M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 0°$ $\delta = 0°$					
1	.148		.156	.167			.152	.118	1
2	.108		.161	.159			.159	.098	2
3	.129		.156	.169			.144	.098	3
4	.115		.123	.135			.111	.053	4
5	.002		.017	.058			.048	.006	5
6	.016		.009	.367			.415	-.005	6
7	.010		.331	.425			.422	.097	7
8	.003		.348	.419			.353	.132	8
9	-.003		.263	.400			.615	.174	9
10	-.027		.242	.624			-.391	.066	10
11	.010		-.399	-.414			-.334	.023	11
12	-.010		-.369	-.382			-.366	.016	12
13	.002		-.311	-.355			-.323	-.010	13
14	.018		-.182	-.236			-.228	-.031	14
15	.001		-.132	-.185			-.169	-.043	15
16	-.041		-.107	-.169			-.133	-.060	16
17	.146		.151	.133			.138	.113	17
18	.118		.144	.147			.159	.134	18
19	.121		.152	.139			.135	.089	19
20	.102		.109	.116			.104	.046	20
21	.000		.018	.029			.033	.014	21
22	.010		.003	.010				-.004	22
23	.008			.000			-.004	-.001	23
24	-.003		-.018	-.005			-.014	.001	24
25	-.002		-.025	-.033			-.021	.027	25
26	-.060		-.056	-.056			-.062	.001	26
				$\alpha = 3°$ $\delta = 0°$					
1	.052		.061	.053			.046	.020	1
2	.045		.051	.046			.053	.034	2
3	.048		.052	.057			.045	.050	3
4	.037		.026	.029			.013	.023	4
5	-.049		-.060	-.043			-.044	-.028	5
6	-.050		-.067	.245			.254	-.030	6
7	-.015		.240	.313			.291	-.047	7
8	-.061		.257	.309			.242	.002	8
9	-.063		.170	.293			.599	.187	9
10	-.088		.175	.490			-.402	.062	10
11	-.061		-.412	-.423			-.341	.012	11
12	-.096		-.409	-.412			-.398	-.012	12
13	-.092		-.342	-.383			-.375	-.041	13
14	-.074		-.229	-.292			-.272	-.018	14
15	-.075		-.183	-.234			-.217	-.033	15
16	-.100		-.165	-.217			-.171	-.033	16
17	.243		.313	.301			.301	.238	17
18	.215		.299	.292			.292	.223	18
19	.212		.278	.297			.298	.151	19
20	.196		.216	.248			.243	.103	20
21	.080		.099	.145			.167	.043	21
22	.096		.084	.109				.022	22
23	.090			.098			.115	.000	23
24	.085		.067	.081			.096	-.020	24
25	.075		.054	.068			.075	-.005	25
26	.020		.023	.037			.035	-.017	26
				$\alpha = 6°$ $\delta = 0°$					
1	-.058		-.042	-.040			-.052	-.052	1
2	-.041		-.045	-.050			-.047	-.026	2
3	-.026		-.047	-.043			-.052	-.009	3
4	-.054		-.066	-.067			-.088	-.037	4
5	-.126		-.139	-.125			-.128	-.085	5
6	-.117		-.142	.111			.091	-.143	6
7	-.067		.135	.190			.165	-.181	7
8	-.131		.154	.186			.141	-.211	8
9	-.124		.082	.170			.590	-.026	9
10	-.162		.091	.334			-.426	-.167	10
11	-.131		-.438	-.4[illegible]			-.361	-.174	11
12	-.162		-.417	-.428			-.428	-.206	12
13	-.158		-.366	-.405			-.405	-.155	13
14	-.129		-.275	-.324			-.310	-.142	14
15	-.129		-.225	-.287			-.246	-.098	15
16	-.142		-.194	-.236			-.183	-.108	16
17	.357		.516	.494			.524	.391	17
18	.310		.448	.502			.522	.332	18
19	.311		.394	.452			.483	.252	19
20	.285		.321	.360			.391	.174	20
21	.152		.181	.232			.279	.078	21
22	.172		.166	.195				.034	22
23	.170			.182			.188	.007	23
24	.169		.153	.170			.167	-.022	24
25	.162		.140	.152			.145	.005	25
26	.085		.099	.114			.104	-.033	26

Table 5 continued

Wing-surface Pressure Coefficients

Configuration D M= 1.61 R=3.6 x 10^6

α= 9° δ= 0°

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	-.124		-.114	-.107			-.121	-.128	1
2	-.097		-.114	-.108			-.116	-.069	2
3	-.083		-.113	-.109			-.116	-.082	3
4	-.100		-.130	-.130			-.142	-.123	4
5	-.175		-.198	-.183			-.185	-.174	5
6	-.161		-.199	.021			.015	-.262	6
7	-.110		.056	.104			.135	-.295	7
8	-.180		.070	.110			.116	-.305	8
9	-.172		.010	.094			.559	-.190	9
10	-.203		.019	.218			-.437	-.283	10
11	-.190		-.446	-.443			-.365	-.278	11
12	-.209		-.443	-.446			-.446	-.272	12
13	-.208		-.387	-.420			-.441	-.289	13
14	-.192		-.305	-.355			-.346	-.245	14
15	-.177		-.273	-.316			-.265	-.219	15
16	-.149		-.208	-.228			-.223	-.182	16
17	.472		.688	.755			.794	.582	17
18	.406		.563	.643			.709	.444	18
19	.415		.512	.585			.634	.330	19
20	.375		.425	.460			.489	.225	20
21	.250		.265	.325			.357	.110	21
22	.260		.254	.281				.060	22
23	.249			.270			.257	.037	23
24	.246		.235	.259			.230	.006	24
25	.241		.228	.235			.207	.027	25
26	.164		.177	.195			.165	-.004	26

α= 12° δ= 0°

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	-.197		-.209	-.237			-.244	-.266	1
2	-.160		-.194	-.208			-.212	-.170	2
3	-.135		-.189	-.190			-.190	-.166	3
4	-.161		-.206	-.204			-.210	-.239	4
5	-.220		-.259	-.252			-.243	-.286	5
6	-.211		-.264	-.129			.005	-.361	6
7	-.180		-.038	.008			-.027	-.391	7
8	-.231		-.020	.004			-.083	-.384	8
9	-.214		-.073	-.012			.294	-.319	9
10	-.244		-.057	.099			-.440	-.389	10
11	-.236		-.454	-.456			-.354	-.363	11
12	-.266		-.454	-.462			-.452	-.347	12
13	-.256		-.410	-.442			-.431	-.366	13
14	-.245		-.337	-.388			-.364	-.356	14
15	-.243		-.293	-.330			-.305	-.325	15
16	-.135		-.187	-.250			-.262	-.293	16
17	.615		.877	.956			.977	.696	17
18	.540		.725	.820			.875	.542	18
19	.563		.650	.719			.754	.407	19
20	.505		.518	.558			.599	.304	20
21	.349		.348	.413			.448	.174	21
22	.356		.348	.383				.108	22
23	.349			.375			.349	.081	23
24	.348		.344	.364			.322	.044	24
25	.334		.331	.345			.302	.079	25
26	.253		.277	.293			.266	.027	26

α= 15° δ= 0°

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	-.263		-.343	-.379			-.388	-.406	1
2	-.220		-.276	-.304			-.331	-.282	2
3	-.195		-.264	-.274			-.297	-.271	3
4	-.206		-.282	-.285			-.296	-.343	4
5	-.266		-.331	-.320			-.316	-.371	5
6	-.260		-.325	-.247			-.103	-.427	6
7	-.212		-.130	-.102			-.121	-.452	7
8	-.275		-.114	-.102			-.181	-.431	8
9	-.256		-.154	-.108			.143	-.407	9
10	-.283		-.139	-.024			-.423	-.423	10
11	-.285		-.385	-.304			-.345	-.406	11
12	-.305		-.387	-.375			-.419	-.420	12
13	-.307		-.385	-.391			-.412	-.435	13
14	-.292		-.350	-.363			-.383	-.433	14
15	-.287		-.318	-.343			-.343	-.412	15
16	-.121		-.277	-.314			-.284	-.393	16
17	.829		1.068	1.102			1.098	.803	17
18	.736		.890	.955			.989	.641	18
19	.745		.791	.836			.859	.501	19
20	.621		.624	.660			.701	.385	20
21	.474		.459	.521			.581	.249	21
22	.534		.526	.574				.209	22
23	.518			.561			.491	.182	23
24	.539		.561	.543			.469	.145	24
25	.522		.511	.510			.442	.172	25
26	.418		.429	.429			.386	.126	26

Table 5 continued

Wing-surface Pressure Coefficients

Configuration D M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -3^\circ$ $\delta = 0^\circ$					
1	.241		.306	.308			.316	.231	1
2	.198		.284	.292			.275	.166	2
3	.215		.273	.307			.291	.142	3
4	.195		.217	.255			.236	.101	4
5	.081		.093	.152			.171	.034	5
6	.082		.075	.496			.561	-.001	6
7	-.006		.440	.556			.551	.146	7
8	.066		.452	.548			.462	.107	8
9	.072		.356	.533			.722	.170	9
10	.072		.319	.769			-.358	.023	10
11	.110		-.386	-.398			-.324	-.021	11
12	.086		-.359	-.387			-.378	-.047	12
13	.092		-.292	-.335			-.336	-.028	13
14	.095		-.139	-.212			-.218	-.076	14
15	.062		-.079	-.153			-.158	-.103	15
16	.004		-.055	-.134			-.113	-.134	16
17	.045		.040	.027			.043	.020	17
18	.042		.041	.045			.060	.044	18
19	.044		.043	.040			.044	.036	19
20	.017		.009	.015			.003	.002	20
21	-.067		-.063	-.052			-.049	-.036	21
22	-.059		-.073	-.075				-.042	22
23	-.062			-.080			-.074	-.038	23
24	-.065		-.084	-.080			-.083	-.041	24
25	-.067		-.093	-.092			-.092	-.023	25
26	-.120		-.122	-.118			-.112	-.086	26
				$\alpha = -6^\circ$ $\delta = 0^\circ$					
1	.356		.493	.497			.495	.410	1
2	.295		.438	.491			.506	.302	2
3	.305		.383	.454			.481	.259	3
4	.294		.315	.364			.384	.154	4
5	.169		.178	.239			.329	.075	5
6	.166		.156	.633			.733	.146	6
7	.098		.553	.686			.719	.178	7
8	.160		.559	.683			.581	.121	8
9	.164		.468	.663			.904	.227	9
10	.215		.393	.860			-.333	.039	10
11	.230		-.369	-.374			-.318	.001	11
12	.212		-.330	-.356			-.369	-.043	12
13	.211		-.250	-.313			-.342	-.042	13
14	.186		-.070	-.172			-.229	-.101	14
15	.140		-.001	-.118			-.146	-.153	15
16	.062		.004	-.102			-.102	-.182	16
17	-.045		-.043	-.060			-.038	-.049	17
18	-.026		-.045	-.049			-.028	-.001	18
19	-.024		-.047	-.045			-.039	-.009	19
20	-.048		-.059	-.068			-.079	-.055	20
21	-.124		-.135	-.122			-.132	-.084	21
22	-.115		-.140	-.142				-.122	22
23	-.120			-.152			-.149	-.144	23
24	-.126		-.140	-.151			-.151	-.201	24
25	-.124		-.150	-.158			-.144	-.182	25
26	-.173		-.177	-.175			-.162	-.247	26
				$\alpha = -9^\circ$ $\delta = 0^\circ$					
1	.451		.661	.741			.773	.588	1
2	.376		.548	.640			.708	.442	2
3	.403		.490	.580			.629	.337	3
4	.382		.408	.454			.480	.202	4
5	.238		.251	.310			.629	.122	5
6	.244		.250	.774			.877	.278	6
7	.185		.662	.840			.884	.234	7
8	.239		.664	.849			.773	.170	8
9	.330		.590	.824			1.019	.309	9
10	.400		.448	1.015			-.321	.069	10
11	.346		-.364	-.381			-.323	.018	11
12	.335		-.319	-.369			-.387	-.054	12
13	.320		-.228	-.329			-.367	-.058	13
14	.273		-.007	-.193			-.262	-.122	14
15	.199		.060	-.106			-.171	-.175	15
16	.086		.098	-.081			-.117	-.213	16
17	-.127		-.134	-.134			-.125	-.113	17
18	-.095		-.132	-.120			-.104	-.049	18
19	-.082		-.130	-.119			-.116	-.078	19
20	-.116		-.142	-.141			-.144	-.119	20
21	-.188		-.206	-.191			-.189	-.178	21
22	-.173		-.212	-.208				-.245	22
23	-.181			-.214			-.205	-.278	23
24	-.185		-.204	-.216			-.209	-.319	24
25	-.185		-.211	-.225			-.205	-.311	25
26	-.224		-.230	-.235			-.210	-.351	26

Table 5 concluded

Wing-surface Pressure Coefficients

Configuration D M= 1.61 $R=3.6 \times 10^6$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -12°$ $\delta = 0°$					
1	.605		.858	.941			.952	.737	1
2	.506		.709	.806			.864	.574	2
3	.543		.634	.716			.765	.457	3
4	.509		.514	.553			.710	.368	4
5	.345		.345	.466			.801	.363	5
6	.348		.618	.935			.970	.330	6
7	.313		.834	1.070			1.060	.276	7
8	.627		.851	1.091			1.023	.201	8
9	.632		.779	1.042			1.117	.372	9
10	.560		.566	1.204			-.291	.079	10
11	.455		-.361	-.366			-.311	.036	11
12	.435		-.319	-.367			-.379	-.057	12
13	.409		-.207	-.359			-.375	-.071	13
14	.336		.106	-.251			-.321	-.140	14
15	.218		.190	-.143			-.234	-.186	15
16	.105		.181	-.080			-.167	-.217	16
17	-.187		-.217	-.241			-.246	-.263	17
18	-.138		-.191	-.193			-.192	-.151	18
19	-.136		-.193	-.186			-.188	-.167	19
20	-.161		-.203	-.208			-.207	-.208	20
21	-.222		-.261	-.249			-.248	-.272	21
22	-.215		-.270	-.263				-.351	22
23	-.214			-.273			-.268	-.366	23
24	-.223		-.252	-.274			-.270	-.390	24
25	-.223		-.246	-.280			-.262	-.382	25
26	-.257		-.267	-.292			-.257	-.406	26
				$\alpha = -15°$ $\delta = 0°$					
1	.769		1.031	1.116			1.156	.889	1
2	.673		.857	.985			1.075	.718	2
3	.714		.775	.911			.990	.607	3
4	.623		.632	.846			.905	.497	4
5	.454		.725	.889			.912	.446	5
6	.749		.872	1.036			1.008	.359	6
7	.639		1.013	1.206			1.129	.288	7
8	.778		1.125	1.230			1.122	.212	8
9	.722		1.135	1.222			1.157	.390	9
10	.632		.724	1.260			-.262	.079	10
11	.541		-.380	-.321			-.276	.037	11
12	.485		-.385	-.342			-.351	-.062	12
13	.465		-.308	-.348			-.357	-.081	13
14	.377		.121	-.293			-.336	-.143	14
15	.267		.233	-.176			-.294	-.190	15
16	.140		.244	-.100			-.231	-.217	16
17	-.262		-.329	-.374			-.421	-.426	17
18	-.194		-.269	-.294			-.297	-.313	18
19	-.191		-.261	-.270			-.301	-.324	19
20	-.214		-.267	-.274			-.295	-.350	20
21	-.264		-.314	-.302			-.321	-.398	21
22	-.257		-.325	-.323				-.442	22
23	-.265			-.325			-.329	-.451	23
24	-.272		-.303	-.321			-.334	-.470	24
25	-.271		-.297	-.332			-.317	-.442	25
26	-.295		-.310	-.339			-.303	-.469	26

Table 6

Wing-surface Pressure Coefficients

Configuration E $M = 1.61$ $R = 3.6 \times 10^6$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 0^\circ$ $\delta = 0^\circ$					
1	.139		.170	.165			.160	.120	1
2	.102		.153	.157			.160	.099	2
3	.120		.152	.171			.158	.096	3
4	.108		.115	.134			.115	.060	4
5	.008		.009	.048			.052	.015	5
6	.001		.001	.335			.261	-.006	6
7	.003		.098	.431			.285	-.016	7
8	-.010		.262	.419			.182	-.002	8
9	-.006		.139	.392			.061	-.014	9
10	-.038		-.039	.526			-.066	.017	10
11	-.032		-.129	-.411			-.079	.011	11
12	-.085		-.170	-.393			-.159	.010	12
13	-.090		-.179	-.355			-.166	.016	13
14	-.076		-.178	-.249			-.191	.018	14
15	-.026		-.144	-.199			-.190	.005	15
16	-.006		-.132	-.175			-.170	-.017	16
17	.140		.150	.142			.156	.112	17
18	.112		.148	.150			.172	.132	18
19	.113		.145	.151			.160	.090	19
20	.095		.107	.121			.118	.043	20
21	-.004		.008	.043			.050	.014	21
22	.002		-.007	.014				.001	22
23	.002			.011			.010	-.004	23
24	-.007		-.024	.004			.000	-.015	24
25	-.012		-.032	-.016			-.010	.001	25
26	-.067		-.060	-.044			-.042	-.039	26
				$\alpha = 3^\circ$ $\delta = 0^\circ$					
1	.040		.051	.055			.043	.005	1
2	.027		.043	.048			.046	.023	2
3	.032		.039	.053			.044	.037	3
4	.016		.022	.033			.011	.012	4
5	-.076		-.064	-.055			-.043	-.036	5
6	-.069		-.081	.174			.078	-.039	6
7	-.023		-.029	.301			.172	-.070	7
8	-.077		.172	.290			.089	-.076	8
9	-.074		.058	.279			-.014	-.081	9
10	-.102		-.103	.407			-.126	-.099	10
11	-.100		-.177	-.419			-.120	-.113	11
12	-.150		-.236	-.423			-.221	-.137	12
13	-.159		-.236	-.387			-.218	-.155	13
14	-.152		-.237	-.302			-.231	-.117	14
15	-.112		-.212	-.256			-.229	-.100	15
16	-.079		-.201	-.231			-.212	-.086	16
17	.241		.311	.308			.306	.240	17
18	.213		.300	.290			.300	.206	18
19	.204		.278	.303			.305	.148	19
20	.188		.212	.251			.251	.095	20
21	.081		.102	.145			.171	.031	21
22	.085		.084	.107				.011	22
23	.079			.097			.113	-.012	23
24	.076		.067	.084			.094	-.033	24
25	.074		.058	.074			.073	-.010	25
26	.011		.021	.037			.039	-.048	26
				$\alpha = 6^\circ$ $\delta = 0^\circ$					
1	-.058		-.050	-.037			-.053	-.065	1
2	-.048		-.048	-.047			-.044	-.018	2
3	-.031		-.052	-.043			-.048	-.011	3
4	-.055		-.072	-.068			-.082	-.038	4
5	-.133		-.146	-.130			-.124	-.084	5
6	-.125		-.144	-.019			-.086	-.141	6
7	-.067		-.114	.185			.061	-.192	7
8	-.140		.075	.180			.012	-.216	8
9	-.131		-.027	.167			-.069	-.203	9
10	-.163		-.155	.302			-.164	-.222	10
11	-.152		-.222	-.446			-.150	-.239	11
12	-.185		-.268	-.434			-.242	-.234	12
13	-.191		-.270	-.409			-.244	-.252	13
14	-.197		-.270	-.329			-.254	-.259	14
15	-.175		-.243	-.284			-.266	-.184	15
16	-.112		-.231	-.258			-.240	-.206	16
17	.361		.508	.493			.531	.386	17
18	.308		.442	.495			.512	.335	18
19	.302		.390	.455			.494	.245	19
20	.280		.315	.359			.391	.169	20
21	.159		.185	.235			.275	.081	21
22	.172		.168	.195				.032	22
23	.165			.191			.185	.007	23
24	.158		.150	.178			.157	-.020	24
25	.160		.140	.157			.140	.012	25
26	.082		.101	.118			.098	-.030	26

Table 6 continued

Wing-surface Pressure Coefficients

Configuration E M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 9°$ $\delta = 0°$					
1	-.142		-.137	-.140			-.144	-.171	1
2	-.119		-.131	-.134			-.127	-.081	2
3	-.103		-.139	-.133			-.129	-.105	3
4	-.119		-.153	-.152			-.160	-.145	4
5	-.191		-.220	-.208			-.194	-.202	5
6	-.184		-.221	-.171			-.196	-.289	6
7	-.125		-.176	.082			-.052	-.319	7
8	-.193		-.012	.071			-.072	-.332	8
9	-.184		-.095	.053			-.119	-.335	9
10	-.218		-.212	.186			-.202	-.334	10
11	-.210		-.277	-.458			-.183	-.330	11
12	-.223		-.317	-.466			-.290	-.311	12
13	-.244		-.327	-.444			-.285	-.333	13
14	-.253		-.326	-.380			-.296	-.326	14
15	-.238		-.305	-.332			-.308	-.314	15
16	-.136		-.219	-.286			-.286	-.282	16
17	.485		.721	.796			.837	.603	17
18	.430		.594	.676			.750	.462	18
19	.432		.526	.612			.660	.339	19
20	.392		.438	.476			.515	.242	20
21	.254		.269	.337			.374	.116	21
22	.272		.259	.301				.069	22
23	.257			.287			.276	.037	23
24	.256		.252	.275			.249	.011	24
25	.252		.241	.257			.216	.042	25
26	.176		.194	.214			.185	-.001	26
				$\alpha = 12°$ $\delta = 0°$					
1	-.205		-.226	-.257			-.262	-.295	1
2	-.168		-.204	-.213			-.221	-.190	2
3	-.150		-.207	-.207			-.203	-.182	3
4	-.173		-.219	-.220			-.224	-.242	4
5	-.235		-.277	-.265			-.253	-.300	5
6	-.224		-.280	-.234			-.270	-.371	6
7	-.168		-.246	-.005			-.116	-.402	7
8	-.231		-.095	-.010			-.155	-.390	8
9	-.230		-.162	-.027			-.196	-.397	9
10	-.253		-.252	.071			-.259	-.396	10
11	-.257		-.314	-.476			-.214	-.377	11
12	-.258		-.340	-.481			-.311	-.356	12
13	-.275		-.349	-.453			-.306	-.366	13
14	-.284		-.344	-.403			-.316	-.377	14
15	-.271		-.327	-.365			-.326	-.375	15
16	-.127		-.199	-.266			-.264	-.342	16
17	.629		.890	.965			.994	.715	17
18	.549		.738	.830			.884	.550	18
19	.573		.654	.735			.766	.420	19
20	.509		.519	.556			.603	.309	20
21	.354		.354	.417			.460	.171	21
22	.364		.354	.398				.111	22
23	.346			.385			.355	.089	23
24	.344		.349	.373			.329	.053	24
25	.336		.338	.356			.305	.085	25
26	.258		.279	.304			.267	.033	26
				$\alpha = 15°$ $\delta = 0°$					
1	-.258		-.326	-.355			-.361	-.388	1
2	-.216		-.268	-.283			-.306	-.280	2
3	-.190		-.262	-.258			-.274	-.269	3
4	-.210		-.270	-.272			-.276	-.312	4
5	-.270		-.319	-.310			-.302	-.360	5
6	-.256		-.320	-.294			-.316	-.428	6
7	-.206		-.313	-.087			-.178	-.444	7
8	-.273		-.155	-.089			-.210	-.425	8
9	-.258		-.208	-.096			-.248	-.443	9
10	-.284		-.282	.009			-.290	-.424	10
11	-.284		-.321	-.420			-.238	-.407	11
12	-.296		-.358	-.419			-.335	-.420	12
13	-.308		-.351	-.420			-.334	-.425	13
14	-.312		-.339	-.386			-.339	-.436	14
15	-.309		-.312	-.350			-.321	-.427	15
16	-.126		-.190	-.317			-.234	-.407	16
17	.792		1.044	1.085			1.091	.792	17
18	.702		.866	.939			.976	.626	18
19	.720		.766	.822			.848	.483	19
20	.595		.606	.646			.683	.372	20
21	.447		.439	.503			.538	.229	21
22	.489		.489	.522				.189	22
23	.484			.540			.468	.166	23
24	.505		.520	.528			.449	.125	24
25	.488		.483	.496			.426	.170	25
26	.390		.411	.417			.374	.112	26

Table 6 continued

Wing-surface Pressure Coefficients

Configuration E $M = 1.61$ $R = 3.6 \times 10^6$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -3^\circ$ $\delta = 0^\circ$					
1	.233		.310	.313			.312	.249	1
2	.197		.284	.296			.291	.192	2
3	.210		.269	.304			.303	.158	3
4	.198		.210	.262			.249	.104	4
5	.085		.085	.147			.175	.046	5
6	.064		.073	.474			.428	.006	6
7	-.067		.263	.547			.402	-.021	7
8	.070		.364	.540			.298	-.007	8
9	.067		.232	.505			.155	.052	9
10	.029		.038	.607			.018	.078	10
11	.041		-.062	-.393			-.030	.051	11
12	-.021		-.105	-.371			-.080	.022	12
13	-.020		-.122	-.330			-.105	.010	13
14	.030		-.121	-.212			-.147	-.025	14
15	.088		-.092	-.157			-.155	-.043	15
16	.075		-.076	-.133			-.141	-.062	16
17	.040		.039	.027			.050	.028	17
18	.044		.040	.039			.171	.058	18
19	.038		.041	.039			.046	.044	19
20	.013		.015	.015			.011	.012	20
21	-.069		-.067	-.046			-.049	-.021	21
22	-.062		-.079	-.071				-.031	22
23	-.064			-.072			-.065	-.044	23
24	-.070		-.087	-.078			-.077	-.063	24
25	-.072		-.100	-.087			-.087	-.060	25
26	-.125		-.128	-.114			-.107	-.091	26
				$\alpha = -6^\circ$ $\delta = 0^\circ$					
1	.368		.508	.520			.533	.448	1
2	.308		.447	.506			.528	.346	2
3	.312		.402	.466			.501	.281	3
4	.303		.329	.380			.391	.170	4
5	.167		.191	.245			.285	.095	5
6	.170		.168	.623			.548	.025	6
7	.054		.444	.686			.527	.038	7
8	.165		.481	.678			.412	.088	8
9	.155		.330	.645			.261	.129	9
10	.116		.122	.760			.086	.102	10
11	.130		.017	-.374			.014	.058	11
12	.078		-.037	-.350			-.048	-.001	12
13	.091		-.059	-.311			-.084	-.009	13
14	.184		-.058	-.181			-.138	-.036	14
15	.206		-.030	-.125			-.137	-.051	15
16	.163		-.010	-.083			-.104	-.074	16
17	-.050		-.053	-.070			-.053	-.037	17
18	-.029		-.052	-.056			-.021	.005	18
19	-.024		-.053	-.056			-.046	-.004	19
20	-.058		-.071	-.076			-.079	-.038	20
21	-.128		-.143	-.133			-.130	-.079	21
22	-.123		-.151	-.155				-.121	22
23	-.128			-.160			-.152	-.158	23
24	-.130		-.146	-.161			-.156	-.190	24
25	-.134		-.156	-.170			-.158	-.169	25
26	-.176		-.179	-.187			-.169	-.218	26
				$\alpha = -9^\circ$ $\delta = 0^\circ$					
1	.462		.679	.749			.777	.614	1
2	.395		.566	.648			.707	.436	2
3	.416		.504	.588			.629	.338	3
4	.395		.424	.464			.482	.201	4
5	.251		.261	.321			.365	.113	5
6	.253		.241	.737			.659	.044	6
7	.191		.568	.809			.641	.154	7
8	.240		.572	.812			.523	.123	8
9	.227		.428	.777			.364	.148	9
10	.191		.198	.914			.143	.111	10
11	.221		.084	-.360			.046	.070	11
12	.189		-.007	-.349			-.064	.007	12
13	.221		-.030	-.317			-.096	-.002	13
14	.303		-.046	-.187			-.150	-.025	14
15	.279		.005	-.112			-.148	-.059	15
16	.208		.017	-.073			-.116	-.095	16
17	-.117		-.118	-.125			-.119	-.115	17
18	-.082		-.113	-.115			-.104	-.046	18
19	-.077		-.117	-.115			-.110	-.070	19
20	-.106		-.133	-.136			-.138	-.116	20
21	-.170		-.200	-.182			-.186	-.171	21
22	-.161		-.199	-.201				-.244	22
23	-.165			-.206			-.196	-.272	23
24	-.172		-.193	-.211			-.207	-.281	24
25	-.172		-.198	-.215			-.192	-.268	25
26	-.213		-.218	-.231			-.204	-.313	26

Table 6 concluded

Wing-surface Pressure Coefficients

Configuration E M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -12°$ $\delta = 0°$					
1	.603		.855	.938			.944	.735	1
2	.509		.711	.806			.857	.557	2
3	.540		.646	.716			.740	.438	3
4	.508		.516	.554			.583	.312	4
5	.339		.340	.399			.668	.252	5
6	.340		.335	.873			.757	.240	6
7	.290		.721	1.010			.755	.221	7
8	.326		.720	1.029			.650	.170	8
9	.341		.557	.963			.464	.185	9
10	.425		.299	1.084			.187	.143	10
11	.412		.158	-.353			.047	.099	11
12	.434		.049	-.353			-.073	.020	12
13	.436		.009	-.339			-.126	.011	13
14	.422		-.016	-.234			-.175	-.009	14
15	.339		.049	-.136			-.164	-.047	15
16	.232		.137	-.074			-.115	-.094	16
17	-.191		-.218	-.244			-.245	-.249	17
18	-.146		-.195	-.194			-.194	-.145	18
19	-.143		-.196	-.190			-.190	-.165	19
20	-.172		-.209	-.208			-.210	-.196	20
21	-.216		-.266	-.247			-.246	-.265	21
22	-.209		-.275	-.267				-.333	22
23	-.224			-.269			-.264	-.353	23
24	-.225		-.253	-.273			-.273	-.387	24
25	-.228		-.251	-.279			-.263	-.366	25
26	-.255		-.269	-.292			-.263	-.395	26
				$\alpha = -15°$ $\delta = 0°$					
1	.758		1.024	1.079			1.110	.878	1
2	.664		.857	.942			1.028	.695	2
3	.702		.762	.847			.930	.562	3
4	.619		.611	.750			.834	.444	4
5	.429		.443	.810			.813	.370	5
6	.504		.780	.995			.847	.296	6
7	.546		.878	1.174			.821	.255	7
8	.716		.921	1.201			.724	.200	8
9	.658		.824	1.172			.516	.208	9
10	.586		.505	1.195			.199	.149	10
11	.515		.271	-.303			.049	.100	11
12	.473		.095	-.317			-.088	.023	12
13	.472		.023	-.321			-.129	.021	13
14	.449		.012	-.282			-.158	-.005	14
15	.375		.118	-.176			-.139	-.046	15
16	.281		.182	-.094			-.081	-.080	16
17	-.249		-.310	-.350			-.387	-.387	17
18	-.189		-.261	-.293			-.278	-.275	18
19	-.190		-.256	-.261			-.281	-.291	19
20	-.212		-.262	-.274			-.280	-.318	20
21	-.261		-.317	-.303			-.308	-.369	21
22	-.251		-.320	-.311				-.419	22
23	-.258			-.323			-.322	-.435	23
24	-.264		-.301	-.319			-.322	-.448	24
25	-.264		-.290	-.325			-.312	-.427	25
26	-.292		-.303	-.332			-.304	-.445	26

Table 7

Wing-surface Pressure Coefficients

Configuration F M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 0°$ $\delta = 0°$					
1	.136		.155	.159			.156	.165	1
2	.109		.152	.160			.152	.122	2
3	.119		.152	.156			.152	.123	3
4	.110		.114	.125			.111	.091	4
5	.006		.015	.041			.049	.047	5
6	.014		.331	.341			.409	.332	6
7	.388		.396	.396			.440	.260	7
8	.403		.410	.443			.420	.191	8
9	.384		.367	.423			.555	.411	9
10	.599		1.939	.241			-.396	-.325	10
11	-.419		-.400	-.408			-.312	-.273	11
12	-.373		-.357	-.356			-.289	-.194	12
13	-.353		-.321	-.307			-.256	-.140	13
14	-.215		-.212	-.175			-.164	-.058	14
15	-.134		-.153	-.122			-.134	-.025	15
16	-.107		-.100	-.111			-.128	-.020	16
17	.141		.149	.143			.137	.139	17
18	.113		.149	.144			.150	.140	18
19	.114		.152	.152			.147	.117	19
20	.099		.110	.116			.107	.068	20
21	.001		.004	.038			.036	.046	21
22	.007		-.001	.014				.094	22
23	-.001			.006			.005	.164	23
24	-.003		-.020	.002			-.009	.058	24
25	-.004		-.027	-.019			-.019	.007	25
26	-.062		-.058	-.050			-.053	-.046	26
				$\alpha = 3°$ $\delta = 0°$					
1	.042		.049	.050			.046	.070	1
2	.033		.045	.052			.047	.065	2
3	.038		.040	.047			.045	.066	3
4	.020		.025	.028			.008	.050	4
5	-.065		-.061	-.048			-.044	.009	5
6	-.069		.201	.229			.260	.279	6
7	.314		.288	.298			.326	.260	7
8	.296		.299	.287			.269	.150	8
9	.286		.269	.300			.695	.491	9
10	.544		.983	.219			-.406	-.353	10
11	-.441		-.420	-.421			-.331	-.287	11
12	-.390		-.379	-.371			-.340	-.170	12
13	-.378		-.358	-.339			-.314	-.132	13
14	-.272		-.241	-.236			-.220	-.100	14
15	-.187		-.188	-.186			-.176	-.114	15
16	-.142		-.130	-.158			-.156	-.128	16
17	.232		.287	.275			.274	.262	17
18	.201		.293	.284			.288	.215	18
19	.195		.265	.284			.281	.180	19
20	.182		.207	.242			.236	.129	20
21	.071		.089	.144			.151	.062	21
22	.075		.077	.102				.043	22
23	.075			.089			.110	.207	23
24	.070		.058	.075			.090	.144	24
25	.067		.047	.061			.071	.108	25
26	.002		.018	.027			.035	.015	26
				$\alpha = 6°$ $\delta = 0°$					
1	-.047		-.044	-.042			-.048	-.015	1
2	-.040		-.043	-.043			-.045	.011	2
3	-.027		-.048	-.043			-.046	.012	3
4	-.051		-.062	-.065			-.075	.012	4
5	-.128		-.137	-.121			-.124	-.047	5
6	-.122		.105	.051			.167	.134	6
7	.240		.188	.155			.245	.118	7
8	.213		.199	.211			.193	.052	8
9	.219		.164	.159			.502	.954	9
10	.528		.474	.180			-.420	-.391	10
11	-.457		-.435	-.438			-.335	-.377	11
12	-.409		-.400	-.403			-.346	-.310	12
13	-.399		-.368	-.382			-.318	-.273	13
14	-.304		-.287	-.300			-.254	-.137	14
15	-.219		-.231	-.243			-.215	-.171	15
16	-.159		-.135	-.208			-.160	-.215	16
17	.344		.481	.499			.504	.419	17
18	.312		.437	.477			.500	.357	18
19	.300		.382	.446			.477	.286	19
20	.277		.307	.351			.383	.203	20
21	.159		.178	.227			.269	.110	21
22	.168		.159	.193				.064	22
23	.159			.177			.183	.145	23
24	.152		.147	.169			.152	.105	24
25	.148		.134	.144			.134	.105	25
26	.081		.093	.105			.094	.055	26

Table 7 continued

Wing-surface Pressure Coefficients

Configuration F M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				α= 9° δ= 0°					
1	-.132		-.126	-.135			-.133	-.096	1
2	-.111		-.127	-.125			-.124	-.028	2
3	-.098		-.132	-.121			-.125	-.062	3
4	-.118		-.146	-.151			-.154	-.097	4
5	-.186		-.208	-.193			-.193	-.151	5
6	-.184		.014	.017			.093	-.143	6
7	.148		.087	.088			.130	-.010	7
8	.122		.098	.094			.110	-.103	8
9	.138		.075	.078			.204	.596	9
10	.452		.147	.124			-.452	-.415	10
11	-.481		-.451	-.448			-.359	-.391	11
12	-.431		-.420	-.415			-.367	-.353	12
13	-.422		-.384	-.389			-.343	-.334	13
14	-.340		-.303	-.327			-.267	-.271	14
15	-.252		-.254	-.275			-.235	-.271	15
16	-.169		-.133	-.156			-.192	-.286	16
17	.465		.691	.754			.794	.608	17
18	.410		.558	.647			.708	.464	18
19	.413		.498	.584			.630	.372	19
20	.376		.428	.457			.485	.259	20
21	.241		.251	.318			.356	.150	21
22	.251		.247	.276				.098	22
23	.242			.266			.255	.100	23
24	.238		.234	.254			.227	.079	24
25	.234		.224	.232			.203	.112	25
26	.159		.178	.191			.161	.052	26
				α= 12° δ= 0°					
1	-.205		-.221	-.242			-.259	-.241	1
2	-.169		-.200	-.203			-.221	-.128	2
3	-.152		-.201	-.196			-.203	-.138	3
4	-.166		-.211	-.206			-.221	-.204	4
5	-.230		-.264	-.256			-.259	-.251	5
6	-.223		-.059	-.062			-.009	-.180	6
7	.067		.001	-.009			.015	-.132	7
8	.056		.006	-.002			.011	-.235	8
9	.061		-.019	-.008			.061	.185	9
10	.361		.017	.068			-.442	-.433	10
11	-.464		-.426	-.420			-.355	-.416	11
12	-.415		-.394	-.383			-.378	-.407	12
13	-.398		-.372	-.373			-.355	-.379	13
14	-.342		-.309	-.319			-.316	-.324	14
15	-.261		-.243	-.259			-.257	-.323	15
16	-.122		-.187	-.209			-.209	-.319	16
17	.603		.873	.945			.967	.740	17
18	.533		.714	.807			.856	.575	18
19	.552		.644	.715			.739	.453	19
20	.498		.513	.545			.582	.329	20
21	.343		.348	.403			.434	.209	21
22	.356		.348	.375				.143	22
23	.335			.367			.333	.130	23
24	.337		.341	.353			.307	.089	24
25	.329		.327	.335			.283	.126	25
26	.248		.271	.283			.248	.082	26
				α= 15° δ= 0°					
1	-.267		-.338	-.373			-.392	-.366	1
2	-.224		-.279	-.303			-.329	-.254	2
3	-.195		-.277	-.275			-.290	-.243	3
4	-.212		-.280	-.283			-.295	-.307	4
5	-.275		-.327	-.317			-.319	-.350	5
6	-.267		-.124	-.115			-.107	-.335	6
7	-.001		-.097	-.091			-.088	-.247	7
8	-.010		-.092	-.089			-.098	-.315	8
9	-.006		-.124	-.090			-.039	-.032	9
10	.301		-.011	.018			-.395	-.444	10
11	-.402		-.368	-.358			-.344	-.444	11
12	-.373		-.339	-.330			-.366	-.448	12
13	-.341		-.339	-.337			-.357	-.423	13
14	-.309		-.304	-.307			-.331	-.395	14
15	-.255		-.273	-.287			-.302	-.380	15
16	-.191		-.234	-.262			-.267	-.357	16
17	.803		1.057	1.087			1.084	.833	17
18	.724		.876	.938			.974	.671	18
19	.725		.775	.828			.847	.527	19
20	.604		.614	.649			.675	.409	20
21	.457		.452	.505			.549	.281	21
22	.516		.518	.545				.230	22
23	.502			.554			.470	.208	23
24	.524		.543	.527			.446	.162	24
25	.507		.497	.498			.428	.207	25
26	.397		.420	.419			.374	.161	26

Table 7 continued

Wing-surface Pressure Coefficients

Configuration F M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				α= -3° δ=0°					
1	.186		.283	.290			.287	.304	1
2	.203		.272	.281			.277	.198	2
3	.185		.258	.285			.279	.183	3
4	.068		.202	.251			.230	.138	4
5	.233		.079	.139			.153	.076	5
6	.475		.444	.502			.554	.353	6
7	.507		.496	.556			.584	.304	7
8	.491		.514	.559			.565	.241	8
9	.729		.459	.549			.680	.467	9
10	-.392		.016	.150			-.392	-.305	10
11	.042		-.383	-.381			-.304	-.266	11
12	-.339		-.339	-.320			-.282	-.203	12
13	-.323		-.292	-.265			-.225	-.167	13
14	-.190		-.171	-.132			-.119	-.098	14
15	-.094		-.094	-.076			-.090	-.064	15
16	-.059		-.058	-.048			-.090	-.064	16
17	.042		.045	.043			.040	.075	17
18	.041		.042	.042			.046	.084	18
19	.015		.040	.045			.045	.084	19
20	-.065		.013	.021			.007	.043	20
21	-.059		-.064	-.048			-.053	.010	21
22	-.067		-.077	-.070				.138	22
23	-.068			-.074			-.079	.062	23
24	-.071		-.085	-.078			-.089	-.068	24
25	-.071		-.093	-.087			-.089	-.081	25
26	-.121		-.123	-.117			-.115	-.116	26
				α= -6° δ= 0°					
1	.346		.481	.498			.491	.374	1
2	.290		.429	.486			.506	.345	2
3	.298		.381	.448			.488	.304	3
4	.287		.312	.365			.380	.203	4
5	.159		.180	.231			.369	.134	5
6	.527		.580	.651			.732	.414	6
7	.608		.635	.692			.766	.435	7
8	.631		.659	.730			.759	.353	8
9	.614		.607	.742			.835	.551	9
10	.846		.045	.280			-.384	-.343	10
11	-.373		-.360	-.371			-.313	-.292	11
12	-.314		-.319	-.300			-.293	-.215	12
13	-.292		-.286	-.240			-.245	-.183	13
14	-.146		-.138	-.078			-.111	-.129	14
15	-.041		-.053	-.025			-.068	-.113	15
16	-.007		-.011	-.012			-.058	-.098	16
17	-.052		-.051	-.052			-.049	-.006	17
18	-.031		-.051	-.057			-.047	.044	18
19	-.031		-.051	-.053			-.051	.028	19
20	-.061		-.067	-.080			-.080	-.012	20
21	-.131		-.136	-.127			-.134	-.055	21
22	-.126		-.140	-.152				.031	22
23	-.128			-.157			-.154	-.094	23
24	-.130		-.143	-.159			-.160	-.217	24
25	-.134		-.153	-.169			-.159	-.217	25
26	-.176		-.176	-.182			-.168	-.268	26
				α= -9° δ= 0°					
1	.458		.678	.741			.767	.611	1
2	.389		.553	.639			.701	.486	2
3	.408		.496	.578			.622	.383	3
4	.382		.419	.458			.478	.250	4
5	.238		.265	.443			.729	.409	5
6	.685		.724	.845			.930	.561	6
7	.744		.803	.906			.986	.673	7
8	.775		.832	.944			.984	.566	8
9	.752		.778	.926			1.015	.776	9
10	.934		.072	.434			-.404	-.387	10
11	-.359		-.360	-.387			-.335	-.387	11
12	-.297		-.316	-.311			-.331	-.355	12
13	-.276		-.281	-.270			-.287	-.309	13
14	-.123		-.114	-.100			-.143	-.209	14
15	-.010		-.016	-.022			-.074	-.165	15
16	.020		.021	.010			-.044	-.143	16
17	-.125		-.124	-.126			-.131	-.074	17
18	-.090		-.123	-.125			-.119	-.007	18
19	-.085		-.124	-.122			-.119	-.031	19
20	-.112		-.136	-.143			-.153	-.080	20
21	-.176		-.199	-.190			-.200	-.127	21
22	-.171		-.202	-.206				-.175	22
23	-.173			-.215			-.212	-.203	23
24	-.177		-.198	-.213			-.217	-.284	24
25	-.179		-.204	-.223			-.205	-.304	25
26	-.216		-.226	-.241			-.211	-.342	26

Table 7 concluded

Wing-surface Pressure Coefficients

Configuration F M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -12^\circ$ $\delta = 0^\circ$					
1	.606		.862	.948			1.029	.837	1
2	.513		.707	.820			.955	.673	2
3	.545		.635	.759			.881	.567	3
4	.510		.520	.756			.813	.481	4
5	.365		.782	.846			.856	.510	5
6	.885		.961	1.013			.992	.567	6
7	.969		1.064	1.154			1.130	.691	7
8	1.044		1.096	1.174			1.140	.650	8
9	1.055		1.091	1.171			1.153	.712	9
10	1.150		.088	.577			-.413	-.414	10
11	-.391		-.383	-.393			-.348	-.415	11
12	-.335		-.356	-.368			-.378	-.393	12
13	-.314		-.327	-.359			-.353	-.348	13
14	-.161		-.171	-.213			-.204	-.222	14
15	.006		-.030	-.073			-.091	-.174	15
16	.047		.012	-.020			-.058	-.164	16
17	-.199		-.221	-.246			-.295	-.261	17
18	-.152		-.199	-.205			-.220	-.148	18
19	-.147		-.194	-.198			-.208	-.161	19
20	-.169		-.211	-.213			-.223	-.199	20
21	-.221		-.266	-.255			-.261	-.263	21
22	-.218		-.272	-.270				-.331	22
23	-.222			-.274			-.277	-.341	23
24	-.226		-.251	-.276			-.281	-.373	24
25	-.227		-.250	-.280			-.264	-.339	25
26	-.259		-.271	-.295			-.261	-.372	26
				$\alpha = -15^\circ$ $\delta = 0^\circ$					
1	.753		1.078	1.179			1.183	.948	1
2	.684		.935	1.065			1.106	.798	2
3	.750		.882	.996			1.018	.672	3
4	.736		.831	.931			.935	.588	4
5	.798		.893	.946			.935	.558	5
6	.975		1.019	1.048			1.019	.567	6
7	1.122		1.157	1.196			1.166	.702	7
8	1.188		1.214	1.227			1.184	.666	8
9	1.209		1.230	1.234			1.190	.654	9
10	1.425		.096	.687			-.401	-.431	10
11	-.396		-.384	-.384			-.338	-.431	11
12	-.339		-.353	-.357			-.387	-.388	12
13	-.342		-.353	-.358			-.371	-.329	13
14	-.241		-.255	-.249			-.222	-.208	14
15	-.052		-.081	-.076			-.090	-.150	15
16	.053		.011	.016			-.030	-.114	16
17	-.262		-.341	-.417			-.445	-.406	17
18	-.200		-.277	-.333			-.329	-.308	18
19	-.193		-.262	-.282			-.321	-.295	19
20	-.212		-.262	-.285			-.317	-.314	20
21	-.266		-.317	-.311			-.337	-.361	21
22	-.257		-.320	-.321				-.401	22
23	-.262			-.325			-.342	-.406	23
24	-.268		-.305	-.322			-.347	-.422	24
25	-.266		-.297	-.332			-.330	-.405	25
26	-.293		-.309	-.342			-.315	-.417	26

Table 8

Wing-surface Pressure Coefficients

Configuration G M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
α= 0° δ= 0°									
1	.137		.158	.162			.154	.125	1
2	.096		.153	.160			.162	.108	2
3	.118		.152	.165			.157	.101	3
4	.104		.120	.130			.118	.068	4
5	.004		.011	.045			.052	.235	5
6	.002		.005	.298			.399	.315	6
7	.318		.375	.426			.437	.230	7
8	.370		.386	.431			.483	.177	8
9	.395		.393	.424			.529	.097	9
10	.405		.359	.360			.229	-.384	10
11	-.398		-.382	-.383			-.311	-.394	11
12	-.394		-.379	-.375			-.365	-.403	12
13	-.360		-.367	-.377			-.365	-.404	13
14	-.234		-.253	-.302			-.350	-.326	14
15	-.138		-.165	-.205			-.304	-.229	15
16	-.106		-.101	-.136			-.240	-.167	16
17	.141		.149	.144			.156	.127	17
18	.122		.144	.153			.169	.145	18
19	.113		.147	.151			.159	.106	19
20	.095		.111	.124			.118	.057	20
21	.002		.011	.043			.048	.023	21
22	.007		.002	.018				.223	22
23	.006			.011			.017	.120	23
24	-.004		-.015	.004			-.001	.050	24
25	-.002		-.027	-.016			-.009	.008	25
26	-.059		-.053	-.043			-.043	-.055	26
α= 3° δ= 0°									
1	.042		.045	.049			.049	-.052	1
2	.028		.043	.049			.057	-.011	2
3	.037		.039	.052			.053	-.003	3
4	.022		.015	.027			.020	-.028	4
5	-.067		-.064	-.046			-.038	-.079	5
6	-.066		-.071	.111			.310	.106	6
7	.218		.265	.306			.337	.120	7
8	.278		.288	.317			.346	.084	8
9	.297		.278	.310			.380	.117	9
10	.308		.242	.257			.092	-.409	10
11	-.419		-.398	-.386			-.316	-.421	11
12	-.410		-.391	-.385			-.387	-.447	12
13	-.401		-.390	-.386			-.376	-.440	13
14	-.325		-.327	-.338			-.350	-.382	14
15	-.243		-.245	-.262			-.279	-.392	15
16	-.127		-.156	-.195			-.223	-.418	16
17	.240		.299	.296			.296	.400	17
18	.205		.287	.286			.299	.348	18
19	.201		.268	.297			.294	.264	19
20	.181		.205	.246			.240	.176	20
21	.076		.086	.146			.161	.092	21
22	.078		.076	.108				.044	22
23	.079			.095			.116	.121	23
24	.071		.060	.080			.094	.102	24
25	.069		.048	.070			.076	.116	25
26	.009		.018	.039			.039	.058	26
α= 6° δ= 0°									
1	-.054		-.049	-.048			-.052	-.048	1
2	-.044		-.048	-.048			-.045	-.011	2
3	-.031		-.052	-.046			-.050	-.003	3
4	-.051		-.076	-.066			-.080	-.030	4
5	-.132		-.142	-.123			-.093	-.074	5
6	-.130		-.146	-.003			.222	.108	6
7	.045		.155	.190			.221	.121	7
8	.173		.184	.199			.210	.089	8
9	.199		.178	.199			.201	.114	9
10	.227		.134	.154			.019	-.406	10
11	-.425		-.397	-.381			-.322	-.423	11
12	-.413		-.400	-.375			-.389	-.453	12
13	-.399		-.394	-.391			-.381	-.429	13
14	-.323		-.330	-.338			-.348	-.375	14
15	-.249		-.247	-.265			-.286	-.390	15
16	-.126		-.159	-.198			-.229	-.413	16
17	.358		.511	.496			.527	.404	17
18	.305		.442	.496			.521	.343	18
19	.311		.387	.453			.486	.260	19
20	.283		.311	.360			.395	.180	20
21	.163		.180	.231			.281	.089	21
22	.168		.162	.196				.045	22
23	.165			.186			.189	.123	23
24	.162		.154	.177			.162	.103	24
25	.152		.142	.151			.136	.125	25
26	.090		.106	.118			.102	.063	26

Table 8 continued

Wing-surface Pressure Coefficients

Configuration G M= 1.61 R=3.6 x 10^6

$\alpha = 9°$ $\delta = 0°$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	-.126		-.129	-.126			-.132	-.118	1
2	-.108		-.130	-.125			-.119	-.053	2
3	-.095		-.130	-.123			-.121	-.069	3
4	-.118		-.148	-.142			-.147	-.106	4
5	-.186		-.217	-.192			-.110	-.162	5
6	-.175		-.216	-.126			.132	-.064	6
7	-.080		.060	.097			.129	-.001	7
8	.098		.089	.105			.126	-.020	8
9	.125		.080	.108			.121	.140	9
10	.144		.043	.084			-.049	-.410	10
11	-.417		-.387	-.363			-.321	-.409	11
12	-.400		-.371	-.348			-.394	-.462	12
13	-.385		-.369	-.364			-.379	-.435	13
14	-.318		-.330	-.331			-.345	-.392	14
15	-.255		-.257	-.276			-.298	-.374	15
16	-.126		-.185	-.225			-.249	-.369	16
17	.472		.691	.763			.808	.605	17
18	.409		.561	.647			.721	.474	18
19	.421		.506	.592			.643	.352	19
20	.379		.430	.460			.494	.253	20
21	.247		.261	.325			.362	.138	21
22	.258		.250	.286				.088	22
23	.240			.275			.266	.093	23
24	.241		.240	.261			.237	.086	24
25	.235		.227	.242			.215	.111	25
26	.161		.184	.197			.174	.060	26

$\alpha = 12°$ $\delta = 0°$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	-.192		-.211	-.229			-.245	-.242	1
2	-.160		-.189	-.198			-.206	-.143	2
3	-.144		-.192	-.188			-.190	-.148	3
4	-.163		-.210	-.206			-.212	-.206	4
5	-.227		-.262	-.248			-.204	-.260	5
6	-.223		-.262	-.216			.042	-.146	6
7	-.166		-.025	.013			.024	-.122	7
8	.037		-.005	.017			.010	-.157	8
9	.074		.000	.018			.005	-.049	9
10	.071		-.033	.022			-.149	-.405	10
11	-.389		-.358	-.347			-.331	-.419	11
12	-.381		-.341	-.333			-.384	-.443	12
13	-.357		-.351	-.340			-.384	-.428	13
14	-.318		-.326	-.338			-.348	-.425	14
15	-.252		-.273	-.296			-.304	-.415	15
16	-.169		-.223	-.264			-.274	-.399	16
17	.603		.866	.941			.968	.721	17
18	.532		.711	.804			.860	.557	18
19	.551		.640	.716			.741	.428	19
20	.499		.511	.539			.587	.312	20
21	.339		.345	.408			.441	.182	21
22	.353		.345	.377				.127	22
23	.333			.370			.340	.101	23
24	.338		.339	.355			.311	.075	24
25	.328		.319	.330			.285	.112	25
26	.246		.267	.283			.247	.059	26

$\alpha = 15°$ $\delta = 0°$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	-.252		-.322	-.357			-.360	-.380	1
2	-.222		-.264	-.274			-.294	-.263	2
3	-.190		-.263	-.257			-.266	-.253	3
4	-.205		-.265	-.272			-.278	-.312	4
5	-.263		-.317	-.308			-.246	-.355	5
6	-.257		-.318	-.252			-.051	-.260	6
7	-.211		-.108	-.070			-.083	-.228	7
8	-.027		-.095	-.064			-.108	-.231	8
9	.010		-.096	-.061			-.095	-.214	9
10	-.006		-.117	-.031			-.239	-.404	10
11	-.377		-.341	-.329			-.325	-.404	11
12	-.367		-.331	-.326			-.382	-.398	12
13	-.351		-.337	-.333			-.394	-.391	13
14	-.315		-.323	-.333			-.375	-.419	14
15	-.269		-.286	-.315			-.321	-.408	15
16	-.208		-.247	-.288			-.287	-.391	16
17	.774		1.030	1.074			1.081	.795	17
18	.683		.850	.924			.969	.629	18
19	.702		.751	.810			.839	.489	19
20	.585		.595	.636			.669	.380	20
21	.439		.432	.493			.526	.235	21
22	.477		.477	.509				.192	22
23	.468			.523			.455	.169	23
24	.491		.503	.510			.432	.128	24
25	.471		.473	.482			.414	.175	25
26	.374		.397	.408			.364	.109	26

Table 8 continued

Wing-surface Pressure Coefficients

Configuration G $M = 1.61$ $R = 3.6 \times 10^6$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -3^\circ$ $\delta = 0^\circ$					
1	.228		.300	.295			.295	.253	1
2	.194		.272	.293			.279	.189	2
3	.212		.265	.297			.297	.167	3
4	.193		.212	.254			.238	.120	4
5	.074		.084	.142			.165	.347	5
6	.069		.075	.453			.563	.361	6
7	.237		.483	.546			.604	.278	7
8	.484		.495	.552			.596	.224	8
9	.500		.504	.546			.628	.123	9
10	.505		.473	.482			.372	-.400	10
11	-.378		-.369	-.374			-.314	-.391	11
12	-.379		-.353	-.367			-.377	-.400	12
13	-.336		-.352	-.367			-.375	-.385	13
14	-.192		-.208	-.277			-.338	-.288	14
15	-.091		-.109	-.164			-.244	-.204	15
16	-.060		-.060	-.099			-.177	-.147	16
17	.043		.053	.040			.055	.044	17
18	.044		.051	.051			.108	.072	18
19	.040		.050	.050			.052	.060	19
20	.016		.023	.025			.019	.025	20
21	-.066		-.057	-.042			-.048	-.003	21
22	-.060		-.067	-.064				.194	22
23	-.065			-.069			-.066	.005	23
24	-.064		-.079	-.070			-.076	-.072	24
25	-.069		-.091	-.076			-.081	-.098	25
26	-.118		-.118	-.106			-.104	-.148	26
				$\alpha = -6^\circ$ $\delta = 0^\circ$					
1	.349		.492	.494			.494	.424	1
2	.298		.436	.491			.504	.320	2
3	.306		.398	.455			.483	.283	3
4	.295		.316	.363			.383	.180	4
5	.152		.174	.234			.347	.218	5
6	.169		.384	.630			.741	.442	6
7	.534		.609	.679			.755	.447	7
8	.613		.625	.688			.760	.459	8
9	.635		.634	.693			.783	.313	9
10	.636		.613	.628			.592	-.395	10
11	-.357		-.347	-.373			-.328	-.395	11
12	-.352		-.337	-.371			-.382	-.399	12
13	-.317		-.342	-.369			-.392	-.399	13
14	-.153		-.172	-.264			-.317	-.376	14
15	-.044		-.047	-.116			-.237	-.317	15
16	-.014		-.019	-.063			-.175	-.255	16
17	-.050		-.052	-.061			-.045	-.028	17
18	-.026		-.046	-.051			-.038	.015	18
19	-.027		-.048	-.052			-.045	.009	19
20	-.060		-.066	-.075			-.076	-.023	20
21	-.129		-.136	-.127			-.133	-.063	21
22	-.123		-.141	-.150				.140	22
23	-.122			-.157			-.149	-.135	23
24	-.126		-.144	-.160			-.160	-.229	24
25	-.127		-.156	-.167			-.150	-.226	25
26	-.175		-.177	-.181			-.163	-.269	26
				$\alpha = -9^\circ$ $\delta = 0^\circ$					
1	.478		.701	.778			.803	.645	1
2	.405		.576	.669			.733	.482	2
3	.418		.519	.607			.649	.372	3
4	.409		.438	.474			.499	.234	4
5	.254		.269	.330			.720	.425	5
6	.485		.696	.814			.953	.575	6
7	.716		.774	.900			1.031	.634	7
8	.771		.802	.928			1.033	.566	8
9	.790		.825	.945			1.034	.467	9
10	.801		.819	.861			.852	-.396	10
11	-.353		-.351	-.383			-.336	-.400	11
12	-.346		-.335	-.379			-.400	-.409	12
13	-.308		-.341	-.386			-.404	-.416	13
14	-.112		-.169	-.292			-.384	-.409	14
15	.010		-.015	-.138			-.301	-.379	15
16	.033		.016	-.053			-.213	-.340	16
17	-.136		-.140	-.146			-.136	-.109	17
18	-.097		-.137	-.131			-.118	-.029	18
19	-.095		-.136	-.126			-.119	-.064	19
20	-.125		-.146	-.148			-.145	-.106	20
21	-.189		-.214	-.198			-.195	-.170	21
22	-.181		-.216	-.213				-.189	22
23	-.187			-.224			-.214	-.240	23
24	-.186		-.205	-.221			-.216	-.299	24
25	-.186		-.211	-.230			-.206	-.304	25
26	-.228		-.233	-.242			-.215	-.369	26

Table 8 concluded

Wing-surface Pressure Coefficients

Configuration G M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -12°$ $\delta = 0°$					
1	.600		.853	.940			.991	.801	1
2	.505		.710	.800			.916	.625	2
3	.537		.637	.716			.845	.536	3
4	.509		.508	.565			.792	.470	4
5	.337		.342	.786			.853	.511	5
6	.766		.868	.967			1.005	.589	6
7	.908		.982	1.118			1.153	.682	7
8	.959		1.042	1.155			1.177	.650	8
9	1.000		1.082	1.175			1.182	.614	9
10	1.022		1.089	1.119			1.010	-.414	10
11	-.379		-.380	-.396			-.348	-.418	11
12	-.362		-.364	-.399			-.410	-.428	12
13	-.336		-.371	-.392			-.420	-.424	13
14	-.127		-.258	-.348			-.421	-.426	14
15	.026		-.069	-.213			-.355	-.421	15
16	.064		.014	-.092			-.268	-.386	16
17	-.199		-.221	-.245			-.261	-.265	17
18	-.146		-.201	-.203			-.212	-.143	18
19	-.144		-.201	-.192			-.190	-.164	19
20	-.172		-.210	-.211			-.212	-.199	20
21	-.227		-.266	-.252			-.249	-.278	21
22	-.219		-.267	-.266				-.345	22
23	-.229			-.269			-.270	-.357	23
24	-.234		-.250	-.273			-.271	-.380	24
25	-.230		-.250	-.281			-.254	-.351	25
26	-.266		-.272	-.292			-.253	-.385	26
				$\alpha = -15°$ $\delta = 0°$					
1	.746		1.043	1.159			1.178	.933	1
2	.664		.891	1.046			1.101	.754	2
3	.719		.839	.970			1.020	.664	3
4	.671		.786	.903			.939	.575	4
5	.736		.843	.925			.950	.565	5
6	.914		.965	1.027			1.037	.590	6
7	1.045		1.085	1.162			1.184	.707	7
8	1.134		1.163	1.226			1.225	.679	8
9	1.167		1.216	1.250			1.230	.637	9
10	1.192		1.233	1.215			1.082	-.439	10
11	-.399		-.384	-.394			-.347	-.438	11
12	-.391		-.371	-.382			-.425	-.437	12
13	-.371		-.377	-.394			-.425	-.440	13
14	-.228		-.307	-.395			-.425	-.443	14
15	-.005		-.125	-.270			-.379	-.431	15
16	.063		.008	-.114			-.278	-.381	16
17	-.255		-.329	-.402			-.450	-.434	17
18	-.192		-.268	-.318			-.335	-.316	18
19	-.190		-.253	-.274			-.315	-.311	19
20	-.211		-.255	-.278			-.301	-.326	20
21	-.262		-.317	-.306			-.329	-.390	21
22	-.254		-.317	-.319				-.434	22
23	-.260			-.321			-.329	-.434	23
24	-.261		-.301	-.321			-.336	-.454	24
25	-.263		-.299	-.326			-.320	-.431	25
26	-.294		-.306	-.339			-.307	-.442	26

Table 9

Wing-surface Pressure Coefficients

Configuration H M= 1.61 R=3.6 x 10^6

α=0 δ=0

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	.134		.156	.172			.167	.124	1
2	.099		.163	.162			.175	.113	2
3	.115		.152	.162			.163	.101	3
4	.103		.118	.128			.118	.063	4
5	-.003		.008	.048			.056	.154	5
6	-.002		.007	.295			.423	.386	6
7	.315		.371	.440			.465	.258	7
8	.371		.392	.447			.477	.192	8
9	.393		.393	.446			.513	.099	9
10	.403		.352	.408			.260	-.347	10
11	-.374		-.348	-.340			-.285	-.347	11
12	-.334		-.337	-.334			-.328	-.359	12
13	-.314		-.332	-.336			-.334	-.351	13
14	-.217		-.253	-.260			-.308	-.297	14
15	-.145		-.168	-.188			-.257	-.220	15
16	-.086		-.099	-.123			-.207	-.162	16
17	.138		.153	.149			.159	.131	17
18	.113		.154	.151			.166	.153	18
19	.116		.151	.154			.156	.108	19
20	.096		.111	.127			.113	.060	20
21	.004		.009	.045			.047	.028	21
22	.011		.005	.021				.173	22
23	.000			.013			.015	.155	23
24	-.001		-.016	.011			.002	.074	24
25	-.013		-.027	-.013			-.013	.033	25
26	-.064		-.055	-.040			-.039	-.050	26

