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by

G. G. Brebner, L. A. Wyatt and Gladys P. Ilott

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LOW SPEED WIND TUNNEL TESTS ON A SERIES OF RECTANGULAR WINGS OF VARYING ASPECT RATIO AND AEROFOIL SECTION

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SUMMARY

To provide experimental evidence on the loading and pressure distribution of low aspect ratio wings and on the variation of aerofoil section characteristics with aspect ratio, wind tunnel tests were done on a series of rectangular wings with aspect ratios varying from 4.0 to 0.5 and three different aerofoil sections. Two of the sections were cambered and all had the RAE 101 thickness distribution, t/c = 0.10. The tests comprised balance measurements of lift, drag and pitching moment, pressure measurements at the centre section (which have been integrated to obtain local forces and moments) and boundary layer transition observations.

A limited analysis has been done of the local and total forces and moments, comparisons being made with the methods of Küchemann and Weber for calculating load and pressure distribution. The experimental pressure distributions offer scope for considerably more analysis.

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* Replaces R.A.E. Tech. Report No.65236 - A.R.C. 27889

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1 INTRODUCTION

This report presents the results of a series of wind tunnel tests on rectangular wings with different aspect ratios and aerofoil sections. The purpose of the tests was to provide experimental evidence about some aspects of wing loading calculation methods, particularly about the effect of reducing the aspect ratio on the characteristics of symmetrical and cambered profiles. One aim was to study the effect of aspect ratio on the pressure distribution associated with the wing thickness distribution. Therefore an uncambered aerofoil section was chosen (RAE 101, thickness/chord ratio = 0.10) for which detailed experimental results in two dimensions were available[6].

Again, there are theoretical indications[4] that the loading on cambered wings behaves differently from that on uncambered wings as the aspect ratio is reduced, and another aim of these tests was to provide an experimental basis for further theoretical work.

Rectangular wings were chosen in order to avoid complicating the analysis with taper and sweep effects, but any conclusions drawn about sectional* aerofoil characteristics or spanwise load distribution would be relevant to wings of more general planform.

The experimental results are presented in tabular form to facilitate subsequent analysis. Most of the tests were done at two Reynolds Numbers, 1.6×10^6 and 3.2×10^6. To keep the number of tables as small as possible, pressure plotting results are included at the higher Reynolds Number only, except in those cases where only the lower Reynolds Number was tested. However, for anyone who wishes to study or analyse them, the results at $R = 1.6 \times 10^6$ are available from the authors.

Only a small amount of comparison between theory and experiment is included, and the conclusions are of a tentative nature. The theoretical methods used were those of Küchemann[1] and Weber[2,3,4] for calculating the loading and pressure distribution on wings of moderate and small aspect ratio, and that of Brebner[5] for cambered wings. Since this work was done the increased availability of electronic computers has reduced the interest in developing accurate methods simple enough for desk computation. Nevertheless it is hoped that this limited analysis will be relevant to the continuing search for physically meaningful mathematical models.

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* "Sectional" properties (e.g. sectional lift slope, $\partial C_L/\partial \alpha_e$) are associated with bound vorticity only and not with trailing vorticity. This does not mean they are independent of aspect ratio, since the distribution of bound vorticity changes with aspect ratio.

The wings with symmetrical profiles are discussed separately from those with cambered profiles. In Section 2 all the models and tests are described and the results and analysis of the symmetrical section wings are given in Section 3. Some cambered wing results are briefly analysed in Section 4.

2 DESCRIPTION OF MODELS AND TESTS

Three different streamwise profiles were included in the set of wings tested, the thickness distribution of each being RAE 101, thickness/chord ratio = 0.10. The mean lines were a straight line and two camber lines of the family derived in Ref.5, those designated by m = 0.5 and m = 0.8, where m is a parameter related to the chordwise position of the maximum ordinate. The wings with symmetrical profile are designated by the letter A, those with the m = 0.5 and 0.8 camber lines by the letters B and C respectively. Section B had 2% camber and section C had 1% camber.

Each series of finite wings comprised five different aspect ratios, 4.0, 2.5, 1.4, 1.0 and 0.5. There were three series of balance models (one each of Sections A, B and C) on which lift, drag and pitching moment were measured; and two series of pressure-plotting models (one each of Sections A and B), on which the pressure distribution on the centre line was measured. The balance models were denoted by the letter F and the pressure-plotting models by the letter P. The aspect ratios were numbered in sequence from 1 ($A = 4.0$) to 5 ($A = 0.5$). This facilitates concise reference to any wing, e.g. BP/3. In addition results for a two-dimensional wing with Section A are available in Ref.6, and wing BP/1 was fitted with faired extensions and measured as a two-dimensional wing spanning the tunnel vertically. These wings are designated AP/0 and BP/0. The complete series of wings is set out in Table 1.

All the models were made of laminated teak and, except for BP/0, were suspended on wires, the balance models from an overhead balance, the pressure models from the tunnel roof. The largest aspect ratio of each series was progressively cut down to the other four aspect ratios. A sketch of the planforms is given in Fig.1, showing the suspension points. On the three smallest aspect ratios the main suspension points were at the ends of steel bars running through the wings at their maximum thickness positions. The wings had rounded tips. The area used in calculating the force and moment coefficients is that of the rectangle defined by span x centre line chord. The pressure models had 29 flush holes at the centre section, equally distributed on both surfaces. The chordwise positions of the holes are given in Fig.1. The pressure tubes (1/32" inside diameter at the surface) were taken out of the wing at two positions, 4 inches on either side of the centre line, towards the rear of the wing. This was to simplify the work of cutting

down the wings to the next smaller aspect ratio. Each group of tubes was arranged in a flat sheet parallel to the stream direction to minimise their effect on the flow. On the cambered wings of the BP series the tubes were led out of the "flatter" surface which is conventionally regarded as the lower surface of a cambered wing. This served to define the "lower surface" on the AP series as the surface from which the pressure tubes emerged.

Each model, both balance and pressure plotting, was tested in two attitudes, called "normal attitude" and "inverted attitude". (Exceptions are noted in Table 1.) In the normal attitude the "upper surface" was lowermost in the tunnel, as is normal with models suspended on a wire rig. In the inverted attitude the "upper surface" was uppermost in the tunnel. The reason for doing both cases was to eliminate any pitch angle in the tunnel flow by comparing the two sets of results. In the case of the symmetrical wings it was also possible to eliminate any error due to model asymmetry or inaccurate positioning of the incidence datum line. This was not possible for the cambered wings since the zero lift angle was not known beforehand. These corrections to the incidence are shown diagrammatically in Fig.2. The incidence sign convention is such that, in the normal attitude in the tunnel, positive incidence is nose down and in the inverted attitude positive incidence is nose up. With some balance models the incidences tested in the normal and inverted attitudes were the same, or nearly so, and mean values of the forces and moments in the two attitudes are quoted for those incidences. With the pressure plotting models the results for normal and inverted attitudes are presented separately.

The tests were done between 1953 and 1957 in the No.2 $11\frac{1}{2}$ ft × $8\frac{1}{2}$ ft wind tunnel at R.A.E. Farnborough and the 13 ft × 9 ft tunnel at R.A.E. Bedford. The wind speeds were 125 ft/sec and 250 ft/sec, giving Reynolds numbers of 1.6×10^6 and 3.2×10^6 based on the 24 inch chord of the wings. Relevant corrections were applied to incidence, lift, drag, pitching moment and pressure coefficient to take account of tunnel constraint, blockage, streamwise pressure gradient, asymmetry in pitch of the tunnel flow, and rig drag and pitching moment.

In addition to the balance and pressure measurements, some observations were made of the movement of the transition position on the balance models, using the simple paraffin evaporation technique.

Acknowledgement

The authors are indebted to many colleagues at Farnborough and Bedford for their assistance in experimental work and computing during the series of tests.

3 RESULTS AND DISCUSSION: WINGS WITH SYMMETRICAL SECTION

The pressure measurements at the centre section of the wings of the AP series are tabulated in Tables 2 to 6, and the local force and moment coefficients obtained by integration in Tables 7 to 11. Some of the pressure holes suffered either temporarily or permanently from blockages and leaks and these readings are omitted from the tables. The lift, drag and pitching moment coefficients from the measurements on the balance models of the AF series are tabulated in Tables 12 to 16, and the transition observations in Table 17.

For comparison with the experimental data the pressure distributions at the centre section of these wings have been computed by the method of Weber[3] for several values of the effective incidence α_e, and these calculated values are given in Tables 45 to 49, along with the local normal force coefficient, C_N, obtained by integration.

3.1 Pressure measurements at zero lift

The pressure measurements at the centre sections of the AP wings are directly comparable with the results calculated by Weber's method[3], and the comparisons are shown in Fig.3. The experimental points plotted are the mean values of the pressure coefficient, C_p, on both sides of the wing at both attitudes at both Reynolds Numbers (where available). (Interpolation is necessary where zero incidence was not actually measured.) For wing AP/3 of aspect ratio 1.4 further data was available from the results of Peckham[7] on a similar planform with 12% RAE 101 section: the velocity increments have been scaled down linearly for comparison with the present results.

It is clear from Fig.3 that the theory of Ref.3 correctly predicts the qualitative reduction in peak suction and its forward movement as the aspect ratio is decreased, but that quantitatively the amount of this reduction is slightly underestimated. This discrepancy is due to the linearising assumption of the theory whereby the boundary conditions are satisfied on the chordline instead of on the wing surface. Fig.13 of Ref.3 shows that, for low aspect ratio ellipsoids with t/c = 0.10, the ratio of the exact theoretical velocity increment (and hence C_p) at the midpoint of the centre section to the linearised theory value is the same as the ratio of experimental to calculated peak suctions for wings AP/4 and AP/5.

3.2 Balance measurements

To obtain a theoretical comparison for the total lift and pitching moment results on the AF series of wings, it is necessary to calculate the spanwise load distribution and then integrate over the span. If the total lift and spanwise load distribution are calculated for a given incidence, the "effective incidence"

$\alpha_e = \alpha - \alpha_i$ is known everywhere and thus the chordwise pressure distribution at the centre section can be calculated. Therefore, to be able to calculate accurately the pressure distribution ab initio, it is necessary to have an accurate method for estimating the spanwise load distribution. In practice the calculation of the chordwise pressure distribution may be related to the local normal force or lift coefficient rather than to α_e (i.e. α_e has to be chosen to give the required C_N or C_L on integrating the pressures) and this means that it is the shape of the spanwise load distribution rather than the actual calculated values of C_L/α which is important.

As the aspect ratio is reduced, non-linear effects become more prominent in the aerodynamic characteristics. This is due to the effect of the tip vortex sheet which induces lift near the tips, mainly towards the rear of the wing. On small aspect ratio wings this non-linear lift becomes apparent at low incidences. Therefore in these cases loading calculations by linear theories such as that of Küchemann[1] or Multhopp[8] are directly applicable only for predicting the lift slope near zero incidence. The non-linear effects can be estimated by using the tip end plate methods of Mangler and Rotta[9] and Küchemann and Kettle[10], and this is done in the present analysis.

As no experimental spanwise load distributions are available for the present wings, comparisons with linear theory can only be done through the total lift slope $\bar{C}_L/\alpha$, pitching moment $\bar{C}_m$ and drag $\bar{C}_D$. For further consideration, Fig.4(a) shows some unpublished electrolytic tank results by Redshaw and Temple for the spanwise C_L distribution on a thin rectangular wing of aspect ratio 6. Although a large number of pivotal points is represented in this method, its accuracy is not necessarily assured because the singularities around the edges cannot be properly allowed for. These results are compared with a calculation by the Küchemann method[1] which appears to overestimate C_L/α, particularly near the tip. A modification to the Küchemann method has been introduced here to take account of the known fact that towards the tip of a rectangular wing the chordwise loading changes shape slightly, the load being concentrated rather nearer the leading edge (excluding non-linear tip vortex effects). The details of this modification are given in Appendix A, and the plotted curve in Fig.4(a) shows better agreement with the tank results. In Fig.4(b) the shape of the spanwise loading curve from the tank tests is compared with a calculation by the Multhopp method[8] and the agreement is good when 4 chordwise points are taken. On this evidence the modified Küchemann method is tentatively accepted as sufficiently accurate for moderate aspect ratios, but this opinion may be modified in the light of the present tests. The Küchemann method has the advantage over the Multhopp

method that corrections to take account of wing thickness and boundary layer can be incorporated without difficulty. Figs.5(a) and 5(b) show calculated spanwise load distributions for the two extreme aspect ratios, 4.0 and 0.5, of the present series, using the modified and original Küchemann methods and the Multhopp method with 4 chordwise points. The wing is assumed to be thin.

Table 18 compares the experimental lift curve slopes at zero lift of two of the AF series of wings with calculations by the original and modified Kuchemann methods, with and without a correction to take account the loss of lift due to the boundary layer. The latter took the form of a factor k = 0.92 applied to the sectional lift slopes $a = \partial C_L/\partial \alpha_e$, the numerical value 0.92 having been previously found to be appropriate both to a 45° sweptback wing with 12% RAE 101 section[11] and a two-dimensional wing with 10% RAE 101 section[6] (wing AF/0). The wing thickness is allowed for in all cases by a factor (1 + 0.8 × t/c) applied to the sectional lift slopes. It is, of course, not known whether it is permissible to allow for the boundary layer on a wing of finite span in the same way as on a two-dimensional aerofoil section. Nevertheless, one would expect the values obtained with k = 0.92 to be more realistic than those with k = 1.0.

The lift curves for these wings, AF/1 and AF/5, are plotted in Figs.6 and 7 and estimates of the non-linear lift increment from the tip vortex effect are also shown. The main difficulty in this estimation is to calculate the height of the vortex sheet, h, in terms of the span b, and three approximations are given for this in Ref.1. These are quoted in Appendix B. The simplest approximation gives the best agreement with the present tests, which is gratifying in that the other two approximations require some knowledge of the shape of the lift curve and are therefore not suitable for an ab initio calculation.

The non-linear lift acts towards the rear of the section and therefore causes a nose-down pitching moment. Figs.8 and 9 show the pitching moment results for wings AF/1 and AF/5 along with the calculations by linear theory. The pitching moment due to the non-linear lift is estimated assuming this lift to act at 75% chord as suggested in Ref.1. The linear estimate is simply based on the parameter n (see Ref.1) at the centre section of the wing and takes no account of boundary layer and thickness effects. These tend to counteract each other and this simple thin wing estimate is in quite good agreement with the linear part of the $\bar{C}_m$ v $\bar{C}_L$ curve for both wings. The choice of approximation 1 (see Appendix B) in calculating the non-linear lift implies that the latter starts as soon as the incidence is non-zero and this is clearly wrong. However this approximation plus the assumption that the non-linear lift acts at 75% chord

gives a reasonable picture of the general behaviour of the pitching moment, although this aspect of the problem requires far more work.

From the spanwise loading, the induced drag or vortex drag, $\bar{C}_{Di}$, can be calculated. At any spanwise position the local vortex drag $C_{Di} = C_L \times \alpha_{io}$ where α_{io} is half the downwash induced far downstream by the trailing vortex system. α_{io} is related to the downwash angle α_i at the wing by the factor $\omega = \frac{\alpha_i}{\alpha_{io}}$. If the effect of the viscous boundary layer is omitted from the calculation ($k = 1.0$),

$$\alpha_e = \alpha - \alpha_i .$$

If the boundary layer is assumed to reduce the incidence by an amount α_B, thereby causing a loss of lift,

$$\alpha_e = \alpha' - \alpha_i - \alpha_B ,$$

α' being different from α above. For the same C_L in the two cases α_e is the same and the shape of the spanwise loading does not depend much on k so that α_i is the same. Therefore $\alpha = \alpha' - \alpha_B$ i.e.

$$\frac{\alpha_B}{\alpha'} = 1 - \frac{\alpha}{\alpha'} ;$$

$\frac{\alpha}{\alpha'}$ is the ratio of the local lift slopes; with (in this case) $k = 0.92$ and $k = 1.0$, α_B can be found. The boundary layer drag $C_{DB} = C_L \times \alpha_B$, analogous to the vortex drag can then be added to C_{Di}. By integration over the span the total lift-dependent drag can be calculated.

The comparisons between calculation and experiment for wings AF/1 and AF/5 are shown in Figs.10 and 11. For wing AF/1 the values of $\bar{C}_D - \bar{C}_{DO} = \bar{C}_{Di} + \bar{C}_{DB}$ given by the two calculation methods (original and modified) are very similar, though in fact the spanwise distribution of C_{Di} is very different in the two calculations. The agreement with experiment is not very good for wing AF/1, the actual drag being higher than the estimated drag. For wing AF/5 the two calculation methods give the same answer, the spanwise distribution of C_{Di} being similar in both. The agreement with experiment is good. All that this indicates, however, is that with small aspect ratio wings the near-elliptic spanwise loading is not sensitive to quite large changes in the calculation method.

In Figs.12 and 13 the total tangential force $\bar{C}_T$ is plotted against $\bar{C}_N^2$, the square of the total normal force, for the same two wings AF/1 and AF/5. The experimental $\bar{C}_T$ v $\bar{C}_N^2$ curve does not pass through the origin because of the

effect of viscosity on the zero lift pressure distribution. Thus only the experimental and calculated slopes near zero lift are comparable. As shown in Ref.1 $C_T/C_N^2 = -\frac{1}{a}$ where these are local values at any spanwise position, and so the ratio $\bar{C}_T/\bar{C}_N^2$ should define an average value of a for the whole wing. In the original Küchemann loading method a is constant over the wing and the C_T v C_N^2 line corresponding to this theoretical value is drawn in Figs.12 and 13. In the modified method, a varies over the span and $\frac{1}{a}$ lies in the range indicated by the shaded area.

The comparisons of Figs.10-13 show that the main trend in the initial slopes is correctly represented; they favour the original version of the calculation method rather than the modified version, so that despite the evidence of Table 18 and Fig.4 their relative merits are by no means established. Further analysis would seem desirable, especially of the non-linear effects.

3.3 Pressure measurements with lift

This section deals only with local force and moment coefficients obtained by integrating the pressure distributions at the centre sections of wings of the AP series. No analysis has so far been undertaken of the detailed pressure distributions except at zero lift as described in Section 3.1. Figs.14-21 for wings AP/1 and AP/5 correspond to Figs.6-13 for the AF series. The two lift slopes in Figs.14 and 15 differ less than the total lift slopes in Figs.6 and 7, since the two spanwise loading curves are most nearly the same at the centre section. Agreement with experiment over the linear range is good. Although it has not been done in the analysis so far, it is possible to estimate the spanwise distribution of non-linear lift as described in Ref.1.

The local pitching moments are plotted in Figs.16 and 17. The experimental scatter for wing AP/1 is considerable and points have been plotted for both attitudes. The calculated curve is in fair agreement with the mean experimental points. For AP/5, however, agreement between experiment and calculation is less good. As far as the centre section pitching moment is concerned there is no difference between the original and modified calculation methods.

The local drag due to lift and boundary layer in Figs.18 and 19 shows greater differences between the two calculation methods than the total coefficient shown in Figs.10 and 11. In both cases the original method gives better agreement with experiment. In contrast with the total force measurements, however, the agreement is better for the higher aspect ratio than for the lower one.

Finally in this section, the local values of C_T and C_N^2 are plotted against each other in Figs.20 and 21, and the theoretical estimates of the slope

(the same by both methods) are in fair agreement with the linear part of the experimental curve.

4 RESULTS AND DISCUSSION: WINGS WITH CAMBERED SECTIONS

The pressure measurements at the centre section of the wings of the BP series are tabulated in Tables 19 to 24, and the local force and moment coefficients in Tables 25 to 30. The lift, drag and pitching moment coefficients from the measurements on the balance models of the BF and CF series are given in Tables 31 to 40, and the transition observations in Tables 41 and 42.

No analysis has been done of the pressure plotting results for the BP series other than finding the local zero lift angle at the centre line, and this section contains only a very brief discussion of the balance measurements of the two cambered series. In Figs.22 and 23 the total lift coefficient $\bar{C}_L$ is plotted over a small range of incidence for all 10 wings in order to determine the zero lift angle. Experimental scatter makes this derivation rather uncertain. Assuming that the value of the parameter n at the centre section of a wing of given aspect ratio does not depend on the camber, and that this value represents the behaviour of the whole wing, the zero-lift angle of each wing can be estimated from the charts of Ref.5*. This estimate must be regarded as highly tentative, as there is no self-evident connection between the two problems considered. Table 43 gives the calculated and experimental values of the zero lift angle, α_o, for the wings of the BF and CF series. The agreement is good for the higher aspect ratios, but whereas the theory predicts a steady increase in the magnitude of α_o as the aspect ratio decreases the experiments show the opposite tendency.

Similarly in Fig.24 the local normal force coefficients at the centre sections of the BP series are plotted against α and the experimental and calculated zero lift angles are shown in Table 44.

There is a more rigorous treatment of thin cambered wings of small aspect ratio by Weber[4]. This has as yet not been applied to the present shapes of camber line. The variation with aspect ratio of the zero lift angles is less than would be expected from the results quoted by Weber[4] for other camber lines.

Finally, in Figs.25-28 the total pitching moment coefficients are shown for the extreme aspect ratios of the BF and CF series. The calculated variation of $\bar{C}_m$ with $\bar{C}_L$ is also plotted, again on the assumption that n has the same value

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*In these charts the parameter $\lambda\varphi$ is related to n by the equation

$$n = \frac{1}{2}\left(1 - \frac{\lambda\varphi}{\pi/2}\right)$$

as on an uncambered wing. In all cases $\bar{C}_{mo}$ is overestimated, but the slopes $\partial\bar{C}_m/\partial\bar{C}_L$ are in good agreement over the linear range.

5 FURTHER WORK

Considerable analysis of the pressure distributions is possible, particularly as regards the verification for small aspect ratios of approximations which are justifiable in calculations of high aspect ratio wings, and the methods of combining incidence thickness and camber terms in the formulae. Non-linear effects also require further consideration.

The modification to the Küchemann method for calculating the spanwise load distribution, which appears justified by comparison with electrolytic tank results, is by no means justified by the results of the present series of tests and further evidence on this point is needed.

Appendix A

MODIFICATION TO KÜCHEMANN LOADING METHOD

In the original Küchemann method for calculating spanwise load distribution the aspect ratio is reflected in a parameter n which governs the shape of the chordwise load distribution, and n is assumed to be constant over the whole span for an unswept wing. It is defined by

$$n = 1 - \frac{1}{2\left[1 + \left(\frac{a_o}{\pi A}\right)^2\right]^{1/4}},$$

where a_o is the two-dimensional lift slope of the section and A is the aspect ratio.

In the modified method, n at any spanwise position is obtained as the mean value of two parameters n' and n" which are based on the proximity of the section to the two tips. For example, on a rectangular wing of aspect ratio 4 the section half-way out along the span is assumed to behave in relation to the nearer tip as though it were the centre section of a wing of aspect ratio 2: and in relation to the further tip as though it were the centre section of a wing of aspect ratio 6. These two aspect ratios define n' and n" and the resultant $n = \frac{n' + n''}{2}$.

This modification causes n to increase towards the tips which is in qualitative agreement with observed effects in the absence of a marked tip vortex sheet. The sectional lift slope will also vary over the span of a rectangular wing. The value of n at the centre section remains as in the original method.

Appendix B

APPROXIMATIONS FOR THE HEIGHT OF A TIP VORTEX SHEET

Approximation 1:- $\frac{h}{b} = \frac{\alpha}{2} \frac{c_T}{\bar{c}} \frac{1}{A}$

Approximation 2:- $\frac{h}{b} = \frac{\alpha - \alpha_s}{2} \frac{c_T}{\bar{c}} \frac{1}{A}$

Approximation 3:- $\frac{h}{b} = \alpha \frac{\alpha - \alpha_s}{\alpha_m - \alpha_s} \frac{c_T}{\bar{c}} \frac{1}{A}$

where h = height of vortex sheet

b = span

c_T = tip chord

$\bar{c}$ = mean chord

α = incidence

α_s = incidence at which separation starts from the tip

α_m = incidence at which separation starts from the leading edge.

$\frac{h}{b}$ is related to a factor k (see Ref.9) which then enables the non-linear lift to be determined from equation (39) of Ref.1.

Table 1

SUMMARY OF WINGS TESTED

Aspect ratio	Balance models			Pressure models	
	Symmetrical section	m = 0.5 mean line, 2% camber	m = 0.8 mean line, 1% camber	Symmetrical section	m = 0.5 mean line, 2% camber
∞	-	-	-	AP/0 (Ref.6)	BP/0
4.0	AF/1	BF/1*	CF/1	AP/1$^{\phi}$	BP/1
2.5	AF/2	BF/2^{+}	CF/2	AP/2$^{\phi}$	BP/2‡
1.4	AF/3	BF/3	CF/3	AP/3	BP/3
1.0	AF/4	BF/4	CF/4	AP/4	BP/4
0.5	AF/5	BF/5	CF/5	AP/5	BP/5

* Tested only at R = 1.6×10^6, normal attitude.

\+ Tested only in normal attitude.

‡ No test at R = 3.2×10^6, inverted attitude.

ϕ Tested only at R = 1.6×10^6.

Table 2

Wing AP/1, normal attitude C_p V = 125 ft/sec, R = 1.6×10^6

X/C \ α	-4.35°	-2.2°	-1.1°	0°	1.1°	2.2°	4.35°	6.5°	8.7°	10.9°	13.0°	13.25°	15.0°	15.9°
Upper Surface														
0	0.341	0.847	0.974	1.003	0.961	0.855	0.350	-0.450	-1.704	-3.145	-4.869	-5.024	-0.329	-0.192
0.005	0.926	0.703	0.495	0.254	-0.045	-0.329	-1.096	-1.947	-3.195	-4.932	-6.814	-6.945	-0.693	-0.538
0.015	0.657	0.385	0.186	-0.021	-0.264	-0.472	-0.998	-1.584	-2.094	-2.873	-3.617	-3.708	-0.693	-0.538
0.030	0.429	0.176	0.009	-0.166	-0.368	-0.514	-0.920	-1.355	-1.776	-2.291	-2.796	-2.837	-0.688	-0.519
0.050	0.274	0.052	-0.085	-0.223	-0.352	-0.502	-0.816	-1.073	-1.454	-1.806	-2.148	-2.176	-0.663	-0.499
0.075	0.165	-0.032	-0.147	-0.255	-0.364	-0.485	-0.727	-0.925	-1.237	-1.502	-1.764	-1.787	-0.665	-0.502
0.100	0.102	-0.065	-0.171	-0.266	-0.360	-0.463	-0.670	-0.800	-1.048	-1.501	-1.484	-1.503	-0.672	-0.503
0.200	-0.037	-0.156	-0.226	-0.296	-	-0.420	-0.540	-0.662	-0.805	-0.929	-1.049	-1.055	-0.706	-0.519
0.300	-0.105	-0.200	-0.253	-0.300	-0.348	-0.397	-0.480	-0.567	-0.665	-0.739	-0.811	-0.815	-0.699	-0.539
0.400	-0.081	-0.154	-0.197	-0.230	-0.266	-0.306	-0.342	-0.408	-0.478	-0.507	-0.581	-0.578	-0.680	-0.541
0.500	-0.057	-0.111	-0.147	-0.178	-0.206	-0.200	-0.252	-0.295	-0.352	-0.390	-0.419	-0.415	-0.653	-0.554
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.024	0.030	0.009	-0.009	-0.022	-0.032	-0.054	-0.066	-0.087	-0.103	-0.100	-0.109	-0.535	-0.554
0.850	0.076	0.054	0.040	0.035	0.023	0.016	0.006	-0.007	-0.016	-0.020	-0.034	-0.030	-0.483	-0.522
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower Surface														
0.005	-1.152	-0.389	-0.021	0.275	0.494	0.684	0.931	1.000	0.931	0.707	0.371	0.324	0.958	0.978
0.015	-1.040	-0.516	-0.233	-0.009	0.183	0.362	0.658	0.877	0.969	0.993	0.957	0.950	0.965	0.970
0.030	-0.966	-0.573	-0.367	-0.178	-0.020	0.135	0.410	0.613	0.797	0.908	0.977	0.981	0.836	0.832
0.050	-0.837	-0.537	-0.372	-0.227	-0.097	0.023	0.260	0.447	0.630	0.758	0.862	0.870	0.696	0.697
0.075	-0.748	-0.516	-0.391	-0.262	-0.161	-0.076	0.147	0.313	0.483	0.614	0.725	0.735	0.569	0.567
0.100	-0.697	-0.499	-0.393	-0.283	-0.196	-0.104	0.071	0.227	0.381	0.511	0.620	0.632	0.479	0.477
0.200	-0.548	-0.439	-0.367	-0.299	-0.235	-0.176	-0.054	0.058	0.178	0.277	0.371	0.387	0.255	0.252
0.300	-0.473	-0.403	-0.350	-0.300	-0.256	-0.209	-0.114	-0.033	0.061	0.139	0.226	0.239	0.122	0.110
0.400	-0.350	-0.316	-0.272	-0.232	-0.199	-0.166	-0.092	-0.033	0.047	0.117	0.175	0.183	0.068	0.055
0.500	-0.271	-0.221	-0.225	-0.203	-0.173	-0.152	-0.101	-0.054	0.001	0.054	0.099	0.106	-0.034	-0.084
0.650	-0.107	-0.080	-0.064	-0.043	-0.020	-0.025	0.009	0.039	0.083	0.120	0.150	0.152	0.013	-0.014
0.750	-0.030	-0.019	-0.006	0.013	0.028	0.040	0.052	0.063	0.112	0.129	0.150	0.149	-0.008	-0.044
0.850	-0.009	0.001	0.004	0.013	0.026	0.030	0.052	0.053	0.076	0.093	0.106	0.109	-0.094	-0.146
0.950	0.056	0.054	0.057	0.061	0.064	0.064	0.069	0.077	0.080	0.084	0.078	0.079	-0.205	-0.274

Table 2 (contd)

Wing AP/1, inverted attitude C_p V = 125 ft/sec, R = 1.6 x 10^6

α / X/C	4.7°	2.5°	1.45°	0.35°	-0.75°	-1.85°	-4.0°	-6.2°	-8.4°	-10.55°	-11.65°	-12.75°	-13.4°	-14.5°	-14.85°
Upper Surface															
0	0.331	0.830	0.964	0.995	0.962	0.851	0.190	-0.550	-1.845	-3.576	-4.696	-5.476	-6.261	-0.483	-0.249
0.005	-1.127	-0.383	-0.035	0.253	0.485	0.675	0.925	0.995	0.942	0.749	0.552	0.416	0.284	0.968	0.978
0.015	-1.040	-0.508	-0.246	-0.023	0.176	0.361	0.653	0.854	0.969	1.001	0.977	0.957	0.939	0.970	0.956
0.030	-0.954	-0.556	-0.323	-0.170	-0.006	0.145	0.420	0.627	0.799	0.909	0.953	0.969	0.993	0.839	0.822
0.050	-0.843	-0.540	-0.381	-0.229	-0.099	0.023	0.253	0.369	0.623	0.761	0.822	0.863	0.893	0.699	0.679
0.075	-0.759	-0.517	-0.390	-0.268	-0.162	-0.055	0.148	0.320	0.481	0.617	0.690	0.733	0.762	0.574	0.559
0.100	-0.688	-0.501	-0.390	-0.287	-0.191	-0.100	0.084	0.236	0.382	0.517	0.585	0.631	0.660	0.484	0.473
0.200	-0.576	-0.457	-0.384	-0.314	-0.247	-0.194	-0.061	0.050	0.167	0.278	0.337	0.377	0.405	0.261	0.247
0.300	-0.514	-0.431	-0.379	-0.321	-0.277	-0.230	-0.131	-0.051	0.048	0.141	0.191	0.233	0.256	0.116	0.101
0.400	-0.375	-0.339	-0.294	-0.255	-0.221	-0.194	-0.108	-0.048	0.033	0.103	0.146	0.178	0.195	0.064	0.050
0.500	-0.289	-0.234	-0.237	-0.201	-0.172	-0.150	-0.085	-0.036	0.024	0.079	0.121	0.142	0.158	0.031	0.007
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	-0.085	-0.066	-0.049	-0.038	-0.022	-0.009	0	0.019	0.059	0.087	0.096	0.121	0.127	-0.036	-0.077
0.850	-0.027	-0.016	-0.006	0.001	0.008	0.017	0.047	0.031	0.059	0.081	0.095	0.106	0.107	-0.087	-0.142
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower Surface															
0.005	0.935	0.699	0.503	0.258	-0.021	-0.363	-1.133	-2.096	-3.124	-4.580	-5.741	-6.570	-7.395	-0.771	-0.504
0.015	0.656	0.381	0.193	-0.020	-0.236	-0.498	-1.035	-1.676	-2.750	-2.890	-3.458	-3.778	-4.112	-0.713	-0.508
0.030	0.408	0.148	-0.016	-0.186	-0.360	-0.563	-0.963	-1.442	-1.834	-2.415	-2.679	-2.885	-3.100	-0.693	-0.501
0.050	0.258	0.040	-0.095	-0.232	-0.375	-0.532	-0.829	-1.140	-1.510	-1.870	-2.088	-2.223	-2.344	-0.678	-0.480
0.075	0.145	-0.047	-0.157	-0.268	-0.382	-0.512	-0.745	-0.981	-1.267	-1.540	-1.701	-1.794	-1.886	-0.664	-0.480
0.100	0.071	-0.094	-0.194	-0.292	-0.390	-0.498	-0.693	-0.905	-1.126	-1.351	-1.474	-1.554	-1.630	-0.664	-0.482
0.200	-0.049	-0.167	-0.229	-0.294	-0.359	-0.435	-0.523	-0.670	-0.801	-0.928	-1.080	-1.016	-1.083	-0.682	-0.498
0.300	-0.116	-0.208	-0.251	-0.299	-0.353	-0.403	-0.476	-0.581	-0.672	-0.751	-0.871	-0.808	-0.840	-0.689	-0.504
0.400	-0.095	-0.162	-0.198	-0.237	-0.267	-0.315	-0.349	-0.429	-0.487	-0.548	-0.572	-0.587	-0.583	-0.687	-0.504
0.500	-0.099	-0.147	-0.174	-0.205	-0.231	-0.225	-0.274	-0.319	-0.351	-0.373	-0.382	-0.386	-0.390	-0.635	-0.504
0.650	0.002	-0.030	-0.023	-0.045	-0.066	-0.089	-0.114	-0.150	-0.178	-0.200	-0.209	-0.211	-0.221	-0.588	-0.508
0.750	0.043	0.035	0.021	0.001	-0.008	-0.026	-0.038	-0.072	-0.090	-0.104	-0.107	-0.110	-0.119	-0.529	-0.511
0.850	0.038	0.021	0.008	-0.001	-0.006	-0.019	-0.024	-0.045	-0.052	-0.059	-0.055	-0.054	-0.059	-0.473	-0.505
0.950	0.047	0.045	0.040	0.038	0.032	0.032	0.035	0.024	0.021	0.022	0.024	0.021	0.015	-0.397	-0.459

Table 2 (Contd)

Wing AP/1, normal attitude ΔC_p V = 125 ft/sec, R = 1.6 x 10^6

X/C \ α	-4.35°	-2.2°	-1.1°	0°	1.1°	2.2°	4.35°	6.5°	8.7°	10.9°	13.0°	13.25°	15.0°	15.9°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	2.078	1.092	0.516	-0.021	-0.539	-1.013	-2.027	-2.947	-4.126	-5.639	-7.185	-7.269	-1.651	-1.516
0.015	1.697	0.901	0.419	-0.012	-0.447	-0.834	-1.656	-2.461	-3.063	-3.866	-4.574	-4.658	-1.658	-1.508
0.030	1.395	0.689	0.376	0.012	-0.348	-0.649	-1.330	-1.968	-2.573	-3.199	-3.773	-3.818	-1.524	-1.351
0.050	1.111	0.589	0.287	0.004	-0.255	-0.525	-1.076	-1.520	-2.084	-2.564	-3.010	-3.046	-1.359	-1.196
0.075	0.913	0.484	0.244	0.007	-0.203	-0.409	-0.846	-1.238	-1.720	-2.116	-2.489	-2.522	-1.234	-1.069
0.100	0.799	0.434	0.222	0.017	-0.164	-0.359	-0.741	-1.027	-1.429	-2.012	-2.104	-2.135	-1.151	-0.980
0.200	0.511	0.283	0.141	0.003	-	-0.244	-0.486	-0.720	-0.983	-1.206	-1.420	-1.442	-0.961	-0.771
0.300	0.368	0.203	0.097	0	-0.092	-0.188	-0.366	-0.534	-0.726	-0.878	-1.037	-1.054	-0.821	-0.649
0.400	0.269	0.162	0.075	0.002	-0.067	-0.140	-0.250	-0.375	-0.525	-0.618	-0.756	-0.761	-0.748	-0.596
0.500	0.214	0.110	0.078	0.025	-0.033	-0.048	-0.151	-0.241	-0.353	-0.444	-0.518	-0.521	-0.619	-0.470
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.054	0.049	0.015	-0.022	-0.050	-0.072	-0.106	-0.129	-0.199	-0.232	-0.250	-0.258	-0.527	-0.510
0.850	0.085	0.053	0.036	0.022	-0.003	-0.014	-0.046	-0.060	-0.092	-0.113	-0.140	-0.139	-0.389	-0.376
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wing AP/1, inverted attitude ΔC_p V = 125 ft/sec, R = 1.6 x 10^6

X/C \ α	4.7°	2.5°	1.45°	0.35°	-0.75°	-1.85°	-4.0°	-6.2°	-8.4°	-10.55°	-11.65°	-12.75°	-13.4°	-14.5°	-14.85°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	2.062	1.082	0.538	0.005	-0.506	-1.038	-2.058	-3.091	-4.066	-5.329	-6.293	-6.986	-7.679	-1.168	-1.482
0.015	1.696	0.889	0.439	0.003	-0.412	-0.859	-1.688	-2.530	-3.719	-3.891	-4.435	-4.735	-5.105	-1.681	-1.464
0.030	1.362	0.704	0.307	-0.016	-0.354	-0.708	-1.383	-2.069	-2.633	-3.324	-3.632	-3.854	-4.093	-1.663	-1.323
0.050	1.101	0.580	0.286	-0.003	-0.276	-0.555	-1.082	-1.509	-2.133	-2.631	-2.910	-3.086	-3.237	-1.322	-1.159
0.075	0.904	0.470	0.233	0	-0.220	-0.457	-0.893	-1.301	-1.748	-2.157	-2.391	-2.527	-2.648	-1.377	-1.039
0.100	0.759	0.407	0.196	-0.005	-0.199	-0.398	-0.777	-1.141	-1.508	-1.868	-2.059	-2.185	-2.290	-1.238	-0.955
0.200	0.527	0.290	0.155	0.020	-0.112	-0.241	-0.462	-0.720	-0.968	-1.206	-1.417	-1.393	-1.488	-1.148	-0.746
0.300	0.398	0.223	0.128	0.022	-0.076	-0.173	-0.345	-0.530	-0.720	-0.892	-1.062	-1.041	-1.096	-0.943	-0.605
0.400	0.280	0.177	0.096	0.018	-0.046	-0.121	-0.241	-0.381	-0.520	-0.651	-0.718	-0.765	-0.778	-0.805	-0.554
0.500	0.190	0.087	0.063	-0.004	-0.059	-0.075	-0.189	-0.283	-0.375	-0.452	-0.503	-0.528	-0.548	-0.751	-0.511
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.128	0.101	0.070	0.039	0.014	-0.017	-0.038	-0.091	-0.149	-0.191	-0.203	-0.231	-0.246	-0.619	-0.434
0.850	0.065	0.037	0.014	-0.002	-0.014	-0.036	-0.071	-0.076	-0.111	-0.140	-0.150	-0.160	-0.166	-0.493	-0.363
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3

Wing AP/2, normal attitude C_p V = 125 ft/sec, R = 1.6 x 10^6

α / X/C	-4.1°	-2.05°	0.05°	2.15°	4.0°	6.05°	8.15°	10.25°	12.35°	14.4°	15.1°	16.5°	17.65°
						Upper Surface							
0	0.561	0.904	1.000	0.897	0.593	0.042	-0.801	-1.729	-3.041	-4.320	-4.836	-0.275	-0.216
0.005	0.863	0.614	0.271	-0.225	-0.765	-1.427	-2.285	-3.236	-4.789	-6.222	-6.736	-0.592	-0.492
0.015	0.573	0.302	0	-0.391	-0.777	-1.226	-1.808	-2.069	-2.726	-3.280	-3.765	-0.584	-0.484
0.030	0.341	0.099	-0.142	-0.461	-0.745	-1.080	-1.522	-1.753	-2.170	-2.542	-2.691	-0.580	-0.475
0.050	0.193	-0.009	-0.209	-0.458	-0.678	-0.921	-1.154	-1.424	-1.743	-2.020	-2.113	-0.575	-0.472
0.075	0.091	-0.082	-0.242	-0.451	-0.621	-0.809	-1.009	-1.203	-1.447	-1.653	-1.722	-0.589	-0.480
0.100	0.037	-0.115	-0.249	-0.434	-0.572	-0.676	-0.860	-1.017	-1.214	-1.388	-1.444	-0.594	-0.487
0.200	-0.090	-0.192	-0.279	-0.399	-0.482	-0.569	-0.685	-0.766	-0.876	-0.960	-0.987	-0.641	-0.511
0.300	-0.152	-0.228	-0.287	-0.378	-0.439	-0.494	-0.572	-0.618	-0.684	-0.730	-0.742	-0.665	-0.559
0.400	-0.121	-0.180	-0.223	-0.292	-0.290	-0.342	-0.401	-0.437	-0.477	-0.507	-0.510	-0.675	-0.585
0.500	-0.092	-0.132	-0.166	-0.205	-0.217	-0.246	-0.289	-0.311	-0.337	-0.352	-0.354	-0.661	-0.599
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.020	0.013	-0.003	-0.029	-0.036	-0.046	-0.058	-0.063	-0.069	-0.079	-0.077	-0.499	-0.532
0.850	0.061	0.046	0.040	0.016	0.020	0.012	0	0.008	0.002	0.005	-0.010	-0.414	-0.464
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-
						Lower Surface							
0.005	-0.847	-0.213	0.262	0.627	0.858	0.969	0.995	0.916	0.709	0.427	0.309	0.963	0.974
0.015	-0.837	-0.383	-0.027	0.308	0.554	0.742	0.904	0.974	1.005	0.971	0.953	0.974	0.986
0.030	-0.811	-0.477	-0.180	0.082	0.309	0.500	0.682	0.797	0.915	0.969	0.985	0.844	0.857
0.050	-0.716	-0.460	-0.226	-0.020	0.170	0.344	0.510	0.630	0.761	0.850	0.891	0.709	0.723
0.075	-0.651	-0.453	-0.259	-0.094	0.068	0.215	0.367	0.483	0.614	0.710	0.740	0.578	0.601
0.100	-0.618	-0.451	-0.280	-0.140	0	0.137	0.270	0.388	0.506	0.604	0.631	0.484	0.501
0.200	-0.498	-0.393	-0.288	-0.198	-0.098	-0.004	0.088	0.180	0.276	0.356	0.387	0.278	0.288
0.300	-0.440	-0.371	-0.295	-0.234	-0.161	-0.091	-0.015	0.054	0.140	0.207	0.231	0.136	0.142
0.400	-0.314	-0.287	-0.228	-0.188	-0.127	-0.073	-0.022	0.035	0.103	0.157	0.176	0.084	0.090
0.500	-	-	-	-	-	-	-	-	-	-	-	-	-
0.650	-0.090	-0.069	-0.036	-0.034	-0.019	0.011	0.041	0.073	0.108	0.135	0.141	0.042	0.029
0.750	-0.014	-0.006	0.019	0.030	0.058	0.047	0.066	0.083	0.125	0.138	0.146	0.029	0.009
0.850	0	0.015	0.026	0.030	0.051	0.068	0.059	0.078	0.098	0.106	0.107	-0.044	-0.074
0.950	0.068	0.068	0.074	0.066	0.080	0.083	0.088	0.087	0.094	0.086	0.079	-0.149	-0.194

Table 3 (Contd)