α= 3° δ= 0°

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	.025		.040	.058			.060	.033	1
2	.009		.045	.056			.067	.056	2
3	.021		.042	.051			.059	.063	3
4	-.049		.017	.026			.018	.046	4
5	-.085		-.065	-.040			-.033	.010	5
6	-.077		-.075	.100			.325	.270	6
7	.183		.255	.321			.361	.245	7
8	.259		.274	.329			.349	.198	8
9	.286		.279	.316			.394	.141	9
10	.296		.232	.282			.154	-.349	10
11	-.401		-.360	-.339			-.273	-.342	11
12	-.347		-.339	-.326			-.333	-.394	12
13	-.333		-.336	-.331			-.333	-.381	13
14	-.255		-.284	-.284			-.297	-.331	14
15	-.190		-.213	-.223			-.250	-.290	15
16	-.089		-.116	-.154			-.209	-.285	16
17	.228		.298	.294			.319	.257	17
18	.194		.281	.285			.299	.249	18
19	.195		.265	.295			.295	.165	19
20	.169		.208	.247			.258	.118	20
21	.065		.090	.151			.165	.054	21
22	.071		.074	.109				.038	22
23	.069			.103			.123	.199	23
24	.065		.057	.087			.095	.163	24
25	.064		.051	.075			.078	.146	25
26	-.003		.016	.045			.047	.056	26

α= 6° δ= 0°

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	-.054		-.049	-.038			-.036	-.040	1
2	-.050		-.044	-.032			-.031	.001	2
3	-.033		-.051	-.039			-.033	.011	3
4	-.058		-.073	-.063			-.068	-.015	4
5	-.137		-.146	-.122			-.094	-.065	5
6	-.131		-.138	.077			.222	.113	6
7	-.007		.153	.204			.235	.131	7
8	.175		.173	.211			.227	.111	8
9	.200		.193	.209			.214	.227	9
10	.221		.134	.187			.071	-.346	10
11	-.390		-.354	-.327			-.278	-.344	11
12	-.351		-.329	-.317			-.334	-.397	12
13	-.336		-.329	-.323			-.338	-.381	13
14	-.278		-.294	-.289			-.318	-.344	14
15	-.210		-.225	-.240			-.264	-.347	15
16	-.104		-.153	-.194			-.215	-.368	16
17	.336		.487	.505			.513	.406	17
18	.304		.437	.488			.513	.353	18
19	.303		.384	.444			.487	.265	19
20	.267		.312	.363			.389	.182	20
21	.152		.181	.241			.281	.099	21
22	.162		.164	.205				.049	22
23	.157			.192			.194	.125	23
24	.155		.148	.178			.167	.113	24
25	.149		.142	.152			.144	.138	25
26	.082		.100	.112			.111	.071	26

Table 9 continued

Wing-surface Pressure Coefficients

Configuration H M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 9°$ $\delta = 0°$					
1	-.121		-.122	-.117			-.123	-.124	1
2	-.097		-.115	-.108			-.112	-.050	2
3	-.090		-.120	-.113			-.112	-.065	3
4	-.114		-.135	-.138			-.144	-.105	4
5	-.184		-.196	-.191			-.083	-.155	5
6	-.168		.201	-.046			.123	-.088	6
7	-.121		.069	.108			.145	-.028	7
8	.107		.089	.113			.140	-.003	8
9	.132		.105	.117			.129	.213	9
10	.149		.053	.097			.003	-.339	10
11	-.369		-.325	-.320			-.276	-.334	11
12	-.326		-.307	-.300			-.321	-.376	12
13	-.322		-.303	-.303			-.329	-.363	13
14	-.274		-.285	-.288			-.314	-.359	14
15	-.210		-.240	-.245			-.268	-.344	15
16	-.130		-.183	-.213			-.232	-.324	16
17	.463		.698	.763			.814	.610	17
18	.418		.566	.663			.723	.481	18
19	.429		.511	.586			.635	.357	19
20	.387		.434	.467			.496	.249	20
21	.249		.264	.332			.368	.143	21
22	.264		.254	.283				.090	22
23	.248			.279			.268	.089	23
24	.251		.239	.266			.244	.086	24
25	.247		.232	.237			.218	.120	25
26	.164		.183	.202			.179	.069	26
				$\alpha = 12°$ $\delta = 0°$					
1	-.204		-.209	-.227			-.238	-.230	1
2	-.166		-.189	-.189			-.200	-.131	2
3	-.153		-.199	-.183			-.184	-.131	3
4	-.177		-.208	-.198			-.208	-.193	4
5	-.234		-.262	-.247			-.212	-.245	5
6	-.228		-.266	-.208			.039	-.121	6
7	-.206		-.032	.013			.032	-.113	7
8	.017		-.006	.019			.013	-.135	8
9	.059		-.003	.025			.010	-.044	9
10	.049		-.030	.003			-.100	-.334	10
11	-.374		-.324	-.315			-.284	-.333	11
12	-.313		-.282	-.289			-.331	-.366	12
13	-.310		-.278	-.284			-.338	-.366	13
14	-.270		-.250	-.269			-.328	-.378	14
15	-.222		-.215	-.244			-.293	-.373	15
16	-.163		.394	.383			-.260	-.362	16
17	.608		.868	.948			.977	.737	17
18	.524		.709	.809			.866	.580	18
19	.552		.638	.715			.747	.441	19
20	.492		.513	.548			.584	.333	20
21	.337		.346	.410			.445	.202	21
22	.351		.346	.384				.143	22
23	.329			.370			.348	.116	23
24	.331		.338	.355			.323	.088	24
25	.325		.324	.338			.289	.133	25
26	.237		.278	.295			.269	.081	26
				$\alpha = 12°$ $\delta = 15°$					
1	-.197		-.209	-.229			-.243	-.225	1
2	-.156		-.187	-.190			-.208	-.131	2
3	-.143		-.195	-.186			-.186	-.125	3
4	-.163		-.200	-.201			-.212	-.188	4
5	-.228		-.262	-.254			-.222	-.245	5
6	-.222		-.264	-.215			.031	-.120	6
7	-.220		-.028	.010			.026	-.108	7
8	.031		-.007	.018			.015	-.133	8
9	.068		.001	.017			.006	-.021	9
10	.052		-.036	.003			-.092	-.304	10
11	-.352		-.317	-.280			-.296	-.304	11
12	-.342		-.327	-.319			-.357	-.401	12
13	-.348		-.327	-.319			-.363	-.423	13
14	-.322		-.327	-.319			-.357	-.437	14
15	-.299		-.305	-.324			-.344	-.429	15
16	-.277		.438	-.322			-.332	-.399	16
17	.604		.867	.939			.964	.732	17
18	.533		.712	.800			.853	.577	18
19	.551		.638	.702			.737	.437	19
20	.499		.508	.538			.567	.329	20
21	.343		.344	.403			.433	.199	21
22	.351		.344	.367				.138	22
23	.336			.367			.326	.115	23
24	.338		.334	.351			.299	.084	24
25	.336		.336	.328			.280	.128	25
26	.593		.609	.299			.292	.076	26

Table 9 continued

Wing-surface Pressure Coefficients

Configuration H M= 1.61 R=3.6 x 10^6

α= 12° δ= −15°

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	-.196		-.209	-.233			-.245	-.242	1
2	-.158		-.186	-.195			-.197	-.145	2
3	-.144		-.193	-.191			-.191	-.145	3
4	-.163		-.208	-.203			-.209	-.210	4
5	-.232		-.261	-.256			-.212	-.265	5
6	-.223		-.260	-.213			.033	-.138	6
7	-.217		-.032	.012			.026	-.126	7
8	.034		-.004	.018			.011	-.154	8
9	.063		-.001	.019			.005	-.061	9
10	.057		-.032	.000			-.104	-.302	10
11	-.280		-.243	-.251			-.247	-.302	11
12	-.258		-.232	-.239			-.278	-.312	12
13	-.228		-.222	-.244			-.283	-.308	13
14	-.170		-.202	-.223			-.264	-.304	14
15	-.074		-.129	-.172			-.193	-.280	15
16	-.024		-.074	-.128			-.154	-.249	16
17	.614		.869	.942			.974	.724	17
18	.534		.716	.811			.867	.582	18
19	.561		.635	.713			.742	.438	19
20	.500		.517	.555			.582	.327	20
21	.343		.351	.413			.450	.193	21
22	.356		.348	.384				.135	22
23	.342			.373			.341	.109	23
24	.341		.337	.349			.325	.076	24
25	.329		.327	.337			.300	.121	25
26	.247		.275	.293			.270	.076	26

α= 15° δ= 0°

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	-.258		-.311	-.362			-.358	-.371	1
2	-.205		-.258	-.277			-.299	-.257	2
3	-.187		-.253	-.256			-.260	-.257	3
4	-.207		-.263	-.271			-.270	-.310	4
5	-.265		-.310	-.303			-.226	-.357	5
6	-.250		-.310	-.247			-.048	-.273	6
7	-.246		-.110	-.073			-.080	-.227	7
8	-.028		-.094	-.067			-.104	-.230	8
9	.010		-.088	-.063			-.102	-.187	9
10	-.007		-.117	-.083			-.196	-.347	10
11	-.351		-.312	-.307			-.277	-.347	11
12	-.316		-.290	-.287			-.338	-.352	12
13	-.316		-.282	-.287			-.338	-.351	13
14	-.278		-.282	-.287			-.334	-.359	14
15	-.242		-.267	-.287			-.316	-.368	15
16	-.199		-.244	-.273			-.284	-.362	16
17	.788		1.030	1.088			1.088	.804	17
18	.702		.852	.938			.973	.646	18
19	.716		.753	.818			.838	.498	19
20	.598		.595	.642			.680	.389	20
21	.445		.430	.502			.538	.240	21
22	.483		.483	.525				.208	22
23	.482			.538			.468	.179	23
24	.508		.521	.522			.445	.140	24
25	.488		.488	.498			.430	.194	25
26	.385		.403	.420			.386	.128	26

α= −3° δ= 0°

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
1	.235		.317	.331			.328	.273	1
2	.205		.289	.299			.292	.215	2
3	.208		.273	.299			.290	.169	3
4	.204		.214	.254			.239	.115	4
5	.080		.091	.143			.163	.299	5
6	.079		.082	.469			.584	.373	6
7	.419		.492	.560			.612	.298	7
8	.490		.505	.570			.609	.245	8
9	.508		.507	.563			.624	.140	9
10	.508		.468	.535			.425	-.352	10
11	-.352		-.342	-.351			-.297	-.352	11
12	-.324		-.326	-.334			-.343	-.357	12
13	-.287		-.326	-.334			-.343	-.338	13
14	-.172		-.209	-.229			-.303	-.263	14
15	-.101		-.115	-.141			-.224	-.193	15
16	-.053		-.066	-.095			-.163	-.148	16
17	.044		.044	.037			.046	.046	17
18	.046		.045	.042			.142	.084	18
19	.039		.039	.042			.050	.065	19
20	.017		.020	.016			.017	.025	20
21	-.066		-.064	-.051			-.045	-.003	21
22	-.059		-.076	-.072				.210	22
23	-.065			-.074			-.071	.025	23
24	-.066		-.086	-.077			-.077	-.068	24
25	-.067		-.094	-.085				-.094	25
26	-.116		-.120	-.114			-.106	-.145	26

Table 9 continued

Wing-surface Pressure Coefficients

Configuration H M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -6°$ $\delta = 0°$					
1	.358		.507	.527			.516	.457	1
2	.300		.449	.512			.524	.344	2
3	.311		.396	.457			.497	.294	3
4	.306		.321	.371			.389	.192	4
5	.166		.186	.238			.383	.192	5
6	.178		.383	.651			.773	.466	6
7	.588		.624	.707			.785	.502	7
8	.625		.638	.736			.791	.512	8
9	.643		.654	.740			.812	.352	9
10	.649		.638	.716			.660	-.362	10
11	-.339		-.329	-.347			-.301	-.357	11
12	-.316		-.322	-.333			-.353	-.368	12
13	-.268		-.314	-.334			-.351	-.364	13
14	-.119		-.175	-.255			-.283	-.346	14
15	-.028		-.048	-.155			-.207	-.294	15
16	-.010		-.013	-.076			-.159	-.244	16
17	-.053		-.054				-.048	-.016	17
18	-.027		-.056	-.052			-.013	.040	18
19	-.028		-.055	-.053			-.046	.018	19
20	-.061		-.072	-.077			-.081	-.021	20
21	-.130		-.144	-.131			-.134	-.063	21
22	-.123		-.145	-.152				.140	22
23	-.128			-.155			-.150	-.133	23
24	-.132		-.148	-.157			-.157	-.227	24
25	-.133		-.158	-.167			-.149	-.227	25
26	-.177		-.179	-.178			-.160	-.277	26
				$\alpha = -9°$ $\delta = 0°$					
1	.485		.710	.788			.809	.665	1
2	.412		.581	.671			.737	.503	2
3	.430		.521	.598			.640	.391	3
4	.418		.436	.479			.496	.250	4
5	.262		.276	.328			.751	.436	5
6	.534		.710	.823			.962	.570	6
7	.744		.790	.904			1.030	.656	7
8	.782		.815	.959			1.036	.610	8
9	.803		.860	.993			1.043	.542	9
10	.810		.872	.950			.902	-.371	10
11	-.339		-.331	-.368			-.317	-.373	11
12	-.302		-.322	-.357			-.372	-.383	12
13	-.265		-.314	-.358			-.374	-.381	13
14	-.078		-.187	-.255			-.346	-.378	14
15	.015		-.041	-.128			-.280	-.356	15
16	.025		.015	-.056			-.210	-.321	16
17	-.131		-.137	-.148			-.140	-.104	17
18	-.089		-.131	-.133			-.097	-.011	18
19	-.089		-.131	-.129			-.124	-.065	19
20	-.117		-.145	-.148			-.150	-.098	20
21	-.179		-.209	-.196			-.196	-.159	21
22	-.175		-.212	-.216				-.194	22
23	-.180			-.221			-.214	-.240	23
24	-.184		-.204	-.222			-.216	-.277	24
25	-.182		-.210	-.229			-.203	-.289	25
26	-.221		-.231	-.244			-.214	-.347	26
				$\alpha = -12°$ $\delta = 0°$					
1	.594		.852	.929			.977	.806	1
2	.508		.696	.798			.900	.631	2
3	.537		.628	.704			.827	.530	3
4	.508		.514	.555			.781	.481	4
5	.337		.339	.779			.854	.527	5
6	.770		.858	.962			1.006	.595	6
7	.898		.971	1.110			1.147	.700	7
8	.944		1.032	1.144			1.165	.665	8
9	.978		1.085	1.157			1.174	.656	9
10	.993		1.062	1.160			1.069	-.388	10
11	-.351		-.348	-.371			-.323	-.388	11
12	-.316		-.332	-.362			-.377	-.401	12
13	-.274		-.333	-.366			-.382	-.398	13
14	-.063		-.203	-.288			-.373	-.402	14
15	.064		-.026	-.150			-.309	-.384	15
16	.081		.048	-.054			-.224	-.347	16
17	-.184		-.212	-.235			-.247	-.239	17
18	-.140		-.191	-.198			-.185	-.114	18
19	-.137		-.187	-.184			-.186	-.149	19
20	-.157		-.200	-.201			-.205	-.183	20
21	-.218		-.260	-.246			-.246	-.254	21
22	-.210		-.263	-.261				-.317	22
23	-.215			-.266			-.263	-.339	23
24	-.218		-.247	-.270			-.269	-.364	24
25	-.222		-.248	-.274			-.249	-.332	25
26	-.253		-.265	-.288			-.248	-.369	26

Table 9 concluded

Wing-surface Pressure Coefficients

Configuration H M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -12°$ $\delta = 15°$					
1	.600		.860	.934			.990	.803	1
2	.509		.701	.804			.914	.632	2
3	.542		.632	.710			.841	.526	3
4	.514		.516	.564			.790	.468	4
5	.341		.343	.788			.858	.513	5
6	.778		.868	.969			1.006	.582	6
7	.908		.981	1.115			1.151	.687	7
8	.956		1.044	1.152			1.170	.654	8
9	.993		1.097	1.165			1.180	.639	9
10	1.008		1.083	1.168			1.090	-.418	10
11	-.447		-.425	-.427			-.346	-.418	11
12	-.401		-.432	-.426			-.418	-.419	12
13	-.372		-.417	-.426			-.423	-.416	13
14	-.304		-.373	-.393			-.417	-.417	14
15	-.269		-.319	-.349			-.401	-.412	15
16	-.203		-.223	-.280			-.376	-.412	16
17	-.187		-.215	-.239			-.258	-.264	17
18	-.140		-.195	-.201			-.205	-.135	18
19	-.139		-.190	-.187			-.190	-.165	19
20	-.160		-.204	-.206			-.209	-.200	20
21	-.217		-.261	-.248			-.249	-.273	21
22	-.212		-.266	-.263				-.334	22
23	-.216			-.271			-.269	-.361	23
24	-.221		-.248	-.272			-.275	-.388	24
25	-.221		-.248	-.276			-.253	-.347	25
26	-.254		-.268	-.290			-.252	-.382	26
				$\alpha = -12°$ $\delta = -15°$					
1	.597		.858	.931			.983	.801	1
2	.508		.698	.801			.907	.626	2
3	.539		.632	.705			.834	.522	3
4	.509		.518	.559			.785	.472	4
5	.342		.343	.785			.857	.516	5
6	.772		.865	.968			1.007	.588	6
7	.905		.978	1.112			1.150	.691	7
8	.950		1.041	1.149			1.168	.657	8
9	.984		1.094	1.159			1.179	.641	9
10	1.001		1.071	1.165			1.045	-.333	10
11	.001		-.035	-.131			-.201	-.322	11
12	-.043		-.048	-.144			-.228	-.339	12
13	.029		-.066	-.158			-.235	-.342	13
14	.282		.095	-.076			-.243	-.347	14
15	.531		.403	.183			-.083	-.243	15
16	.480		.482	.318			.060	-.149	16
17	-.187		-.214	-.237			-.251	-.253	17
18	-.138		-.193	-.199			-.206	-.126	18
19	-.135		-.189	-.184			-.187	-.155	19
20	-.157		-.200	-.204			-.205	-.189	20
21	-.218		-.259	-.247			-.241	-.260	21
22	-.211		-.264	-.261				-.327	22
23	-.215			-.269			-.262	-.346	23
24	-.218		-.249	-.269			-.268	-.382	24
25	-.218		-.248	-.276			-.249	-.346	25
26	-.254		-.265	-.290			-.247	-.374	26
				$\alpha = -15°$ $\delta = 0°$					
1	.757		1.053	1.161			1.180	.952	1
2	.668		.902	1.041			1.106	.781	2
3	.728		.847	.966			1.023	.680	3
4	.687		.795	.910			.943	.593	4
5	.750		.848	.926			.952	.596	5
6	.915		.970	1.030			1.039	.607	6
7	1.055		1.088	1.160			1.186	.727	7
8	1.133		1.166	1.223			1.221	.709	8
9	1.172		1.226	1.255			1.233	.650	9
10	1.195		1.239	1.253			1.137	-.403	10
11	-.374		-.350	-.364			-.328	-.406	11
12	-.338		-.349	-.359			-.384	-.433	12
13	-.343		-.347	-.367			-.387	-.432	13
14	-.155		-.249	-.338			-.382	-.437	14
15	.029		-.063	-.202			-.334	-.399	15
16	.095		.038	-.063			-.247	-.339	16
17	-.249		-.323	-.394			-.437	-.414	17
18	-.188		-.265	-.299			-.312	-.294	18
19	-.184		-.252	-.270			-.311	-.304	19
20	-.205		-.255	-.270			-.302	-.319	20
21	-.254		-.310	-.302			-.322	-.362	21
22	-.248		-.313	-.315				-.409	22
23	-.253			-.318			-.329	-.417	23
24	-.255		-.298	-.316			-.336	-.433	24
25	-.254		-.290	-.324			-.317	-.413	25
26	-.287		-.300	-.333			-.303	-.423	26

Table 10

Wing-surface Pressure Coefficients

Configuration I M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 0°$ $\delta = 0°$					
1	.138		.153	.163			.154	.126	1
2	.116		.156	.158			.158	.107	2
3	.115		.152	.158			.151	.107	3
4	.112		.115	.130			.112	.070	4
5	.003		.013	.044			.046	.030	5
6	.004		.000	.012			.016	.016	6
7	.005		-.009	.009			.013	-.006	7
8	-.011		-.010	.002			-.006	.020	8
9	-.008		-.027	-.026			-.021	-.007	9
10	-.035		-.052	-.047			-.049	-.004	10
11	-.023		-.051	-.062			-.055	-.025	11
12			-.030	.001			.016	.049	12
13	.025		.001	.001			.004	.044	13
14	-.001		.011	.042			.304	.215	14
15	.254		.312	.348			.375	.275	15
16	.378		.386	.393			.396	.351	16
17	.140		.151	.145			.154	.130	17
18	.117		.156	.152			.160	.165	18
19	.118		.155	.154			.154	.107	19
20	.097		.112	.117			.115	.060	20
21	.006		.008	.046			.042	.031	21
22	.010		-.001	.018				.019	22
23	.006			.012			.012	.014	23
24	.001		-.017	.004			-.001	-.002	24
25	-.002		-.028	-.017			-.018	.017	25
26	-.053		-.058	-.048			-.044	-.010	26
28	.015		.001	-.004			.002	.025	28
29			.001	.005			.014	.026	29
30	-.002		.001	.005			.001	.026	30
31			.001	.005			.002	.126	31
32	.004		.001	-.009			.002	.077	32
				$\alpha = 0°$ $\delta = 15°$					
1	.142		.163	.165			.161	.121	1
2	.108		.165	.166			.167	.102	2
3	.128		.160	.168			.164	.095	3
4	.113		.125	.136			.121	.066	4
5	.012		.018	.055			.056	.012	5
6	.005		.010	.017			.030	.004	6
7	.013		-.001	.013			.022	-.012	7
8	-.005		.002	.009			.004	.000	8
9	.004		-.021	-.019			-.015	-.012	9
10	-.030		-.040	-.045			-.043	-.011	10
11	-.020		-.040	-.055			-.045	-.011	11
12			-.264	-.265			-.256	-.204	12
13	-.265		-.287	-.285			-.285	-.166	13
14	-.261		-.287	-.285			-.116	-.099	14
15	-.182		-.127	-.074			-.060	-.074	15
16	-.050		-.047	-.041			-.037	.021	16
17	.146		.159	.141			.151	.114	17
18	.122		.156	.147			.160	.152	18
19	.123		.157	.152			.156	.101	19
20	.104		.118	.121			.114	.042	20
21	.010		.017	.042			.041	.019	21
22	.012		.009	.019				.009	22
23	.008			.013			.012	.001	23
24	.007		-.010	.007			-.002	-.012	24
25	.005		-.018	-.016			-.011	.004	25
26	.065		.162	.032			.114	-.014	26
28	.311		.306	.321			.325	.318	28
29			.382	.398			.403	.326	29
30	.465		.483	.498			.486	.312	30
31			.532	.523			.520	.256	31
32	.466		.493	.501			.498	.240	32
				$\alpha = 0°$ $\delta = -15°$					
1	.139		.158	.167			.153	.119	1
2	.100		.156	.161			.154	.104	2
3	.118		.151	.160			.150	.104	3
4	.104		.115	.130			.105	.067	4
5	.006		.010	.043			.045	.024	5
6	-.001		.000	.012			.014	.016	6
7	.000		-.009	.006			.033	.010	7
8	.025		.154	.265			.348	.224	8
9	.329		.360	.336			.372	.299	9
10	.359		.375	.386			.377	.277	10
11	.367		.372	.384			.393	.251	11
12			.387	.403			.393	.242	12
13	.423		.410	.425			.400	.251	13
14	.528		.500	.552			.495	.289	14
15	.659		.607	.673			.615	.352	15
16	.892		.774	.839			.762	.581	16
17	.147		.156	.142			.160	.130	17
18	.118		.157	.149			.163	.169	18
19	.120		.157	.156			.160	.109	19
20	.105		.120	.120			.125	.066	20
21	.006		.014	.044			.048	.026	21
22	.012		.006	.022				.015	22
23	.006			.013			.017	.015	23
24	.002		-.012	.007			.000	.001	24
25	-.001		-.021	-.013			-.008	.114	25
26	-.046		-.053	-.045			-.037	.144	26
28	-.267		-.279	-.277			-.265	-.044	28
29			-.290	-.277			-.279	-.060	29
30	-.232		-.290	-.294			-.290	-.152	30
31			-.290	-.294			-.301	-.242	31
32	-.285		-.290	-.294			-.301	-.277	32

Table 10 continued

Wing-surface Pressure Coefficients

Configuration I $M = 1.61$ $R = 3.6 \times 10^6$

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 3°$ $\delta = 0°$					
1	.042		.052	.056			.046	.037	1
2	.029		.050	.055			.058	.057	2
3	.040		.043	.050			.052	.065	3
4	.021		.022	.035			.011	.044	4
5	-.065		-.064	-.040			-.045	-.006	5
6	-.070		-.072	-.064			-.071	-.007	6
7	-.061		-.072	-.070			-.065	-.027	7
8	-.073		-.072	-.078			-.084	-.032	8
9	-.067		-.094	-.021			-.092	-.045	9
10	-.098		-.111	-.111			-.111	-.057	10
11	-.086		-.108	-.127			-.108	-.087	11
12			-.081	-.075			-.057	-.035	12
13	-.030		-.055	-.064			-.041	-.035	13
14	-.030		-.045	-.037			.237	-.075	14
15	.180		.222	.246			.271	.211	15
16	.306		.312	.302			.292	.375	16
17	.241		.299	.283			.292	.256	17
18	.195		.287	.283			.291	.247	18
19	.201		.273	.287			.296	.179	19
20	.181		.210	.244			.244	.117	20
21	.079		.091	.149			.154	.070	21
22	.088		.080	.107				.037	22
23	.078			.087			.109	.015	23
24	.078		.062	.076			.086	-.001	24
25	.070		.052	.065			.071	.020	25
26	.012		.022	.037			.028	-.006	26
28	.082		.075	.077			.075	.035	28
29			.075	.079			.075	.022	29
30	.065		.075	.079			.056	-.001	30
31			.075	.074			.051	.016	31
32	.094		.075	.070			.052	.107	32
				$\alpha = 6°$ $\delta = 0°$					
1	-.039		-.041	-.030			-.041	-.040	1
2	-.032		-.038	-.037			-.032	-.006	2
3	-.017		-.046	-.038			-.038	.010	3
4	-.034		-.062	-.057			-.071	-.017	4
5	-.115		-.132	-.115			-.118	-.071	5
6	-.116		-.132	-.141			-.138	-.111	6
7	-.111		-.132	-.143			-.142	-.154	7
8	-.122		-.131	-.149			-.148	-.185	8
9	-.123		-.145	-.153			-.146	-.177	9
10	-.146		-.161	-.182			-.160	-.194	10
11	-.140		-.161	-.190			-.147	-.214	11
12			-.135	-.139			-.107	-.165	12
13	-.086		-.110	-.127			-.097	-.137	13
14	-.086		-.110	-.111			.164	-.220	14
15	.107		.137	.162			.197	.115	15
16	.232		.232	.212			.212	.277	16
17	.346		.487	.491			.497	.388	17
18	.303		.437	.478			.502	.356	18
19	.306		.387	.442			.484	.272	19
20	.282		.309	.353			.385	.179	20
21	.161		.177	.235			.270	.091	21
22	.173		.162	.199				.049	22
23	.166			.182			.187	.021	23
24	.163		.151	.176			.163	-.012	24
25	.157		.137	.152			.138	.021	25
26	.086		.097	.119			.096	-.017	26
28	.139		.142	.147			.129	.016	28
29			.142	.160			.126	.016	29
30	.132		.144	.152			.114	-.006	30
31			.144	.142			.100	-.015	31
32	.135		.139	.139			.100	.030	32
				$\alpha = 6°$ $\delta = 15°$					
1	-.045		-.041	-.036			-.042	-.032	1
2	-.042		-.037	-.035			-.035	-.004	2
3	-.026		-.046	-.037			-.040	.014	3
4	-.042		-.068	-.054			-.072	-.007	4
5	-.135		-.137	-.119			-.119	-.067	5
6	-.132		-.137	-.139			-.140	-.104	6
7	-.124		-.137	-.142			-.142	-.150	7
8	-.133		-.134	-.149			-.155	-.184	8
9	-.132		-.149	-.163			-.144	-.166	9
10	-.150		-.166	-.181			-.160	-.189	10
11	-.148		-.166	-.193			-.146	-.160	11
12			-.325	-.336			-.309	-.285	12
13	-.317		-.341	-.352			-.343	-.239	13
14	-.317		-.352	-.352			-.254	-.360	14
15	-.317		-.231	-.189			-.136	-.197	15
16	-.074		-.150	-.160			-.124	-.119	16
17	.339		.484	.483			.483	.383	17
18	.302		.429	.477			.487	.345	18
19	.292		.380	.439			.476	.265	19
20	.259		.300	.346			.375	.179	20
21	.159		.177	.226			.259	.104	21
22	.166		.157	.188				.059	22
23	.160			.172			.178	.025	23
24	.153		.145	.172			.148	-.019	24
25	.189		.400	.309			.134	.021	25
26	.509		.533	.538			.484	.200	26
28	.558		.571	.578			.541	.306	28
29			.603	.625			.611	.366	29
30	.738		.721	.754			.718	.446	30
31			.769	.788			.719	.417	31
32	.625		.653	.671			.659	.387	32

Table 10 continued
Wing-surface Pressure Coefficients
Configuration I M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				α= 6° δ= −15°					
1	-.052		-.041	-.038			-.050	-.040	1
2	-.045		-.042	-.039			-.040	-.007	2
3	-.036		-.047	-.042			-.044	.004	3
4	-.048		-.066	-.057			-.081	-.031	4
5	-.131		-.136	-.120			-.124	-.076	5
6	-.136		-.136	-.144			-.144	-.125	6
7	-.122		-.141	-.148			-.139	-.170	7
8	-.139		-.130	.106			.154	-.201	8
9	-.085		.136	.108			.184	-.194	9
10	.155		.159	.179			.178	-.147	10
11	.160		.159	.181			.192	-.025	11
12			.180	.195			.192	.072	12
13	.226		.202	.195			.192	.145	13
14	.342		.286	.246			.284	.134	14
15	.478		.398	.318			.382	.430	15
16	.684		.601	.403			.448	.826	16
17	.346		.489	.507			.517	.420	17
18	.317		.438	.491			.524	.381	18
19	.302		.390	.450			.500	.277	19
20	.292		.314	.362			.403	.189	20
21	.160		.182	.244			.284	.097	21
22	.171		.165	.201				.057	22
23	.162			.191			.193	.035	23
24	.152		.151	.174			.167	-.004	24
25	.153		.139	.163			.149	.022	25
26	.094		.107	.123			.107	-.010	26
28	-.186		-.185	-.189			-.192	-.240	28
29			-.201	-.189			-.210	-.205	29
30	-.161		-.201	-.184			-.217	-.129	30
31			-.201	-.195			-.222	-.056	31
32	-.202		-.201	-.200			-.222	-.079	32
				α= 9° δ= 0°					
1	-.126		-.122	-.118			-.133	-.130	1
2	-.098		-.120	-.111			-.121	-.049	2
3	-.091		-.121	-.111			-.120	-.076	3
4	-.107		-.138	-.138			-.148	-.115	4
5	-.185		-.205	-.188			-.191	-.157	5
6	-.179		-.198	-.205			-.209	-.257	6
7	-.172		-.192	-.212			-.207	-.285	7
8	-.185		-.187	-.212			-.216	-.296	8
9	-.184		-.199	-.172			-.212	-.305	9
10	-.202		-.207	-.243			-.212	-.297	10
11	-.190		-.207	-.252			-.192	-.297	11
12			-.176	-.195			-.155	-.249	12
13	-.151		-.154	-.190			-.141	-.231	13
14	-.141		-.155	-.171			.080	-.262	14
15	.032		.070	.072			.120	-.006	15
16	.174		.159	.112			.134	.195	16
17	.457		.692	.755			.799	.613	17
18	.410		.565	.644			.718	.485	18
19	.419		.505	.582			.637	.355	19
20	.383		.427	.456			.490	.245	20
21	.248		.262	.322			.357	.135	21
22	.262		.255	.282				.089	22
23	.252			.271			.258	.055	23
24	.247		.240	.252			.228	.021	24
25	.244		.234	.239			.201	.050	25
26	.164		.183	.191			.156	.006	26
28	.225		.236	.242			.202	.026	28
29			.236	.242			.189	.012	29
30	.210		.234	.236			.167	.000	30
31			.234	.226			.164	-.001	31
32	.212		.215	.211			.152	-.001	32
				α= 12° δ= 0°					
1	-.184		-.196	-.220			-.234	-.237	1
2	-.137		-.182	-.189			-.206	-.146	2
3	-.134		-.185	-.183			-.185	-.146	3
4	-.143		-.196	-.199			-.209	-.210	4
5	-.218		-.248	-.244			-.240	-.261	5
6	-.198		-.251	-.254			-.265	-.333	6
7	-.206		-.243	-.258			-.258	-.372	7
8	-.209		-.233	-.262			-.266	-.352	8
9	-.211		-.234	-.246			-.249	-.362	9
10	-.230		-.241	-.283			-.256	-.360	10
11	-.227		-.240	-.293			-.219	-.360	11
12			-.226	-.254			-.216	-.317	12
13	-.187		-.206	-.250			-.200	-.299	13
14	-.177		-.202	-.234			-.011	-.330	14
15	-.042		-.010	-.011			.050	-.107	15
16	.110		.082	.022			.057	.077	16
17	.579		.868	.941			.967	.719	17
18	.531		.710	.797			.860	.570	18
19	.554		.641	.709			.735	.423	19
20	.501		.514	.549			.580	.317	20
21	.346		.349	.406			.438	.184	21
22	.360		.345	.372				.125	22
23	.348			.366			.340	.101	23
24	.343		.339	.348			.313	.055	24
25	.335		.328	.323			.292	.094	25
26	.250		.272	.288			.241	.044	26
28	.301		.312	.320			.275	.046	28
29			.312	.318			.261	.046	29
30	.284		.305	.307			.249	.034	30
31			.305	.295			.231	.024	31
32	.291		.297	.279			.225	.030	32

Table 10 continued

Wing-surface Pressure Coefficients

Configuration I M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
$\alpha = 12°$ $\delta = 15°$									
1	-.187		-.204	-.218			-.236	-.229	1
2	-.150		-.187	-.185			-.204	-.131	2
3	-.136		-.193	-.181			-.183	-.131	3
4	-.154		-.200	-.198			-.209	-.190	4
5	-.223		-.255	-.242			-.244	-.247	5
6	-.219		-.260	-.258			-.260	-.332	6
7	-.220		-.253	-.264			-.269	-.356	7
8	-.222		-.241	-.265			-.269	-.356	8
9	-.215		-.250	-.266			-.249	-.343	9
10	-.239		-.254	-.286			-.254	-.318	10
11	-.238		-.254	-.294			-.229	-.301	11
12			-.373	-.390			-.357	-.392	12
13	-.348		-.391	-.408			-.388	-.392	13
14	-.361		-.391	-.408			-.371	-.415	14
15	-.386		-.323	-.297			-.224	-.315	15
16	-.134		-.232	-.262			-.210	-.212	16
17	.567		.854	.929			.954	.714	17
18	.527		.703	.796			.849	.576	18
19	.536		.629	.700			.729	.432	19
20	.486		.505	.542			.575	.310	20
21	.340		.343	.402			.428	.184	21
22	.355		.340	.363				.131	22
23	.375			.638			.468	.107	23
24	.703		.732	.786			.694	.279	24
25	.785		.822	.858			.803	.421	25
26	.829		.856	.905			.862	.475	26
28	.903		.907	.959			.909	.512	28
29			.944	.987			.960	.567	29
30	1.009		1.015	1.013			.960	.622	30
31			.938	.924			.872	.538	31
32	.719		.743	.752			.757	.471	32
$\alpha = 12°$ $\delta = -15°$									
1	-.181		-.202	-.225			-.253	-.232	1
2	-.146		-.183	-.195			-.211	-.131	2
3	-.134		-.193	-.185			-.194	-.144	3
4	-.157		-.199	-.206			-.218	-.209	4
5	-.222		-.256	-.254			-.249	-.252	5
6	-.212		-.259	-.267			-.274	-.331	6
7	-.214		-.253	-.268			-.260	-.368	7
8	-.221		-.060	-.051			-.144	-.350	8
9	-.214		-.019	-.042			-.030	-.361	9
10	-.015		-.001	-.003			-.027	-.361	10
11	.021		-.002	-.002			-.005	-.306	11
12			.015	.026			-.006	-.172	12
13	.087		.012	.026			.009	-.131	13
14	.207		.060	.052			.135	-.165	14
15	.343		.130	.105			.260	.031	15
16	.623		.237	.155			.378	.445	16
17	.591		.876	.949			.973	.739	17
18	.546		.721	.810			.868	.597	18
19	.565		.641	.708			.743	.447	19
20	.514		.519	.547			.590	.341	20
21	.351		.354	.404			.442	.212	21
22	.367		.355	.375				.144	22
23	.352			.375			.348	.121	23
24	.348		.347	.360			.316	.086	24
25	.338		.338	.342			.294	.126	25
26	.253		.281	.291			.243	.066	26
28	-.092		-.094	-.101			-.112	-.230	28
29			-.101	-.101			-.136	-.247	29
30	-.072		-.101	-.100			-.136	-.247	30
31			-.112	-.109			-.145	-.207	31
32	-.089		-.112	-.119			-.151	-.199	32
$\alpha = 15°$ $\delta = 0°$									
1	-.256		-.306	-.341			-.368	-.343	1
2	-.205		-.258	-.276			-.293	-.239	2
3	-.187		-.250	-.253			-.264	-.239	3
4	-.207		-.259	-.263			-.281	-.287	4
5	-.262		-.308	-.304			-.297	-.332	5
6	-.253		-.307	-.309			-.316	-.391	6
7	-.255		-.306	-.310			-.308	-.416	7
8	-.265		-.295	-.312			-.315	-.386	8
9	-.259		-.287	-.221			-.303	-.408	9
10	-.276		-.280	-.331			-.300	-.401	10
11	-.280		-.280	-.336			-.252	-.378	11
12			-.256	-.300			-.252	-.367	12
13	-.219		-.245	-.297			-.242	-.357	13
14	-.219		-.241	-.291			-.101	-.383	14
15	-.126		-.057	-.095			-.026	-.217	15
16	.066		.017	-.057			-.010	-.044	16
17	.739		1.028	1.067			1.077	.809	17
18	.679		.850	.922			.956	.653	18
19	.704		.755	.804			.838	.502	19
20	.587		.595	.633			.666	.387	20
21	.431		.431	.492			.520	.245	21
22	.478		.479	.506				.206	22
23	.475			.521			.451	.175	23
24	.490		.503	.509			.427	.136	24
25	.478		.475	.476			.405	.167	25
26	.378		.403	.407			.349	.117	26
28	.435		.455	.450			.380	.119	28
29			.455	.450			.376	.109	29
30	.435		.455	.436			.352	.101	30
31			.455	.418			.342	.094	31
32	.418		.415	.403			.342	.094	32

Table 10 continued

Wing-surface Pressure Coefficients

Configuration I M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -3°$ $\delta = 0°$					
1	.234		.294	.307			.311	.256	1
2	.197		.284	.295			.286	.206	2
3	.208		.263	.297			.282	.164	3
4	.204		.209	.252			.234	.132	4
5	.080		.089	.148			.159	.062	5
6	.067		.083	.106			.124	.027	6
7	.081		.066	.093			.106	.006	7
8	.071		.075	.079			.078	.006	8
9	.071		.057	.042			.055	-.001	9
10	.032		.023	.029			.024	-.001	10
11	.055		.025	.015			.007	-.022	11
12			.040	.081			.096	.050	12
13	.086		.081	.092			.069	.050	13
14	.066		.086	.156			.367	.249	14
15	.361		.415	.451			.457	.306	15
16	.477		.485	.503			.496	.412	16
17	.062		.058	.045			.050	.042	17
18	.133		.057	.053			.064	.094	18
19	.053		.052	.052			.055	.067	19
20	.031		.032	.026			.014	.030	20
21	-.055		-.051	-.043			-.041	-.002	21
22	-.058		-.061	-.065				-.001	22
23	-.054			-.064			-.069	-.019	23
24	-.057		-.077	-.070			-.081	-.037	24
25	-.058		-.086	-.078			-.080	-.020	25
26	-.100		-.110	-.108			-.108	-.042	26
28	-.035		-.049	-.062			-.042	-.034	28
29			-.049	-.041			-.036	-.044	29
30	-.041		-.049	-.049			-.036	-.030	30
31			-.049	-.049			-.036	.054	31
32	-.040		-.049	-.056			-.036	-.057	32
				$\alpha = -6°$ $\delta = 0°$					
1	.347		.490	.499			.471	.403	1
2	.289		.431	.483			.475	.302	2
3	.302		.380	.441			.461	.269	3
4	.298		.312	.359			.378	.176	4
5	.165		.173	.234			.271	.095	5
6	.164		.159	.180			.219	.024	6
7	.161		.149	.175			.173	.002	7
8	.153		.160	.172			.142	-.007	8
9	.152		.134	.135			.106	-.007	9
10	.102		.095	.105			.067	-.007	10
11	.129		.095	.078			.051	-.035	11
12			.107	.145			.149	.011	12
13	.154		.145	.155			.114	.040	13
14	.134		.185	.328			.438	.256	14
15	.476		.492	.550			.515	.285	15
16	.585		.567	.597			.557	.453	16
17	-.032		-.035	-.043			-.039	-.011	17
18	-.004		-.030	-.037			-.030	.027	18
19	-.015		-.033	-.036			-.035	.017	19
20	-.037		-.050	-.060			-.072	-.019	20
21	-.108		-.121	-.116			-.119	-.056	21
22	-.113		-.129	-.140				-.075	22
23	-.110			-.138			-.140	-.120	23
24	-.115		-.129	-.141			-.148	-.166	24
25	-.113		-.142	-.152			-.145	-.140	25
26	-.159		-.171	-.164			-.160	-.180	26
28	-.100		-.129	-.144			-.109	-.160	28
29			-.114	-.124			-.092	-.160	29
30	-.100		-.114	-.124			-.094	-.222	30
31			-.114	-.124			-.094	-.115	31
32	-.100		-.114	-.124			-.087	-.192	32
				$\alpha = -6°$ $\delta = 15°$					
1	.349		.489	.502			.500	.423	1
2	.290		.433	.492			.507	.336	2
3	.303		.381	.449			.483	.291	3
4	.292		.322	.367			.374	.191	4
5	.163		.180	.238			.281	.115	5
6	.160		.157	.188			.234	.046	6
7	.160		.149	.192			.193	.010	7
8	.151		.153	.181			.160	-.002	8
9	.151		.136	.151			.124	-.002	9
10	.104		.098	.110			.083	-.002	10
11	.119		.096	.109			.065	-.027	11
12			-.182	-.182			-.186	-.251	12
13	-.185		-.209	-.209			-.220	-.251	13
14	-.167		-.206	-.195			-.220	-.014	14
15	-.066		.009	.052			.069	.036	15
16	.092		.082	.105			.084	.054	16
17	-.039		-.047	-.043			-.044	-.012	17
18	-.021		-.044	-.038			-.034	.036	18
19	-.026		-.043	-.035			-.042	.017	19
20	-.045		-.064	-.070			-.074	-.014	20
21	-.119		-.134	-.123			-.119	-.049	21
22	-.124		-.138	-.138				-.090	22
23	-.123			-.144			-.146	-.132	23
24	-.126		-.139	-.141			-.155	-.170	24
25	-.124		-.150	-.155			-.145	-.150	25
26	-.135		-.145	-.170			-.015	-.185	26
28	.150		.135	.149			.150	.170	28
29			.212	.216			.225	.221	29
30	.262		.301	.291			.313	-.062	30
31			.331	.306			.351	.030	31
32	.316		.312	.306			.343	.117	32

Table 10 continued

Wing-surface Pressure Coefficients

Configuration I M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -6°$ $\delta = -15°$					
1	.350		.497	.502			.479	.421	1
2	.294		.432	.488			.481	.323	2
3	.305		.386	.443			.464	.285	3
4	.297		.318	.362			.373	.189	4
5	.163		.181	.234			.270	.105	5
6	.165		.160	.187			.221	.041	6
7	.323		.449	.537			.542	.232	7
8	.555		.562	.588			.618	.289	8
9	.592		.587	.602			.635	.336	9
10	.606		.608	.628			.640	.336	10
11	.613		.598	.634			.651	.310	11
12			.642	.656			.664	.331	12
13	.656		.672	.676			.664	.346	13
14	.749		.773	.779			.747	.445	14
15	.862		.886	.906			.839	.550	15
16	1.020		1.058	1.028			.934	.883	16
17	-.037		-.040	-.047			-.036	-.007	17
18	-.017		-.039	-.041			-.030	.042	18
19	-.017		-.038	-.038			-.030	.022	19
20	-.039		-.055	-.069			-.072	-.010	20
21	-.112		-.127	-.121			-.116	-.036	21
22	-.115		-.133	-.136				-.072	22
23	-.117			-.143			-.137	-.117	23
24	-.118		-.134	-.137			-.148	-.117	24
25	-.123		-.144	-.156			-.146	.004	25
26	-.154		-.169	-.173			-.157	-.080	26
28	-.321		-.332	-.352			-.322	-.373	28
29			-.345	-.342			-.331	-.357	29
30	-.280		-.352	-.362			-.340	-.340	30
31			-.352	-.361			-.340	-.357	31
32	-.341		-.352	-.361			-.325	-.358	32
				$\alpha = -9°$ $\delta = 0°$					
1	.467		.698	.769			.796	.639	1
2	.395		.575	.660			.727	.482	2
3	.405		.508	.591			.639	.373	3
4	.254		.433	.471			.497	.235	4
5	.253		.268	.329			.377	.140	5
6	.259		.249	.284			.307	.062	6
7	.246		.251	.283			.273	.032	7
8	.237		.257	.274			.235	.006	8
9	.184		.230	.278			.202	.020	9
10	.180		.181	.202			.156	.020	10
11	.210		.180	.184			.129	-.007	11
12			.186	.235			.210	.011	12
13	.230		.235	.250			.210	.029	13
14	.274		.411	.523			.535	.302	14
15	.606		.620	.646			.605	.313	15
16	.696		.674	.716			.639	.500	16
17	-.125		-.119	-.126			-.126	-.076	17
18	-.077		-.126	-.114			-.109	-.005	18
19	-.088		-.124	-.112			-.112	-.056	19
20	-.107		-.138	-.134			-.141	-.092	20
21	-.174		-.200	-.185			-.189	-.156	21
22	-.172		-.205	-.200				-.217	22
23	-.174			-.207			-.204	-.267	23
24	-.180		-.194	-.205			-.205	-.287	24
25	-.181		-.199	-.215			-.197	-.261	25
26	-.209		-.221	-.227			-.203	-.292	26
28	-.149		-.171	-.202			-.161	-.251	28
29			-.164	-.184			-.139	-.251	29
30	-.149		-.164	-.197			-.134	-.251	30
31			-.164	-.196			-.134	-.205	31
32	-.149		-.164	-.196			-.134	-.286	32
				$\alpha = -12°$ $\delta = 0°$					
1	.634		.891	.967			.965	.771	1
2	.541		.744	.831			.867	.600	2
3	.565		.666	.729			.753	.460	3
4	.540		.537	.576			.587	.305	4
5	.368		.362	.420			.458	.201	5
6	.367		.361	.393			.380	.121	6
7	.366		.361	.383			.355	.081	7
8	.348		.363	.378			.333	.052	8
9	.337		.340	.329			.293	.069	9
10	.283		.283	.295			.231	.069	10
11	.309		.283	.270			.196	.037	11
12			.285	.356			.357	.060	12
13	.328		.372	.427			.503	.181	13
14	.649		.674	.704			.689	.341	14
15	.761		.774	.786			.737	.383	15
16	.842		.831	.854			.789	.572	16
17	-.195		-.222	-.254			-.273	-.239	17
18	-.127		-.200	-.212			-.215	-.122	18
19	-.135		-.192	-.196			-.198	-.160	19
20	-.155		-.202	-.218			-.217	-.191	20
21	-.215		-.259	-.253			-.258	-.265	21
22	-.216		-.263	-.270				-.323	22
23	-.215			-.272			-.272	-.350	23
24	-.219		-.244	-.273			-.279	-.371	24
25	-.217		-.245	-.283			-.262	-.341	25
26	-.241		-.262	-.289			-.258	-.377	26
28	-.184		-.221	-.267			-.226	-.323	28
29			-.211	-.239			-.202	-.323	29
30	-.184		-.211	-.255			-.199	-.313	30
31			-.211	-.255			-.199	-.333	31
32	-.196		-.211	-.255			-.199	-.342	32

Table 10 concluded

Wing-surface Pressure Coefficients

Configuration I M= 1.61 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -12°$	$\delta = 15°$				
1	.635		.902	.968			.973	.769	1
2	.546		.743	.833			.876	.572	2
3	.571		.667	.735			.765	.437	3
4	.544		.546	.580			.592	.290	4
5	.370		.366	.427			.462	.186	5
6	.375		.365	.397			.393	.101	6
7	.369		.366	.396			.363	.069	7
8	.355		.366	.387			.335	.035	8
9	.339		.345	.337			.300	.051	9
10	.282		.287	.301			.237	.047	10
11	.307		.286	.274			.207	.012	11
12			-.120	-.124			-.129	-.269	12
13	-.129		-.131	-.129			-.171	-.272	13
14	-.115		-.131	-.135			-.171	-.236	14
15	.055		.112	.172			.166	.006	15
16	.186		.196	.217			.192	.094	16
17	-.190		-.220	-.259			-.271	-.260	17
18	-.134		-.202	-.210			-.221	-.154	18
19	-.137		-.190	-.197			-.202	-.186	19
20	-.159		-.206	-.217			-.218	-.216	20
21	-.214		-.256	-.254			-.257	-.286	21
22	-.213		-.262	-.265				-.351	22
23	-.211			-.278			-.274	-.366	23
24	-.219		-.244	-.279			-.275	-.395	24
25	-.217		-.243	-.283			-.263	-.381	25
26	-.243		-.211	-.296			-.162	-.390	26
28	.001		-.041	-.072			-.045	-.197	28
29			.007	-.025			.012	-.177	29
30	.096		.096	.037			.096	-.239	30
31			.127	.057			.134	-.265	31
32	.136		.127	.072			.141	-.307	32
				$\alpha = -15°$	$\delta = 0°$				
1	.763		1.037	1.077			1.059	.829	1
2	.680		.858	.930			.965	.638	2
3	.722		.769	.817			.835	.500	3
4	.628		.612	.655			.667	.355	4
5	.440		.441	.496			.536	.231	5
6	.490		.488	.516			.486	.146	6
7	.495		.493	.533			.474	.125	7
8	.491		.523	.526			.452	.105	8
9	.475		.477	.470			.395	.121	9
10	.517		.580	.639			.577	.130	10
11	.723		.580	.745			.721	.246	11
12			.803	.836			.774	.391	12
13	.796		.828	.854			.812	.431	13
14	.871		.902	.928			.901	.495	14
15	.952		.980	1.005			.963	.566	15
16	1.035		1.063	1.064			1.019	.881	16
17	-.255		-.322	-.351			-.380	-.358	17
18	-.185		-.264	-.289			-.301	-.236	18
19	-.185		-.253	-.255			-.271	-.250	19
20	-.200		-.257	-.267			-.277	-.290	20
21	-.254		-.305	-.302			-.304	-.351	21
22	-.256		-.316	-.315				-.403	22
23	-.257			-.315			-.316	-.423	23
24	-.259		-.296	-.317			-.320	-.432	24
25	-.263		-.291	-.322			-.310	-.421	25
26	-.278		-.303	-.336			-.303	-.415	26
28	-.245		-.280	-.318			-.267	-.380	28
29			-.277	-.310			-.255	-.377	29
30	-.236		-.272	-.321			-.259	-.415	30
31			-.270	-.318			-.261	-.421	31
32	-.265		-.272	-.317			-.259	-.421	32

Table II

Wing-surface Pressure Coefficients

Configuration C M= 2.01 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 0°$ $\delta = 0°$					
1	.093		.089	.102			.099	.091	1
2	.077		.096	.102			.097	.074	2
3	.077		.096	.100			.099	.069	3
4	.070		.083	.080			.071	.056	4
5	-.004		.010	.025			.100	.222	5
6	-.005		-.008	.337			.364	.247	6
7	.283		.322	.361			.392	.177	7
8	.310		.333	.348			.342		8
9	.323		.313	.356			.801	.474	9
10	.558		.599	-.266			-.251	-.263	10
11	-.292		~~.601~~	-.273			-.177	-.255	11
12	-.247		-.245	-.235			-.249	-.249	12
13	-.219		-.221	-.207			-.241	-.222	13
14	-.153		-.149	-.152			-.204	-.173	14
15	-.121		-.124	-.136			-.171	-.138	15
16	-.108		-.111	-.112			-.147	-.113	16
17	.093		.096	.086			.093	.085	17
18	.073		.094	.091			.094	.083	18
19	.070		.094	.093			.090	.060	19
20	.056		.076	.072			.067	.032	20
21	-.016		.004	.017			.022	.019	21
22	-.012		-.008	-.002				.172	22
23	-.012			-.004			-.001	.038	23
24	-.018		-.014	-.006			-.013	-.029	24
25	-.017		-.026	-.015			-.018	-.032	25
26	-.052		-.051	-.034			-.035	-.059	26
				$\alpha = 3°$ $\delta = 0°$					
1	.024		.020	.031			.031	.022	1
2	.017		.028	.032			.029	.008	2
3	.019		.029	.026			.029	.017	3
4	.020		.020	.009			.006	.026	4
5	-.059		-.049	-.036			.101	.218	5
6	-.047		-.058	.243			.255	.230	6
7	.204		.237	.269			.301	.080	7
8	.232		.244	.252			.270		8
9	.240		.229	.259			.510	.446	9
10	.511		.584	-.272			-.260	-.269	10
11	-.295		~~.584~~	-.279			-.175	-.266	11
12	-.264		-.263	-.256			-.263	-.260	12
13	-.236		-.250	-.231			-.256	-.247	13
14	-.185		-.191	-.185			-.215	-.196	14
15	-.154		-.154	-.167			-.190	-.171	15
16	-.147		-.140	-.136			-.154	-.162	16
17	.175		.183	.174			.180	.158	17
18	.132		.184	.178			.175	.139	18
19	.143		.179	.181			.181	.098	19
20	.130		.157	.158			.152	.061	20
21	.046		.072	.090			.099	.040	21
22	.050		.051	.071				.172	22
23	.048			.067			.070	.096	23
24	.046		.047	.064			.064	.032	24
25	.043		.030	.052			.055	.019	25
26	-.004		.007	.029			.030	-.024	26
				$\alpha = 6°$ $\delta = 0°$					
1	-.041		-.051	-.035			-.035	-.050	1
2	-.042		-.042	-.033			-.036	-.031	2
3	-.041		-.039	-.042			-.037	-.022	3
4	-.041		-.044	-.055			-.055	-.009	4
5	-.102		-.104	-.093			.067	.147	5
6	-.086		-.111	.140			.155	.172	6
7	.124		.151	.178			.205	.083	7
8	.156		.158	.163			.210		8
9	.162		.143	.170			.336	.428	9
10	.470		.563	-.282			-.266	-.296	10
11	-.305			-.289			-.176	-.275	11
12	-.274		-.266	-.272			-.265	-.273	12
13	-.251		-.252	-.252			-.256	-.259	13
14	-.204		-.204	-.209			-.212	-.245	14
15	-.180		-.181	-.187			-.186	-.236	15
16	-.171		-.148	-.136			-.152	-.247	16
17	.270		.281	.275			.279	.252	17
18	.209		.292	.278			.277	.215	18
19	.216		.282	.286			.286	.167	19
20	.202		.251	.252			.247	.121	20
21	.114		.142	.182			.186	.064	21
22	.115		.122	.157				.119	22
23	.114			.154			.155	.126	23
24	.112		.120	.148			.146	.079	24
25	.108		.095	.129			.133	.087	25
26	.057		.069	.103			.106	.031	26

Table II continued

Wing-surface Pressure Coefficients

Configuration C M= 2.01 R=3.6 x 10^6

Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = 9^\circ$	$\delta = 0^\circ$				
1	-.095		-.105	-.095			-.094	-.097	1
2	-.087		-.100	-.094			-.094	-.078	2
3	-.085		-.098	-.102			-.096	-.061	3
4	-.084		-.098	-.113			-.107	-.052	4
5	-.145		-.156	-.146			-.001	.070	5
6	-.125		-.158	.039			.048	.066	6
7	.043		.074	.092			.122	.045	7
8	.094		.080	.095			.122		8
9	.097		.072	.090			.284	.402	9
10	.378		.538	-.293			-.281	-.286	10
11	-.311		~~.538~~	-.298			-.181	-.287	11
12	-.291		-.287	-.287			-.275	-.291	12
13	-.263		-.273	-.275			-.272	-.277	13
14	-.235		-.236	-.237			-.235	-.281	14
15	-.212		-.215	-.207			-.208	-.284	15
16	-.203		-.136	-.164			-.179	-.295	16
17	.382		.414	.394			.402	.366	17
18	.310		.419	.401			.403	.329	18
19	.303		.406	.406			.412	.251	19
20	.288		.345	.370			.363	.194	20
21	.189		.222	.284			.291	.133	21
22	.195		.202	.250				.098	22
23	.190			.234			.256	.122	23
24	.188		.194	.224			.243	.089	24
25	.185		.169	.205			.227	.121	25
26	.126		.137	.176			.191	.079	26
				$\alpha = 12^\circ$	$\delta = 0^\circ$				
1	-.143		-.150	-.134			-.137	-.144	1
2	-.128		-.141	-.132			-.131	-.116	2
3	-.127		-.140	-.139			-.135	-.102	3
4	-.122		-.140	-.155			-.140	-.119	4
5	-.179		-.187	-.181			-.057	-.054	5
6	-.160		-.191	-.030			-.013	.001	6
7	-.033		.020	.032			.055	-.020	7
8	.039		.021	.039			.065		8
9	.050		.017	.041			.232	.374	9
10	.313		.516	-.295			-.286	-.306	10
11	-.325			-.300			-.184	-.305	11
12	-.307		-.296	-.295			-.287	-.296	12
13	-.289		-.288	-.281			-.277	-.288	13
14	-.260		-.250	-.249			-.246	-.295	14
15	-.227		-.204	-.219			-.221	-.286	15
16	-.186		-.149	-.180			-.195	-.283	16
17	.458		.568	.524			.532	.470	17
18	.379		.532	.531			.529	.403	18
19	.375		.498	.537			.530	.316	19
20	.364		.416	.481			.484	.259	20
21	.257		.291	.364			.397	.180	21
22	.258		.277	.320				.140	22
23	.256			.305			.349	.126	23
24	.250		.257	.290			.327	.096	24
25	.247		.228	.269			.301	.133	25
26	.179		.205	.239			.257	.096	26
				$\alpha = 15^\circ$	$\delta = 0^\circ$				
1	-.180		-.186	-.172			-.173	-.161	1
2	-.168		-.179	-.167			-.169	-.135	2
3	-.161		-.177	-.176			-.175	-.135	3
4	-.166		-.180	-.186			-.166	-.177	4
5	-.210		-.217	-.203			-.099	-.166	5
6	-.184		-.212	-.093			-.064	-.059	6
7	-.120		-.049	-.041			-.021	-.093	7
8	-.014		-.042	-.034			-.007		8
9	-.012		-.051	-.029			.109	.358	9
10	.211		.501	-.278			-.287	-.307	10
11	-.308			-.288			-.182	-.302	11
12	-.292		-.270	-.272			-.282	-.310	12
13	-.274		-.264	-.273			-.277	-.297	13
14	-.245		-.233	-.247			-.247	-.297	14
15	-.205		-.212	-.228			-.233	-.292	15
16	-.152		-.187	-.209			-.208	-.274	16
17	.566		.763	.793			.819	.694	17
18	.473		.679	.741			.776	.578	18
19	.491		.609	.691			.732	.465	19
20	.471		.524	.581			.622	.371	20
21	.353		.387	.450			.504	.264	21
22	.356		.364	.407				.200	22
23	.351			.396			.421	.171	23
24	.349		.343	.383			.395	.138	24
25	.343		.328	.363			.363	.164	25
26	.265		.289	.322			.321	.129	26

Table II continued

Wing-surface Pressure Coefficients

Configuration C M= 2.01 R=3.6 x 10^6

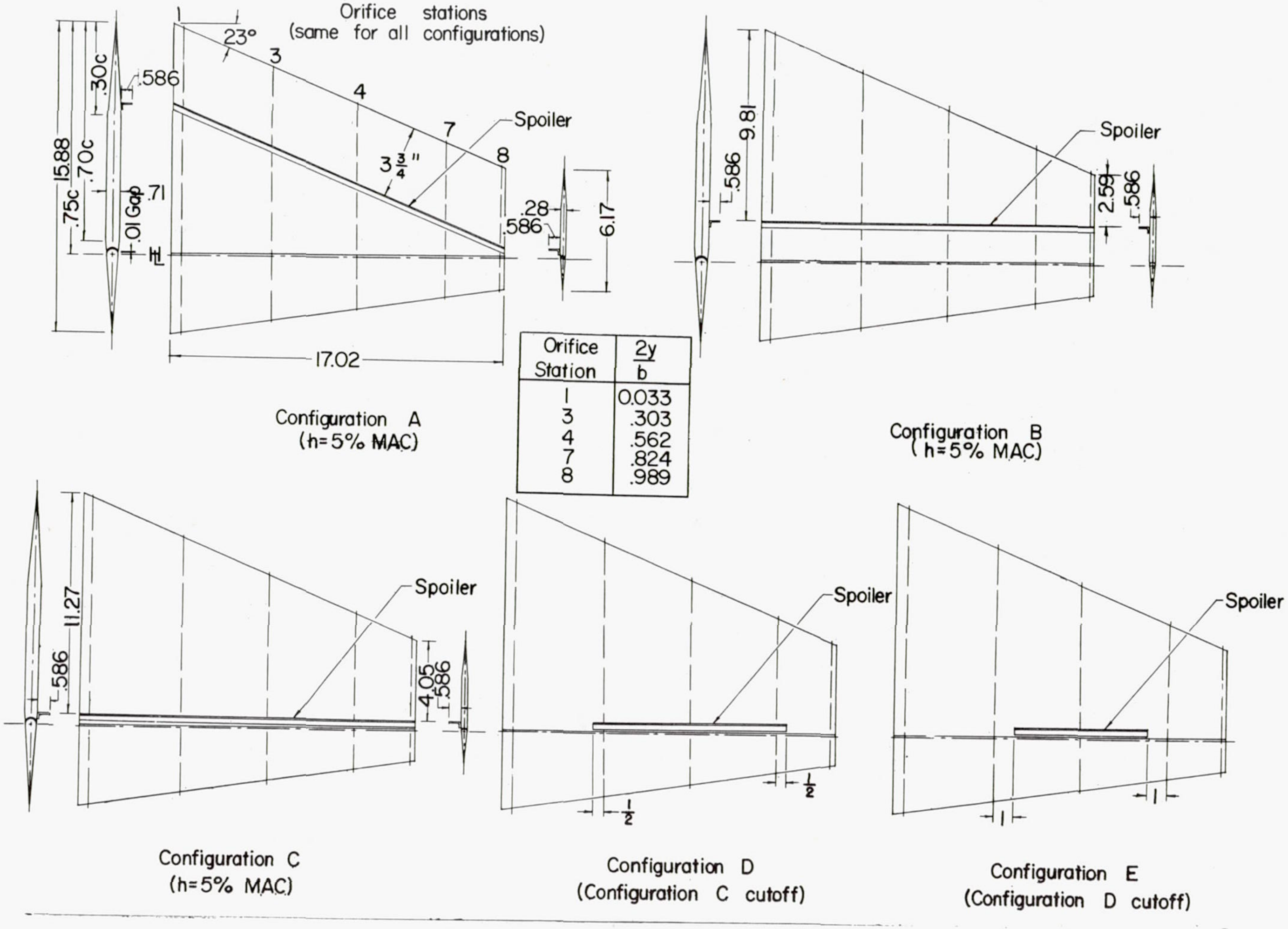
Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha = -3°$ $\delta = 0°$					
1	.173		.172	.181			.178	.164	1
2	.132		.180	.171			.178	.113	2
3	.138		.181	.181			.183	.108	3
4	.138		.156	.158			.151	.066	4
5	.053		.074	.097			.213	.332	5
6	.018		.055	.437			.481	.347	6
7	.375		.415	.467			.502	.212	7
8	.401		.421	.444			.458		8
9	.420		.413	.462			.784	.349	9
10	.659		.503	-.258			-.246	-.275	10
11	-.283			-.269			-.166	-.263	11
12	-.241		-.240	-.236			-.259	-.235	12
13	-.207		-.200	-.212			-.250	-.210	13
14	-.124		-.120	-.145			-.199	-.152	14
15	-.096		-.089	-.113			-.156	-.111	15
16	-.082		-.078	-.085			-.131	-.089	16
17	.032		.030	.026			.033	.015	17
18	.064		.026	.025			.096	.047	18
19	.024		.031	.033			.032	.032	19
20	.011		.016	.014			.013	.005	20
21	-.052		-.049	-.037			-.033	-.010	21
22	-.049		-.058	-.053				.139	22
23	-.054			-.056			-.050	-.013	23
24	-.050		-.058	-.058			-.050	-.073	24
25	-.053		-.068	-.064			-.055	-.075	25
26	-.081		-.087	-.071			-.075	-.110	26
				$\alpha = -6°$ $\delta = 0°$					
1	.257		.268	.275			.270	.268	1
2	.209		.283	.272			.272	.195	2
3	.213		.276	.278			.281	.173	3
4	.212		.252	.251			.241	.117	4
5	.116		.136	.178			.453	.296	5
6	.107		.121	.548			.602	.453	6
7	.476		.511	.581			.612	.221	7
8	.499		.524	.550			.568		8
9	.504		.506	.568			.811	.360	9
10	.706		.504	-.244			-.230	-.255	10
11	-.258			-.263			-.159	-.250	11
12	-.212		-.218	-.232			-.213	-.232	12
13	-.179		-.176	-.210			-.193	-.208	13
14	-.075		-.075	-.120			-.121	-.157	14
15	-.033		-.033	-.066			-.077	-.119	15
16	-.019		-.020	-.020			-.060	-.101	16
17	-.039		-.042	-.044			-.038	-.038	17
18	-.019		-.045	-.047			-.027	-.008	18
19	-.036		-.038	-.041			-.040	-.011	19
20	-.049		-.053	-.057			-.057	-.042	20
21	-.104		-.109	-.099			-.097	-.043	21
22	-.101		-.114	-.114				.097	22
23	-.105			-.117			-.112	-.083	23
24	-.106		-.113	-.118			-.115	-.149	24
25	-.105		-.122	-.124			-.119	-.138	25
26	-.127		-.139	-.133			-.131	-.162	26
				$\alpha = -9°$ $\delta = 0°$					
1	.343		.416	.392			.383	.379	1
2	.289		.383	.387			.384	.282	2
3	.287		.395	.391			.395	.245	3
4	.288		.387	.362			.348	.182	4
5	.183		.338	.276			.687	.520	5
6	.182		.213	.673			.742	.445	6
7	.582		.201	.709			.743	.314	7
8	.603		.619	.671			.712		8
9	.603		.630	.694			.896	.360	9
10	.747		.521	-.215			-.197	-.252	10
11	-.237			-.238			-.149	-.242	11
12	-.194		-.198	-.210			-.199	-.228	12
13	-.147		-.150	-.186			-.163	-.203	13
14	-.040		-.028	-.082			-.083	-.147	14
15	.005		.011	-.020			-.047	-.107	15
16	.019		.027	.023			-.032	-.087	16
17	-.094		-.099	-.095			-.087	-.083	17
18	-.072		-.097	-.095			-.081	-.046	18
19	-.082		-.094	-.092			-.090	-.054	19
20	-.090		-.105	-.111			-.107	-.075	20
21	-.140		-.153	-.141			-.141	-.087	21
22	-.134		-.159	-.152				-.027	22
23	-.141			-.158			-.153	-.182	23
24	-.141		-.156	-.157			-.155	-.218	24
25	-.141		-.162	-.163			-.159	-.198	25
26	-.161		-.175	-.172			-.168	-.221	26

Table II concluded

Wing-surface Pressure Coefficients

Configuration C M= 2.01 R=3.6 x 10^6

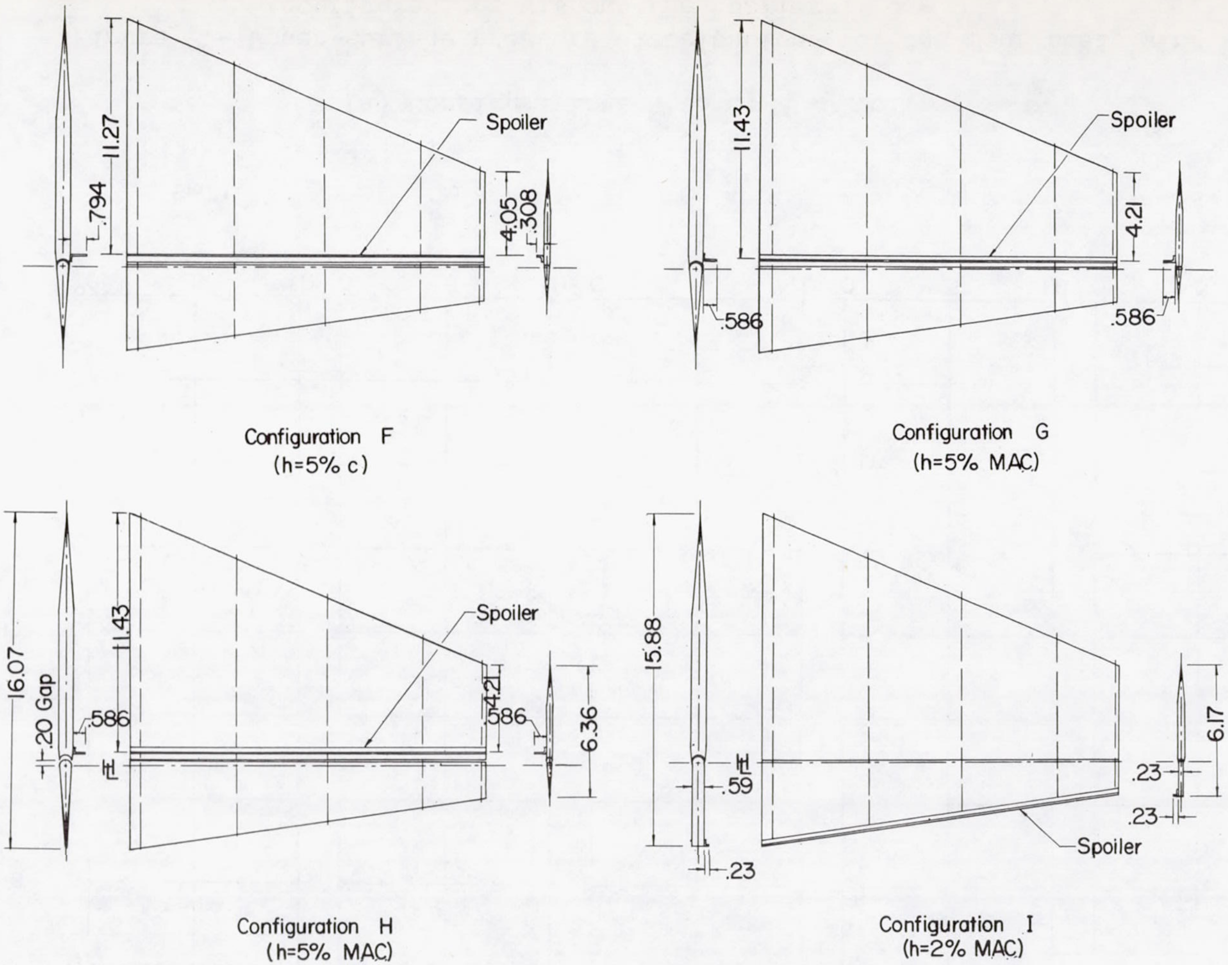
Orif.	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8	Orif.
				$\alpha=-12°$ $\delta=0°$					
1	.464		.596	.580			.565	.533	1
2	.398		.550	.563			.553	.416	2
3	.394		.515	.565			.566	.360	3
4	.394		.441	.504			.507	.283	4
5	.276		.310	.385			.902	.638	5
6	.276		.543	.809			.943	.594	6
7	.706		.748	.852			.928	.451	7
8	.720		.754	.823			.890		8
9	.722		.736	.839			1.092	.389	9
10	.868		.545	-.185			-.170	-.249	10
11	-.201		~~.545~~	-.221			-.149	-.249	11
12	-.139		-.181	-.181			-.198	-.242	12
13	-.079		-.134	-.145			-.164	-.230	13
14	.038		.001	-.028			-.073	-.172	14
15	.071		.073	.047			-.019	-.122	15
16	.083		.085	.079			.009	-.097	16
17	-.149		-.151	-.153			-.140	-.126	17
18	-.117		-.152	-.150			-.130	-.084	18
19	-.128		-.151	-.145			-.146	-.102	19
20	-.133		-.156	-.162			-.156	-.129	20
21	-.182		-.198	-.189			-.189	-.171	21
22	-.175		-.203	-.199				-.161	22
23	-.183			-.200			-.195	-.232	23
24	-.185		-.202	-.204			-.197	-.260	24
25	-.183		-.205	-.205			-.199	-.233	25
26	-.195		-.216	-.213			-.207	-.252	26
				$\alpha=-15°$ $\delta=0°$					
1	.561		.780	.837			.851	.770	1
2	.497		.689	.761			.807	.604	2
3	.502		.625	.711			.755	.495	3
4	.498		.543	.604			.634	.368	4
5	.367		.406	.484			1.039	.646	5
6	.394		.804	.935			1.120	.710	6
7	.805		.867	.990			1.111	.681	7
8	.809		.877	.964			1.044		8
9	.827		.855	.983			1.268	.418	9
10	1.183		.578	-.166			-.148	-.266	10
11	-.171		~~.578~~	-.208			-.149	-.268	11
12	-.105		-.164	-.180			-.217	-.273	12
13	-.070		-.110	-.134			-.194	-.254	13
14	.070		.043	.014			-.102	-.210	14
15	.120		.106	.092			-.026	-.142	15
16	.134		.138	.128			.010	-.093	16
17	-.185		-.188	-.179			-.168	-.156	17
18	-.149		-.186	-.181			-.163	-.120	18
19	-.160		-.188	-.180			-.176	-.149	19
20	-.166		-.191	-.196			-.187	-.185	20
21	-.205		-.225	-.215			-.217	-.219	21
22	-.200		-.232	-.227				-.233	22
23	-.206			-.228			-.220	-.250	23
24	-.209		-.229	-.229			-.223	-.281	24
25	-.208		-.232	-.231			-.226	-.258	25
26	-.218		-.241	-.232			-.229	-.270	26



Orifice Station	$\frac{2y}{b}$
1	0.033
3	.303
4	.562
7	.824
8	.989

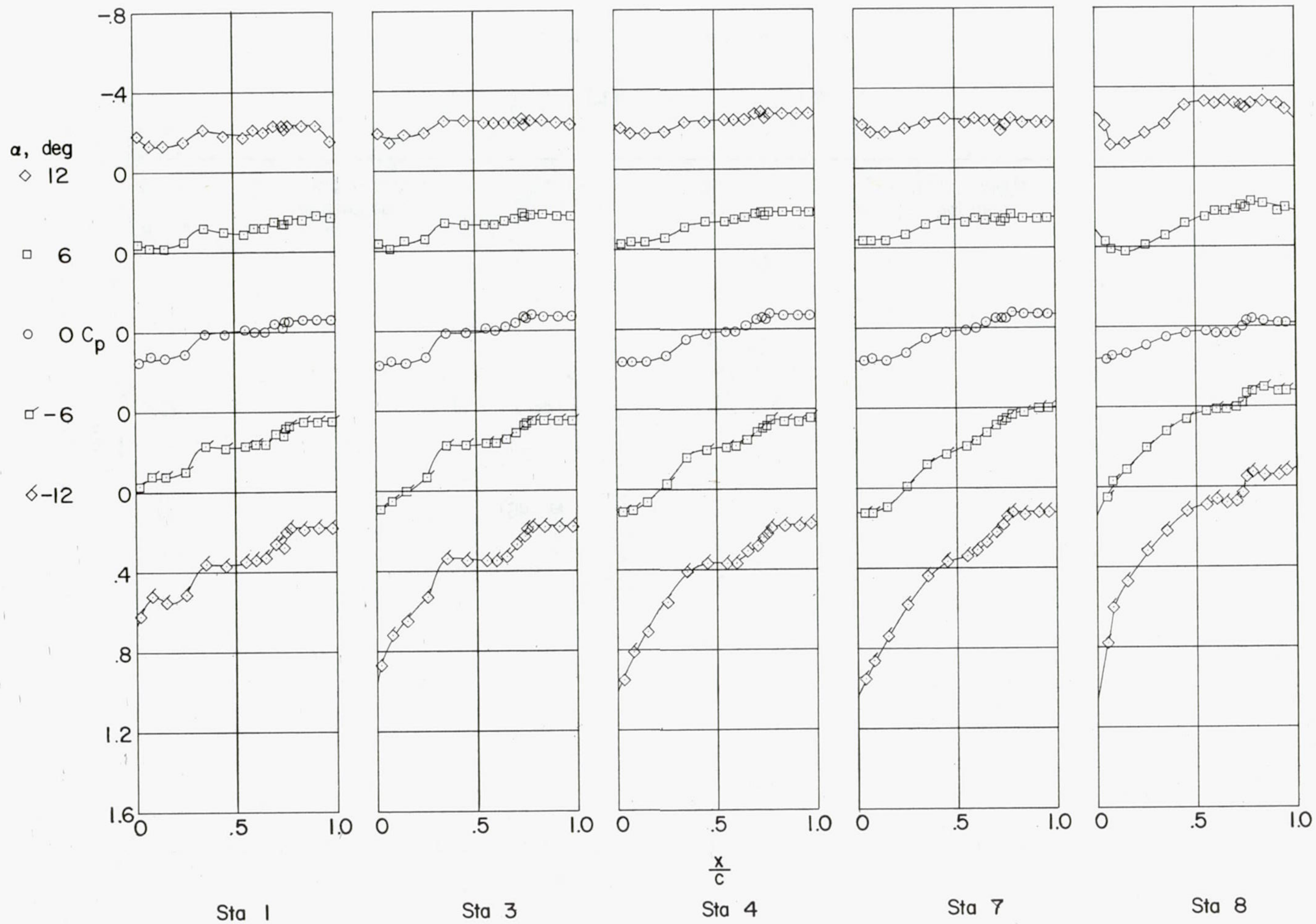
(a) Configurations A to E.

Figure 1.- Sketches of the nine spoiler configurations. All dimensions are in inches.



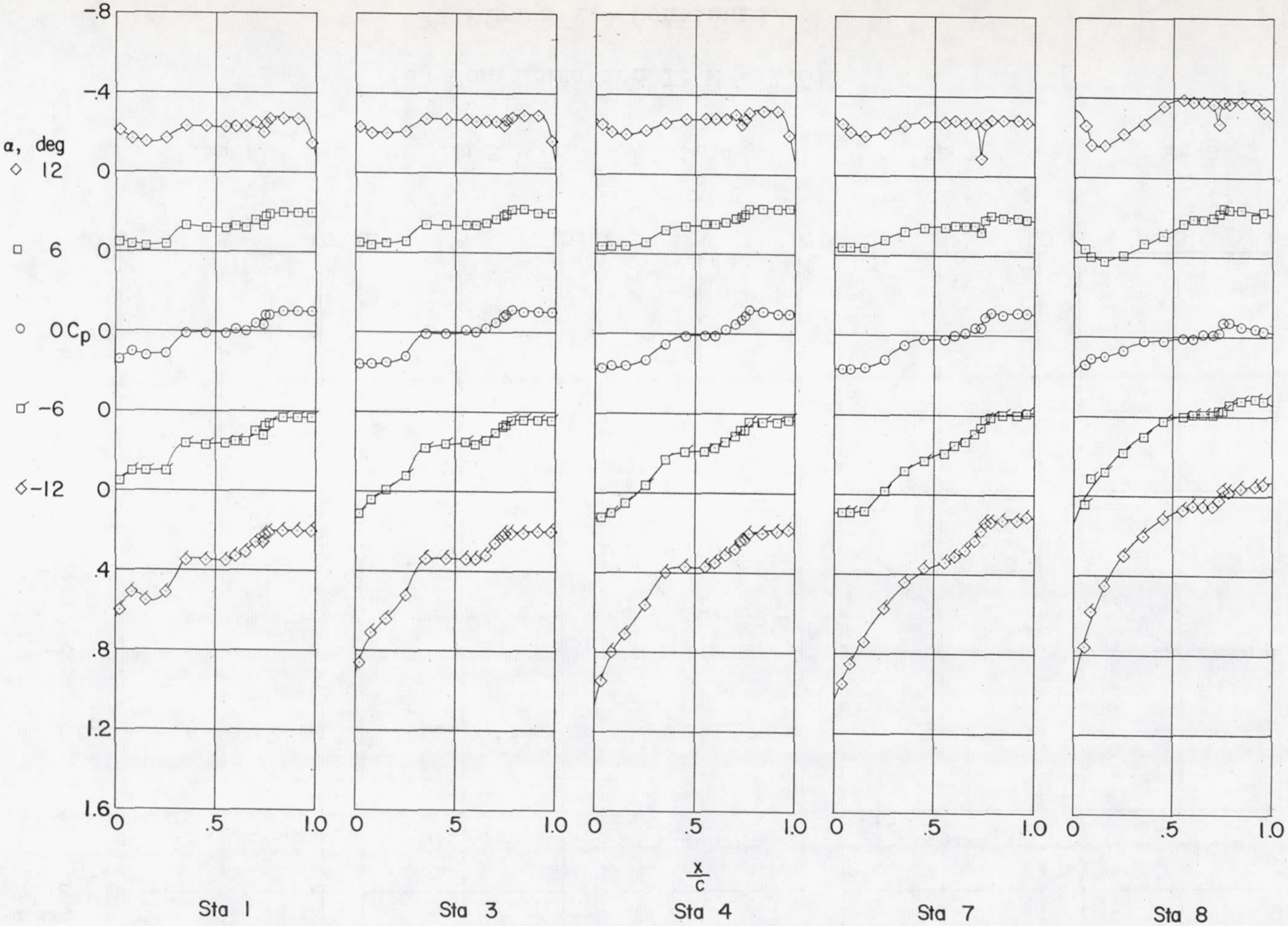
(b) Configurations F to I.

Figure 1.- Concluded.



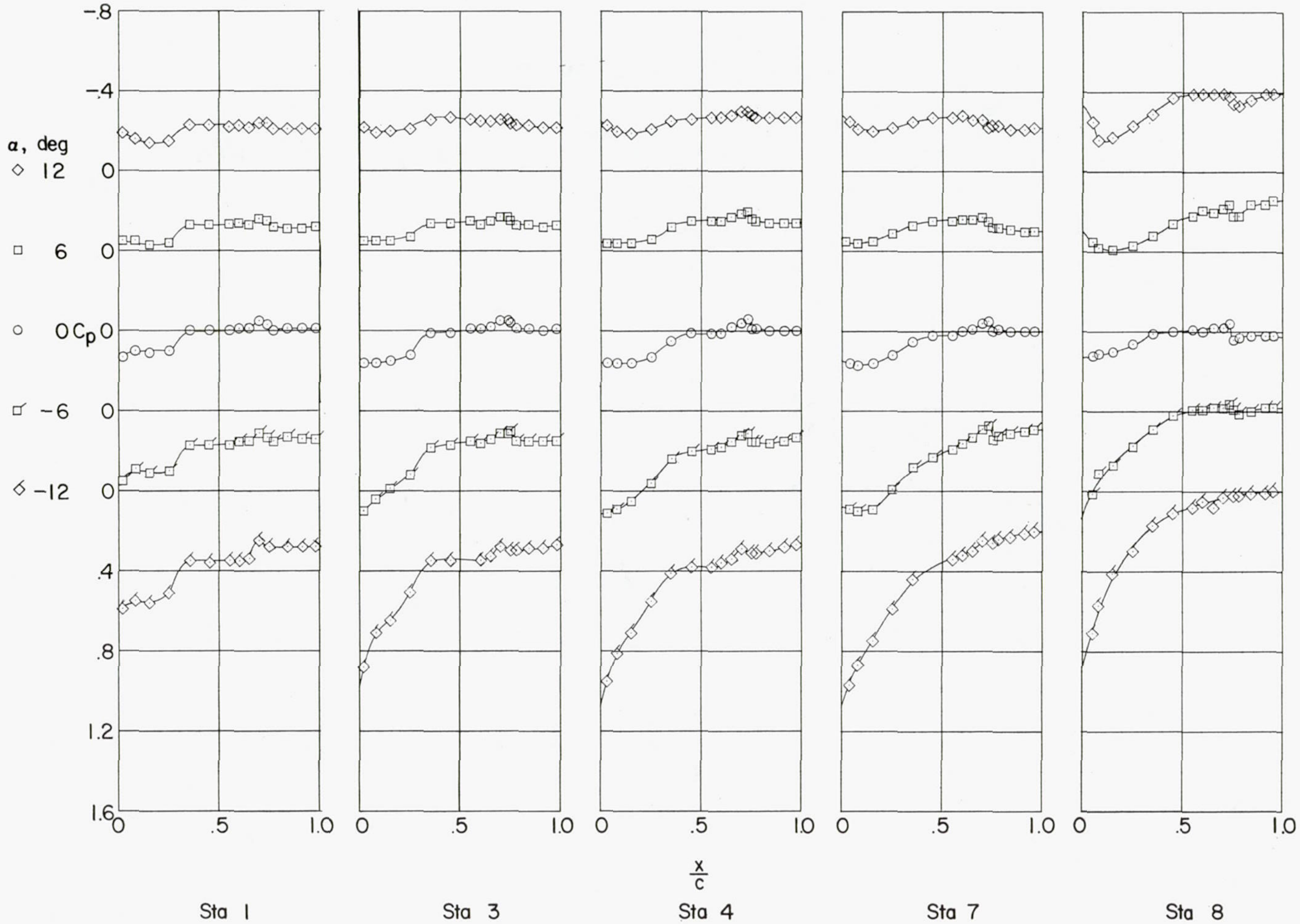
(a) Configurations A to G; M = 1.61.

Figure 2.- Upper-surface pressure distributions for the four basic wing configurations without the spoilers. $\delta = 0^{\circ}$.



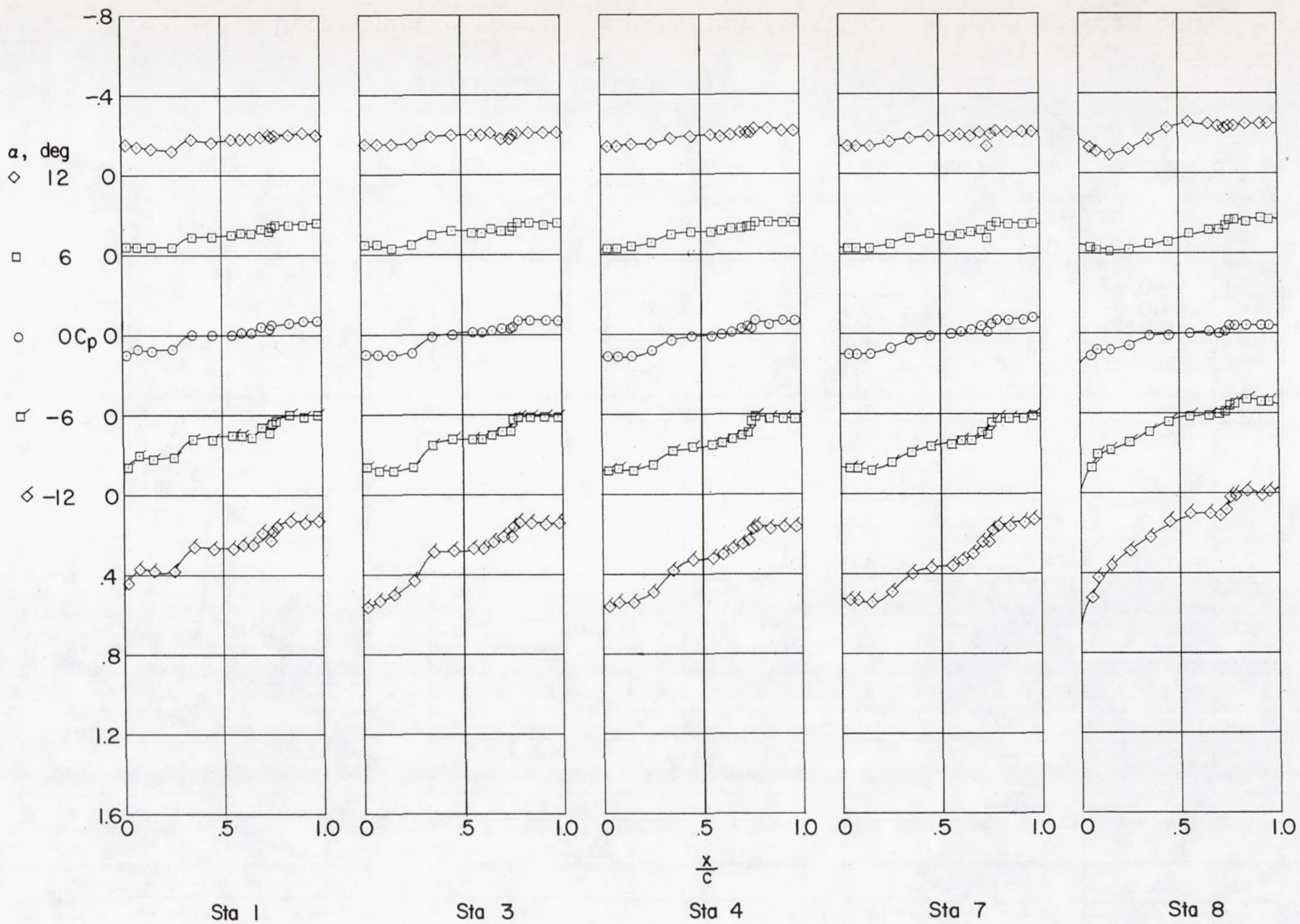
(b) Configuration H; M = 1.61.

Figure 2.- Continued.



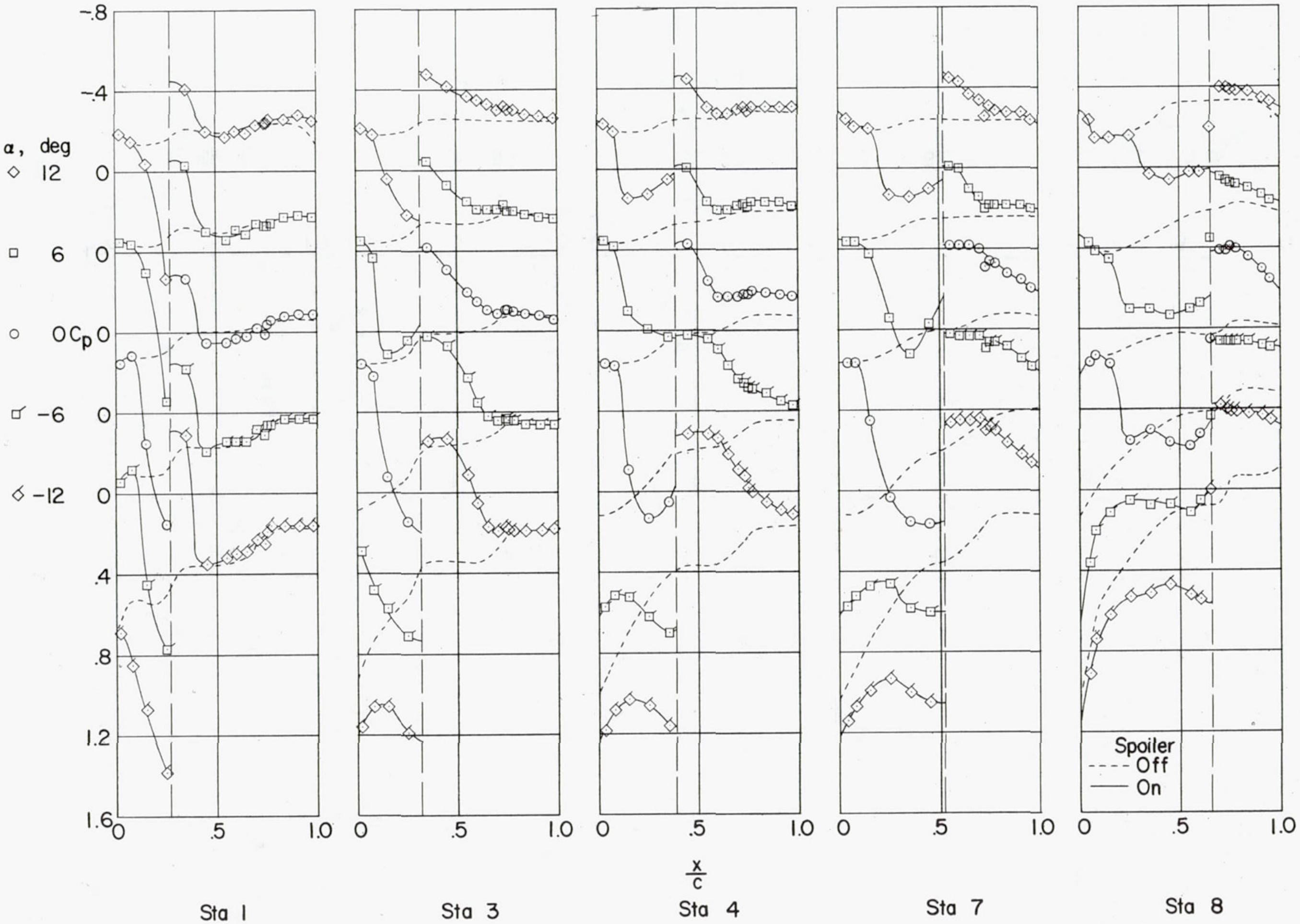
(c) Configuration I; M = 1.61.

Figure 2.- Continued.



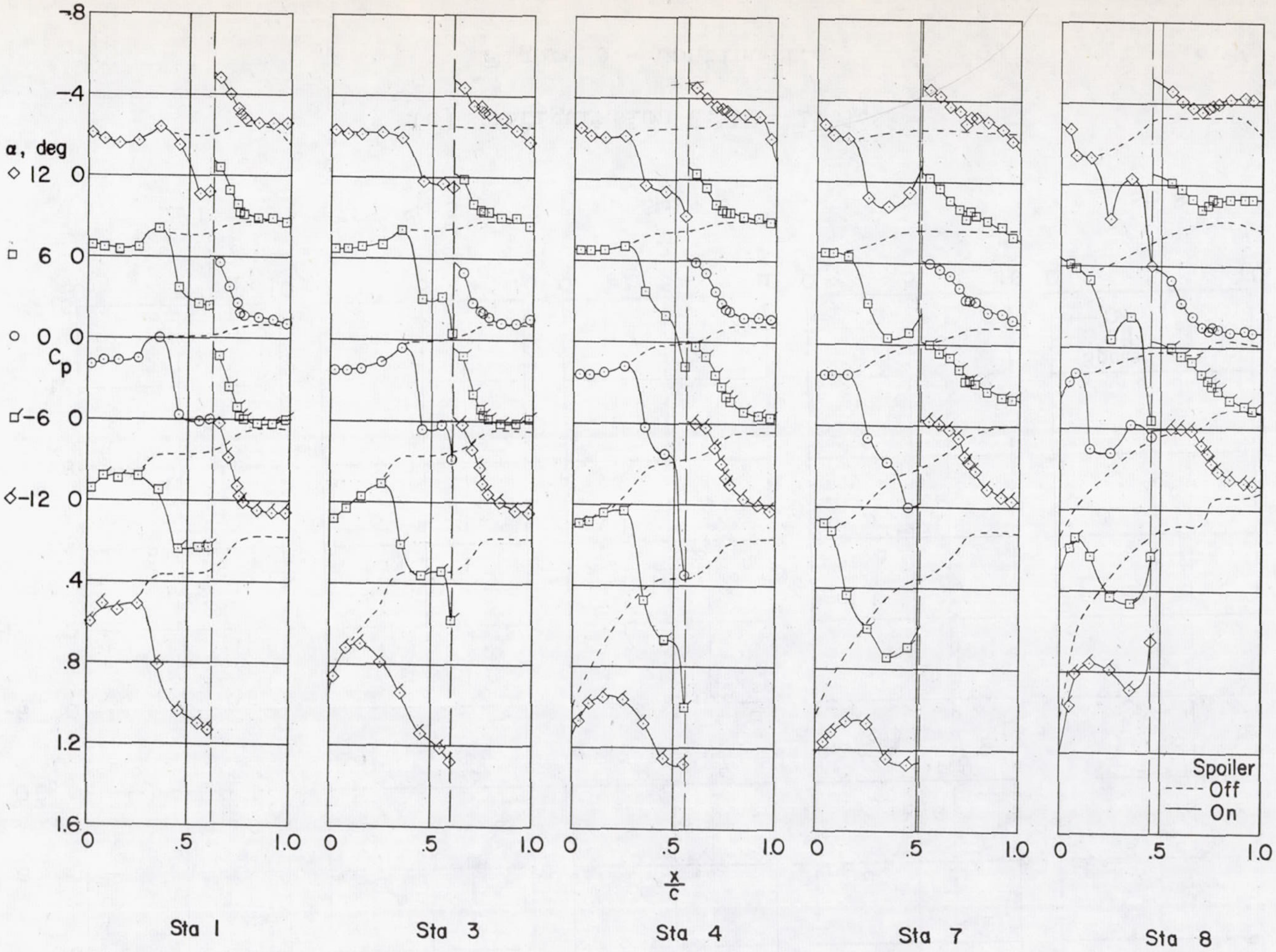
(d) Configuration C; M = 2.01.

Figure 2.- Concluded.



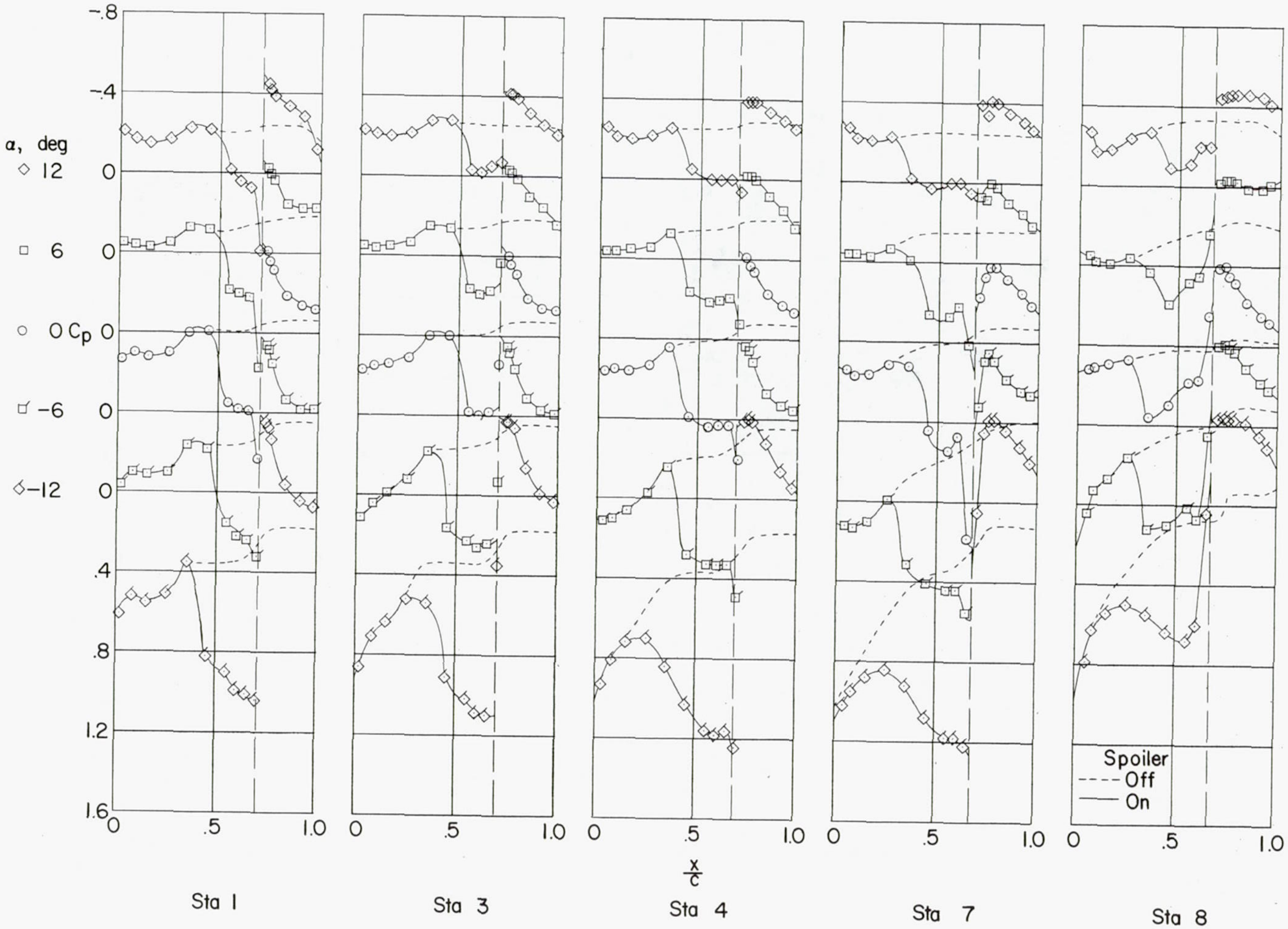
(a) Configuration A; M = 1.61.

Figure 3.- Upper-surface pressure distributions for the nine spoiler configurations. $\delta = 0^{\circ}$. Vertical long-dashed lines indicate spoiler location.



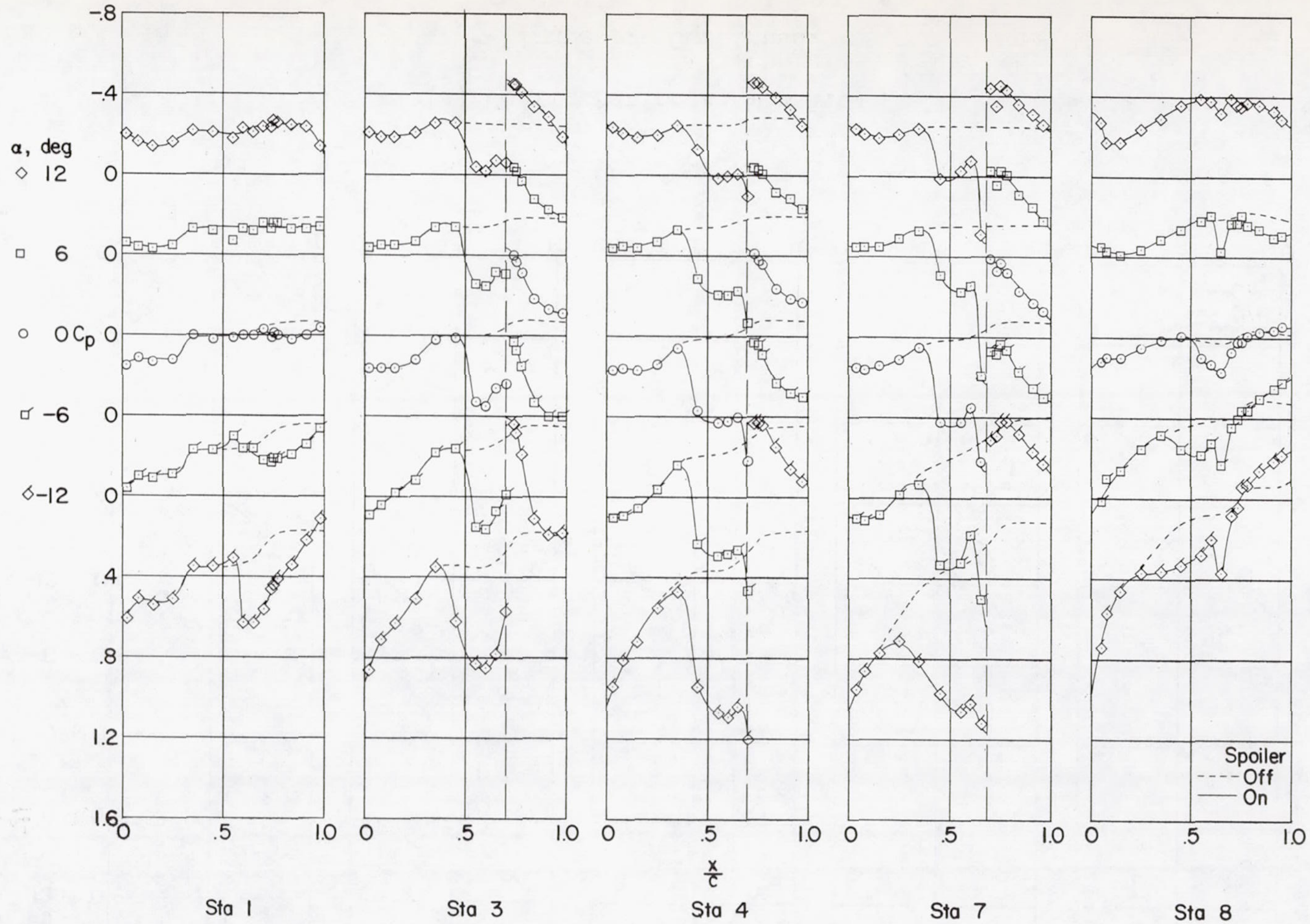
(b) Configuration B; M = 1.61.

Figure 3.- Continued.



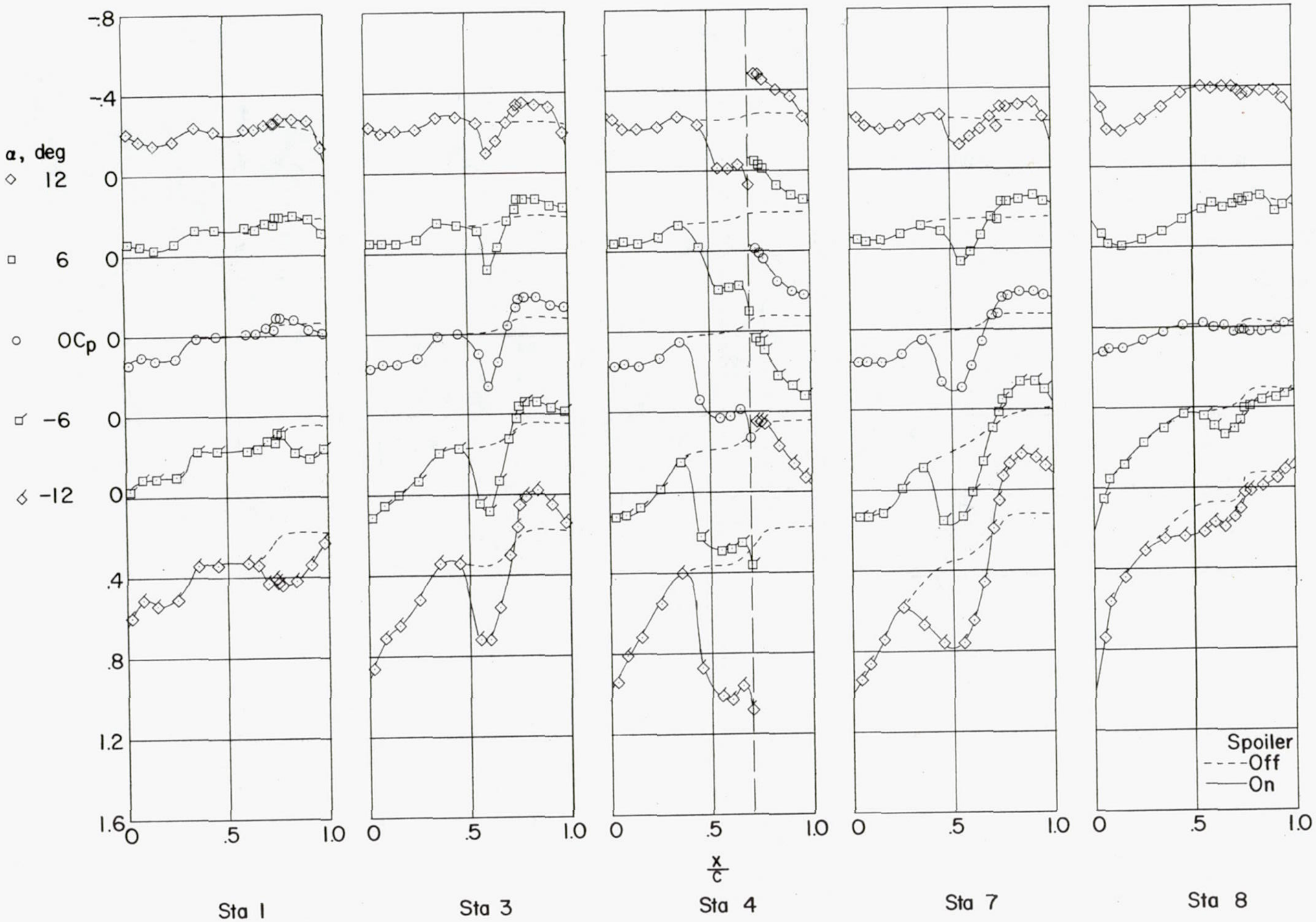
(c) Configuration C; M = 1.61.

Figure 3.- Continued.



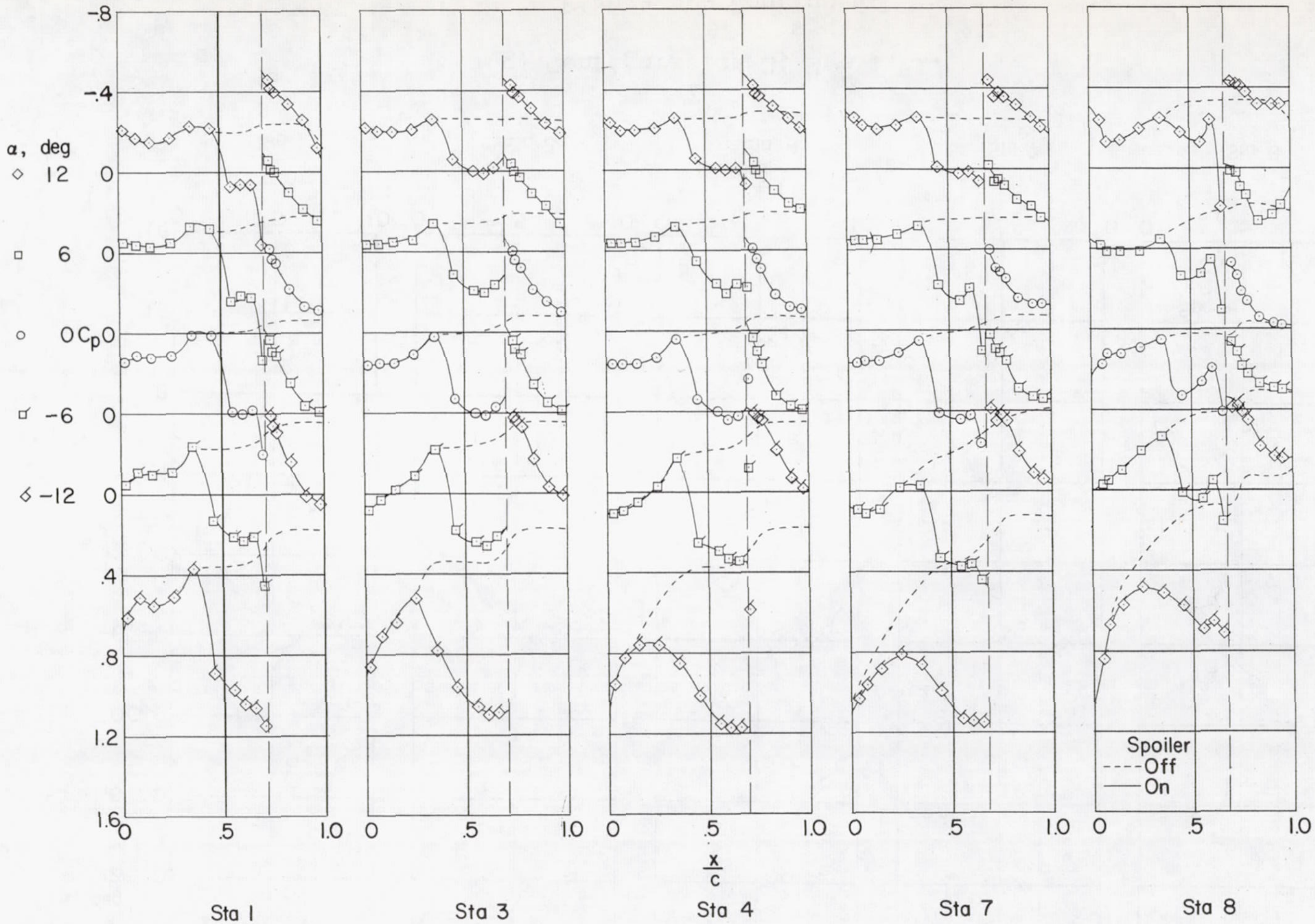
(d) Configuration D; M = 1.61.

Figure 3.- Continued.



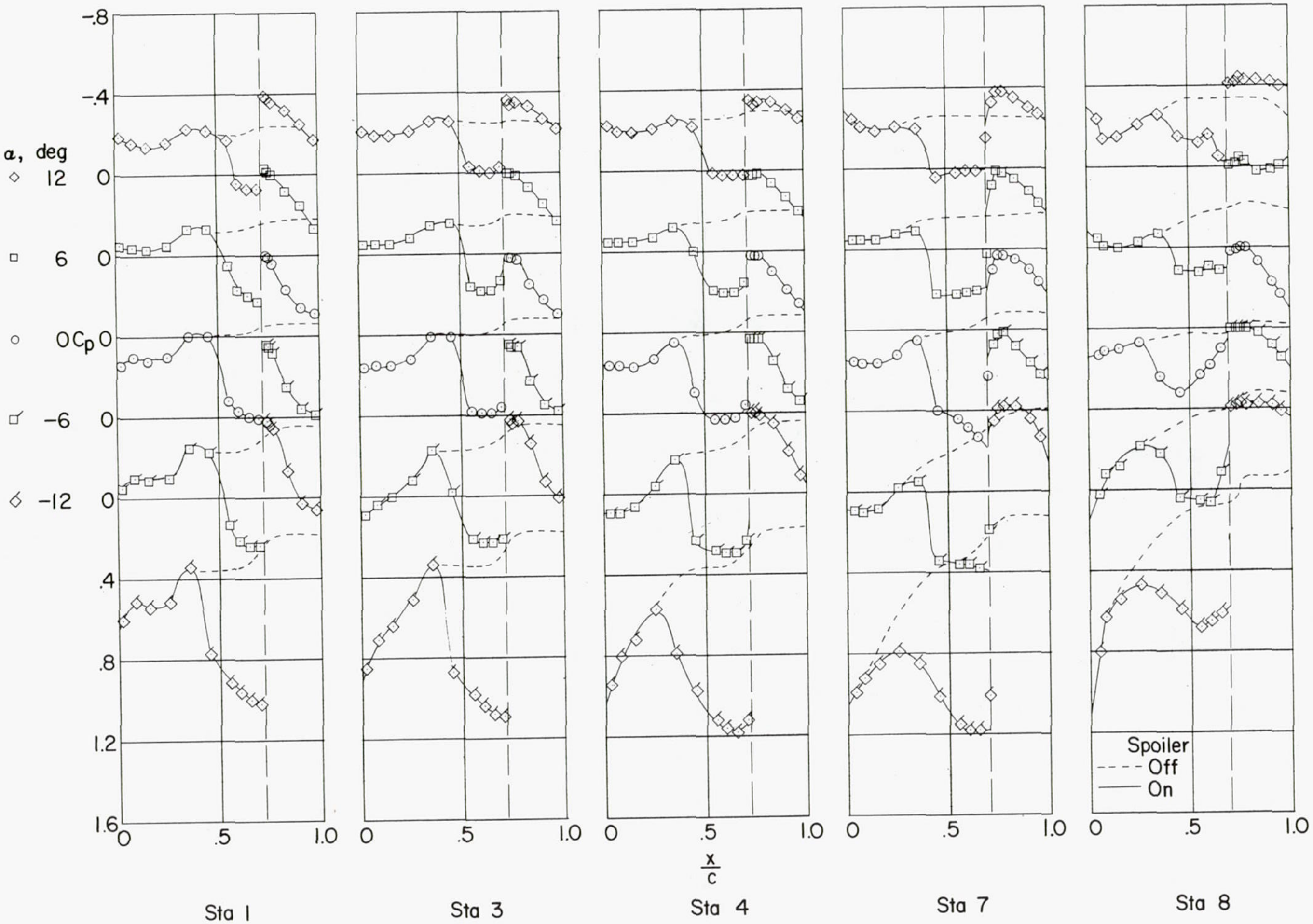
(e) Configuration E; M = 1.61.

Figure 3.- Continued.



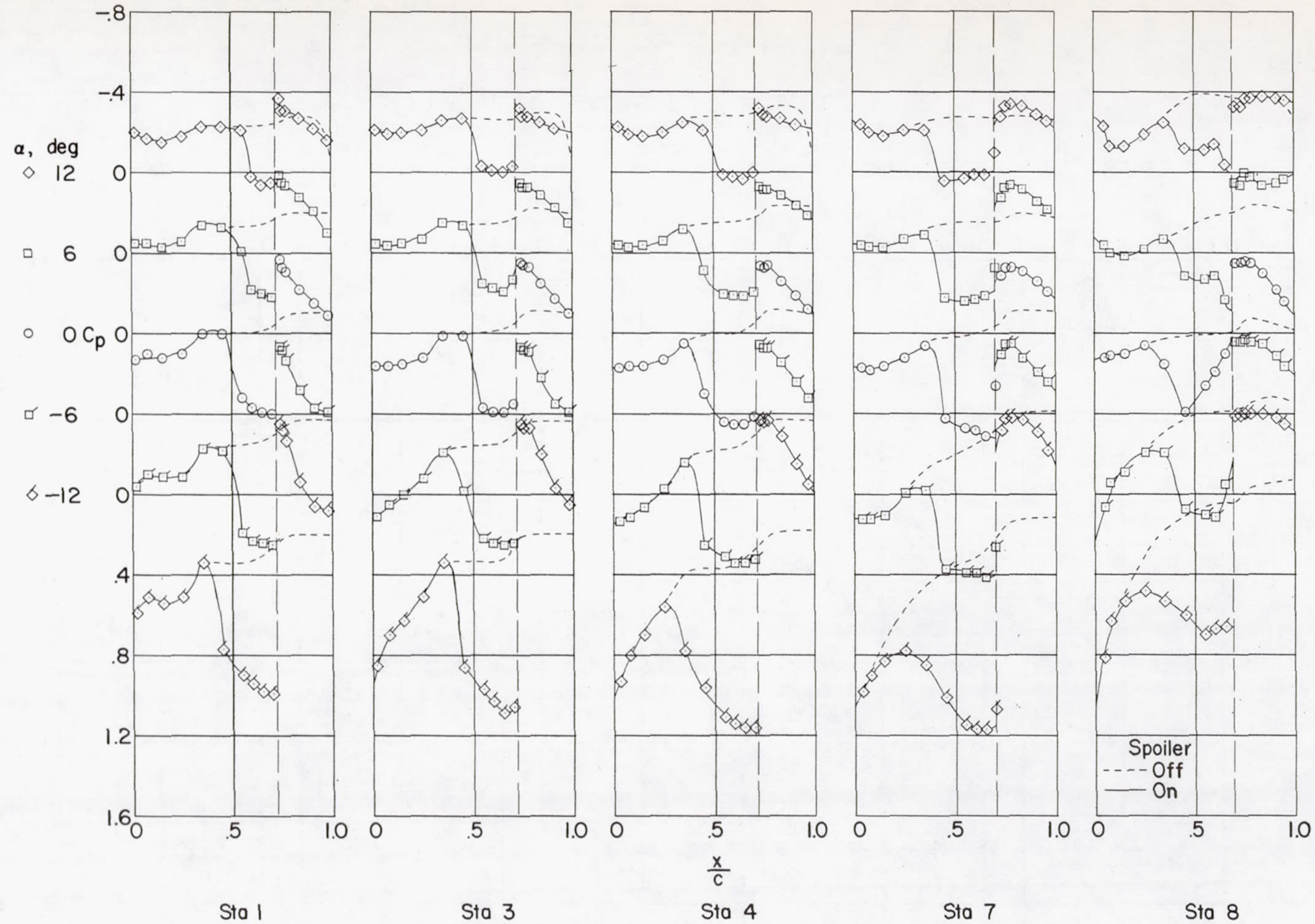
(f) Configuration F; M = 1.61.

Figure 3.- Continued.



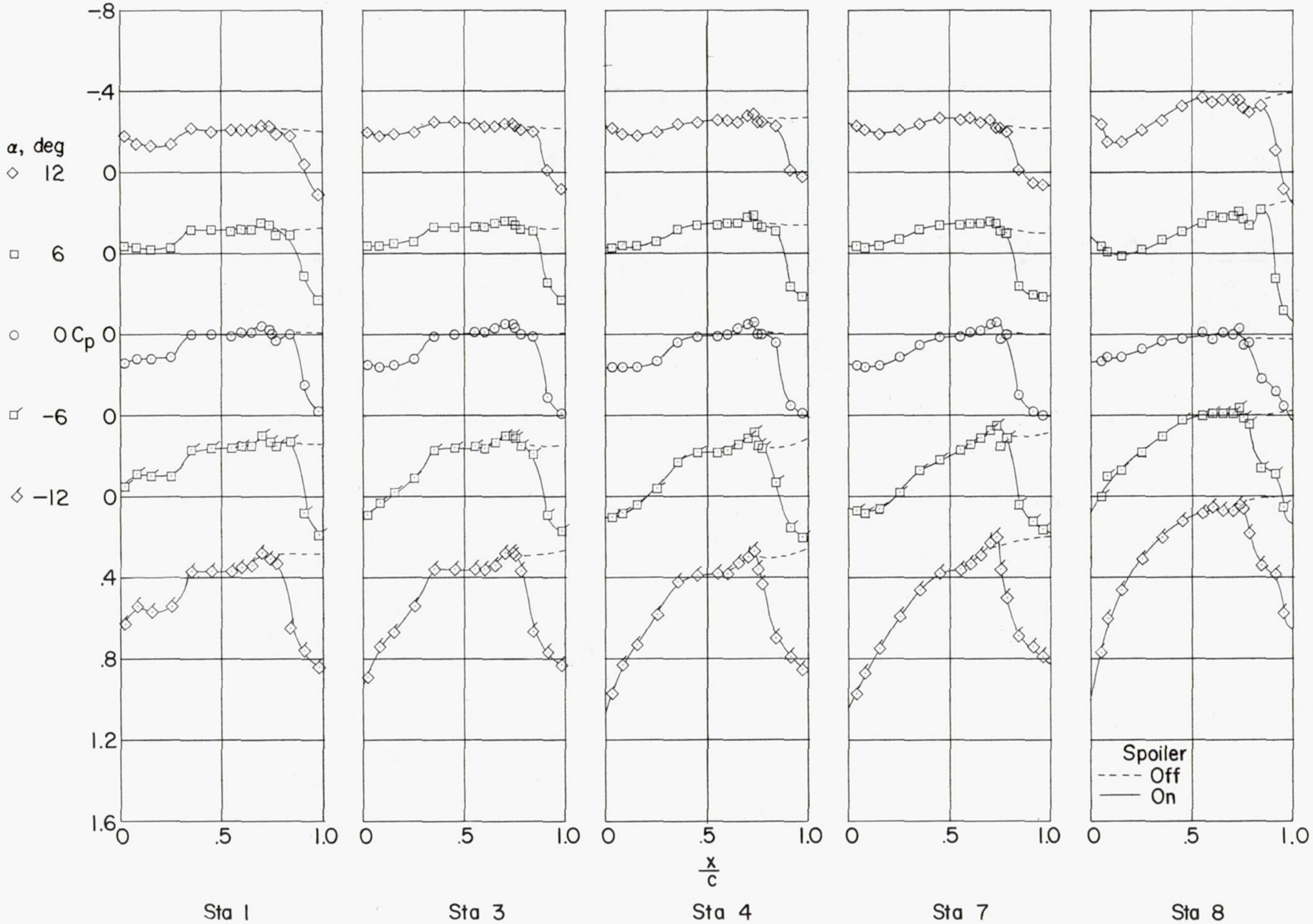
(g) Configuration G; M = 1.61.

Figure 3.- Continued.