Wing AP/2, inverted attitude

C_p

V = 125 ft/sec, R = 1.6 x 10^6

X/C \ α	4.55°	2.45°	0.35°	-1.7°	-3.8°	-5.9°	-8.0°	-10.05°	-12.15°	-14.2°	-15.25°	-16.1°	-17.45°
Upper Surface													
0	0.577	0.907	1.027	0.905	0.577	0.045	-0.891	-2.032	-3.515	-5.068	-5.960	-0.406	-0.256
0.005	-0.805	-0.213	0.273	0.613	0.868	0.988	1.000	0.919	0.746	0.475	0.306	0.960	0.972
0.015	-0.821	-0.401	-0.014	0.284	0.558	0.760	0.904	0.978	1.000	0.978	0.946	0.972	0.975
0.030	-0.761	-0.449	-0.140	0.104	0.345	0.517	0.700	0.824	0.915	0.978	0.993	0.895	0.855
0.050	-0.690	-0.452	-0.205	-0.013	0.192	0.362	0.521	0.649	0.763	0.857	0.889	0.702	0.712
0.075	-0.630	-0.452	-0.250	-0.085	0.087	0.241	0.378	0.504	0.618	0.718	0.760	0.582	0.591
0.100	-0.579	-0.435	-0.255	-0.117	0.030	0.160	0.293	0.413	0.519	0.621	0.663	0.494	0.509
0.200	-0.489	-0.406	-0.291	-0.205	-0.100	0.009	0.091	0.184	0.272	0.355	0.396	0.271	0.278
0.300	-0.457	-0.387	-0.305	-0.246	-0.169	-0.090	-0.025	0.050	0.124	0.198	0.229	0.124	0.129
0.400	-0.422	-0.303	-0.240	-0.203	-0.145	-0.097	-0.036	0.021	0.103	0.138	0.162	0.060	0.061
0.500	-0.243	-0.225	-0.181	-0.147	-0.105	-0.065	-0.024	0.025	0.113	0.119	0.137	0.040	0.031
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	-0.035	-0.040	-0.011	0.004	0	0.014	0.041	0.064	0.098	0.112	0.120	-0.005	-0.033
0.850	0.017	0.010	0.029	0.032	0.048	0.035	0.046	0.068	0.098	0.097	0.101	-0.052	-0.089
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower Surface													
0.005	0.885	0.625	0.273	-0.222	-0.827	-1.575	-2.374	-3.228	-4.442	-6.174	-7.024	-0.639	-0.438
0.015	0.585	0.304	-0.003	-0.388	-0.822	-1.321	-1.874	-2.637	-2.843	-3.572	-3.920	-0.594	-0.436
0.030	0.337	0.084	-0.169	-0.472	-0.798	-1.171	-1.596	-1.869	-2.302	-2.712	-2.916	-0.581	-0.434
0.050	0.205	-0.016	-0.212	-0.455	-0.705	-0.984	-1.191	-1.513	-1.803	-2.107	-2.239	-0.570	-0.427
0.075	0.096	-0.088	-0.250	-0.448	-0.638	-0.856	-1.034	-1.259	-1.471	-1.691	-1.791	-0.573	-0.431
0.100	0.032	-0.131	-0.274	-0.446	-0.604	-0.756	-0.935	-1.108	-1.276	-1.454	-1.534	-0.592	-0.436
0.200	-0.075	-0.188	-0.274	-0.386	-0.485	-0.557	-0.658	-0.766	-0.856	-0.947	-0.991	-0.611	-0.471
0.300	-0.128	-0.220	-0.276	-0.365	-0.425	-0.497	-0.557	-0.619	-0.678	-0.731	-0.754	-0.668	-0.504
0.400	-0.100	-0.174	-0.214	-0.279	-0.298	-0.363	-0.404	-0.443	-0.483	-0.517	-0.526	-0.664	-0.532
0.500	-0.061	-0.119	-0.152	-0.171	-0.210	-0.247	-0.278	-0.311	-0.337	-0.354	-0.359	-0.629	-0.550
0.650	0.007	-0.021	-0.028	-0.064	-0.081	-0.107	-0.124	-0.145	-0.154	-0.164	-0.168	-0.559	-0.553
0.750	0.076	0.041	0.029	0.005	-0.009	-0.030	-0.043	-0.054	-0.063	-0.070	-0.078	-0.492	-0.529
0.850	0.064	0.027	0.029	0.007	0	-0.008	-0.012	-0.027	-0.027	-0.026	-0.033	-0.424	-0.497
0.950	0.089	0.070	0.069	0.059	0.060	0.059	0.055	0.047	0.045	0.046	0.030	-0.316	-0.395

Table 3 (Contd)

Wing AP/2, normal attitude — ΔC_p — V = 125 ft/sec, R = 1.6 x 10^6

x/c \ α	-4.1°	-2.05°	0.05°	2.15°	4.0°	6.05°	8.15°	10.25°	12.35°	14.4°	15.1°	16.5°	17.65°
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	1.710	0.827	0.009	-0.852	-1.623	-2.396	-3.280	-4.152	-5.498	-6.649	-7.045	-1.555	-1.466
0.015	1.410	0.685	0.027	-0.699	-1.331	-1.968	-2.712	-3.043	-3.731	-4.251	-4.718	-1.558	-1.470
0.030	1.152	0.576	0.038	-0.543	-1.054	-1.580	-2.204	-2.550	-3.085	-3.511	-3.676	-1.424	-1.332
0.050	0.909	0.459	0.017	-0.438	-0.848	-1.265	-1.664	-2.054	-2.504	-2.870	-3.004	-1.284	-1.195
0.075	0.742	0.371	0.017	-0.357	-0.689	-1.024	-1.376	-1.686	-2.061	-2.363	-2.462	-1.167	-1.081
0.100	0.655	0.336	0.031	-0.294	-0.572	-0.813	-1.130	-1.405	-1.720	-1.992	-2.075	-1.078	-0.988
0.200	0.408	0.201	0.009	-0.201	-0.384	-0.565	-0.773	-0.946	-1.152	-1.316	-1.374	-0.919	-0.799
0.300	0.288	0.143	0.008	-0.144	-0.278	-0.403	-0.557	-0.672	-0.824	-0.937	-0.973	-0.801	-0.701
0.400	0.193	0.107	0.005	-0.104	-0.163	-0.269	-0.379	-0.472	-0.580	-0.664	-0.686	-0.759	-0.675
0.500	-	-	-	-	-	-	-	-	-	-	-	-	-
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.034	0.019	-0.022	-0.059	-0.094	-0.093	-0.124	-0.146	-0.194	-0.217	-0.223	-0.528	-0.541
0.850	0.061	0.031	0.014	-0.046	-0.031	-0.056	-0.059	-0.079	-0.096	-0.111	-0.117	-0.370	-0.390
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-

Wing AP/2, inverted attitude — ΔC_p — V = 125 ft/sec, R = 1.6 x 10^6

x/c \ α	4.55°	2.45°	0.35°	-1.7°	-3.8°	-5.9°	-8.0°	-9.05°	-12.15°	-14.2°	-15.25°	-16.1°	-17.45°
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	1.690	0.838	0	-0.835	-1.695	-2.563	-3.374	-4.147	-5.188	-6.649	-7.330	-1.599	-1.410
0.015	1.406	0.705	0.011	-0.672	-1.380	-2.081	-2.778	-3.615	-3.843	-4.550	-4.866	-1.566	-1.411
0.030	1.098	0.533	-0.019	-0.576	-1.143	-1.688	-2.296	-2.693	-3.217	-3.690	-3.909	-1.476	-1.289
0.050	0.895	0.436	-0.007	-0.442	-0.897	-1.346	-1.712	-2.162	-2.566	-2.958	-3.128	-1.272	-1.139
0.075	0.726	0.364	0	-0.363	-0.725	-1.097	-1.412	-1.763	-2.089	-2.409	-2.551	-1.155	-1.022
0.100	0.611	0.304	-0.009	-0.329	-0.634	-0.916	-1.228	-1.521	-1.795	-2.075	-2.197	-1.086	-0.945
0.200	0.414	0.218	0.017	-0.181	-0.385	-0.566	-0.749	-0.950	-1.128	-1.302	-1.387	-0.882	-0.749
0.300	0.329	0.167	0.029	-0.119	-0.256	-0.409	-0.532	-0.669	-0.802	-0.929	-0.983	-0.792	-0.633
0.400	0.322	0.129	0.026	-0.066	-0.153	-0.266	-0.368	-0.464	-0.586	-0.655	-0.688	-0.724	-0.593
0.500	0.182	0.106	0.029	-0.024	-0.105	-0.182	-0.254	-0.336	-0.460	-0.473	-0.496	-0.669	-0.581
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.111	0.081	0.040	0.001	-0.009	-0.044	-0.084	-0.118	-0.161	-0.182	-0.198	-0.487	-0.496
0.850	0.047	0.017	0	-0.025	-0.048	-0.043	-0.058	-0.095	-0.125	-0.117	-0.134	-0.372	-0.407
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 4

Wing AP/3, normal attitude C_p V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-3.75°	-2.7°	-1.7°	-0.7°	0.3°	1.35°	2.35°	3.35°	4.35°	6.4°	8.4°	10.45°	12.5°	14.5°	16.5°	17.55°
Upper surface																
0	0.781	0.890	0.959	0.994	1.000	1.000	0.963	0.886	0.760	0.409	-0.075	-0.678	-1.530	-2.440	-3.478	-4.022
0.005	0.773	0.672	0.556	0.420	0.269	0.107	-0.089	-0.291	-0.535	-1.075	-1.612	-	-	-	-	-
0.015	0.466	0.362	0.254	0.139	0.011	-0.120	-0.271	-0.420	-0.595	-0.958	-1.332	-1.625	-2.070	-2.512	-2.982	-3.219
0.030	0.228	0.139	0.048	-0.046	-0.149	-0.253	-0.367	-0.481	-0.611	-0.873	-1.158	-1.396	-1.709	-2.008	-2.309	-2.457
0.050	0.102	0.026	-0.050	-0.126	-0.208	-0.274	-0.380	-0.466	-0.565	-0.762	-0.893	-1.103	-1.324	-1.531	-1.740	-1.846
0.075	0.006	-0.054	-0.118	-0.179	-0.247	-0.311	-0.384	-0.449	-0.528	-0.651	-0.797	-0.942	-1.108	-1.259	-1.411	-1.487
0.100	-0.050	-0.101	-0.157	-0.202	-0.264	-0.319	-0.377	-0.432	-0.496	-0.618	-0.733	-0.851	-0.979	-1.098	-1.218	-1.272
0.200	-0.151	-0.185	-0.220	-0.251	-0.284	-0.318	-0.350	-0.382	-0.426	-0.491	-0.553	-0.615	-0.681	-0.740	-0.798	-0.826
0.300	-0.203	-0.220	-0.245	-0.262	-0.288	-0.311	-0.332	-0.319	-0.341	-0.389	-0.426	-0.465	-0.502	-0.545	-0.570	-0.586
0.400	-0.161	-0.177	-0.198	-0.206	-0.227	-0.244	-0.218	-0.234	-0.254	-0.284	-0.307	-0.330	-0.354	-0.377	-0.396	-0.404
0.500	-0.124	-0.131	-0.134	-0.144	-0.149	-0.162	-0.171	-0.179	-0.191	-0.207	-0.221	-0.234	-0.246	-0.259	-0.270	-0.274
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.006	0.001	-0.006	-0.003	-0.008	-0.012	-0.011	-0.013	-0.017	-0.020	-0.022	-0.026	-0.029	-0.033	-0.035	-0.036
0.850	0.034	0.034	0.030	0.034	0.031	0.030	0.030	0.031	0.030	0.030	0.032	0.031	0.031	0.032	0.032	0.031
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower surface																
0.005	-	-	-	-	-	-	-	-	-	-	-	1.009	0.952	0.835	0.656	0.547
0.015	-0.585	-0.437	-0.294	-0.154	-0.019	0.101	0.195	0.345	0.453	0.642	0.773	0.903	0.978	1.011	1.010	1.005
0.030	-0.615	-0.505	-0.395	-0.280	-0.178	-0.081	0.024	0.123	0.218	0.395	0.531	0.678	0.793	0.879	0.944	0.967
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	-0.519	-0.453	-0.393	-0.324	-0.261	-0.212	-0.130	-0.066	0.002	0.129	0.231	0.353	0.465	0.559	0.647	0.686
0.100	-0.502	-0.447	-0.393	-0.334	-0.282	-0.229	-0.171	-0.116	-0.057	0.055	0.148	0.255	0.358	0.440	0.533	0.580
0.200	-0.394	-0.361	-0.339	-0.313	-0.281	-0.250	-0.213	-0.165	-0.140	-0.067	0.002	0.072	0.147	0.287	0.285	0.319
0.300	-0.306	-0.283	-0.266	-0.296	-0.283	-0.262	-0.235	-0.156	-0.187	-0.134	-0.082	-0.029	0.032	0.088	0.145	0.175
0.400	-0.252	-0.241	-0.229	-0.212	-0.205	-0.193	-0.176	-0.157	-0.144	-0.112	-0.076	-0.038	0.007	0.049	0.095	0.118
0.500	-0.156	-0.148	-0.139	-0.124	-0.115	-0.108	-0.097	-0.092	-0.077	-0.051	-0.025	0.003	0.031	0.048	0.080	0.099
0.650	-0.048	-0.043	-0.043	-0.035	-0.032	-0.029	-0.022	-0.016	-0.009	0.005	0.022	0.039	0.061	0.078	0.098	0.112
0.750	0.019	0.022	0.021	0.027	0.029	0.030	0.035	0.039	0.043	0.054	0.065	0.080	0.096	0.110	0.119	0.129
0.850	0.041	0.043	0.041	0.047	0.047	0.049	0.052	0.056	0.057	0.063	0.072	0.082	0.094	0.107	0.120	0.129
0.950	0.093	0.096	0.092	0.098	0.097	0.169	0.099	0.101	0.101	0.101	0.106	0.110	0.115	0.121	0.131	0.128

Table 4 (Contd)

Wing AP/3, inverted attitude — Cp — V = 250 ft/sec; R = 3.2×10^6

α / x/c	5.15°	4.15°	3.15°	2.1°	1.15°	0.1°	-0.9°	-1.95°	-2.95°	-5.0°	-7.0°	-9.05°	-11.05°	-13.1°	-15.1°	-16.1°
Upper surface																
0	0.706	0.839	0.933	0.985	0.882	0.997	0.975	0.925	0.821	0.498	0.022	-0.616	-1.414	-2.395	-3.494	-4.201
0.005	-0.615	-0.385	-0.175	0.008	0.197	0.347	0.497	0.623	0.738	0.902	0.992	1.013	0.985	0.898	0.750	0.644
0.015	-0.667	-0.500	-0.346	-0.209	-0.061	0.064	0.193	0.308	0.420	0.610	0.763	0.877	0.959	1.004	1.013	1.005
0.030	-0.659	-0.533	-0.418	-0.313	-0.199	-0.099	0.005	0.102	0.199	0.372	0.523	0.652	0.769	0.861	0.989	0.957
0.050	-0.604	-0.512	-0.423	-0.343	-0.255	-0.175	-0.090	-0.011	0.071	0.220	0.354	0.477	0.593	0.695	0.781	0.820
0.075	-0.560	-0.489	-0.419	-0.364	-0.287	-0.222	-0.153	-0.088	-0.021	0.106	0.225	0.335	0.443	0.543	0.631	0.675
0.100	-0.525	-0.466	-0.408	-0.365	-0.300	-0.245	-0.187	-0.132	-0.076	0.035	0.139	0.238	0.338	0.431	0.516	0.560
0.200	-0.447	-0.415	-0.373	-0.346	-0.312	-0.279	-0.243	-0.208	-0.171	-0.099	-0.029	0.043	0.118	0.190	0.260	0.297
0.300	-0.366	-0.344	-0.339	-0.310	-0.280	-0.261	-0.239	-0.216	-0.194	-0.148	-0.103	-0.054	0.003	0.061	0.118	0.149
0.400	-0.275	-0.259	-0.241	-0.238	-0.223	-0.210	-0.194	-0.179	-0.161	-0.124	-0.087	-0.047	-0.009	0.026	0.071	0.095
0.500	-0.209	-0.201	-0.191	-0.187	-0.184	-0.170	-0.159	-0.151	-0.137	-0.111	-0.085	-0.055	-0.018	0.014	0.050	0.068
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	-0.036	-0.036	-0.033	-0.034	-0.031	-0.029	-0.025	-0.021	-0.016	-0.006	0.004	0.016	0.035	0.046	0.066	0.075
0.850	0.009	0.008	0.007	0.005	0.006	0.005	0.005	0.006	0.006	0.007	0.006	0.006	0.009	0.007	0.006	0.008
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower surface																
0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.015	0.490	0.389	0.292	0.183	-0.076	-0.085	-0.229	-0.373	-0.528	-0.876	-1.251	-1.649	-2.059	-2.503	-2.963	-3.264
0.030	0.248	0.159	0.077	-0.016	-0.107	-0.227	-0.339	-0.456	-0.573	-0.823	-1.097	-1.360	-1.646	-1.950	-2.229	-2.434
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	0.022	-0.040	-0.096	-0.156	-0.228	-0.280	-0.357	-0.415	-0.493	-0.638	-0.775	-0.921	-1.080	-1.232	-1.388	-1.471
0.100	-0.039	-0.096	-0.143	-0.194	-0.254	-0.306	-0.363	-0.421	-0.481	-0.597	-0.771	-0.827	-0.954	-1.071	-1.193	-1.256
0.200	-0.124	-0.146	-0.192	-0.227	-0.263	-0.297	-0.311	-0.343	-0.375	-0.437	-0.506	-0.567	-0.627	-0.689	-0.747	-0.780
0.300	-0.166	-0.152	-0.222	-0.247	-0.271	-0.294	-0.262	-0.283	-0.300	-0.344	-0.386	-0.427	-0.459	-0.497	-0.533	-0.553
0.400	-0.131	-0.147	-0.173	-0.192	-0.208	-0.219	-0.222	-0.233	-0.242	-0.271	-0.297	-0.321	-0.344	-0.360	-0.381	-0.393
0.500	-0.090	-0.088	-0.114	-0.103	-0.105	-0.122	-0.139	-0.148	-0.156	-0.173	-0.189	-0.205	-0.213	-0.228	-0.242	-0.252
0.650	-0.003	-0.008	-0.009	-0.018	-0.026	-0.033	-0.038	-0.043	-0.045	-0.056	-0.064	-0.072	-0.074	-0.082	-0.091	-0.098
0.750	0.051	0.044	0.044	0.037	0.030	0.026	0.023	0.018	0.019	0.011	0.005	-0.002	-0.003	-0.009	-0.017	-0.025
0.850	0.058	0.053	0.051	0.046	0.042	0.040	0.038	0.036	0.037	0.033	0.028	0.026	0.026	0.022	0.018	0.011
0.950	0.087	0.079	0.082	0.077	0.076	0.074	0.076	0.073	0.077	0.075	0.073	0.073	0.073	0.072	0.066	0.058

Table 4 (Contd)

Wing AP/3, normal attitude — Δc_p — V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-3.75°	-2.7°	-1.7°	-0.7°	0.3°	1.35°	2.35°	3.35°	4.35°	6.4°	8.4°	10.45°	12.5°	14.5°	16.55°	17.55°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.015	1.051	0.799	0.548	0.293	0.030	-0.221	-0.466	-0.765	-1.048	-1.600	-2.105	-2.528	-3.048	-3.523	-3.992	-4.224
0.030	0.843	0.644	0.443	0.234	0.029	-0.172	-0.391	-0.604	-0.829	-1.268	-1.689	-2.074	-2.502	-2.887	-3.253	-3.424
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	0.525	0.399	0.275	0.145	0.014	-0.099	-0.254	-0.383	-0.530	-0.780	-1.028	-1.295	-1.573	-1.818	-2.058	-2.173
0.100	0.452	0.346	0.236	0.132	0.018	-0.090	-0.206	-0.316	-0.439	-0.673	-0.881	-1.106	-1.337	-1.538	-1.751	-1.852
0.200	0.243	0.176	0.119	0.062	-0.003	-0.068	-0.137	-0.217	-0.286	-0.424	-0.555	-0.687	-0.828	-1.027	-1.083	-1.145
0.300	0.103	0.063	0.021	0.034	-0.005	-0.049	-0.097	-0.163	-0.154	-0.255	-0.344	-0.436	-0.534	-0.633	-0.715	-0.761
0.400	0.091	0.064	0.031	0.006	-0.022	-0.051	-0.042	-0.077	-0.110	-0.172	-0.231	-0.292	-0.361	-0.426	-0.491	-0.522
0.500	0.032	0.017	0.005	-0.020	-0.034	-0.054	-0.074	-0.087	-0.114	-0.156	-0.196	-0.237	-0.277	-0.307	-0.350	-0.373
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	-0.013	-0.021	-0.027	-0.030	-0.037	-0.042	-0.046	-0.052	-0.060	-0.074	-0.087	-0.106	-0.125	-0.143	-0.154	-0.165
0.850	-0.007	-0.009	-0.011	-0.013	-0.016	-0.019	-0.022	-0.025	-0.027	-0.033	-0.040	-0.051	-0.063	-0.075	-0.088	-0.098
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wing AP/3, inverted attitude — Δc_p — V = 250 ft/sec; R = 3.2×10^6

x/c \ α	5.15°	4.15°	3.15°	2.1°	1.15°	0.1°	-0.9°	-1.95°	-2.95°	-5.0°	-7.0°	-9.05°	-11.05°	-13.1°	-15.1°	-16.15°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.015	1.157	0.889	0.638	0.392	-0.015	-0.149	-0.422	-0.681	-0.948	-1.486	-2.014	-2.526	-3.018	-3.507	-3.976	-4.269
0.030	0.907	0.692	0.495	0.297	0.092	-0.128	-0.344	-0.558	-0.772	-1.195	-1.620	-2.012	-2.415	-2.811	-3.158	-3.391
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	0.582	0.449	0.323	0.208	0.059	-0.058	-0.204	-0.327	-0.472	-0.744	-1.000	-1.256	-1.523	-1.775	-2.019	-2.146
0.100	0.486	0.370	0.265	0.171	0.046	-0.061	-0.176	-0.289	-0.405	-0.632	-0.910	-1.065	-1.292	-1.502	-1.709	-1.816
0.200	0.323	0.269	0.181	0.119	0.049	-0.018	-0.068	-0.135	-0.204	-0.338	-0.477	-0.610	-0.745	-0.879	-1.007	-1.077
0.300	0.200	0.192	0.117	0.063	0.009	-0.033	-0.023	-0.067	-0.106	-0.196	-0.283	-0.373	-0.462	-0.558	-0.651	-0.702
0.400	0.144	0.112	0.068	0.046	0.015	-0.009	-0.028	-0.054	-0.081	-0.147	-0.210	-0.274	-0.335	-0.386	-0.452	-0.488
0.500	0.119	0.113	0.077	0.084	0.079	0.048	0.020	0.003	-0.019	-0.062	-0.095	-0.150	-0.195	-0.242	-0.292	-0.320
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.087	0.080	0.077	0.071	0.061	0.055	0.048	0.039	0.035	0.017	0.001	-0.018	-0.038	-0.055	-0.083	-0.100
0.850	0.049	0.045	0.044	0.041	0.036	0.035	0.033	0.030	0.031	0.026	0.022	0.020	0.017	0.015	0.012	0.003
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5

Wing AP/4, normal attitude C_p V = 250 ft/sec, R = 3.2 x 10^6

x/c \ α	-5.75°	-3.75°	-2.75°	-1.75°	-0.75°	0.3°	1.3°	2.3°	3.3°	4.3°	6.35°	10.35°	14.4°	18.4°	20.45°	21.45°
Upper Surface																
0	0.583	0.833	0.915	0.971	1.002	1.011	1.007	0.980	0.927	0.849	0.614	-0.185	-1.387	-3.032	-4.029	-4.566
0.005	0.817	0.732	0.642	0.539	0.418	0.285	0.144	-0.009	-0.179	-0.358	-0.757	-1.713	-3.022	-4.702	-4.810	-5.161
0.015	0.581	0.419	0.329	0.234	0.129	0.019	-0.094	-0.217	-0.342	-0.472	-0.754	-1.386	-1.936	-2.714	-3.131	-3.335
0.030	0.342	0.199	0.120	0.044	-0.044	-0.133	-0.220	-0.312	-0.410	-0.506	-0.713	-1.151	-1.535	-2.207	-2.288	-2.414
0.050	0.193	0.071	0.006	-0.056	-0.125	-0.197	-0.264	-0.334	-0.408	-0.480	-0.632	-0.889	-1.210	-1.546	-1.725	-1.814
0.075	0.084	-0.017	-0.070	-0.120	-0.179	-0.233	-0.286	-0.341	-0.398	-0.453	-0.571	-0.775	-1.004	-1.242	-1.371	-1.436
0.100	0.017	-0.069	-0.114	-0.155	-0.203	-0.248	-0.293	-0.339	-0.383	-0.427	-0.517	-0.694	-0.869	-1.049	-1.145	-1.195
0.200	-0.106	-0.159	-0.187	-0.212	-0.239	-0.265	-0.291	-0.314	-0.340	-0.357	-0.403	-0.496	-0.577	-0.662	-0.709	-0.740
0.300	-0.168	-0.202	-0.222	-0.236	-0.256	-0.270	-0.286	-0.302	-0.310	-0.298	-0.327	-0.378	-0.417	-0.459	-0.527	-0.502
0.400	-0.141	-0.164	-0.179	-0.187	-0.201	-0.212	-0.223	-0.205	-0.203	-0.212	-0.233	-0.264	-0.282	-0.310	-0.333	-0.341
0.500	-0.108	-0.125	-0.135	-0.142	-0.131	-0.126	-0.135	-0.142	-0.148	-0.152	-0.165	-0.180	-0.189	-0.206	-0.228	-0.234
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.005	0	-0.002	-0.002	-0.006	-0.005	-0.006	-0.006	-0.006	-0.006	-0.009	-0.011	-0.014	-0.028	-0.048	-0.054
0.850	0.036	0.035	0.033	0.036	0.034	0.037	0.036	0.036	0.037	0.037	0.037	0.037	0.038	0.027	0.009	0.005
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower Surface																
0.005	-0.808	-0.385	-0.199	-0.023	0.139	0.291	0.420	0.541	0.646	0.738	0.878	1.010	0.958	0.721	0.520	0.411
0.015	-0.799	-0.511	-0.378	-0.247	-0.125	-0.005	0.103	0.209	0.308	0.401	0.565	0.826	0.975	1.014	0.996	0.974
0.030	-0.766	-0.556	-0.457	-0.359	-0.265	-0.170	-0.084	0.004	0.085	0.167	0.314	0.581	0.789	0.930	0.975	0.990
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	-0.573	-0.476	-0.420	-0.361	-0.308	-0.251	-0.199	-0.143	-0.088	-0.035	0.066	0.270	0.460	0.626	0.700	0.732
0.100	-0.536	-0.444	-0.407	-0.361	-0.315	-0.268	-0.227	-0.178	-0.135	-0.088	-0.001	0.180	0.356	0.512	0.587	0.621
0.200	-0.392	-0.350	-0.327	-0.316	-0.293	-0.267	-0.242	-0.216	-0.191	-0.156	-0.108	0.013	0.141	0.266	0.328	0.356
0.300	-0.323	-0.294	-0.283	-0.268	-0.284	-0.269	-0.256	-0.238	-0.220	-0.182	-0.167	-0.079	0.024	0.126	0.178	0.204
0.400	-0.233	-0.217	-0.210	-0.201	-0.207	-0.206	-0.197	-0.185	-0.173	-0.150	-0.138	-0.075	0.005	0.015	0.127	0.147
0.500	-0.153	-0.144	-0.140	-0.134	-0.128	-0.119	-0.114	-0.120	-0.125	-0.106	-0.101	-0.055	0.007	0.003	0.107	0.123
0.650	-0.039	-0.034	-0.034	-0.030	-0.030	-0.027	-0.025	-0.021	-0.022	-0.020	-0.005	0.099	0.048	0.096	0.121	0.132
0.750	0.022	0.026	0.026	0.029	0.026	0.029	0.029	0.032	0.032	0.032	0.040	0.063	0.089	0.118	0.138	0.146
0.850	0.042	0.044	0.044	0.045	0.044	0.044	0.044	0.045	0.045	0.047	0.048	0.062	0.092	0.118	0.131	0.137
0.950	0.093	0.093	0.091	0.093	0.090	0.092	0.091	0.091	0.090	0.091	0.087	0.092	0.107	0.119	0.114	0.115

-Table 5-(Contd)-

Wing AP/4, inverted attitude — C_p — V = 250 ft/sec; R = 3.2×10^6

α / x/c	6.85°	4.85°	3.85°	2.85°	1.85°	0.85°	-0.2°	-1.2°	-2.2°	-3.2°	-5.2°	-9.25°	-13.3°	-17.3°	-19.35°	-21.35°	-23.35°	-24.4°	-25.4°
Upper surface																			
0	0.547	0.813	0.902	0.962	1.000	1.011	1.008	0.988	0.938	0.863	0.633	-0.194	-1.514	-3.342	-4.448	-5.634	-7.033	-7.608	-5.754
0.005	-0.853	-0.427	-0.243	-0.080	0.083	0.237	0.379	0.489	0.602	0.702	0.856	1.008	0.977	0.774	0.594	0.371	0.098	-0.014	-0.174
0.015	-0.817	-0.524	-0.390	-0.270	-0.146	-0.023	0.093	0.187	0.293	0.388	0.556	0.816	0.967	1.012	0.997	0.955	0.884	0.846	0.799
0.030	-0.760	-0.546	-0.446	-0.358	-0.262	-0.168	-0.075	0.004	0.089	0.169	0.320	0.581	0.783	0.922	0.967	0.998	1.011	1.011	1.010
0.050	-0.667	-0.512	-0.438	-0.371	-0.297	-0.225	-0.151	-0.091	-0.022	0.045	0.173	0.405	0.607	0.839	0.835	0.893	0.940	0.955	0.971
0.075	-0.596	-0.479	-0.423	-0.371	-0.315	-0.256	-0.198	-0.149	-0.094	-0.040	0.067	0.269	0.455	0.618	0.689	0.758	0.817	0.842	0.866
0.100	-0.535	-0.449	-0.403	-0.362	-0.317	-0.269	-0.222	-0.175	-0.134	-0.089	0.001	0.179	0.348	0.504	0.575	0.715	0.710	0.737	0.763
0.200	-0.413	-0.371	-0.354	-0.333	-0.307	-0.280	-0.253	-0.229	-0.204	-0.175	-0.118	0.001	0.109	0.248	0.311	0.373	0.434	0.463	0.489
0.300	-0.333	-0.307	-0.295	-0.312	-0.299	-0.284	-0.265	-0.252	-0.235	-0.217	-0.176	-0.090	0.004	0.104	0.158	0.204	0.253	0.295	0.318
0.400	-0.236	-0.223	-0.212	-0.204	-0.233	-0.220	-0.210	-0.199	-0.190	-0.176	-0.149	-0.088	-0.019	0.060	0.105	0.148	0.196	0.219	0.239
0.500	-0.164	-0.160	-0.084	-0.149	-0.142	-0.133	-0.132	-0.148	-0.146	-0.135	-0.116	-0.071	-0.019	0.044	0.082	0.118	0.158	0.180	0.194
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	-0.001	-0.005	-0.005	-0.006	-0.006	-0.007	-0.008	-0.007	-0.007	-0.005	0.001	0.023	0.031	0.066	0.089	0.112	0.136	0.151	0.157
0.850	0.046	0.042	0.041	0.038	0.037	0.035	0.031	0.031	0.029	0.030	0.032	0.042	0.058	0.075	0.091	0.107	0.124	0.135	0.136
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower surface																			
0.005	0.904	0.766	0.677	0.585	0.469	0.336	0.187	0.044	-0.133	-0.318	-0.729	-1.718	-4.100	-4.576	-4.939	-5.148	-5.942	-6.242	-6.591
0.015	0.601	0.432	0.338	0.251	0.144	0.033	-0.088	-0.198	-0.331	-0.463	-0.745	-1.388	-1.940	-2.841	-3.243	-3.638	-4.094	-4.244	-4.379
0.030	0.349	0.193	0.113	0.037	-0.050	-0.141	-0.235	-0.321	-0.422	-0.520	-0.727	-1.204	-1.605	-2.137	-2.374	-2.608	-2.890	-2.969	-3.022
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	0.093	-0.016	-0.071	-0.120	-0.176	-0.233	-0.289	-0.340	-0.398	-0.453	-0.552	-0.785	-1.014	-1.257	-1.376	-1.471	-1.617	-1.656	-1.688
0.100	0.022	-0.071	-0.118	-0.162	-0.206	-0.255	-0.303	-0.344	-0.390	-0.426	-0.517	-0.698	-0.876	-1.062	-1.149	-1.215	-1.333	-1.365	-1.406
0.200	-0.090	-0.142	-0.176	-0.205	-0.230	-0.257	-0.284	-0.305	-0.320	-0.340	-0.382	-0.479	-0.561	-0.647	-0.683	-0.702	-0.773	-0.795	-0.827
0.300	-0.151	-0.177	-0.189	-0.229	-0.247	-0.264	-0.280	-0.283	-0.276	-0.290	-0.316	-0.370	-0.416	-0.464	-0.485	-0.510	-0.531	-0.533	-0.551
0.400	-0.126	-0.145	-0.155	-0.173	-0.191	-0.202	-0.214	-0.198	-0.207	-0.212	-0.227	-0.260	-0.282	-0.312	-0.328	-0.354	-0.363	-0.366	-0.383
0.500	-0.091	-0.102	-0.108	-0.119	-0.113	-0.119	-0.124	-0.133	-0.138	-0.140	-0.148	-0.167	-0.180	-0.204	-0.215	-0.233	-0.249	-0.253	-0.269
0.650	0.004	-0.017	-0.022	-0.023	-0.027	-0.028	-0.030	-0.033	-0.035	-0.034	-0.038	-0.047	-0.054	-0.077	-0.090	-0.107	-0.127	-0.131	-0.147
0.750	0.047	0.034	0.030	0.029	0.029	0.026	0.025	0.024	0.023	0.024	0.023	0.014	0.007	-0.016	-0.030	-0.045	-0.064	-0.068	-0.085
0.850	0.056	0.049	0.046	0.044	0.044	0.043	0.042	0.043	0.042	0.042	0.041	0.037	0.031	0.015	0.005	-0.006	-0.019	-0.022	-0.036
0.950	0.103	0.101	0.100	0.098	0.099	0.098	0.096	0.096	0.095	0.096	0.096	0.094	0.085	0.072	0.061	0.052	0.039	0.035	0.016

Table 5 (Contd)

Wing AP/4, normal attitude — ΔC_p — V = 250 ft/sec; R = 3.2 x 10^6

α / X/C	-5.75°	-3.75°	-2.75°	-1.75°	-0.75°	0.3°	1.3°	2.3°	3.3°	4.3°	6.35°	10.35°	14.4°	18.4°	20.45°	21.45°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	1.685	1.117	0.841	0.562	0.279	-0.006	-0.276	-0.550	-0.825	-1.096	-1.635	-2.723	-3.980	-5.423	-5.330	-5.572
0.015	1.380	0.930	0.707	0.481	0.254	0.024	-0.197	-0.426	-0.650	-0.873	-1.319	-2.212	-2.911	-3.728	-4.127	-4.309
0.030	1.108	0.755	0.577	0.403	0.221	0.037	-0.136	-0.316	-0.495	-0.673	-1.027	-1.732	-2.323	-3.137	-3.263	-3.404
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	0.657	0.459	0.350	0.241	0.129	0.018	-0.087	-0.198	-0.310	-0.418	-0.637	-1.045	-1.464	-1.868	-2.071	-2.168
0.100	0.533	0.375	0.293	0.206	0.112	0.020	-0.066	-0.161	-0.248	-0.339	-0.516	-0.874	-1.225	-1.561	-1.732	-1.816
0.200	0.286	0.191	0.140	0.104	0.054	0.002	-0.049	-0.098	-0.149	-0.201	-0.295	-0.509	-0.718	-0.928	-1.037	-1.096
0.300	0.155	0.092	0.061	0.032	0.028	-0.001	-0.030	-0.064	-0.090	-0.116	-0.160	-0.299	-0.441	-0.585	-0.705	-0.706
0.400	0.092	0.053	0.031	0.014	0.006	-0.006	-0.026	-0.020	-0.030	-0.062	-0.095	-0.189	-0.257	-0.325	-0.460	-0.488
0.500	0.045	0.019	0.005	-0.008	-0.003	-0.007	-0.021	-0.022	-0.023	-0.046	-0.064	-0.125	-0.196	-0.209	-0.335	-0.357
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	-0.017	-0.026	-0.028	-0.031	-0.032	-0.034	-0.035	-0.038	-0.038	-0.038	-0.049	-0.074	-0.103	-0.146	-0.186	-0.200
0.850	-0.057	-0.058	-0.058	-0.057	-0.056	-0.055	-0.055	-0.055	-0.053	-0.054	-0.050	-0.055	-0.069	-0.092	-0.105	-0.110
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wing AP/4, inverted attitude — ΔC_p — V = 250 ft/sec; R = 3.2 x 10^6

α / X/C	6.85°	4.85°	3.85°	2.85°	1.85°	0.85°	-0.2°	-1.2°	-2.2°	-3.2°	-5.2°	-9.25°	-13.3°	-17.3°	-19.35°	-21.35°	-23.35°	-24.4°	-25.4°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	1.757	1.193	0.920	0.665	0.386	0.099	-0.192	-0.445	-0.735	-1.020	-1.585	-2.726	-5.077	-5.350	-5.533	-5.519	-6.040	-6.228	-6.417
0.015	1.418	0.956	0.728	0.521	0.290	0.056	-0.181	-0.385	-0.625	-0.851	-1.301	-2.204	-2.907	-3.853	-4.240	-4.593	-4.978	-5.090	-5.178
0.030	1.109	0.739	0.559	0.395	0.212	0.027	-0.160	-0.325	-0.511	-0.689	-1.047	-1.785	-2.388	-3.059	-3.341	-3.606	-3.901	-3.980	-4.032
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	0.689	0.463	0.352	0.251	0.139	0.023	-0.091	-0.191	-0.304	-0.413	-0.619	-1.054	-1.469	-1.875	-2.065	-2.229	-2.434	-2.498	-2.554
0.100	0.557	0.378	0.285	0.200	0.111	0.014	-0.081	-0.169	-0.256	-0.337	-0.518	-0.877	-1.224	-1.566	-1.724	-1.930	-2.043	-2.102	-2.169
0.200	0.323	0.229	0.178	0.128	0.077	0.023	-0.031	-0.076	-0.116	-0.165	-0.264	-0.480	-0.670	-0.895	-0.994	-1.075	-1.207	-1.258	-1.316
0.300	0.182	0.130	0.106	0.083	0.052	0.020	-0.015	-0.031	-0.041	-0.073	-0.140	-0.280	-0.420	-0.568	-0.643	-0.714	-0.784	-0.828	-0.869
0.400	0.110	0.078	0.057	0.031	0.042	0.018	-0.004	0.001	-0.017	-0.036	-0.078	-0.172	-0.263	-0.372	-0.433	-0.502	-0.559	-0.585	-0.622
0.500	0.073	0.058	0.024	0.030	0.029	0.014	0.008	0.015	0.008	-0.005	-0.032	-0.096	-0.161	-0.248	-0.297	-0.351	-0.407	-0.433	-0.463
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.048	0.039	0.035	0.035	0.035	0.033	0.033	0.031	0.030	0.029	0.022	-0.009	-0.024	-0.082	-0.119	-0.167	-0.200	-0.219	-0.242
0.850	0.010	0.007	0.005	0.006	0.007	0.008	0.011	0.012	0.013	0.012	0.010	-0.005	-0.027	-0.060	-0.086	-0.113	-0.143	-0.157	-0.172
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6

Wing AP/5, normal attitude

C_p

V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-6.2°	-4.2°	-3.2°	-2.2°	-1.2°	-0.2°	0.8°	1.8°	2.8°	3.8°	5.8°	7.85°	9.85°	13.85°	17.85°	21.85°	23.9°	25.9°
Upper surface																		
0	0.784	0.915	0.958	0.990	1.005	1.009	1.009	0.997	0.974	0.933	0.808	0.635	0.400	-0.235	-1.108	-2.163	-2.755	-3.431
0.005	0.772	0.643	0.569	0.480	0.397	0.300	0.202	0.084	-0.023	-0.148	-0.412	-0.689	-0.994	-1.677	-2.619	-3.884	-3.956	-4.084
0.015	0.470	0.343	0.276	0.197	0.129	0.050	-0.028	-0.118	-0.198	-0.288	-0.476	-0.664	-0.866	-1.202	-1.637	-2.084	-2.275	-2.518
0.030	0.239	0.137	0.077	0.013	-0.039	-0.102	-0.160	-0.230	-0.288	-0.354	-0.490	-0.621	-0.761	-0.980	-1.251	-1.528	-1.642	-1.768
0.050	0.110	0.021	-0.022	-0.073	-0.113	-0.159	-0.203	-0.255	-0.297	-0.345	-0.442	-0.533	-0.610	-0.769	-0.953	-1.120	-1.203	-1.283
0.075	0.021	-0.050	-0.083	-0.122	-0.152	-0.188	-0.221	-0.260	-0.292	-0.326	-0.396	-0.458	-0.497	-0.628	-0.748	-0.854	-0.907	-0.956
0.100	-0.029	-0.087	-0.114	-0.146	-0.171	-0.198	-0.224	-0.255	-0.279	-0.306	-0.361	-0.401	-0.447	-0.537	-0.618	-0.688	-0.723	-0.755
0.200	-0.113	-0.147	-0.162	-0.179	-0.190	-0.204	-0.216	-0.231	-0.240	-0.253	-0.276	-0.292	-0.310	-0.339	-0.367	-0.390	-0.407	-0.428
0.300	-0.132	-0.153	-0.162	-0.171	-0.177	-0.183	-0.189	-0.196	-0.207	-0.203	-0.214	-0.223	-0.226	-0.238	-0.256	-0.279	-0.296	-0.323
0.400	-0.111	-0.125	-0.129	-0.135	-0.136	-0.139	-0.140	-0.141	-0.140	-0.139	-0.144	-0.144	-0.146	-0.153	-0.175	-0.209	-0.234	-0.265
0.500	-0.087	-0.095	-0.098	-0.101	-0.100	-0.104	-0.097	-0.095	-0.094	-0.093	-0.092	-0.090	-0.091	-0.101	-0.132	-0.175	-0.206	-0.242
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.001	-0.001	0	-0.001	0.003	0.005	0.008	0.012	0.015	0.018	0.016	0.014	0.008	-0.018	-0.067	-0.126	-0.152	-0.213
0.850	0.030	0.030	0.030	0.030	0.035	0.038	0.042	0.045	0.048	0.048	0.046	0.044	0.037	0.011	-0.033	-0.089	-0.126	-0.167
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower surface																		
0.005	-0.447	-0.181	-0.061	0.069	0.176	0.283	0.380	0.478	0.558	0.637	0.773	0.870	0.946	1.012	0.980	0.845	0.736	0.598
0.015	-0.521	-0.340	-0.253	-0.159	-0.078	0.005	0.083	0.165	0.236	0.309	0.444	0.561	0.669	0.847	0.956	1.007	1.002	0.999
0.030	-0.536	-0.408	-0.346	-0.277	-0.215	-0.152	-0.092	-0.027	0.030	0.091	0.205	0.311	0.413	0.602	0.755	0.875	0.923	0.959
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	-0.408	-0.344	-0.318	-0.283	-0.249	-0.215	-0.179	-0.144	-0.109	-0.073	0	0.071	0.141	0.287	0.424	0.556	0.616	0.674
0.100	-0.373	-0.326	-0.302	-0.280	-0.252	-0.225	-0.197	-0.168	-0.140	-0.110	-0.049	0.010	0.073	0.200	0.326	0.450	0.510	0.566
0.200	-0.264	-0.253	-0.243	-0.236	-0.224	-0.213	-0.198	-0.184	-0.169	-0.154	-0.119	-0.084	-0.044	0.041	0.132	0.231	0.282	0.330
0.300	-0.208	-0.204	-0.201	-0.198	-0.220	-0.215	-0.208	-0.201	-0.194	-0.183	-0.161	-0.136	-0.108	-0.044	0.032	0.115	0.157	0.202
0.400	-0.144	-0.144	-0.145	-0.145	-0.147	-0.162	-0.157	-0.154	-0.150	-0.144	-0.130	-0.120	-0.094	-0.045	0.014	0.084	0.120	0.158
0.500	-0.082	-0.086	-0.088	-0.090	-0.087	-0.086	-0.082	-0.094	-0.108	-0.113	-0.096	-0.082	-0.069	-0.030	0.020	0.080	0.112	0.148
0.650	-0.004	-0.007	-0.009	-0.012	-0.013	-0.015	-0.016	-0.018	-0.017	-0.016	-0.12	-0.003	0.009	0.029	0.060	0.112	0.139	0.168
0.750	0.033	0.033	0.031	0.028	0.027	0.026	0.025	0.023	0.024	0.023	0.027	0.034	0.044	0.072	0.108	0.148	0.162	0.187
0.850	0.038	0.037	0.035	0.033	0.034	0.030	0.030	0.028	0.027	0.028	0.031	0.037	0.044	0.069	0.097	0.136	0.156	0.179
0.950	0.082	0.084	0.084	0.082	0.083	0.080	0.079	0.076	0.074	0.072	0.071	0.073	0.073	0.084	0.097	0.116	0.127	0.141

Table 6 (Contd)

Wing AP/5, inverted attitude — C_p — V = 250 ft/sec; R = 3.2×10^6

x/c \ α	6.5°	4.5°	3.5°	2.5°	1.5°	0.5°	-0.5°	-1.5°	-2.5°	-3.5°	-5.5°	-7.55°	-9.55°	-13.55°	-17.55°	-21.55°	-25.6°	-29.6°	-30.9°
Upper surface																			
0	0.785	0.872	0.961	0.992	1.008	1.010	1.009	0.997	0.971	0.933	0.810	0.621	0.386	-0.315	-1.235	-2.421	-3.877	-5.488	-5.997
0.005	-0.444	-0.185	-0.063	0.052	0.169	0.269	0.367	0.456	0.541	0.617	0.751	0.862	0.937	1.010	0.988	0.878	0.657	0.343	0.229
0.015	-0.501	-0.313	-0.230	-0.145	-0.055	0.024	0.102	0.176	0.249	0.319	0.448	0.569	0.667	0.839	0.950	1.006	1.003	0.941	0.911
0.030	-0.507	-0.369	-0.314	-0.251	-0.184	-0.123	-0.063	-0.004	0.054	0.110	0.220	0.329	0.423	0.606	0.755	0.873	0.958	1.003	1.008
0.050	-0.454	-0.354	-0.317	-0.272	-0.222	-0.178	-0.130	-0.088	-0.040	0.005	0.094	0.183	0.264	0.431	0.613	0.710	0.822	0.908	0.929
0.075	-0.405	-0.335	-0.308	-0.273	-0.237	-0.203	-0.168	-0.137	-0.099	-0.063	0.007	0.082	0.149	0.293	0.429	0.559	0.679	0.780	0.808
0.100	-0.370	-0.313	-0.293	-0.266	-0.238	-0.211	-0.184	-0.159	-0.129	-0.100	-0.042	0.020	0.079	0.205	0.327	0.449	0.568	0.674	0.705
0.200	-0.279	-0.258	-0.249	-0.239	-0.226	-0.213	-0.200	-0.188	-0.172	-0.156	-0.123	-0.086	-0.049	0.037	0.128	0.227	0.329	0.431	0.459
0.300	-0.219	-0.211	-0.209	-0.198	-0.200	-0.193	-0.187	-0.182	-0.173	-0.164	-0.143	-0.117	-0.093	-0.036	0.028	0.103	0.195	0.290	0.317
0.400	-0.147	-0.162	-0.146	-0.147	-0.147	-0.145	-0.144	-0.145	-0.140	-0.134	-0.122	-0.104	-0.085	-0.038	0.018	0.086	0.157	0.234	0.261
0.500	-0.094	-0.099	-0.098	-0.101	-0.102	-0.103	-0.104	-0.109	-0.105	-0.104	-0.096	-0.086	-0.075	-0.034	0.013	0.072	0.142	0.217	0.240
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.014	0.010	0.011	0.008	0.005	0.001	-0.002	-0.007	-0.008	-0.008	-0.008	-0.003	0.004	0.026	0.057	0.098	0.152	0.213	0.252
0.850	0.048	0.039	0.044	0.042	0.037	0.035	0.030	0.025	0.023	0.022	0.020	0.021	0.025	0.043	0.065	0.094	0.139	0.191	0.208
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower surface																			
0.005	0.792	0.626	0.595	0.516	0.420	0.329	0.224	0.115	-0.001	-0.120	-0.385	-0.691	-0.989	-1.709	-2.454	-3.439	-4.117	-4.578	-4.799
0.015	0.461	0.308	0.261	0.189	0.108	0.034	-0.050	-0.132	-0.218	-0.303	-0.487	-0.686	-0.877	-1.302	-1.601	-2.133	-2.648	-3.054	-3.151
0.030	0.221	0.093	0.051	-0.007	-0.072	-0.130	-0.193	-0.257	-0.319	-0.381	-0.513	-0.651	-0.780	-1.064	-1.299	-1.595	-1.871	-2.067	-2.086
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	0.012	-0.074	-0.095	-0.130	-0.168	-0.200	-0.236	-0.272	-0.301	-0.329	-0.397	-0.463	-0.517	-0.642	-0.760	-0.866	-0.965	-1.033	-1.024
0.100	-0.039	-0.103	-0.129	-0.157	-0.187	-0.214	-0.241	-0.269	-0.289	-0.313	-0.363	-0.409	-0.447	-0.540	-0.623	-0.694	-0.760	-0.813	-0.836
0.200	-0.112	-0.148	-0.163	-0.177	-0.193	-0.206	-0.219	-0.232	-0.235	-0.243	-0.261	-0.279	-0.293	-0.323	-0.354	-0.376	-0.408	-0.455	-0.492
0.300	-0.154	-0.176	-0.189	-0.197	-0.206	-0.211	-0.219	-0.202	-0.199	-0.200	-0.206	-0.212	-0.217	-0.228	-0.246	-0.265	-0.339	-0.352	-0.368
0.400	-0.123	-0.143	-0.145	-0.150	-0.155	-0.158	-0.160	-0.145	-0.145	-0.144	-0.144	-0.144	-0.143	-0.148	-0.166	-0.194	-0.242	-0.299	-0.317
0.500	-0.089	-0.103	-0.106	-0.097	-0.083	-0.084	-0.087	-0.091	-0.088	-0.085	-0.083	-0.095	-0.080	-0.088	-0.117	-0.155	-0.211	-0.283	-0.298
0.650	-0.005	-0.023	-0.015	-0.017	-0.017	-0.015	-0.013	-0.013	-0.009	-0.008	-0.006	-0.005	-0.007	-0.026	-0.064	-0.109	-0.171	-0.252	-0.278
0.750	0.033	0.021	0.026	0.026	0.025	0.027	0.028	0.028	0.030	0.033	0.032	0.031	0.027	0.005	-0.032	-0.070	-0.127	-0.198	-0.220
0.850	0.040	0.029	0.035	0.033	0.033	0.035	0.037	0.037	0.038	0.042	0.039	0.037	0.032	0.014	-0.019	-0.048	-0.081	-0.130	-0.141
0.950	0.084	0.075	0.082	0.082	0.083	0.084	0.087	0.087	0.088	0.089	0.085	0.080	0.074	0.058	0.022	0.001	-0.020	-0.036	-0.037

Table 6 (Contd)

Wing AP/5, normal attitude — Δc_p — V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-6.2°	-4.2°	-3.2°	-2.2°	-1.2°	-0.2°	0.8°	1.8°	2.8°	3.8°	5.8°	7.85°	9.85°	13.85°	17.85°	21.85°	23.9°	25.9°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	1.219	0.824	0.650	0.411	0.221	0.817	-0.178	-0.394	-0.581	-0.785	-1.185	-1.559	-1.940	-2.689	-3.599	-4.729	-4.692	-4.682
0.015	0.991	0.683	0.529	0.356	0.207	0.045	-0.111	-0.283	-0.434	-0.597	-0.920	-1.225	-1.535	-2.049	-2.593	-3.091	-3.277	-3.517
0.030	0.775	0.545	0.423	0.290	0.176	0.050	-0.068	-0.203	-0.318	-0.445	-0.695	-0.932	-1.174	-1.582	-2.006	-2.403	-2.565	-2.727
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	0.429	0.294	0.235	0.161	0.097	0.027	-0.042	-0.116	-0.183	-0.253	-0.396	-0.529	-0.638	-0.915	-1.172	-1.410	-1.523	-1.630
0.100	0.344	0.239	0.188	0.134	0.081	0.027	-0.027	-0.087	-0.139	-0.196	-0.312	-0.411	-0.520	-0.737	-0.944	-1.138	-1.233	-1.321
0.200	0.151	0.106	0.081	0.057	0.034	0.009	-0.018	-0.047	-0.071	-0.099	-0.157	-0.208	-0.266	-0.380	-0.499	-0.621	-0.689	-0.758
0.300	0.076	0.051	0.039	0.027	0.043	0.032	0.019	0.005	-0.013	-0.020	-0.053	-0.087	-0.118	-0.194	-0.286	-0.394	-0.453	-0.525
0.400	0.033	0.019	0.016	0.010	0.011	0.023	0.017	0.013	0.010	0.005	-0.014	-0.024	-0.052	-0.108	-0.189	-0.293	-0.354	-0.423
0.500	-0.005	-0.009	-0.010	-0.011	-0.013	-0.018	-0.015	-0.001	0.014	0.020	0.006	-0.008	-0.022	-0.071	-0.152	-0.255	-0.318	-0.390
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	-0.032	-0.034	-0.031	-0.029	-0.024	-0.021	-0.017	-0.011	-0.009	-0.005	-0.011	-0.020	-0.034	-0.090	-0.175	-0.274	-0.314	-0.400
0.850	-0.008	-0.007	-0.005	-0.003	0.001	0.008	0.012	0.017	0.021	0.020	0.015	0.007	-0.007	-0.058	-0.130	-0.225	-0.282	-0.346
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Wing AP/5, inverted attitude — Δc_p — V = 250 ft/sec; R = 3.2×10^6

x/c	6.5°	4.5°	3.5°	2.5°	1.5°	0.5°	-0.5°	-1.5°	-2.5°	-3.5°	-5.5°	-7.55°	-9.55°	-13.55°	-17.55°	-21.55°	-25.6°	-29.6°	-30.9°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	1.236	0.811	0.658	0.464	0.251	0.060	-0.143	-0.341	-0.542	-0.637	-1.136	-1.552	-1.926	-2.719	-3.442	-4.317	-4.774	-4.921	-5.028
0.015	0.962	0.621	0.491	0.234	0.163	0.010	-0.152	-0.308	-0.467	-0.622	-0.935	-1.255	-1.544	-2.141	-2.551	-3.139	-3.651	-3.995	-4.062
0.030	0.728	0.462	0.365	0.244	0.112	-0.007	-0.130	-0.253	-0.373	-0.491	-0.733	-0.980	-1.203	-1.670	-2.054	-2.468	-2.829	-3.070	-3.094
0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.075	0.417	0.261	0.213	0.143	0.069	0.003	-0.068	-0.135	-0.202	-0.266	-0.404	-0.545	-0.666	-0.935	-1.189	-1.425	-1.644	-1.813	-1.832
0.100	0.331	0.210	0.164	0.109	0.051	-0.003	-0.057	-0.110	-0.160	-0.213	-0.321	-0.429	-0.526	-0.745	-0.950	-1.143	-1.328	-1.487	-1.541
0.200	0.167	0.110	0.086	0.062	0.033	0.007	-0.019	-0.042	-0.063	-0.087	-0.138	-0.193	-0.244	-0.360	-0.482	-0.603	-0.737	-0.886	-0.951
0.300	0.065	0.035	0.020	0.001	-0.006	-0.018	-0.032	-0.020	-0.026	-0.036	-0.063	-0.095	-0.124	-0.192	-0.274	-0.368	-0.534	-0.642	-0.685
0.400	0.024	0.019	0.001	-0.003	-0.008	-0.013	-0.016	0	-0.005	-0.010	-0.022	-0.040	-0.058	-0.110	-0.184	-0.280	-0.399	-0.533	-0.578
0.500	0.005	-0.004	-0.008	0.004	0.019	0.019	0.017	0.018	0.017	0.019	0.013	-0.009	-0.005	-0.054	-0.130	-0.227	-0.353	-0.500	-0.538
0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.750	0.019	0.011	0.015	0.018	0.020	0.026	0.030	0.035	0.038	0.041	0.040	0.034	0.023	-0.021	-0.089	-0.168	-0.279	-0.411	-0.452
0.850	-0.008	-0.010	-0.009	-0.009	-0.004	0	0.007	0.012	0.015	0.020	0.019	0.016	0.007	-0.029	-0.084	-0.142	-0.220	-0.321	-0.349
0.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing AP/1 — $V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
-4.35°	-0.321	-0.0159	-0.321	0.0105	-0.010
-2.2°	-0.179	-0.0059	-0.179	0.0083	-0.002
-1.1°	-0.082	-0.0012	-0.082	0.0008	-0.004
0°	0.011	0.0014	0.011	0.0013	-0.005
1.1°	0.094	-0.0015	0.094	-0.0003	-0.005
2.2°	0.165	-0.0042	0.165	0.0011	-0.002
4.35°	0.323	-0.0154	0.323	0.0070	0.002
6.5°	0.461	-0.0347	0.462	0.0150	0.006
8.7°	0.643	-0.0621	0.645	0.0320	0.003
10.9°	0.797	-0.0979	0.802	0.0495	0.010
13.0°	0.920	-0.1431	0.929	0.0621	0.016
13.25	0.929	-0.1501	0.939	0.0608	0.013
15.0°	0.717	0.0271	0.687	0.2074	-0.089
15.9°	0.611	0.0374	0.579	0.1994	
			Inverted attitude		
4.7°	0.349	-0.0167	0.349	0.0098	-0.002
2.5°	0.196	-0.0052	0.196	0.0022	-0.005
1.45°	0.116	-0.0003	0.116	0.0019	-0.008
0.35°	0.023	0.0034	0.023	0.0003	-0.006
-0.75°	-0.060	-0.0011	-0.060	0.0002	-0.009
-1.85°	-0.149	-0.0034	-0.149	0.0024	-0.009
-4.0°	-0.298	-0.0158	-0.298	0.0071	-0.014
-6.2°	-0.463	-0.0360	-0.463	0.0171	-0.013
-8.4°	-0.630	-0.0645	-0.633	0.0321	-0.012
-10.55°	-0.793	-0.0972	-0.797	0.0550	-0.014
-11.65°	-0.871	-0.1203	-0.877	0.0635	-0.016
-12.75°	-0.942	-0.1455	-0.951	0.0717	-0.020
-13.4°	-0.983	-0.1633	-0.994	0.0749	-0.019
-14.5°	-0.715	0.0244	-0.685	0.2068	-0.086
-14.85°	-0.576	0.0370	-0.545	0.1914	-0.073

Table 8

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing AP/2 — $V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
-4.1°	-0.250	-0.0109	-0.250	0.0086	-0.012
-2.05°	-0.125	-0.0048	-0.125	0.0004	-0.005
-0.05°	0.005	0.0001	0.005	0	-0.005
2.15°	0.133	-0.0031	0.133	0.0011	0
4.0°	0.240	-0.0129	0.240	0.0024	0.007
6.05°	0.362	-0.0243	0.363	0.0119	0.007
8.15°	0.491	-0.0375	0.492	0.0296	0.012
10.25°	0.603	-0.0528	0.603	0.0516	0.015
12.35°	0.740	-0.0785	0.740	0.0768	0.019
14.4°	0.844	-0.1134	0.846	0.0949	0.019
15.1°	0.876	-0.1229	0.878	0.1044	0.020
16.5°	0.701	0.0293	0.665	0.2231	-0.090
17.65°	0.654	0.0404	0.636	0.2327	-0.092
			Inverted attitude		
4.55°	0.277	-0.0121	0.277	0.0082	0.001
2.45°	0.149	-0.0017	0.149	0.0037	-0.005
0.35°	0.022	0.0022	0.022	0.0022	-0.008
-1.7°	-0.106	-0.0034	-0.106	0.0005	-0.010
-3.8°	-0.226	-0.0132	-0.226	0.0032	-0.017
-5.9°	-0.355	-0.0262	-0.356	0.0126	-0.019
-8.0°	-0.485	-0.0417	-0.486	0.0290	-0.020
-10.05°	-0.606	-0.0564	-0.606	0.0540	-0.021
-12.15°	-0.732	-0.0753	-0.731	0.0849	-0.019
-14.2°	-0.840	-0.1061	-0.840	0.1120	-0.025
-15.25°	-0.896	-0.1269	-0.897	0.1189	-0.027
-16.1°	-0.678	0.0315	-0.641	0.2223	0.084
-17.45°	-0.615	0.0399	-0.573	0.2258	0.091

Table 9

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing AP/3

V = 125 ft/sec, R = 1.6×10^6

α	C_N	C_T	C_L	C_D	C_m
		Normal attitude			
- 5.75°	-0.234	-0.0164	-0.234	0.0104	-0.025
- 3.7°	-0.151	-0.0086	-0.151	0.0033	-0.017
- 2.7°	-0.109	-0.0048	-0.109	0.0019	-0.015
- 1.7°	-0.070	-0.0037	-0.070	0	-0.013
- 0.65°	-0.035	-0.0010	-0.035	-0.0001	-0.009
0.35°	-0.009	-0.0009	-0.009	-0.0008	-0.011
1.35°	0.057	-0.0011	0.057	-0.0005	-0.005
2.35°	0.100	-0.0022	0.100	0.0006	0.002
3.4°	0.139	-0.0042	0.139	0.0021	0.006
4.4°	0.177	-0.0065	0.177	0.0046	0.010
6.45°	0.269	-0.0153	0.270	0.0112	0.019
8.45°	0.338	-0.0262	0.339	0.0190	0.018
10.5°	0.437	-0.0396	0.438	0.0344	0.024
12.5°	0.523	-0.0570	0.524	0.0503	0.030
14.55°	00.614	-0.0773	0.615	0.0708	0.033
16.55°	0.701	-0.1031	0.703	0.0912	-
18.6°	0.773	-0.1317	0.776	0.1108	-
		Inverted attitude			
7.35°	0.299	-0.0144	0.299	0.0199	0.007
5.35°	0.223	-0.0062	0.223	0.0115	0.002
4.3°	0.171	-0.0023	0.171	0.0082	0
3.3°	0.135	-0.0016	0.135	0.0043	-0.003
2.3°	0.095	0.0011	0.095	0.0035	-0.007
1.8°	0.047	0.0010	0.047	0.0014	-0.007
0.25°	0.010	0.0019	0.010	0.0018	-0.009
- 0.75°	-0.028	-0.0008	-0.028	0	-0.013
- 1.75°	-0.070	-0.0018	-0.070	0.0014	-0.018
- 2.75°	-0.105	-0.0039	-0.105	0.0027	-0.018
- 4.8°	-0.184	-0.0114	-0.184	0.0066	-0.025
- 6.85°	-0.275	-0.0208	-0.275	0.0160	-0.030
- 8.85°	-0.378	-0.0351	-0.379	0.0289	-0.030
-10.9°	-0.453	-0.0511	-0.454	0.0417	-0.035
-12.9°	-0.553	-0.0722	-0.554	0.0610	-0.038
-14.95°	-0.640	-0.0926	-0.641	0.0846	-0.043
-16.95°	-0.726	-0.1196	-0.730	0.1076	-0.047
-18.0°	-0.776	-0.1376	-0.779	0.1197	-0.046
-18.3°	-0.792	-0.1426	-0.795	0.1242	-0.065

Table 9 (Contd)

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing AP/3 $V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
- 3.75°	-0.144	-0.0045	-0.144	0.0067	-0.017
- 2.7°	-0.101	-0.0030	-0.101	0.0031	-0.014
- 1.7°	-0.062	-0.0019	-0.062	0.0007	-0.012
- 0.7°	-0.025	-0.0011	-0.025	-0.0005	-0.007
0.3°	0.014	-0.0012	0.014	-0.0013	-0.005
1.3°	0.053	-0.0011	0.053	-0.0005	-0.006
2.35°	0.094	-0.0033	0.094	-0.0006	0.002
3.35°	0.143	-0.0054	0.143	0.0012	0.004
4.35°	0.186	-0.0085	0.186	0.0035	0.005
6.4°	0.273	-0.0160	0.273	0.0112	0.012
8.4°	0.357	-0.0270	0.357	0.0212	0.015
10.45°	0.435	-0.0409	0.436	0.0334	0.014
12.5°	0.521	-0.0591	0.522	0.0486	0.017
14.5°	0.612	-0.0816	0.614	0.0669	0.023
16.55°	0.692	-0.1049	0.694	0.0879	0.023
17.55°	0.720	-0.1178	0.723	0.0959	0.023
			Inverted attitude		
5.15°	0.216	-0.0092	0.216	0.0077	0.003
4.15°	0.172	-0.0045	0.172	0.0059	-0.002
3.15°	0.125	-0.0025	0.125	0.0028	-0.004
2.1°	0.091	-0.0011	0.091	0.0011	-0.005
1.1°	0.042	-0.0006	0.042	-0.0004	-0.009
0.1°	0.003	0.0015	0.003	0.0015	-0.011
- 0.9°	-0.032	0.0002	-0.032	0.0011	-0.013
- 1.95°	-0.076	-0.0010	-0.076	0.0025	-0.018
- 2.95°	-0.119	-0.0023	-0.119	0.0053	-0.019
- 5.0°	-0.206	-0.0087	-0.206	0.0118	-0.024
- 7.0°	-0.293	-0.0192	-0.293	0.0202	-0.028
- 9.05°	-0.377	-0.0310	-0.377	0.0332	-0.029
-11.05°	-0.464	-0.0455	-0.464	0.0501	-0.035
-13.1°	-0.549	-0.0627	-0.548	0.0700	-0.041
-15.1°	-0.632	-0.0859	-0.631	0.0897	-0.042
-16.15°	-0.677	-0.1064	-0.679	0.0943	-0.041

Table 10

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing AP/4 $V = 125$ ft/sec, $R = 1.6 \times 10^6$.

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
-5.75°	-0.175	-0.0113	-0.175	0.0082	-0.025
-3.75°	-0.119	-0.0057	-0.119	0.0034	-0.018
-2.75°	-0.085	-0.0027	-0.085	0.0023	-0.015
-1.75°	-0.054	-0.0003	-0.054	0.0019	-0.012
-0.6°	-0.022	0	-0.022	0.0005	-0.009
0.3°	0.009	0.0005	0.009	0.0004	-0.005
1.3°	0.054	0.0002	0.054	0.0008	0
2.3°	0.076	-0.0010	0.076	0.0013	0
3.3°	0.101	-0.0029	0.101	0.0019	0.005
4.3°	0.137	-0.0048	0.137	0.0041	0.007
6.35°	0.198	-0.0098	0.198	0.0101	0.014
10.35°	0.336	-0.0282	0.336	0.0292	0.023
14.4°	0.477	-0.0530	0.477	0.0623	0.025
18.45°	0.631	-0.0885	0.628	0.1091	0.030
20.45°	0.710	-0.1085	0.705	0.1390	0.034
20.85°	0.701	-0.1134	0.697	0.1362	-0.028
21.05°	0.661	-0.0039	0.621	0.2273	-0.028
			Inverted attitude		
6.95°	0.214	-0.0121	0.214	0.0117	0.013
4.95°	0.151	-0.0065	0.151	0.0049	0.009
3.95°	0.121	-0.0039	0.121	0.0033	0.005
2.95°	0.090	-0.0018	0.090	0.0018	0.003
1.95°	0.062	-0.0006	0.062	0.0009	-0.001
0.9°	0.032	-0.0008	0.032	-0.0007	-0.004
-0.1°	-0.008	-0.0010	-0.008	-0.0009	-0.008
-1.1°	-0.034	-0.0006	-0.034	0.0004	-0.011
-2.1°	-0.068	-0.0021	-0.068	0.0012	-0.015
-3.1°	-0.099	-0.0044	-0.099	0.0021	-0.017
-5.15°	-0.167	-0.0093	-0.167	0.0074	-0.022
-9.15°	-0.297	-0.0259	-0.297	0.0248	-0.033
-13.2°	-0.455	-0.0538	-0.455	0.0563	-0.042
-17.25°	-0.602	-0.0894	-0.601	0.0993	-0.049
-19.25°	-0.682	-0.1123	-0.680	0.1260	-0.051
-21.25°	-0.758	-0.1339	-0.753	0.1580	-0.052
-21.55°	-0.771	-0.1328	-0.764	0.1642	-0.054

Table 10 (Contd)

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing AP/4 $V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
-5.75°	-0.180	-0.0108	-0.180	0.0090	-0.021
-3.75°	-0.115	-0.0048	-0.115	0.0038	-0.016
-2.75°	-0.081	-0.0025	-0.081	0.0022	-0.014
-1.75°	-0.048	-0.0020	-0.048	0.0001	-0.014
-0.75°	-0.024	0	-0.024	0.0005	-0.008
0.3°	0.006	-0.0006	0.006	-0.0006	-0.004
1.3°	0.039	-0.0009	0.039	-0.0003	-0.001
2.3°	0.069	-0.0016	0.069	-0.0005	0.002
3.3°	0.098	-0.0032	0.098	0.0015	0.007
4.3°	0.132	-0.0047	0.132	0.0040	0.008
6.35°	0.194	-0.0101	0.194	0.0095	0.014
10.35°	0.333	-0.0265	0.333	0.0306	0.024
14.4°	0.472	-0.0529	0.471	0.0615	0.039
18.4°	0.601	-0.0897	0.599	0.0918	0.032
20.45°	0.707	-0.1084	0.702	0.1386	0.027
21.45°	0.736	-0.1181	0.730	0.1522	0.024
			Inverted attitude		
6.85°	0.213	-0.0114	0.213	0.0122	0.014
4.85°	0.147	-0.0058	0.147	0.0052	0.009
3.85°	0.102	-0.0038	0.102	0.0021	0.011
2.85°	0.083	-0.0020	0.083	0.0014	0.005
1.85°	0.052	-0.0005	0.052	0.0006	-0.001
0.85°	0.020	0	0.020	0.0001	-0.003
-0.2°	-0.013	-0.0003	-0.013	-0.0001	-0.007
-1.2°	-0.036	0	-0.036	0.0011	-0.011
-2.2°	-0.065	-0.0023	-0.065	0.0009	-0.014
-3.2°	-0.097	-0.0037	-0.097	0.0026	-0.017
-5.2°	-0.165	-0.0092	-0.165	0.0075	-0.023
-9.25°	-0.313	-0.0278	-0.313	0.0259	-0.032
-13.3°	-0.456	-0.0543	-0.456	0.0565	-0.040
-17.3°	-0.598	-0.0843	-0.595	0.1033	-0.040
-19.35°	-0.668	-0.1015	-0.663	0.1318	-0.036
-21.35°	-0.741	-0.1183	-0.732	0.1666	-0.032
-23.35°	-0.823	-0.1486	-0.813	0.1979	-0.029
-24.4°	-0.851	-0.1600	-0.839	0.2137	-0.024
-25.4°	-0.895	-0.1480	-0.870	0.2584	-0.026

Table 11

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing AP/5 — $V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
- 5.8°	-0.095	-0.0038	-0.095	0.0068	-0.020
- 3.8°	-0.064	0.0002	-0.064	0.0051	-0.015
- 2.8°	-0.041	0.0005	-0.041	0.0024	-0.015
- 1.8°	-0.025	0.0018	-0.025	0.0028	-0.009
- 0.8°	-0.011	0.0029	-0.011	0.0031	-0.007
0.2°	-0.002	0.0024	-0.002	0.0024	-0.003
1.2°	0.018	0.0020	0.018	0.0022	0.002
2.2°	0.035	0.0018	0.035	0.0028	0.006
3.2°	0.049	0.0010	0.049	0.0032	0.010
4.2°	0.062	0.0003	0.062	0.0042	0.013
6.2°	0.100	-0.0026	0.100	0.0072	0.016
8.2°	0.141	-0.0063	0.141	0.0125	0.020
10.2°	0.178	-0.0101	0.177	0.0198	0.022
14.2°	0.280	-0.0224	0.277	0.0442	0.019
18.25°	0.388	-0.0355	0.381	0.0838	0.009
22.25°	0.523	-0.0549	0.506	0.1420	-0.002
24.25°	0.591	-0.0672	0.566	0.1751	-0.012
25.25°	0.631	-0.0757	0.605	0.1945	-0.018
25.55°	0.643	-0.0765	0.615	0.2019	-0.019
26.25°	0.604	-0.0172	0.552	0.2460	-0.028
			Inverted attitude		
7.0°	0.109	-0.0040	0.109	0.0083	0.016
5.0°	0.076	0.0003	0.076	0.0062	0.011
4.0°	0.061	0.0012	0.061	0.0048	0.007
3.0°	0.048	0.0010	0.048	0.0030	0.003
2.0°	0.031	0.0024	0.031	0.0032	0
1.0°	0.015	0.0028	0.015	0.0029	-0.002
0°	-0.001	0.0027	-0.001	0.0027	-0.006
- 1.0°	-0.016	0.0015	-0.016	0.0020	-0.010
- 2.0°	-0.033	0.0005	-0.033	0.0020	-0.013
- 3.0°	-0.050	-0.0010	-0.050	0.0022	-0.016
- 5.0°	-0.080	-0.0024	-0.080	0.0054	-0.019
- 7.0°	-0.119	-0.0060	-0.119	0.0098	-0.026
- 9.0°	-0.159	-0.0097	-0.158	0.0170	-0.039
-13.0°	-0.259	-0.0225	-0.257	0.0391	-0.030
-17.05°	-0.362	-0.0370	-0.356	0.0745	-0.026
-21.05°	-0.481	-0.0595	-0.469	0.1222	-0.013
-23.05°	-0.556	-0.0740	-0.539	0.1552	-0.008
-25.05°	-0.626	-0.0819	-0.600	0.1973	-0.001
-27.05°	-0.699	-0.0945	-0.663	0.2409	0.009
-28.3°	-0.740	-0.0980	-0.695	0.2716	0.016
-29.05°	-0.652	-0.0143	-0.574	0.3103	0.015

Table 11 (Contd)

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing AP/5

$V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
-6.2°	-0.101	-0.0027	-0.101	0.0085	0.020
-4.2°	-0.065	0.0002	-0.065	0.0051	-0.015
-3.2°	-0.050	0.0010	-0.050	0.0039	-0.012
-2.2°	-0.032	0.0017	-0.032	0.0030	-0.009
-1.2°	-0.019	0.0020	-0.019	0.0024	-0.006
-0.2°	-0.005	0.0025	-0.005	0.0025	0
0.8°	0.012	0.0022	0.012	0.0023	0.002
1.8°	0.027	0.0023	0.027	0.0031	0.006
2.8°	0.042	0.0010	0.042	0.0029	0.010
3.8°	0.059	0.0004	0.059	0.0042	0.013
5.8°	0.100	-0.0029	0.100	0.0070	0.015
7.85°	0.139	-0.0062	0.139	0.0125	0.019
9.85°	0.189	-0.0109	0.188	0.0209	0.020
13.85°	0.280	-0.0221	0.277	0.0448	0.020
17.85°	0.395	-0.0391	0.388	0.0829	0.012
21.85°	0.525	-0.0582	0.509	0.1401	-0.002
23.9°	0.585	-0.0689	0.563	0.1724	-0.014
25.9°	0.657	-0.0790	0.627	0.2141	-0.026
			Inverted attitude		
6.5°	0.111	-0.0041	0.111	0.0082	0.016
4.5°	0.069	-0.0013	0.069	0.0040	0.011
3.5°	0.053	0	0.053	0.0031	0.009
2.5°	0.037	0.0019	0.037	0.0034	0.005
1.5°	0.022	0.0021	0.022	0.0026	0.001
0.5°	0.006	0.0020	0.006	0.0020	-0.002
-0.5°	-0.010	0.0025	-0.010	0.0026	-0.005
-1.5°	-0.021	0.0018	-0.021	0.0024	-0.009
-2.5°	-0.036	0.0009	-0.036	0.0025	-0.012
-3.5°	-0.052	0.0001	-0.052	0.0034	-0.016
-5.5°	-0.088	-0.0024	-0.088	0.0064	-0.019
-7.55°	-0.131	-0.0059	-0.131	0.0117	-0.024
-9.55°	-0.168	-0.0095	-0.167	0.0187	-0.027
-13.55°	-0.265	-0.0226	-0.263	0.0408	-0.028
-17.55°	-0.371	-0.0383	-0.365	0.0764	-0.021
-21.55°	-0.490	-0.0573	-0.476	0.1280	-0.020
-25.6°	-0.625	-0.0778	-0.597	0.2013	0.001
-29.6°	-0.755	-0.0989	-0.705	0.2887	0.025
-30.8°	-0.795	-0.1004	-0.733	0.3228	0.031

Table 12

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing AF/1

V = 125 ft/sec; R = 1.6×10^6

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
-4.3°	-0.263	0.0124	-0.0045
-3.2°	-0.199	0.0092	-0.0033
-2.15°	-0.131	0.0070	-0.0023
-1.05°	-0.067	0.0058	-0.0013
0°	0	0.0054	0
1.05°	0.064	0.0058	0.0011
2.15°	0.130	0.0070	0.0023
3.2°	0.199	0.0092	0.0032
4.3°	0.262	0.0123	0.0043
6.4°	0.396	0.0218	0.0066
8.55°	0.539	0.0353	0.0046
10.7°	0.672	0.0519	0.0039
12.85°	0.801	0.0720	0.0030
15.0°	0.919	0.0951	0.0013
16.05°	0.972	0.1077	-0.0001
17.1°	1.011	0.1209	-0.0026

V = 250 ft/sec; R = 3.2×10^6

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
-3.15°	-0.198	0.0097	-0.0036
-2.1°	-0.133	0.0076	-0.0024
-1.0°	-0.065	0.0066	-0.0013
0.05°	0.002	0.0063	0
1.1°	0.069	0.0067	0.0012
2.2°	0.136	0.0081	0.0023
3.25°	0.202	0.0106	0.0035
4.35°	0.268	0.0139	0.0044
6.4°	0.401	0.0225	0.0063
8.55°	0.535	0.0347	0.0071
10.7°	0.674	0.0512	0.0058
12.85°	0.807	0.0709	0.0049
15.0°	0.935	0.0945	0.0036
17.1°	1.036	0.1195	0.0020

Table 13

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing AF/2

$V = 125$ ft/sec; $R = 1.6 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
-4.45°	-0.217	0.0129	-0.0050
-3.4°	-0.168	0.0100	-0.0042
-2.35°	-0.115	0.0077	-0.0029
-1.3°	-0.064	0.0063	-0.0016
-0.3°	-0.014	0.0057	-0.0002
0.75°	0.035	0.0059	0.0013
1.8°	0.087	0.0069	0.0028
2.8°	0.139	0.0086	0.0041
3.85°	0.188	0.0110	0.0050
5.9°	0.289	0.0189	0.0065
8.0°	0.392	0.0295	0.0072
10.05°	0.502	0.0443	0.0045
12.15°	0.610	0.0626	0.0031
14.2°	0.713	0.0836	0.0014
16.25°	0.811	0.1085	-0.0015
17.3°	0.860	0.1226	-0.0034
18.35°	0.899	0.1362	-0.0057

$V = 250$ ft/sec; $R = 3.2 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
-3.35°	-0.163	0.0110	-0.0046
-2.3°	-0.113	0.0087	-0.0036
-1.25°	-0.062	0.0074	-0.0023
-0.2°	-0.011	0.0068	-0.0009
0.8°	0.039	0.0069	0.0006
1.85°	0.091	0.0078	0.0020
2.9°	0.142	0.0096	0.0033
3.9°	0.193	0.0124	0.0047
6.0°	0.292	0.0195	0.0059
8.05°	0.399	0.0302	0.0070
10.1°	0.502	0.0440	0.0073
12.2°	0.614	0.0610	0.0053
14.25°	0.725	0.0804	0.0022
16.35°	0.830	0.1099	-0.0004
17.4°	0.881	0.1239	-0.0016
18.4°	0.930	0.1390	-0.0033

Table 14

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing AF/3

$V = 125$ ft/sec; $R = 1.6 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 4.1°	-0.136	0.0136	-0.0069
- 3.1°	-0.101	0.0113	-0.0057
- 2.05°	-0.066	0.0095	-0.0042
- 1.05°	-0.034	0.0087	-0.0025
- 0.05°	-0.002	0.0082	-0.0002
0.95°	0.032	0.0084	0.0026
1.95°	0.063	0.0092	0.0046
3.0°	0.097	0.0107	0.0063
4.0°	0.131	0.0127	0.0073
6.1°	0.203	0.0189	0.0086
8.1°	0.274	0.0281	0.0096
10.15°	0.352	0.0406	0.0078
12.15°	0.438	0.0582	0.0026
14.2°	0.529	0.0800	-0.0026
16.25°	0.607	0.1029	-0.0080
18.25°	0.694	0.1324	-0.0145
20.3°	0.778	0.1655	-0.0225
22.3°	0.854	0.2017	-0.0314
22.85°	0.595	0.2707	-0.1034

$V = 250$ ft/sec; $R = 3.2 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 2.15°	-0.066	0.0108	-0.0042
- 1.1°	-0.035	0.0099	-0.0022
- 0.1°	-0.003	0.0095	0.0001
0.9°	0.029	0.0096	0.0026
1.9°	0.061	0.0104	0.0047
2.95°	0.095	0.0118	0.0065
3.95°	0.128	0.0140	0.0075
6.0°	0.204	0.0207	0.0088
8.0°	0.278	0.0302	0.0091
10.05°	0.354	0.0425	0.0082
12.05°	0.434	0.0586	0.0060
14.1°	0.519	0.0790	0.0021
16.15°	0.607	0.1040	-0.0043
18.15°	0.696	0.1336	-0.0110
20.2°	0.782	0.1664	-0.0182
22.25°	0.867	0.2043	-0.0263

Table 15

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing AF/4

$V = 125$ ft/sec; $R = 1.6 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 4.2°	-0.104	0.0128	-0.0087
- 3.15°	-0.077	0.0112	-0.0074
- 2.15°	-0.051	0.0098	-0.0058
- 1.15°	-0.028	0.0090	-0.0035
- 0.15°	-0.003	0.0087	-0.0003
0.85°	0.019	0.0088	0.0024
1.85°	0.042	0.0092	0.0051
2.85°	0.068	0.0105	0.0075
3.9°	0.095	0.0120	0.0086
5.9°	0.150	0.0164	0.0104
7.9°	0.208	0.0243	0.0098
9.9°	0.269	0.0248	0.0079
11.95°	0.334	0.0492	0.0032
13.95°	0.407	0.0676	-0.0051
16.0°	0.477	0.0895	-0.0134
18.0°	0.554	0.1173	-0.0248
20.0°	0.632	0.1497	-0.0373
22.05°	0.712	0.1877	-0.0507
24.05°	0.786	0.2277	-0.0638
25.05°	0.820	0.2507	-0.0727
25.35°	0.738	0.3527	-0.1401

$V = 250$ ft/sec; $R = 3.2 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 4.15°	-0.102	0.0137	-0.0088
- 3.1°	-0.075	0.0117	-0.0077
- 2.1°	-0.049	0.0104	-0.0057
- 1.1°	-0.025	0.0096	-0.0033
- 0.1°	-0.002	0.0093	-0.0003
0.9°	0.021	0.0093	0.0026
1.9°	0.045	0.0100	0.0049
2.9°	0.070	0.0111	0.0073
3.95°	0.097	0.0129	0.0085
5.95°	0.153	0.0187	0.0100
7.95°	0.211	0.0267	0.0095
9.95°	0.273	0.0375	0.0072
12.0°	0.336	0.0511	0.0039
14.0°	0.406	0.0694	-0.0027
16.05°	0.476	0.0911	-0.0104
18.05°	0.548	0.1170	-0.0192
20.05°	0.619	0.1463	-0.0290
22.1°	0.693	0.1811	-0.0405
24.1°	0.767	0.2202	-0.0533
25.1°	0.804	0.2411	-0.0600
26.1°	0.838	0.2632	-0.0667

Table 16

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing AF/5

$V = 125$ ft/sec; $R = 1.6 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
-4.1°	-0.054	0.0141	-0.0075
-3.1°	-0.038	0.0126	-0.0073
-2.1°	-0.025	0.0119	-0.0051
-1.1°	-0.011	0.0112	-0.0049
-0.1°	-0.001	0.0112	-0.0013
0.9°	0.012	0.0115	-0.0003
1.9°	0.023	0.0115	0.0036
2.9°	0.036	0.0121	0.0052
3.9°	0.048	0.0132	0.0071
5.9°	0.079	0.0156	0.0077
7.9°	0.116	0.0210	0.0031
9.9°	0.157	0.0296	0
13.9°	0.246	0.0549	-0.0103
17.95°	0.351	0.0951	-0.0388
21.95°	0.469	0.1545	-0.0707
25.95°	0.600	0.2563	-0.1123
30.0°	0.725	0.3812	-0.1435
34.0°	0.865	0.5364	-0.2052
38.0°	0.940	0.6729	-0.2293
42.05°	1.010	0.8314	-0.2674
46.0°	0.981	0.9120	-0.2480

$V = 250$ ft/sec; $R = 3.2 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
-4.15°	-0.054	0.0145	-0.0069
-3.15°	-0.038	0.0138	-0.0062
-2.1°	-0.025	0.0133	-0.0048
-1.1°	-0.013	0.0127	-0.0027
-0.1°	-0.001	0.0127	-0.0004
0.9°	0.010	0.0126	0.0023
1.9°	0.022	0.0129	0.0044
2.9°	0.035	0.0133	0.0063
3.9°	0.048	0.0142	0.0071
5.9°	0.081	0.0184	0.0069
7.9°	0.115	0.0237	0.0048
9.9°	0.153	0.0312	0.0015
13.9°	0.236	0.0542	-0.0108
17.9°	0.336	0.0926	-0.0326
21.95°	0.448	0.1477	-0.0609
25.95°	0.567	0.2218	-0.0938
29.95°	0.678	0.3088	-0.1270
34.0°	0.798	0.4881	-0.1838

Table 17

BOUNDARY LAYER TRANSITION POSITION AT CENTRE SECTION: A SERIES WINGS

V = 125 ft/sec; R = 1.6 × 10^6			V = 250 ft/sec; R = 3.2 × 10^6		
α	X_T/C		α	X_T/C	
	Upper surface	Lower surface		Upper surface	Lower surface
			AF/1		
- 4.3°	0.82	0.25	- 2.05°	0.54	0.40
- 2.15°	0.70	0.51	0.10°	0.47	0.46
0°	0.58	0.58	2.25°	0.36	0.54
2.15°	0.51	0.68	4.4°	0.10	0.68
4.25°	0.22	0.80	6.4°	0.03_1	0.84
6.4°	0.06	1.00	8.55°	0.01_3	1.00
8.55°	0.02_2	-			
10.7°	0.01_3	-			
			AF/2		
- 4.45°	0.78	0.40	- 2.3°	0.57	0.40
- 2.35°	0.69	0.52	- 0.2°	0.50	0.48
- 0.3°	0.60	0.60	1.85°	0.43	0.56
1.8°	0.52	0.70	3.9°	0.16	0.66
3.85°	0.41	0.75	6.0°	0.06	0.70
5.9°	0.20	0.83	8.05°	0.01_9	0.77
8.0°	0.03	1.00	10.1°	0.01_0	1.00
10.05°	0.01_2	-			
			AF/3		
- 4.15°	0.75	0.44	- 2.15°	0.54	0.42
- 2.1°	0.69	0.52	- 0.1°	0.52	0.52
- 0.1°	0.60	0.58	1.9°	0.47	0.57
1.9°	0.53	0.66	3.95°	0.27	0.56
3.95°	0.46	0.74	6.0°	0.09	0.62
6.1°	0.29	0.78	8.0°	0.04_2	0.68
8.1°	0.10	0.94	10.05°	0.02_1	0.81
10.15°	0.03_6	1.00	12.05°	0.01_0	-
12.15°	0.01_6	-			

Table 17 (Contd)