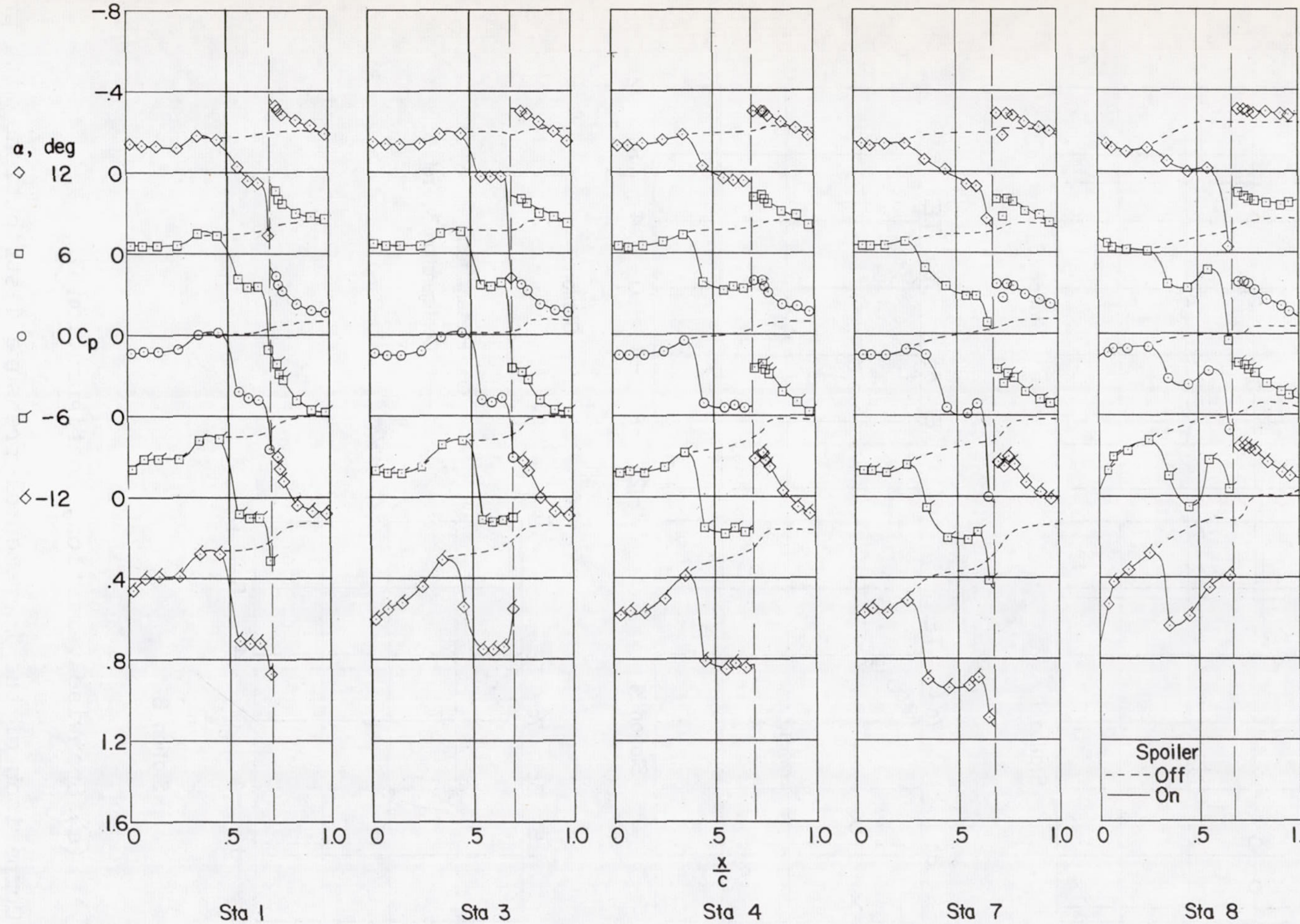
(h) Configuration H; M = 1.61.

Figure 3.- Continued.



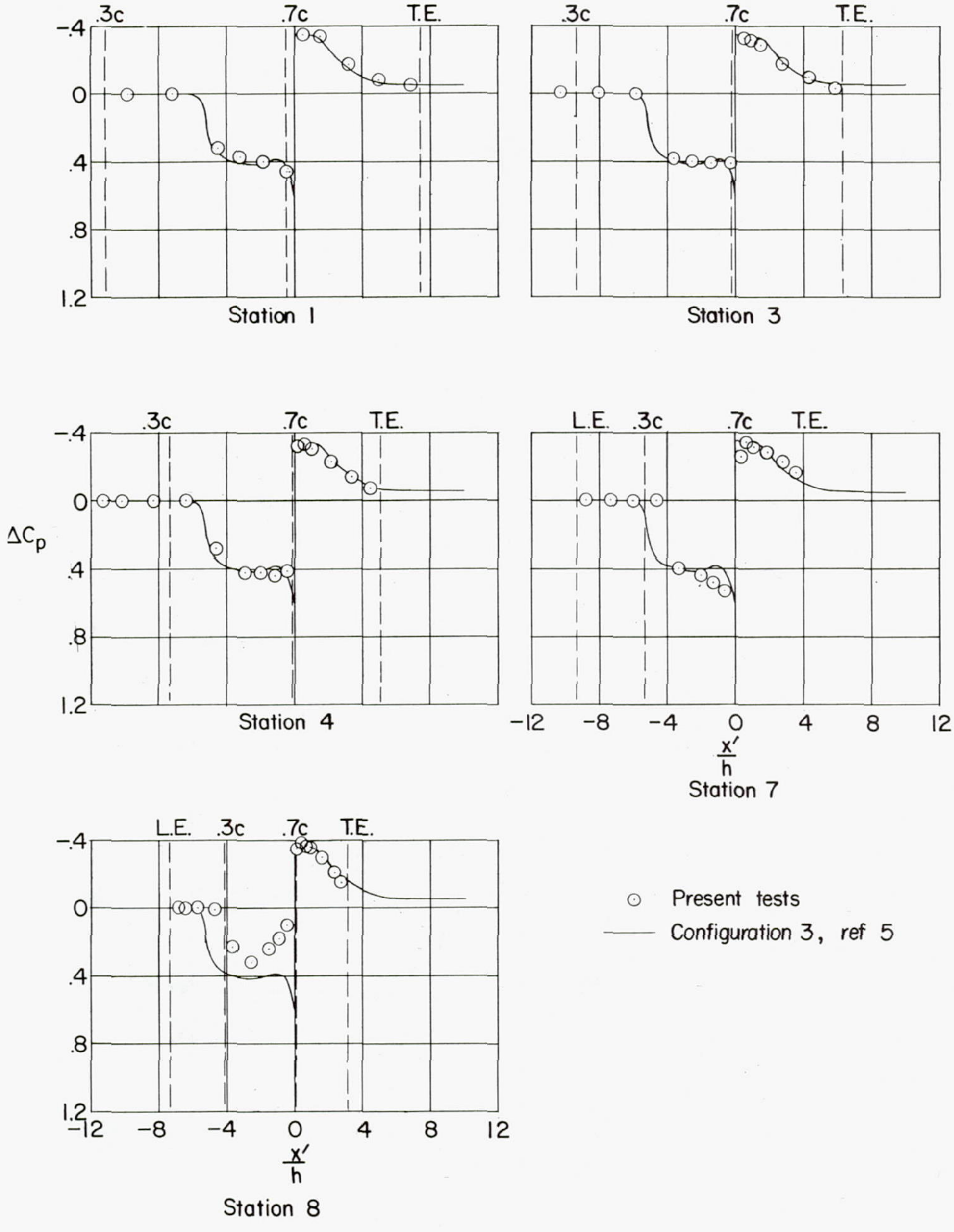
(i) Configuration I; M = 1.61.

Figure 3.- Continued.



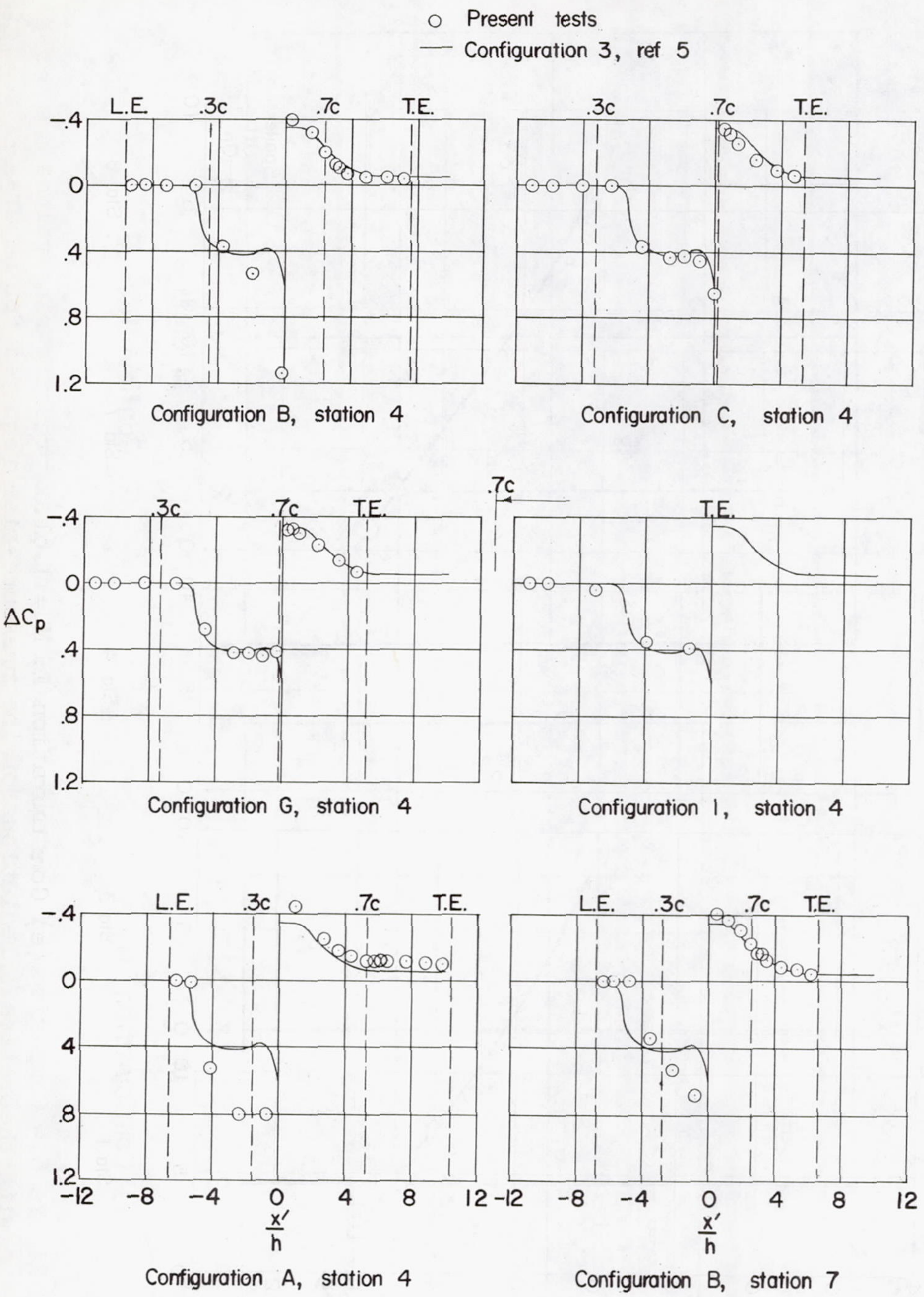
(j) Configuration C; M = 2.01.

Figure 3.- Concluded.



(a) Spanwise variation, configuration G.

Figure 4.- Comparison of the incremental pressure distributions with previous flat-plate results. $\alpha = 0^{\circ}$; M = 1.61.



(b) Effect of surface corners.

Figure 4.- Concluded.

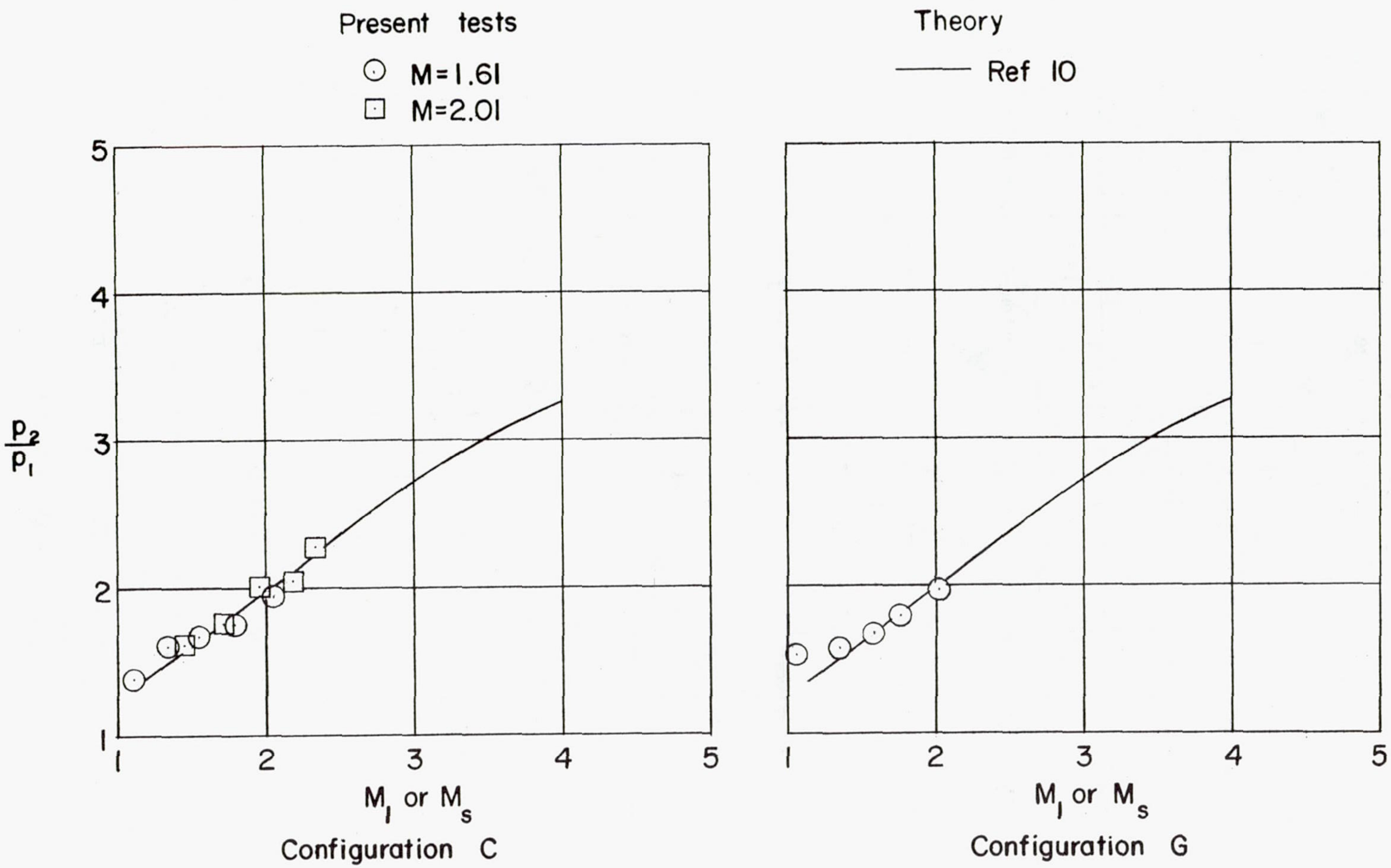
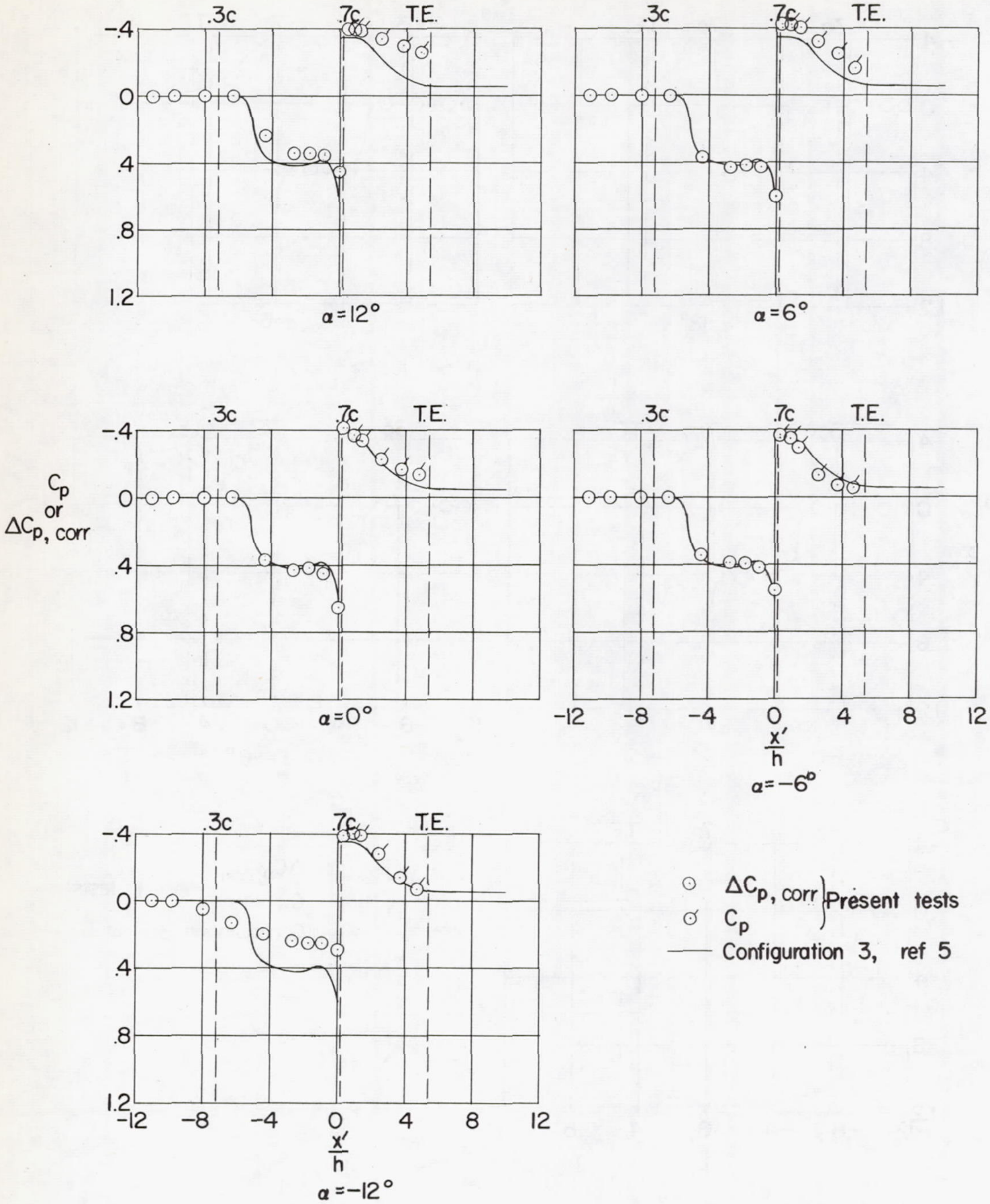
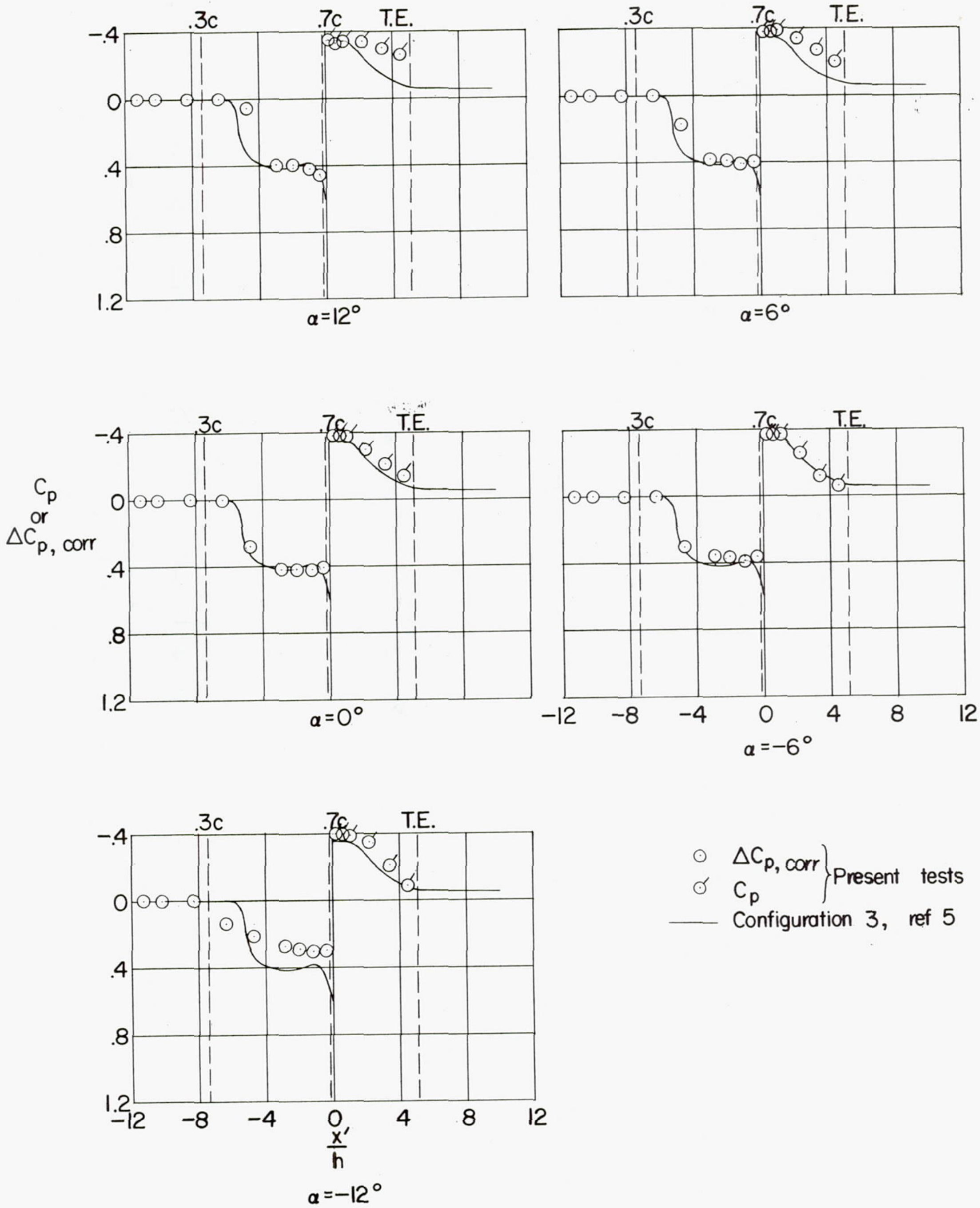


Figure 5.- Comparison of the experimental first-peak pressure-rise values with theoretical predictions of the pressure-rise required for separation of a turbulent boundary layer. Station 4.



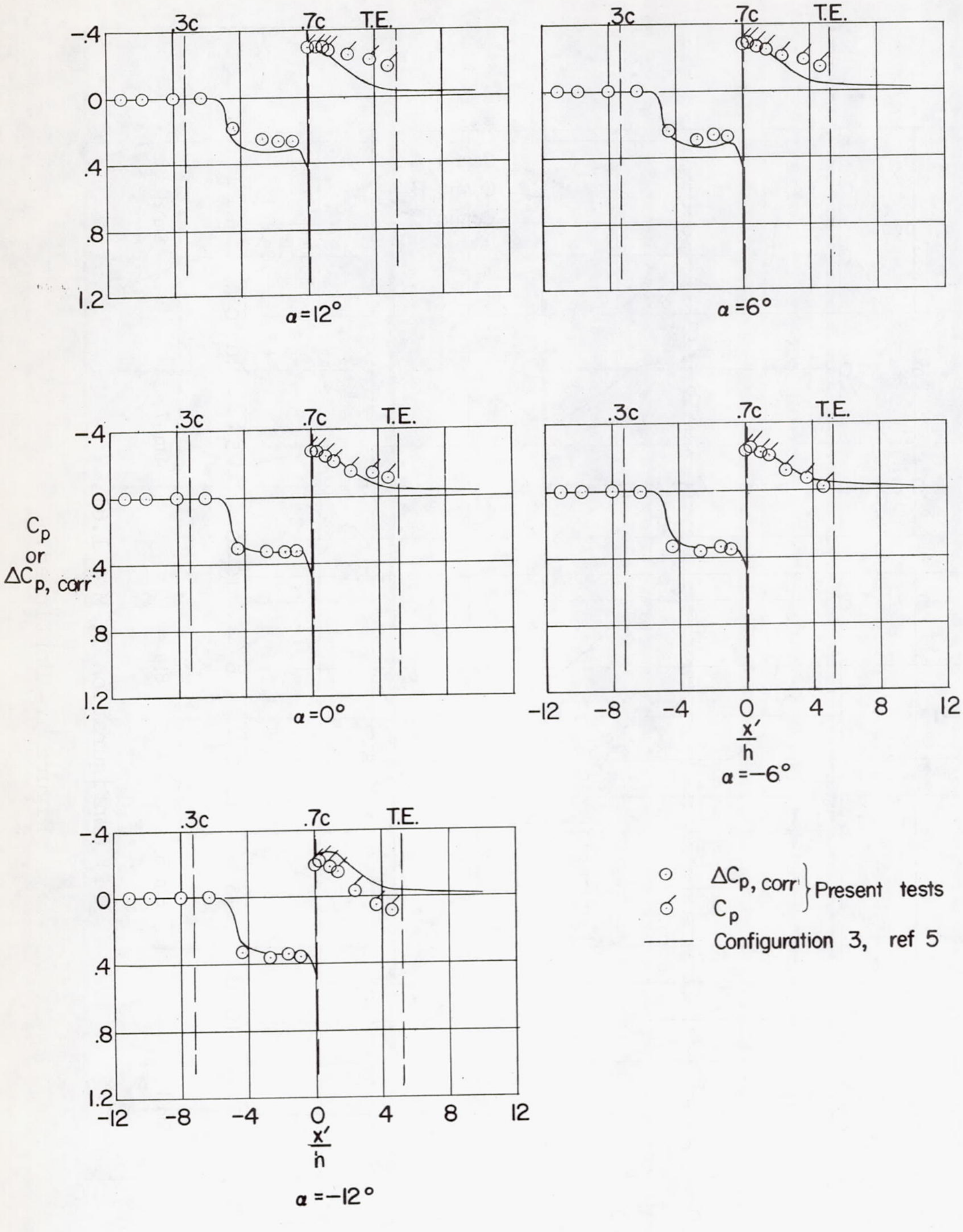
(a) Configuration C; M = 1.61.

Figure 6.- Correlation of spoiler pressure distributions at angles of attack with flat-plate results. Station 4.



(b) Configuration G; M = 1.61.

Figure 6.- Continued.



(c) Configuration C; M = 2.01.

Figure 6.- Concluded.

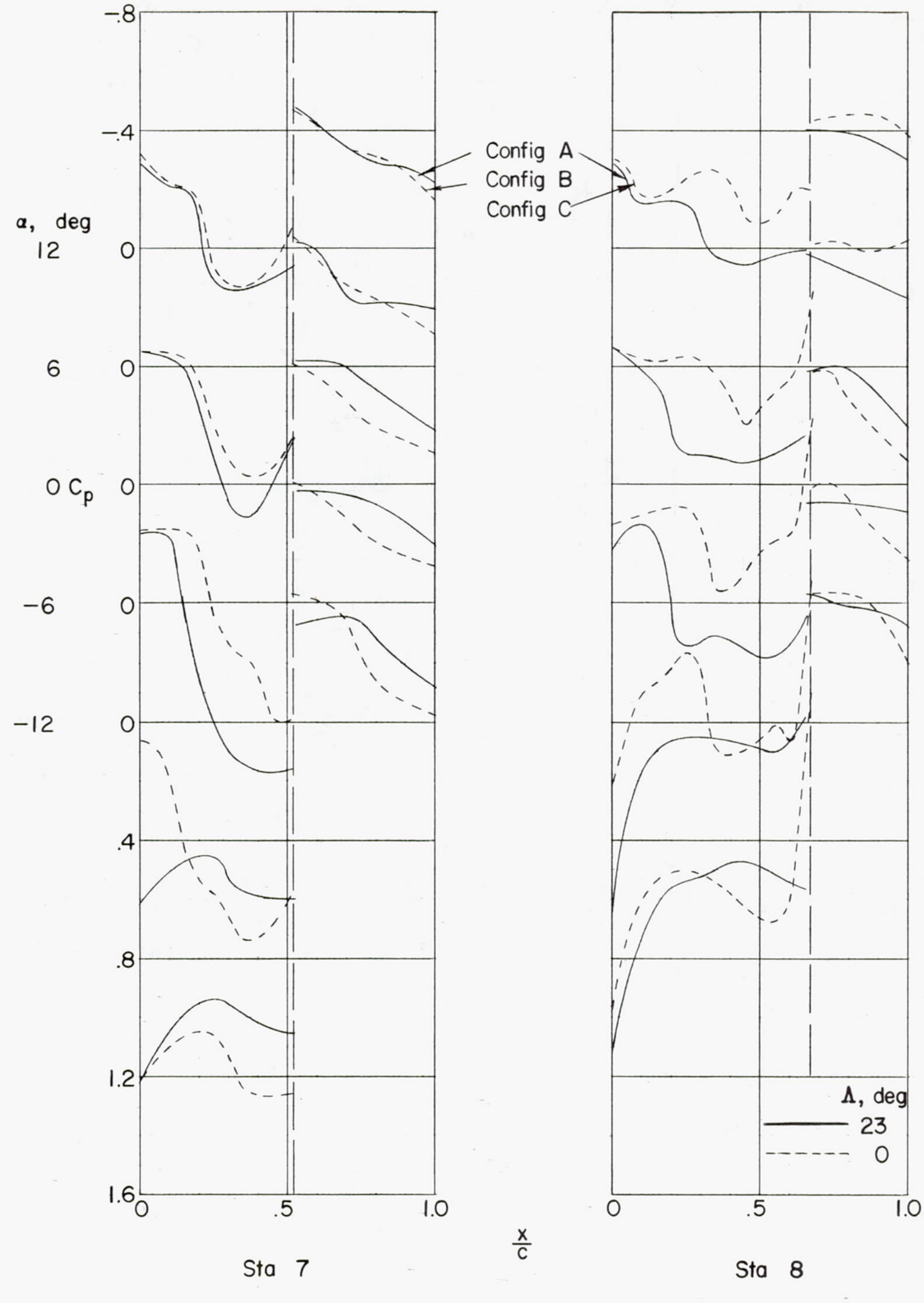


Figure 7.- Effect of spoiler sweep on the upper-surface pressure distributions at stations 7 and 8. M = 1.61.

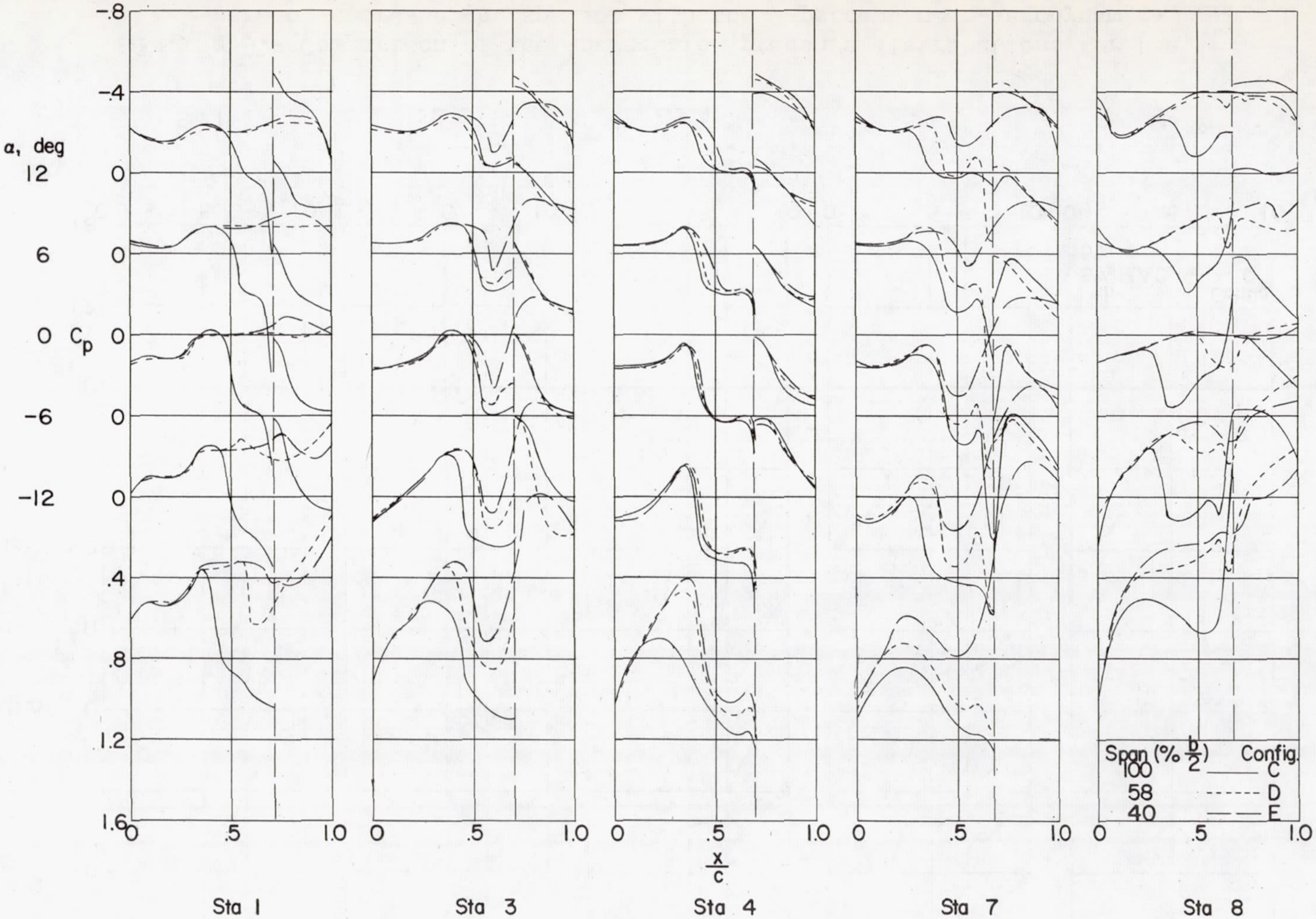


Figure 8.- Upper-surface pressure distributions showing the effect of reducing the spoiler span. M = 1.61.

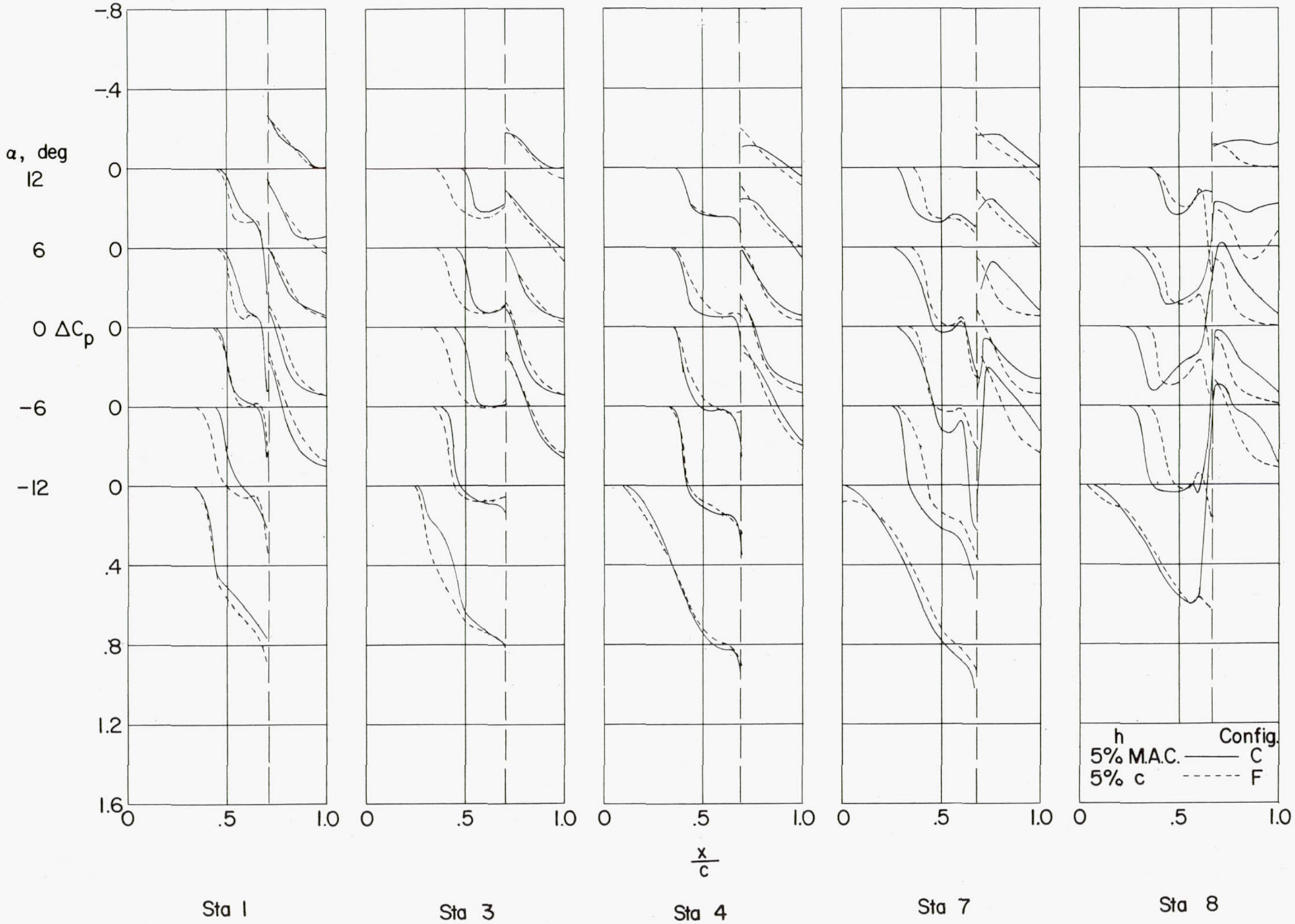


Figure 9.- Comparison of the incremental pressure distributions for the 5-percent-chord-height spoiler with the 5-percent mean-aerodynamic-chord-height spoiler. M = 1.61.

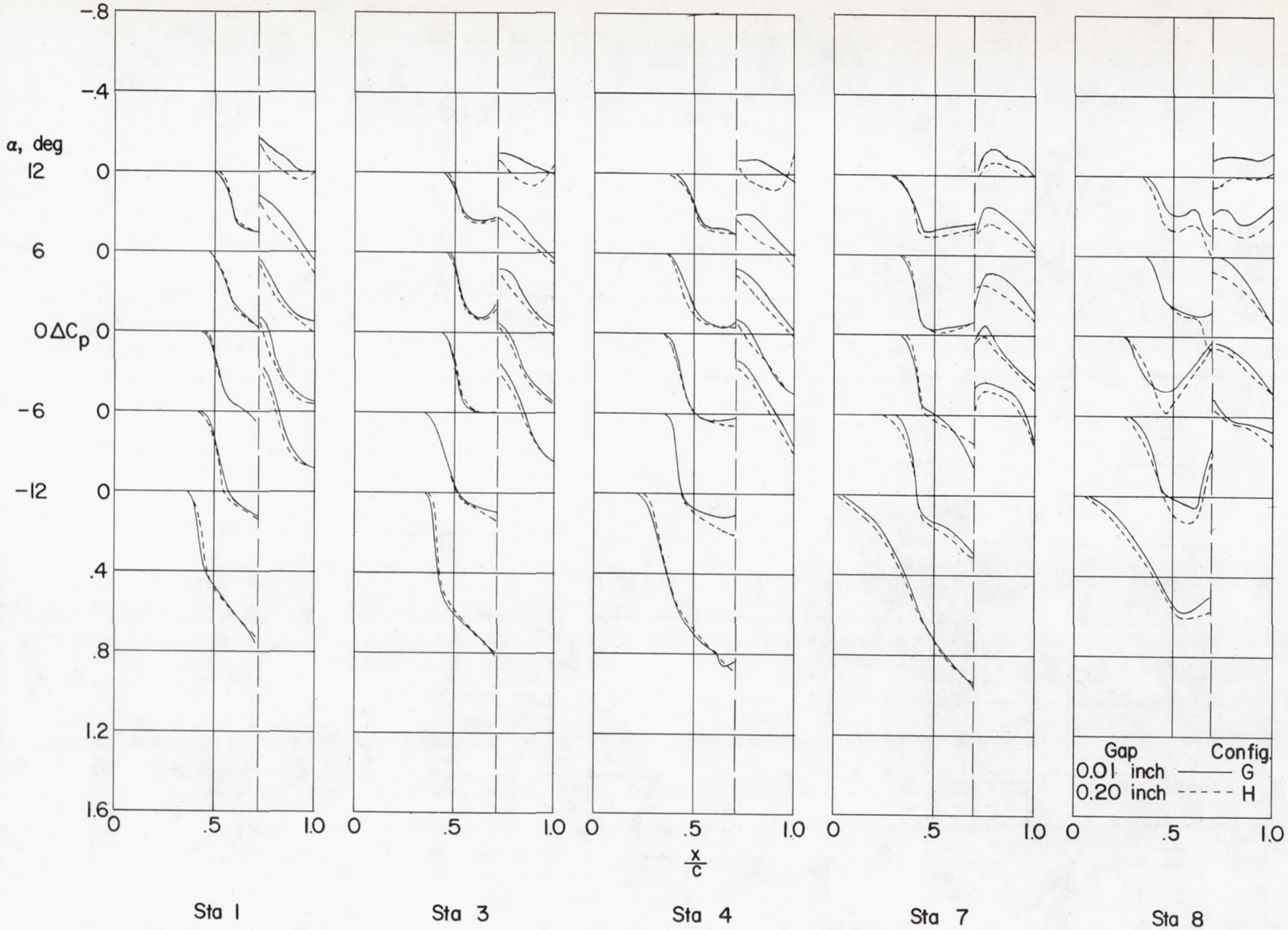


Figure 10.- Comparison of the incremental pressure distributions to show the effect of increasing the gap behind a spoiler. M = 1.61.

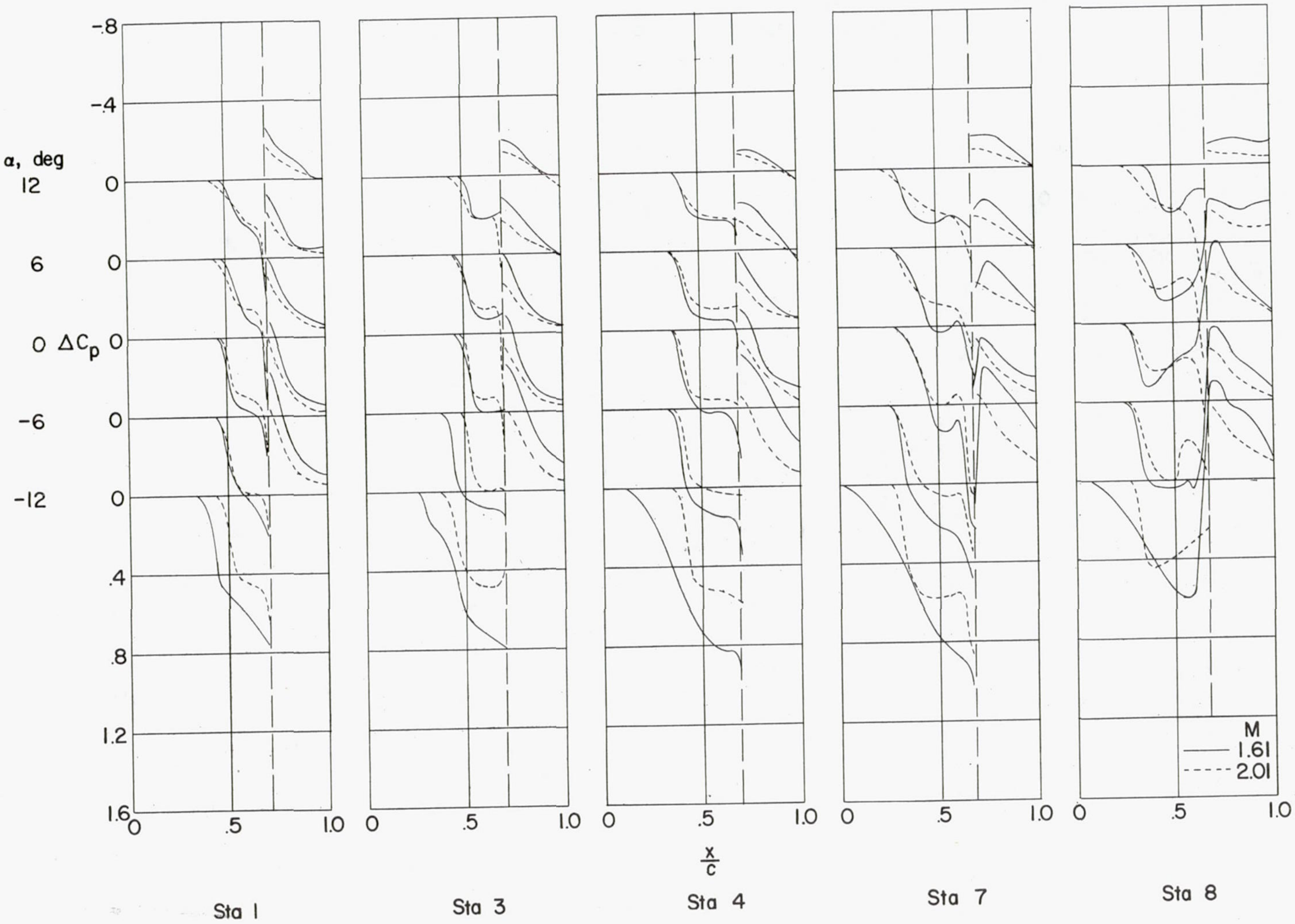
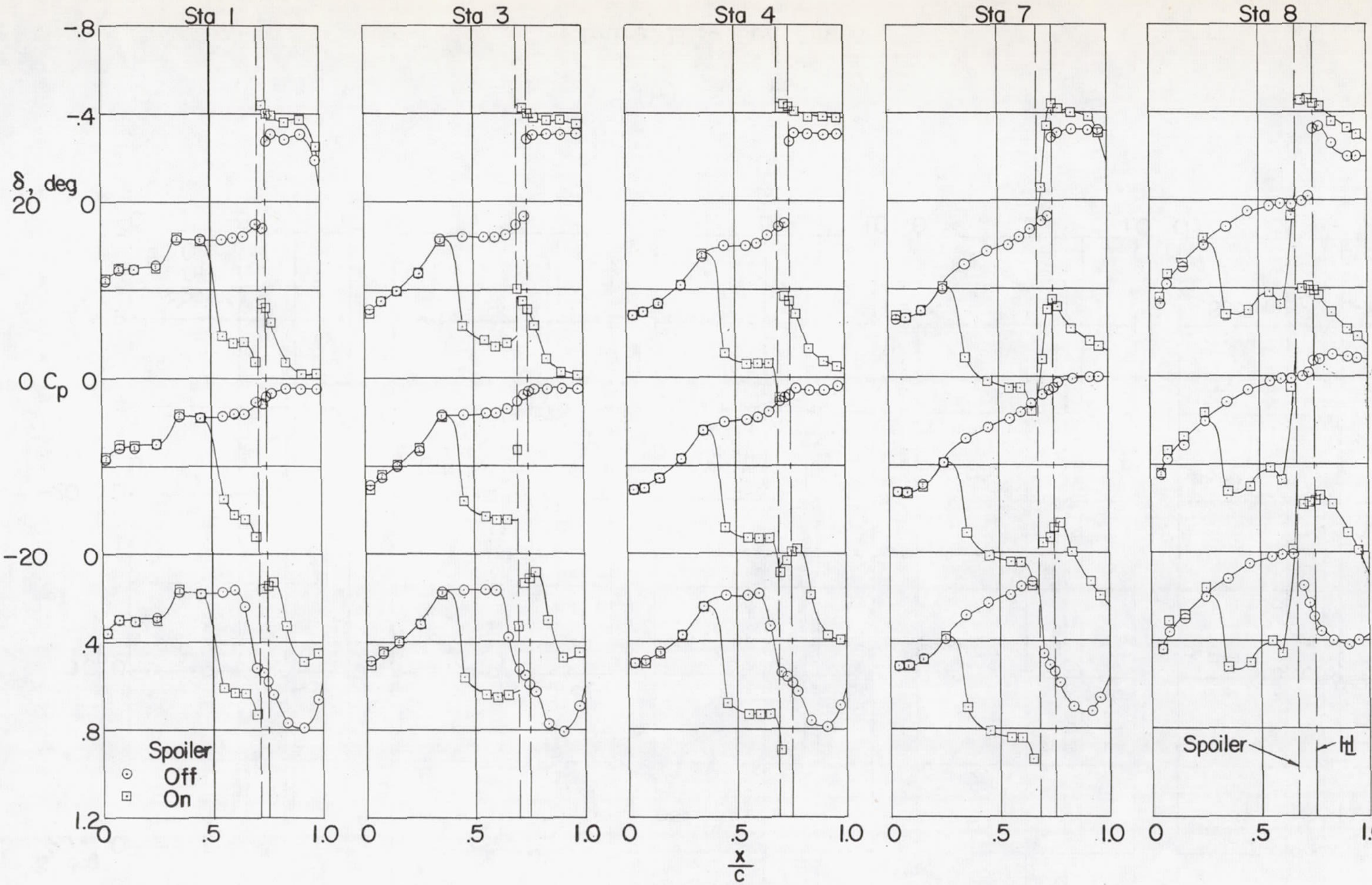
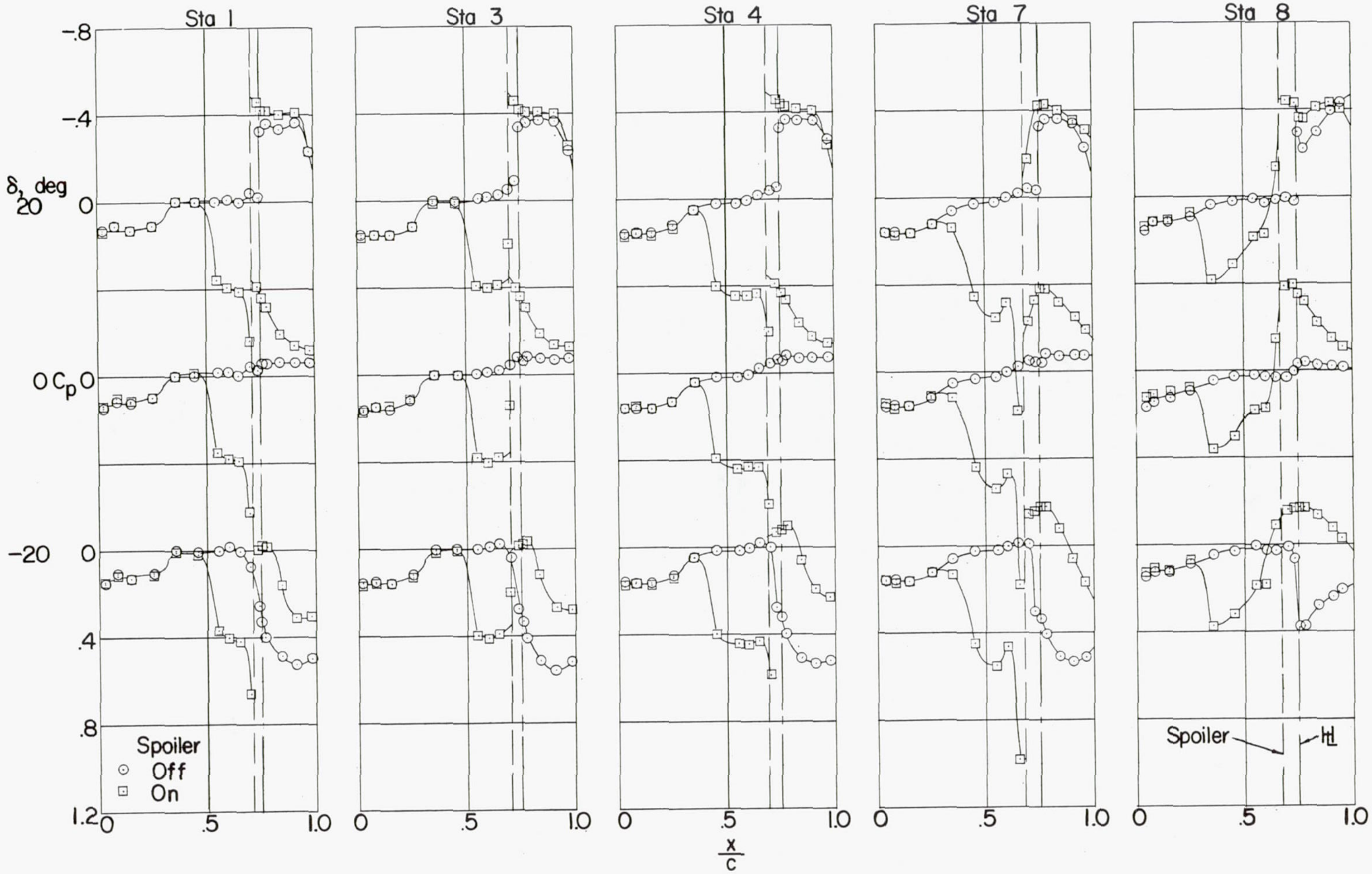


Figure 11.- Comparison of the incremental pressure distributions for configuration C at the two test Mach numbers.



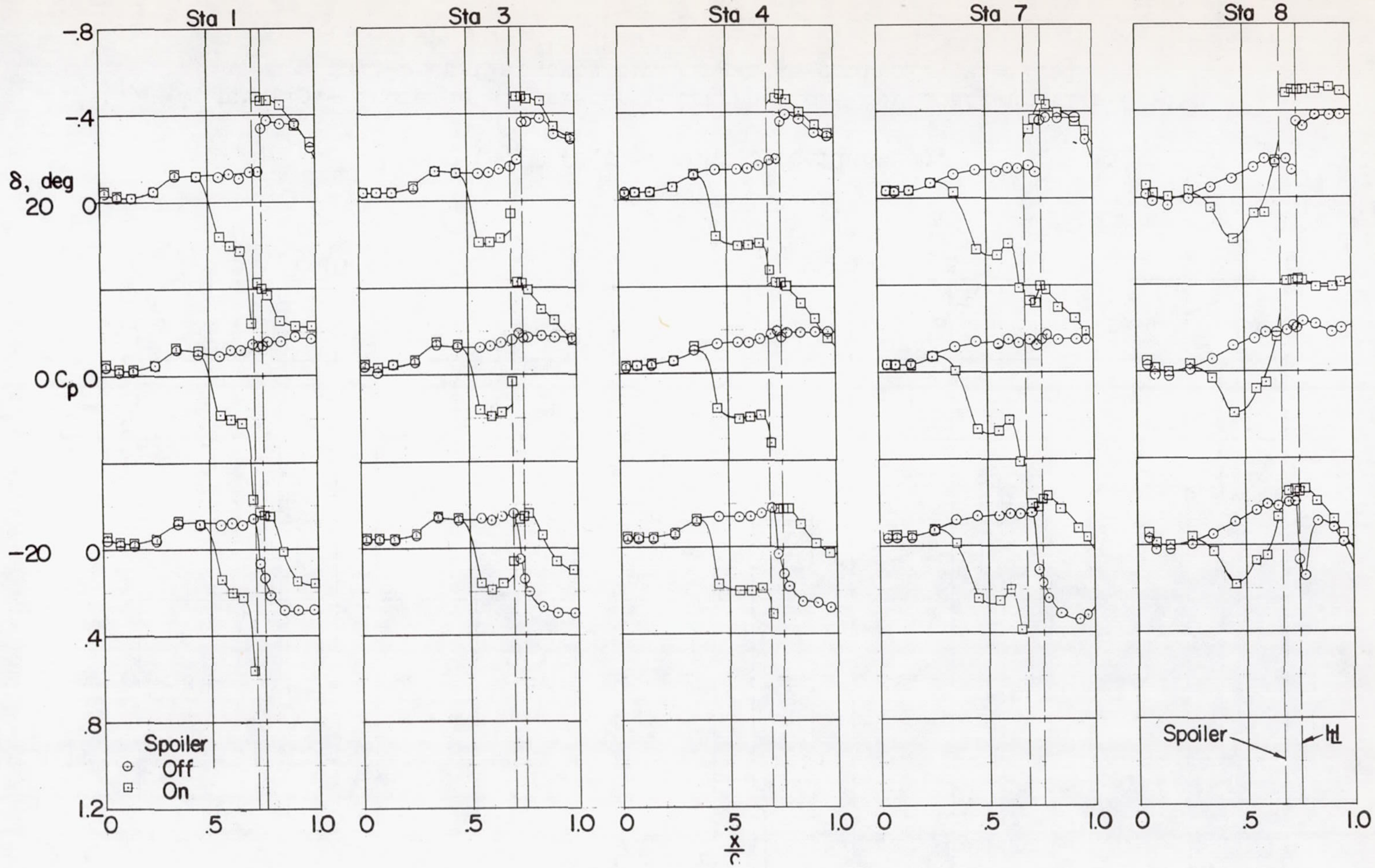
(a.) $\alpha = -6^{\circ}$.

Figure 12.- Upper-surface pressure distributions for configuration C with a full-span flap-type trailing-edge control. M = 1.61.



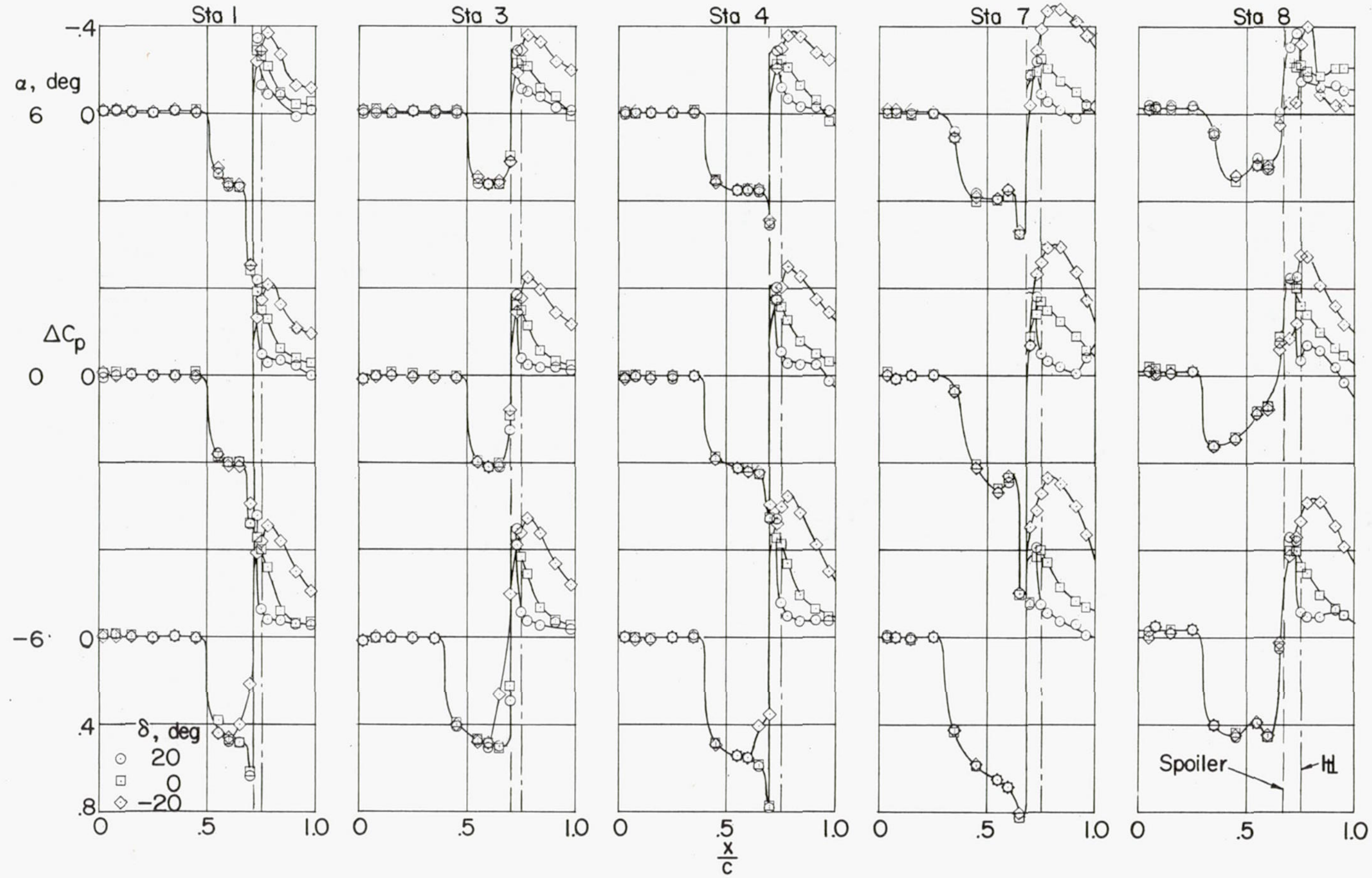
(b) $\alpha = 0^{\circ}$.

Figure 12.- Continued.



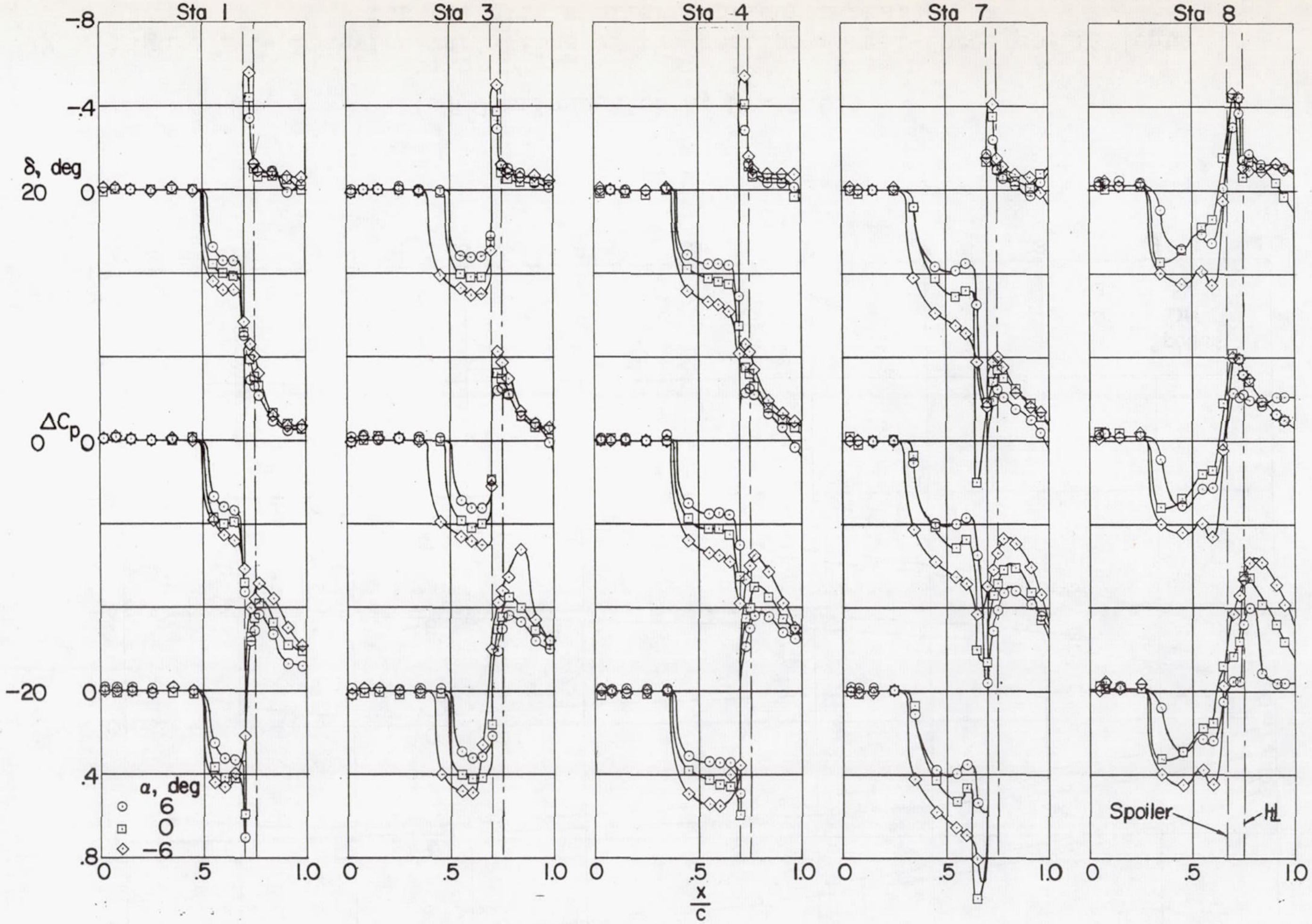
(c) $\alpha = 6^{\circ}$.