BOUNDARY LAYER TRANSITION POSITION AT CENTRE SECTION: A SERIES WINGS

V = 125 ft/sec; R = 1.6 × 10^6			V = 250 ft/sec; R = 3.2 × 10^6		
α	X_T/C		α	X_T/C	
	Upper surface	Lower surface		Upper surface	Lower surface
			AF/4		
- 4.2°	0.73	0.46	- 4.15°	0.58	0.29
- 2.15°	0.67	0.54	- 2.1°	0.50	0.44
- 0.15°	0.60	0.58	- 0.1°	0.52	0.50
1.85°	0.52	0.65	1.9°	0.44	0.54
3.85°	0.46	0.73	3.95°	0.38	0.58
5.9°	0.33	0.77	5.95°	0.18	0.62
7.9°	0.14	0.81	7.95°	0.06_2	0.75
9.9°	0.05_2	0.98	9.95°	0.03_1	0.83
11.95°	0.03_1	-	12.0°	0.01_0	0.85
13.95°	0.02_1	-			
			AF/5		
- 4.15°	0.75	0.48	- 4.1°	0.62	0.42
- 0.1°	0.60	0.58	- 0.1°	0.48	0.50
3.9°	0.48	0.75	3.9°	0.40	0.58
7.9°			7.9°	0.10	0.67
11.9°	0.07_3	0.85	11.9°	0.05_2	0.71
15.95°	0.02_5	-	15.9°	0.01_0	-
20.95°	0.01_3	-			

Table 18

LIFT CURVE SLOPES AT ZERO LIFT, WINGS AF/1 AND AF/5

Aspect ratio	$\bar{C}_L/\alpha$				
	Exp.	Original method		Modified method	
		k=1.00	k=0.92	k=1.00	k=0.92
4.0	3.5	3.91	3.76	3.64	3.45
0.5	0.70	0.75	0.72	0.72	0.70

Table 19

Wing BP/0 C_p V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-4.05°	-2.0°	0°	2.0°	4.05°	6.05°	8.1°	10.1°	12.15°	14.15°	16.15°
Upper surface											
0	-2.252	-1.123	0.354	1.002	0.824	-0.319	-2.620	-5.761	-9.053	-11.486	-10.488
0.005	1.011	0.895	0.541	-0.104	-0.969	-2.130	-3.572	-5.154	-6.548	-7.099	-6.763
0.015	0.778	0.494	0.062	-0.556	-1.281	-2.185	-3.116	-4.141	-5.075	-5.675	-5.039
0.030	0.468	0.164	-0.230	-0.740	-1.296	-1.962	-2.663	-3.363	-4.014	-4.423	-4.000
0.050	0.246	-0.035	-0.316	-0.797	-1.238	-1.735	-2.241	-2.757	-3.249	-3.572	-3.075
0.075	0.072	-0.185	-0.482	-0.836	-1.199	-1.572	-2.000	-2.441	-2.777	-2.982	-2.657
0.100	-0.044	-0.281	-0.542	-0.842	-1.149	-1.531	-1.888	-2.236	-2.489	-2.639	-2.336
0.200	-0.203	-0.368	-0.544	-0.727	-0.988	-1.104	-1.314	-1.512	-1.652	-1.724	-1.340
0.300	-0.255	-0.380	-0.514	-0.633	-0.764	-0.908	-1.051	-1.179	-1.261	-1.304	-1.138
0.400	-0.246	-0.342	-0.451	-0.526	-0.625	-0.726	-0.823	-0.908	-0.959	-0.978	-0.902
0.500	-0.174	-0.227	-0.292	-0.370	-0.437	-0.509	-0.570	-0.619	-0.649	-0.657	-0.684
0.650	-0.103	-0.150	-0.196	-0.245	-0.288	-0.331	-0.367	-0.394	-0.403	-0.413	-0.613
0.750	-0.020	-0.030	-0.044	-0.057	-0.070	-0.084	-0.093	-0.101	-0.107	-0.089	-0.038
0.850	-0.022	-0.034	-0.052	-0.069	-0.081	-0.096	-0.100	-0.102	-0.109	-0.136	-0.437
0.950	0.053	0.058	0.056	0.052	0.051	0.043	0.040	0.091	0.066	-0.057	-0.427
Lower surface											
0.005	-2.231	-0.886	-0.164	0.527	0.902	1.015	0.928	0.680	0.373	0.053	0.322
0.015	-2.021	-0.669	-0.129	0.352	0.690	0.915	1.010	0.992	0.916	0.830	0.901
0.030	0.267	-0.517	-0.124	0.245	0.592	0.758	0.913	0.990	1.009	1.008	1.001
0.050	-0.846	-0.435	-0.125	0.165	0.410	0.621	0.784	0.905	0.960	0.985	0.955
0.075	-0.646	-0.375	-0.120	0.115	0.328	0.518	0.675	0.811	0.879	0.910	0.876
0.100	-0.571	-0.344	-0.125	0.080	0.269	0.442	0.591	0.732	0.804	0.731	0.694
0.200	-0.464	-0.319	-0.171	-0.024	0.114	0.251	0.374	0.515	0.583	0.590	0.551
0.300	-0.393	-0.287	-0.175	-0.070	0.040	0.151	0.255	0.388	0.447	0.439	0.389
0.400	-0.297	-0.216	-0.131	-0.053	0.035	0.124	0.207	0.329	0.374	0.350	0.298
0.500	-0.215	-0.154	-0.085	-0.026	0.045	0.116	0.185	0.292	0.330	0.293	0.228
0.650	-0.103	-0.059	-0.015	0.039	0.075	0.127	0.175	0.266	0.290	0.240	0.153
0.750	-0.030	0.003	0.037	0.079	0.096	0.136	0.173	0.254	0.270	0.208	0.101
0.850	0.082	0.107	0.072	0.097	0.127	0.134	0.160	0.231	0.236	0.164	0.023
0.950	0.080	0.094	0.102	0.110	0.123	0.125	0.131	0.188	0.178	0.084	-0.112

Table 19 (Contd)

Wing BP/0 ΔC_p V = 250 ft/sec; R = 3.2×10^6

X/C \ α	-4.05°	-2.0°	0°	2.0°	4.05°	6.05°	8.1°	10.1°	12.15°	14.15°	16.15°
0	0	0	0	0	0	0	0	0	0	0	0
0.005	3.242	1.781	0.705	-0.631	-1.871	-3.145	-4.500	-5.834	-6.921	-7.152	-7.085
0.015	2.799	1.163	0.191	-0.908	-1.971	-3.100	-4.126	-5.133	-5.991	-6.505	-5.940
0.030	1.735	0.681	-0.106	-0.985	-1.888	-2.720	-3.576	-4.353	-5.023	-5.431	-5.001
0.050	1.092	0.400	-0.251	-0.962	-1.648	-2.356	-3.025	-3.662	-4.209	-4.557	-4.030
0.075	0.718	0.190	-0.362	-0.951	-1.527	-2.090	-2.675	-3.252	-3.656	-3.892	-3.533
0.100	0.527	0.063	-0.417	-0.922	-1.418	-1.973	-2.479	-2.968	-3.293	-3.370	-3.030
0.200	0.261	-0.049	-0.373	-0.703	-1.102	-1.355	-1.688	-2.027	-2.235	-2.314	-1.891
0.300	0.138	-0.093	-0.339	-0.563	-0.804	-1.059	-1.306	-1.567	-1.708	-1.743	-1.527
0.400	0.051	-0.126	-0.320	-0.473	-0.660	-0.850	-1.030	-1.237	-1.333	-1.328	-1.200
0.500	0.041	-0.073	-0.207	-0.344	-0.482	-0.625	-0.755	-0.911	-0.979	-0.950	-0.912
0.650	0	-0.091	-0.181	-0.284	-0.363	-0.458	-0.542	-0.660	-0.693	-0.650	-0.766
0.750	0.010	-0.033	-0.081	-0.136	-0.166	-0.220	-0.266	-0.355	-0.377	-0.297	-0.139
0.850	-0.104	-0.141	-0.124	-0.166	-0.208	-0.230	-0.260	-0.333	-0.345	-0.300	-0.460
0.950	-0.027	-0.036	-0.046	-0.058	-0.072	-0.082	-0.090	-0.097	-0.112	-0.141	-0.315

Table-20

Wing BP/1, normal attitude C_p V = 250 ft/sec; R = 3.2 x 10^6

x/c \ α	-4.3°	-2.1°	-1.0°	-0.9°	0.05°	1.15°	2.25°	4.45°	6.6°	8.8°	10.95°	13.15°	15.3°	17.4°	18.45°
Upper surface															
0	-2.086	-0.942	-0.250	-0.236	0.282	0.632	0.906	1.008	0.588	-0.551	-2.384	-4.818	-	-	-
0.005	1.004	0.893	0.777	0.762	0.602	0.419	0.171	-0.437	-1.209	-2.154	-3.248	-4.483	-	-	-
0.015	0.742	0.497	0.333	0.320	0.133	-0.058	-0.297	-0.831	-1.454	-2.171	-2.869	-3.691	-4.488	-	-
0.030	0.431	0.174	0.023	0.013	-0.154	-0.319	-0.513	-0.932	-1.397	-1.917	-2.451	-2.989	-3.620	-4.170	-4.427
0.050	0.217	-0.017	-0.150	-0.158	-0.300	-0.436	-0.598	-0.931	-1.295	-1.668	-2.032	-2.462	-2.915	-3.292	-3.468
0.075	0.051	-0.164	-0.277	-0.284	-0.405	-0.521	-0.655	-0.931	-1.223	-1.496	-1.811	-2.141	-2.482	-2.768	-2.879
0.100	-0.063	-0.252	-0.354	-0.360	-0.465	-0.566	-0.678	-0.908	-1.174	-1.445	-1.701	-1.964	-2.213	-2.492	-2.494
0.200	-0.198	-0.327	-0.395	-0.399	-0.470	-0.534	-0.606	-0.715	-0.858	-1.015	-1.155	-1.301	-1.439	-1.541	-1.572
0.300	-0.255	-0.350	-0.403	-0.404	-0.455	-0.502	-0.533	-0.630	-0.727	-0.832	-0.921	-1.013	-1.093	-1.140	-1.133
0.400	-0.229	-0.301	-0.342	-0.343	-0.385	-0.393	-0.429	-0.502	-0.567	-0.637	-0.695	-0.755	-0.801	-0.815	-0.786
0.500	-0.181	-0.218	-0.236	-0.240	-0.271	-0.293	-0.323	-0.376	-0.421	-0.470	-0.509	-0.546	-0.570	-0.562	-0.522
0.650	-0.085	-0.117	-0.137	-0.137	-0.153	-0.168	-0.194	-0.213	-0.235	-0.262	-0.279	-0.294	-0.298	-0.280	-0.242
0.750	-0.045	-0.065	-0.078	-0.079	-0.088	-0.096	-0.106	-0.124	-0.135	-0.150	-0.157	-0.162	-0.160	-0.148	-0.152
0.850	-0.005	-0.015	-0.022	-0.028	-0.030	-0.031	-0.035	-0.040	-0.044	-0.051	-0.049	-0.047	-0.043	-0.049	-0.090
0.950	0.072	0.076	0.078	0.073	0.073	0.075	0.076	0.077	0.081	0.077	0.077	0.074	0.059	-0.021	-0.049
Lower surface															
0.005	-2.306	-0.919	-0.574	-0.572	-0.227	0.048	0.329	0.732	0.961	1.013	0.929	0.715	0.370	-0.044	-0.247
0.015	-1.496	-0.607	-0.367	-0.358	-0.149	0.032	0.228	0.545	0.783	0.937	1.007	1.007	0.942	0.933	0.755
0.030	-0.871	-0.444	-0.271	-0.264	-0.113	0.008	0.157	0.412	0.625	0.789	0.907	0.981	1.013	1.008	0.997
0.050	-0.664	-0.393	-0.256	-0.251	-0.129	-0.029	0.090	0.305	0.494	0.653	0.781	0.883	0.955	0.996	1.004
0.075	-0.549	-0.334	-0.225	-0.222	-0.121	-0.045	0.056	0.238	0.403	0.549	0.674	0.778	0.863	0.980	0.947
0.100	-0.491	-0.305	-0.212	-0.209	-0.122	-0.057	0.028	0.189	0.339	0.471	0.590	0.691	0.783	0.851	0.877
0.200	-0.402	-0.283	-0.222	-0.219	-0.163	-0.114	-0.055	0.061	0.173	0.278	0.376	0.466	0.554	0.627	0.654
0.300	-0.337	-0.253	-0.204	-0.206	-0.163	-0.135	-0.089	0.001	0.091	0.178	0.258	0.336	0.414	0.480	0.505
0.400	-0.248	-0.184	-0.149	-0.149	-0.117	-0.101	-0.065	0.006	0.077	0.145	0.213	0.277	0.340	0.397	0.414
0.500	-0.170	-0.122	-0.094	-0.096	-0.070	-0.057	-0.027	0.029	0.085	0.139	0.194	0.248	0.299	0.343	0.358
0.650	-0.058	-0.026	-0.007	0.020	0.008	0.029	0.037	0.071	0.114	0.153	0.191	0.230	0.267	0.297	0.302
0.750	0.009	0.037	0.052	0.048	0.061	0.077	0.081	0.123	0.131	0.163	0.193	0.221	0.241	0.270	0.270
0.850	0.046	0.063	0.091	0.071	0.077	0.090	0.088	0.119	0.146	0.148	0.170	0.190	0.219	0.217	0.207
0.950	0.100	0.110	0.114	0.110	0.114	0.119	0.110	0.129	0.142	0.145	0.151	0.159	0.159	0.146	0.115

Table 20 (Contd)

Wing BP/1, inverted attitude C_p V = 250 ft/sec; R = 3.2×10^6

X/C \ α	-4.0°	-1.85°	-0.75°	0.35°	1.45°	2.55°	4.7°
			Upper surface				
0	-2.023	-0.870	-0.164	0.311	0.604	0.911	1.001
0.005	1.006	0.884	0.752	0.590	0.405	0.167	-0.489
0.015	0.739	0.481	0.304	0.121	-0.077	-0.307	-0.883
0.030	0.423	0.158	-0.006	-0.167	-0.335	-0.525	-0.976
0.050	0.209	-0.033	-0.176	-0.311	-0.451	-0.609	-0.974
0.075	0.039	-0.177	-0.301	-0.420	-0.441	-0.671	-0.971
0.100	-0.073	-0.268	-0.379	-0.481	-0.585	-0.695	-0.946
0.200	-0.207	-0.343	-0.418	-0.486	-0.552	-0.623	-0.744
0.300	-0.265	-0.366	-0.421	-0.470	-0.521	-0.546	-0.654
0.400	-0.239	-0.315	-0.360	-0.398	-0.410	-0.442	-0.523
0.500	-0.191	-0.228	-0.251	-0.284	-0.312	-0.337	-0.396
0.650	-0.092	-0.128	-0.147	-0.164	-0.179	-0.193	-0.227
0.750	-0.061	-0.073	-0.086	-0.094	-0.104	-0.111	-0.133
0.850	-0.029	-0.032	-0.034	-0.039	-0.043	-0.047	-0.056
0.950	0.063	0.065	0.064	0.066	0.065	0.066	0.064
			Lower surface				
0.005	-2.259	-0.884	-0.542	-0.204	0.074	0.339	0.753
0.015	-1.465	-0.585	-0.331	-0.135	0.048	0.236	0.564
0.030	-0.847	-0.424	-0.242	-0.101	-0.008	0.163	0.427
0.050	-0.624	-0.375	-0.232	-0.117	-0.019	0.098	0.319
0.075	-0.533	-0.321	-0.203	-0.110	-0.033	0.064	0.250
0.100	-0.474	-0.291	-0.192	-0.113	-0.049	0.038	0.201
0.200	-0.388	-0.272	-0.206	-0.152	-0.105	-0.056	0.070
0.300	-0.327	-0.243	-0.193	-0.153	-0.128	-0.081	0.010
0.400	-0.238	-0.176	-0.141	-0.109	-0.096	-0.058	0.011
0.500	-0.163	-0.116	-0.088	-0.064	-0.050	-0.020	0.033
0.650	-0.053	-0.024	-0.004	0.011	0.030	0.053	0.073
0.750	0.010	0.033	0.048	0.059	0.075	0.091	0.122
0.850	0.045	0.058	0.070	0.076	0.087	0.097	0.117
0.950	0.096	0.103	0.108	0.110	0.114	0.120	0.124

Table 20 (Contd)

Wing BP/1, normal attitude ΔC_p V = 250 ft/sec; R = 3.2×10^6

X/C \ α	-4.3°	-2.1°	-1.0°	-0.9°	0.05°	1.15°	2.25°
0	0	0	0	0	0	0	0
0.005	3.310	1.812	1.351	1.334	0.829	0.467	-0.158
0.015	2.238	1.104	0.700	0.678	0.282	-0.026	-0.525
0.030	1.302	0.618	0.294	0.277	-0.041	-0.327	-0.670
0.050	0.881	0.376	0.106	0.093	-0.171	-0.407	-0.688
0.075	0.600	0.170	-0.052	-0.062	-0.284	-0.476	-0.711
0.100	0.428	0.050	-0.142	-0.151	-0.343	-0.509	-0.706
0.200	0.204	-0.044	-0.173	-0.180	-0.307	-0.420	-0.551
0.300	0.082	-0.097	-0.199	-0.198	-0.292	-0.367	-0.444
0.400	0.019	-0.117	-0.193	-0.194	-0.268	-0.292	-0.364
0.500	-0.011	-0.096	-0.142	-0.144	-0.201	-0.241	-0.296
0.650	-0.027	-0.091	-0.130	-0.157	-0.161	-0.197	-0.231
0.750	-0.054	-0.102	-0.130	-0.127	-0.149	-0.173	-0.187
0.850	-0.051	-0.078	-0.113	-0.099	-0.107	-0.121	-0.123
0.950	-0.028	-0.034	-0.036	-0.037	-0.041	-0.044	-0.034

Wing BP/1, inverted attitude ΔC_p V = 250 ft/sec; R = 3.2×10^6

X/C \ α	-4.0°	-1.85°	-0.75°	0.35°	1.45°	2.55°	4.7°
0	0	0	0	0	0	0	0
0.005	3.265	1.768	1.294	0.794	0.331	-0.172	-1.242
0.015	2.204	1.066	0.635	0.256	-0.125	-0.543	-1.447
0.030	1.270	0.582	0.236	-0.066	-0.327	-0.688	-1.403
0.050	0.833	0.342	0.056	-0.194	-0.432	-0.707	-1.293
0.075	0.572	0.144	-0.098	-0.310	-0.408	-0.735	-1.221
0.100	0.401	0.023	-0.187	-0.368	-0.536	-0.733	-1.147
0.200	0.181	-0.071	-0.212	-0.334	-0.447	-0.567	-0.814
0.300	0.062	-0.123	-0.228	-0.317	-0.393	-0.465	-0.664
0.400	-0.001	-0.139	-0.219	-0.289	-0.314	-0.384	-0.534
0.500	-0.028	-0.112	-0.163	-0.220	-0.262	-0.317	-0.429
0.650	-0.039	-0.104	-0.143	-0.175	-0.209	-0.246	-0.300
0.750	-0.071	-0.106	-0.134	-0.153	-0.179	-0.202	-0.255
0.850	-0.074	-0.090	-0.104	-0.115	-0.130	-0.144	-0.173
0.950	-0.033	-0.038	-0.044	-0.044	-0.049	-0.054	-0.060

Table 21

Wing BP/2, normal attitude C_p V = 250 ft/sec; R = 3.2 x 10^6

x/c \ α	-4.7°	-2.1°	0°	2.1°	4.15°	6.25°	8.35°	10.45°	12.5°	14.6°	16.65°	18.75°	19.75°	20.8°
Upper surface														
0	-2.183	-0.999	-0.037	0.760	1.013	0.922	0.332	-0.837	-2.369	-4.425	-7.203	-10.166	-11.396	-13.048
0.005	1.005	0.938	0.692	0.324	-0.099	-0.658	-1.347	-2.159	-3.069	-4.055	-5.192	-6.367	-6.850	-7.362
0.015	0.743	0.487	0.242	-0.145	-0.534	-1.009	-1.557	-2.177	-2.779	-3.350	-4.022	-4.285	-5.030	-5.493
0.030	0.422	0.155	-0.071	-0.404	-0.712	-1.072	-1.476	-1.919	-2.372	-2.790	-3.314	-3.771	-3.952	-4.158
0.050	0.209	-0.032	-0.227	-0.505	-0.749	-1.034	-1.347	-1.663	-1.966	-2.298	-2.670	-2.996	-3.162	-3.272
0.075	0.042	-0.171	-0.342	-0.576	-0.777	-1.007	-1.258	-1.471	-1.744	-1.988	-2.269	-2.506	-2.595	-2.699
0.100	-0.105	-0.254	-0.402	-0.603	-0.771	-0.963	-1.206	-1.396	-1.613	-1.804	-2.013	-2.185	-2.246	-2.316
0.200	-0.201	-0.330	-0.425	-0.550	-0.626	-0.733	-0.850	-0.965	-1.086	-1.185	-1.294	-1.381	-1.410	-1.436
0.300	-0.256	-0.349	-0.418	-0.499	-0.555	-0.629	-0.702	-0.783	-0.842	-0.907	-0.970	-1.011	-1.023	-1.022
0.400	-0.228	-0.297	-0.349	-0.393	-0.436	-0.486	-0.535	-0.587	-0.622	-0.663	-0.693	-0.716	-0.715	-0.701
0.500	-0.180	-0.204	-0.243	-0.289	-0.324	-0.356	-0.386	-0.422	-0.444	-0.468	-0.484	-0.492	-0.485	-0.464
0.650	-0.081	-0.111	-0.133	-0.156	-0.173	-0.189	-0.203	-0.222	-0.231	-0.240	-0.241	-0.239	-0.231	-0.213
0.750	-0.037	-0.055	-0.070	-0.080	-0.089	-0.097	-0.104	-0.116	-0.117	-0.120	-0.116	-0.111	-0.108	-0.110
0.850	0.001	-0.007	-0.013	-0.017	-0.020	-0.020	-0.019	-0.024	-0.021	-0.019	-0.012	-0.013	-0.018	-0.041
0.950	0.084	0.088	0.087	0.090	0.091	0.094	0.096	0.095	0.096	0.103	0.088	0.063	0.046	0.005
Lower surface														
0.005	-2.112	-0.817	-0.376	0.211	0.584	0.849	0.986	1.018	0.954	0.804	0.560	0.261	0.130	-0.052
0.015	-1.456	-0.590	-0.265	0.118	0.392	0.618	0.812	0.946	1.002	1.014	0.977	0.892	0.849	0.786
0.030	-0.774	-0.458	-0.222	0.066	0.279	0.477	0.647	0.794	0.888	0.963	1.008	1.016	1.015	1.008
0.050	-0.623	-0.371	-0.189	0.024	0.199	0.367	0.521	0.661	0.764	0.855	0.932	0.974	0.987	1.004
0.075	-0.525	-0.317	-0.170	-0.001	0.145	0.290	0.426	0.553	0.656	0.750	0.836	0.892	0.913	0.939
0.100	-0.473	-0.294	-0.168	-0.021	0.106	0.234	0.356	0.475	0.570	0.662	0.750	0.814	0.836	0.864
0.200	-0.382	-0.271	-0.191	-0.091	-0.003	0.089	0.179	0.274	0.353	0.432	0.513	0.577	0.602	0.632
0.300	-0.316	-0.243	-0.181	-0.120	-0.054	0.017	0.090	0.167	0.231	0.300	0.372	0.428	0.451	0.479
0.400	-0.228	-0.173	-0.130	-0.088	-0.039	0.015	0.071	0.133	0.186	0.242	0.301	0.349	0.369	0.392
0.500	-0.152	-0.110	-0.081	-0.049	-0.012	0.031	0.074	0.125	0.169	0.213	0.262	0.301	0.318	0.335
0.650	-0.049	-0.022	-0.004	0.030	0.050	0.067	0.098	0.137	0.168	0.199	0.235	0.262	0.274	0.284
0.750	0.018	0.038	0.051	0.078	0.094	0.113	0.117	0.151	0.174	0.199	0.224	0.245	0.254	0.257
0.850	0.053	0.071	0.078	0.094	0.101	0.117	0.129	0.144	0.162	0.177	0.196	0.205	0.210	0.205
0.950	0.108	0.118	0.120	0.127	0.126	0.131	0.142	0.148	0.153	0.157	0.161	0.154	0.147	0.130

Table 21 (Contd)

Wing BP/2, normal attitude ΔC_p V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-4.7°	-2.1°	0°	2.1°	4.15°	6.25°	8.35°	10.45°	12.5°	14.6°	16.65°	18.75°	19.75°	20.8°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	3.117	1.755	1.068	0.113	-0.683	-1.507	-2.333	-3.177	-4.023	-4.859	-5.752	-6.628	-6.980	-7.310
0.015	2.202	1.077	0.507	-0.263	-0.926	-1.627	-2.369	-3.123	-3.781	-4.364	-4.999	-5.177	-5.879	-6.279
0.030	1.196	0.613	0.151	-0.470	-0.991	-1.549	-2.123	-2.713	-3.260	-3.753	-4.322	-4.787	-4.967	-5.166
0.050	0.832	0.339	-0.038	-0.529	-0.948	-1.401	-1.868	-2.324	-2.730	-3.153	-3.602	-3.970	-4.149	-4.276
0.075	0.567	0.146	-0.172	-0.575	-0.922	-1.297	-1.684	-2.024	-2.400	-2.738	-3.105	-3.398	-3.508	-3.638
0.100	0.368	0.040	-0.234	-0.582	-0.877	-1.197	-1.562	-1.871	-2.183	-2.466	-2.763	-2.999	-3.082	-3.180
0.200	0.181	-0.059	-0.234	-0.459	-0.623	-0.822	-1.029	-1.239	-1.439	-1.617	-1.807	-1.958	-2.012	-2.068
0.300	0.060	-0.106	-0.237	-0.379	-0.501	-0.646	-0.792	-0.950	-1.013	-1.207	-1.342	-1.439	-1.474	-1.501
0.400	0	-0.124	-0.219	-0.305	-0.397	-0.501	-0.606	-0.720	-0.808	-0.905	-0.994	-1.065	-1.084	-1.093
0.500	-0.028	-0.094	-0.162	-0.240	-0.312	-0.387	-0.460	-0.547	-0.613	-0.681	-0.746	-0.793	-0.803	-0.799
0.650	-0.033	-0.089	-0.129	-0.186	-0.223	-0.256	-0.301	-0.359	-0.399	-0.439	-0.476	-0.501	-0.505	-0.497
0.750	-0.055	-0.093	-0.121	-0.158	-0.183	-0.210	-0.221	-0.267	-0.291	-0.319	-0.340	-0.356	-0.362	-0.367
0.850	-0.052	-0.064	-0.091	-0.111	-0.111	-0.137	-0.148	-0.168	-0.183	-0.196	-0.208	-0.218	-0.228	-0.246
0.950	-0.024	-0.030	-0.033	-0.037	-0.037	-0.037	-0.046	-0.053	-0.057	-0.054	-0.073	-0.091	-0.101	-0.125

Table 22

Wing BP/3, normal attitude — C_p — V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-6.35°	-5.35°	-4.3°	-3.3°	-2.3°	-1.3°	-0.25°	0.75°	1.75°	3.8°	5.8°	7.85°	9.9°	11.9°	13.95°	15.95°	18.0°	20.0°	22.05°
Upper surface																			
0	-1.736	-1.282	-0.844	-0.451	-0.157	0.213	0.430	0.631	0.808	1.003	1.028	0.862	0.470	-0.163	-1.053	-2.174	-3.588	-5.050	-6.807
0.005	1.045	1.024	1.004	0.957	0.933	0.826	0.717	0.590	0.495	0.184	-0.178	-0.637	-1.134	-1.617	-2.381	-3.116	-3.947	-4.638	-5.371
0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.030	0.470	0.409	0.338	0.245	0.164	0.055	-0.036	-0.149	-0.233	-0.477	-0.719	-0.985	-1.219	-1.499	-1.844	-2.203	-2.513	-2.837	-3.209
0.050	0.277	0.210	0.139	0.064	-0.003	-0.099	-0.176	-0.263	-0.348	-0.537	-0.729	-0.940	-1.109	-1.335	-1.546	-1.767	-2.015	-2.253	-2.512
0.075	0.098	0.035	-0.030	-0.096	-0.151	-0.235	-0.301	-0.375	-0.445	-0.603	-0.755	-0.925	-1.055	-1.224	-1.385	-1.566	-1.749	-1.919	-2.102
0.100	0	-0.059	-0.115	-0.172	-0.220	-0.293	-0.350	-0.413	-0.472	-0.604	-0.731	-0.875	-0.987	-1.111	-1.247	-1.389	-1.530	-1.669	-1.805
0.200	-0.168	-0.207	-0.242	-0.281	-0.308	-0.353	-0.389	-0.425	-0.459	-0.536	-0.579	-0.654	-0.725	-0.798	-0.865	-0.934	-1.002	-1.064	-1.128
0.300	-0.236	-0.261	-0.287	-0.309	-0.331	-0.361	-0.384	-0.406	-0.429	-0.473	-0.507	-0.552	-0.592	-0.638	-0.672	-0.710	-0.750	-0.782	-0.816
0.400	-0.207	-0.224	-0.242	-0.257	-0.274	-0.294	-0.311	-0.328	-0.339	-0.341	-0.368	-0.397	-0.422	-0.448	-0.469	-0.492	-0.516	-0.535	-0.556
0.500	-0.164	-0.177	-0.190	-0.193	-0.191	-0.194	-0.208	-0.219	-0.231	-0.253	-0.268	-0.285	-0.298	-0.313	-0.327	-0.341	-0.356	-0.367	-0.380
0.650	-0.050	-0.059	-0.070	-0.074	-0.082	-0.089	-0.093	-0.096	-0.102	-0.111	-0.119	-0.127	-0.133	-0.141	-0.149	-0.157	-0.167	-0.174	-0.182
0.750	-0.039	-0.042	-0.045	-0.047	-0.051	-0.052	-0.056	-0.054	-0.056	-0.060	-0.059	-0.061	-0.064	-0.066	-0.070	-0.072	-0.149	-0.082	-0.086
0.850	0.009	0.006	0.006	0.007	0.003	0.004	0.002	0.006	0.004	0.006	0.008	0.008	0.007	0.008	0.006	0.006	0.004	-0.008	0
0.950	0.075	0.076	0.077	0.079	0.078	0.079	0.081	0.088	0.087	0.087	0.093	0.096	0.097	0.098	0.097	0.095	0.093	0.092	0.083
Lower surface																			
0.005	-2.464	-2.110	-1.779	-1.462	-1.233	-0.873	-0.578	-0.304	-0.085	0.325	0.629	0.847	0.973	1.013	0.990	0.890	0.710	0.470	0.148
0.015	-1.255	-1.082	-0.917	-0.752	-0.634	-0.447	-0.329	-0.170	-0.052	0.197	0.407	0.596	0.744	0.867	0.950	1.000	1.013	0.998	0.950
0.030	-0.913	-0.794	-0.679	-0.561	-0.482	-0.347	-0.261	-0.150	-0.058	0.126	0.294	0.450	0.584	0.707	0.806	0.888	0.949	0.988	1.000
0.050	-0.725	-0.640	-0.554	-0.467	0.407	-0.305	-0.238	-0.149	-0.077	0.072	0.209	0.342	0.458	0.569	0.669	0.758	0.833	0.894	0.944
0.075	-0.590	-0.506	-0.463	-0.397	-0.350	-0.271	-0.219	-0.143	-0.090	0.032	0.146	0.258	0.359	0.460	0.552	0.641	0.718	0.786	0.847
0.100	-0.502	-0.449	-0.396	-0.340	-0.303	-0.240	-0.195	-0.139	-0.093	0.010	0.109	0.208	0.296	0.387	0.473	0.555	0.631	0.678	0.737
0.200	-0.385	-0.358	-0.327	-0.295	-0.274	-0.237	-0.208	-0.171	-0.143	-0.077	-0.009	0.060	0.123	0.193	0.258	0.327	0.394	0.455	0.518
0.300	-0.316	-0.298	-0.279	-0.258	-0.246	-0.222	-0.204	-0.176	-0.159	-0.110	-0.062	-0.012	0.037	0.089	0.143	0.271	0.256	0.311	0.365
0.400	-0.211	-0.201	-0.188	-0.174	-0.165	-0.153	-0.139	-0.128	-0.114	-0.082	-0.045	-0.009	0.028	0.070	0.111	0.157	0.203	0.249	0.294
0.500	-0.140	-0.131	-0.125	-0.117	-0.113	-0.105	-0.097	-0.081	-0.073	-0.045	-0.017	0.010	0.037	0.069	0.101	0.138	0.176	0.214	0.252
0.650	-0.021	-0.018	-0.014	-0.007	-0.006	-0.001	0.002	0.010	0.017	0.035	0.045	0.057	0.077	0.097	0.120	0.149	0.175	0.203	0.231
0.750	0.038	0.040	0.043	0.048	0.049	0.051	0.055	0.061	0.064	0.076	0.126	0.110	0.103	0.116	0.135	0.157	0.179	0.201	0.224
0.850	0.056	0.057	0.059	0.064	0.063	0.065	0.066	0.069	0.070	0.076	0.086	0.095	0.106	0.118	0.127	0.147	0.162	0.179	0.196
0.950	0.096	0.097	0.098	0.100	0.100	0.100	0.101	0.101	0.099	0.101	0.104	0.108	0.111	0.116	0.123	0.137	0.143	0.151	0.158

Table 22 (Contd)

Wing BP/3, inverted attitude C_p V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-5.75°	-4.75°	-3.75°	-2.7°	-1.7°	-0.7°	0.3°	1.35°	2.35°	4.4°	6.4°
0	-1.647	-1.168	-0.731	-0.360	-0.030	0.259	0.508	0.701	0.848	1.002	0.966
0.005	1.013	0.999	0.969	0.921	0.929	0.778	0.679	0.564	0.434	0.111	-0.289
0.015	0.771	0.699	0.619	0.535	0.445	0.342	0.232	0.112	-0.013	-0.298	-0.629
0.030	0.473	0.384	0.295	0.210	0.123	0.024	-0.078	-0.185	-0.294	-0.532	-0.793
0.050	0.260	0.184	0.107	0.030	-0.045	-0.129	-0.210	-0.302	-0.389	-0.580	-0.785
0.075	0.082	0.012	-0.055	-0.123	-0.187	-0.260	-0.332	-0.408	-0.480	-0.634	-0.800
0.100	-0.017	-0.076	-0.138	-0.199	-0.253	-0.315	-0.376	-0.440	-0.503	-0.631	-0.767
0.200	-0.184	-0.223	-0.269	-0.299	-0.335	-0.372	-0.405	-0.445	-0.481	-0.546	-0.602
0.300	-0.249	-0.277	-0.304	-0.330	-0.353	-0.377	-0.398	-0.425	-0.455	-0.485	-0.525
0.400	-0.220	-0.241	-0.261	-0.277	-0.293	-0.311	-0.325	-0.347	-0.349	-0.356	-0.388
0.500	-0.178	-0.192	-0.208	-0.210	-0.205	-0.212	-0.220	-0.236	-0.247	-0.266	-0.285
0.650	-0.062	-0.075	-0.085	-0.092	-0.098	-0.104	-0.104	-0.111	-0.117	-0.126	-0.137
0.750	-0.055	-0.058	-0.063	-0.065	-0.069	-0.070	-0.069	-0.072	-0.075	-0.075	-0.076
0.850	-0.007	-0.012	-0.013	-0.014	-0.015	-0.015	-0.010	-0.013	-0.013	-0.013	-0.010
0.950	0.060	0.059	0.061	0.061	0.062	0.063	0.062	0.069	0.069	0.073	0.076
0.005	-2.336	-2.005	-1.675	-1.383	-1.099	-0.795	-0.484	-0.234	-0.014	0.381	0.671
0.015	-1.209	-1.035	-0.867	-0.707	-0.559	-0.417	-0.270	-0.132	-0.009	0.303	0.422
0.030	-0.880	-0.762	-0.644	-0.533	-0.429	-0.322	-0.226	-0.123	-0.030	0.155	0.324
0.050	-0.699	-0.615	-0.529	-0.446	-0.367	-0.286	-0.211	-0.125	-0.053	0.094	0.233
0.075	-0.574	-0.508	-0.444	-0.371	-0.320	-0.256	-0.198	-0.127	-0.069	0.051	0.167
0.100	-0.486	-0.434	-0.381	-0.328	-0.278	-0.227	-0.176	-0.124	-0.075	0.027	0.125
0.200	-0.376	-0.349	-0.318	-0.288	-0.260	-0.229	-0.198	-0.162	-0.131	-0.065	0.005
0.300	-0.312	-0.294	-0.275	-0.255	-0.238	-0.219	-0.198	-0.171	-0.150	-0.102	-0.053
0.400	-0.208	-0.197	-0.186	-0.172	-0.161	-0.150	-0.132	-0.124	-0.110	-0.074	-0.039
0.500	-0.140	-0.133	-0.126	-0.119	-0.112	-0.104	-0.091	-0.080	-0.067	-0.040	-0.012
0.650	-0.023	-0.022	-0.017	-0.013	-0.010	-0.006	0	0.008	0.017	0.037	0.042
0.750	0.034	0.034	0.037	0.041	0.044	0.046	0.054	0.058	0.064	0.077	0.093
0.850	0.051	0.051	0.051	0.055	0.056	0.058	0.063	0.063	0.066	0.075	0.083
0.950	0.086	0.086	0.086	0.087	0.088	0.088	0.090	0.088	0.090	0.093	0.095

Table 22 (Contd)

Wing BP/3, normal attitude — ΔC_p — V = 250 ft/sec; R = 3.2×10^6

α / x/c	-6.35°	-5.35°	-4.3°	-3.3°	-2.3°	-1.3°	-0.25°	0.75°	1.75°	3.8°	5.8°	7.85°	9.9°	11.9°	13.95°	15.95°	18.0°	20.0°	22.05°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	3.509	3.134	2.783	2.419	2.166	1.699	1.295	0.894	0.580	-0.141	-0.807	-1.484	-2.107	-2.630	-3.371	-4.116	-4.657	-5.108	-5.519
0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.030	1.383	1.203	1.017	0.806	0.646	0.402	0.225	0.001	-0.175	-0.603	-1.013	-1.435	-1.803	-2.206	-2.650	-3.091	-3.462	-3.825	-4.209
0.050	1.002	0.850	0.693	0.531	0.404	0.206	0.062	-0.114	-0.271	-0.609	-0.938	-1.282	-1.567	-1.904	-2.215	-2.525	-2.848	-3.147	-3.456
0.075	0.688	0.541	0.433	0.301	0.199	0.036	-0.082	-0.232	-0.355	-0.635	-0.901	-1.183	-1.414	-1.684	-1.937	-2.207	-2.467	-2.705	-2.949
0.100	0.502	0.390	0.281	0.168	0.083	-0.053	-0.155	-0.274	-0.379	-0.614	-0.840	-1.083	-1.283	-1.498	-1.720	-1.944	-2.161	-2.347	-2.542
0.200	0.217	0.151	0.085	0.014	0.034	-0.116	-0.181	-0.254	-0.316	-0.459	-0.570	-0.714	-0.848	-0.991	-1.123	-1.261	-1.396	-1.519	-1.646
0.300	0.080	0.037	0.008	-0.051	-0.085	-0.139	-0.180	-0.230	-0.270	-0.363	-0.445	-0.540	-0.629	-0.727	-0.815	-0.981	-1.006	-1.039	-1.181
0.400	0.004	-0.023	-0.054	-0.083	-0.109	-0.141	-0.172	-0.200	-0.225	-0.259	-0.323	-0.388	-0.450	-0.518	-0.580	-0.649	-0.719	-0.784	-0.850
0.500	-0.024	-0.046	-0.065	-0.076	-0.078	-0.089	-0.111	-0.138	-0.158	-0.208	-0.251	-0.295	-0.335	-0.382	-0.428	-0.479	-0.532	-0.581	-0.632
0.650	-0.029	-0.041	-0.056	-0.067	-0.076	-0.088	-0.095	-0.106	-0.119	-0.146	-0.164	-0.184	-0.210	-0.238	-0.269	-0.306	-0.342	-0.377	-0.413
0.750	-0.077	-0.082	-0.088	-0.095	-0.100	-0.103	-0.111	-0.115	-0.120	-0.136	-0.185	-0.171	-0.167	-0.182	-0.205	-0.229	-0.328	-0.283	-0.310
0.850	-0.047	-0.051	-0.053	-0.057	-0.060	-0.061	-0.064	-0.063	-0.064	-0.070	-0.078	-0.087	-0.099	-0.110	-0.121	-0.141	-0.158	-0.187	-0.196
0.950	-0.021	-0.021	-0.021	-0.021	-0.022	-0.021	-0.020	-0.013	-0.012	-0.014	-0.011	-0.012	-0.014	-0.018	-0.026	-0.042	-0.050	-0.059	-0.075

Wing BP/3, inverted attitude — ΔC_p — V = 250 ft/sec; R = 3.2×10^6

α / x/c	-5.75°	-4.75°	-3.75°	-2.7°	-1.7°	-0.7°	0.3°	1.35°	2.35°	4.4°	6.4°
0	0	0	0	0	0	0	0	0	0	0	0
0.005	3.349	3.004	2.644	2.304	2.028	1.573	1.163	0.798	0.448	-0.270	-0.966
0.015	1.980	1.734	1.486	1.242	1.004	0.759	0.502	0.244	-0.004	-0.601	-1.051
0.030	1.353	1.146	0.939	0.743	0.552	0.346	0.148	-0.062	-0.264	-0.687	-1.117
0.050	0.959	0.799	0.636	0.476	0.322	0.157	0.001	-0.177	-0.336	-0.674	-1.018
0.075	0.656	0.520	0.389	0.248	0.133	-0.004	-0.134	-0.281	-0.411	-0.685	-0.967
0.100	0.469	0.358	0.243	0.129	0.025	-0.088	-0.200	-0.316	-0.428	-0.658	-0.892
0.200	0.192	0.126	0.049	-0.011	-0.075	-0.143	-0.207	-0.283	-0.350	-0.481	-0.607
0.300	0.063	0.017	-0.029	-0.075	-0.115	-0.158	-0.200	-0.254	-0.305	-0.383	-0.472
0.400	-0.012	-0.044	-0.075	-0.105	-0.132	-0.161	-0.193	-0.223	-0.239	-0.282	-0.349
0.500	-0.038	-0.059	-0.082	-0.091	-0.093	-0.108	-0.129	-0.156	-0.180	-0.226	-0.273
0.650	-0.039	-0.053	-0.068	-0.079	-0.088	-0.098	-0.104	-0.119	-0.134	-0.163	-0.179
0.750	-0.089	-0.092	-0.100	-0.106	-0.113	-0.116	-0.123	-0.130	-0.139	-0.152	-0.169
0.850	-0.058	-0.063	-0.064	-0.069	-0.071	-0.073	-0.073	-0.076	-0.079	-0.088	-0.093
0.950	-0.026	-0.027	-0.025	-0.026	-0.026	-0.025	-0.028	-0.019	-0.021	-0.020	-0.019