Figure 12.- Concluded.



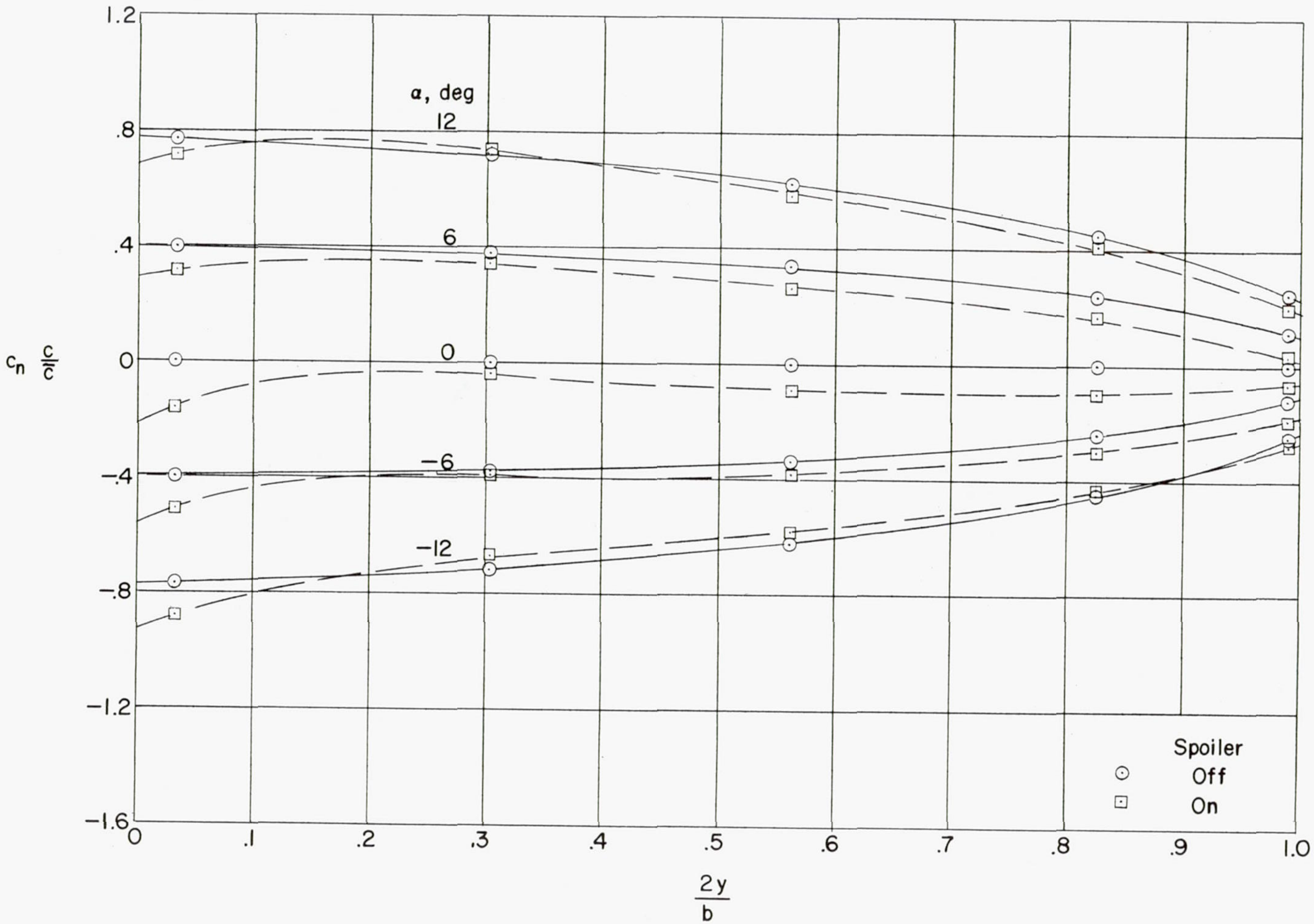
(a) Effect of control deflection.

Figure 13.- Incremental pressure distributions for configuration C with a full-span flap-type trailing-edge control. M = 1.61.



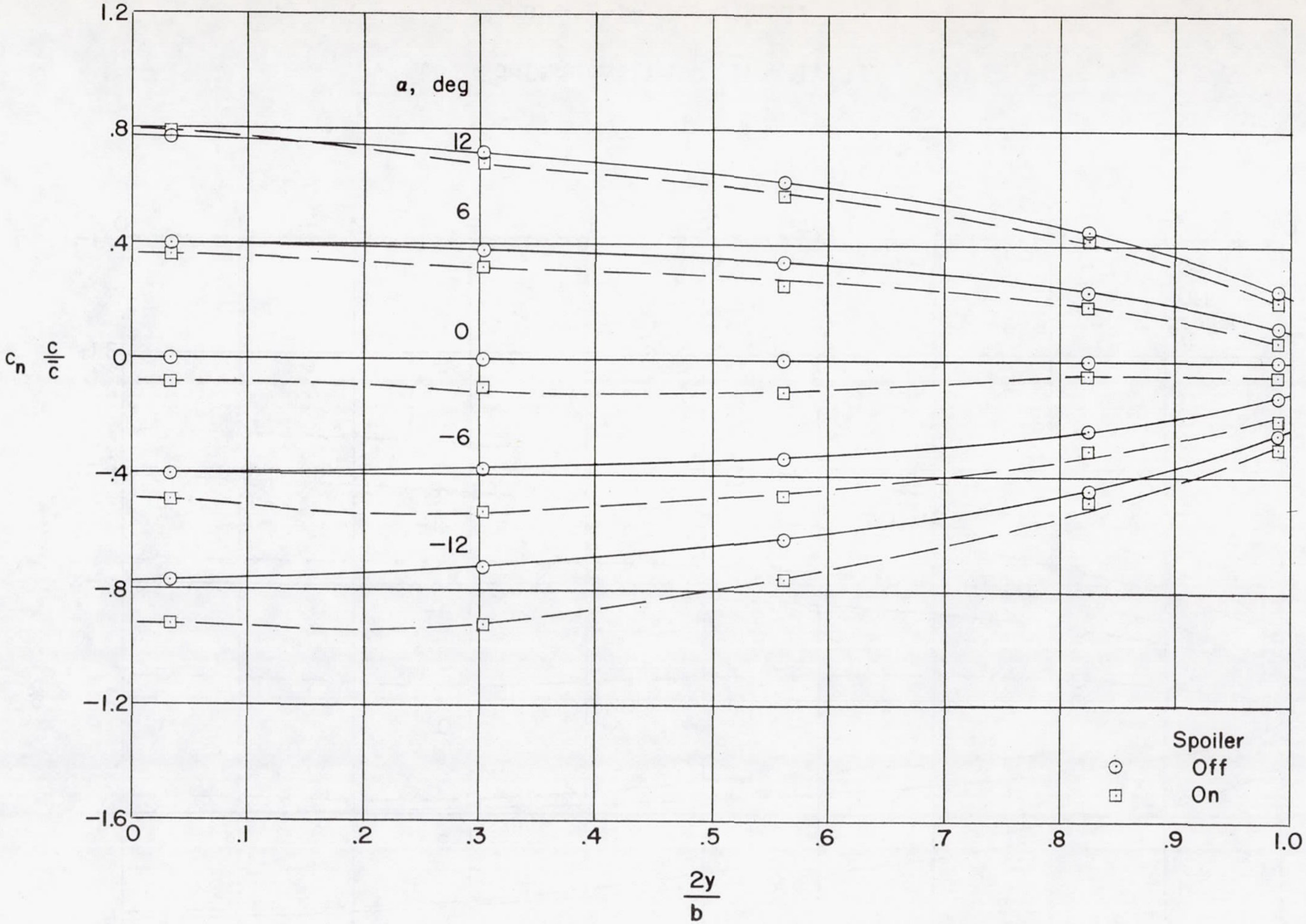
(b) Effect of angle of attack.

Figure 13.- Concluded.



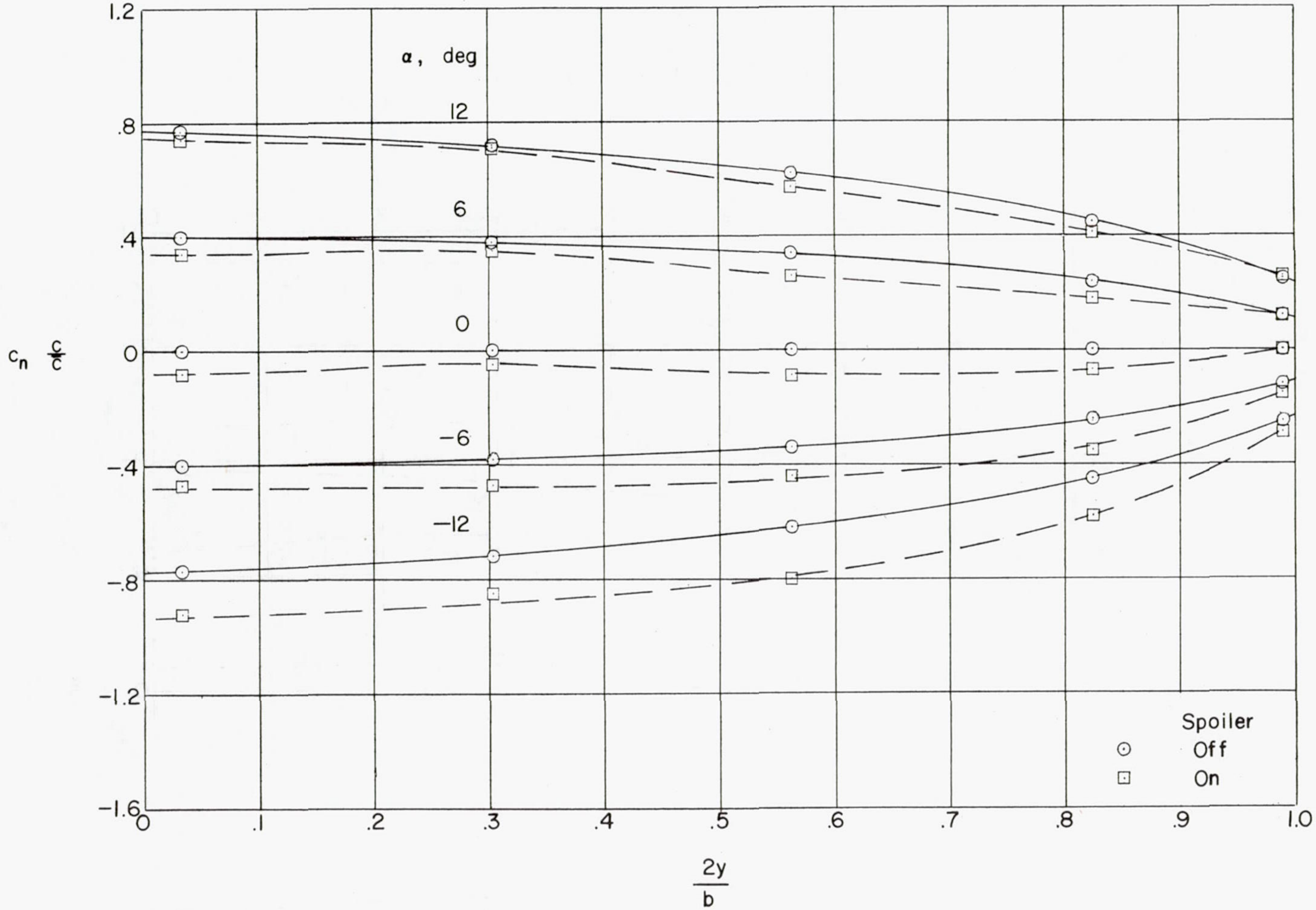
(a) Configuration A; M = 1.61.

Figure 14.- Spanwise variations of the section normal-force coefficients for the nine spoiler configurations.



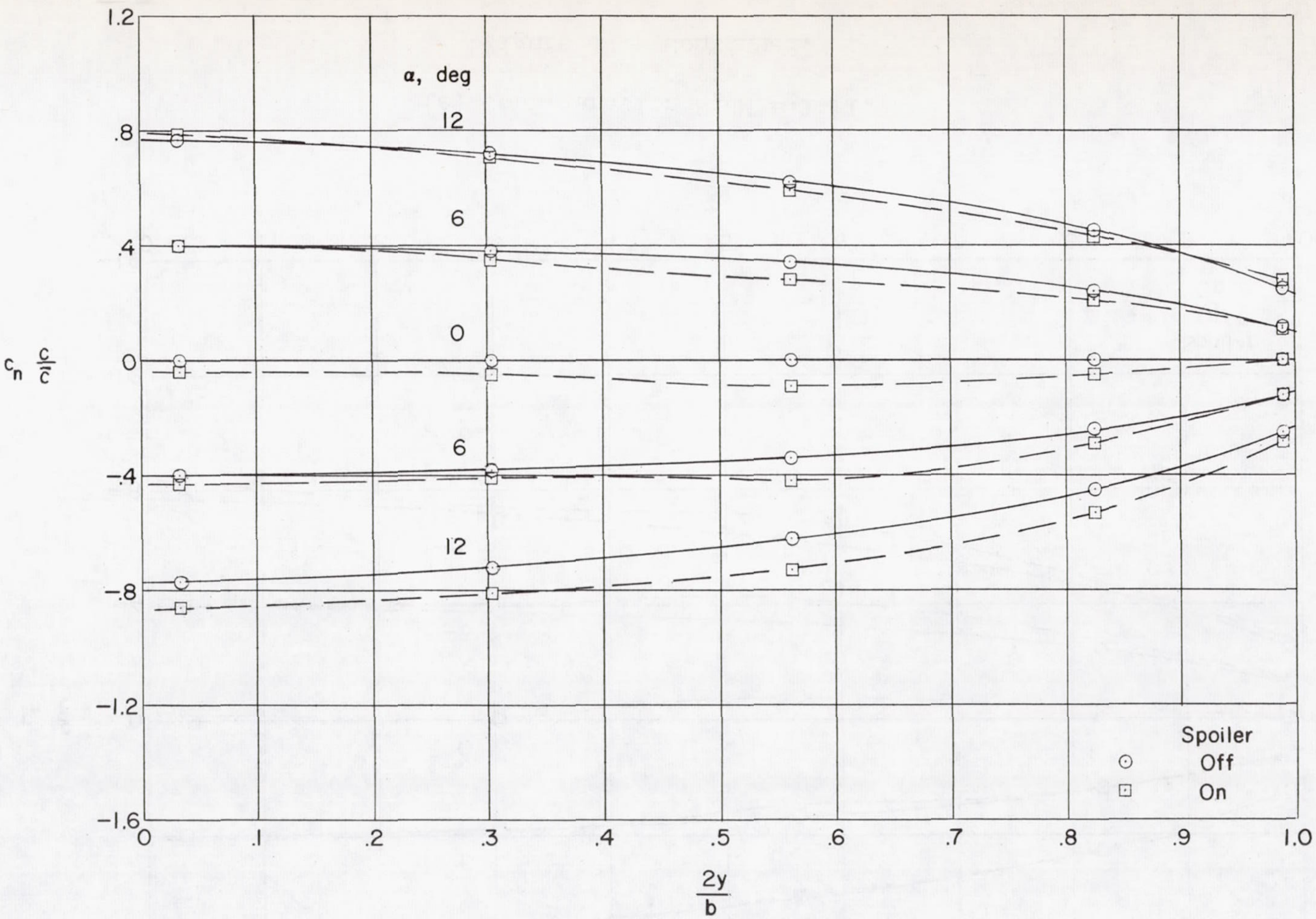
(b) Configuration B; M = 1.61.

Figure 14.- Continued.



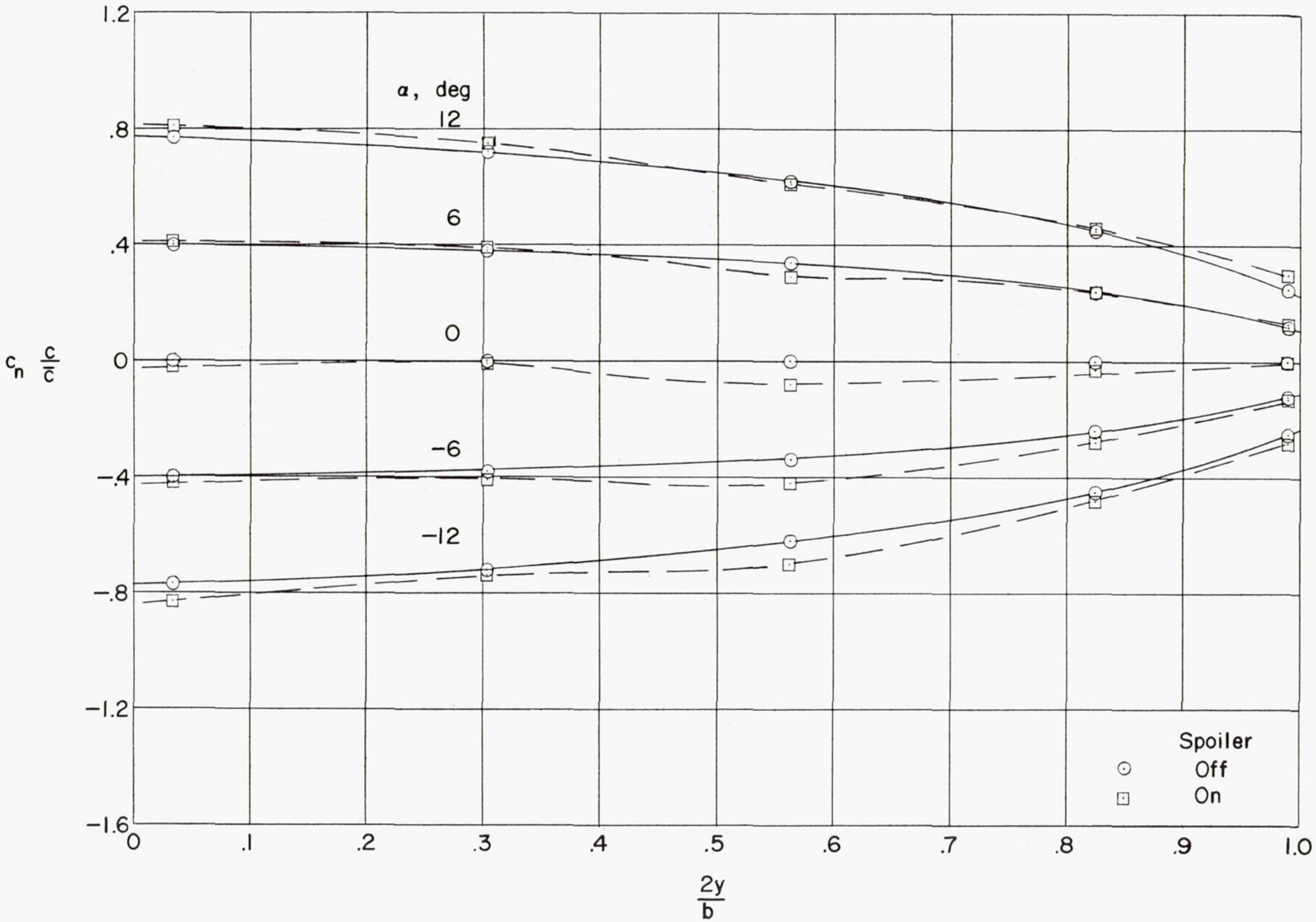
(c) Configuration C; M = 1.61.

Figure 14.- Continued.



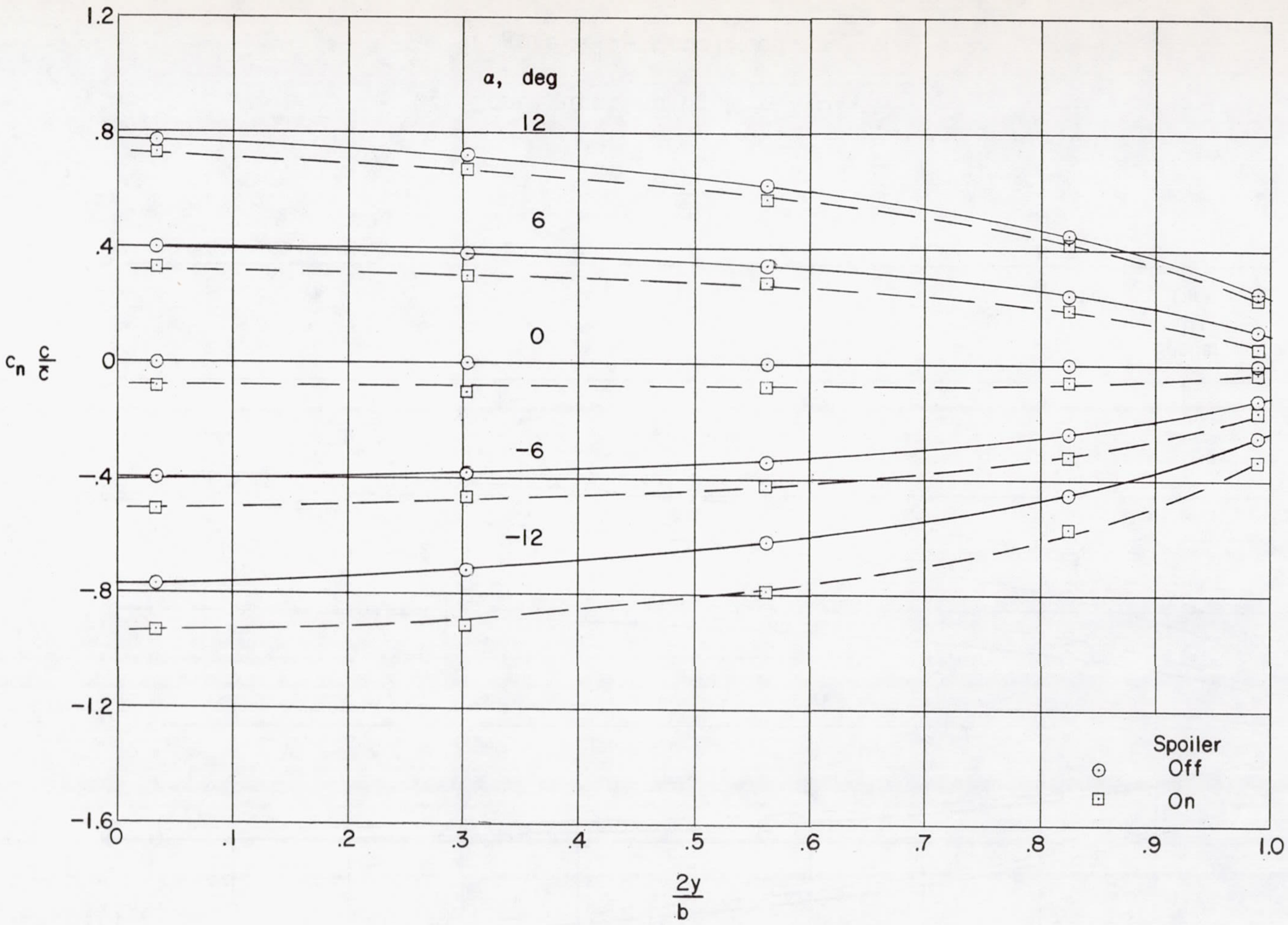
(d) Configuration D; M = 1.61.

Figure 14.- Continued.



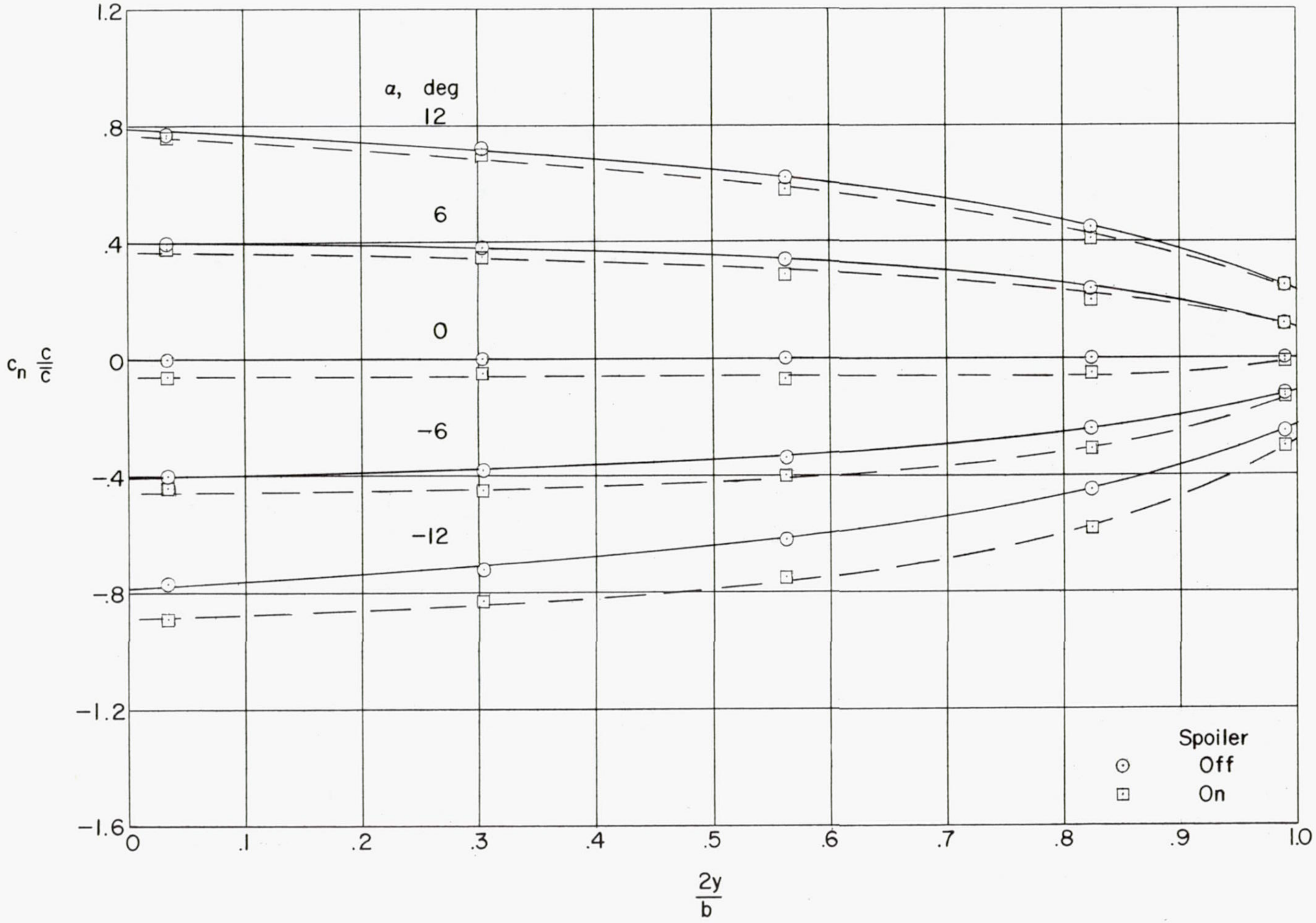
(e) Configuration E; M = 1.61.

Figure 14.- Continued.



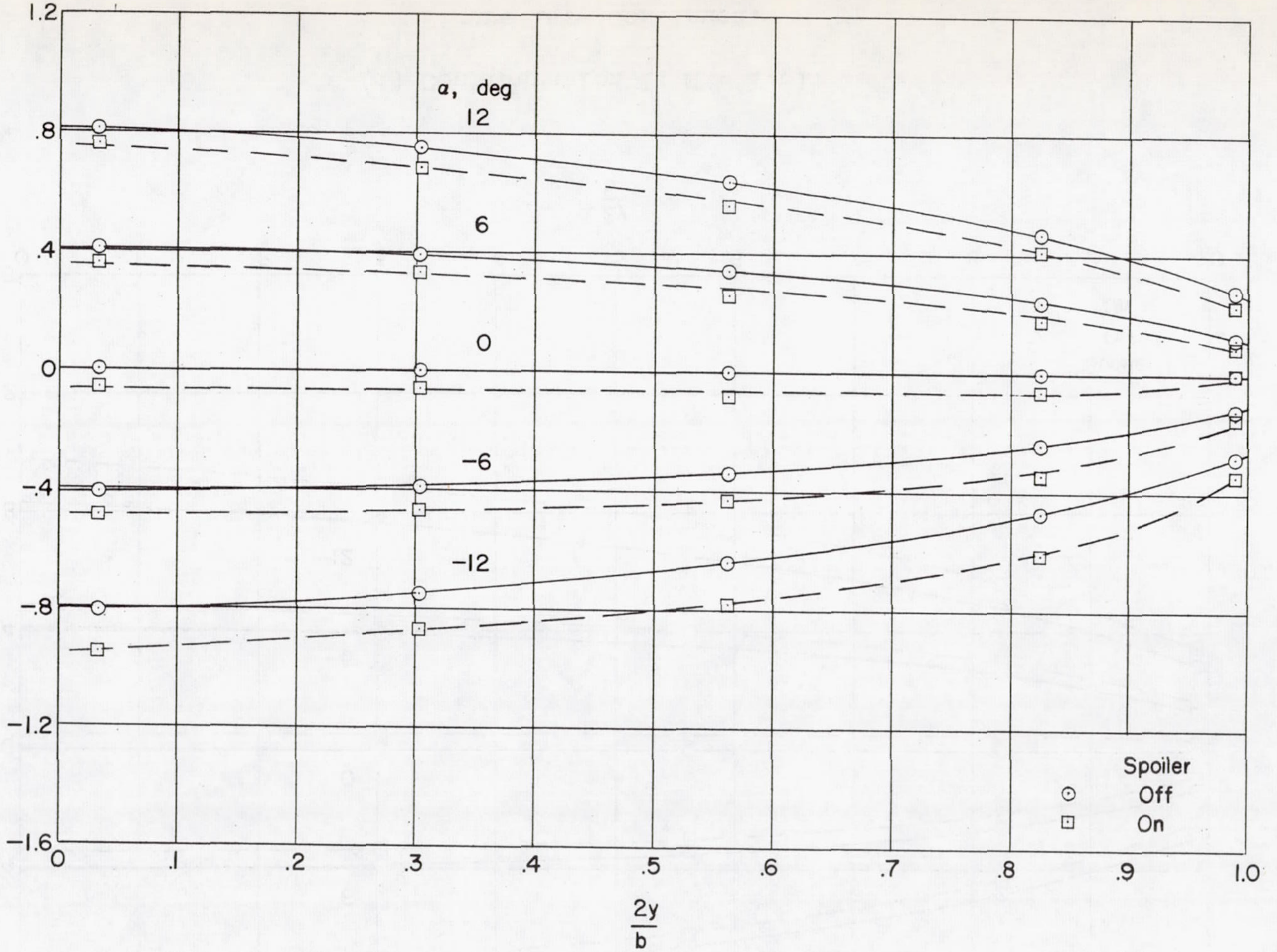
(f) Configuration F; M = 1.61.

Figure 14.- Continued.



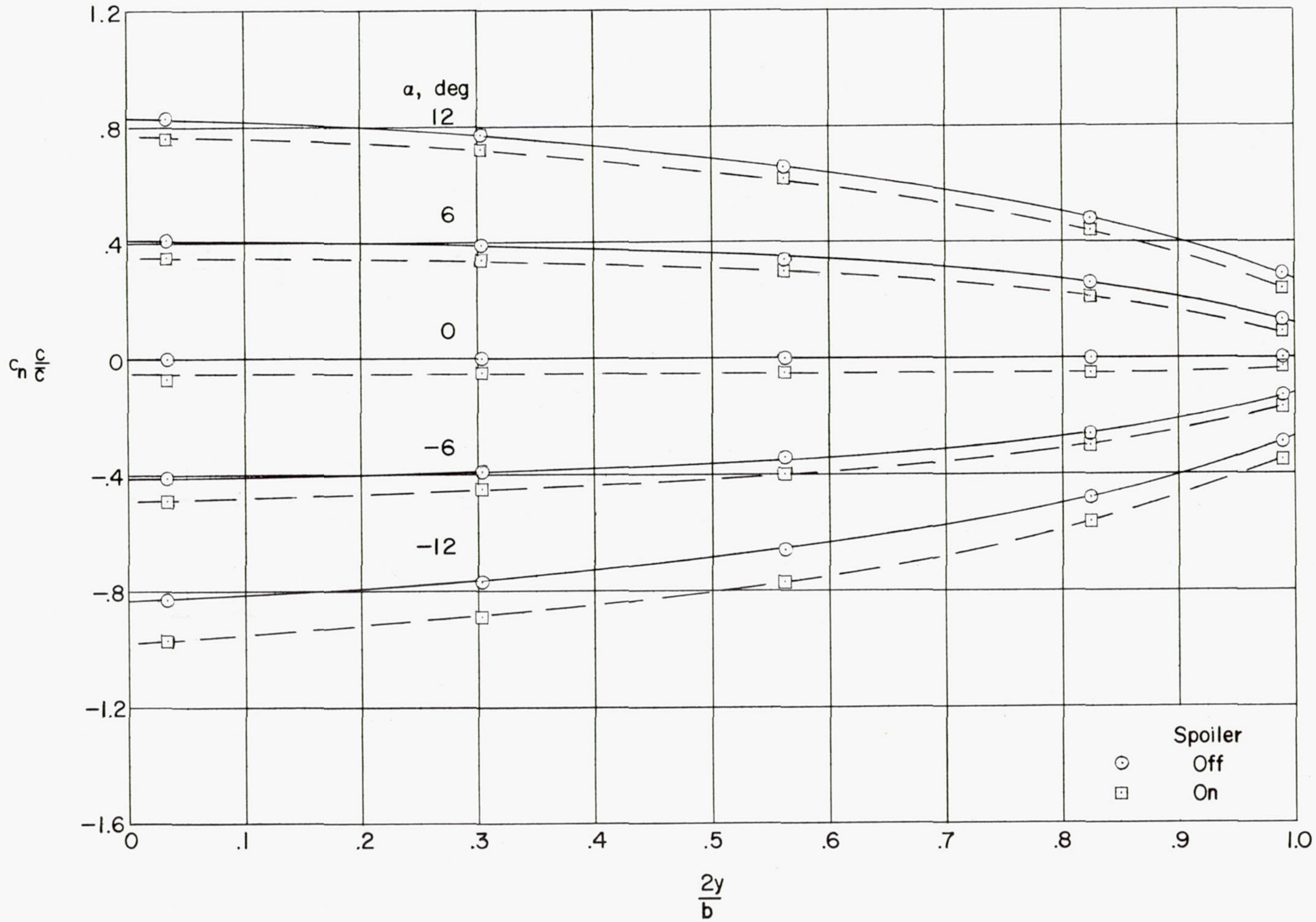
(g) Configuration G; M = 1.61.

Figure 14.- Continued.



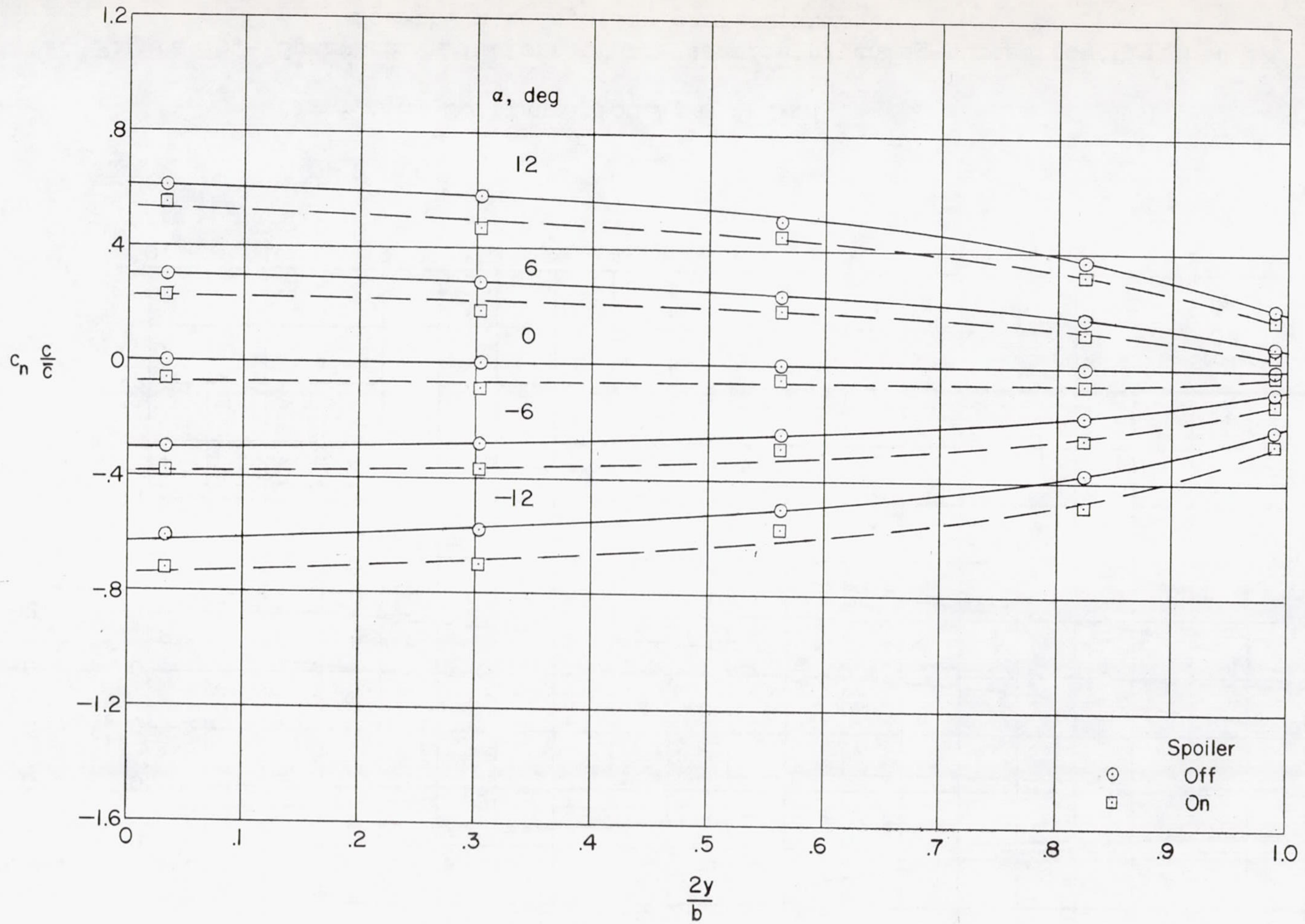
(h) Configuration H; M = 1.61.

Figure 14.- Continued.



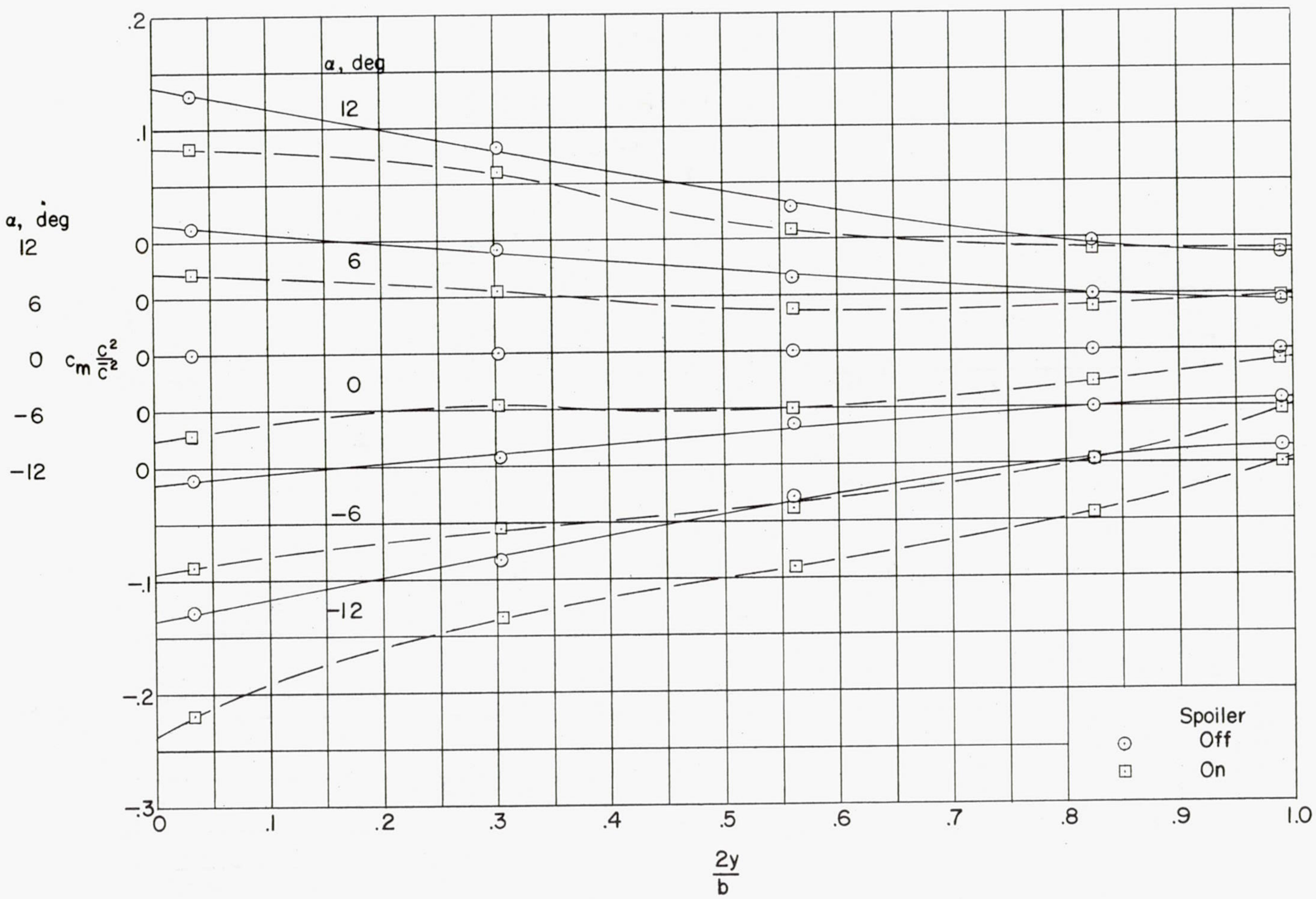
(i) Configuration I; M = 1.61.

Figure 14.- Continued.



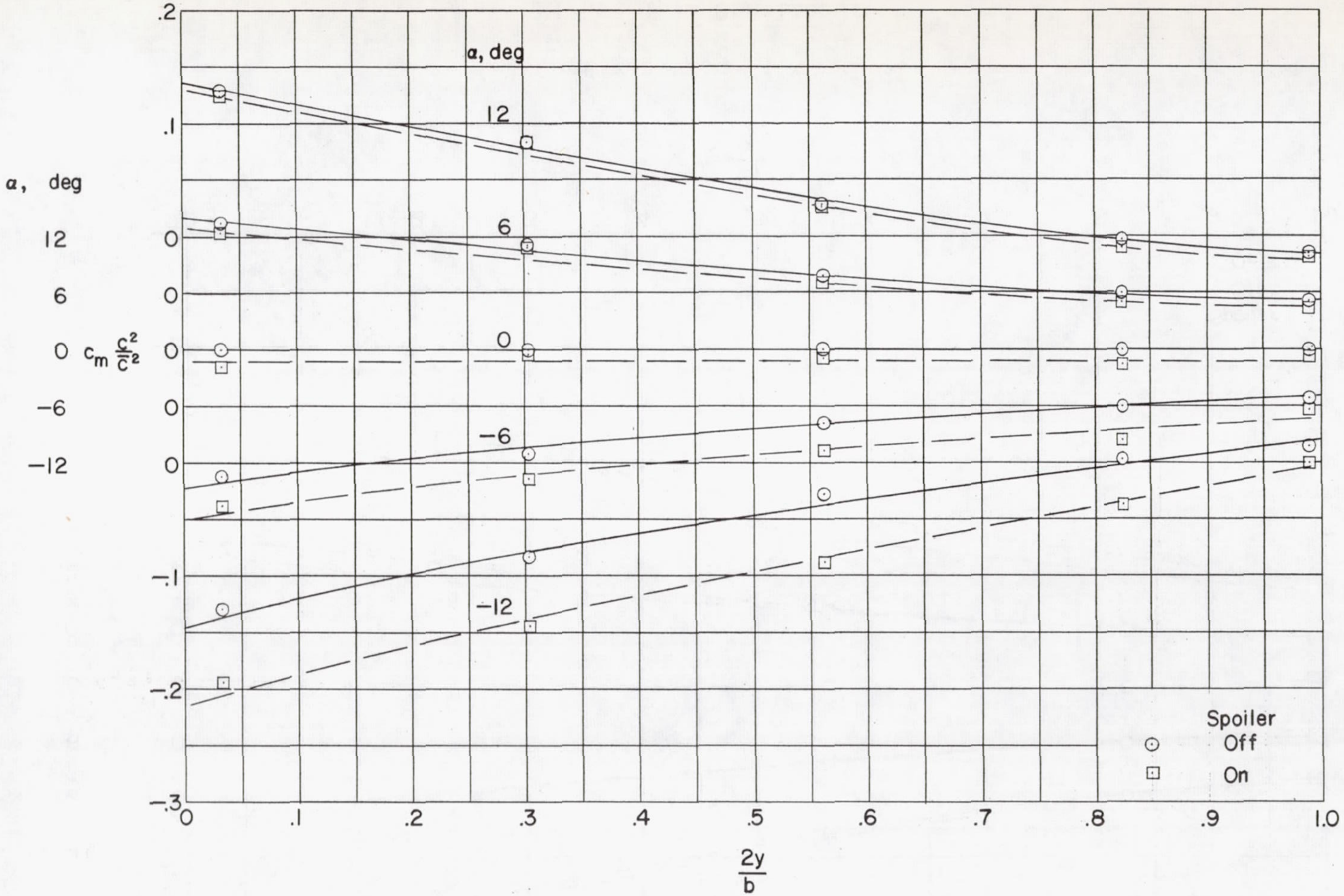
(j) Configuration C; M = 2.01.

Figure 14.- Concluded.



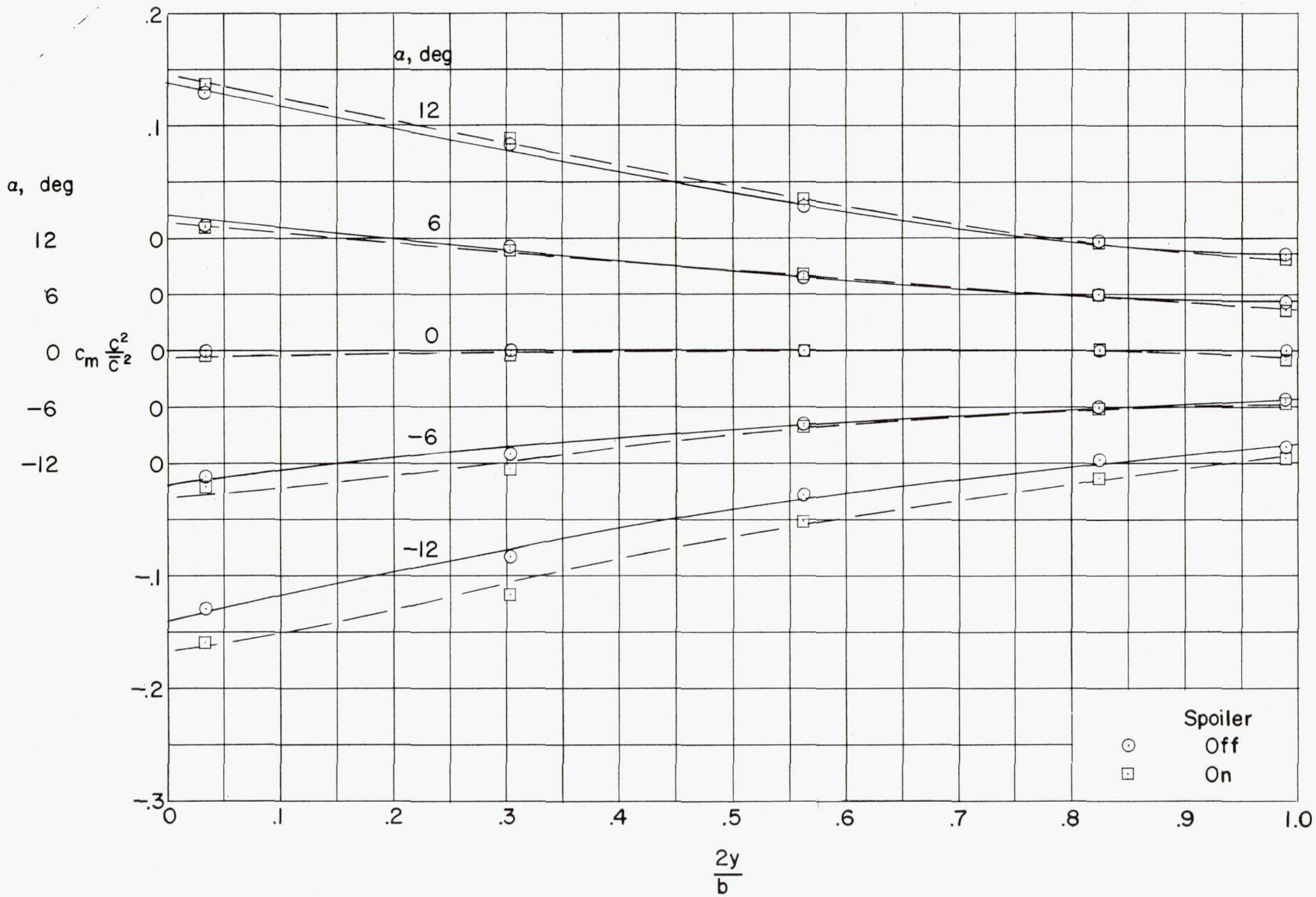
(a) Configuration A; M = 1.61.

Figure 15.- Spanwise variations of the section pitching-moment coefficients for the nine spoiler configurations.



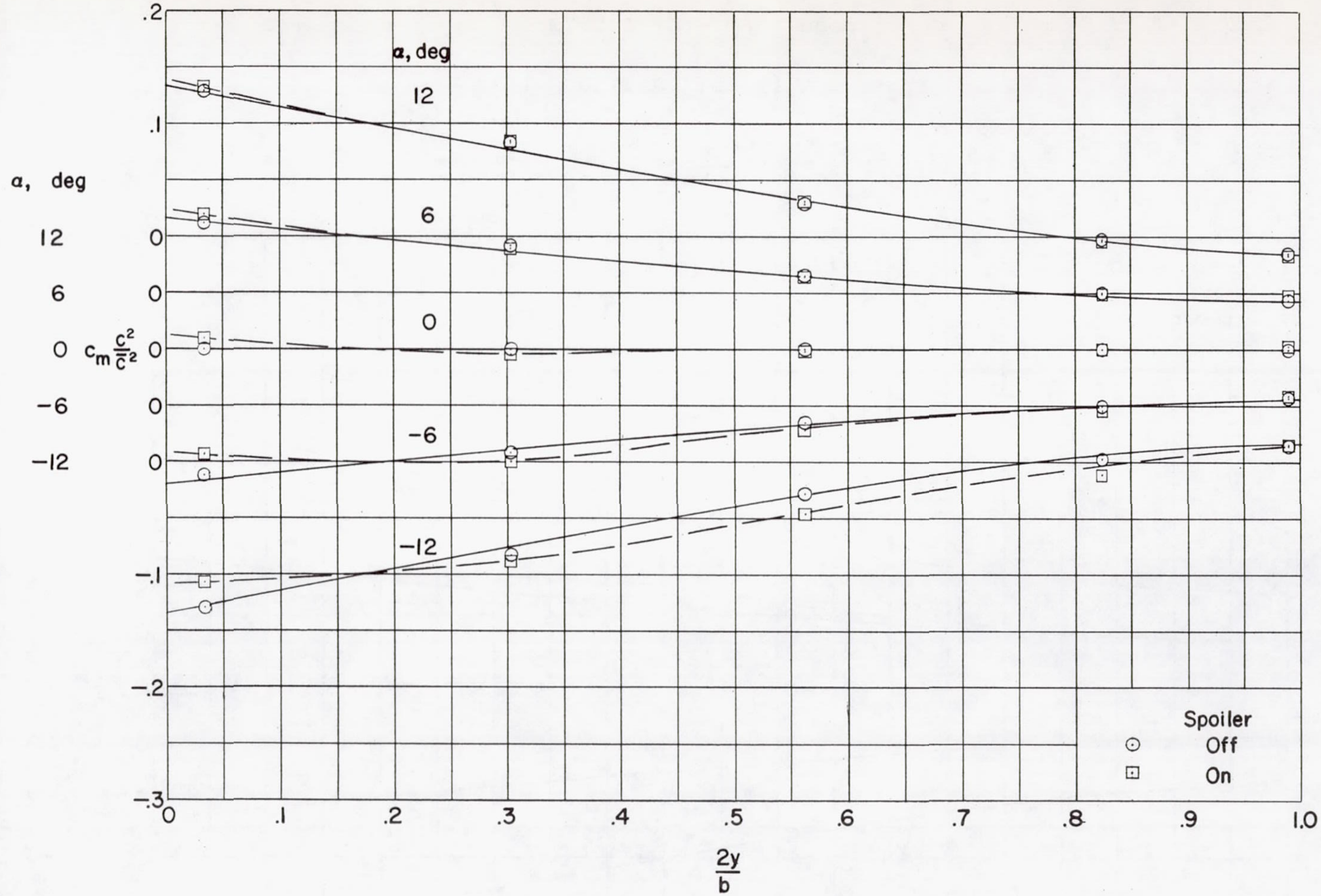
(b) Configuration B; M = 1.61.

Figure 15.- Continued.



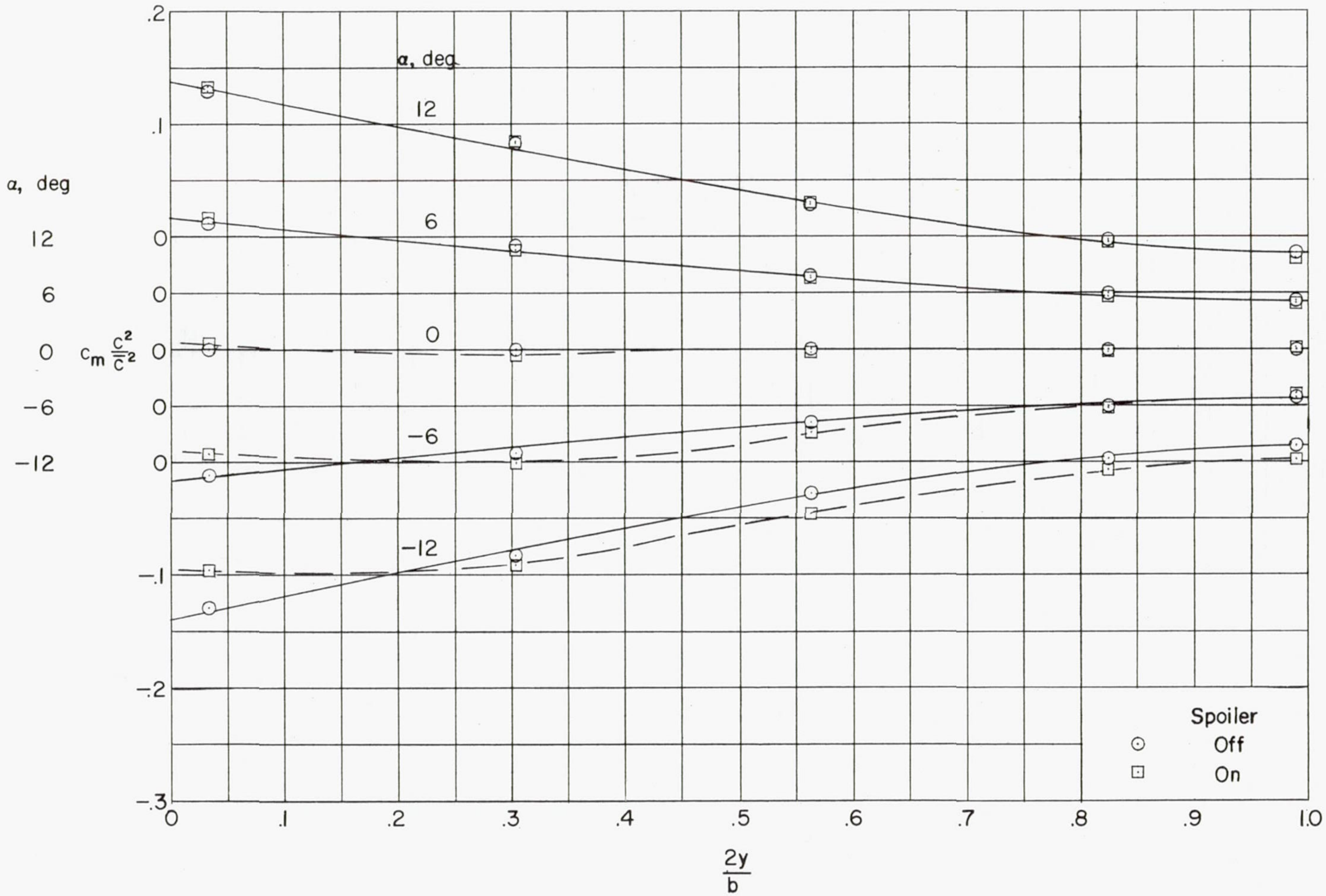
(c) Configuration C; M = 1.61.

Figure 15.- Continued.



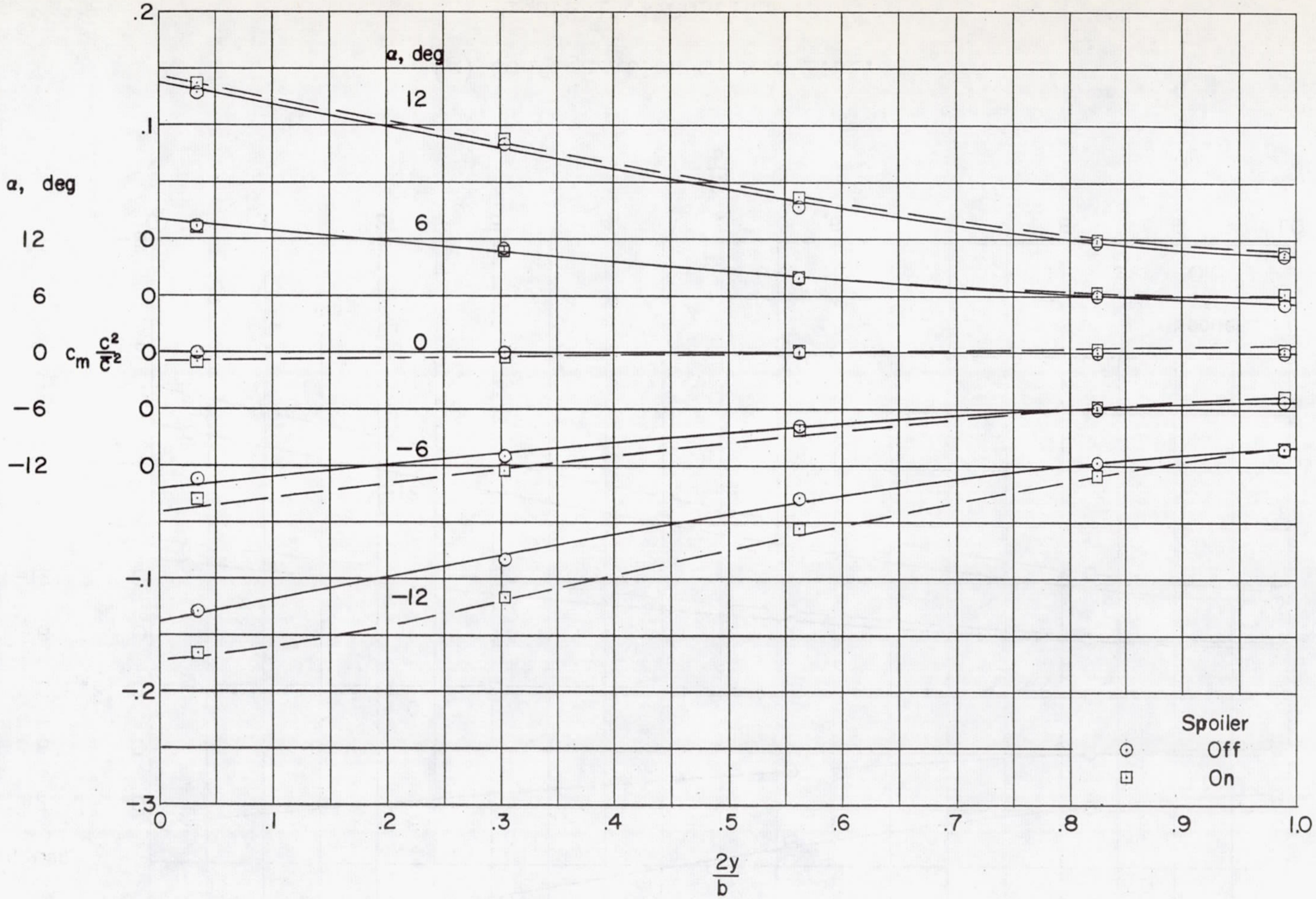
(d) Configuration D; M = 1.61.

Figure 15.- Continued.