Table 23

Wing BP/4, normal attitude

C_p

V = 250 ft/sec; R = 3.2×10^6

X/C \ α	-6.3°	-4.3°	-3.3°	-2.3°	-1.3°	-0.3°	0.75°	1.75°	3.75°	5.75°	9.8°	13.85°	17.85°	21.9°	25.95°	27.95°	28.95°	30.0°
Upper surface																		
0	-1.464	-0.722	-0.400	-0.108	-0.139	0.277	0.556	0.723	0.941	1.010	0.797	-0.138	-1.837	-4.335	-7.537	-9.452	-10.524	-11.513
0.005	1.010	0.971	0.933	0.882	0.819	0.749	0.660	0.560	0.323	0.032	-0.697	-1.639	-2.833	-4.206	-5.704	-6.410	-6.813	-7.142
0.015	0.758	0.629	0.558	0.526	0.397	0.316	0.220	0.119	-0.108	-0.353	-0.925	-1.617	-2.332	-3.238	-4.058	-4.505	-4.733	-4.909
0.030	0.452	0.312	0.240	0.164	0.082	-0.006	-0.084	-0.171	-0.363	-0.560	-1.000	-1.488	-2.034	-2.553	-3.114	-3.379	-3.509	-3.599
0.050	0.248	0.123	0.058	-0.005	-0.074	-0.137	-0.213	-0.283	-0.434	-0.592	-0.922	-1.291	-1.609	-1.999	-2.375	-2.564	-2.646	-2.723
0.075	0.076	-0.039	-0.095	-0.148	-0.207	-0.259	-0.322	-0.380	-0.502	-0.627	-0.882	-1.097	-1.407	-1.687	-1.945	-2.064	-2.121	-2.161
0.100	-0.015	-0.118	-0.166	-0.211	-0.263	-0.313	-0.361	-0.409	-0.510	-0.612	-0.820	-0.988	-1.231	-1.446	-1.634	-1.717	-1.757	-1.788
0.200	-0.174	-0.230	-0.267	-0.292	-0.320	-0.347	-0.375	-0.402	-0.453	-0.495	-0.581	-0.679	-0.783	-0.872	-0.952	-0.983	-1.002	-1.020
0.300	-0.231	-0.276	-0.293	-0.310	-0.327	-0.342	-0.360	-0.375	-0.409	-0.429	-0.478	-0.528	-0.585	-0.636	-0.677	-0.692	-0.699	-0.704
0.400	-0.198	-0.228	-0.241	-0.250	-0.263	-0.272	-0.284	-0.295	-0.275	-0.295	-0.326	-0.352	-0.388	-0.429	-0.461	-0.477	-0.487	-0.495
0.500	-0.156	-0.178	-0.177	-0.165	-0.166	-0.172	-0.181	-0.188	-0.201	-0.210	-0.223	-0.238	-0.264	-0.299	-0.331	-0.346	-0.356	-0.366
0.650	-0.042	-0.058	-0.063	-0.064	-0.067	-0.068	-0.069	-0.071	-0.076	-0.081	-0.086	-0.097	-0.124	-0.157	-0.189	-0.204	-0.216	-0.227
0.750	-0.031	-0.037	-0.040	-0.037	-0.038	-0.037	-0.035	-0.036	-0.034	-0.034	-0.032	-0.040	-0.064	-0.091	-0.111	-0.130	-0.140	-0.151
0.850	0.017	0.012	0.013	0.014	0.014	0.017	0.019	0.019	0.020	0.021	0.023	0.015	-0.004	-0.022	-0.040	-0.050	-0.060	-0.093
0.950	0.082	0.079	0.080	0.080	0.084	0.087	0.091	0.092	0.095	0.096	0.099	0.096	0.080	0.068	0.063	0.032	0.033	0.019
Lower surface																		
0.005	-2.144	-1.629	-1.383	-1.129	-0.863	-0.646	-0.406	-0.198	0.172	0.472	0.870	1.011	0.924	0.604	0.096	-0.256	-0.445	-0.624
0.015	-1.105	-0.830	-0.701	-0.571	-0.447	-0.352	-0.226	-0.107	0.104	0.299	0.622	0.858	0.987	1.010	0.940	0.869	0.824	0.777
0.030	-0.803	-0.616	-0.525	-0.438	-0.348	-0.274	-0.190	-0.105	0.055	0.202	0.471	0.696	0.865	0.967	1.010	1.010	1.005	0.997
0.050	-0.632	-0.497	-0.433	-0.367	-0.300	-0.242	-0.179	-0.111	0.016	0.135	0.359	0.559	0.729	0.861	0.953	0.982	0.995	1.003
0.075	-0.505	-0.405	-0.356	-0.306	-0.257	-0.209	-0.163	-0.112	-0.012	0.086	0.272	0.452	0.613	0.746	0.857	0.903	0.924	0.941
0.100	-0.426	-0.348	-0.312	-0.269	-0.229	-0.189	-0.152	-0.113	-0.029	0.052	0.216	0.372	0.525	0.657	0.772	0.825	0.848	0.870
0.200	-0.330	-0.292	-0.273	-0.250	-0.229	-0.207	-0.185	-0.156	-0.103	-0.051	0.060	0.178	0.299	0.414	0.528	0.583	0.610	0.635
0.300	-0.263	-0.241	-0.230	-0.218	-0.206	-0.193	-0.179	-0.164	-0.129	-0.093	-0.011	0.079	0.178	0.276	0.380	0.432	0.459	0.482
0.400	-0.172	-0.161	-0.157	-0.148	-0.141	-0.135	-0.126	-0.120	-0.096	-0.072	-0.011	0.058	0.140	0.222	0.313	0.358	0.380	0.403
0.500	-0.108	-0.105	-0.102	-0.099	-0.096	-0.093	-0.086	-0.079	-0.059	-0.041	0.005	0.058	0.125	0.195	0.273	0.313	0.334	0.352
0.650	-0.002	-0.004	0	0	0	0.002	0.005	0.008	0.024	0.032	0.049	0.089	0.140	0.195	0.257	0.288	0.304	0.319
0.750	0.049	0.049	0.050	0.049	0.048	0.049	0.051	0.054	0.063	0.071	0.099	0.111	0.151	0.197	0.251	0.274	0.287	0.301
0.850	0.070	0.063	0.064	0.062	0.063	0.062	0.063	0.063	0.067	0.072	0.090	0.113	0.140	0.175	0.219	0.237	0.244	0.254
0.950	0.113	0.099	0.099	0.100	0.099	0.101	0.098	0.093	0.095	0.095	0.099	0.106	0.126	0.142	0.165	0.170	0.171	0.173

Table 23 (Contd)

Wing BP/4, inverted attitude C_p V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-5.75°	-4.75°	-3.7°	-2.7°	-1.7°	-0.7°	0.3°	1.3°	2.3°	4.35°	6.35°
Upper surface											
0	-1.316	-0.949	-0.626	-0.290	-0.012	0.234	0.438	0.628	0.784	0.968	1.012
0.005	1.008	0.989	0.962	0.917	0.863	0.795	0.720	0.623	0.512	0.265	-0.034
0.015	0.737	0.672	0.609	0.530	0.455	0.374	0.285	0.180	0.073	-0.153	-0.406
0.030	0.430	0.360	0.292	0.211	0.136	0.057	-0.025	-0.116	-0.211	-0.403	-0.602
0.050	0.228	0.164	0.103	0.034	-0.029	-0.097	-0.163	-0.238	-0.316	-0.465	-0.621
0.075	0.056	-0.001	-0.054	-0.113	-0.169	-0.160	-0.281	-0.342	-0.406	-0.528	-0.649
0.100	-0.034	-0.085	-0.131	-0.184	-0.231	-0.279	-0.326	-0.378	-0.428	-0.530	-0.627
0.200	-0.185	-0.218	-0.246	-0.277	-0.304	-0.331	-0.357	-0.384	-0.413	-0.465	-0.492
0.300	-0.240	-0.264	-0.283	-0.302	-0.319	-0.334	-0.349	-0.365	-0.382	-0.412	-0.431
0.400	-0.220	-0.222	-0.233	-0.247	-0.256	-0.266	-0.279	-0.289	-0.293	-0.282	-0.295
0.500	-0.161	-0.174	-0.182	-0.177	-0.166	-0.168	-0.175	-0.182	-0.188	-0.199	-0.206
0.650	-0.047	-0.056	-0.061	-0.063	-0.065	-0.067	-0.068	-0.068	-0.070	-0.073	-0.075
0.750	-0.033	-0.038	-0.039	-0.039	-0.036	-0.040	-0.034	-0.031	-0.029	-0.028	-0.023
0.850	0.014	0.011	0.013	0.015	0.016	0.019	0.021	0.026	0.027	0.031	0.037
0.950	0.083	0.082	0.084	0.088	0.091	0.094	0.096	0.102	0.105	0.111	0.117
Lower surface											
0.005	-2.086	-1.797	-1.556	-1.289	-1.035	-0.779	-0.564	-0.322	-0.106	0.244	0.530
0.015	-1.053	-0.917	-0.790	-0.652	-0.525	-0.408	-0.308	-0.170	-0.055	0.151	0.341
0.030	-0.765	-0.674	-0.587	-0.492	-0.404	-0.318	-0.243	-0.153	-0.064	0.091	0.239
0.050	-0.606	-0.540	-0.477	-0.409	-0.343	-0.277	-0.221	-0.148	-0.076	0.045	0.165
0.075	-0.486	-0.438	-0.391	-0.338	-0.288	-0.239	-0.192	-0.140	-0.085	0.012	0.111
0.100	-0.411	-0.373	-0.335	-0.294	-0.252	-0.214	-0.178	-0.133	-0.089	-0.008	0.076
0.200	-0.320	-0.305	-0.283	-0.262	-0.239	-0.219	-0.196	-0.171	-0.137	-0.087	-0.032
0.300	-0.254	-0.247	-0.235	-0.223	-0.210	-0.200	-0.185	-0.168	-0.150	-0.117	-0.077
0.400	-0.166	-0.164	-0.156	-0.150	-0.142	-0.136	-0.127	-0.116	-0.110	-0.085	-0.058
0.500	-0.104	-0.104	-0.100	-0.098	-0.094	-0.090	-0.087	-0.079	-0.067	-0.049	-0.028
0.650	0	0	0.001	0.002	0.003	0.005	0.007	0.011	0.019	0.032	0.044
0.750	0.054	0.052	0.053	0.053	0.053	0.055	0.053	0.059	0.064	0.071	0.086
0.850	0.073	0.070	0.072	0.072	0.073	0.075	0.073	0.077	0.079	0.084	0.093
0.950	0.113	0.111	0.113	0.113	0.113	0.115	0.115	0.116	0.117	0.120	0.125

Table 23 (Contd).

Wing BP/4, normal attitude — ΔC_p — V = 250 ft/sec; R = 3.2×10^6

x/C \ α	-6.3°	-4.3°	-3.3°	-2.3°	-1.3°	-0.3°	0.75°	1.75°	3.75°	5.75°	9.8°	13.85°	17.85°	21.9°	25.95°	27.95°	28.95°	30.0°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	3.154	2.600	2.316	2.011	1.682	1.395	1.066	0.758	0.151	-0.440	-1.567	-2.650	-3.757	-4.810	-5.800	-6.163	-6.368	-6.518
0.015	1.863	1.459	1.259	1.097	0.844	0.668	0.446	0.226	-0.212	-0.652	-1.547	-2.475	-3.319	-4.248	-5.008	-5.374	-5.557	-5.686
0.030	1.255	0.928	0.765	0.602	0.430	0.268	0.106	-0.066	-0.418	-0.762	-1.471	-2.184	-2.899	-3.520	-4.124	-4.389	-4.514	-4.596
0.050	0.880	0.620	0.491	0.362	0.226	0.105	-0.034	-0.172	-0.450	-0.727	-1.281	-1.850	-2.338	-2.860	-3.328	-3.546	-3.641	-3.726
0.075	0.581	0.366	0.261	0.158	0.050	-0.050	-0.159	-0.268	-0.490	-0.713	-1.154	-1.549	-2.020	-2.433	-2.802	-2.967	-3.045	-3.102
0.100	0.411	0.230	0.146	0.058	-0.034	-0.124	-0.209	-0.296	-0.481	-0.664	-1.036	-1.360	-1.756	-2.103	-2.406	-2.542	-2.605	-2.658
0.200	0.156	0.062	0.006	-0.042	-0.091	-0.140	-0.190	-0.246	-0.350	-0.444	-0.641	-0.857	-1.082	-1.286	-1.480	-1.566	-1.612	-1.655
0.300	0.032	-0.035	-0.063	-0.092	-0.121	-0.149	-0.181	-0.211	-0.280	-0.336	-0.467	-0.607	-0.763	-0.912	-1.057	-1.124	-1.158	-1.186
0.400	-0.026	-0.067	-0.084	-0.102	-0.122	-0.137	-0.158	-0.175	-0.179	-0.223	-0.315	-0.410	-0.528	-0.651	-0.774	-0.835	-0.867	-0.898
0.500	-0.048	-0.073	-0.075	-0.066	-0.070	-0.079	-0.095	-0.109	-0.142	-0.169	-0.228	-0.296	-0.389	-0.494	-0.604	-0.659	-0.690	-0.718
0.650	-0.040	-0.054	-0.063	-0.064	-0.067	-0.070	-0.074	-0.079	-0.100	-0.113	-0.135	-0.186	-0.264	-0.352	-0.446	-0.492	-0.520	-0.546
0.750	-0.080	-0.086	-0.090	-0.086	-0.086	-0.086	-0.086	-0.090	-0.097	-0.105	-0.131	-0.151	-0.215	-0.288	-0.362	-0.404	-0.427	-0.452
0.850	-0.053	-0.051	-0.051	-0.048	-0.049	-0.045	-0.044	-0.044	-0.047	-0.051	-0.113	-0.098	-0.144	-0.197	-0.259	-0.287	-0.304	-0.347
0.950	-0.031	-0.020	-0.019	-0.020	-0.015	-0.014	-0.007	-0.001	0	0.001	0	-0.010	-0.046	-0.074	-0.102	-0.138	-0.138	-0.154

Wing BP/4, inverted attitude — ΔC_p — V = 250 ft/sec; R = 3.2×10^6

x/C \ α	-5.75°	-4.75°	-3.7°	-2.7°	-1.7°	-0.7°	0.3°	1.3°	2.3°	4.35°	6.35°
0	0	0	0	0	0	0	0	0	0	0	0
0.005	3.094	2.786	2.518	2.206	1.898	1.574	1.284	0.945	0.618	0.021	-0.564
0.015	1.790	1.589	1.408	1.182	0.980	0.782	0.593	0.350	0.128	-0.304	-0.747
0.030	1.195	1.034	0.879	0.703	0.540	0.375	0.218	0.037	-0.147	-0.494	-0.841
0.050	0.834	0.704	0.580	0.443	0.314	0.180	0.058	-0.090	-0.240	-0.510	-0.786
0.075	0.542	0.437	0.337	0.225	0.119	0.079	-0.089	-0.202	-0.321	-0.540	-0.760
0.100	0.379	0.288	0.204	0.110	0.021	-0.065	-0.148	-0.245	-0.339	-0.522	-0.703
0.200	0.135	0.087	0.037	-0.015	-0.065	-0.112	-0.161	-0.213	-0.276	-0.378	-0.460
0.300	0.014	0.017	-0.048	-0.079	-0.109	-0.134	-0.164	-0.197	-0.232	-0.295	-0.354
0.400	-0.054	-0.058	-0.077	-0.097	-0.114	-0.130	-0.152	-0.173	-0.183	-0.197	-0.237
0.500	-0.057	-0.070	-0.082	-0.079	-0.072	-0.078	-0.088	-0.103	-0.121	-0.150	-0.178
0.650	-0.047	-0.056	-0.062	-0.065	-0.068	-0.072	-0.075	-0.079	-0.089	-0.105	-0.119
0.750	-0.087	-0.090	-0.092	-0.092	-0.089	-0.095	-0.089	-0.090	-0.093	-0.099	-0.109
0.850	-0.059	-0.059	-0.059	-0.057	-0.057	-0.056	-0.052	-0.051	-0.052	-0.053	-0.056
0.950	-0.030	-0.029	-0.029	-0.025	-0.024	-0.021	-0.019	-0.014	-0.012	-0.009	-0.008

Table 24

Wing BP/5, normal attitude

C_p

V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-6.35°	-4.35°	-2.35°	-1.35°	-0.35°	0.65°	1.65°	3.65°	5.65°	9.65°	13.7°	17.7°	21.7°	25.7°	29.75°	31.75°	33.75°	35.75°	37.25°
Upper surface																			
0	-0.716	-0.264	0.105	0.277	0.423	0.565	0.681	0.866	0.973	1.008	0.745	0.095	-0.917	-2.346	-4.120	-5.136	-6.274	-7.508	-8.490
0.005	0.982	0.929	0.853	0.808	0.754	0.691	0.626	0.471	0.297	-0.127	-0.661	-1.285	-1.973	-2.769	-3.613	-4.042	-4.517	-4.894	-5.215
0.015	0.659	0.553	0.442	0.382	0.320	0.247	0.179	0.029	-0.128	-0.483	-0.889	-1.338	-1.804	-2.216	-2.747	-2.946	-3.158	-3.402	-3.554
0.030	0.349	0.242	0.133	0.081	0.025	-0.038	-0.094	-0.221	-0.350	-0.615	-0.903	-1.205	-1.534	-1.740	-2.015	-2.156	-2.294	-2.414	-2.467
0.050	0.165	0.070	-0.019	-0.063	-0.107	-0.157	-0.203	-0.300	-0.396	-0.590	-0.792	-1.000	-1.100	-1.305	-1.485	-1.570	-1.651	-1.724	-1.747
0.075	0.014	-0.069	-0.141	-0.178	-0.212	-0.254	-0.291	-0.363	-0.435	-0.578	-0.716	-0.814	-0.945	-1.065	-1.177	-1.227	-1.275	-1.309	-1.313
0.100	-0.060	-0.130	-0.191	-0.220	-0.247	-0.284	-0.310	-0.369	-0.426	-0.534	-0.612	-0.702	-0.793	-0.878	-0.953	-0.987	-1.019	-1.042	-1.066
0.200	-0.167	-0.210	-0.239	-0.251	-0.263	-0.282	-0.292	-0.316	-0.338	-0.356	-0.392	-0.432	-0.464	-0.495	-0.534	-0.550	-0.573	-0.599	-0.640
0.300	-0.209	-0.233	-0.250	-0.255	-0.265	-0.266	-0.271	-0.284	-0.284	-0.291	-0.299	-0.321	-0.347	-0.379	-0.430	-0.455	-0.485	-0.510	-0.537
0.400	-0.171	-0.187	-0.197	-0.198	-0.198	-0.205	-0.206	-0.170	-0.172	-0.175	-0.178	-0.203	-0.237	-0.285	-0.354	-0.385	-0.422	-0.460	-0.492
0.500	-0.129	-0.135	-0.182	-0.108	-0.108	-0.113	-0.113	-0.111	-0.109	-0.106	-0.112	-0.148	-0.200	-0.262	-0.346	-0.385	-0.432	-0.476	-0.515
0.650	-0.029	-0.036	-0.035	-0.031	-0.028	-0.027	-0.024	-0.021	-0.019	-0.023	-0.046	-0.105	-0.174	-0.256	-0.363	-0.414	-0.468	-0.508	-0.536
0.750	-0.021	-0.022	-0.018	-0.012	-0.007	-0.004	0	0.006	0.009	-0.001	-0.030	-0.096	-0.169	-0.260	-0.373	-0.420	-0.458	-0.482	-0.508
0.850	0.015	0.016	0.022	0.028	0.033	0.035	0.040	0.043	0.044	0.029	-0.001	-0.059	-0.123	-0.201	-0.284	-0.306	-0.318	-0.348	-0.389
0.950	0.066	0.073	0.079	0.085	0.091	0.093	0.096	0.098	0.098	0.086	0.069	0.037	0.003	-0.032	-0.051	-0.049	-0.052	-0.304	-0.118
Lower surface																			
0.005	-1.669	-1.290	-0.938	-0.762	-0.628	-0.432	-0.277	0.011	0.253	0.639	0.894	1.007	0.993	0.862	0.607	0.438	0.232	0.004	-0.182
0.015	-0.808	-0.633	-0.468	-0.385	-0.316	-0.231	-0.150	0.014	0.156	0.418	0.645	0.820	0.941	1.005	1.010	0.995	0.965	0.925	0.880
0.030	-0.576	-0.461	-0.351	-0.292	-0.241	-0.184	-0.128	-0.013	0.093	0.295	0.487	0.651	0.789	0.896	0.968	0.991	1.006	1.016	1.010
0.050	-0.441	-0.363	-0.289	-0.242	-0.204	-0.164	-0.123	-0.035	0.047	0.208	0.369	0.515	0.650	0.767	0.861	0.890	0.936	0.968	0.981
0.075	-0.337	-0.283	-0.228	-0.196	-0.163	-0.139	-0.107	-0.046	0.017	0.147	0.283	0.412	0.535	0.650	0.750	0.795	0.839	0.882	0.903
0.100	-0.271	-0.230	-0.190	-0.164	-0.139	-0.118	-0.093	-0.054	-0.001	0.108	0.226	0.342	0.455	0.565	0.665	0.714	0.759	0.805	0.830
0.200	-0.215	-0.204	-0.188	-0.175	-0.163	-0.153	-0.140	-0.109	-0.078	-0.008	0.071	0.159	0.252	0.346	0.442	0.489	0.538	0.589	0.630
0.300	-0.177	-0.177	-0.175	-0.167	-0.161	-0.157	-0.149	-0.134	-0.114	-0.065	-0.003	0.068	0.146	0.234	0.320	0.365	0.412	0.462	0.496
0.400	-0.110	-0.116	-0.119	-0.116	-0.113	-0.113	-0.109	-0.104	-0.090	-0.055	-0.007	0.052	0.118	0.195	0.275	0.314	0.361	0.409	0.439
0.500	-0.054	-0.063	-0.069	-0.069	-0.067	-0.069	-0.066	-0.066	-0.057	-0.030	0.007	0.059	0.118	0.188	0.261	0.300	0.342	0.388	0.414
0.650	0.019	0.008	0.003	0.001	0.001	-0.001	-0.001	0.009	0.018	0.023	0.051	0.095	0.148	0.212	0.278	0.314	0.351	0.391	0.414
0.750	0.056	0.048	0.044	0.045	0.045	0.042	0.042	0.048	0.055	0.074	0.104	0.137	0.173	0.233	0.293	0.325	0.361	0.396	0.414
0.850	0.066	0.063	0.058	0.058	0.058	0.056	0.057	0.058	0.065	0.081	0.107	0.140	0.181	0.232	0.282	0.310	0.361	0.369	0.382
0.950	0.101	0.103	0.101	0.101	0.101	0.098	0.096	0.096	0.098	0.103	0.108	0.128	0.150	0.182	0.224	0.246	0.266	0.283	0.287

Table 24 (Contd)

Wing BP/5, inverted attitude C_p V = 250 ft/sec; R = 3.2×10^6

x/c \ α	-5.65°	-3.65°	-2.65°	-1.65°	-0.65°	0.35°	1.35°	2.35°	3.35°	4.35°	6.4°
Upper surface											
0	-0.639	-0.219	-0.006	0.163	0.327	0.470	0.604	0.706	0.811	0.889	0.985
0.005	0.976	0.920	0.882	0.840	0.790	0.735	0.671	0.608	0.525	0.442	0.254
0.015	0.641	0.538	0.479	0.423	0.360	0.294	0.175	0.157	0.075	-0.003	-0.175
0.030	0.328	0.225	0.167	0.114	0.057	-0.002	-0.063	-0.120	-0.187	-0.252	-0.386
0.050	0.145	0.057	0.007	-0.035	-0.083	-0.128	-0.177	-0.222	-0.275	-0.324	-0.426
0.075	-0.008	-0.081	-0.122	-0.156	-0.195	-0.233	-0.273	-0.306	-0.349	-0.385	-0.462
0.100	-0.080	-0.141	-0.177	-0.199	-0.237	-0.268	-0.299	-0.326	-0.359	-0.387	-0.447
0.200	-0.182	-0.219	-0.233	-0.248	-0.263	-0.278	-0.293	-0.304	-0.319	-0.330	-0.343
0.300	-0.224	-0.242	-0.251	-0.257	-0.264	-0.270	-0.277	-0.281	-0.288	-0.294	-0.294
0.400	-0.185	-0.195	-0.200	-0.202	-0.205	-0.209	-0.213	-0.205	-0.177	-0.180	-0.184
0.500	-0.139	-0.127	-0.123	-0.122	-0.122	-0.123	-0.123	-0.121	-0.122	-0.120	-0.120
0.650	-0.048	-0.048	-0.044	-0.043	-0.040	-0.035	-0.036	-0.033	-0.033	-0.031	-0.033
0.750	-0.035	-0.030	-0.029	-0.022	-0.021	-0.014	-0.014	-0.010	-0.008	-0.006	-0.006
0.850	0.003	0.001	0.012	0	0.012	0.024	0.026	0.028	0.028	0.029	0.029
0.950	0.061	0.067	0.071	0.075	0.079	0.083	0.085	0.085	0.086	0.085	0.084
Lower surface											
0.005	-1.591	-1.249	-1.063	-0.884	-0.717	-0.564	-0.380	-0.240	-0.084	0.055	0.299
0.015	-0.783	-0.611	-0.518	-0.437	-0.363	-0.292	-0.208	-0.128	-0.043	0.036	0.181
0.030	-0.559	-0.445	-0.383	-0.327	-0.269	-0.221	-0.163	-0.112	-0.053	0.004	0.114
0.050	-0.432	-0.354	-0.311	-0.272	-0.229	-0.195	-0.152	-0.113	-0.068	-0.023	0.060
0.075	-0.333	-0.276	-0.245	-0.219	-0.187	-0.159	-0.128	-0.100	-0.071	-0.038	0.027
0.100	-0.269	-0.227	-0.201	-0.180	-0.156	-0.134	-0.112	-0.095	-0.075	-0.046	0.008
0.200	-0.219	-0.203	-0.192	-0.183	-0.172	-0.162	-0.149	-0.137	-0.122	-0.105	-0.076
0.300	-0.183	-0.177	-0.174	-0.171	-0.169	-0.162	-0.156	-0.148	-0.142	-0.132	-0.112
0.400	-0.120	-0.119	-0.119	-0.119	-0.116	-0.114	-0.112	-0.107	-0.109	-0.102	-0.089
0.500	-0.064	-0.066	-0.069	-0.070	-0.070	-0.070	-0.069	-0.067	-0.070	-0.065	-0.055
0.650	0.008	0.007	0.004	0.001	0	-0.001	-0.001	0.001	0.007	0.013	0.020
0.750	0.045	0.044	0.042	0.041	0.041	0.041	0.040	0.042	0.046	0.050	0.055
0.850	0.055	0.055	0.054	0.053	0.050	0.051	0.050	0.053	0.053	0.057	0.064
0.950	0.094	0.093	0.092	0.091	0.089	0.087	0.086	0.086	0.085	0.085	0.088

Table 24 (Contd)

Wing BP/5, normal attitude — Δc_p — V = 250 ft/sec; R = 3.2×10^6

X/C \ α	-6.35°	-4.35°	-2.35°	-1.35°	-0.35°	0.65°	1.65°	3.65°	5.65°	9.65°	13.7°	17.7°	21.7°	25.7°	29.75°	31.75°	33.75°	35.75°	37.25°
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005	2.651	2.219	1.791	1.570	1.382	1.123	0.903	0.460	0.044	-0.760	-1.555	-2.292	-2.966	-3.631	-4.220	-4.480	-4.749	-5.819	-5.033
0.015	1.467	1.186	0.910	0.767	0.636	0.478	0.329	0.015	-0.284	-0.901	-1.534	-2.158	-2.745	-3.221	-3.757	-3.941	-4.123	-4.327	-4.434
0.030	0.925	0.703	0.484	0.373	0.266	0.146	0.034	-0.208	-0.443	-0.910	-1.390	-1.856	-2.184	-2.636	-2.983	-3.147	-3.300	-3.430	-3.477
0.050	0.606	0.433	0.270	0.179	0.097	0.007	-0.080	-0.265	-0.443	-0.798	-1.161	-1.515	-1.750	-2.072	-2.346	-2.460	-2.587	-2.692	-2.728
0.075	0.351	0.214	0.087	0.018	-0.049	-0.115	-0.184	-0.317	-0.452	-0.725	-0.999	-1.226	-1.480	-1.713	-1.927	-2.022	-2.114	-2.191	-2.216
0.100	0.211	0.100	-0.001	-0.056	-0.108	-0.166	-0.217	-0.315	-0.425	-0.642	-0.838	-1.044	-1.248	-1.443	-1.618	-1.701	-1.778	-1.847	-1.896
0.200	0.048	-0.006	-0.051	-0.076	-0.100	-0.129	-0.152	-0.207	-0.260	-0.348	-0.463	-0.591	-0.716	-0.841	-0.976	-1.039	-1.111	-1.188	-1.270
0.300	-0.032	-0.056	-0.075	-0.088	-0.104	-0.109	-0.122	-0.150	-0.170	-0.226	-0.296	-0.389	-0.493	-0.613	-0.750	-0.820	-0.897	-0.972	-1.033
0.400	-0.061	-0.071	-0.078	-0.082	-0.085	-0.092	-0.097	-0.066	-0.082	-0.120	-0.171	-0.255	-0.355	-0.480	-0.629	-0.699	-0.783	-0.869	-0.931
0.500	-0.075	-0.072	-0.113	-0.039	-0.041	-0.044	-0.046	-0.045	-0.052	-0.076	-0.119	-0.207	-0.318	-0.450	-0.607	-0.685	-0.774	-0.864	-0.929
0.650	-0.048	-0.044	-0.038	-0.032	-0.029	-0.026	-0.023	-0.030	-0.037	-0.046	-0.097	-0.200	-0.322	-0.468	-0.641	-0.728	-0.819	-0.899	-0.950
0.750	-0.077	-0.071	-0.062	-0.057	-0.052	-0.046	-0.042	-0.042	-0.046	-0.075	-0.134	-0.233	-0.342	-0.493	-0.666	-0.745	-0.819	-0.878	-0.922
0.850	-0.051	-0.047	-0.036	-0.030	-0.025	-0.021	-0.017	-0.015	-0.021	-0.052	-0.108	-0.199	-0.304	-0.433	-0.566	-0.616	-0.679	-0.717	-0.771
0.950	-0.035	-0.030	-0.022	-0.016	-0.010	-0.005	0	0.002	0	-0.017	-0.049	-0.091	-0.147	-0.214	-0.275	-0.295	-0.318	-0.587	-0.405

Wing BP/5, inverted attitude — Δc_p — V = 250 ft/sec; R = 3.2×10^6

X/C \ α	-5.65°	-3.65°	-2.65°	-1.65°	-0.65°	0.35°	1.35°	2.35°	3.35°	4.35°	6.4°
0	0	0	0	0	0	0	0	0	0	0	0
0.005	2.567	2.169	1.945	1.724	1.507	1.299	1.051	0.848	0.609	0.387	-0.045
0.015	1.424	1.149	0.997	0.860	0.723	0.586	0.383	0.285	0.118	-0.039	-0.356
0.030	0.887	0.670	0.550	0.441	0.326	0.219	0.100	-0.008	-0.134	-0.256	-0.500
0.050	0.577	0.411	0.318	0.237	0.146	0.067	-0.025	-0.109	-0.207	-0.301	-0.486
0.075	0.325	0.195	0.123	0.063	-0.008	-0.074	-0.145	-0.206	-0.278	-0.347	-0.489
0.100	0.189	0.086	0.024	-0.019	-0.081	-0.134	-0.187	-0.231	-0.284	-0.341	-0.455
0.200	0.037	-0.016	-0.065	-0.065	-0.091	-0.116	-0.144	-0.167	-0.197	-0.225	-0.267
0.300	-0.041	-0.065	-0.077	-0.086	-0.095	-0.108	-0.121	-0.133	-0.146	-0.162	-0.182
0.400	-0.065	-0.076	-0.081	-0.083	-0.089	-0.095	-0.101	-0.098	-0.068	-0.078	-0.095
0.500	-0.075	-0.061	-0.054	-0.052	-0.052	-0.053	-0.054	-0.054	-0.052	-0.055	-0.065
0.650	-0.056	-0.055	-0.048	-0.044	-0.040	-0.034	-0.035	-0.034	-0.040	-0.044	-0.053
0.750	-0.080	-0.074	-0.071	-0.063	-0.062	-0.055	-0.054	-0.052	-0.054	-0.056	-0.061
0.850	-0.052	-0.054	-0.042	-0.053	-0.038	-0.027	-0.024	-0.025	-0.025	-0.028	-0.035
0.950	-0.033	-0.026	-0.021	-0.016	-0.010	-0.004	-0.001	-0.001	0.001	0	-0.004

Table 25

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/0 — $V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
- 5.05°	-0.302	-0.0041	-0.301	0.0225	-0.0365
- 4.05°	-0.207	-0.0035	-0.206	0.0116	-0.0374
- 2.0°	0.012	0.0028	0.012	0.0024	-0.0395
0°	0.231	0.0013	0.231	0.0013	-0.0356
2.0°	0.452	-0.0126	0.453	0.0033	-0.0345
4.05°	0.660	-0.0439	0.661	0.0028	-0.0353
6.05°	0.867	-0.0892	0.872	0.0036	-0.0283
8.1°	1.070	-0.1467	1.081	0.0049	-0.0237
10.1°	1.247	-0.2149	1.262	0.0063	-0.0148
12.15°	1.365	-0.2647	1.388	0.0265	-0.0095
14.15°	1.451	-0.2952	1.481	0.0681	-0.0307
15.1°	1.478	-0.2986	1.505	0.0956	-0.0368
16.15°	1.372	-0.2142	1.378	0.1740	-0.0819
18.15°	1.311	-0.1169	1.284	0.2970	-0.1551

Wing BP/0 — $V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
- 4.05°	-0.220	-0.0083	-0.218	0.0074	-0.0425
- 2.0	0.028	0	0.028	0.0010	-0.0417
0	0.218	-0.0006	0.218	-0.0006	-0.0347
2.0°	0.434	-0.0163	0.435	-0.0007	-0.0341
4.05°	0.656	-0.0459	0.658	0.0007	-0.0328
6.05°	0.864	-0.0839	0.868	0.0076	-0.0305
8.1	1.077	-0.1389	1.086	0.0140	-0.0277
10.1°	1.307	-0.2110	1.322	0.0221	-0.0319
12.15°	1.445	-0.2833	1.469	0.0272	-0.0229
14.15°	1.472	-0.3234	1.507	0.0470	-0.0082
16.15°	1.401	-0.1692	1.395	0.2260	-0.0618

Table 26

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/1

$V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
-6.55°	-0.315	-0.0100	-0.314	0.0249	-0.0447
-4.4°	-0.158	-0.0056	-0.158	0.0060	-0.0361
-2.2°	-0.001	0.0030	0	0.0030	-0.0327
-1.1°	0.083	0.0024	0.083	0.0011	-0.0318
-0.05°	0.159	0.0027	0.159	0.0026	-0.0317
1.05°	0.240	-0.0012	0.240	0.0033	-0.0294
2.15°	0.319	-0.0062	0.319	0.0058	-0.0271
4.35°	0.482	-0.0249	0.483	0.0126	-0.0249
6.5°	0.645	-0.0491	0.646	0.0181	-0.0240
8.7°	0.794	-0.0816	0.797	0.0390	-0.0192
10.85°	0.949	-0.1275	0.956	0.0537	-0.0145
13.05°	1.105	-0.1816	1.118	0.0778	-0.0133
15.15°	1.229	-0.2541	1.252	0.0801	-0.0086
17.25°	1.312	-0.2881	1.338	0.1145	0.0035
17.6°	1.336	-0.2899	1.361	0.1225	-0.0044
18.05°	1.127	-0.1448	1.115	0.2108	-0.0959
19.05°	1.133	-0.1619	1.123	0.2172	-0.0968
			Inverted attitude		
-3.95°	-0.127	-0.0026	-0.126	0.0061	-0.0422
-1.75°	0.031	0.0028	0.031	0.0019	-0.0518
-0.65°	0.123	-0.0003	0.123	-0.0017	-0.0391
0.45°	0.206	0.0019	0.206	0.0035	-0.0344
1.5°	0.273	-0.0006	0.273	0.0066	-0.0370
2.6°	0.355	-0.0075	0.355	0.0086	-0.0325
4.8°	0.520	-0.0263	0.521	0.0172	-0.0304

Table 26 (Contd)

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/1

V = 250 ft/sec, R = 3.2×10^6

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
-4.3°	-0.155	-0.0122	-0.156	-0.0006	-0.0394
-2.1°	0.011	-0.0009	0.011	-0.0013	-0.0347
-1.0°	0.098	0.0029	0.098	0.0016	-0.0386
-0.9°	0.104	0.0026	0.104	0.0009	-0.0356
0.05°	0.182	0.0019	0.182	0.0037	-0.0330
1.15°	0.250	-0.0012	0.249	0.0039	-0.0320
2.25°	0.332	-0.0071	0.332	0.0059	-0.0286
4.45°	0.498	-0.0288	0.499	0.0097	-0.0283
6.6°	0.667	-0.0521	0.668	0.0249	-0.0238
8.8°	0.826	-0.0907	0.830	0.0365	-0.0222
10.95°	0.978	-0.1333	0.985	0.0552	-0.0176
13.15°	1.131	-0.1873	1.144	0.0749	-0.0153
15.3°	1.284	Incomplete			-0.0078
17.4°	1.384	pressure			-0.0037
18.45°	1.411	measurements			0.0029
			Inverted attitude		
-4.0°	-0.155	-0.0089	-0.116	-0.0009	-0.0358
-1.85°	0.031	0.0021	0.031	0.0011	-0.0408
-0.75°	0.118	0.0028	0.118	0.0013	-0.0349
0.35°	0.200	0.0026	0.200	0.0038	-0.0342
1.45°	0.268	-0.0006	0.268	0.0061	-0.0349
2.55°	0.355	-0.0076	0.355	0.0081	-0.0320
4.7°	0.524	-0.0262	0.525	0.0170	-0.0296

Table 27

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/2 — $V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
Normal attitude					
-4.15°	-0.109	-0.0028	-0.109	0.0052	-0.0385
-2.1°	0.015	0.0023	0.015	0.0017	-0.0329
0°	0.132	0.0026	0.132	0.0026	-0.0294
2.05°	0.257	-0.0038	0.257	0.0055	-0.0250
4.15°	0.381	-0.0152	0.381	0.0131	-0.0207
6.25°	0.508	-0.0331	0.508	0.0223	-0.0165
8.3°	0.628	-0.0567	0.628	0.0340	-0.0173
10.4°	0.764	-0.0872	0.766	0.0520	-0.0127
12.5°	0.878	-0.1218	0.883	0.0711	-0.0089
14.6°	1.008	-0.1628	1.016	0.0962	-0.0038
16.65°	1.109	-0.2059	1.121	0.1208	-0.0022
18.7°	1.187	-0.2599	1.206	0.1348	-0.0019
19.2°	1.209	-0.2736	1.231	0.1395	0.0019
19.75°	1.234	-0.2834	1.256	0.1505	0.0018
19.95°	1.231	-0.2871	1.256	0.1502	0.0018
Inverted attitude					
-3.95°	-0.108	-0.0073	-0.108	0.0002	-0.0244
-1.9°	0.021	0.0028	0.020	0.0020	-0.0336
0.2°	0.149	0.0046	0.149	0.0051	-0.0314
2.3°	0.265	-0.0017	0.265	0.0086	-0.0374
4.35°	0.370	-0.0134	0.370	0.0147	-0.0406
6.45°	0.517	-0.0302	0.517	0.0282	-0.0441

Table 27 (Contd)

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/2

V = 250 ft/sec, R = 3.2×10^6

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
-4.7°	-0.139	-0.0115	-0.138	-0.0001	-0.0384
-2.1°	0.012	0.0031	0.012	-0.0004	-0.0325
0°	0.131	0.0019	0.131	0.0018	-0.0305
2.1°	0.269	-0.0048	0.269	0.0049	-0.0277
4.15°	0.382	-0.0156	0.383	0.0122	-0.0223
6.25°	0.511	-0.0345	0.511	0.0212	-0.0159
8.35°	0.655	-0.0586	0.657	0.0370	-0.0134
10.45°	0.783	-0.0903	0.786	0.0528	-0.0130
12.5°	0.904	-0.1267	0.911	0.0719	-0.0093
14.6°	1.024	-0.1647	1.032	0.0986	-0.0058
16.65°	1.146	-0.2106	1.158	0.1275	-0.0021
18.75°	1.243	-0.2609	1.253	0.1527	0.0008
19.75°	1.279	-0.2885	1.298	0.1605	0.0022
20.8°	1.312	-0.3157	1.340	0.1720	0.0047

Table 28

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/3

$V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
Normal attitude					
- 6.45°	-0.171	-0.0050	-0.171	0.0143	-0.0452
- 5.45°	-0.118	-0.0085	-0.118	0.0028	-0.0403
- 4.4°	-0.088	0.0017	-0.087	0.0085	-0.0378
- 3.4°	-0.049	0.0031	-0.049	0.0060	-0.0334
- 2.4°	-0.003	0.0038	-0.002	0.0039	-0.0309
- 1.4°	0.035	0.0036	0.035	0.0027	-0.0279
- 0.35°	0.079	0.0030	0.079	0.0025	-0.0237
0.65°	0.122	0.0012	0.122	0.0026	-0.0225
1.65°	0.162	-0.0015	0.162	0.0032	-0.0191
3.7°	0.252	-0.0073	0.252	0.0089	-0.0142
5.7°	0.327	-0.0179	0.367	0.0147	-0.0071
7.75°	0.419	-0.0323	0.420	0.0248	-0.0043
9.75°	0.503	-0.0488	0.504	0.0375	-0.0018
11.8°	0.599	-0.0706	0.590	0.0533	0.0011
13.85°	0.681	-0.0929	0.684	0.0727	0.0028
15.85°	0.761	-0.1179	0.765	0.0947	0.0064
17.9°	0.862	-0.1536	0.867	0.1184	0.0069
19.9°	0.952	-0.1846	0.958	0.1501	0.0082
21.95°	1.031	-0.2237	1.041	0.1776	0.0062
23.95°	1.101	-0.2644	1.114	0.2056	0.0044
25.0°	1.137	-0.2793	1.149	0.2271	0.0016
25.5°	1.116	-0.2869	1.170	0.2396	-0.0020
25.8°	1.168	-0.2887	1.177	0.2480	-0.0051
Inverted attitude					
- 5.65°	-0.122	-0.0012	-0.122	0.0108	-0.0446
- 4.65°	-0.091	0.0011	-0.091	0.0086	-0.0450
- 3.65°	-0.054	0.0016	-0.054	0.0050	-0.0414
- 2.6°	-0.014	0.0031	-0.014	0.0037	-0.0387
- 1.6°	0.024	0.0038	0.024	0.0031	-0.0345
- 0.6°	0.071	0.0040	0.071	0.0032	-0.0306
0.45°	0.113	0.0036	0.113	0.0045	-0.0268
1.45°	0.149	0.0018	0.149	0.0056	-0.0245
2.45°	0.196	-0.0002	0.196	0.0084	-0.0208
4.5°	0.276	-0.0083	0.276	0.0133	-0.0133
6.5°	0.367	-0.0184	0.367	0.0234	-0.0119

Table 28 (Contd)

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/3 — V = 250 ft/sec, R = 3.2×10^6

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
- 6.35°	-0.169	-0.0021	-0.168	0.0166	-0.0438
- 5.35°	-0.126	-0.0021	-0.126	0.0097	-0.0406
- 4.3°	-0.086	0.0005	-0.086	0.0069	-0.0378
- 3.3°	-0.039	0.0019	-0.039	0.0042	-0.0351
- 2.3°	-0.008	0.0018	-0.008	0.0021	-0.0330
- 1.3°	0.042	0.0025	0.042	0.0015	-0.0288
- 0.25°	0.083	0.0029	0.083	0.0025	-0.0265
0.75°	0.129	0.0008	0.129	0.0025	-0.0223
1.75°	0.169	-0.0004	0.169	0.0048	-0.0201
3.8°	0.258	-0.0086	0.258	0.0085	-0.0160
5.8°	0.344	-0.0187	0.344	0.0162	-0.0130
7.85°	0.431	-0.0333	0.431	0.0258	-0.0061
9.9°	0.511	-0.0482	0.512	0.0402	-0.0030
11.9°	0.600	-0.0667	0.601	0.0583	-0.0006
13.95°	0.690	-0.0893	0.692	0.0750	0.0027
15.95°	0.794	-0.1223	0.797	0.1007	0.0033
18.0°	0.886	-0.1476	0.888	0.1333	0.0013
20.0°	0.958	-0.1837	0.963	0.1552	0.0040
22.05°	1.045	-0.2178	1.050	0.1904	0.0032
			Inverted attitude		
- 5.75°	-0.144	-0.0033	-0.143	0.0111	-0.0432
- 4.75°	-0.102	0.0012	-0.101	0.0096	-0.0413
- 3.75°	-0.059	0.0025	-0.058	0.0063	-0.0391
- 2.7°	-0.018	0.0035	-0.018	0.0044	-0.0365
- 1.7°	0.018	0.0037	0.018	0.0031	-0.0352
- 0.7°	0.062	0.0037	0.062	0.0030	-0.0305
0.3°	0.107	0.0030	0.107	0.0036	-0.0273
1.35°	0.153	0.0010	0.153	0.0046	-0.0242
2.35°	0.197	0.0012	0.197	0.0069	-0.0222
4.4°	0.282	-0.0084	0.282	0.0132	-0.0175
6.4°	0.368	-0.0212	0.368	0.0201	-0.0131

Table 29

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/4 — V = 125 ft/sec, R = 1.6×10^6

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
- 6.45°	-0.113	-0.0008	-0.113	0.0119	-0.0417
- 4.4°	-0.058	0.0017	-0.058	0.0062	-0.0373
- 3.4°	-0.034	0.0028	-0.034	0.0049	-0.0326
- 2.4°	-0.003	0.0038	-0.003	0.0039	-0.0282
- 1.4°	0.031	0.0042	0.031	0.0034	-0.0254
- 0.4°	0.057	0.0047	0.057	0.0043	-0.0215
0.6°	0.091	0.0033	0.091	0.0042	-0.0210
1.6°	0.122	0.0010	0.122	0.0044	-0.0154
3.65°	0.183	-0.0036	0.183	0.0080	-0.0091
5.65°	0.252	-0.0118	0.252	0.0131	-0.0052
9.7°	0.386	-0.0329	0.386	0.0324	0.0025
13.7°	0.538	-0.0660	0.538	0.0633	0.0059
17.75°	0.681	-0.1025	0.679	0.1099	0.0051
21.8°	0.831	-0.1562	0.830	0.1630	0.0039
25.8°	0.990	-0.2113	0.983	0.2407	-0.0076
27.85°	1.069	-0.2478	1.061	0.2796	-0.0137
28.85°	1.104	-0.2784	1.102	0.2886	-0.0193
29.85°	1.150	-0.2986	1.146	0.3129	-0.0203
30.35°	1.139	-0.2778	1.123	0.3358	-0.0262
			Inverted attitude		
- 5.6°	-0.099	0.0007	-0.099	0.0104	-0.0439
- 4.6°	-0.067	0.0013	-0.067	0.0067	-0.0412
- 3.6°	-0.037	0.0025	-0.037	0.0048	-0.0381
- 2.6°	-0.005	0.0024	-0.005	0.0026	-0.0330
- 1.6°	0.012	0.0046	0.012	0.0043	-0.0307
- 0.6°	0.055	0.0037	0.055	0.0032	-0.0246
0.4°	0.084	0.0028	0.084	0.0034	-0.0215
1.45°	0.112	0.0009	0.112	0.0037	-0.0188
2.45°	0.146	0.0003	0.146	0.0059	-0.0129
4.45°	0.219	-0.0050	0.218	0.0121	0.0073
6.45°	0.261	-0.0137	0.261	0.0158	0.0041

Table 29 (Contd)

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/4 $V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
- 6.3°	-0.128	-0.0014	-0.128	0.0127	-0.0423
- 4.3°	-0.066	0.0023	-0.066	0.0073	-0.0361
- 3.3°	-0.037	0.0031	-0.037	0.0052	-0.0336
- 2.3°	-0.009	0.0044	-0.009	0.0048	-0.0294
- 1.3°	0.023	0.0027	0.023	0.0022	-0.0248
- 0.3°	0.053	0.0033	0.053	0.0030	-0.0223
0.75°	0.085	0.0027	0.085	0.0037	-0.0184
1.75°	0.117	0.0019	0.117	0.0055	-0.0153
3.75°	0.185	-0.0049	0.185	0.0072	-0.0103
5.75°	0.249	-0.0119	0.249	0.0132	-0.0058
9.8°	0.388	-0.0345	0.388	0.0319	0.0001
13.85°	0.527	-0.0642	0.527	0.0636	0.0063
17.85°	0.690	-0.1117	0.691	0.1056	0.0052
21.9°	0.852	-0.1590	0.849	0.1702	-0.0008
25.95°	1.008	-0.2234	1.004	0.2395	-0.0062
27.95°	1.080	-0.2566	1.074	0.2796	-0.0142
28.95°	1.112	-0.2724	1.105	0.3002	-0.0152
30.0°	1.147	-0.2861	1.137	0.3254	-0.0204
			Inverted attitude		
- 5.75°	-0.114	-0.0008	-0.114	0.0106	-0.0424
- 4.75°	-0.085	-0.0004	-0.085	0.0066	-0.0394
- 3.7°	-0.049	0.0013	-0.049	0.0045	-0.0371
- 2.7°	-0.020	0.0023	-0.020	0.0032	-0.0331
- 1.7°	0.008	0.0023	0.008	0.0021	-0.0294
- 0.7°	0.035	0.0029	0.035	0.0024	-0.0268
0.3°	0.066	0.0022	0.066	0.0025	-0.0216
1.3°	0.102	0	0.102	0.0023	-0.0188
2.3°	0.138	-0.0018	0.138	0.0054	-0.0158
4.35°	0.204	-0.0065	0.203	0.0089	-0.0105
6.35°	0.268	-0.0147	0.268	0.0150	-0.0059

Table 30

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/5 — $V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
- 6.45°	-0.060	0.0056	-0.059	0.0123	-0.0364
- 4.4°	-0.029	0.0031	-0.029	0.0053	-0.0314
- 2.4°	0	0.0038	0	0.0038	-0.0231
- 1.4°	0.012	0.0048	0.012	0.0045	-0.0192
- 0.4°	0.024	0.0047	0.024	0.0045	-0.0163
0.6°	0.039	0.0027	0.039	0.0031	-0.0116
1.6°	0.056	0.0019	0.056	0,0034	-0.0084
3.6°	0.083	0	0.083	0.0052	-0.0020
5.6°	0.125	-0.0040	0.125	0.0082	-0.0010
9.6°	0.201	-0.0144	0.200	0.0193	0.0063
13.6°	0.304	-0.0289	0.302	0.0434	0.0013
17.65°	0.432	-0.0452	0.426	0.0879	-0.0144
21.65°	0.561	-0.0677	0.546	0.1440	-0.0296
25.65°	0.718	-0.0918	0.687	0.2281	-0.0569
29.7°	0.888	-0.1186	0.830	0.3365	-0.0793
33.7°	1.018	-0.1525	0.932	0.4379	-0.1081
35.7°	1.103	-0.1731	0.997	0.5032	-0.1288
37.7°	1.161	-0.1893	1.034	0.5606	-0.1384
37.9°	1.076	-0.0906	0.905	0.5897	-0.1384
			Inverted attitude		
-17.6°	-0.308	0.0123	-0.290	0.1049	-0.0293
-13.6°	-0.209	0.0129	-0.200	0.0616	-0.0322
- 9.6°	-0.118	0.0086	-0.115	0.0281	-0.0431
- 7.6°	-0.079	0.0047	-0.079	0.0151	-0.0402
- 5.6°	-0.051	0.0055	-0.050	0.0105	-0.0381
- 3.6°	-0.020	0.0060	-0.019	0.0072	-0.0326
- 2.6°	-0.007	0.0056	-0.007	0.0059	-0.0258
- 1.6°	0.011	0.0045	0.011	0.0042	-0.0241
- 0.6°	0.025	0.0052	0.025	0.0049	-0.0199
0.4°	0.039	0.0053	0.039	0.0055	-0.0166
1.45°	0.050	0.0038	0.050	0.0050	-0.0128
2.45°	0.067	0.0021	0.067	0.0049	-0.0089
3.45°	0.082	0.0003	0.082	0.0082	-0.0059
4.45°	0.105	-0.0013	0.105	0.0069	-0.0043
6.45°	0.141	-0.0050	0.141	0.0108	-0.0007

Table 30 (Contd)

LOCAL FORCE AND MOMENT COEFFICIENTS FROM INTEGRATED PRESSURE MEASUREMENTS

Wing BP/5 — V = 250 ft/sec, R = 3.2×10^6

α	C_N	C_T	C_L	C_D	C_m
			Normal attitude		
- 6.35°	-0.059	0.0038	-0.058	0.0104	-0.0349
- 4.35°	-0.027	0.0050	-0.027	0.0070	-0.0294
- 2.35°	-0.001	0.0058	0	0.0058	-0.0231
- 1.35°	0.009	0.0048	0.009	0.0046	-0.0182
- 0.35°	0.022	0.0029	0.022	0.0028	-0.0143
0.65°	0.040	0.0030	0.040	0.0035	-0.0104
1.65°	0.057	0.0018	0.057	0.0034	-0.0084
3.65°	0.089	-0.0007	0.089	0.0049	-0.0025
5.65°	0.125	-0.0056	0.125	0.0068	0.0012
9.65°	0.207	-0.0153	0.207	0.0197	0.0050
13.7°	0.302	-0.0291	0.300	0.0431	0
17.7°	0.433	-0.0456	0.427	0.0882	-0.0115
21.7°	0.564	-0.0651	0.548	0.1482	-0.0310
25.7°	0.717	-0.0895	0.684	0.2302	-0.0550
29.75°	0.877	-0.1190	0.820	0.3314	-0.0797
31.75°	0.949	-0.1320	0.877	0.3870	-0.0910
33.75°	1.033	-0.1563	0.946	0.4440	-0.1059
33.75°	1.138	-0.1649	1.020	0.5313	-0.1301
37.25°	1.155	-0.1777	1.027	0.5580	-0.1318
			Inverted attitude		
- 5.65°	-0.056	0.0046	-0.055	0.0100	-0.0361
- 3.65°	-0.023	0.0049	-0.022	0.0063	-0.0297
- 2.65°	-0.007	0.0060	-0.007	0.0063	-0.0254
- 1.65°	0.003	0.0060	0.003	0.0060	-0.0226
- 0.65°	0.021	0.0048	0.021	0.0045	-0.0183
0.35°	0.034	0.0038	0.034	0.0040	-0.0136
1.35°	0.050	0.0038	0.050	0.0050	-0.0119
2.35°	0.068	0.0019	0.068	0.0047	-0.0086
3.35°	0.083	0	0.083	0.0049	-0.0062
4.35°	0.105	-0.0010	0.104	0.0070	-0.0045
6.4°	0.142	-0.0046	0.142	0.0113	-0.0013

Table 31

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing BF/1

V = 125 ft/sec, R = 1.6×10^6

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 6.25°	-0.245	0.0276	-0.0361
- 4.15°	-0.122	0.0114	-0.0325
- 3.05°	-0.054	0.0081	-0.0312
- 2.0°	0.002	0.0070	-0.0298
- 0.95°	0.067	0.0071	-0.0289
0.15°	0.124	0.0066	-0.0271
2.3°	0.265	0.0114	-0.0256
4.45°	0.400	0.0192	-0.0245
6.6°	0.549	0.0334	-0.0260
8.75°	0.669	0.0488	-0.0263
10.9°	0.799	0.0654	-0.0270
13.05°	0.928	0.0902	-0.0285
15.15°	1.044	0.1155	-0.0301
16.25°	1.105	0.1307	-0.0310
17.3°	1.147	0.1437	-0.0322
17.5°	1.147	-	-0.0324
17.6°	1.088	-	-0.0541

No "inverted attitude" tests

V = 250 ft/sec, R = 3.2×10^6

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$

No tests at higher Reynold's number

Table 32

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing BF/2

$V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 6.15°	-0.195	0.0252	-0.0325
- 4.05°	-0.094	0.0121	-0.0292
- 3.05°	-0.052	0.0088	-0.0275
- 2.0°	-0.006	0.0074	-0.0258
- 0.95°	0.042	0.0074	-0.0245
0.05°	0.093	0.0079	-0.0230
2.15°	0.190	0.0113	-0.0204
4.2°	0.292	0.0175	-0.0186
6.25°	0.394	0.0278	-0.0182
8.35°	0.507	0.0435	-0.0215
10.4°	0.614	0.0616	-0.0226
12.5°	0.716	0.0827	-0.0247
14.55°	0.824	0.1081	-0.0269
16.6°	0.912	0.1337	-0.0301
18.7°	1.009	0.1655	-0.0340
19.3°	1.033	0.1753	-0.0366
19.5°	1.037	0.1781	-0.0372

$V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 5.1°	-0.137	0.0154	-0.0312
- 4.05°	-0.091	0.0104	-0.0292
- 2.0°	0.004	0.0066	-0.0256
0.05°	0.103	0.0086	-0.0229
2.15°	0.203	0.0121	-0.0208
4.2°	0.307	0.0194	-0.0194
6.25°	0.408	0.0305	-0.0186
8.35°	0.516	0.0453	-0.0194
10.4°	0.624	0.0641	-0.0213
12.5°	0.728	0.0853	-0.0242
14.55°	0.835	0.1113	-0.0272
16.65°	0.934	0.1394	-0.0297
18.7°	1.029	0.1716	-0.0348
19.75°	1.070	0.1879	-0.0375

No "inverted attitude" tests

Table 33

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing BF/3

V = 125 ft/sec, R = 1.6×10^6

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 4.0°	-0.054	0.0123	-0.0297
- 3.0°	-0.023	0.0111	-0.0277
- 2.0°	0.009	0.0105	-0.0256
- 1.0°	0.040	0.0111	-0.0235
0.05°	0.071	0.0117	-0.0213
1.15°	0.106	0.0135	-0.0194
2.05°	0.131	0.0124	-0.0181
4.0°	0.201	0.0185	-0.0166
6.0°	0.275	0.0275	-0.0160
8.05°	0.350	0.0394	-0.0161
10.05°	0.434	0.0560	-0.0199
12.1°	0.514	0.0752	-0.0241
14.15°	0.596	0.0987	-0.0287
16.15°	0.680	0.1261	-0.0345
18.2°	0.767	0.1590	-0.0420
20.25°	0.853	0.1942	-0.0507
22.25°	0.942	0.2354	-0.0611
24.3°	1.021	0.2802	-0.0714
24.8°	1.035	0.2904	-0.0750

V = 250 ft/sec, R = 3.2×10^6

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 3.95°	-0.053	0.0115	-0.0297
- 3.0°	-0.023	0.0108	-0.0279
- 2.0°	0.008	0.0106	-0.0258
- 1.0°	0.041	0.0108	-0.0236
0.05°	0.068	0.0116	-0.0219
2.05°	0.137	0.0139	-0.0184
4.1°	0.210	0.0204	-0.0170
6.1°	0.282	0.0297	-0.0167
8.15°	0.357	0.0423	-0.0175
10.15°	0.439	0.0583	-0.0199
12.2°	0.521	0.0779	-0.0235
14.25°	0.611	0.1029	-0.0300
16.25°	0.699	0.1314	-0.0365
18.3°	0.791	0.1649	-0.0452
20.35°	0.882	0.2031	-0.0543
22.35°	0.973	0.2477	-0.0649
24.4°	1.055	0.3022	-0.0744
24.9°	1.078	0.3062	-0.0769
25.4°	1.093	0.3164	-0.0791

Table 34

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing BF/4

$V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
-4.3°	-0.050	0.0126	-0.0276
-3.7°	-0.036	0.0110	-0.0266
-3.3°	-0.025	0.0118	-0.0258
-2.7°	-0.012	0.0100	-0.0245
-2.3°	-0.001	0.0114	-0.0236
-1.7°	0.013	0.0102	-0.0224
-1.3°	0.022	0.0118	-0.0218
-0.7°	0.036	0.0105	-0.0201
-0.3°	0.045	0.0122	-0.0194
0.3°	0.060	0.0110	-0.0180
0.7°	0.068	0.0124	-0.0170
1.3°	0.084	0.0116	-0.0159
1.75°	0.093	0.0135	-0.0157
2.75°	0.120	0.0160	-0.0146
3.75°	0.147	0.0188	-0.0141
5.75°	0.204	0.0260	-0.0141
7.75°	0.264	0.0370	-0.0150
11.8°	0.393	0.0673	-0.0226
15.85°	0.532	0.1125	-0.0344
19.9°	0.693	0.1801	-0.0572
23.95°	0.863	0.2698	-0.0861
25.95°	0.932	0.3188	-0.0990
27.95°	1.010	0.3728	-0.1118
28.4°	1.022	0.3835	-0.1123

$V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
-4.25°	-0.049	0.0114	-0.0276
-3.8°	-0.038	0.0106	-0.0268
-3.25°	-0.022	0.0103	-0.0259
-2.8°	-0.013	0.0099	-0.0247
-2.2°	0.001	0.0099	-0.0240
-1.8°	0.011	0.0098	-0.0224
-1.2°	0.026	0.0102	-0.0214
-0.75°	0.034	0.0101	-0.0203
-0.2°	0.050	0.0110	-0.0193
0.25°	0.061	0.0109	-0.0182
0.8°	0.075	0.0120	-0.0173
1.8°	0.101	0.0130	-0.0159
2.8°	0.126	0.0149	-0.0150
3.8°	0.154	0.0179	-0.0146
5.85°	0.213	0.0256	-0.0147
7.85°	0.272	0.0363	-0.0156
11.9°	0.404	0.0672	-0.0227
15.95°	0.552	0.1141	-0.0362
19.95°	0.714	0.1828	-0.0574
24.0°	0.880	0.2708	-0.0845
26.05°	0.962	0.3216	-0.0965
28.05°	1.035	0.3741	-0.1090

Table 35

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing BF/5

$V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	C_L	C_D	C_m
-4.45°	-0.027	0.0111	-0.0198
-3.5°	-0.017	0.0114	-0.0187
-2.5°	-0.006	0.0110	-0.0166
-1.5°	0.009	0.0111	-0.0150
-0.5°	0.020	0.0110	-0.0139
0.5°	0.032	0.0111	-0.0125
1.6°	0.044	0.0108	-0.0107
2.6°	0.060	0.0127	-0.0101
3.6°	0.074	0.0143	-0.0101
5.6°	0.108	0.0197	-0.0090
7.6°	0.145	0.0234	-0.0138
9.6°	0.183	0.0375	-0.0195
13.6°	0.275	0.0635	-0.0323
17.6°	0.390	0.1154	-0.0572
21.65°	0.511	0.1806	-0.0866
25.65°	0.632	0.2650	-0.1197
29.65°	0.756	0.3702	-0.1550
33.7°	0.890	0.5056	-0.1986
37.7°	0.988	0.6920	-0.2451
41.7°	1.086	0.8864	-0.2618
43.7°	1.100	0.9467	-0.2612
45.7°	1.073	0.9771	-0.2477
47.7°	1.021	1.0139	-0.2339

$V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	C_L	C_D	C_m
-4.4°	-0.026	0.0131	-0.0198
-3.5°	-0.014	0.0123	-0.0183
-2.5°	-0.003	0.0121	-0.0170
-1.5°	0.010	0.0121	-0.0143
-0.5°	0.022	0.0123	-0.0139
0.5°	0.033	0.0126	-0.0129
1.6°	0.047	0.0139	-0.0107
2.6°	0.063	0.0151	-0.0102
3.6°	0.077	0.0164	-0.0103
5.6°	0.111	0.0224	-0.0114
7.6°	0.147	0.0302	-0.0140
9.6°	0.186	0.0402	-0.0180
13.6°	0.277	0.0673	-0.0319
17.65°	0.382	0.1135	-0.0539
21.65°	0.507	0.1804	-0.0835
25.65°	0.631	0.2641	-0.1156
29.65°	0.765	0.3755	-0.1549

Table 36

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing CF/1

$V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 6.85°	-0.361	0.0266	-0.0131
- 5.9°	-0.302	0.0228	-0.0063
- 4.7°	-0.229	0.0133	-0.0094
- 3.75°	-0.178	0.0118	-
- 2.6°	-0.105	0.0082	-0.0064
- 1.6°	-0.049	0.0086	-
- 0.4°	0.023	0.0069	-0.0038
0.5°	0.076	0.0063	-0.0020
2.7°	0.206	0.0091	-
3.9°	0.286	0.0142	0.0004
4.8°	0.340	0.0166	0.0009
6.0°	0.418	0.0235	0.0009
7.0°	0.474	0.0258	-
8.2°	0.556	0.0370	-0.0018
9.1°	0.610	0.0404	-0.0023
10.3°	0.684	0.0532	-0.0026
11.3°	0.787	0.0560	-
12.5°	0.820	0.0751	-
13.4°	0.868	0.0780	-0.0051
14.6°	0.943	0.0972	-0.0043
15.5°	0.985	0.1005	-
16.7°	1.053	0.1221	-0.0049
17.65°	1.084	0.1257	-0.0104

$V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 6.8°	-0.364	0.0260	-0.0128
- 4.7°	-0.242	0.0150	-0.0095
- 3.8°	-0.181	0.0125	-0.0077
- 2.6°	-0.113	0.0089	-0.0066
- 1.6°	-0.049	0.0083	-0.0052
- 0.4°	0.022	0.0079	-0.0041
0.5°	0.081	0.0071	-0.0023
1.7°	0.159	0.0092	-0.0015
2.7°	0.217	0.0101	-0.0005
3.9°	0.288	0.0155	0
4.8°	0.351	0.0171	0.0006
6.05°	0.440	0.0262	0.0006
7.0°	0.493	0.0277	0.0010
9.1°	0.631	0.0419	-0.0007
11.3°	0.775	0.0605	-0.0021
13.45°	0.914	0.0827	-0.0040
15.6°	1.035	0.1062	-0.0063
17.7°	1.147	0.1336	-0.0085

Table 37

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing CF/2

e, R = 3.2 × 10^6

$\bar{C}_D$	$\bar{C}_m$
-	-
0.0137	-
0.0129	-0.0078
0.0092	-
0.0088	-0.0051
0.0081	-
0.0083	-0.0019
0.0098	-
0.0103	0.0010
0.0157	-
0.0164	0.0029
0.0261	0.0034
0.0386	0.0031
0.0546	0.0014
0.0754	-0.0026
0.0992	-0.0059
0.1284	-0.0107
0.1572	-0.0156
0.1744	-0.0185
0.1902	-0.0210

V = 125 ft/sec, R = 1.6 × 10^6

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 8.5°	-0.358	0.0363	-
- 6.5°	-0.274	0.0229	-
- 5.9°	-0.238	0.0198	-0.0101
- 4.4°	-0.166	0.0122	-
- 3.8°	-0.139	0.0119	-0.0082
- 2.3°	-0.064	0.0081	-
- 1.7°	-0.042	0.0082	-0.0054
- 0.3°	0.033	0.0080	-
0.3°	0.053	-	-0.0019
1.8°	0.129	0.0088	-
2.4°	0.152	0.0085	0.0012
3.9°	0.220	0.0156	-
4.5°	0.253	0.0153	0.0029
6.5°	0.353	0.0240	0.0038
8.6°	0.461	0.0349	0.0006
10.7°	0.568	0.0532	-0.0019
12.7°	0.670	0.0721	-0.0030
14.8°	0.769	0.0941	-0.0060
16.9°	0.872	0.1201	-0.0106
18.9°	0.962	0.1487	-0.0166
19.5°	0.987	0.1568	-0.0188
19.6°	0.622	-	-

V = 250 ft/sec

α	$\bar{C}_L$
- 6.45°	-0.279
- 4.4°	-0.176
- 3.8°	-0.152
- 2.3°	-0.075
- 1.8°	-0.052
- 0.2°	0.025
0.3°	0.049
1.8°	0.127
2.4°	0.153
3.9°	0.230
4.4°	0.253
6.5°	0.365
8.6°	0.473
10.65°	0.580
12.7°	0.695
14.8°	0.802
16.9°	0.917
18.95°	1.013
20.0°	1.063
21.0°	1.100

Table 38

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing CF/3

$V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 6.25°	-0.173	0.0148	-0.0124
- 5.85°	-0.158	0.0134	-0.0112
- 4.85°	-0.125	0.0117	-0.0115
- 4.25°	-0.103	0.0084	-0.0106
- 3.85°	-0.093	0.0090	-0.0103
- 3.2°	-0.073	0.0062	-0.0092
- 2.8°	-0.0059	0.0067	-0.0083
- 2.2°	-0.042	0.0056	-0.0068
- 1.8°	-0.032	0.0054	-0.0063
- 1.2°	-0.008	0.0045	-0.0051
- 0.8°	0	0.0048	-0.0035
- 0.2°	0.019	0.0044	-0.0025
0.2°	0.031	0.0051	-0.0017
1.85°	0.080	0.0054	0.0023
2.25°	0.090	0.0063	0.0026
4.25°	0.162	0.0090	0.0044
6.3°	0.230	0.0181	0.0054
8.3°	0.301	0.0275	0.0049
10.35°	0.380	0.0433	0.0017
12.4°	0.465	0.0620	-0.0042
14.4°	0.546	0.0783	-0.0090
16.45°	0.638	0.1111	-0.0164
18.5°	0.720	0.1403	-0.0247
19.5°	0.764	0.1563	-0.0295
20.5°	0.802	0.1737	-0.0344
21.5°	0.845	0.1920	-0.0387
22.55°	0.885	0.2113	-0.0439
23.55°	0.920	0.2311	-0.0501

$V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 6.25°	-0.177	0.0192	-0.0125
- 4.25°	-0.108	0.0115	-0.0107
- 2.2°	-0.041	0.0084	-0.0070
- 1.8°	-0.034	0.0084	-0.0064
- 1.2°	-0.011	0.0079	-0.0049
- 0.8°	0.008	0.0083	-0.0036
- 0.2°	0.023	0.0079	-0.0022
0.2°	0.034	0.0080	-0.0013
1.2°	0.068	0.0085	0.0014
1.85°	0.085	0.0091	0.0021
2.25°	0.094	0.0095	0.0027
4.25°	0.164	0.0145	0.0047
6.3°	0.239	0.0227	0.0053
8.3°	0.316	0.0335	0.0049
10.35°	0.398	0.0482	0.0026
12.4°	0.491	0.0684	-0.0017
14.4°	0.571	0.0896	-0.0069
16.45°	0.652	0.1144	-0.0131
18.5°	0.755	0.1472	-0.0219
20.5°	0.834	0.1827	-0.0306
22.55°	0.921	0.2276	-0.0405
23.55°	0.967	0.2731	-0.0459
24.6°	1.009	0.3289	-0.0522

Table 39

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing CF/4

V = 125 ft/sec, R = 1.6×10^6

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 6.05°	-0.126	0.0133	-0.0111
- 4.0°	-0.073	0.0081	-0.0097
- 3.0°	-0.048	0.0053	-0.0081
- 2.0°	-0.026	0.0049	-0.0059
- 1.0°	-0.006	0.0042	-0.0033
0	0.012	0.0031	-0.0012
1.0°	0.034	0.0044	0.0013
2.0°	0.061	0.0055	0.0028
3.0°	0.079	0.0054	0.0042
4.05°	0.113	0.0094	0.0054
6.05°	0.175	0.0170	0.0056
8.05°	0.237	0.0270	0.0042
10.1°	0.300	0.0382	0.0013
12.1°	0.365	0.0542	-0.0032
14.1°	0.434	0.0730	-0.0099
16.15°	0.502	0.0942	-0.0170
18.15°	0.575	0.1252	-0.0272
20.15°	0.652	0.1580	-0.0376
22.2°	0.726	0.1938	-0.0497
24.2°	0.803	0.2349	-0.0636
25.25°	0.838	0.2579	-0.0687
26.25°	0.877	0.2825	-0.0785
27.25°	0.914	0.3060	-0.0840
28.25°	0.948	0.3299	-0.0934
29.25°	0.981	0.3628	-0.1029

V = 250 ft/sec, R = 3.2×10^6

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 3.0°	-0.049	0.0087	
- 2.0°	-0.027	0.0080	
- 1.0°	-0.003	0.0073	
0°	0.016	0.0073	
1.0°	0.039	0.0075	
2.0°	0.060	0.0087	
4.05°	0.119	0.0131	
6.05°	0.183	0.0201	
8.05°	0.238	0.0286	
10.1°	0.307	0.0413	
12.1°	0.378	0.0582	
14.15°	0.452	0.0793	
16.15°	0.521	0.1023	
18.15°	0.602	0.1331	
20.2°	0.679	0.1664	
23.2°	0.795	0.2248	
24.25°	0.836	0.2483	

Table 40

BALANCE MEASUREMENTS OF LIFT, DRAG AND PITCHING MOMENT

Wing CF/5

$V = 125$ ft/sec, $R = 1.6 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 6.2°	-0.073	0.0084	-0.0024
- 4.2°	-0.043	0.0057	-0.0040
- 3.2°	-0.032	0.0037	-0.0025
- 2.8°	-0.027	0.0087	-
- 2.2°	-0.016	0.0056	0
- 1.8°	-0.014	0.0087	-
- 1.2°	-0.005	0.0043	0.0016
- 0.8°	-0.005	0.0087	-
- 0.2°	0.008	0.0053	0.0031
0.2°	0.008	0.0076	-
1.2°	0.027	0.0076	-
1.8°	0.027	0.0053	0.0064
2.2°	0.038	0.0084	-
3.2°	0.048	0.0092	-
3.8°	0.054	0.0053	0.0072
4.2°	0.065	0.0097	-
5.8°	0.086	0.0118	0.0071
7.8°	0.118	0.0186	0.0048
9.8°	0.161	0.0270	-0.0006
11.85°	0.204	0.0386	-0.0106
13.85°	0.258	0.0555	-0.0181
15.85°	0.304	0.0723	-0.0261
17.85°	0.354	0.0951	-0.0377
19.85°	0.405	0.1228	-0.0491
21.85°	0.456	0.1524	-0.0659
23.85°	0.501	0.1798	-0.0762
25.9°	0.563	0.2226	-0.0960
27.9°	0.622	0.2665	-0.1163
29.9°	0.678	0.3118	-0.1314
31.9°	0.731	0.3678	-0.1574

$V = 250$ ft/sec, $R = 3.2 \times 10^6$

α	$\bar{C}_L$	$\bar{C}_D$	$\bar{C}_m$
- 3.2°	-0.033	0.0103	-0.0052
- 2.8°	-0.026	0.0104	-0.0066
- 2.2°	-0.020	0.0098	-0.0035
- 1.8°	-0.013	0.0102	-0.0049
- 1.2°	-0.008	0.0099	-0.0018
- 0.8°	-0.003	0.0098	-0.0029
- 0.2°	0.005	0.0093	0
0.2°	0.009	0.0098	0.0010
1.2°	0.021	0.0103	0.0004
1.8°	0.028	0.0104	0.0029
2.2°	0.033	0.0107	0.0020
3.8°	0.056	0.0127	0.0032
5.8°	0.089	0.0169	0.0028
7.8°	0.126	0.0227	0.0004
9.8°	0.165	0.0313	-0.0039
11.8°	0.210	0.0427	-0.0102
13.8°	0.254	0.0561	-0.0174
15.8°	0.311	0.0768	-0.0305
17.85°	0.364	0.0995	-0.0403
19.85°	0.424	0.1288	-0.0552
21.85°	0.486	0.1636	-0.0730
23.85°	0.536	0.1959	-0.0860

Table 41

BOUNDARY LAYER TRANSITION POSITION AT CENTRE SECTION: B SERIES WINGS

V = 125 ft/sec; R = 1.6×10^6			V = 250 ft/sec; R = 3.2×10^6		
α	X_T/C		α	X_T/C	
	Upper surface	Lower surface		Upper surface	Lower surface
			BF/1		
-4.15°	0.72	0.010	-2.0°	0.52	0.010
-3.05°	0.68	0.010	-0.95°	0.49	-
-2.0°	0.67	0.010	0.15°	0.45	0.53
-0.95°	0.59	-	1.2°	0.42	0.59
0.15°	0.56	0.71	2.3°	0.42	0.64
1.2°	0.49	0.72	3.35°	0.31	0.70
2.3°	0.46	0.80	4.45°	0.21	0.71
3.35°	0.42	0.88	5.55°	0.15	0.85
4.45°	0.38	-	6.6°	0.13	1.00
5.55°	0.30	-	7.7°	0.10	-
6.6°	0.19	-	9.75°	0.063	-
7.7°	0.15	-	9.8°	0.063	-
8.75°	0.13	-	10.9°	0.031	-
9.8°	0.094	-			
11.95°	0.021				
			BF/2		
			No measurements		

Table 41 (Contd)

BOUNDARY LAYER TRANSITION POSITION AT CENTRE SECTION: B SERIES WINGS

V = 125 ft/sec; R = 1.6 × 10^6			V = 250 ft/sec; R = 3.2 × 10^6		
α	X_T/C		α	X_T/C	
	Upper surface	Lower surface		Upper surface	Lower surface
			BF/3		
- 4.1°	0.69	0.01	- 3.1°	0.52	Leading edge
- 2.1°	0.62	0.01	- 2.1°	0.51	"
- 0.05°	0.57	-	- 1.1°	0.47	"
1.95°	0.48	0.71	- 0.05°	0.47	"
4.0°	0.43	0.80	0.95°	0.44	"
6.0°	0.40	0.88	1.95°	0.43	0.54
8.05°	0.25	0.96	4.0°	0.38	0.65
10.05°	0.15	1.00	6.0°	0.20	0.72
12.1°	0.13	-	8.05°	0.16	0.75
14.15°	0.08_3	-	10.1°	0.11	0.83
16.15°	0.05_2	-	12.1°	0.08_3	0.96
			14.15°	0.06_3	1.00
			BF/4		
- 4.3°	0.67	Leading edge	- 4.25°	0.62	Leading edge
- 2.3°	0.62	"	- 2.2°	0.55	"
- 0.3°	0.56	"	- 0.2°	0.49	"
1.75°	0.50	0.71	1.8°	0.46	0.62
3.75°	0.46	0.75	3.8°	0.40	0.67
5.75°	0.41	0.79	5.85°	0.33	0.67
7.75°	0.33	0.90	7.85°	0.22	0.75
9.8°	0.21	1.00	9.85°	0.14	0.80
13.8°	0.13	-	11.9°	0.10	0.83
17.85°	0.06_1	-	15.95°	0.04_2	1.00
			17.95°	0.03_1	-
			BF/5		
- 4.45°	0.70	Leading edge	- 4.4°	0.58	Leading edge
- 2.45°	0.60	"	- 0.4°	0.48	"
- 0.45°	0.54	0.58	3.6°	0.42	0.58
1.6°	0.50	0.71	7.6°	0.27	0.67
3.6°	0.46	0.75	9.6°	0.19	0.69
7.6°	0.35	0.92	13.6°	0.11	0.75
9.6°	0.29	0.96	15.6°	0.10	0.79
13.6°	0.15	1.00	17.65°	0.06_3	1.00
17.6°	0.13	-			
19.6°	0.08_3	-			
21.65°	0.06_3	-			

Table 42

BOUNDARY LAYER TRANSITION POSITION AT CENTRE SECTION: C SERIES WINGS

V = 125 ft/sec; R = 1.6 × 10^6			V = 250 ft/sec; R = 3.2 × 10^6		
α	X_T/C		α	X_T/C	
	Upper surface	Lower surface		Upper surface	Lower surface
CF/1					
No measurements					
CF/2					
No measurements					
CF/3					
-3.85°	0.71	Leading edge	-1.8°	0.48	Leading edge
-1.8°	0.64	"	0.2°	0.43	0.54
0.2°	0.57	0.64	2.25°	0.33	0.58
1.2°	0.53	0.69	4.25°	0.18	0.62
2.25°	0.48	0.72	6.3°	0.12	0.74
3.25°	0.46	0.77	8.3°	0.07_3	0.81
4.25°	0.43	0.77	10.35°	0.06_3	0.84
5.25°	0.34	0.82	12.4°	0.03_1	0.89
6.3°	0.26	0.87			
7.3°	0.19	0.91			
8.3°	0.15	0.95			
9.35°	0.10	0.97			
10.35°	0.06_3	1.00			
11.35°	0.05_2	1.00			

Table 42 (Contd)

BOUNDARY LAYER TRANSITION POSITION AT CENTRE SECTION: C SERIES WINGS

V = 125 ft/sec; R = 1.6×10^6			V = 250 ft/sec; R = 3.2×10^6		
α	X_T/C		α	X_T/C	
	Upper surface	Lower surface		Upper surface	Lower surface
			CF/4		
-4.0°	0.68	Leading edge	-2.0°	0.49	Leading edge
-2.0°	0.65	"	0°	0.45	0.53
0°	0.58	0.65	1.0°	0.39	0.56
1.0°	0.55	0.69	2.0°	0.39	0.59
2.0°	0.50	0.71	3.0°	0.35	0.59
3.0°	0.45	0.77	4.05°	0.21	0.64
4.05°	0.43	0.80	6.05°	0.17	0.71
5.05°	0.38	0.83	7.05°	0.11	0.73
6.05°	0.30	0.88	8.05°	0.09_4	0.76
7.05°	0.19	0.91	9.1°	0.07_3	0.79
8.05°	0.14	0.97	10.1°	0.06_2	0.82
10.1°	0.07_3	1.00			
12.1°	0.05_2	-			
			CF/5		
-2.2°	0.62	Leading edge	-2.2°	0.51	Leading edge
-0.2°	0.54	0.70	-0.2°	0.48	0.56
1.8°	0.50	0.74	1.8°	0.42	0.59
3.8°	0.45	0.79	3.8°	0.38	0.65
5.8°	0.38	0.85	4.8°	0.28	0.65
6.8°	0.31	0.88	5.8°	0.20	0.64
7.8°	0.24	0.89	7.8°	0.14	0.72
9.8°	0.16	0.97	9.8°	0.08_3	0.75
10.85°	0.13	1.00	11.8°	0.06_3	0.81
11.85°	0.12	-			
13.85°	0.06_7	-			
15.85°	0.05_4	-			

Table 43

ZERO LIFT ANGLES OF BF AND CF SERIES WINGS

	α_o									
	BF/1	BF/2	BF/3	BF/4	BF/5	CF/1	CF/2	CF/3	CF/4	CF/5
Calc.	-1.96°	-2.04°	-2.21°	-2.32°	-2.52°	-0.76°	-0.78°	-0.80°	-0.82°	-0.84°
Exp.	-2.1°	-2.0°	-2.2°	-2.3°	-2.2°	-0.8°	-0.8°	-0.8°	-0.7°	-0.6°

Table 44

ZERO LIFT ANGLES AT CENTRE SECTION OF BP SERIES WINGS

	α_o					
	BP/0	BP/1	BP/2	BP/3	BP/4	BP/5
Calc.	-1.92°	-1.96°	-2.04°	-2.21°	-2.32°	-2.52°
Exp.	-2.1°	-2.2°	-2.3°	-2.2°	-2.2°	-2.2°

Table 45

CALCULATED PRESSURE COEFFICIENTS ON WINGS OF SYMMETRICAL SECTION

Wing AP/1

X/C	$\alpha_e = 0^\circ$ $C_N = 0$	$\alpha_e = 2^\circ$ $C_N = 0.212$		$\alpha_e = 5^\circ$ $C_N = 0.527$		$\alpha_e = 8^\circ$ $C_N = 0.838$	
	C_p	C_p		C_p		C_p	
		U.S.	L.S.	U.S.	L.S.	U.S.	L.S.
0.0096	0.050	-0.703	0.586	-2.231	0.979	-4.221	0.875
0.0381	-0.215	-0.635	0.146	-1.373	0.570	-2.233	0.852
0.0843	-0.277	-0.551	-0.027	-1.003	0.300	-1.500	0.568
0.1464	-0.302	-0.498	-0.116	-0.811	0.140	-1.143	0.367
0.2222	-0.311	-0.460	-0.167	-0.690	0.038	-0.928	0.228
0.3087	-0.308	-0.423	-0.194	-0.598	-0.028	-0.775	0.130
0.4025	-0.216	-0.333	-0.159	-0.463	-0.029	-0.591	0.098
0.5000	-0.182	-0.249	-0.115	-0.316	-0.013	-0.438	0.089
0.5975	-0.121	-0.171	-0.068	-0.243	0.012	-0.310	0.094
0.6913	-0.064	-0.102	-0.024	-0.155	0.039	-0.202	0.105
0.7778	-0.016	-0.044	0.015	-0.082	0.063	-0.114	0.116
0.8536	0.026	0.006	0.048	-0.020	0.085	-0.041	0.127
0.9157	0.067	0.054	0.083	0.038	0.110	0.027	0.142
0.9619	0.118	0.110	0.127	0.103	0.146	0.100	0.169
0.9904	0.196	0.194	0.201	0.193	0.211	0.198	0.226

Table 46

CALCULATED PRESSURE COEFFICIENTS ON WINGS OF SYMMETRICAL SECTION

Wing AP/2

X/C	$\alpha_e = 0^\circ$ $C_N = 0$	$\alpha_e = 3^\circ$ $C_N = 0.267$		$\alpha_e = 7^\circ$ $C_N = 0.615$		$\alpha_e = 12^\circ$ $C_N = 1.033$	
	C_p	C_p		C_p		C_p	
		U.S.	L.S.	U.S.	L.S.	U.S.	L.S.
0.0096	0.052	-0.783	0.868	-2.903	0.917	-6.632	-0.208
0.0381	-0.212	-0.815	0.276	-1.790	0.735	-3.253	0.992
0.0843	-0.274	-0.699	0.060	-1.277	0.433	-2.082	0.772
0.1464	-0.298	-0.562	-0.052	-0.936	0.243	-1.431	0.552
0.2222	-0.307	-0.503	-0.125	-0.777	-0.141	-1.114	-0.376
0.3087	-0.304	-0.451	-0.157	-0.648	0.034	-0.886	0.260
0.4025	-0.242	-0.352	-0.131	-0.493	0.019	-0.658	0.203
0.5000	-0.179	-0.260	-0.093	-0.363	0.024	-0.476	0.174
0.5975	-0.117	-0.178	-0.051	-0.251	0.041	-0.329	0.163
0.6913	-0.061	-0.106	-0.011	-0.157	0.062	-0.207	0.161
0.7778	-0.013	-0.042	0.020	-0.080	0.079	-0.111	0.161
0.8536	0.028	0.006	0.056	-0.016	0.100	-0.030	0.165
0.9157	0.069	0.055	0.089	0.044	0.122	0.044	0.174
0.9619	0.120	0.112	0.132	0.110	0.155	0.120	0.195
0.9904	0.198	0.196	0.204	0.201	0.219	0.218	0.248

Table 47

CALCULATED PRESSURE COEFFICIENTS ON WINGS OF SYMMETRICAL SECTION

Wing AP/3

X/C	$\alpha_e = 0^\circ$ $C_N = 0$	$\alpha_e = 3^\circ$ $C_N = 0.216$		$\alpha_e = 7^\circ$ $C_N = 0.499$		$\alpha_e = 12^\circ$ $C_N = 0.839$	
	C_p	C_p		C_p		C_p	
		U.S.	L.S.	U.S.	L.S.	U.S.	L.S.
0.0096	0.057	-1.024	0.733	-3.075	0.992	-6.558	0.278
0.0381	-0.205	-0.708	0.216	-1.497	0.642	-2.651	0.944
0.0843	-0.265	-0.562	0.006	-0.992	0.325	-1.571	0.643
0.1464	-0.288	-0.487	-0.097	-0.761	0.142	-1.109	0.410
0.2222	-0.296	-0.438	-0.154	-0.626	0.031	-0.853	0.251
0.3087	-0.291	-0.396	-0.184	-0.530	-0.038	-0.683	0.143
0.4025	-0.230	-0.305	-0.150	-0.398	-0.039	-0.498	0.106
0.5000	-0.167	-0.222	-0.108	-0.286	-0.022	-0.350	0.094
0.5975	-0.107	-0.146	-0.062	-0.190	0.005	-0.229	0.098
0.6913	-0.052	-0.081	-0.019	-0.109	0.033	-0.130	0.109
0.7778	-0.006	-0.026	0.018	-0.043	0.059	-0.050	0.121
0.8536	0.033	0.020	0.051	0.012	0.082	0.015	0.133
0.9157	0.073	0.066	0.085	0.064	0.109	0.075	0.151
0.9619	0.122	0.119	0.130	0.123	0.148	0.139	0.181
0.9904	0.200	0.200	0.204	0.207	0.216	0.227	0.242