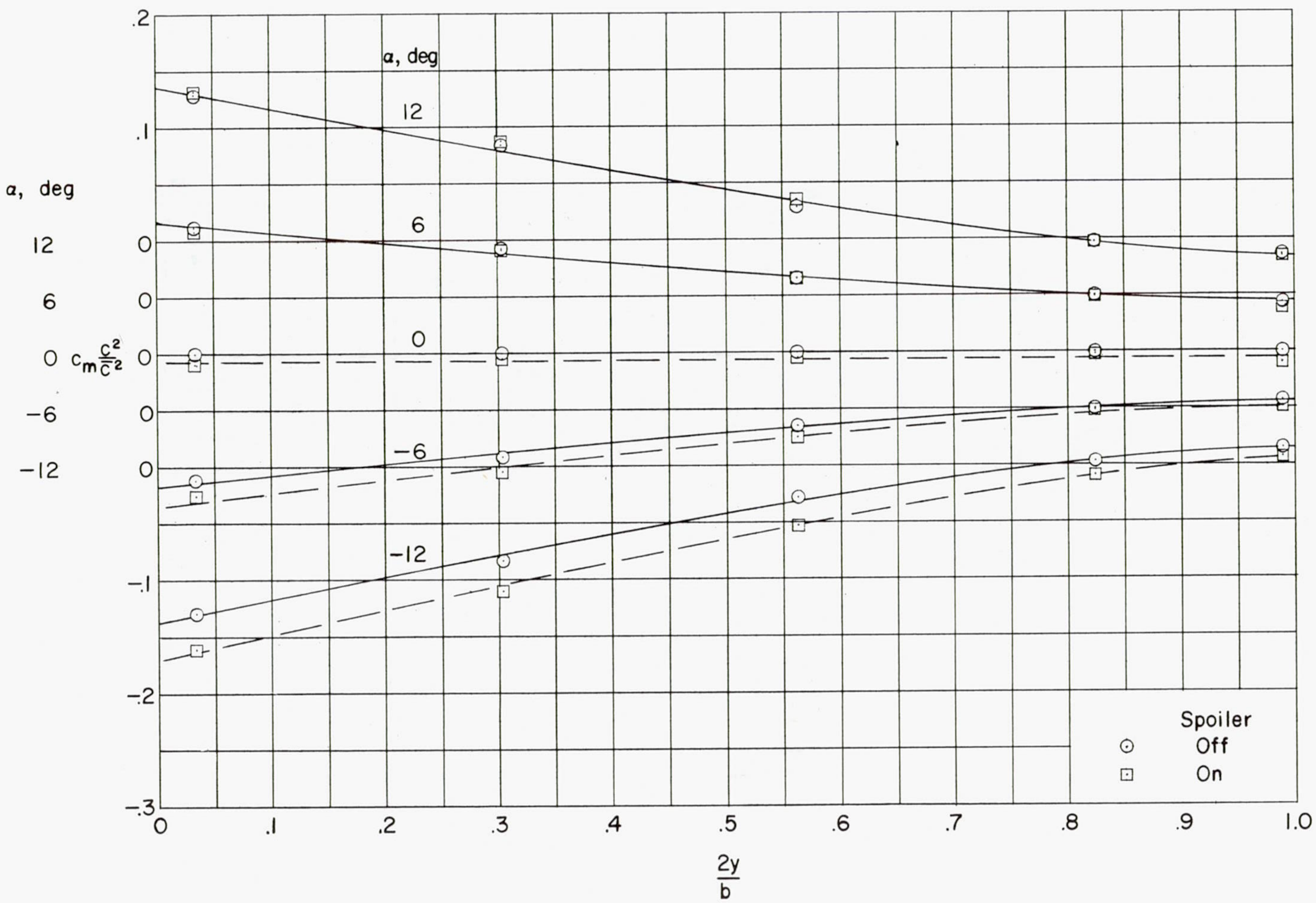
(e) Configuration E; M = 1.61.

Figure 15.- Continued.



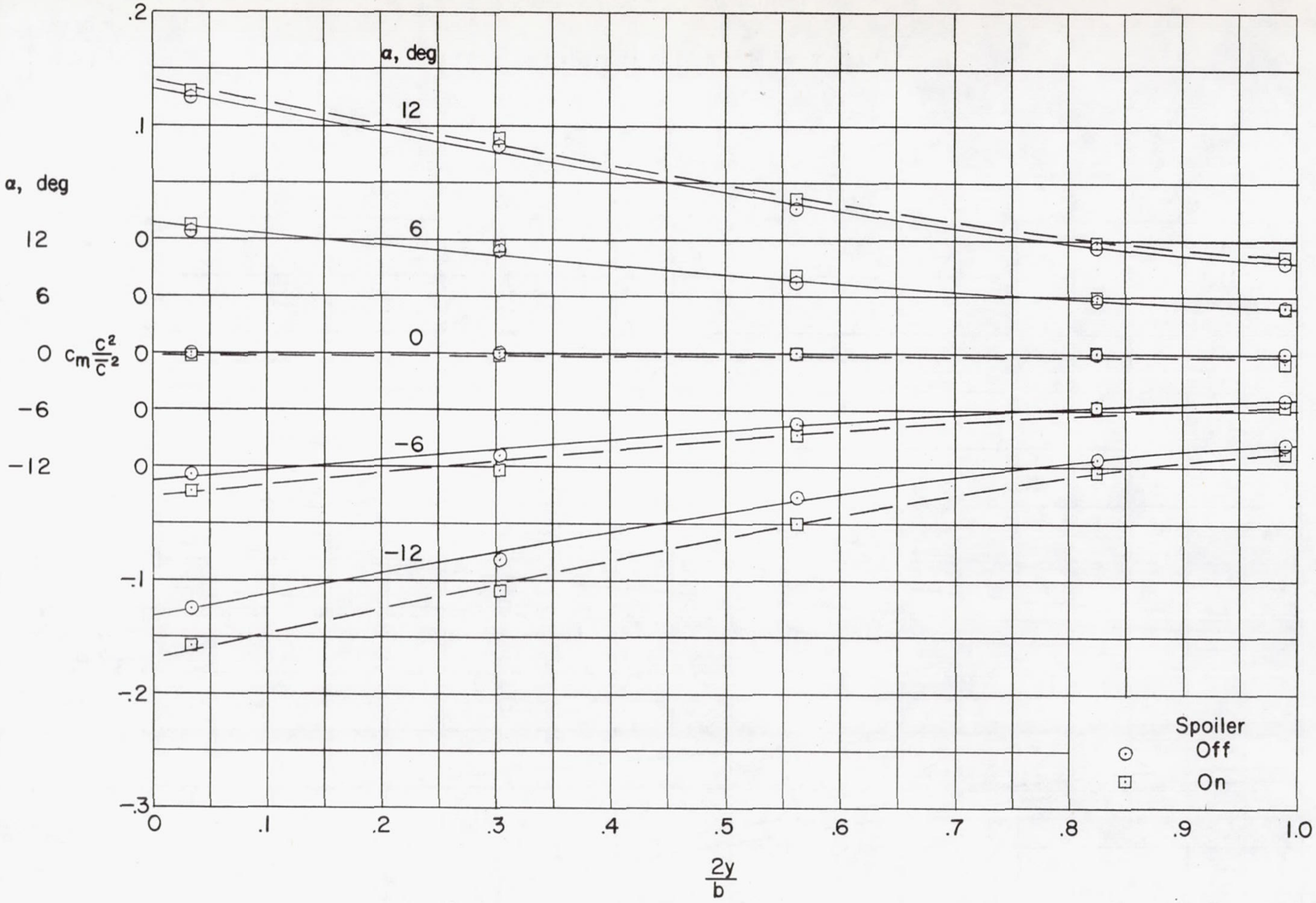
(f) Configuration F; M = 1.61.

Figure 15.- Continued.



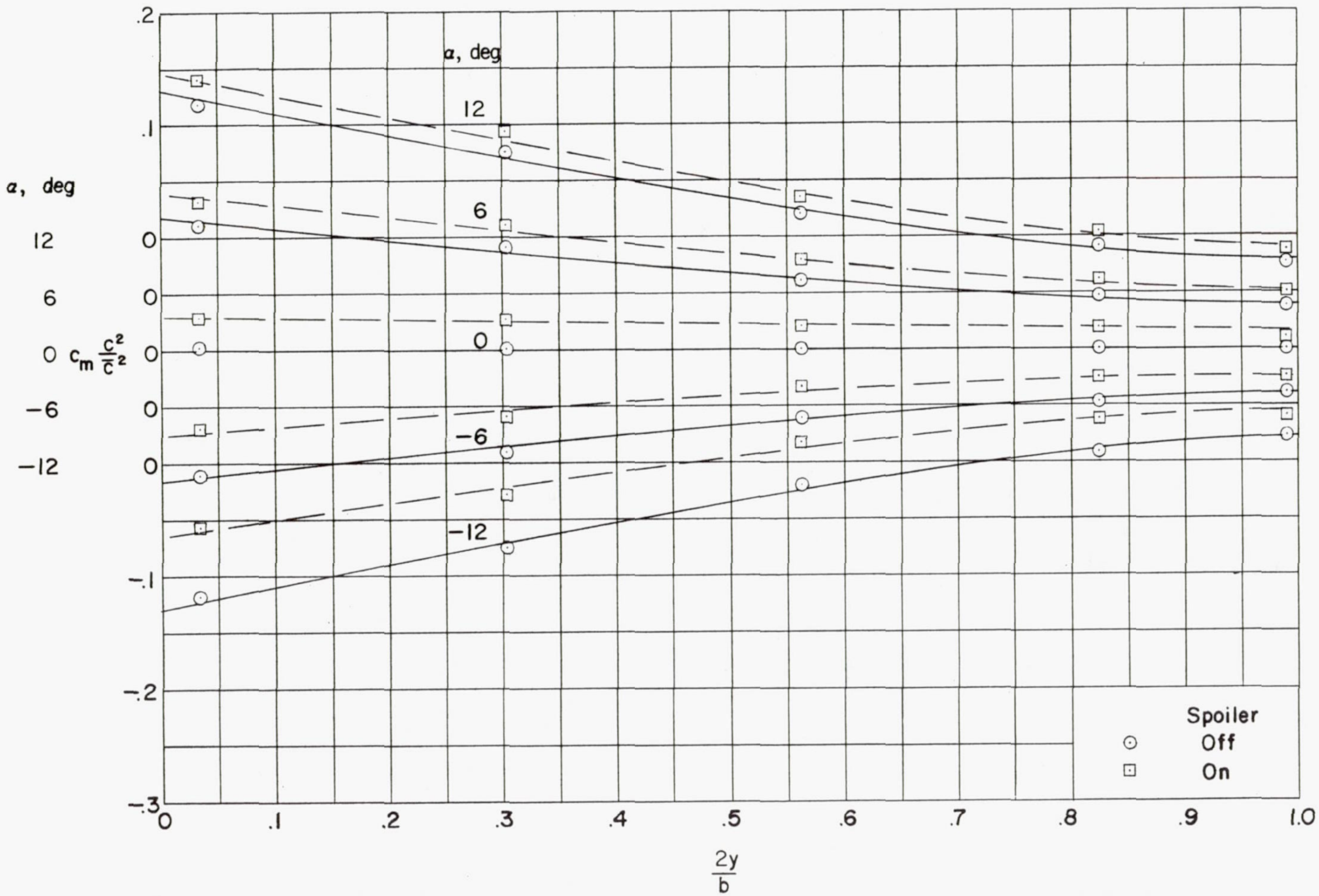
(g) Configuration G; M = 1.61.

Figure 15.- Continued.



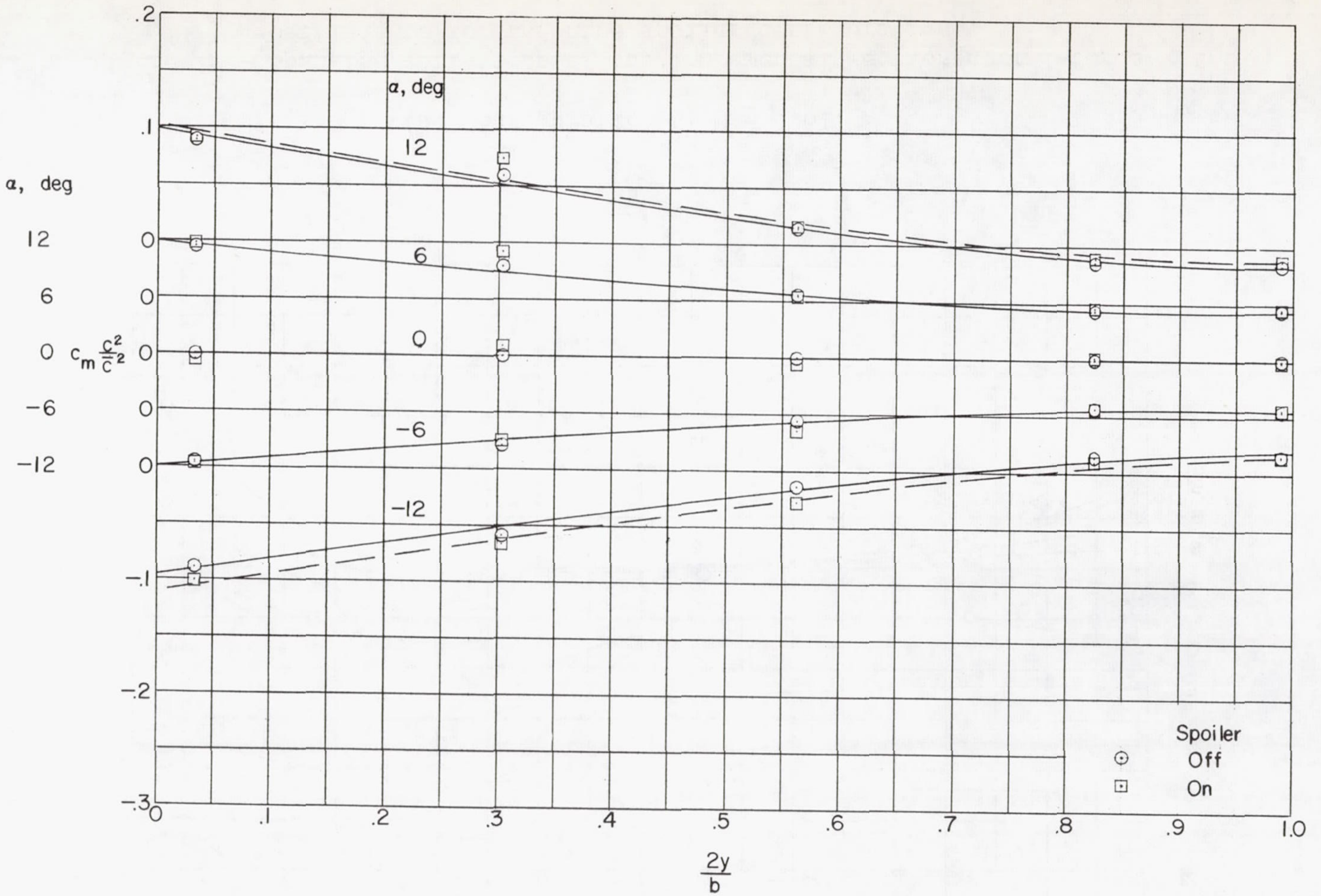
(h) Configuration H; M = 1.61.

Figure 15.- Continued.



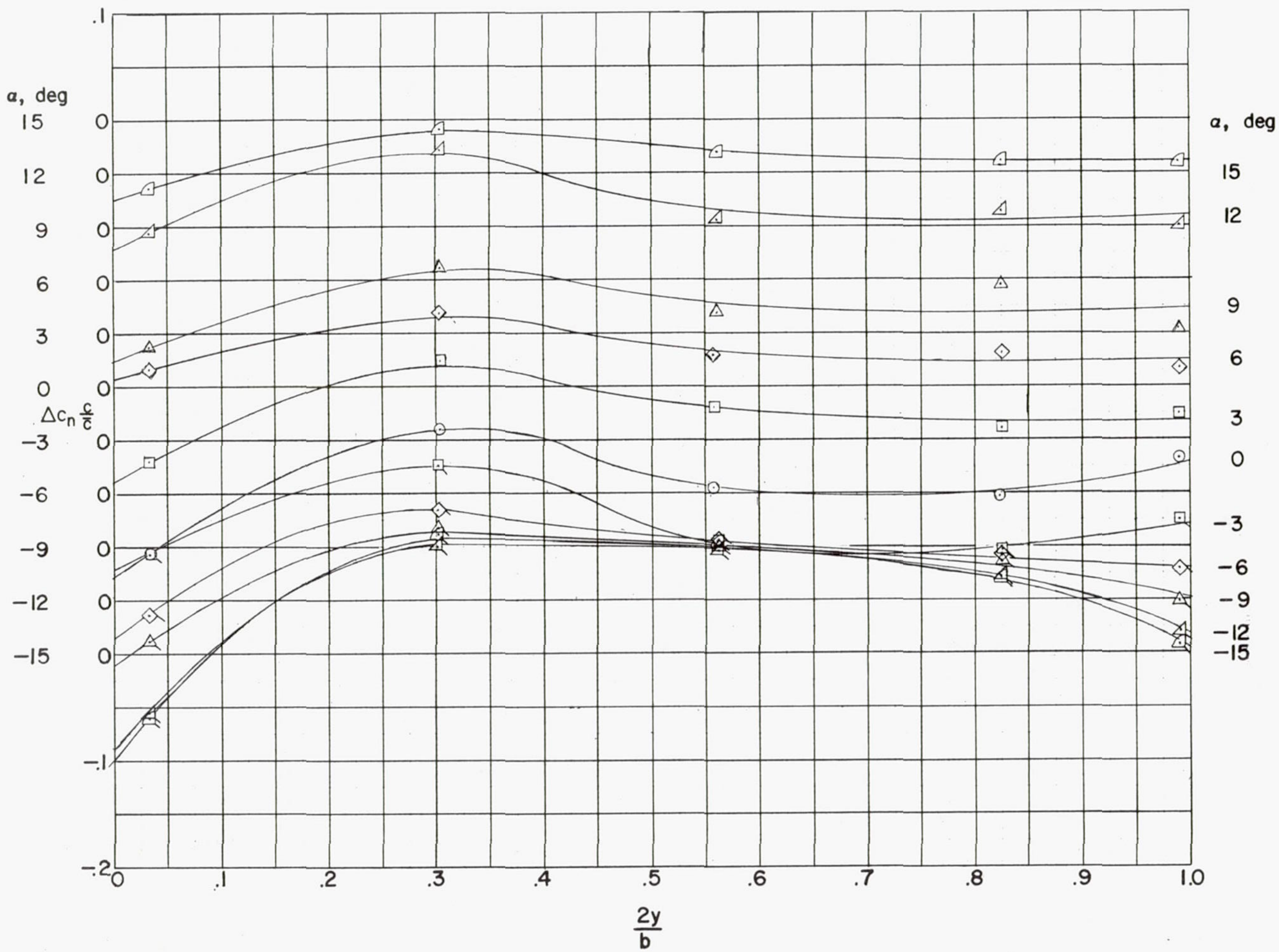
(i) Configuration I; M = 1.61.

Figure 15.- Continued.



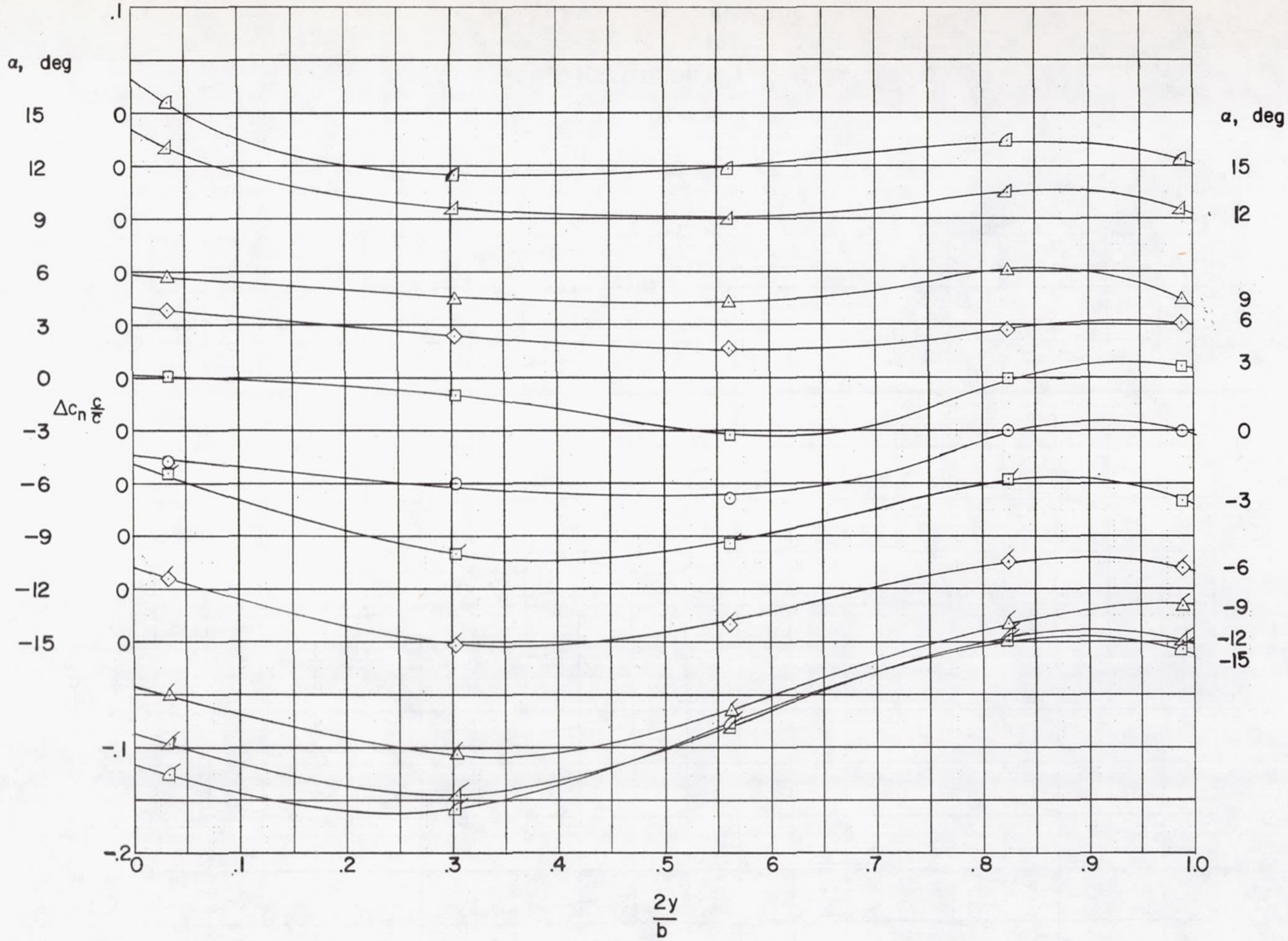
(j) Configuration C; M = 2.01.

Figure 15.- Concluded.



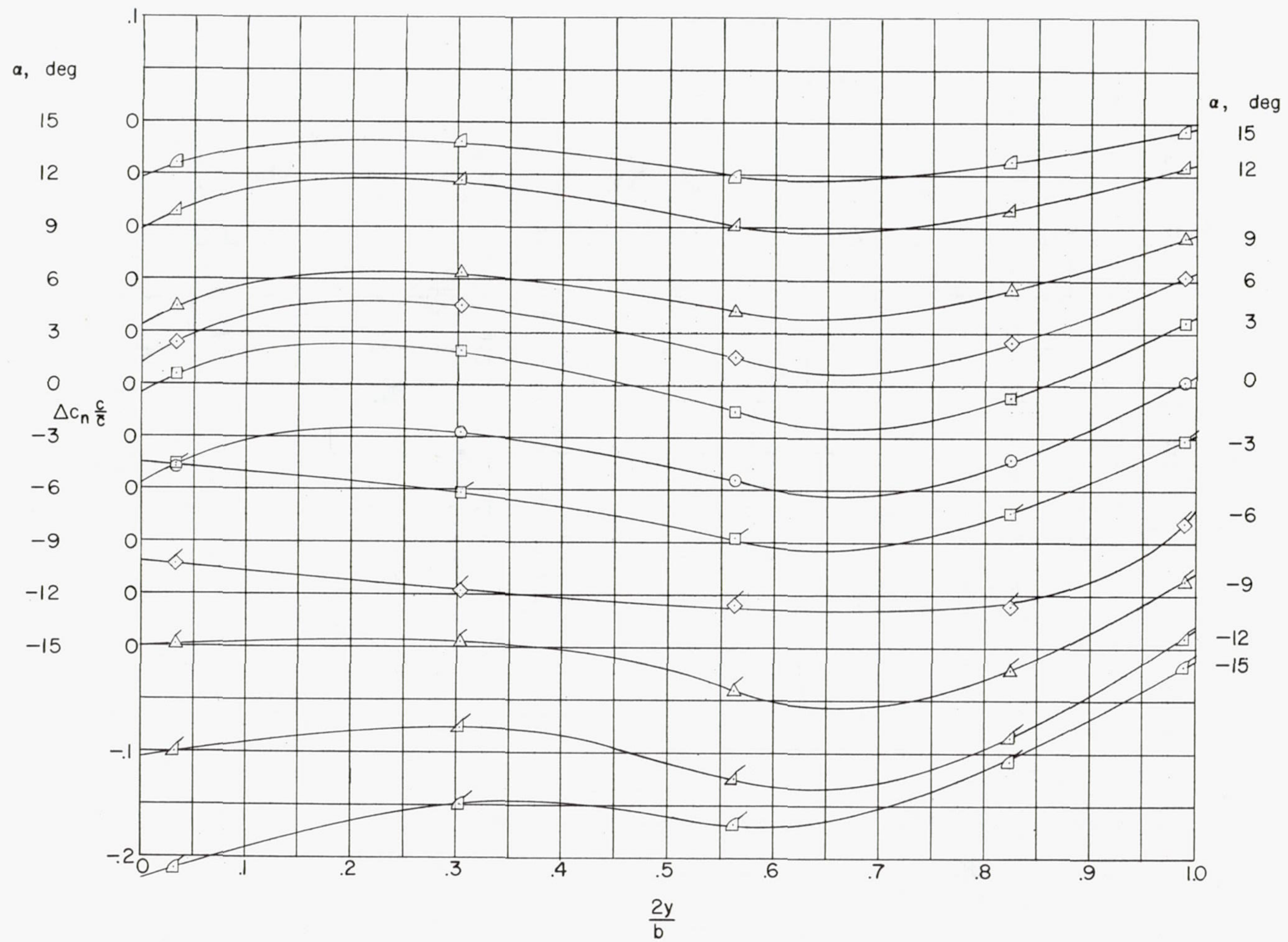
(a) Configuration A; M = 1.61.

Figure 16.- Spanwise variations of the incremental section normal-force coefficients for the nine spoiler configurations.



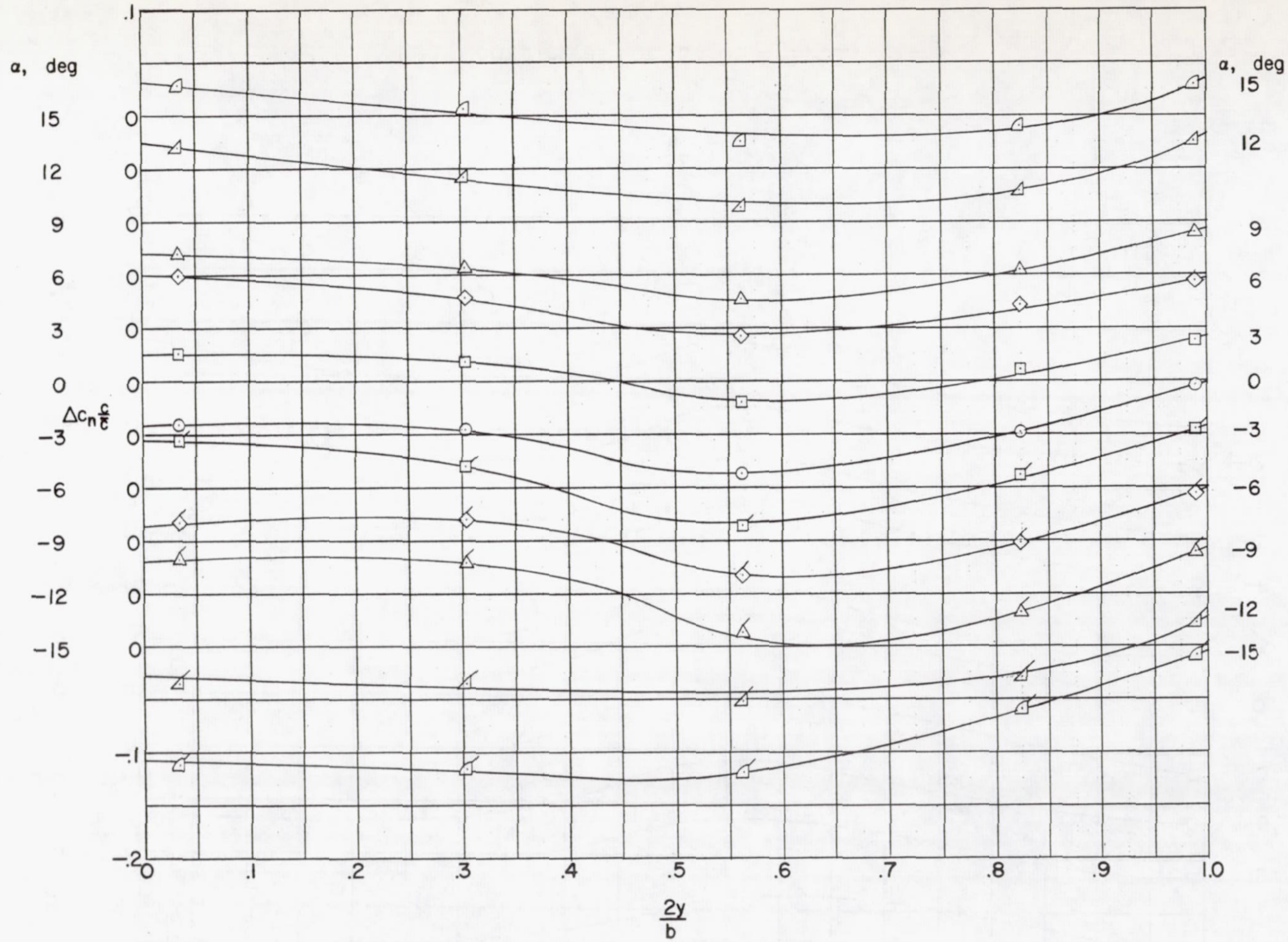
(b) Configuration B; M = 1.61.

Figure 16.- Continued.



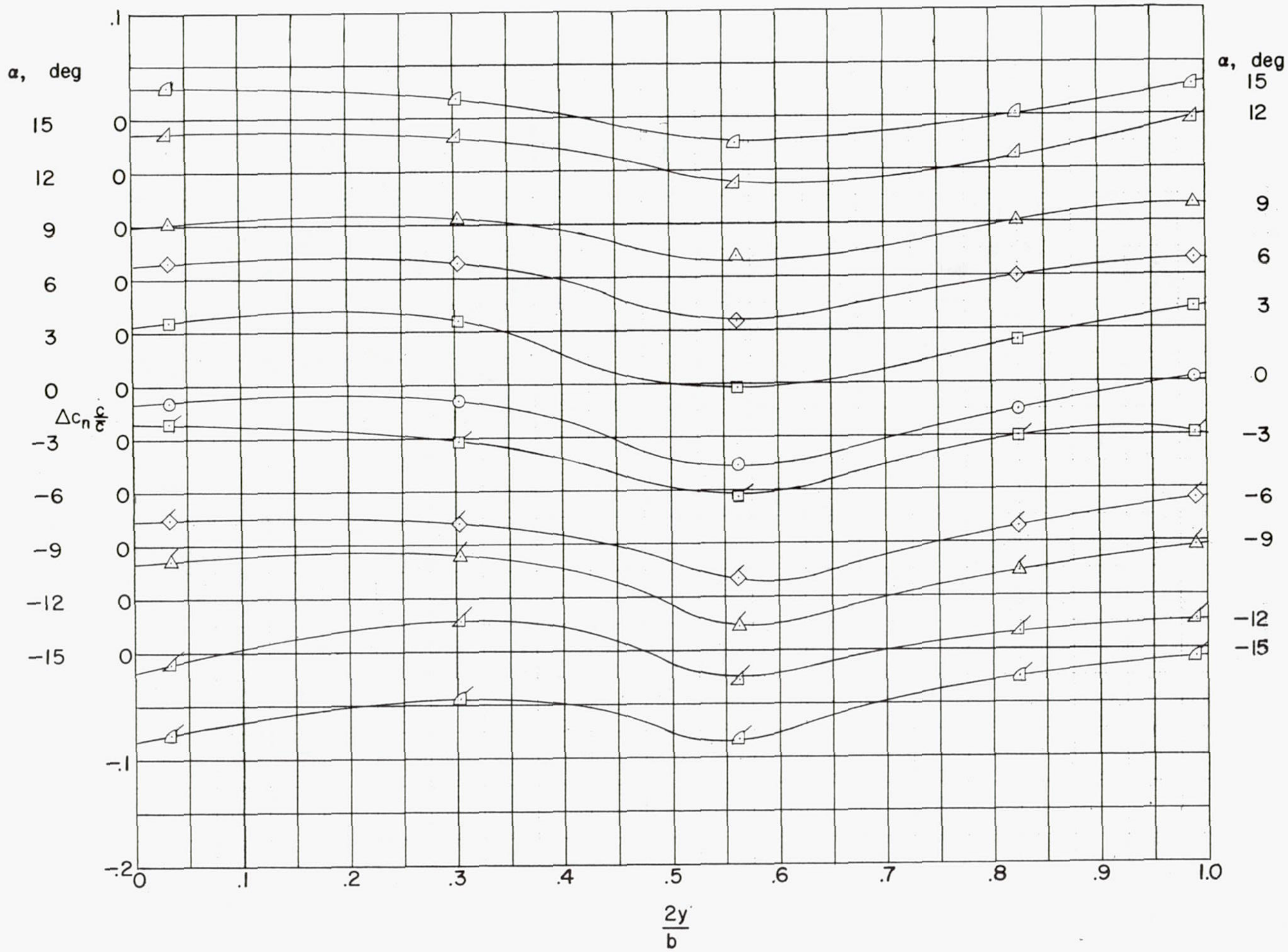
(c) Configuration C; M = 1.61.

Figure 16.- Continued.



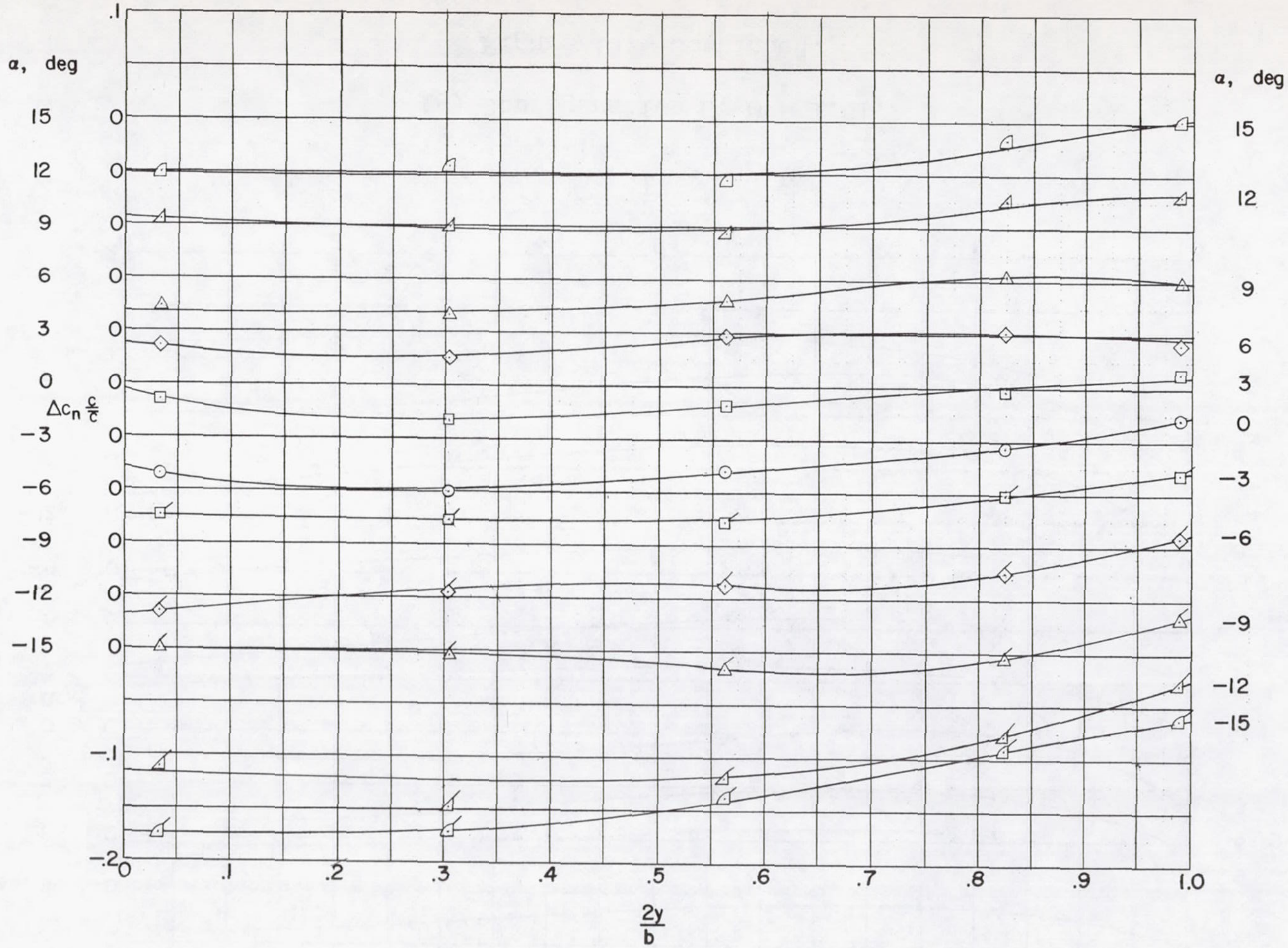
(d) Configuration D; M = 1.61.

Figure 16.- Continued.



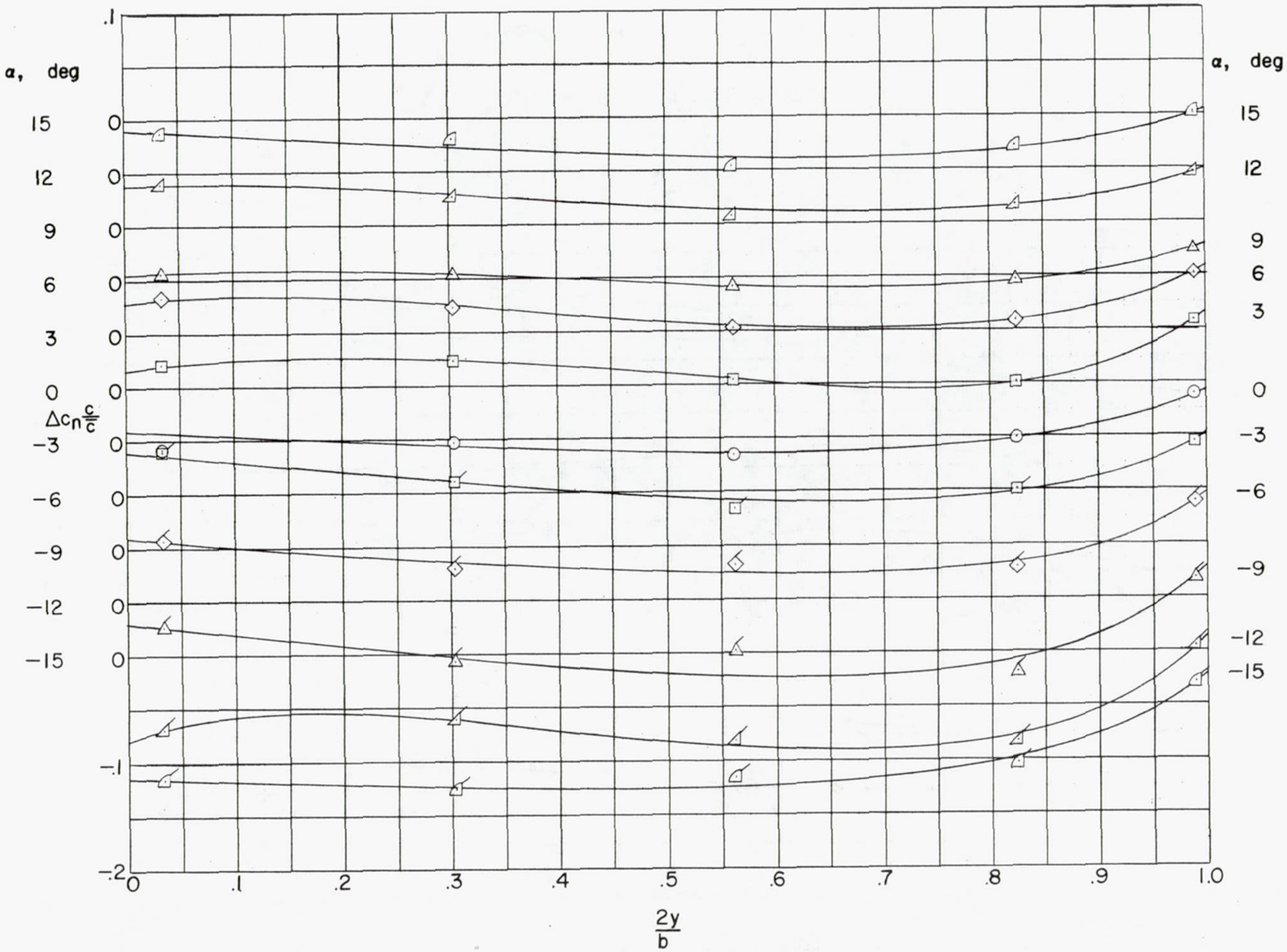
(e) Configuration E; M = 1.61.

Figure 16.- Continued.



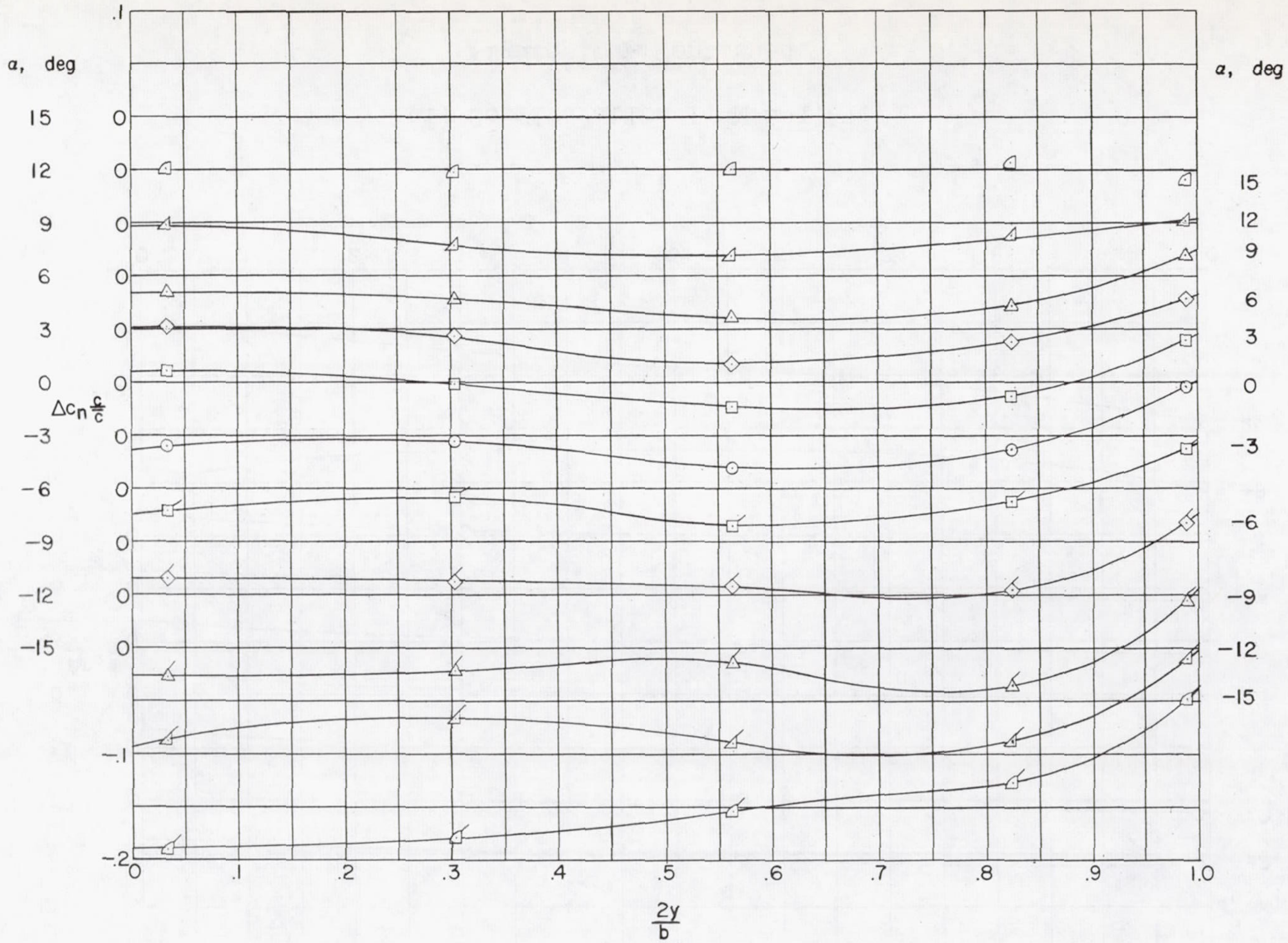
(f) Configuration F; M = 1.61.

Figure 16.- Continued.



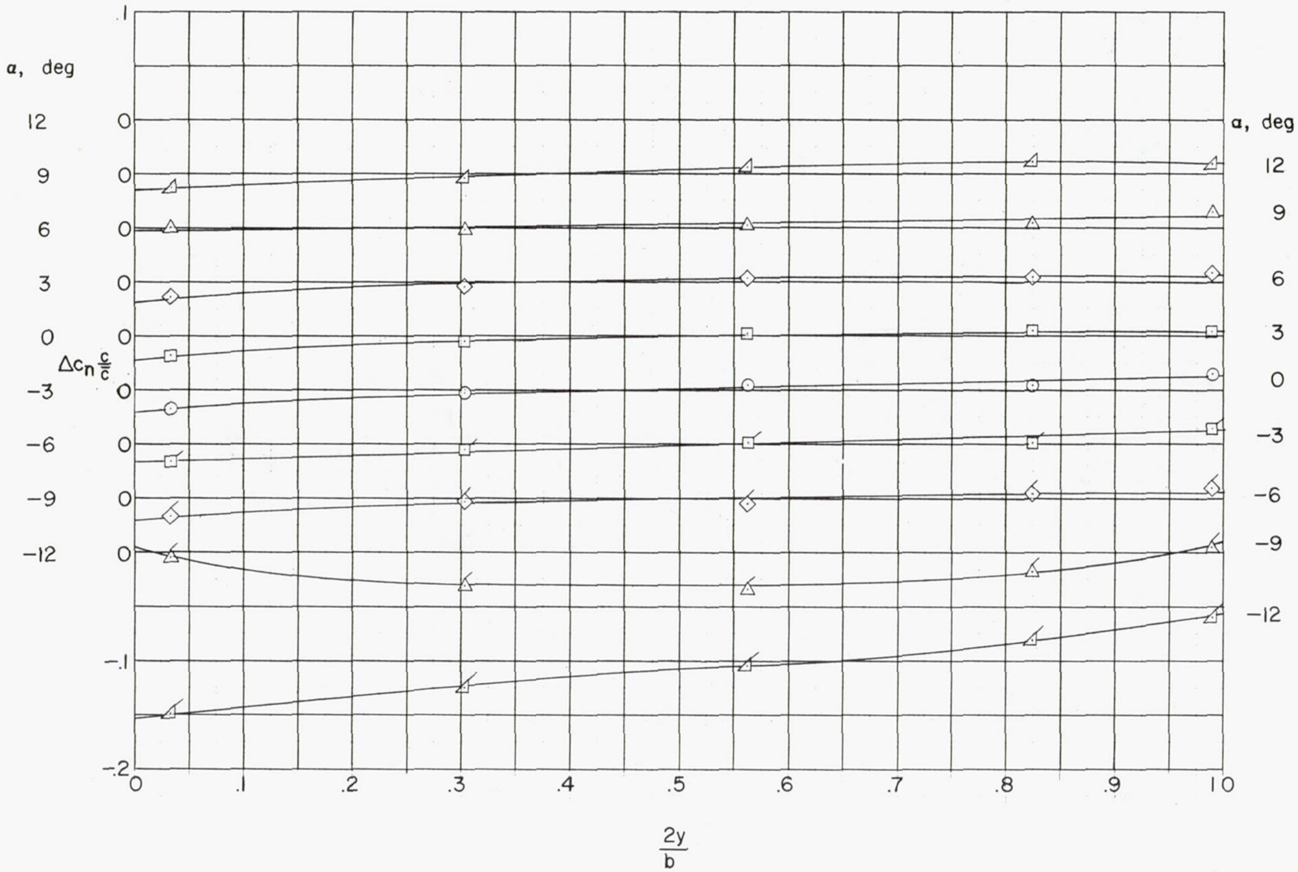
(g) Configuration G; M = 1.61.

Figure 16.- Continued.



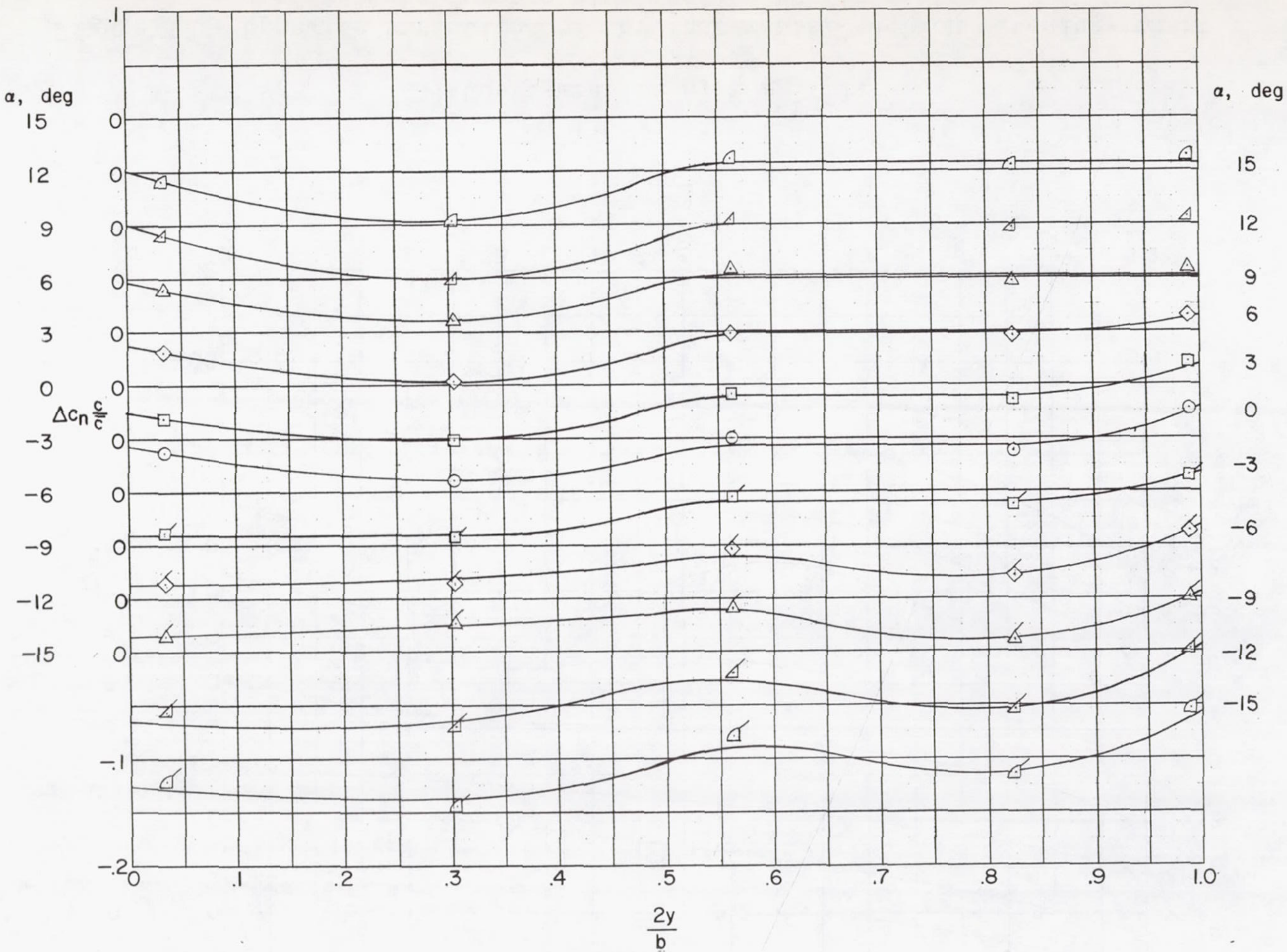
(h) Configuration H; M = 1.61.

Figure 16.- Continued.



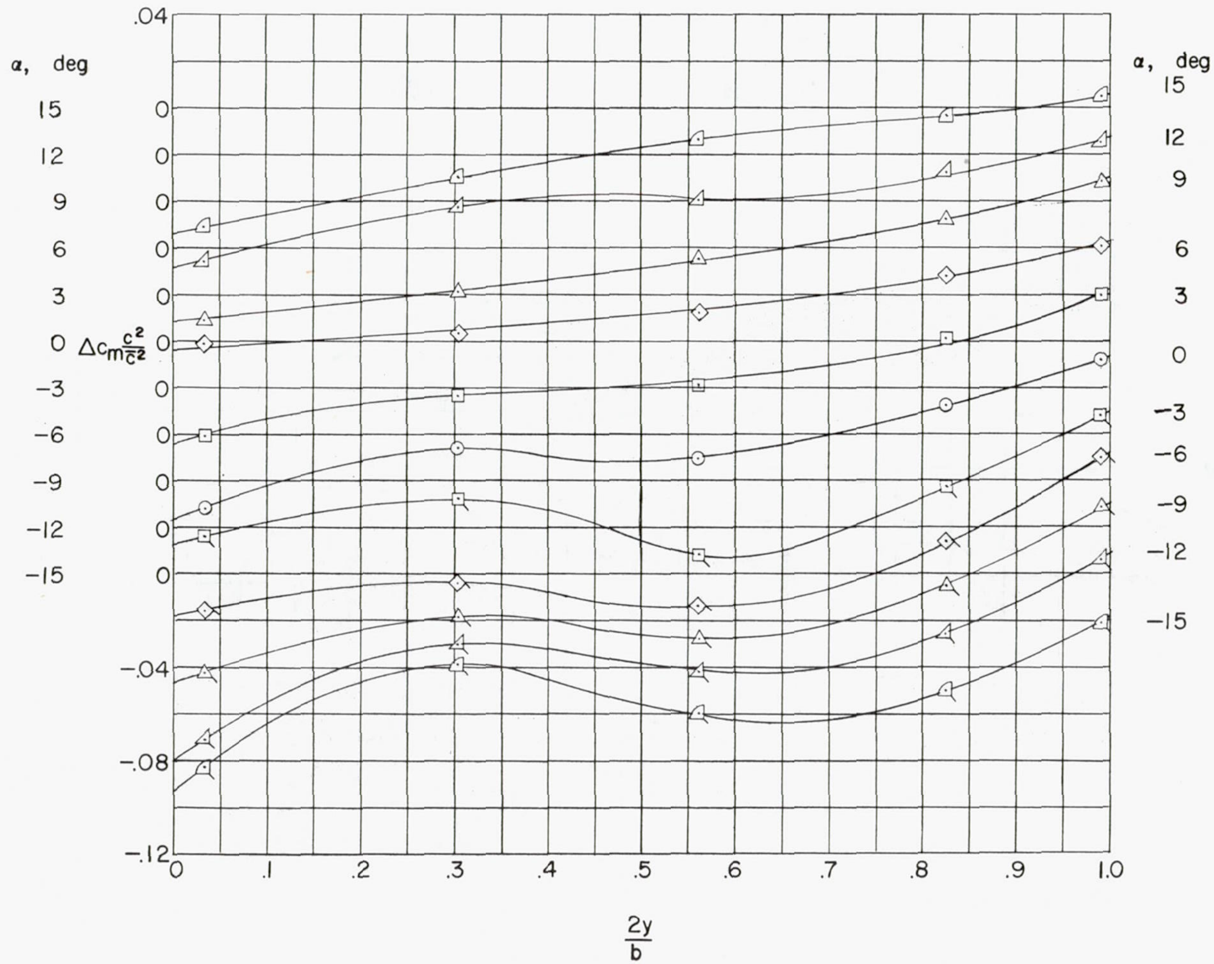
(i) Configuration I; M = 1.61.

Figure 16.- Continued.



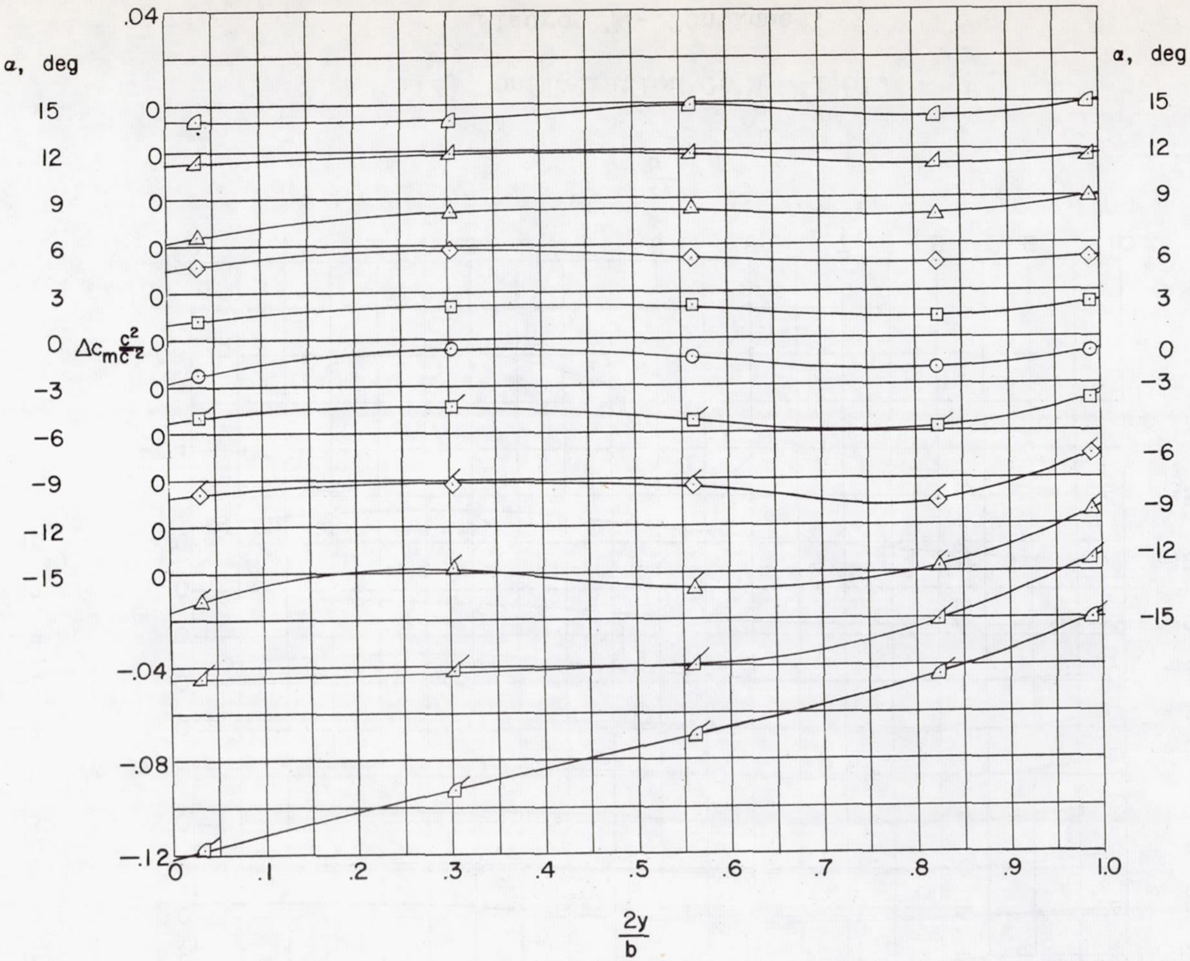
(j) Configuration C; M = 2.01.

Figure 16.- Concluded.



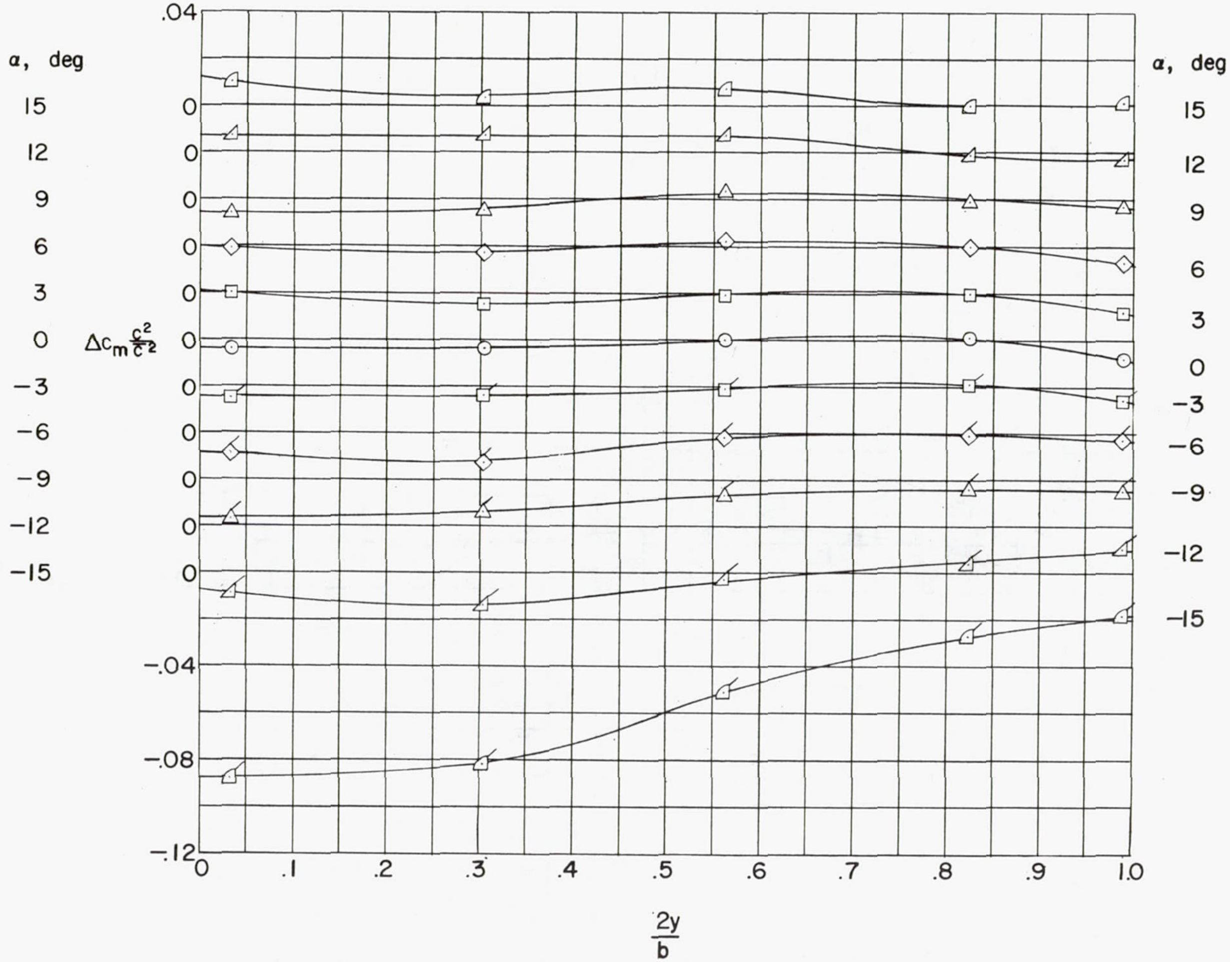
(a) Configuration A; M = 1.61.

Figure 17.- Spanwise variations of the incremental section pitching-moment coefficients for the nine spoiler configurations.



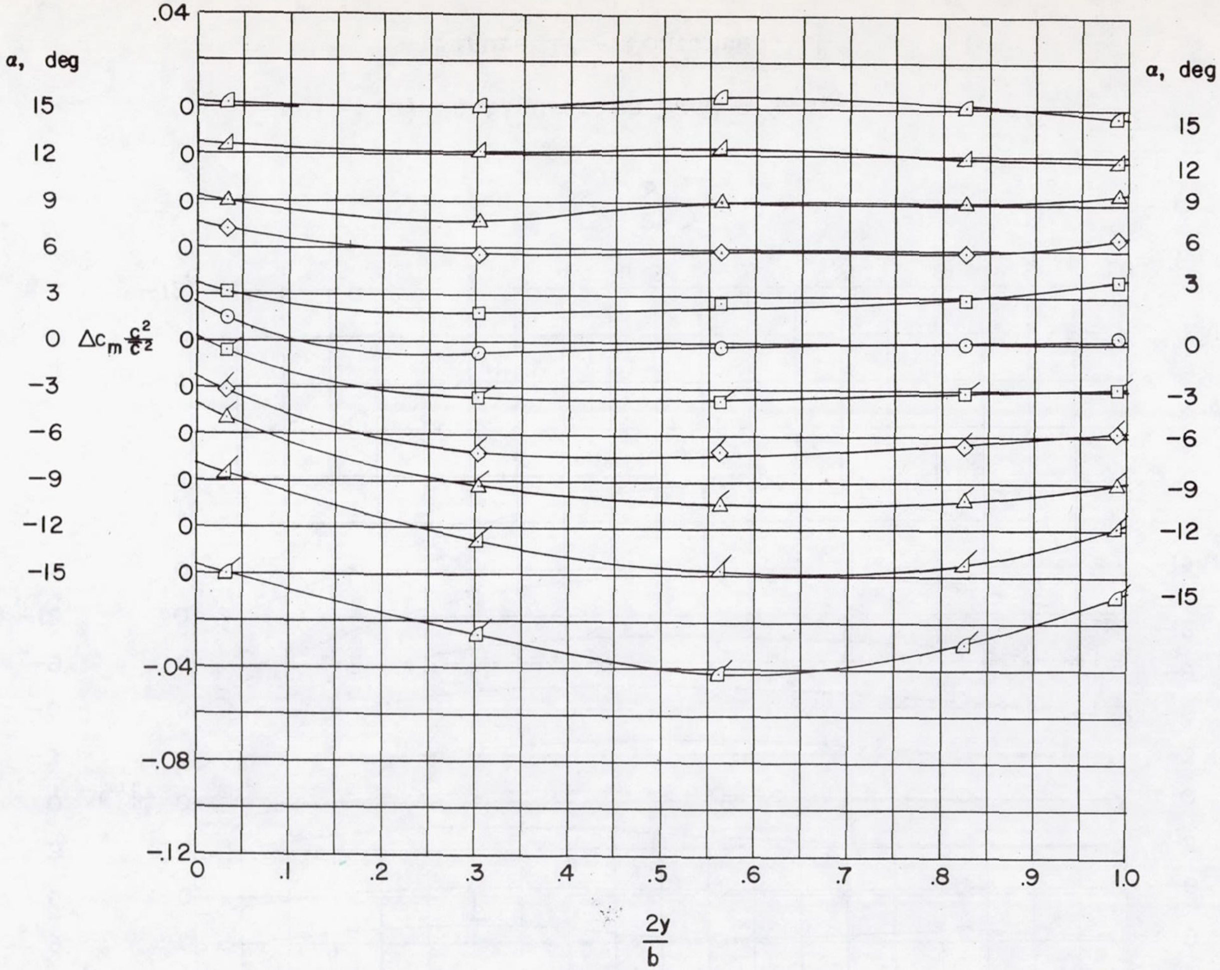
(b) Configuration B; M = 1.61.

Figure 17.- Continued.



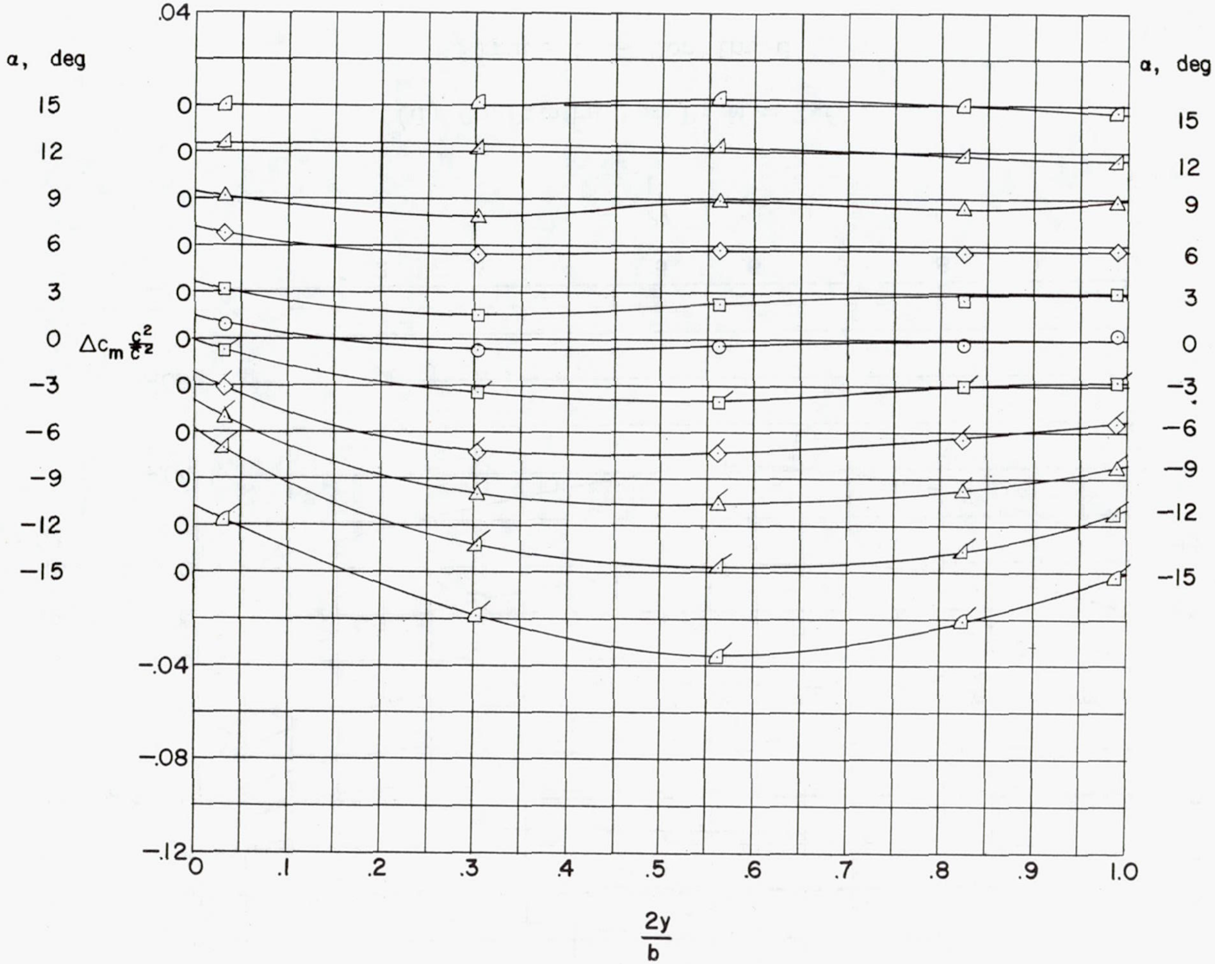
(c) Configuration C; M = 1.61.

Figure 17.- Continued.



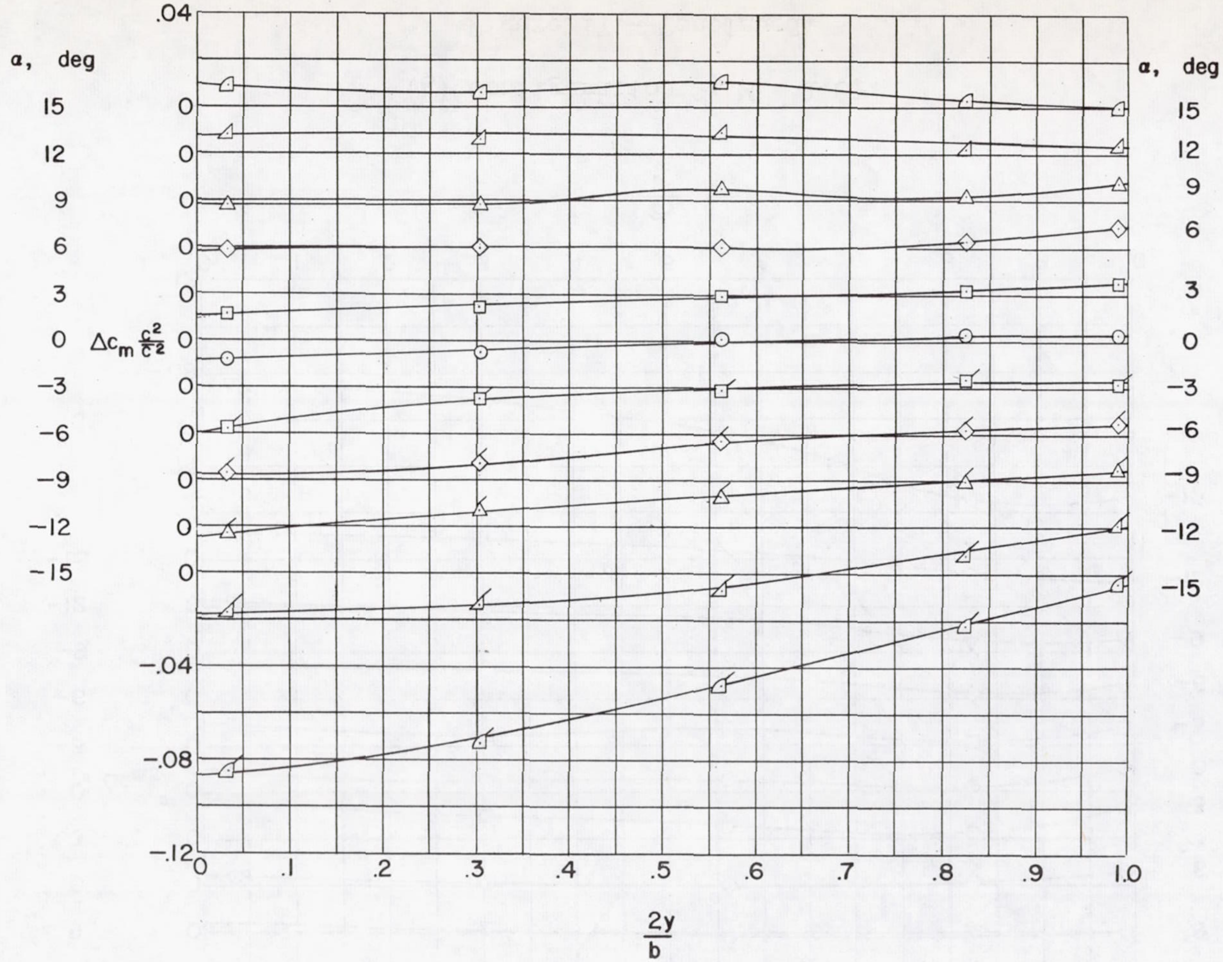
(d) Configuration D; M = 1.61.

Figure 17.- Continued.



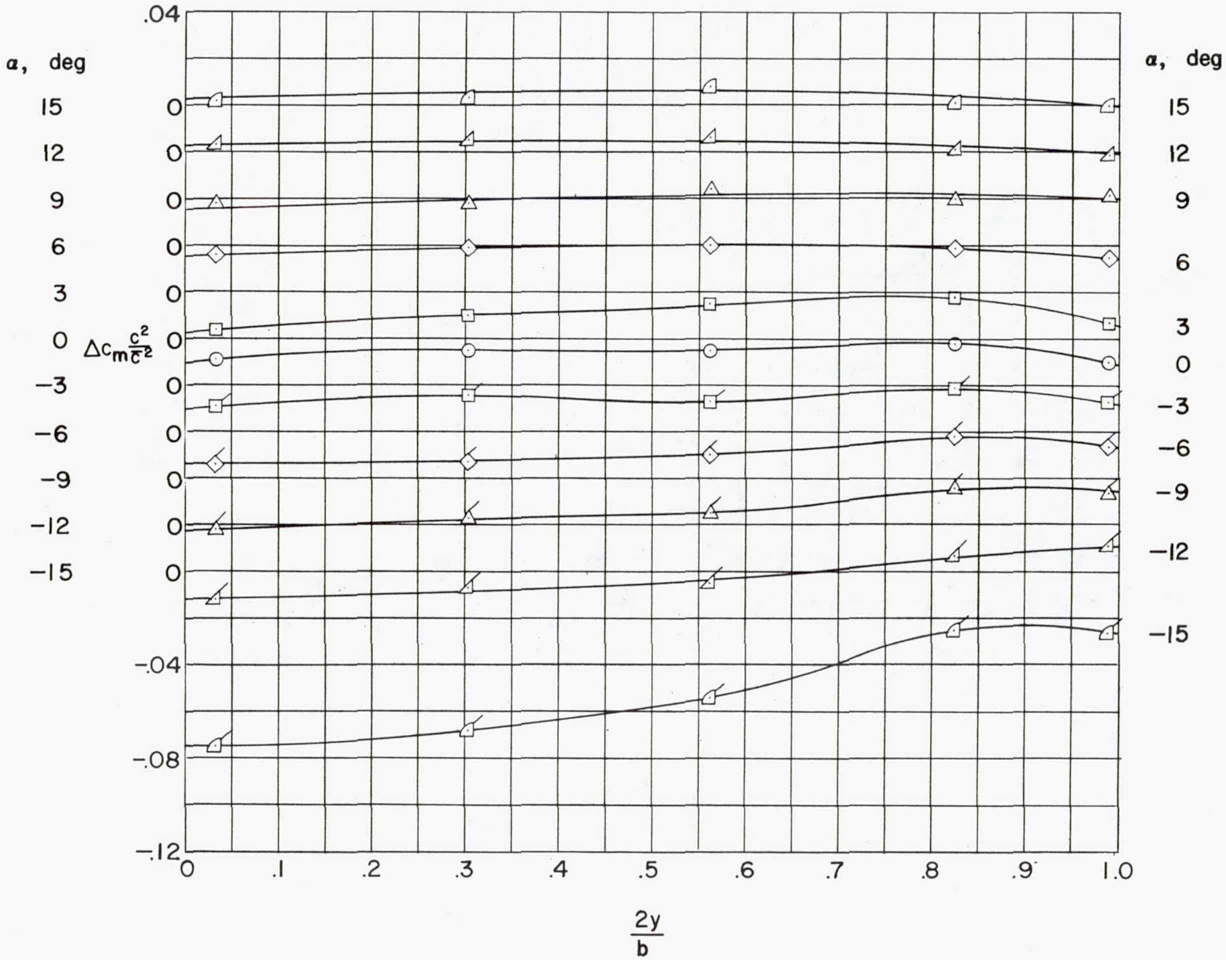
(e) Configuration E; M = 1.61.

Figure 17.- Continued.



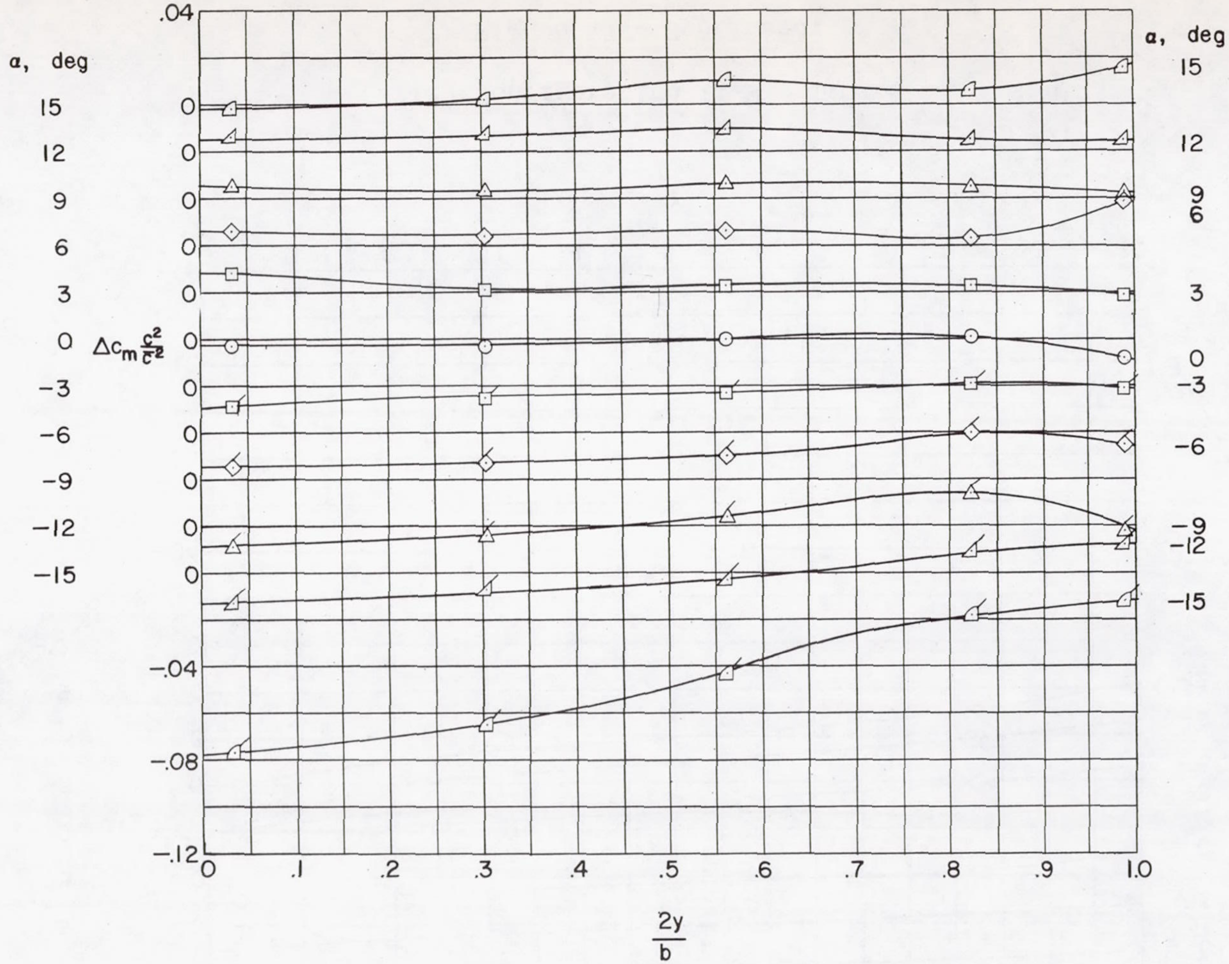
(f) Configuration F; M = 1.61.

Figure 17.- Continued.



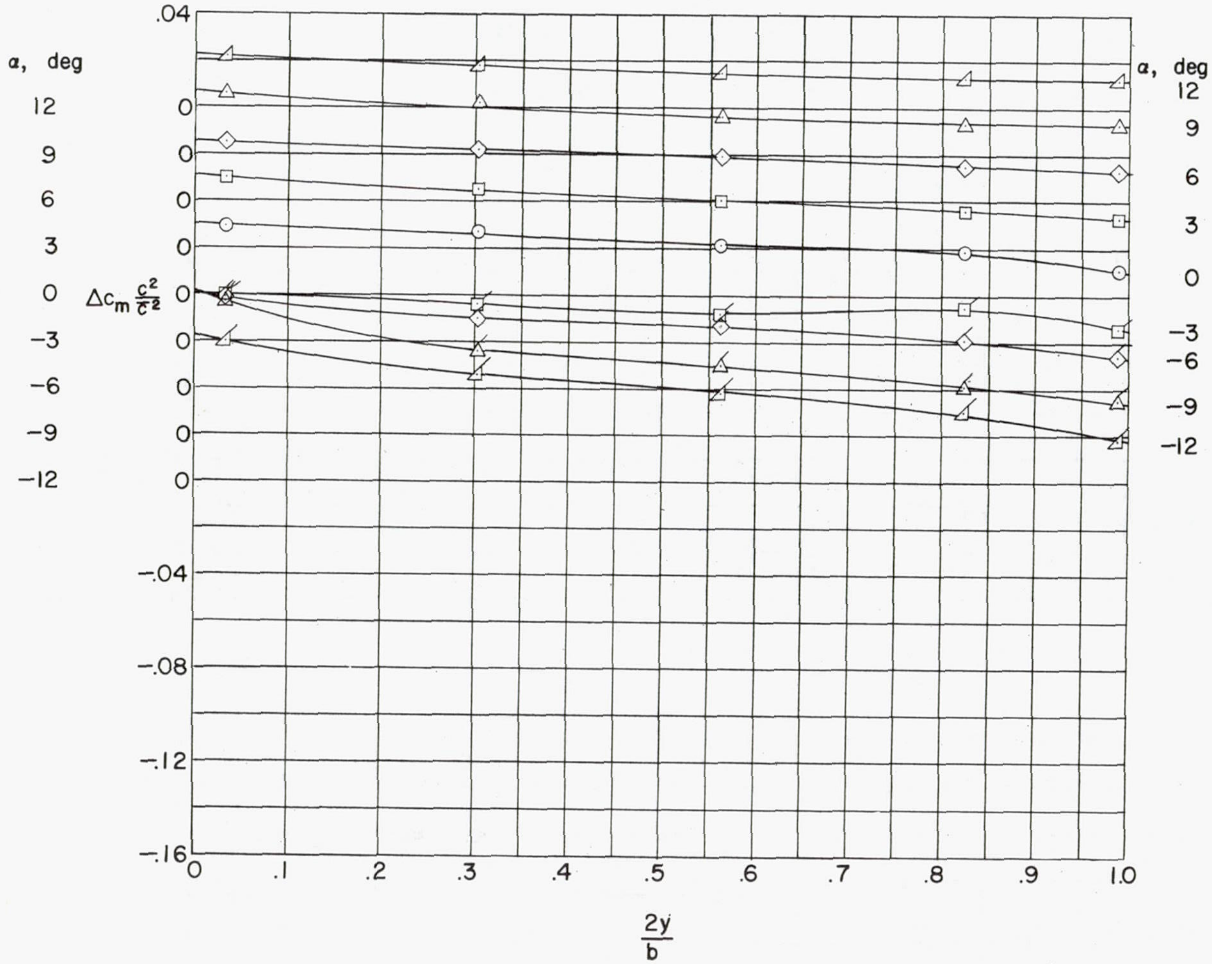
(g) Configuration G; M = 1.61.

Figure 17.- Continued.



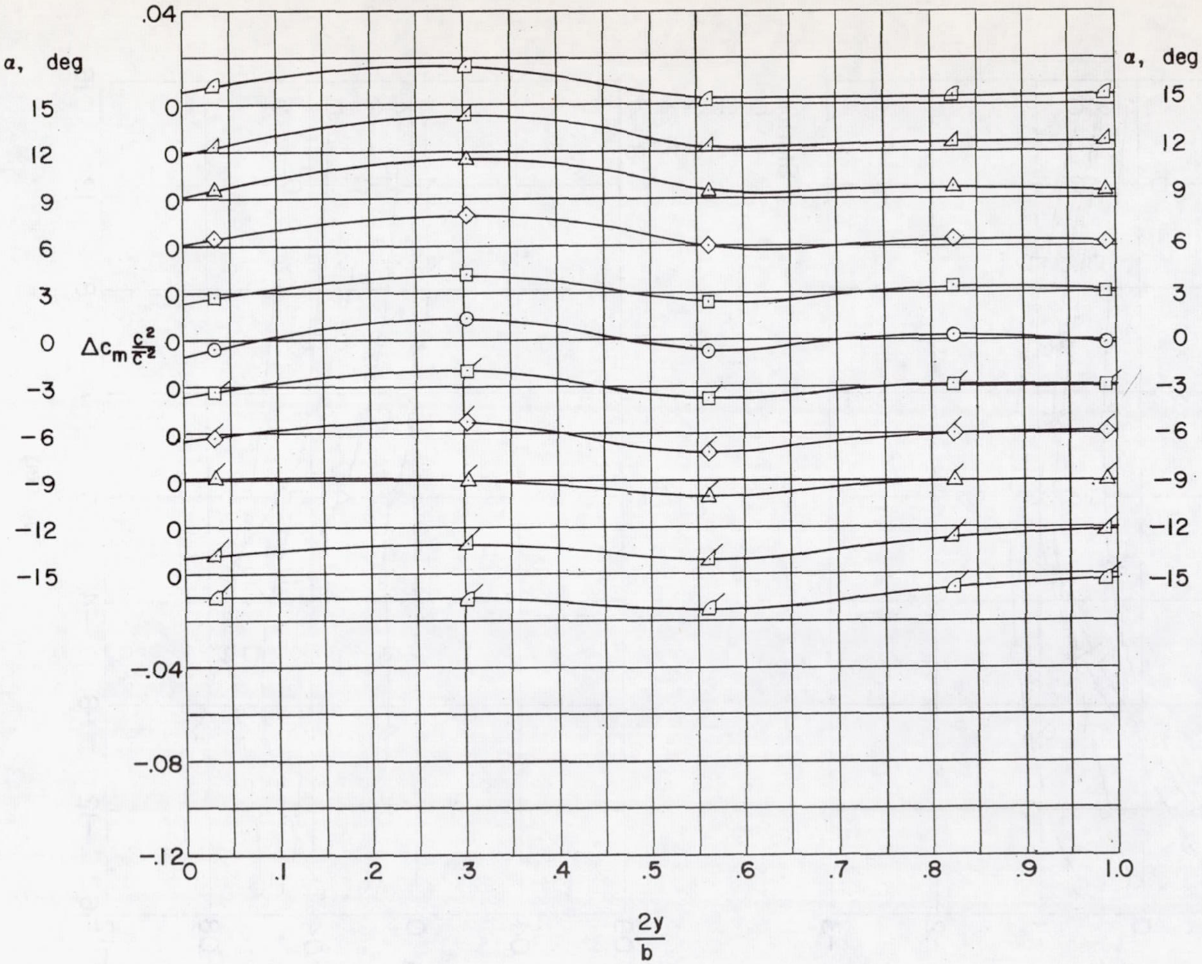
(h) Configuration H; M = 1.61.

Figure 17.- Continued.



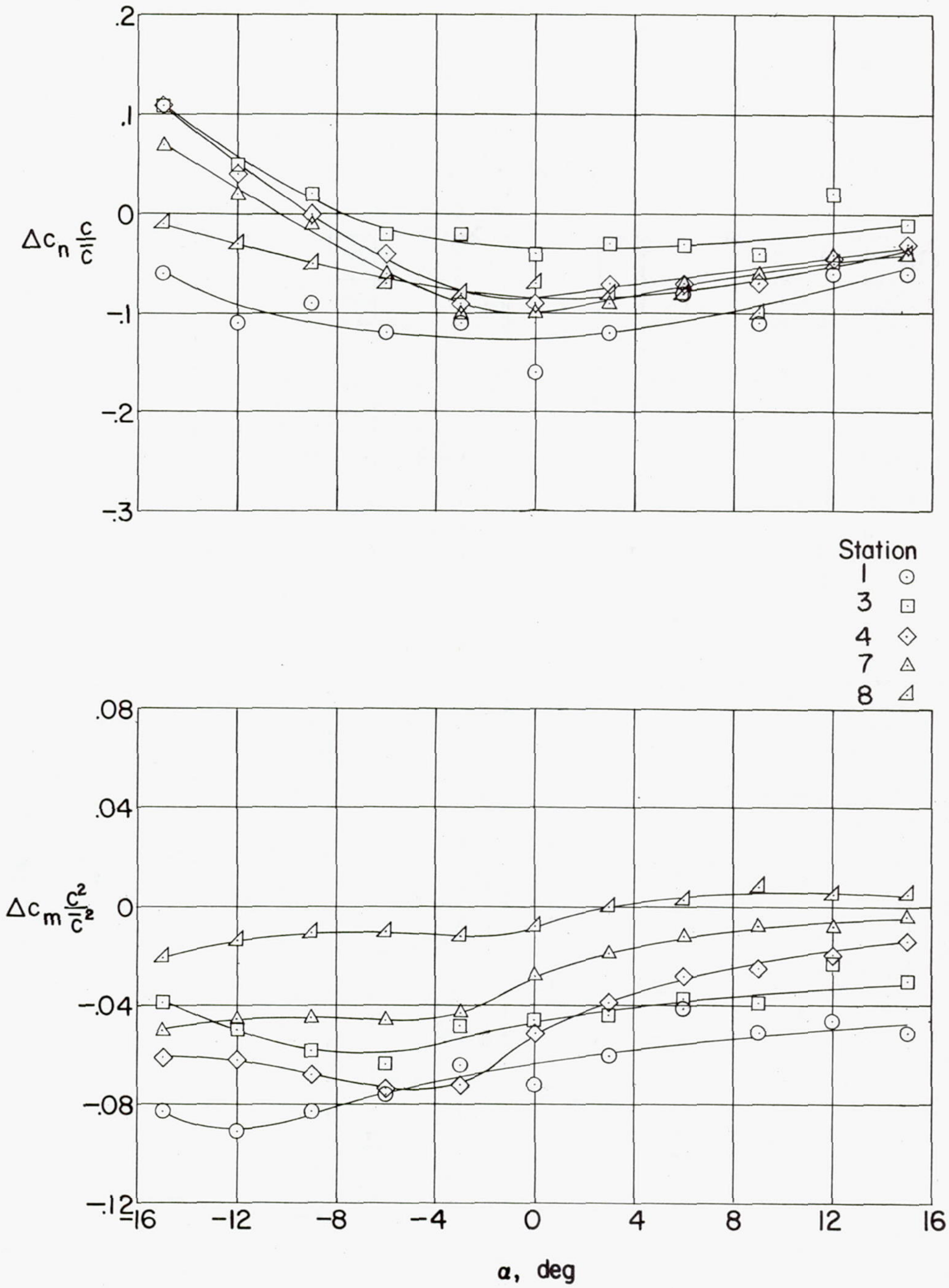
(i) Configuration I; M = 1.61.

Figure 17.- Continued.



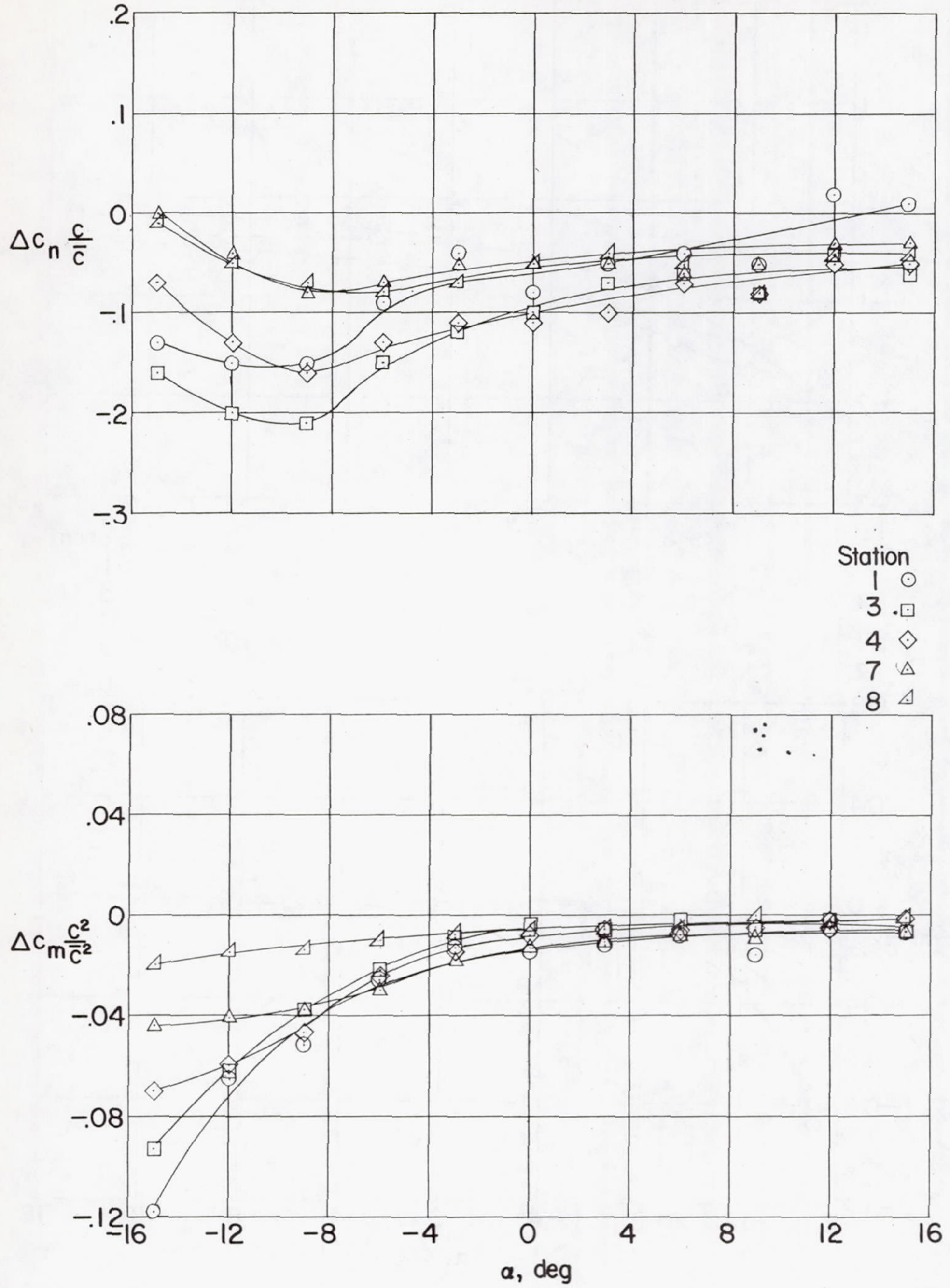
(j) Configuration C; M = 2.01.

Figure 17.- Concluded.



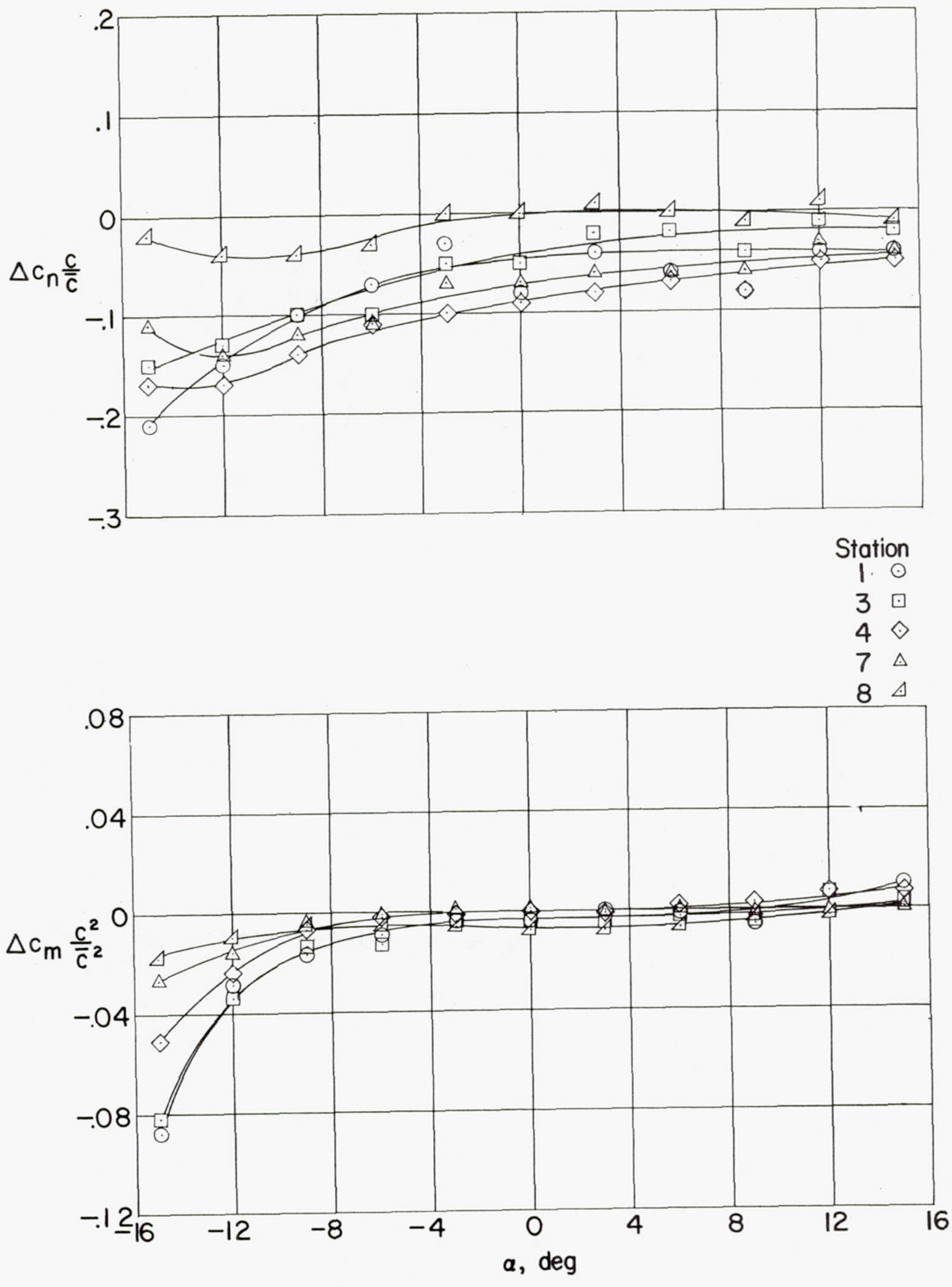
(a) Configuration A; M = 1.61.

Figure 18.- Incremental section normal-force and pitching-moment-coefficient variations with angle of attack.



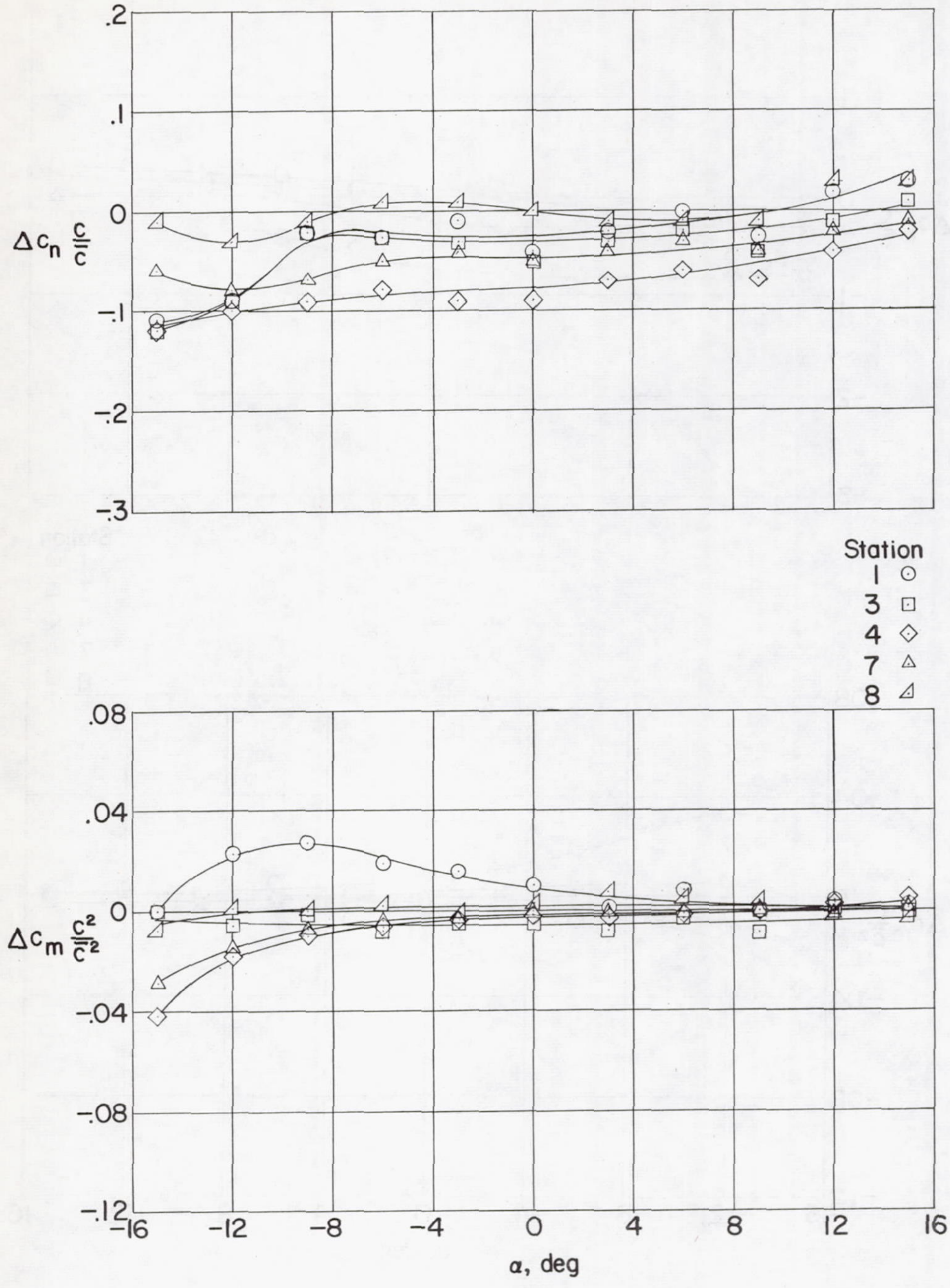
(b) Configuration B; M = 1.61.

Figure 18.- Continued.



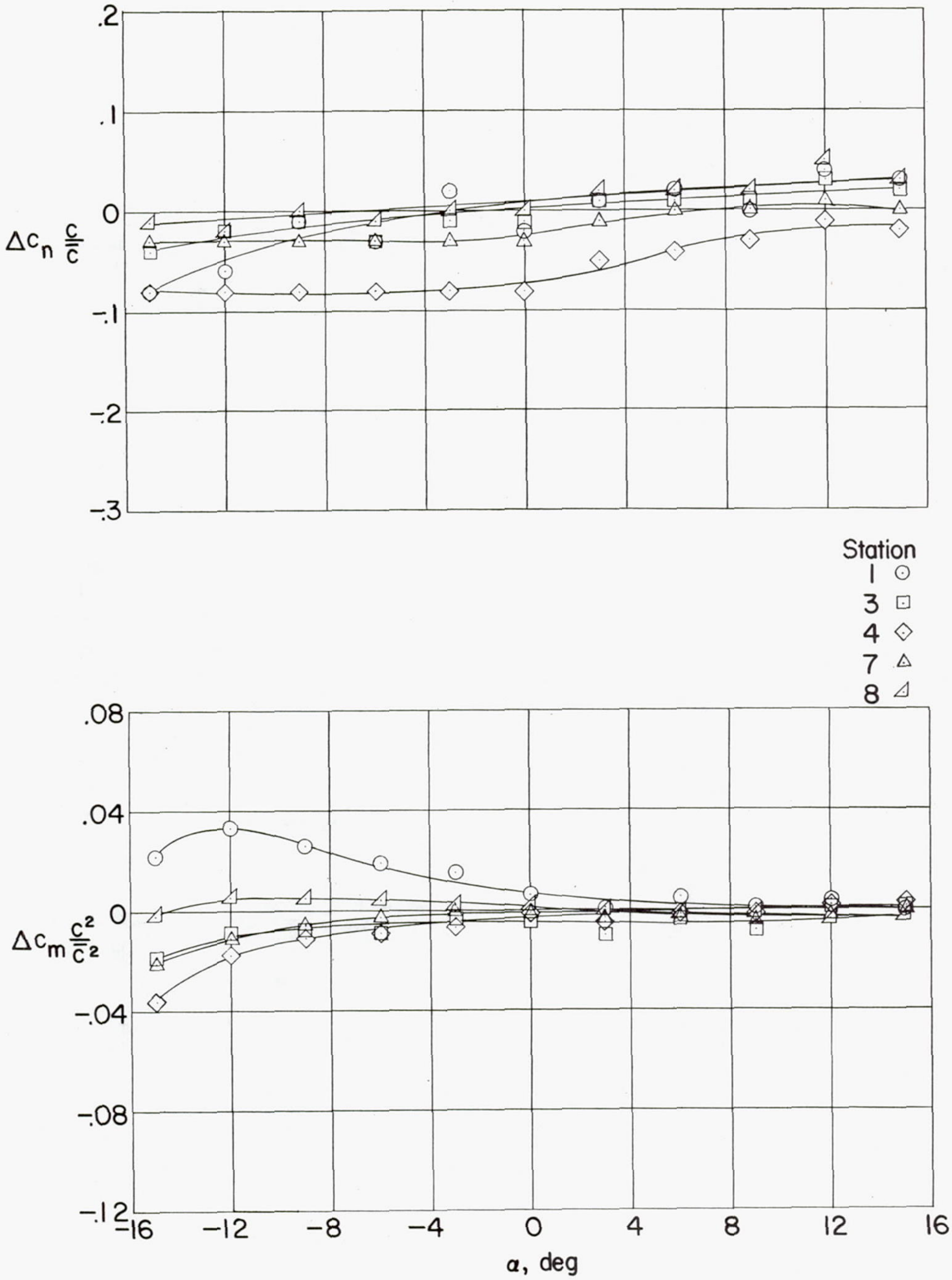
(c) Configuration C; M = 1.61.

Figure 18.- Continued.



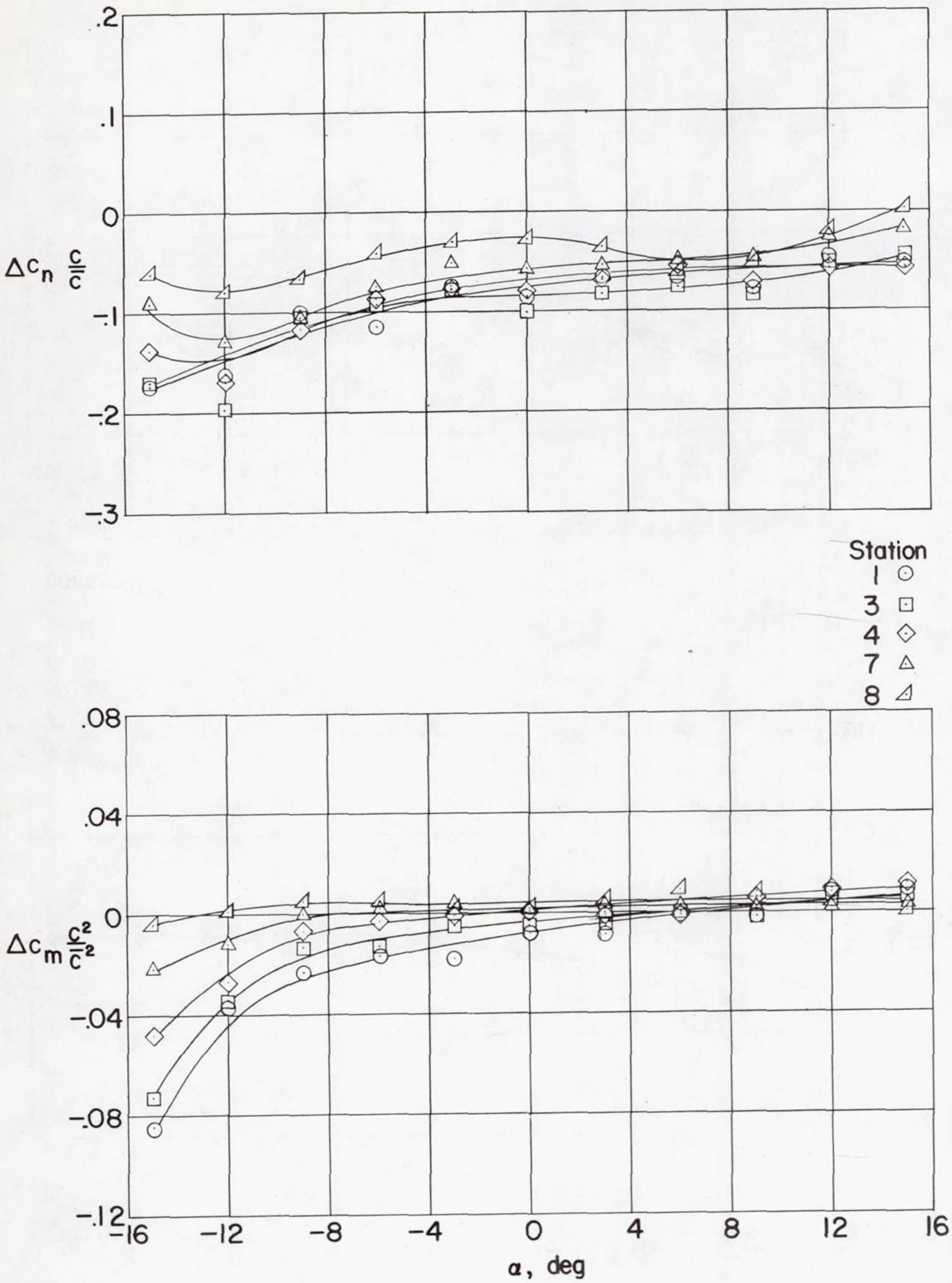
(d) Configuration D; M = 1.61.

Figure 18.- Continued.



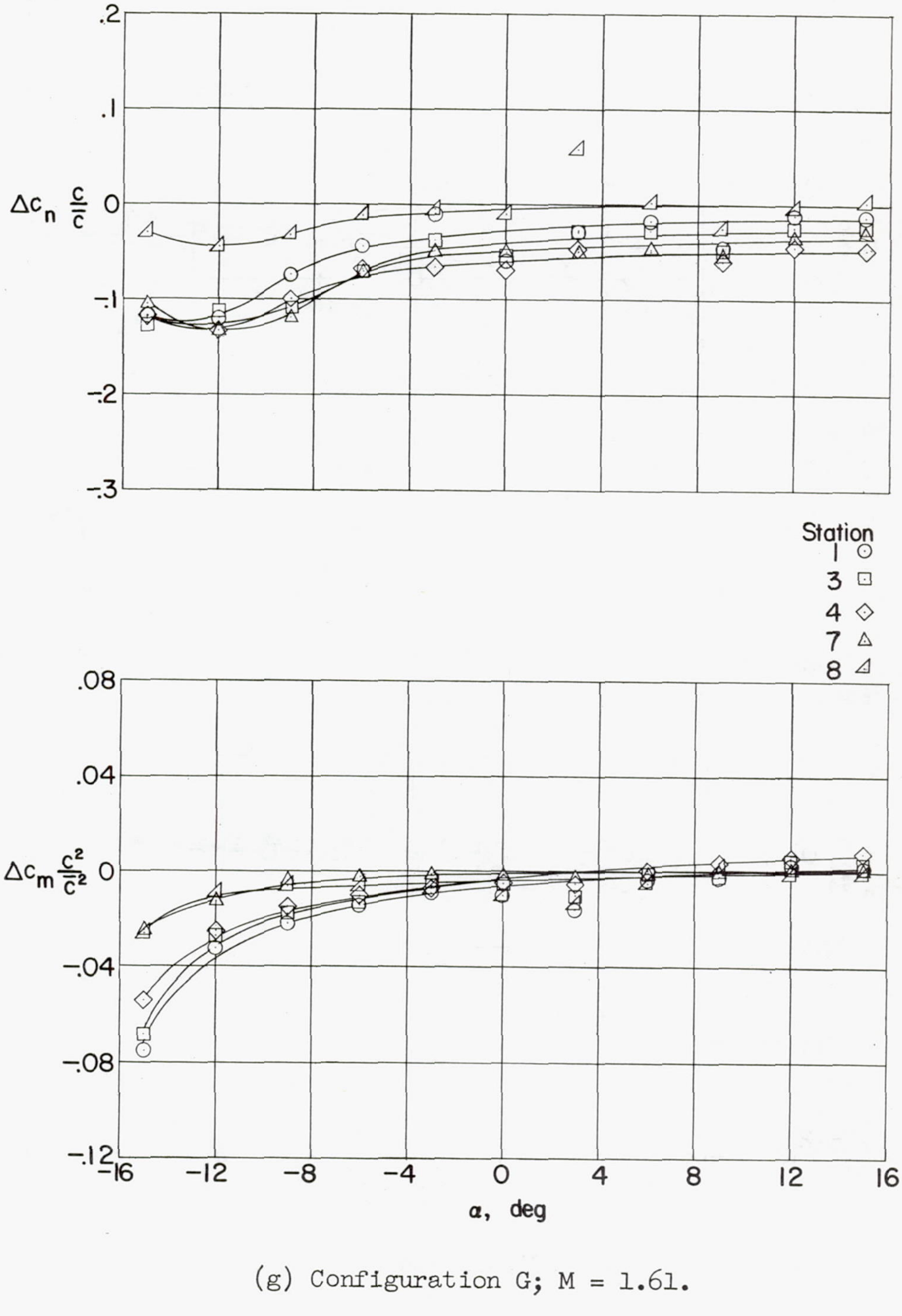
(e) Configuration E; M = 1.61.

Figure 18.- Continued.



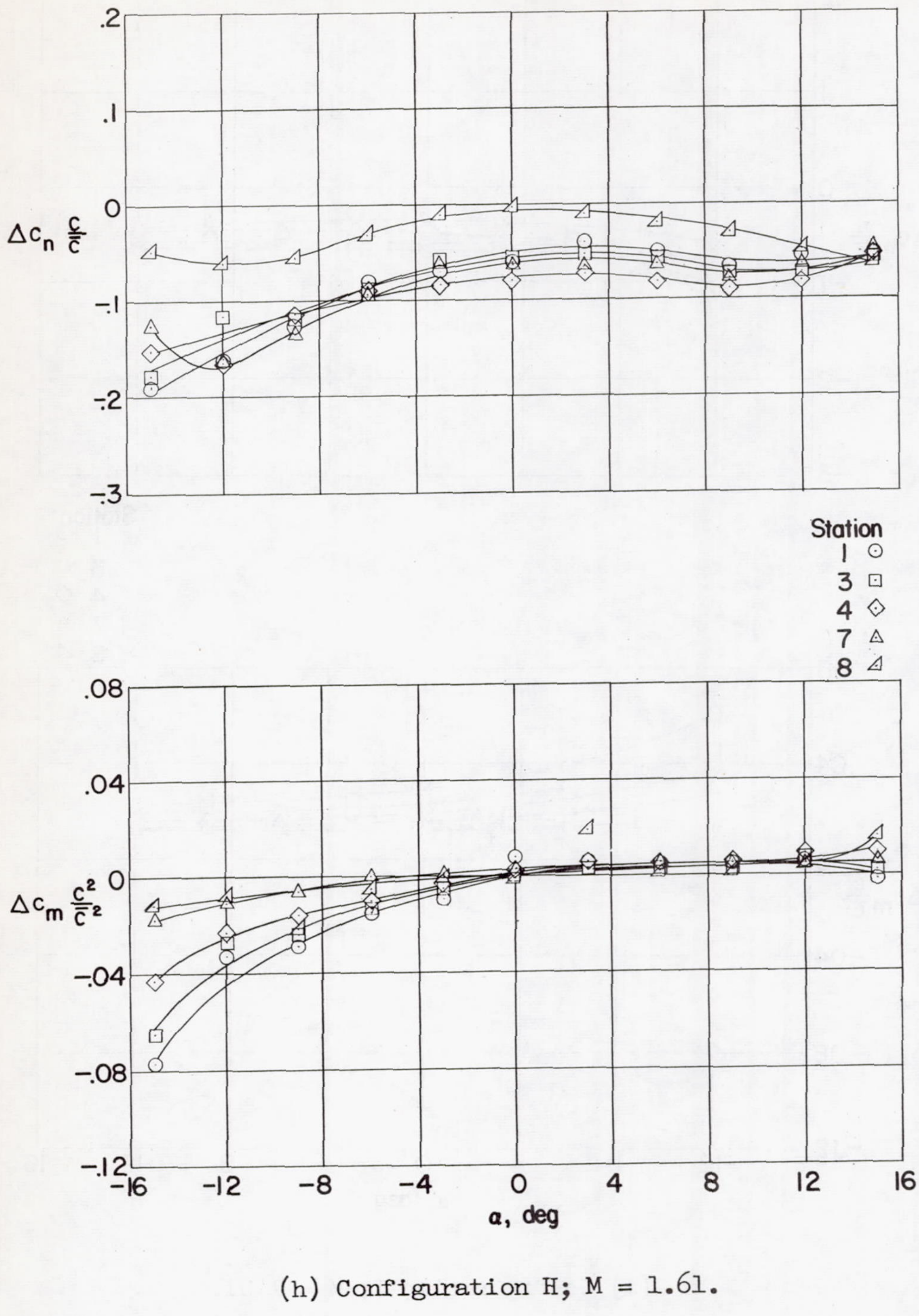
(f) Configuration F; M = 1.61.

Figure 18.- Continued.



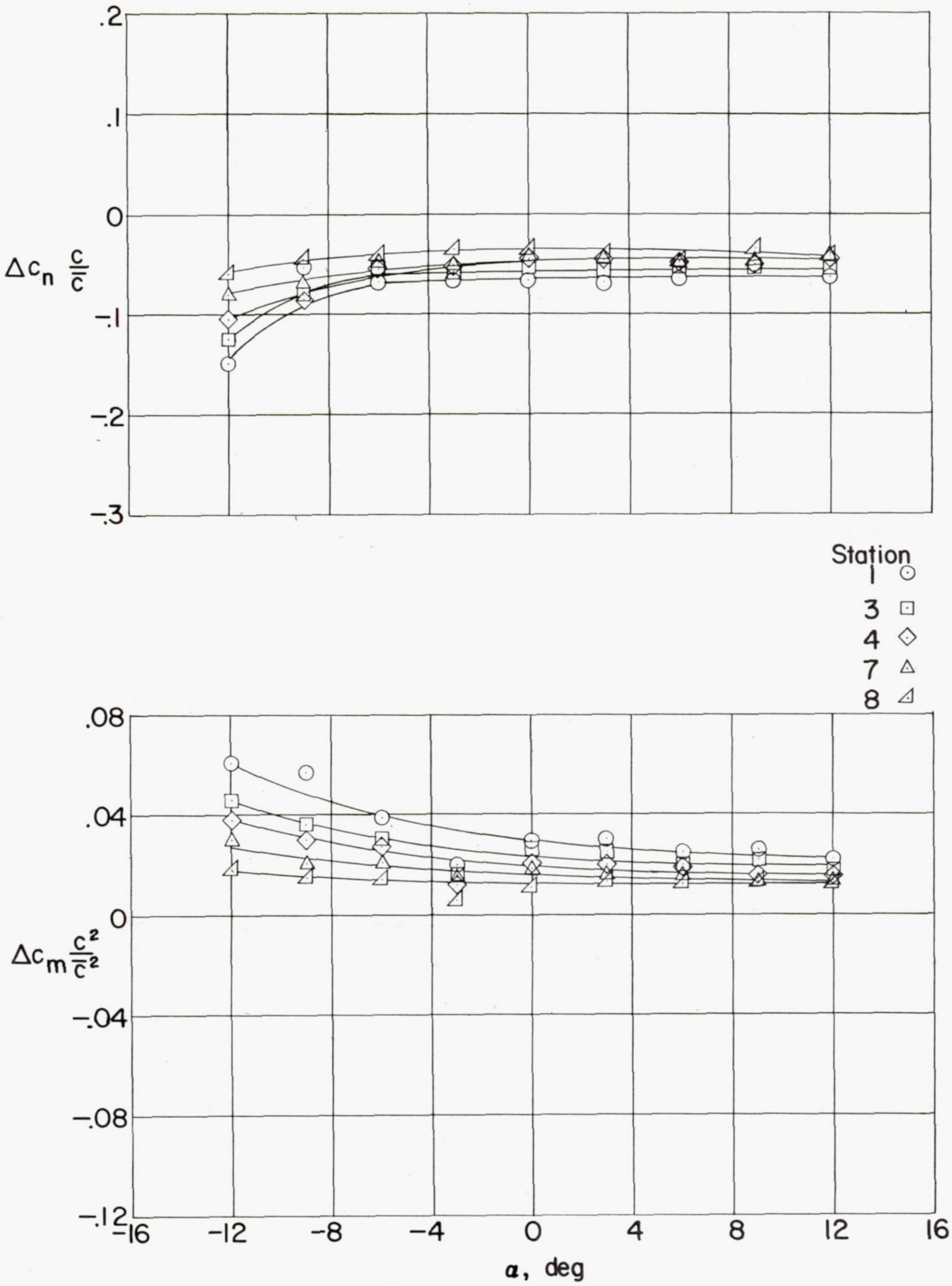
(g) Configuration G; M = 1.61.

Figure 18.- Continued.



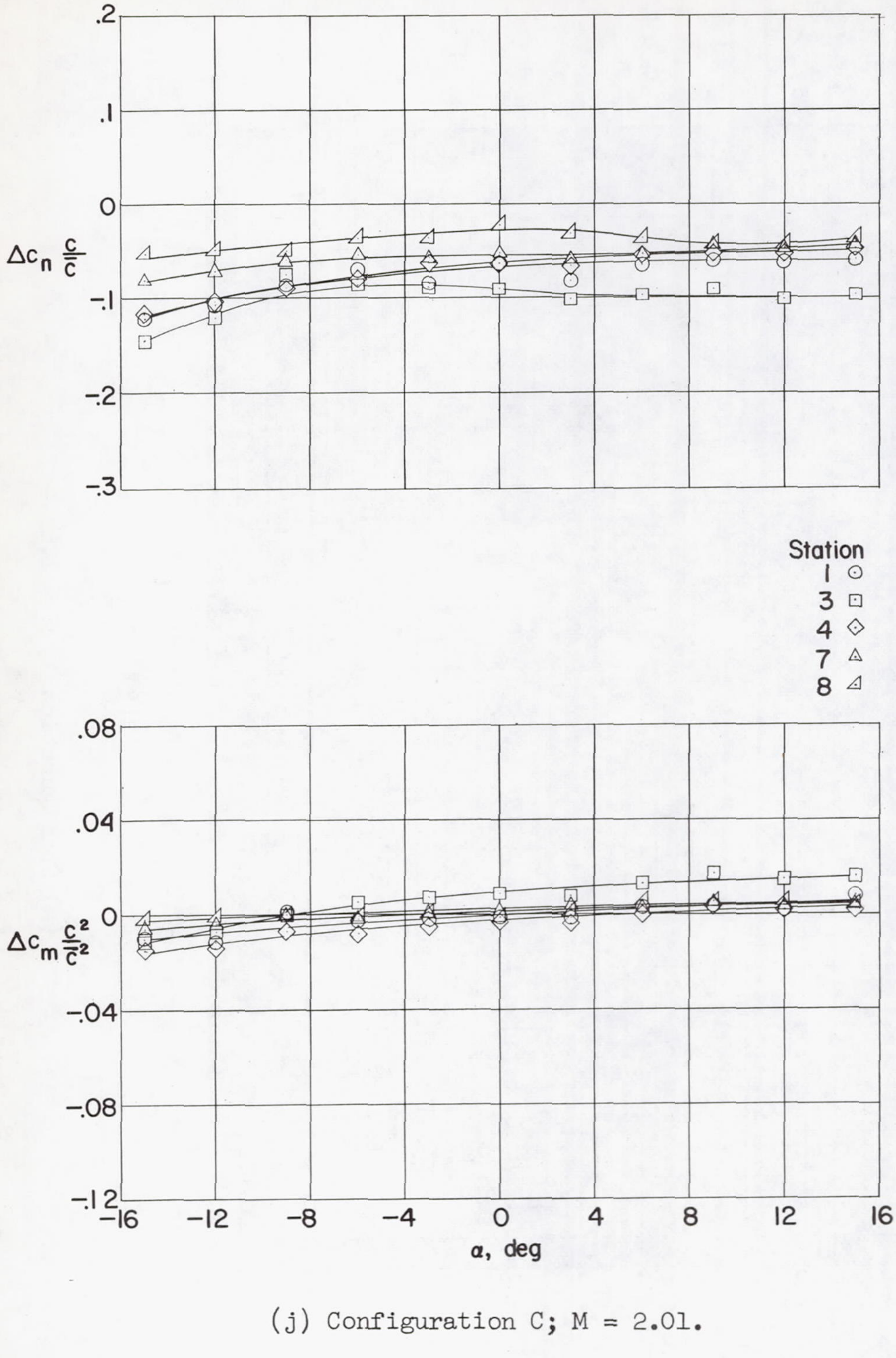
(h) Configuration H; M = 1.61.