Table 48

CALCULATED PRESSURE COEFFICIENTS ON WINGS OF SYMMETRICAL SECTION

Wing AP/4

	$\alpha_e = 0^\circ$ $C_N = 0$	$\alpha_e = 3^\circ$ $C_N = 0.176$		$\alpha_e = 7^\circ$ $C_N = 0.408$		$\alpha_e = 12^\circ$ $C_N = 0.686$	
	C_p	C_p		C_p		C_p	
		U.S.	L.S.	U.S.	L.S.	U.S.	L.S.
0.0096	0.060	-0.922	0.698	-2.749	1.000	-5.811	0.191
0.0381	-0.200	-0.629	0.170	-1.287	0.562	-2.229	0.881
0.0843	-0.258	-0.503	-0.029	-0.848	0.248	-1.301	0.541
0.1464	-0.279	-0.438	-0.122	-0.651	0.079	-0.914	0.313
0.2222	-0.284	-0.395	-0.171	-0.537	-0.019	-0.703	0.169
0.3087	-0.278	-0.358	-0.194	-0.456	-0.076	-0.563	0.076
0.4025	-0.217	-0.273	-0.155	-0.339	-0.066	-0.404	0.054
0.5000	-0.155	-0.195	-0.110	-0.239	-0.042	-0.277	0.054
0.5975	-0.097	-0.125	-0.064	-0.154	-0.011	-0.174	0.067
0.6913	-0.047	-0.065	-0.021	-0.082	0.020	-0.088	0.084
0.7778	-0.002	-0.015	0.016	-0.024	0.049	-0.020	0.101
0.8536	0.036	0.027	0.048	0.025	0.074	0.036	0.118
0.9157	0.074	0.070	0.083	0.072	0.103	0.088	0.139
0.9619	0.122	0.121	0.128	0.127	0.143	0.146	0.174
0.9904	0.199	0.200	0.203	0.209	0.214	0.229	0.239

Table 49

CALCULATED PRESSURE COEFFICIENTS ON WINGS OF SYMMETRICAL SECTION

Wing AP/5

X/C	$\alpha_e = 0^\circ$ $C_N = 0$	$\alpha_e = 4^\circ$ $C_N = 0.149$		$\alpha_e = 10^\circ$ $C_N = 0.367$		$\alpha_e = 16^\circ$ $C_N = 0.567$	
	C_p	C_p		C_p		C_p	
		U.S.	L.S.	U.S.	L.S.	U.S.	L.S.
0.0096	0.062	-0.938	0.709	-3.058	0.988	-5.838	0.432
0.0381	-0.192	-0.571	0.147	-1.204	0.558	-1.890	0.842
0.0843	-0.240	-0.438	-0.045	-0.734	0.232	-1.017	0.481
0.1464	-0.248	-0.369	-0.122	-0.534	0.074	-0.672	0.269
0.2222	-0.244	-0.323	-0.155	-0.420	-0.009	-0.489	0.147
0.3087	-0.234	-0.287	-0.169	-0.345	-0.056	-0.375	0.073
0.4025	-0.175	-0.210	-0.129	-0.241	-0.041	-0.246	0.064
0.5000	-0.121	-0.144	-0.087	-0.158	-0.018	-0.147	0.070
0.5975	-0.073	-0.087	-0.047	-0.090	0.009	-0.068	0.084
0.6913	-0.030	-0.039	-0.011	-0.034	0.035	-0.006	0.100
0.7778	0.004	0	0.019	0.011	0.058	0.044	0.116
0.8536	0.036	0.033	0.045	0.049	0.079	0.084	0.131
0.9157	0.068	0.069	0.076	0.087	0.105	0.125	0.153
0.9619	0.114	0.116	0.120	0.136	0.145	0.174	0.188
0.9904	0.190	0.194	0.195	0.213	0.216	0.250	0.254

SYMBOLS

A	aspect ratio
c	chord
t/c	thickness/chord ratio
X_T	chordwise position of boundary layer transition
h	height of tip vortex sheet
α	angle of incidence
α_i	induced incidence at wing due to trailing vortices
α_{io}	half of the incidence induced by the trailing vortices at a great distance downstream
α_e	effective incidence
α_o	zero lift angle
α_B	reduction in incidence due to boundary layer
C_N, $\bar{C}_N$	local and total normal force coefficient
C_L, $\bar{C}_L$	local and total lift coefficient
C_T, $\bar{C}_T$	local and total tangential force coefficient
C_D, $\bar{C}_D$	local and total drag coefficient
C_{Do}, $\bar{C}_{Do}$	local and total profile drag coefficient
C_{Di}, $\bar{C}_{Di}$	local and total vortex drag coefficient
C_m, $\bar{C}_m$	local and total pitching moment coefficient
C_{mo}, $\bar{C}_{mo}$	local and total pitching moment coefficient at zero lift
C_p	pressure coefficient
ΔC_p	local loading coefficient at a point on the wing
a	sectional lift slope = $\partial C_L/\partial \alpha_e$
k	boundary layer reduction factor
m	camber line parameter
n	parameter used in loading calculations

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8	H. Multhopp	Methods for calculating the lift distribution of wings (Subsonic lifting - surface theory) A.R.C. R. & M. 2884, January 1950
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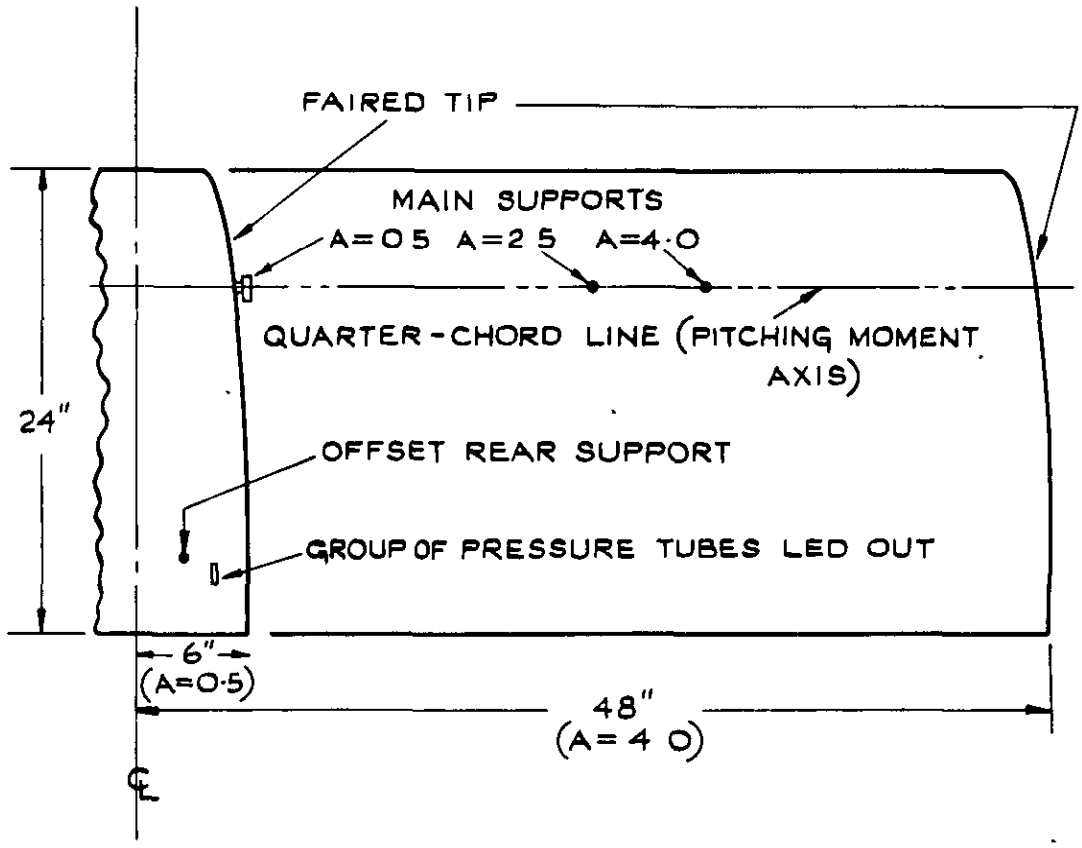


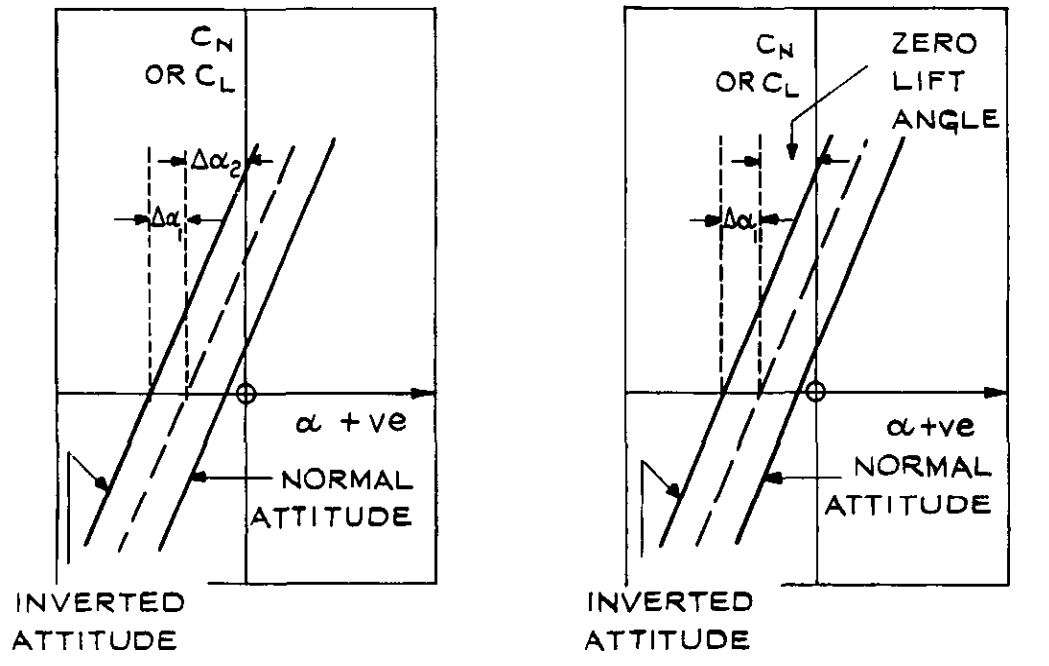
CHORDWISE POSITIONS OF PRESSURE HOLES

$\frac{x}{c}$ =
0
0 005
0·015
0·030
0·050
0·075
0·100
0·200
0·300
0·400
0·500
0·650
0·750
0·850
0·950

FIG. 1 SKETCH OF MODELS

$\Delta\alpha_1$ = CORRECTION FOR TUNNEL PITCH

$\Delta\alpha_2$ = CORRECTION FOR ASYMMETRY OR DATUM LINE ERROR



(a) SYMMETRICAL SECTION (b) CAMBERED SECTION

FIG. 2. METHOD OF CORRECTING INCIDENCE FOR TUNNEL PITCH AND DATUM LINE ERROR

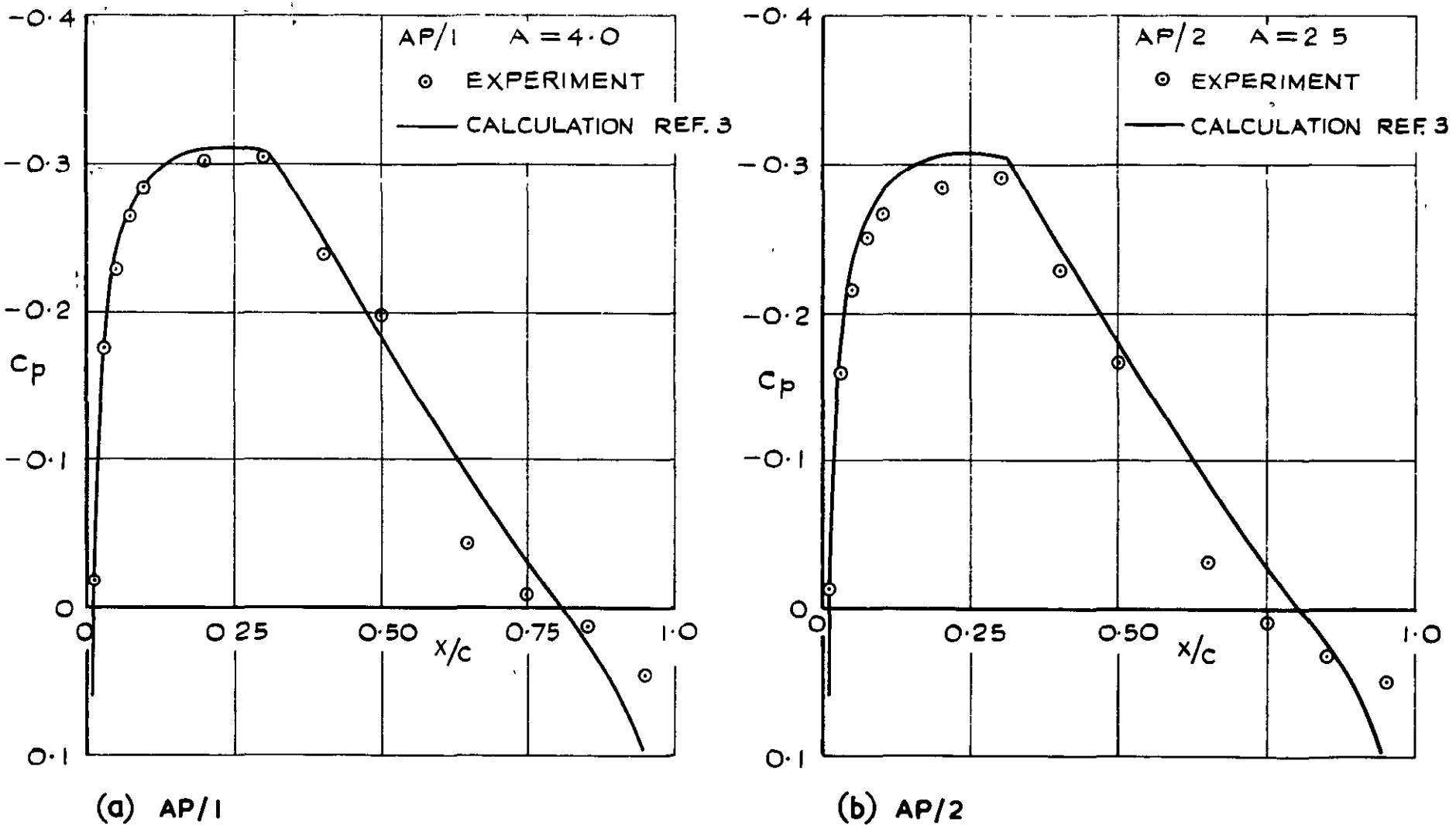
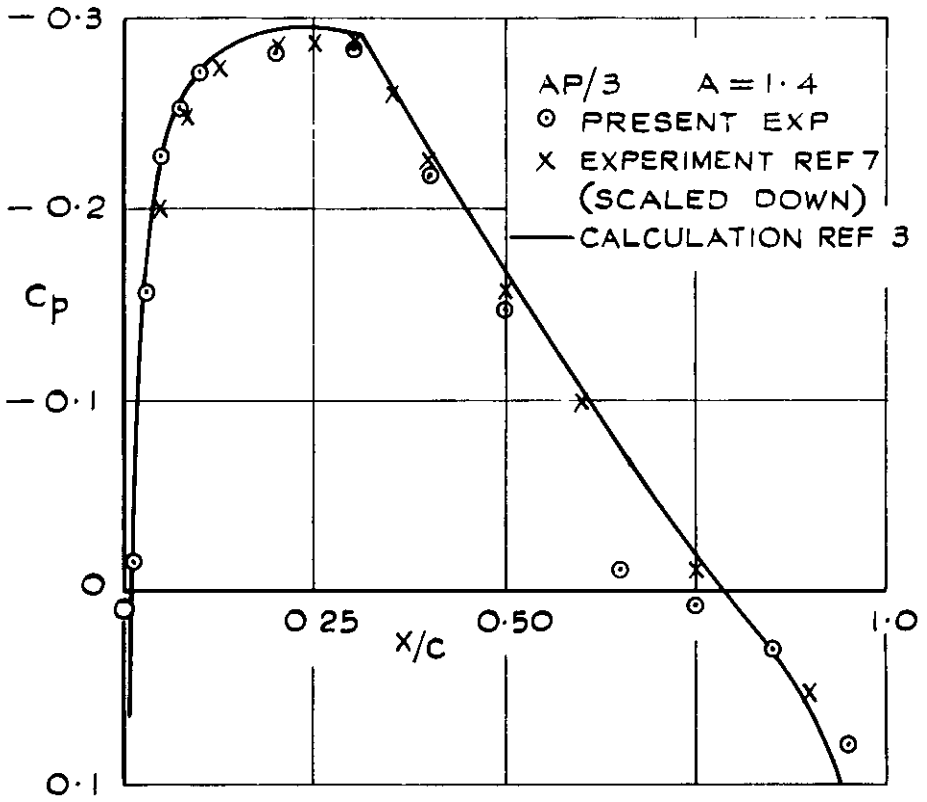
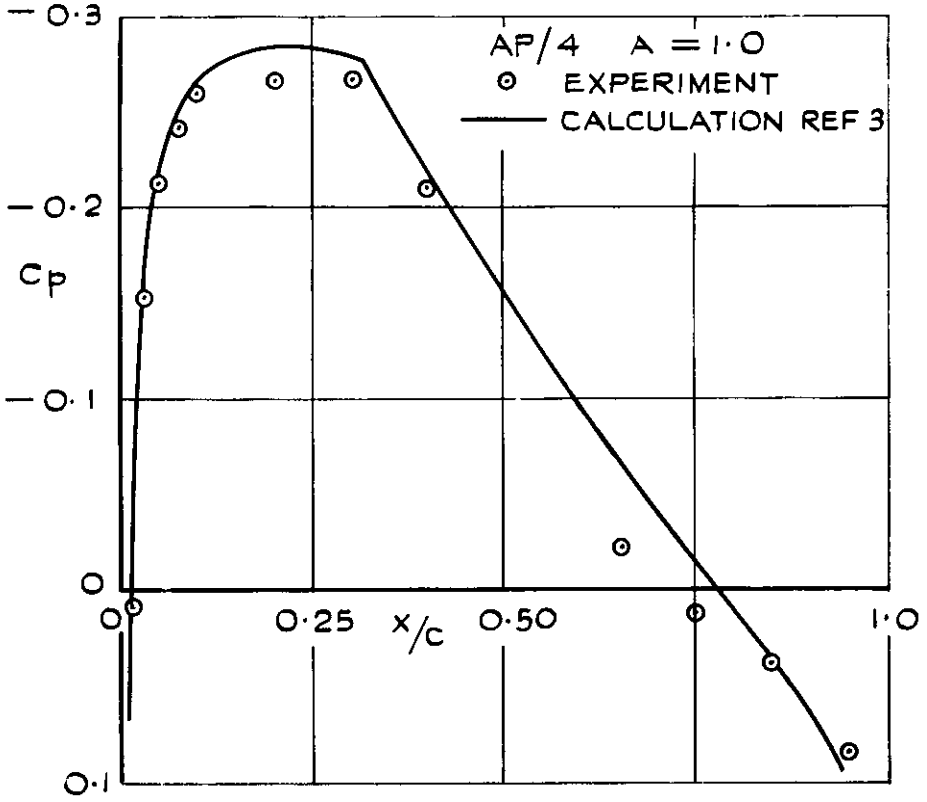


FIG. 3 ZERO LIFT PRESSURE DISTRIBUTION AT THE CENTRE SECTION OF AP WINGS

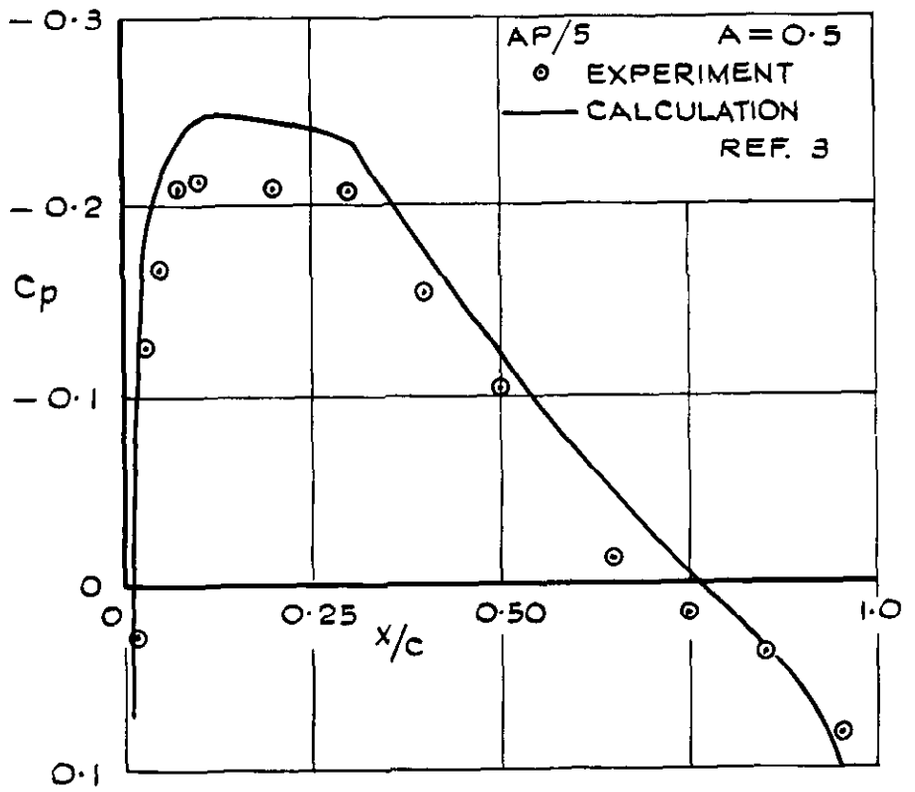


(c) AP/3



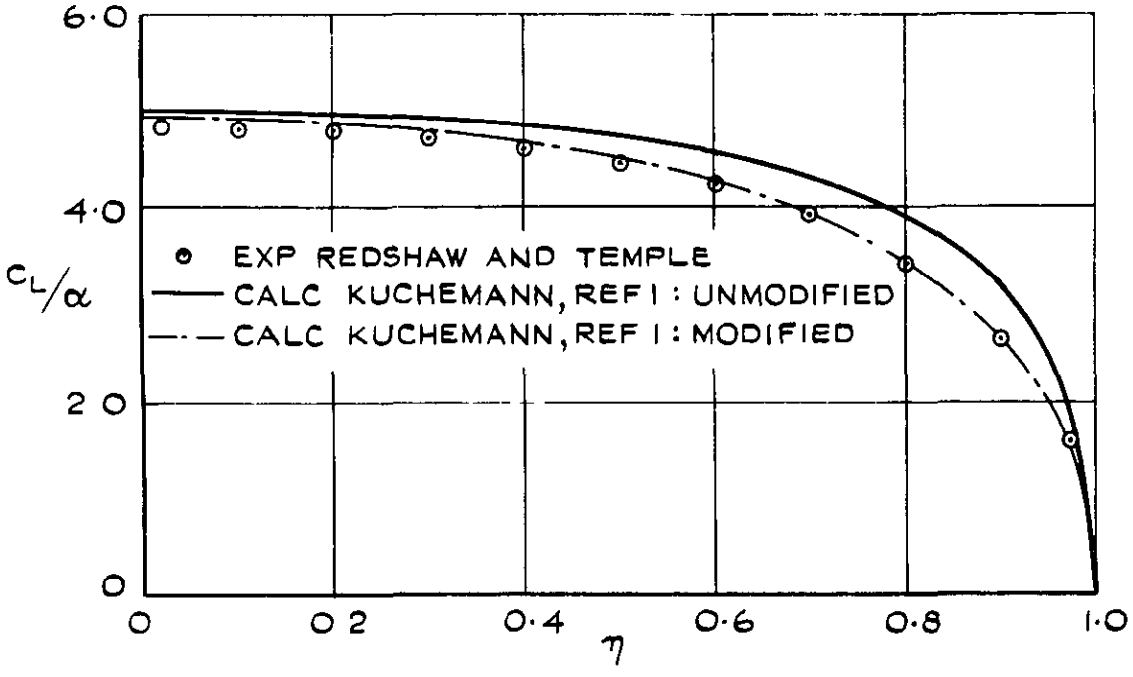
(d) AP/4

FIG. 3 (CONTD)

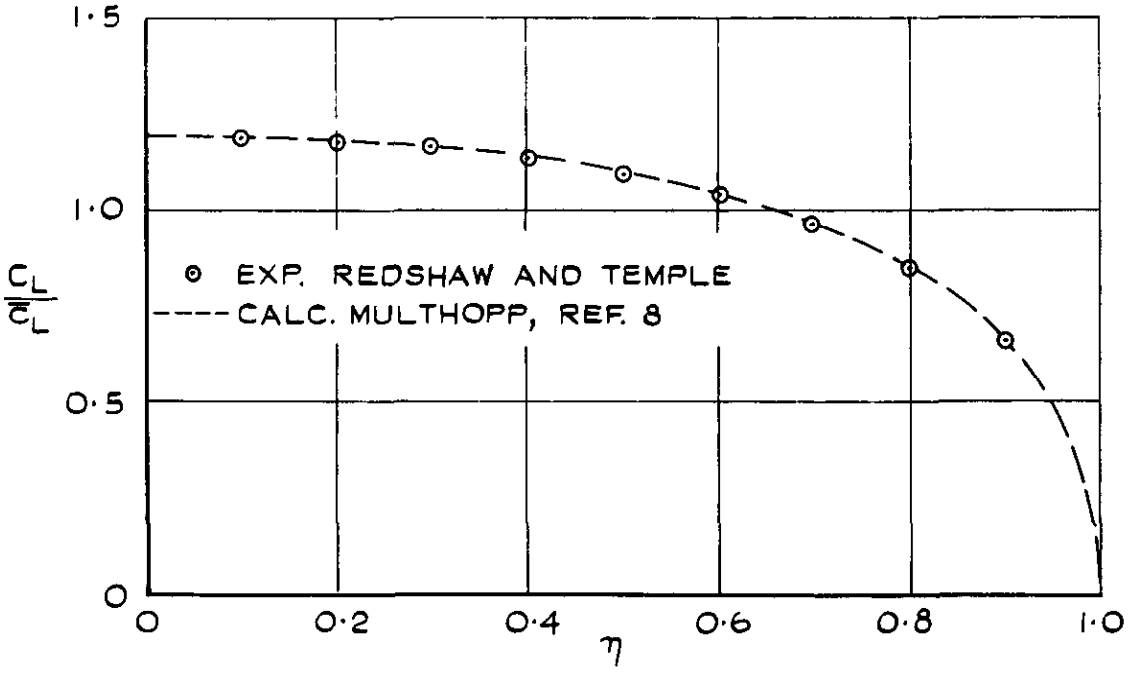


(e) AP/5

FIG. 3 (CONT'D)

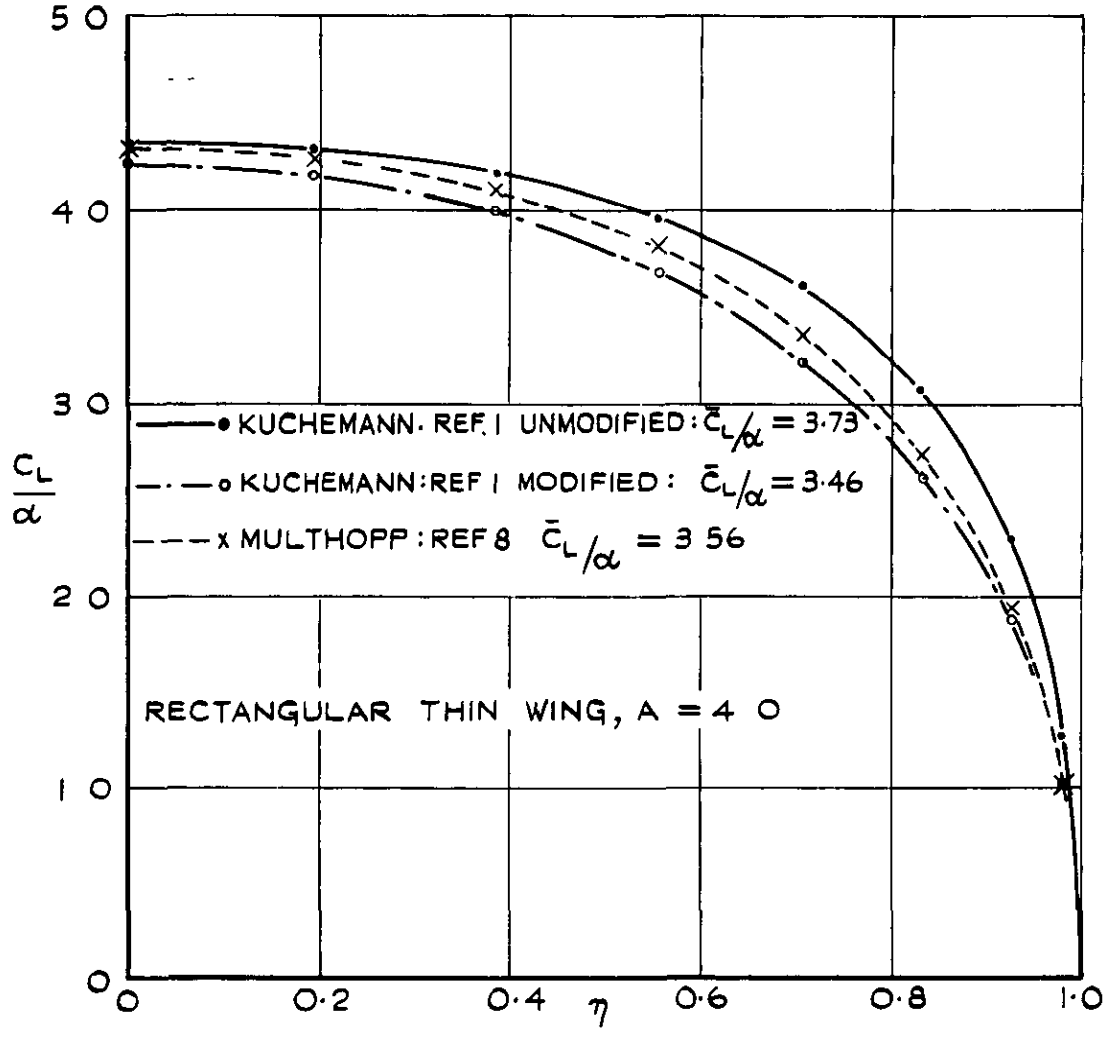


(a)

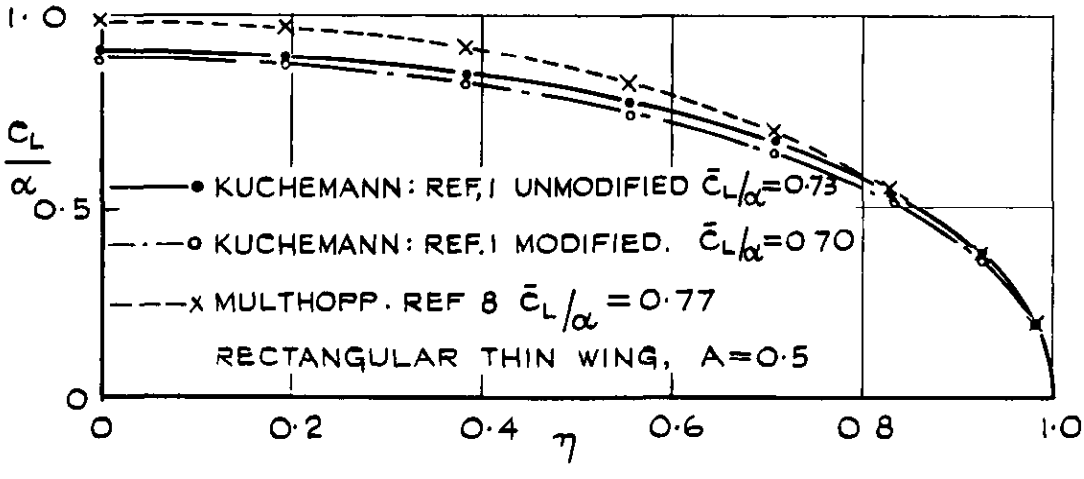


(b)