Figure 18.- Continued.



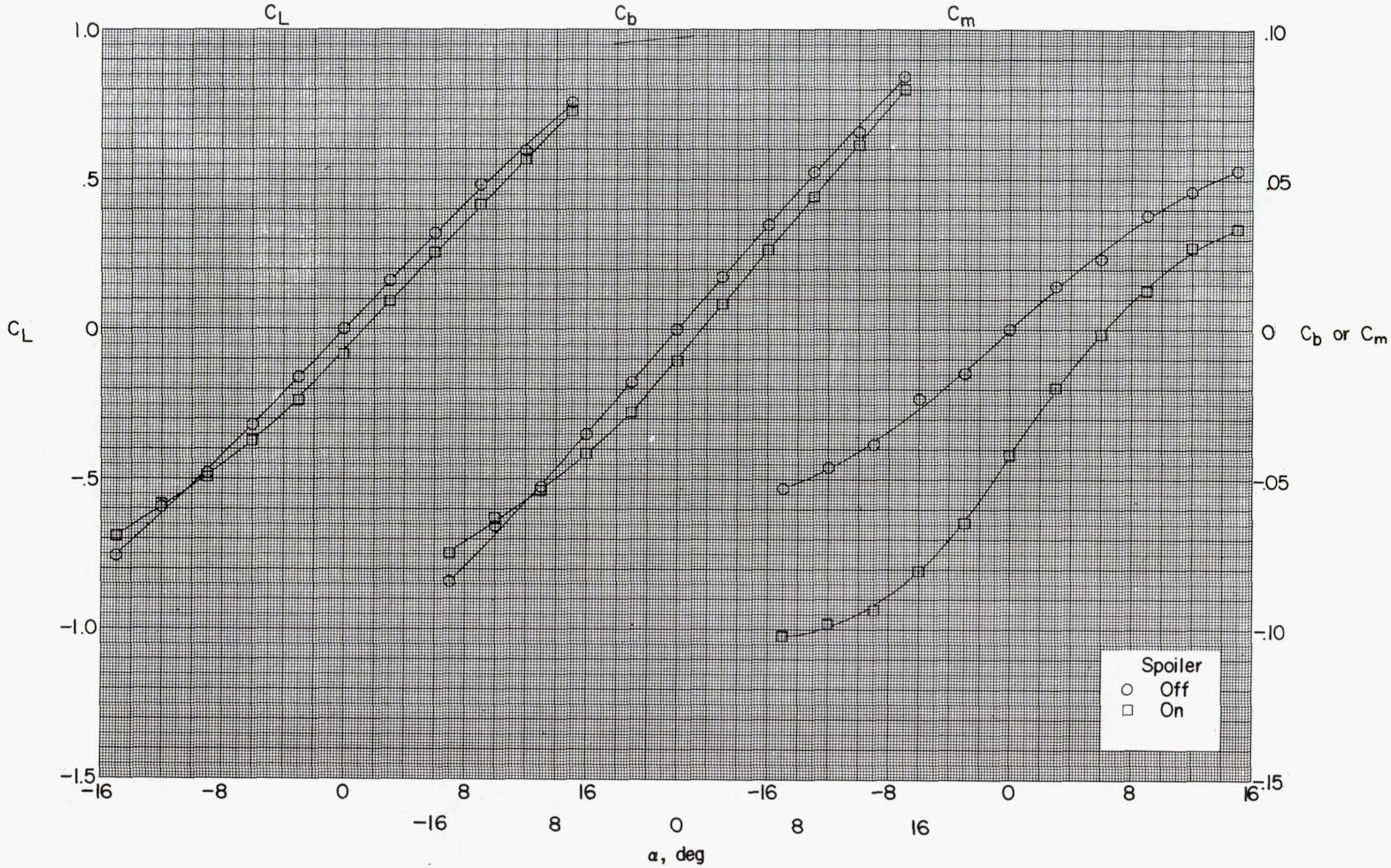
(i) Configuration I; M = 1.61.

Figure 18.- Continued.



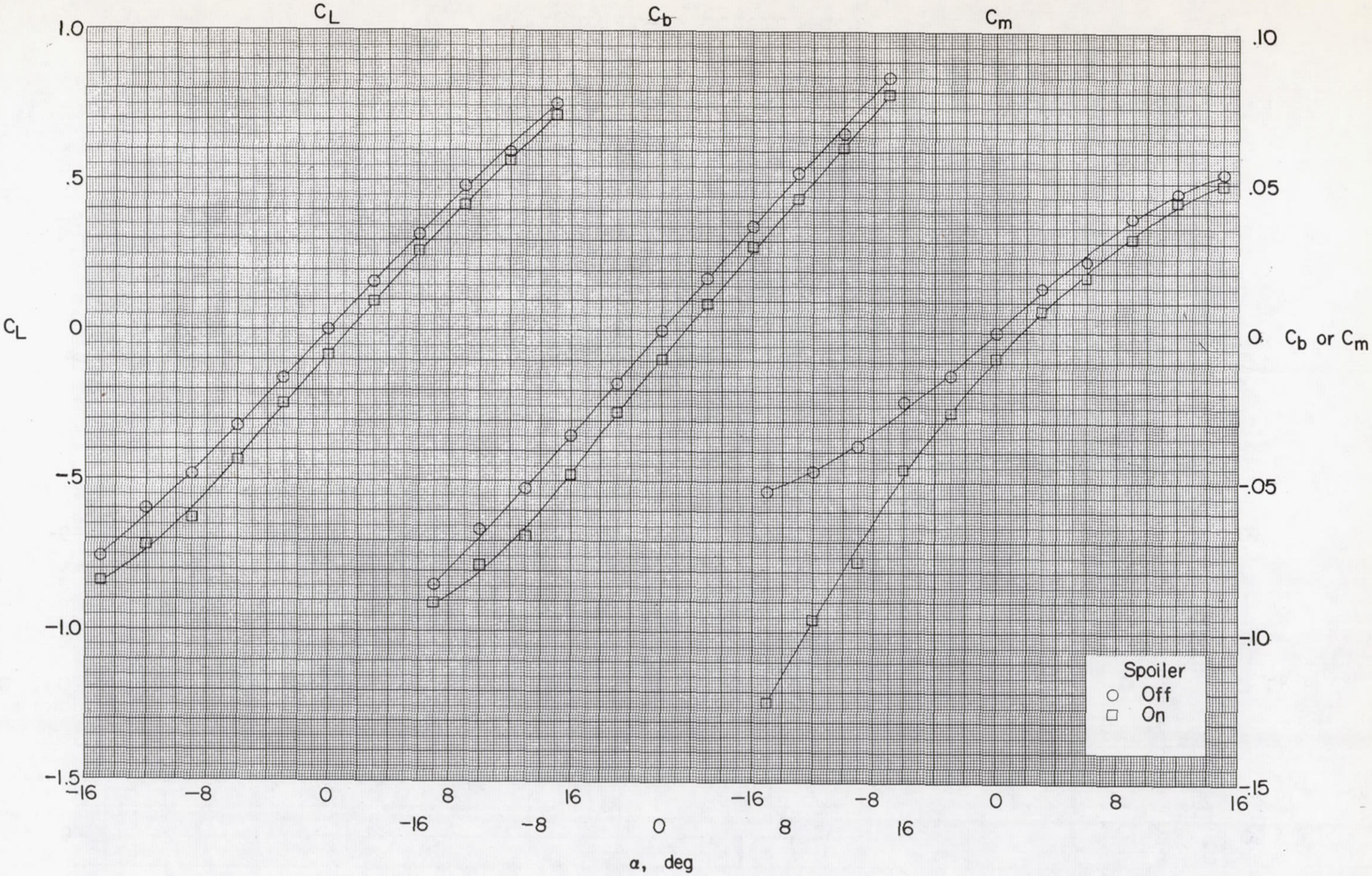
(j) Configuration C; M = 2.01.

Figure 18.- Concluded.



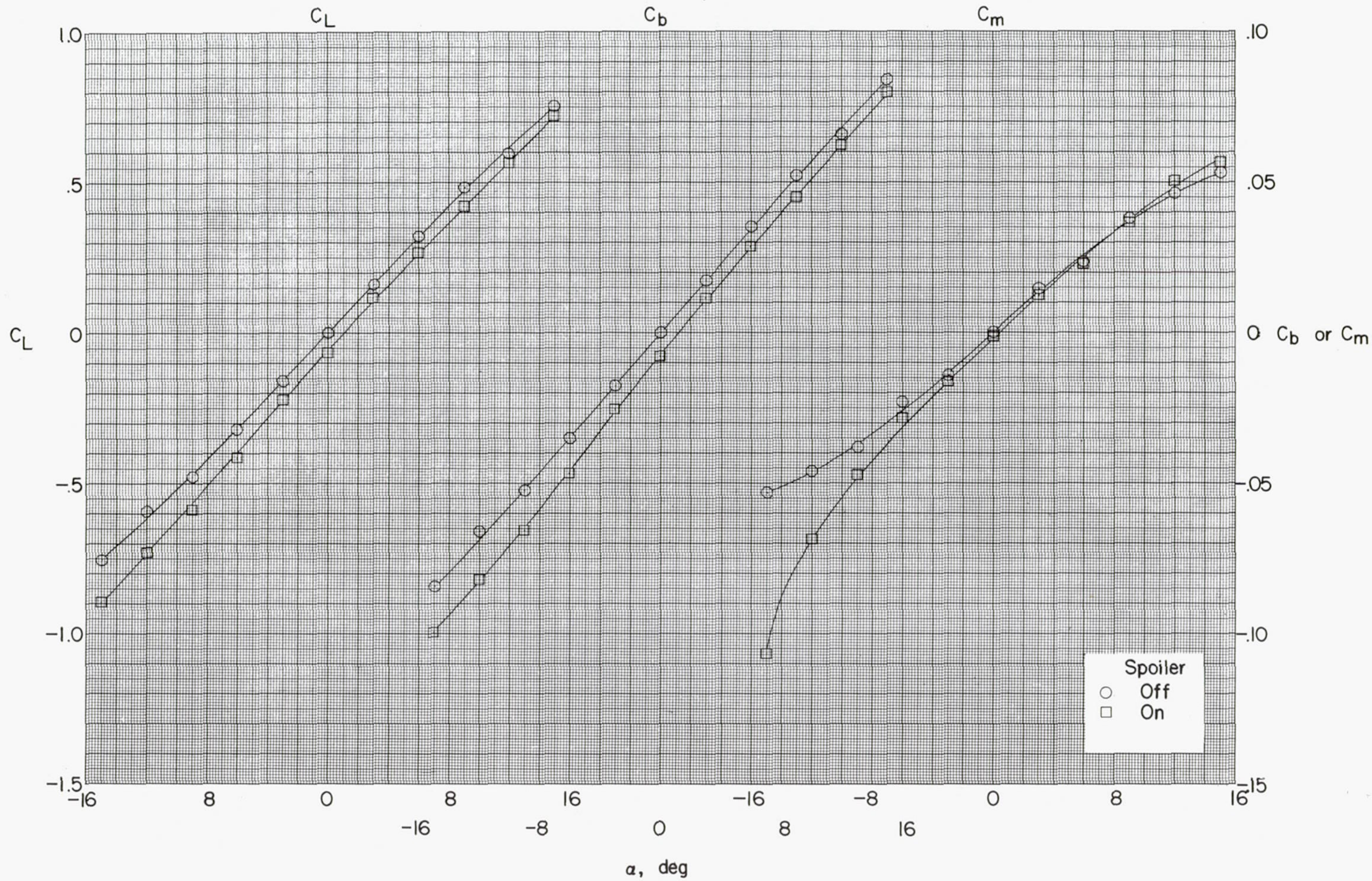
(a) Configuration A; M = 1.61.

Figure 19.- Variation of the wing lift, bending-moment, and pitching-moment coefficients with angle of attack for the nine spoiler configurations.



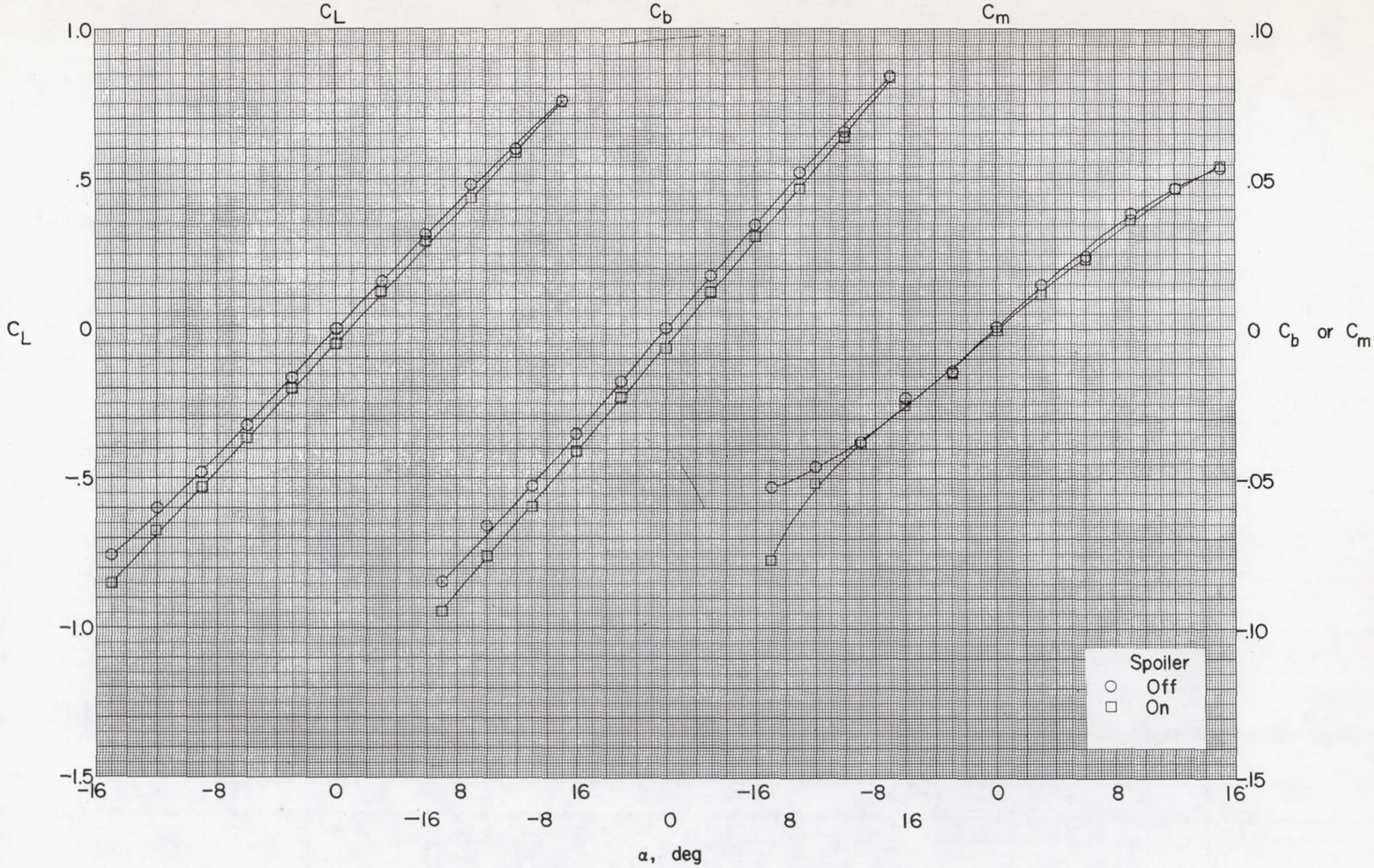
(b) Configuration B; M = 1.61.

Figure 19.- Continued.



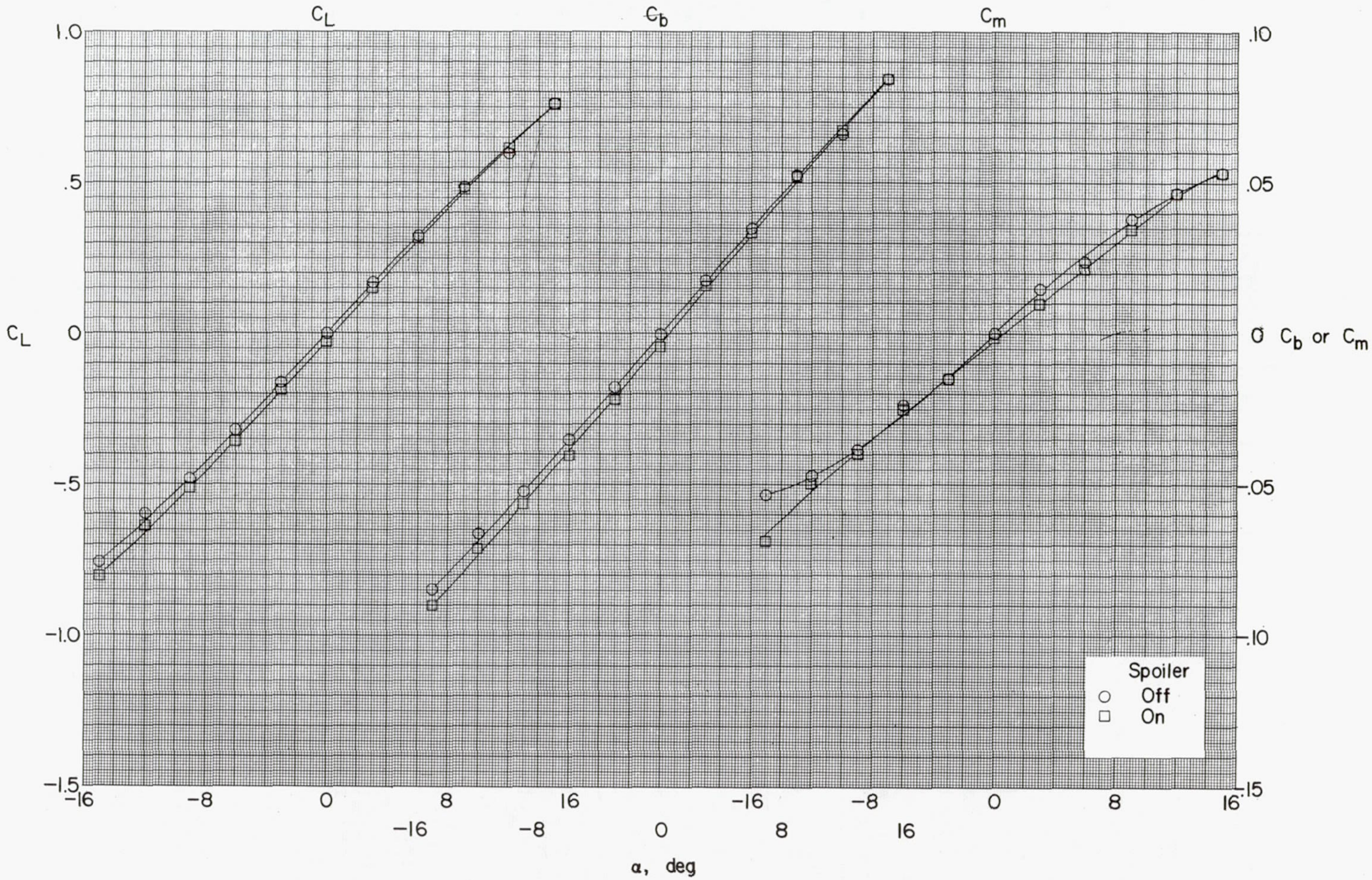
(c) Configuration C; M = 1.61.

Figure 19.- Continued.



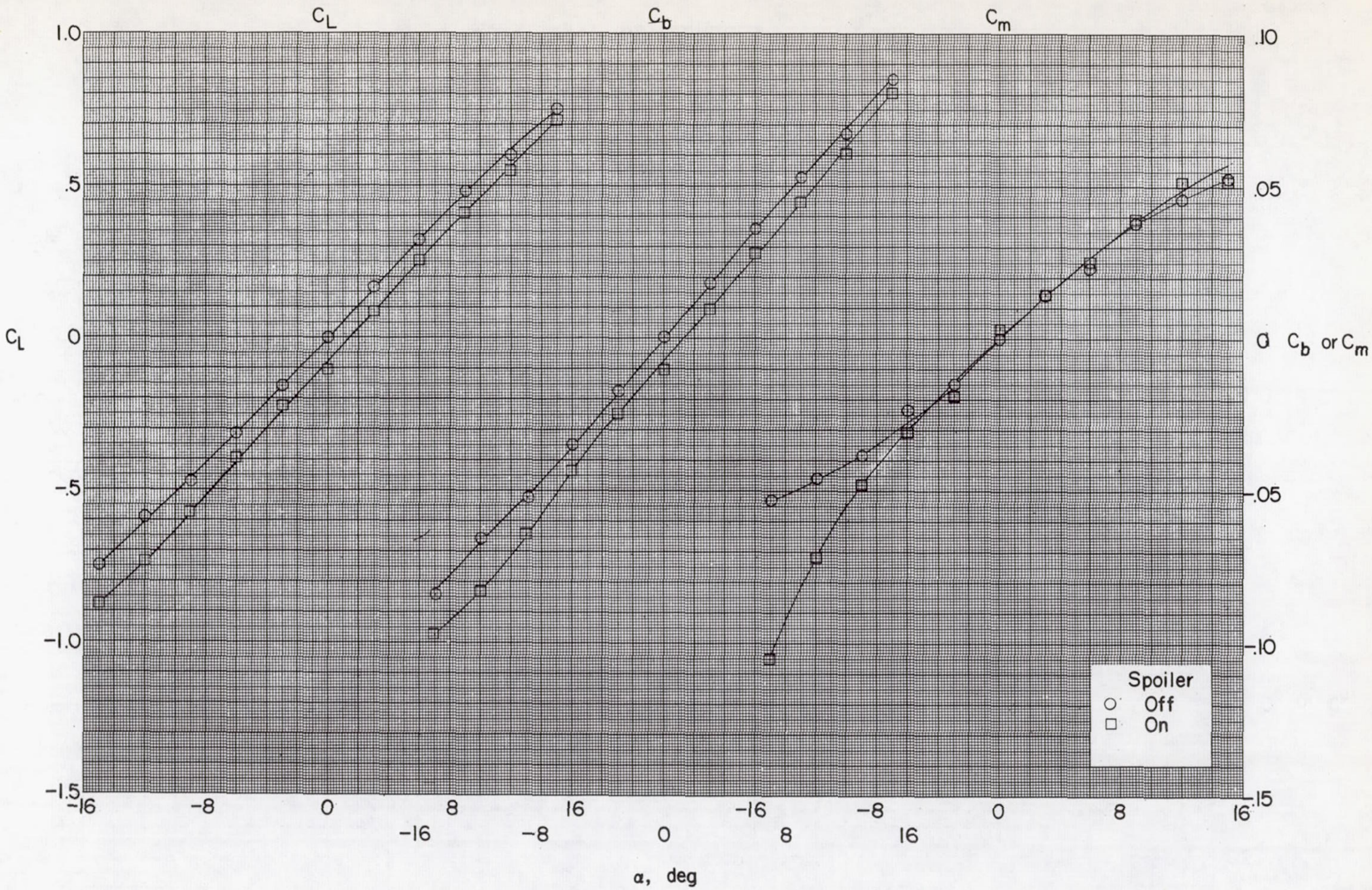
(d) Configuration D; M = 1.61.

Figure 19.- Continued.



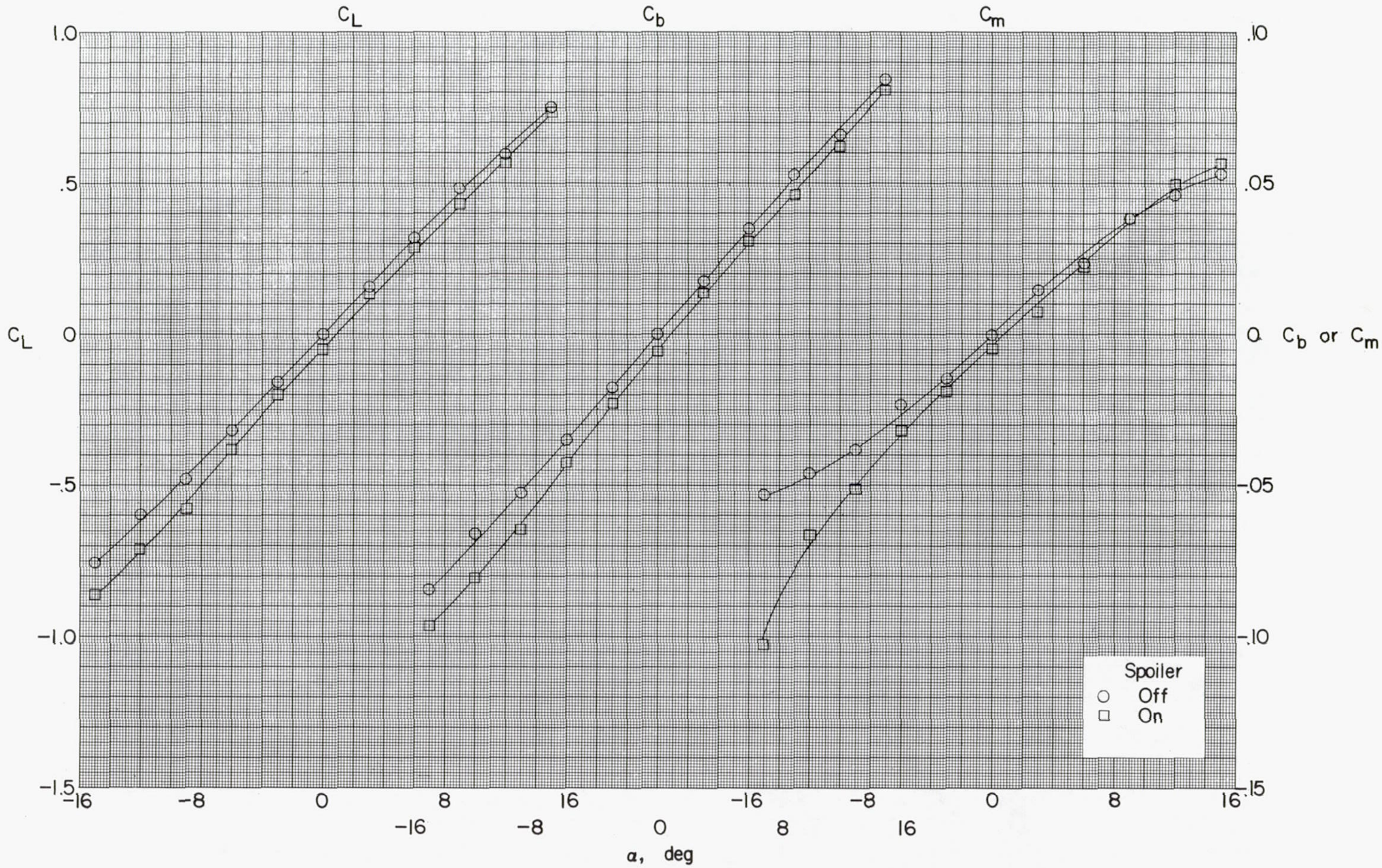
(e) Configuration E; M = 1.61.

Figure 19.- Continued.



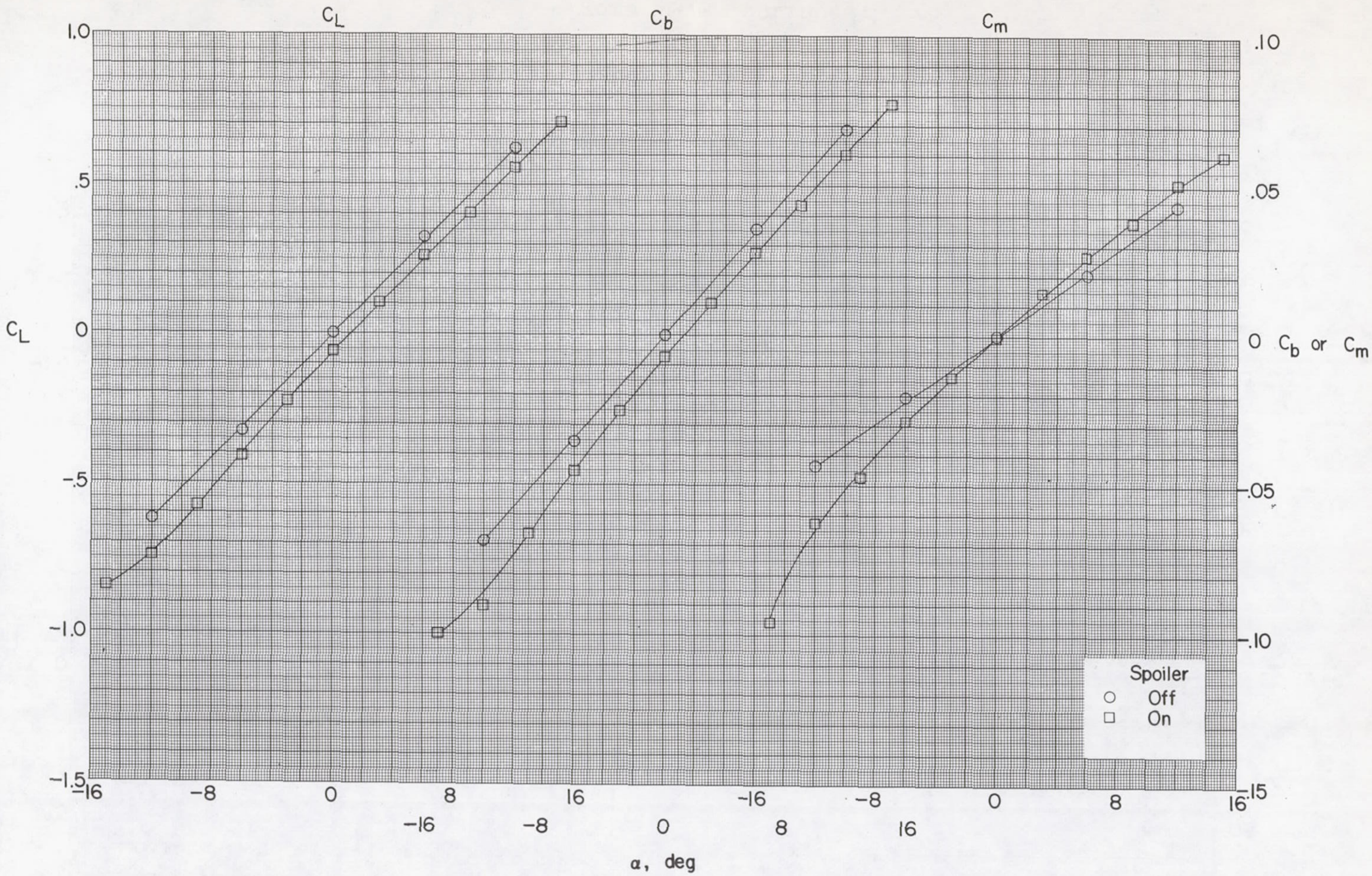
(f) Configuration F; M = 1.61.

Figure 19.- Continued.



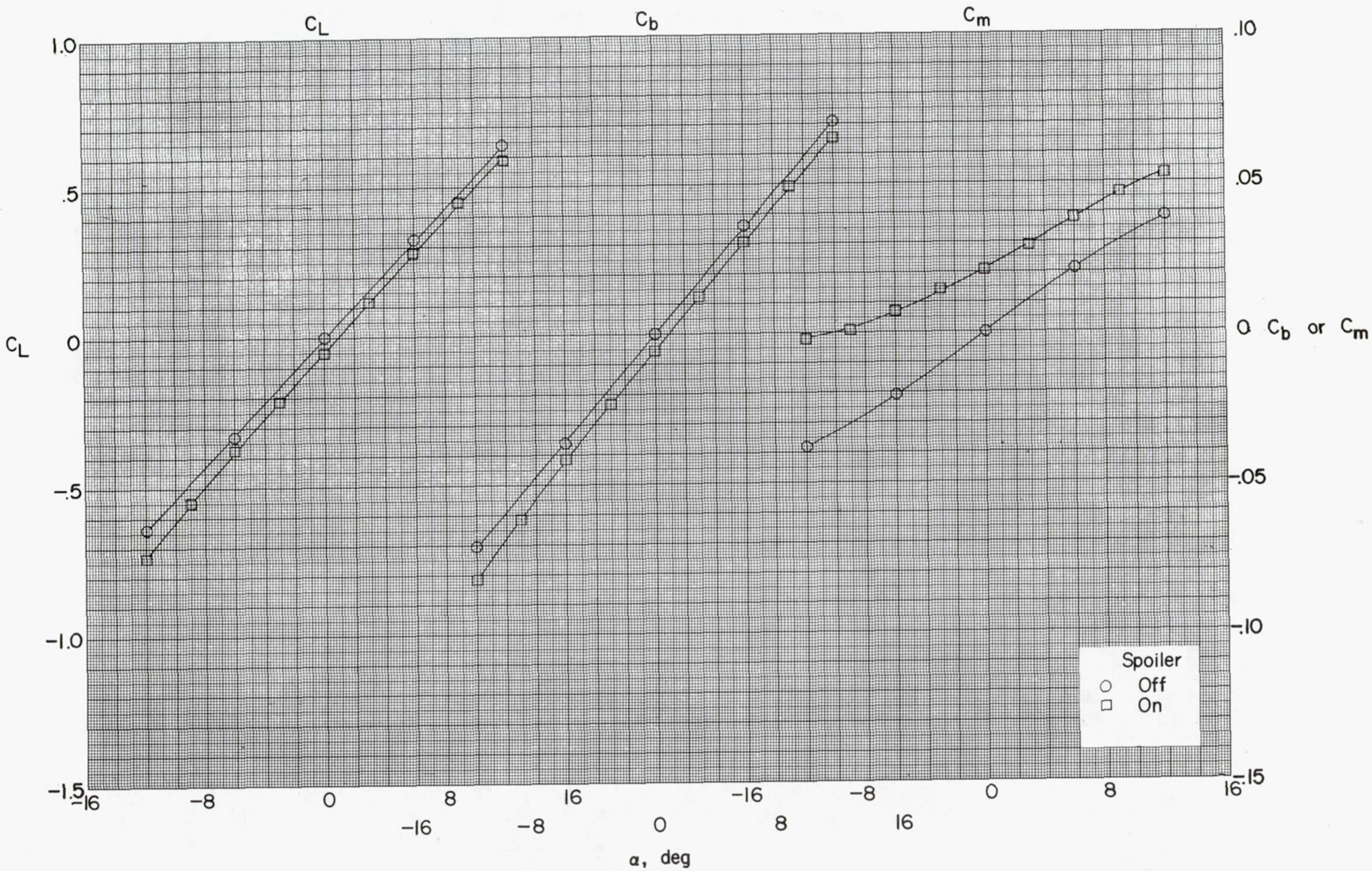
(g) Configuration G; M = 1.61.

Figure 19.- Continued.



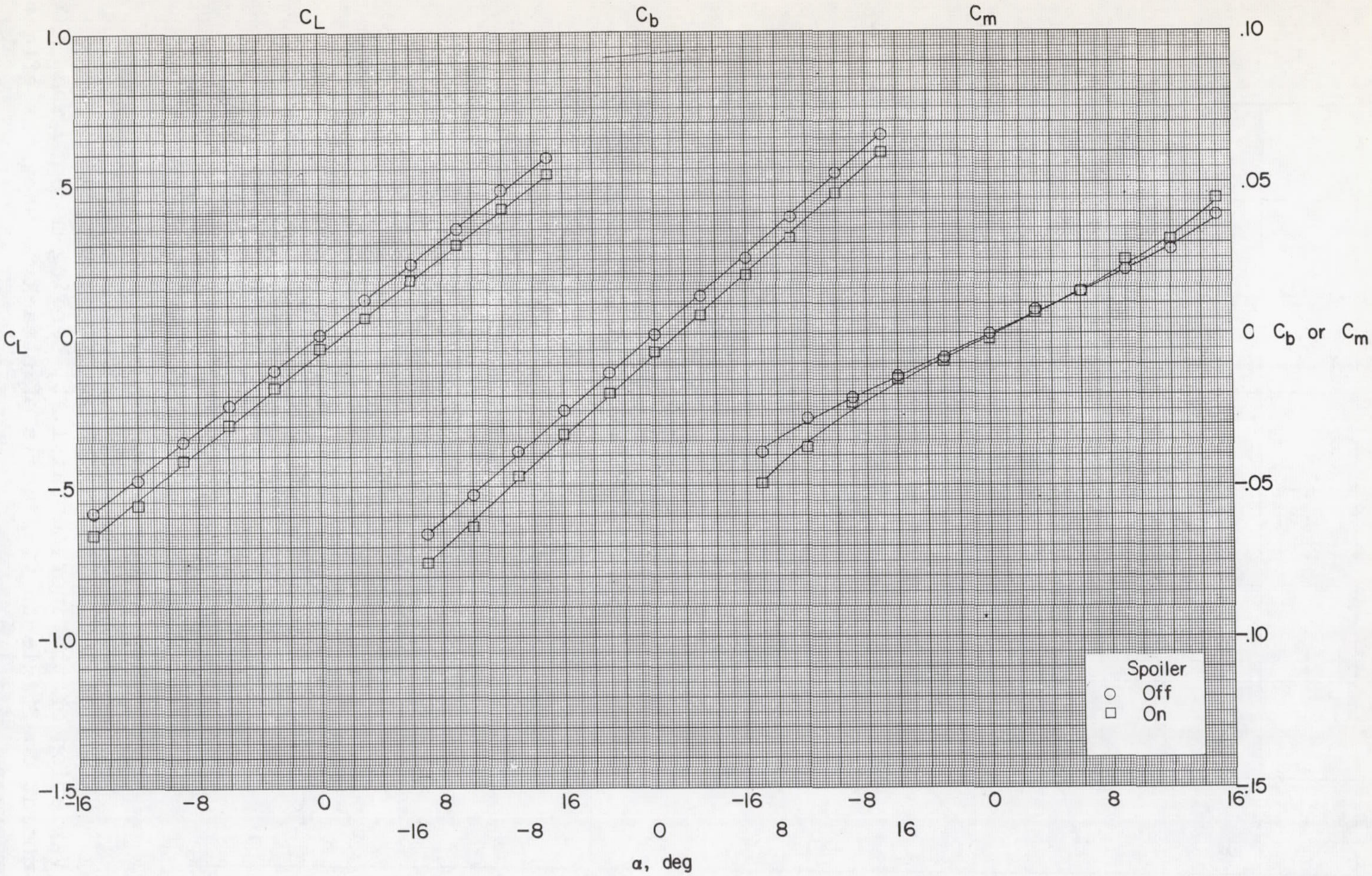
(h) Configuration H; M = 1.61.

Figure 19.- Continued.



(i) Configuration I; M = 1.61.

Figure 19.- Continued.



(j) Configuration C; M = 2.01.

Figure 19.- Concluded.

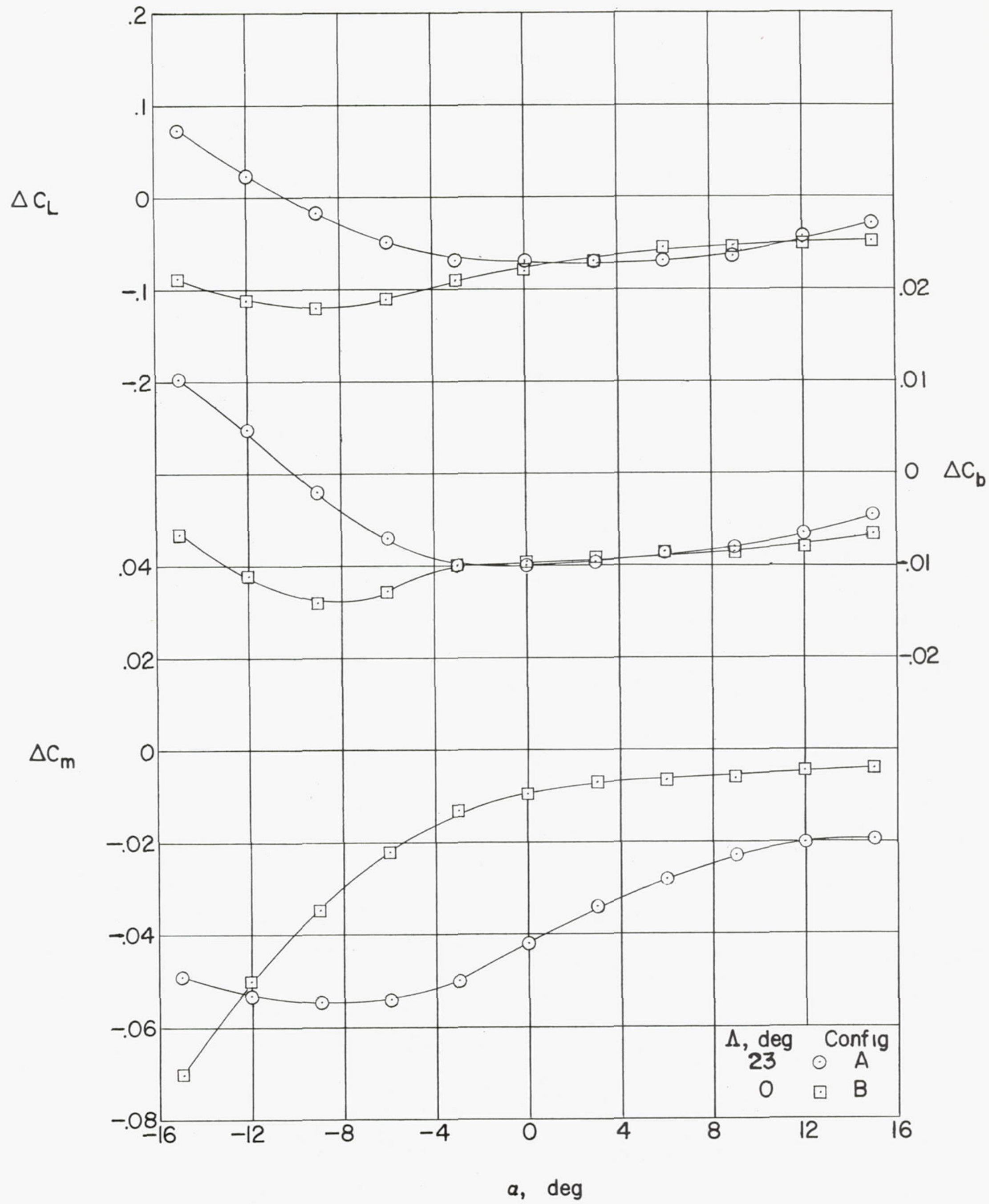


Figure 20.- Variation of the incremental lift, bending-moment, and pitching-moment coefficients with angle of attack to show the effect of spoiler sweep. M = 1.61.

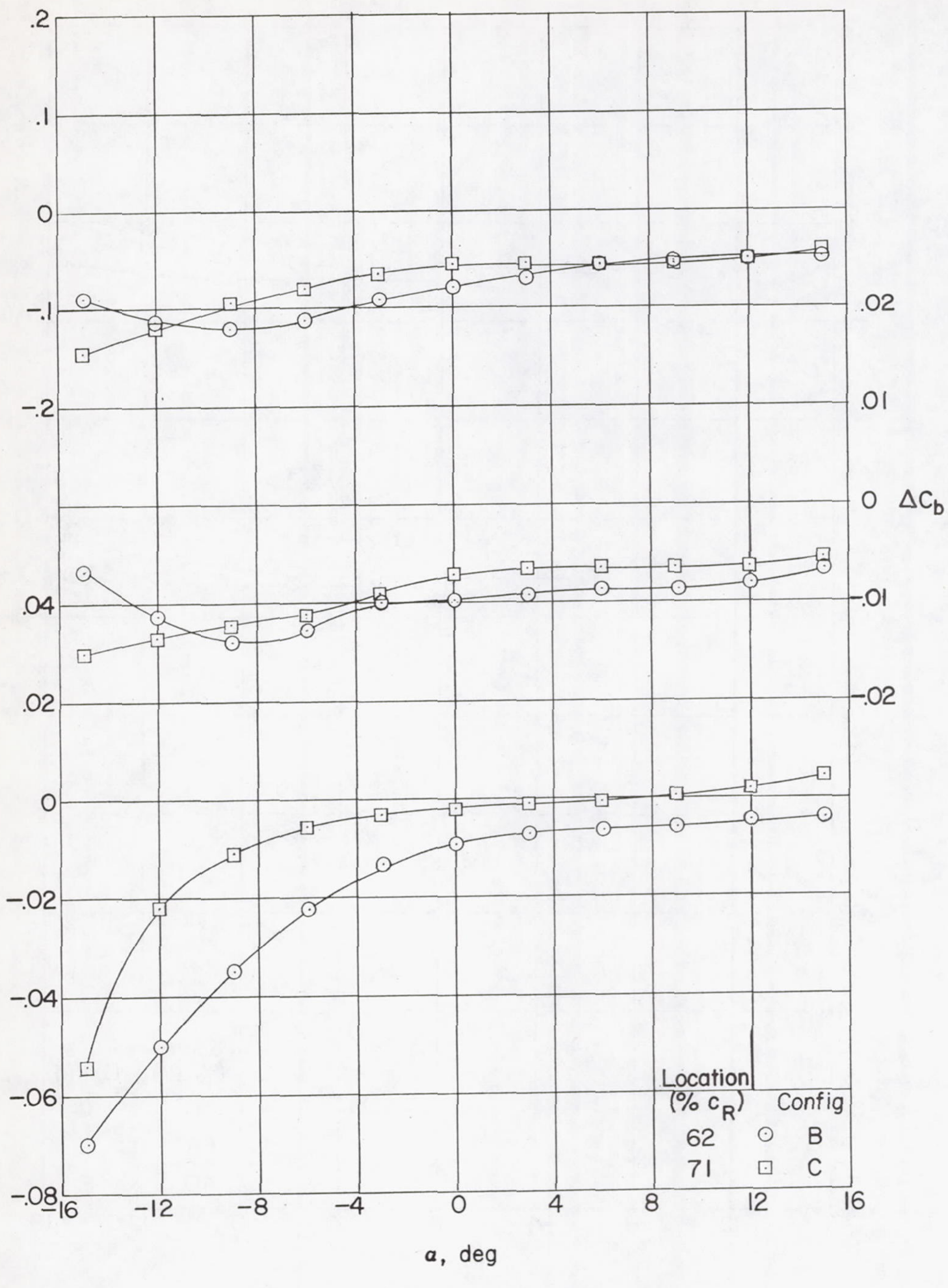


Figure 21.- Variation of the incremental lift, bending-moment, and pitching-moment coefficients with angle of attack to show the effect of rearward movements of the spoiler. M = 1.61.

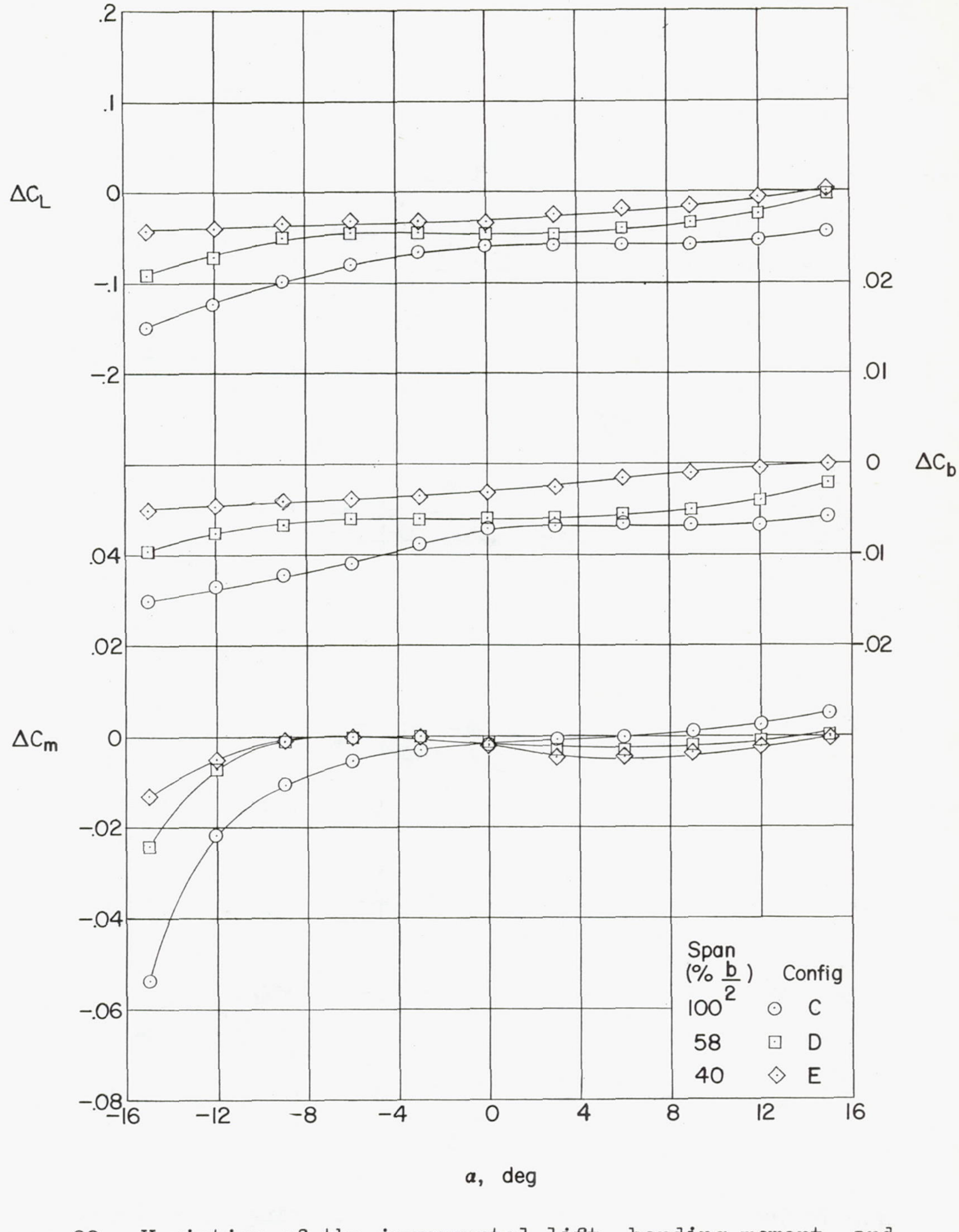


Figure 22.- Variation of the incremental lift, bending-moment, and pitching-moment coefficients with angle of attack to show the effect of reducing the spoiler span. M = 1.61.

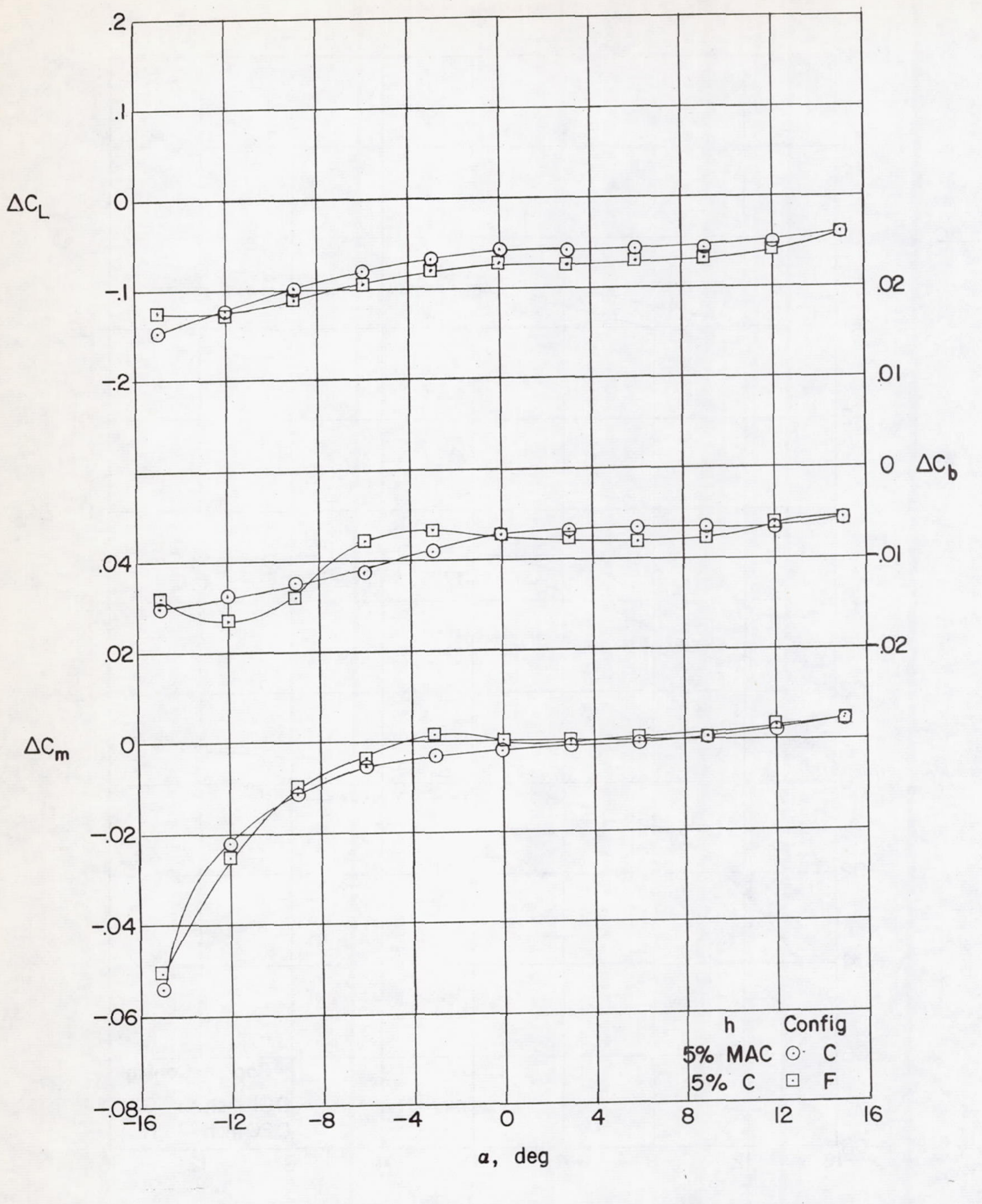


Figure 23.- Variation of the incremental lift, bending-moment, and pitching-moment coefficients with angle of attack for the 5-percent-chord-height and the 5-percent mean-aerodynamic-chord-height spoiler configurations. M = 1.61.

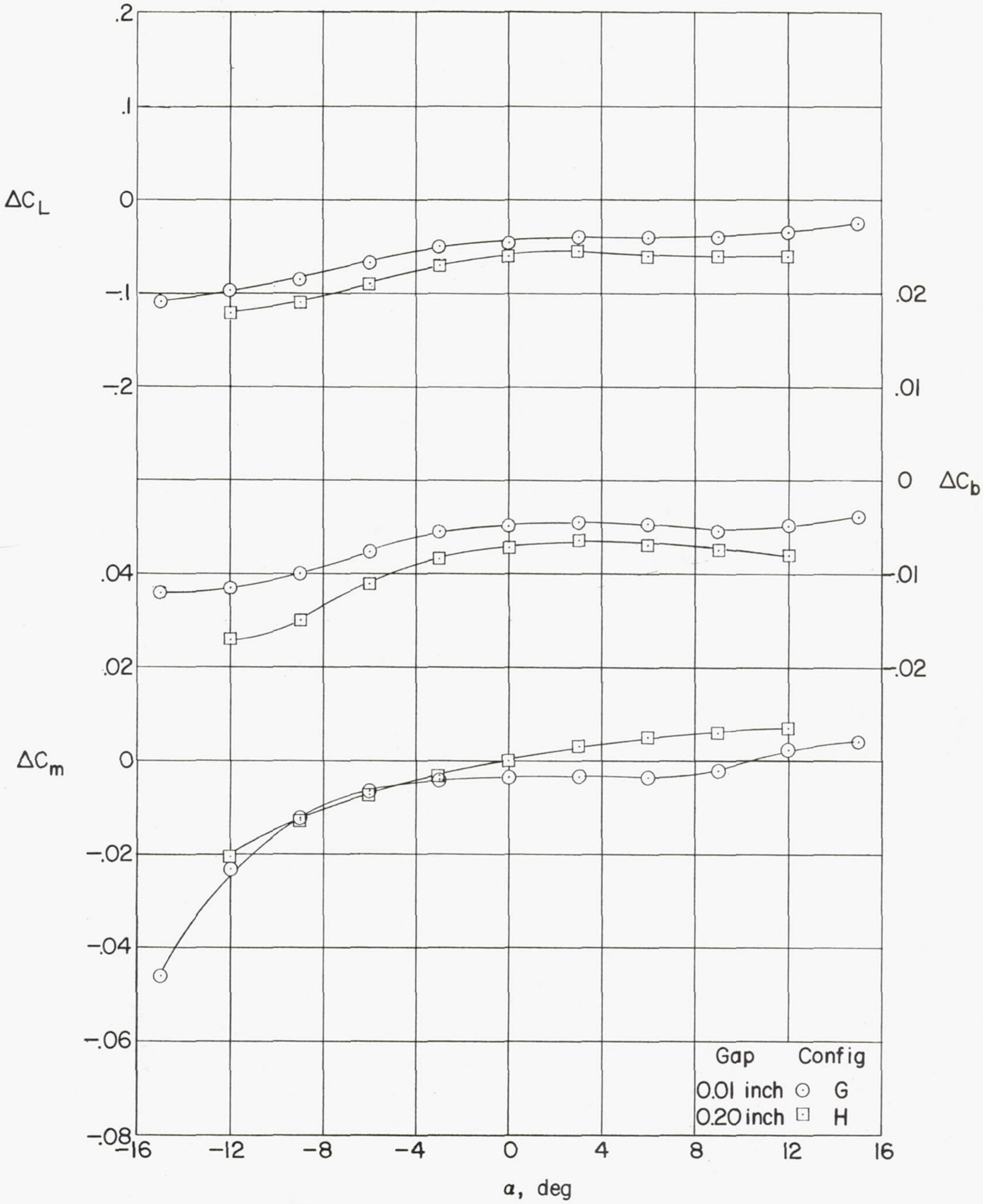


Figure 24.- Variation of the incremental lift, bending-moment, and pitching-moment coefficients with angle of attack for the 0.01-inch gap and the 0.20-inch gap configurations. M = 1.61.

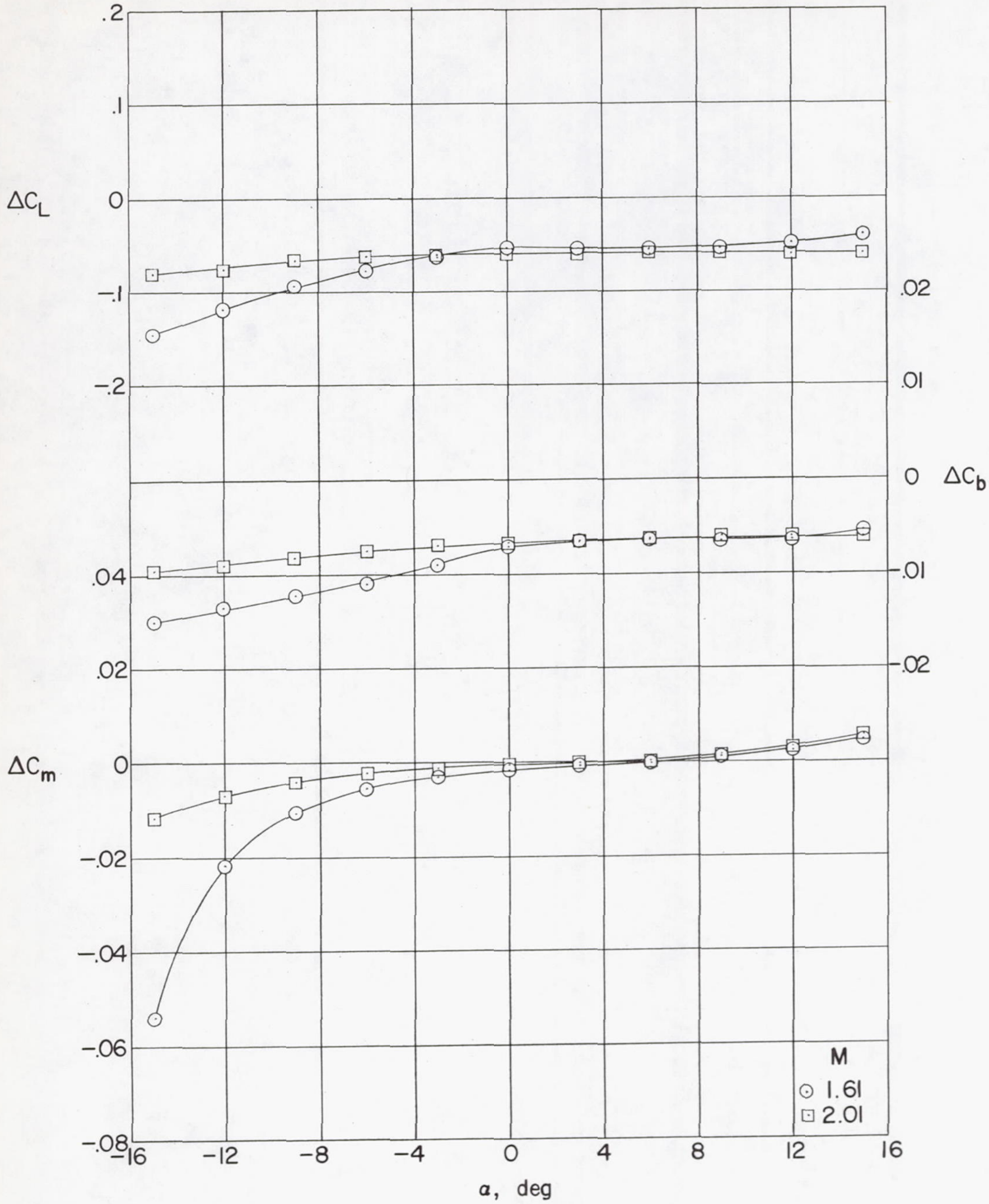


Figure 25.- Variation of the incremental lift, bending-moment, and pitching-moment coefficients with angle of attack for configuration C at the two test Mach numbers.