FIG.4 EXPERIMENTAL AND CALCULATED SPANWISE LIFT DISTRIBUTION ON A THIN RECTANGULAR WING OF ASPECT RATIO 6



(a) ASPECT RATIO = 4·0



(b) ASPECT RATIO = 0·5

FIG. 5 CALCULATED SPANWISE LIFT DISTRIBUTIONS ON TWO THIN RECTANGULAR WINGS

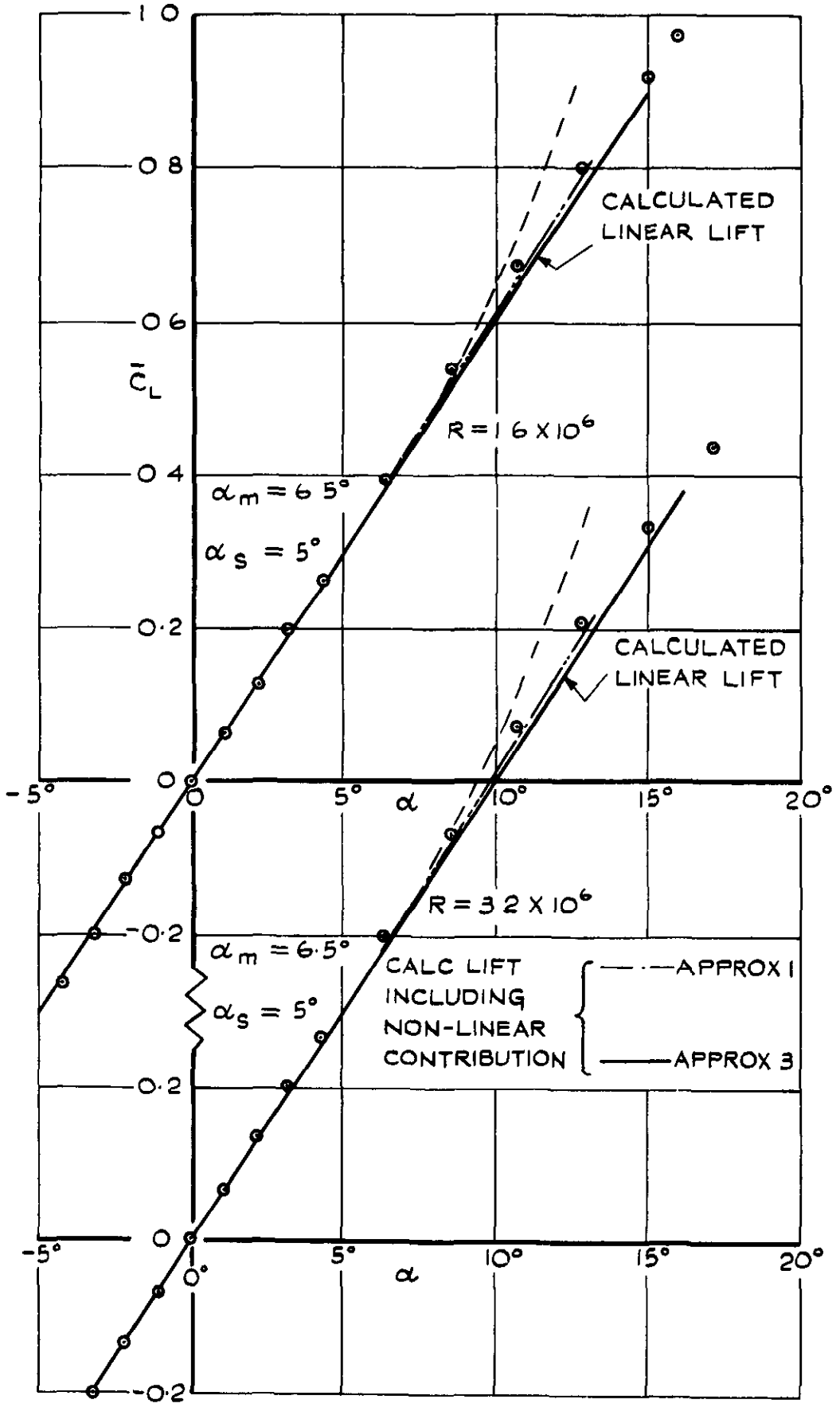


FIG. 6 LIFT v INCIDENCE, WING AF/1

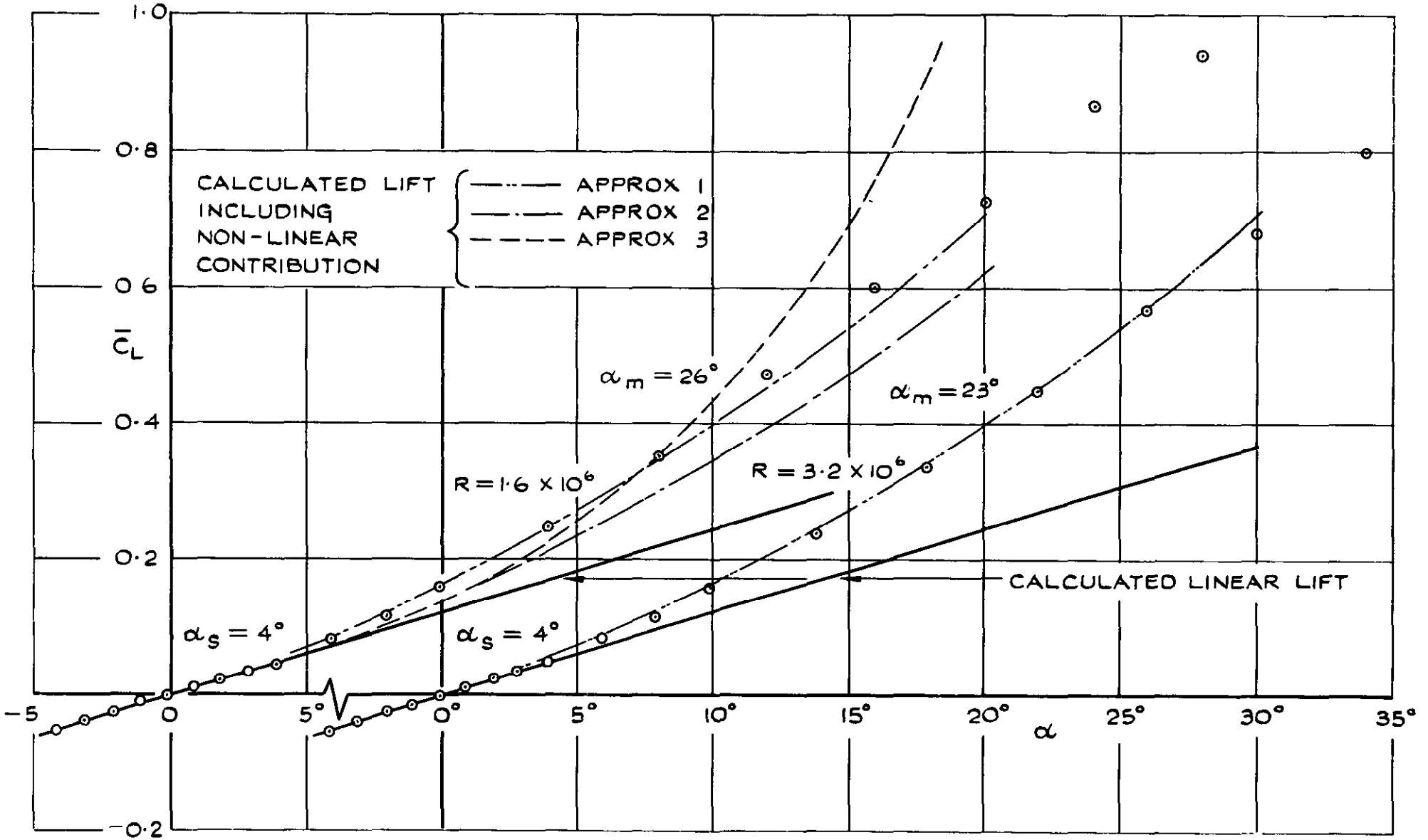


FIG.7 LIFT v INCIDENCE, WING AF/5

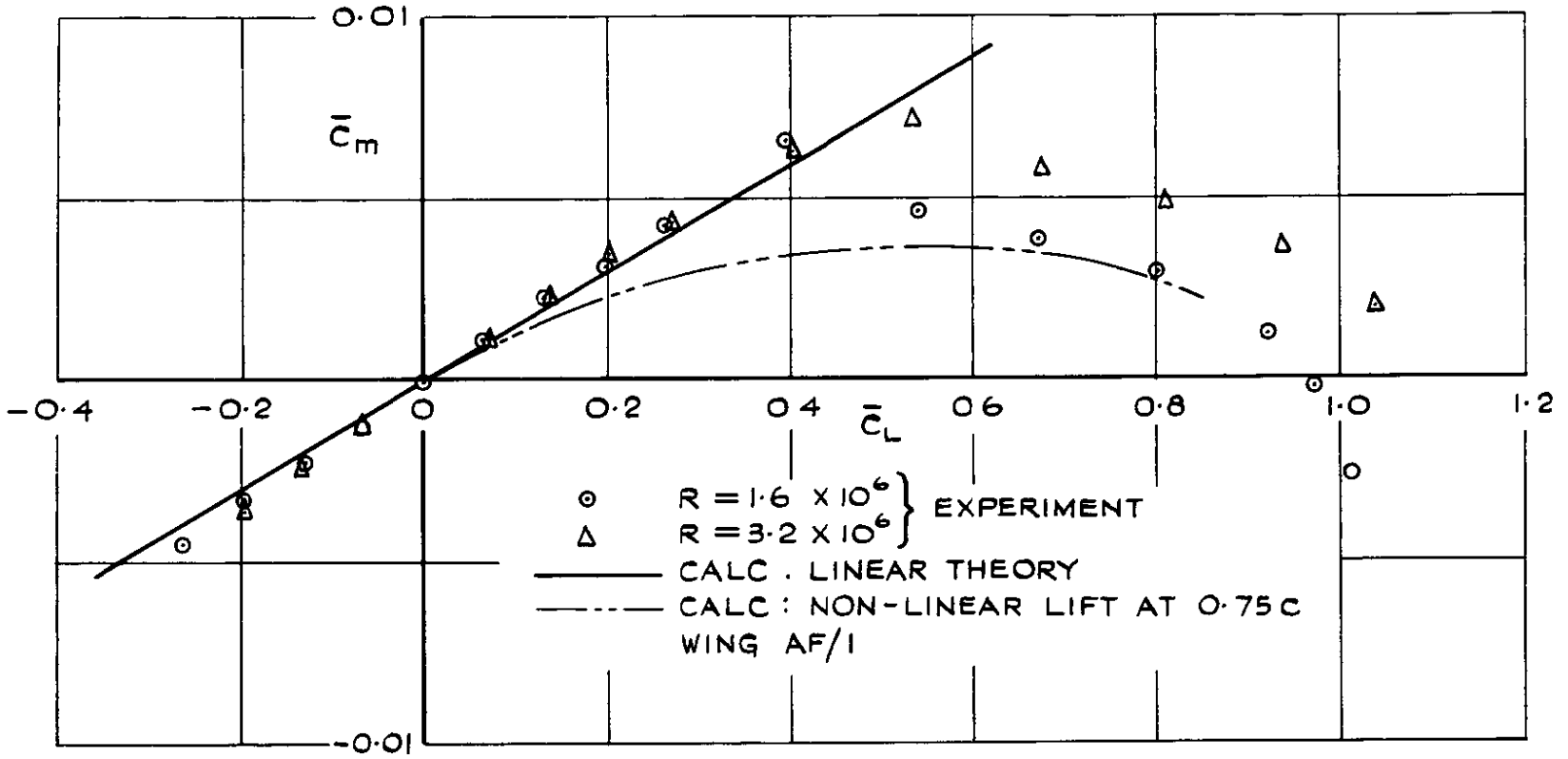


FIG.8 PITCHING MOMENT, WING AF/1

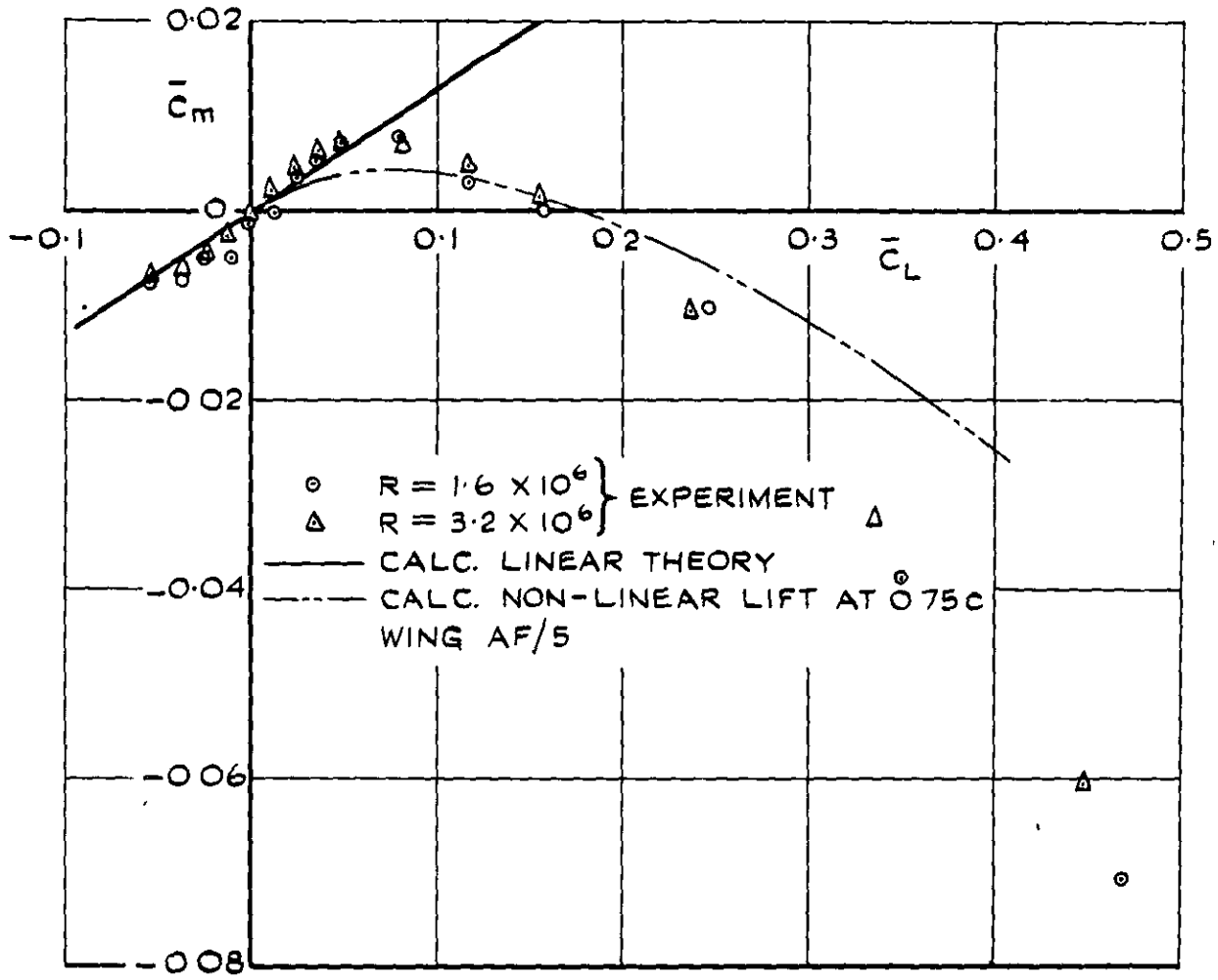


FIG. 9 PITCHING MOMENT, WING AF/5

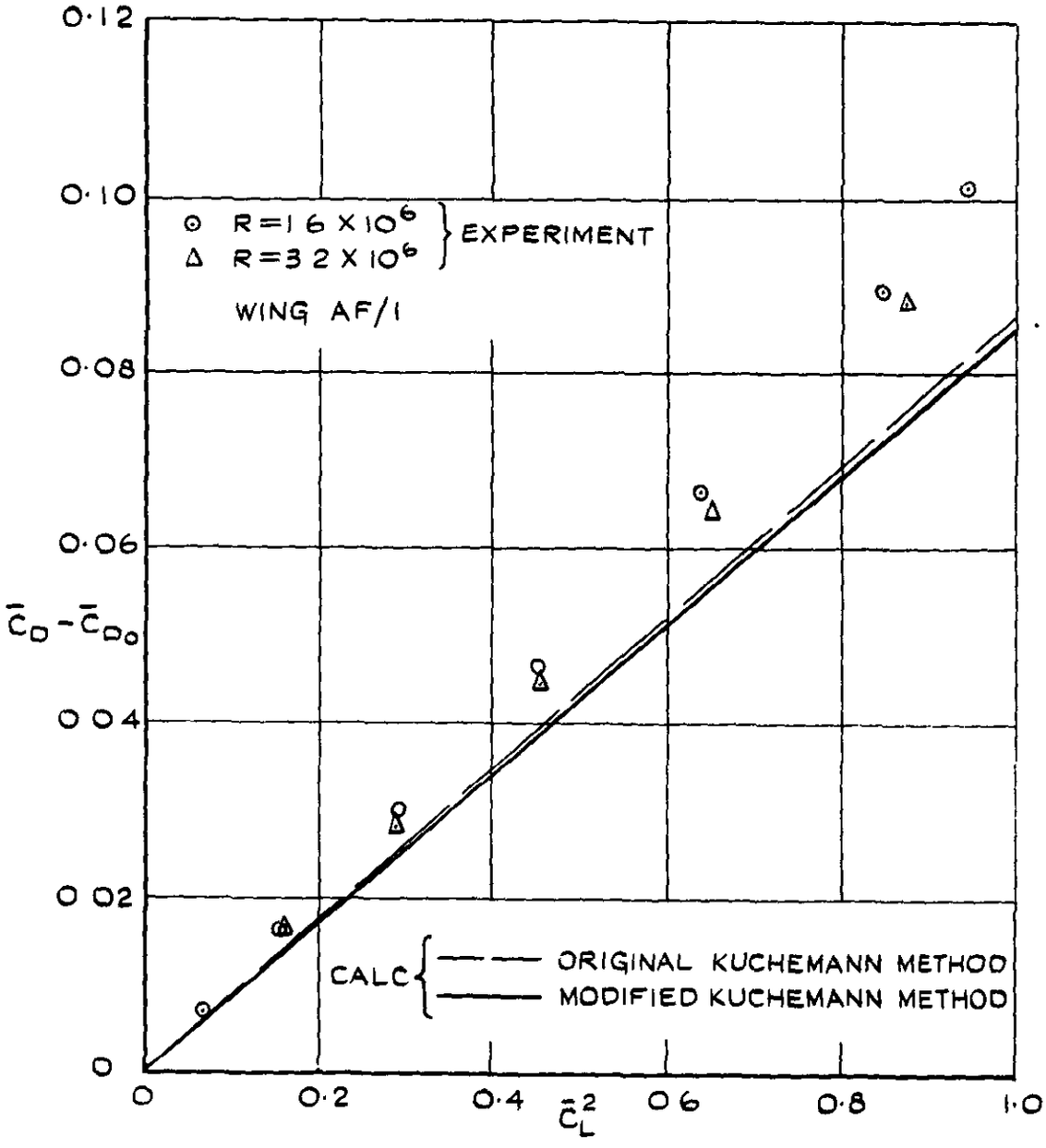


FIG. 10 DRAG DUE TO LIFT AND BOUNDARY LAYER, WING AF/1

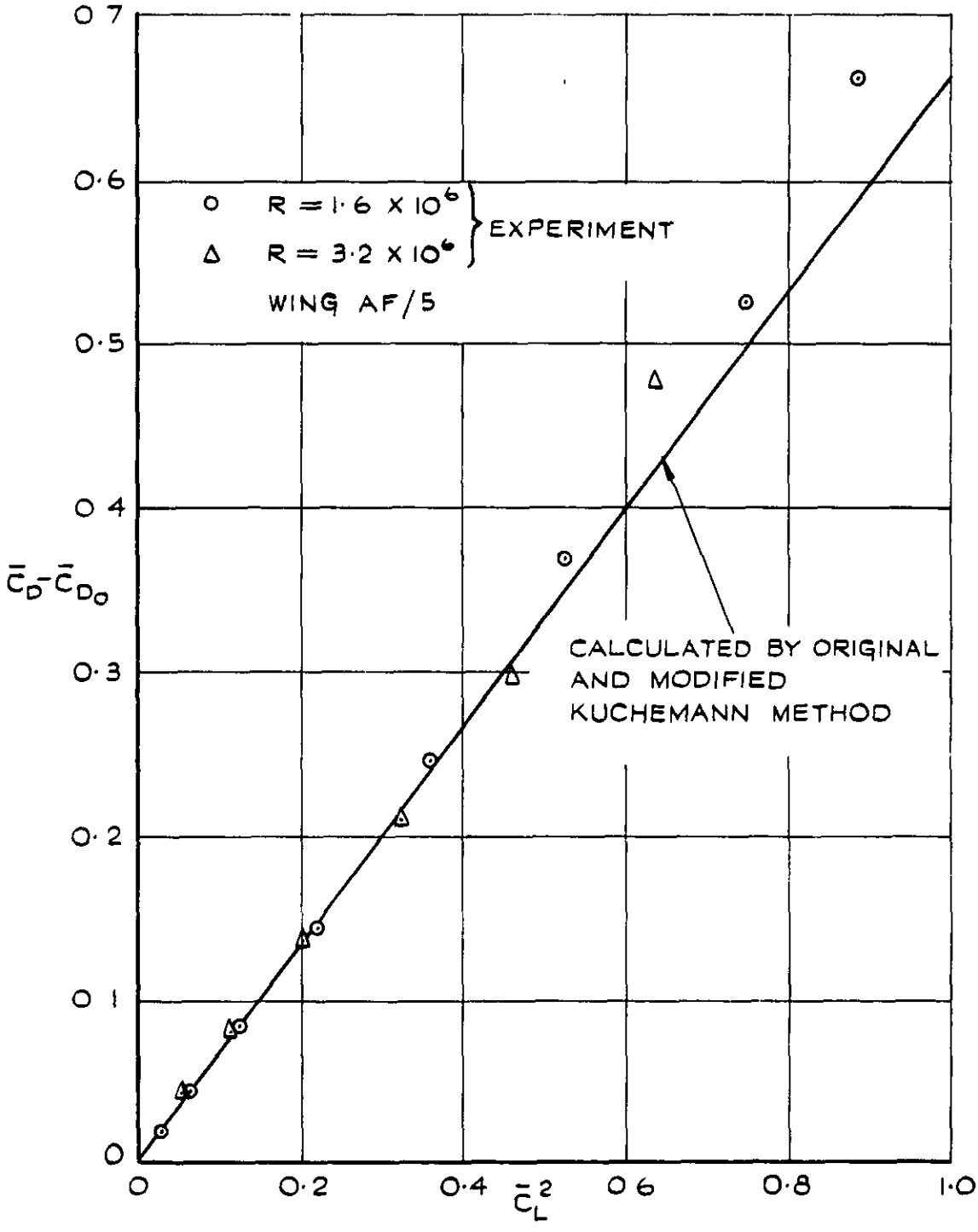


FIG. 11 DRAG DUE TO LIFT AND BOUNDARY LAYER, WING AF/5

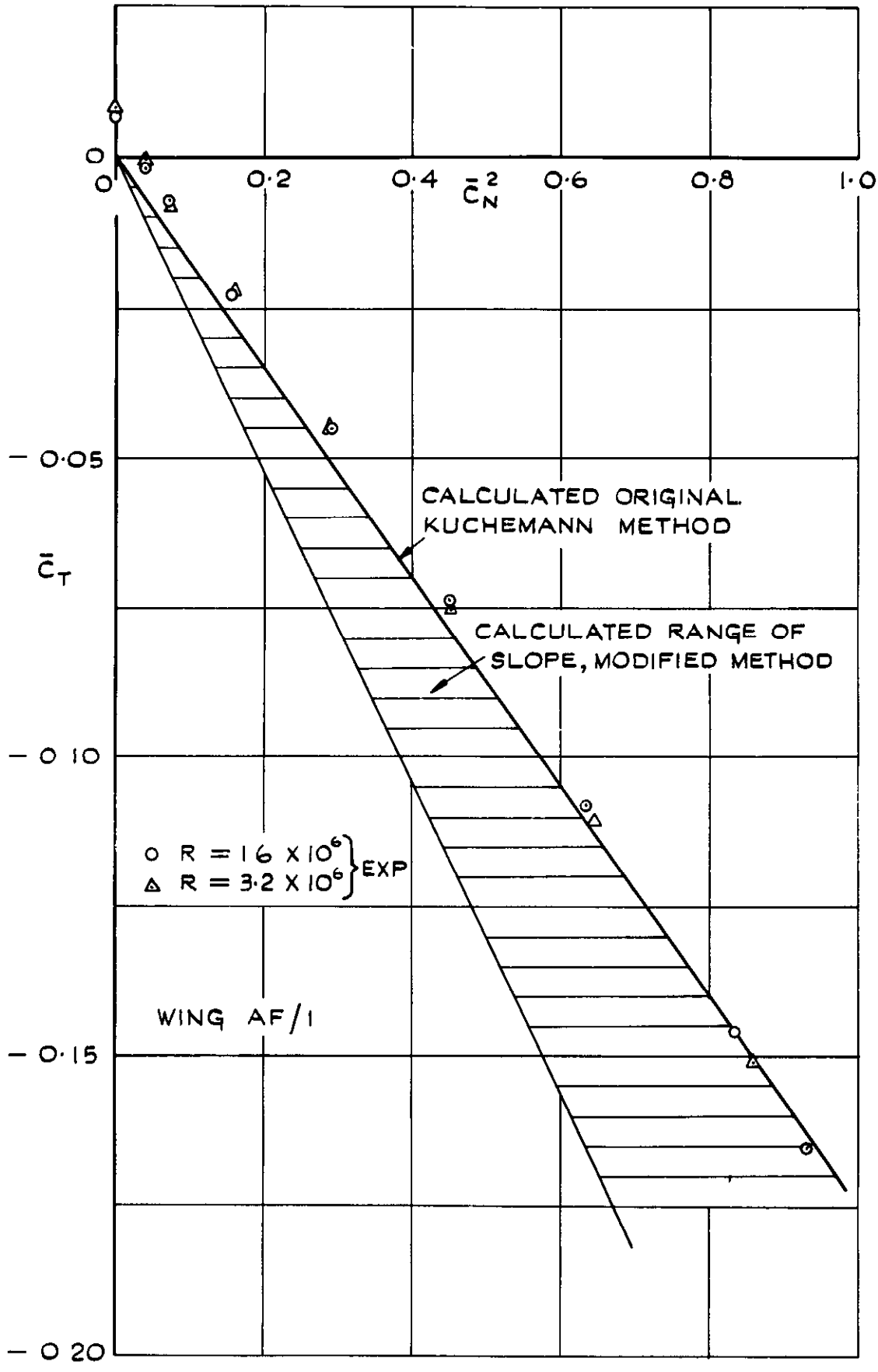


FIG. 12 $\bar{C}_N^2$ v $\bar{C}_T$, WING AF/1

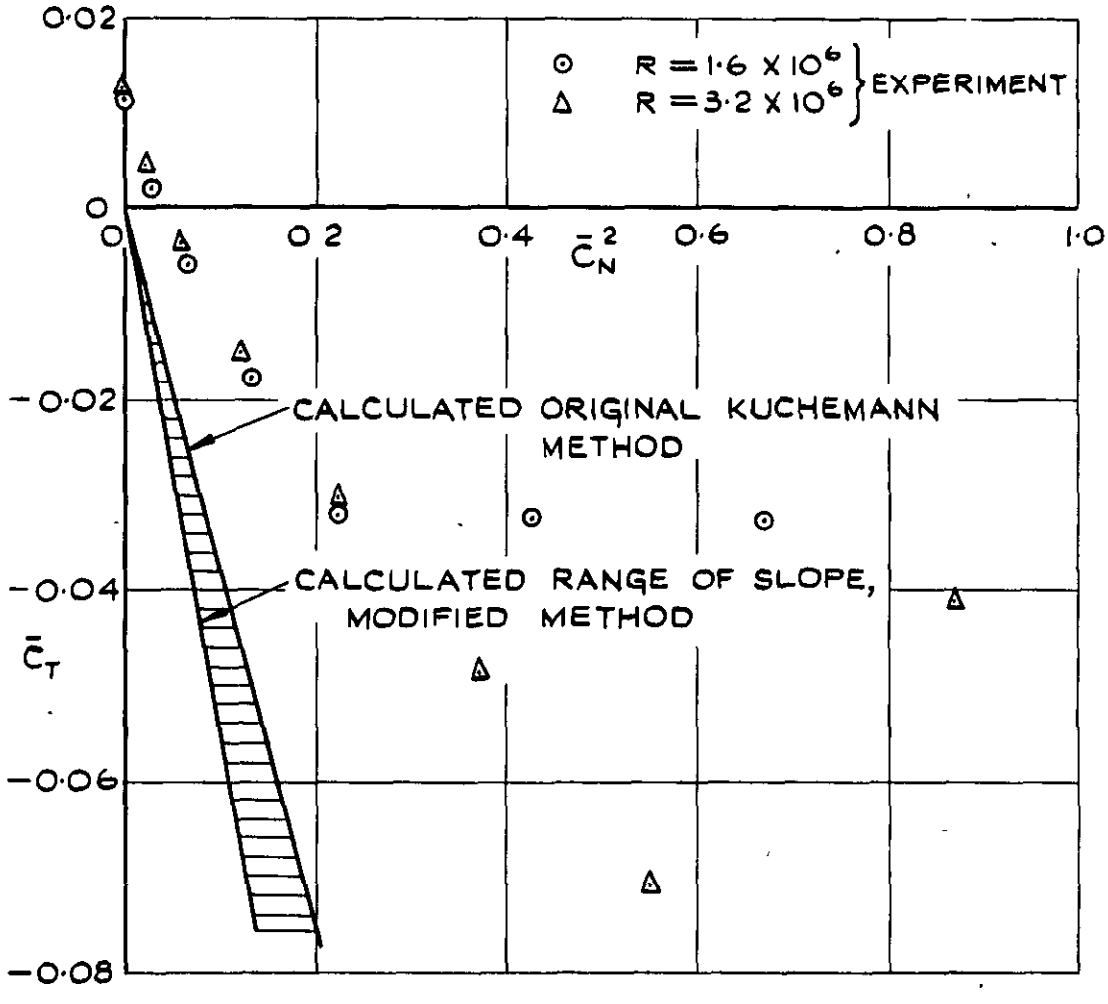


FIG. 13 $\bar{C}_N^2$ v $\bar{C}_T$, WING AF/5

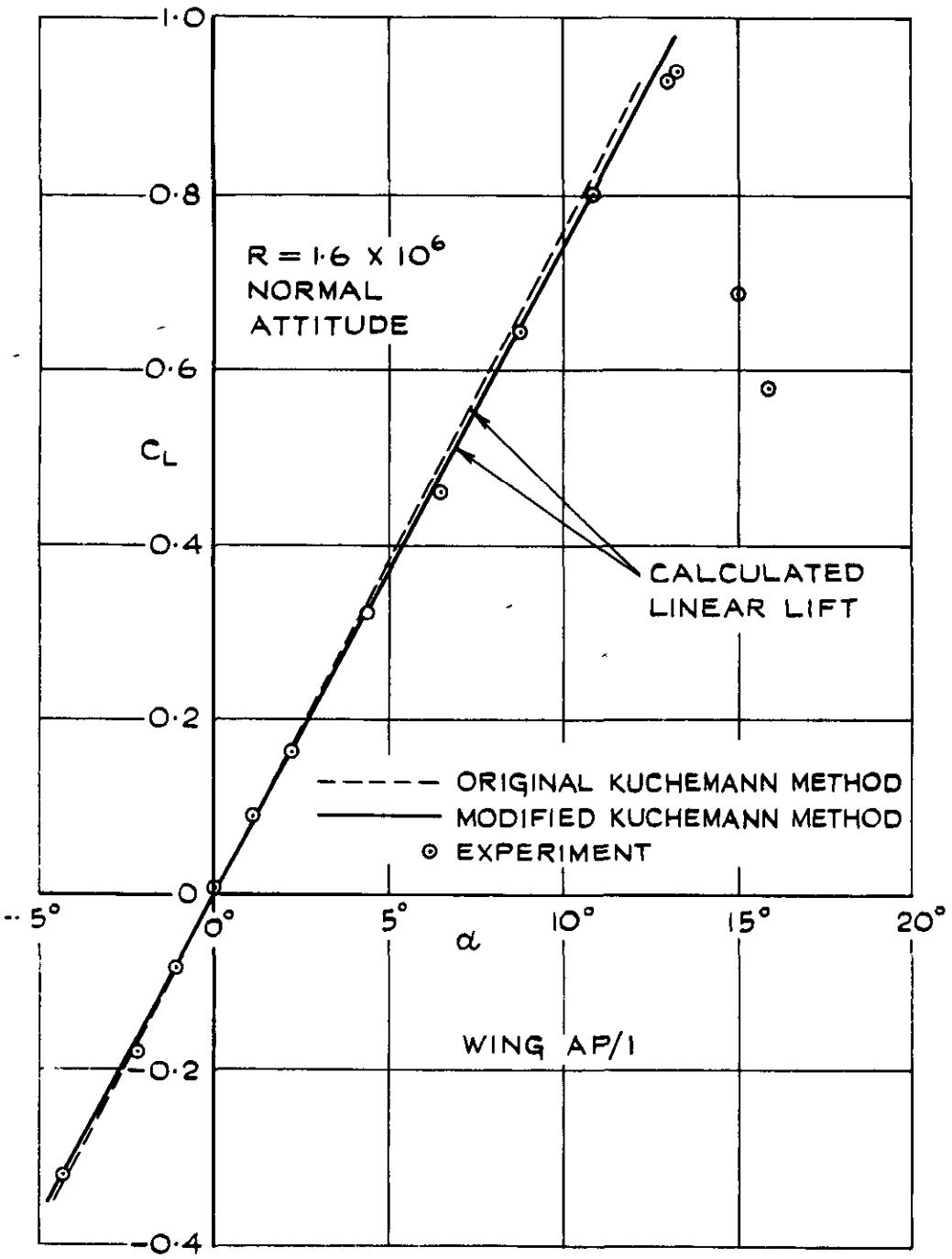


FIG. 14 LOCAL LIFT AT CENTRE LINE v INCIDENCE, WING AP/1

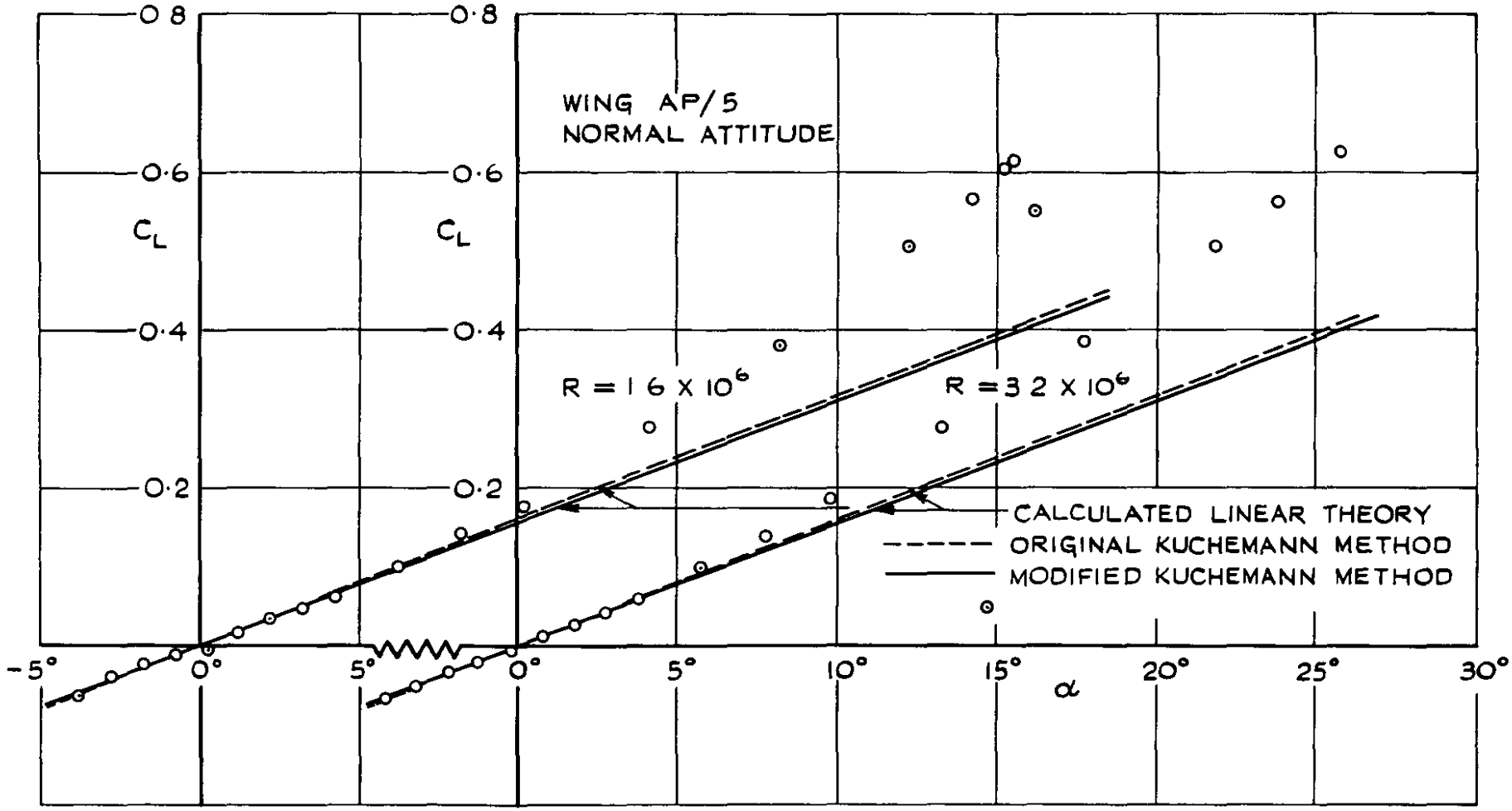


FIG. 15 LOCAL LIFT AT CENTRE SECTION v INCIDENCE, WING AP/5

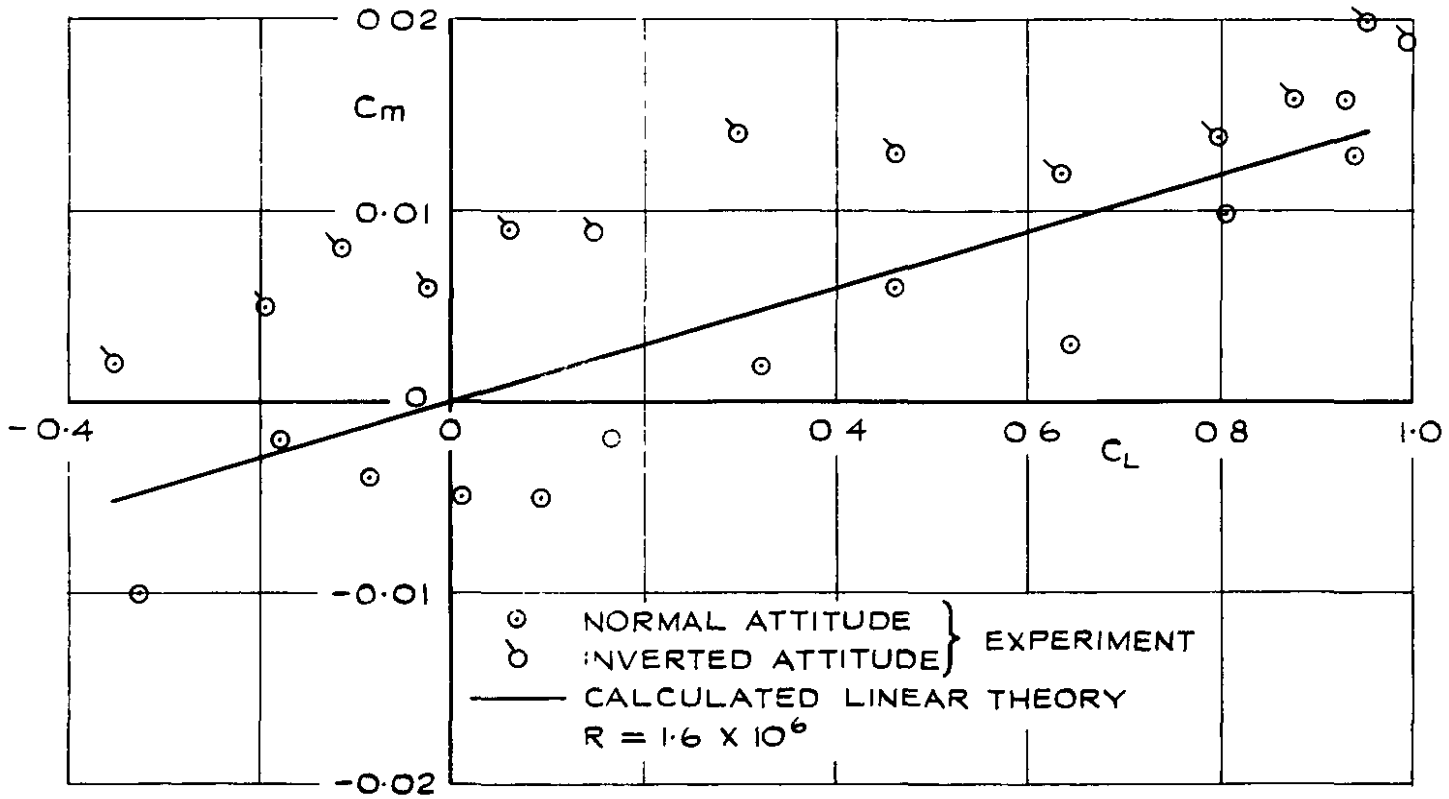


FIG. 16 LOCAL PITCHING MOMENT AT CENTRE SECTION, WING AP/1

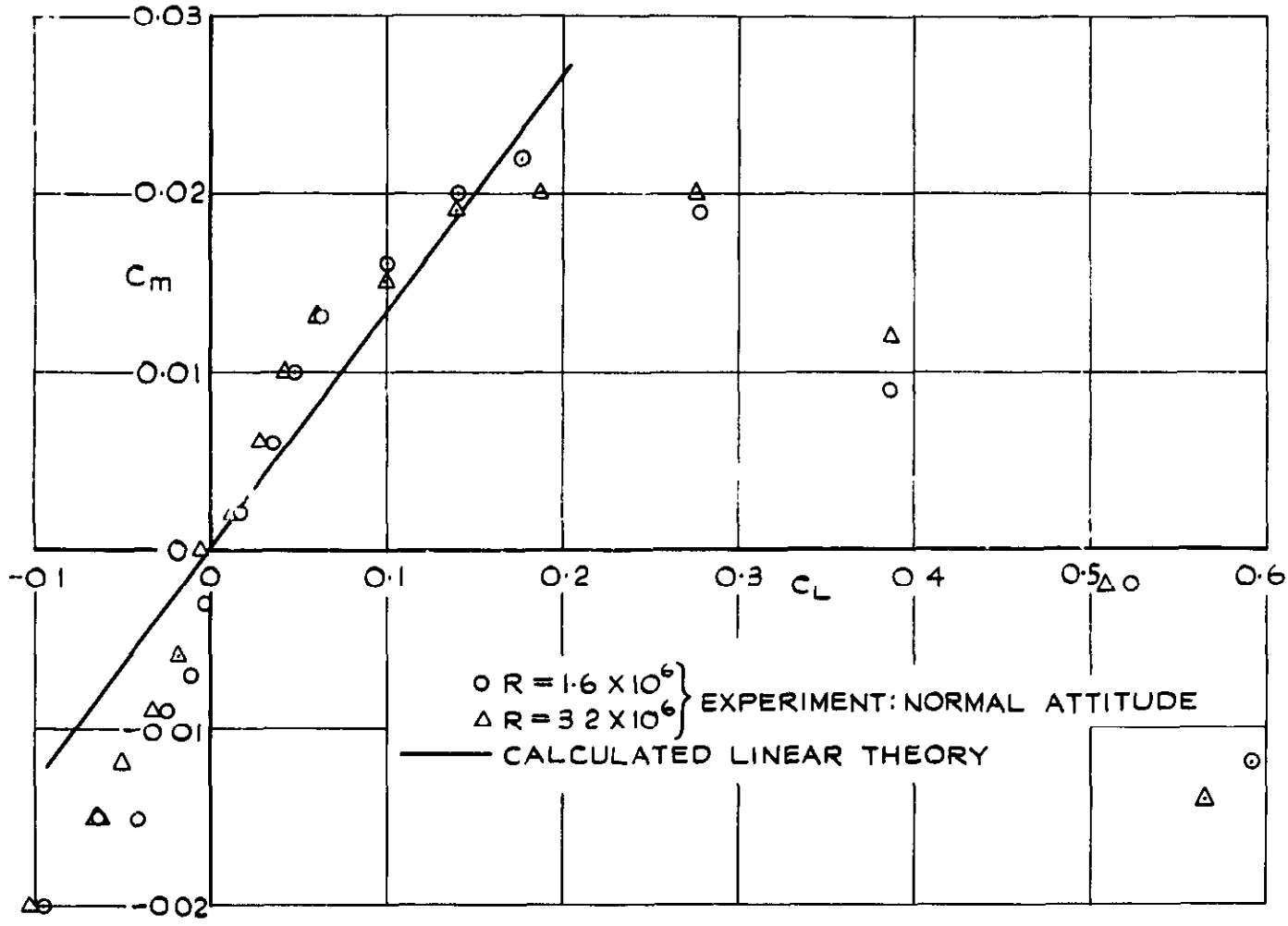


FIG. 17 LOCAL PITCHING MOMENT AT CENTRE SECTION, WING AP/5

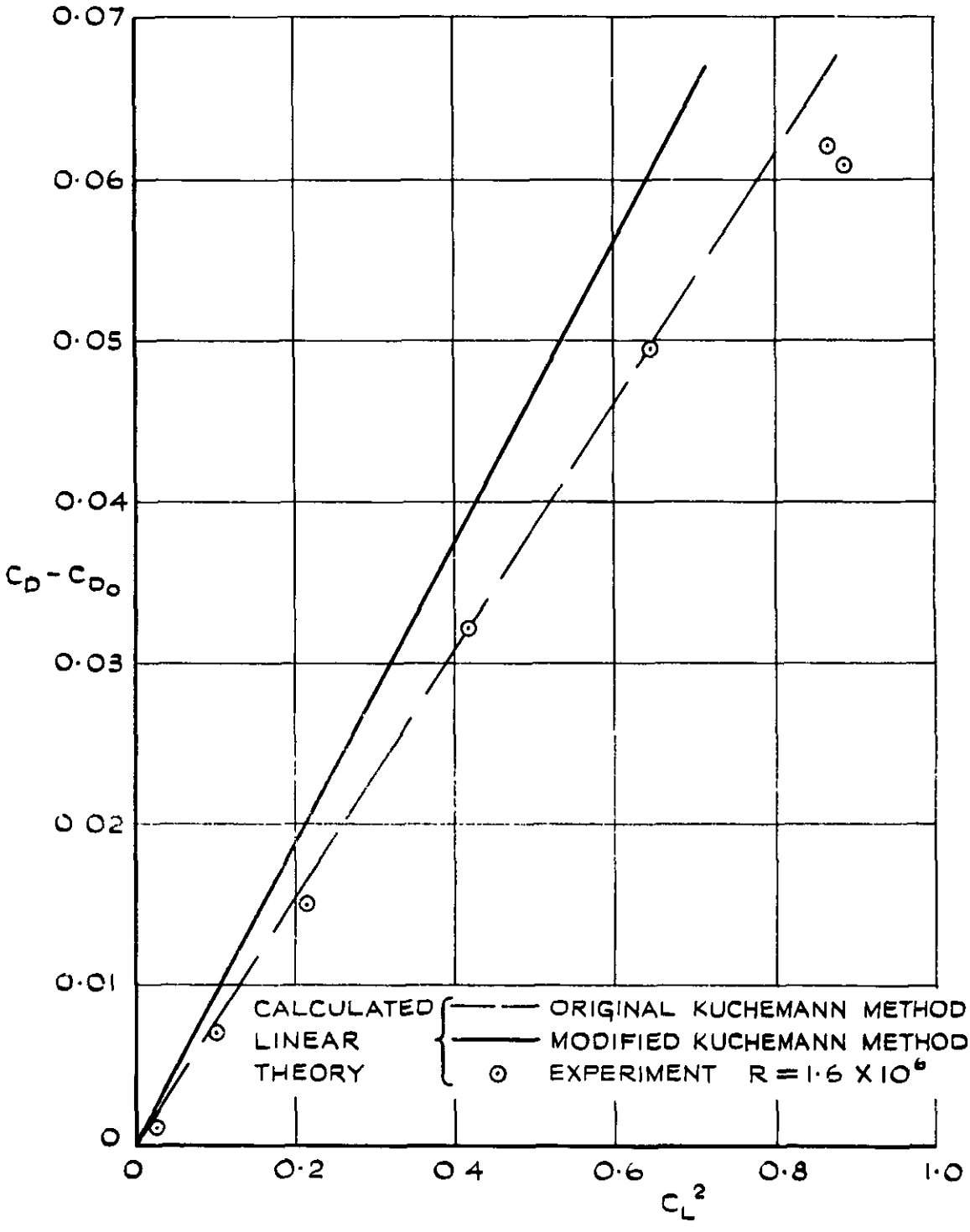


FIG. 18 LOCAL DRAG DUE TO LIFT AND BOUNDARY LAYER, WING AP/1

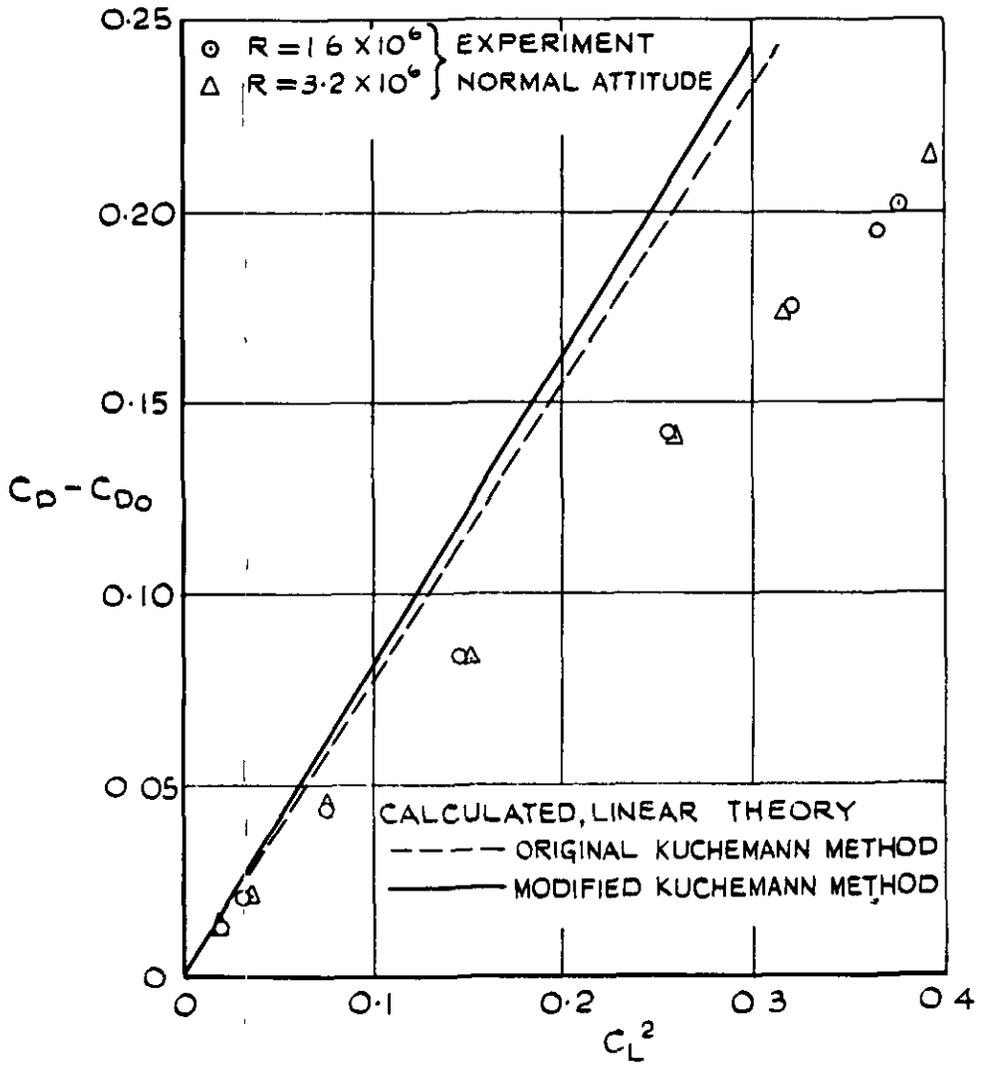


FIG. 19 LOCAL DRAG DUE TO LIFT AND BOUNDARY LAYER, WING AP/5

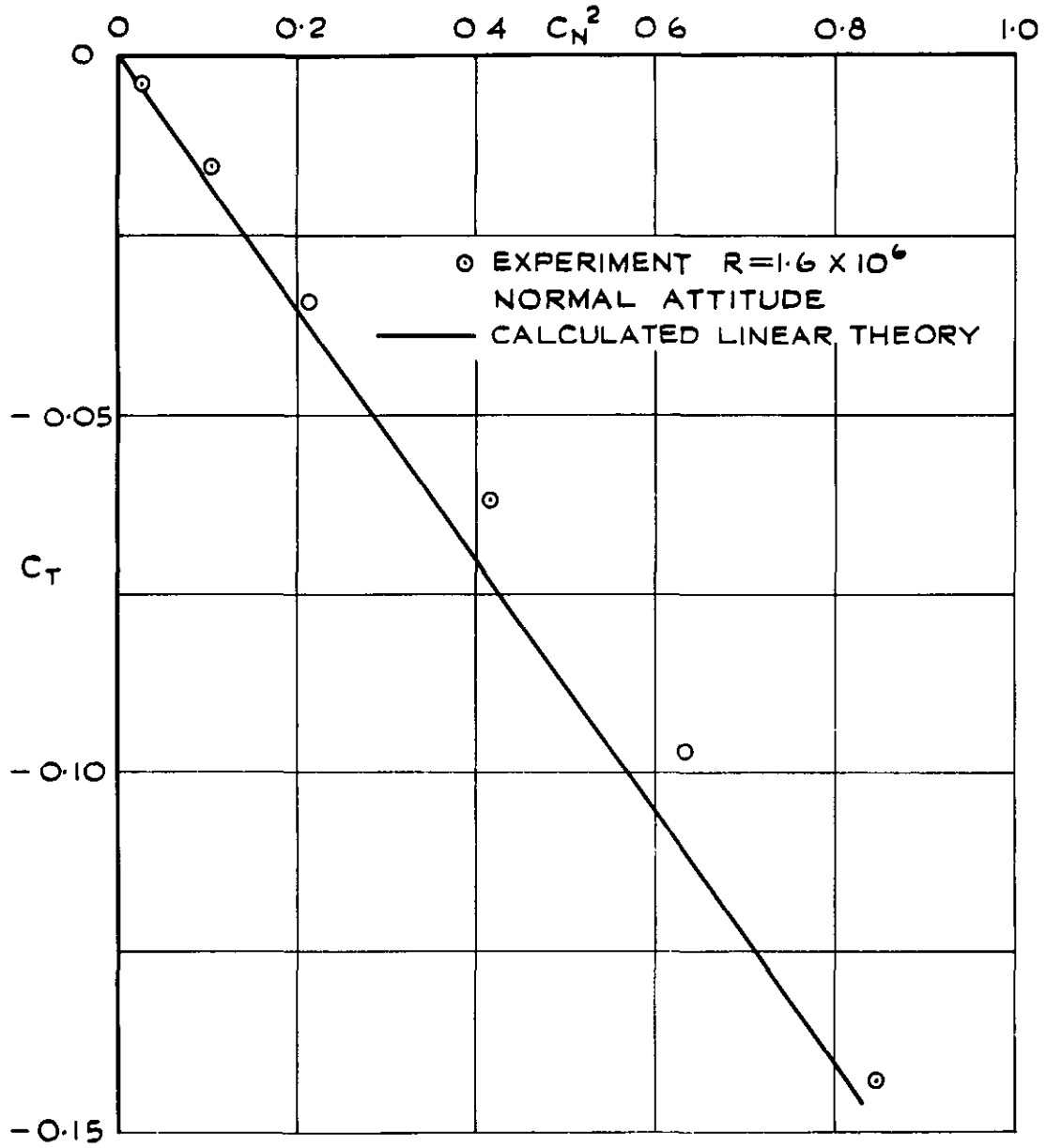


FIG. 20 C_N^2 v C_T AT CENTRE SECTION, WING AP/1

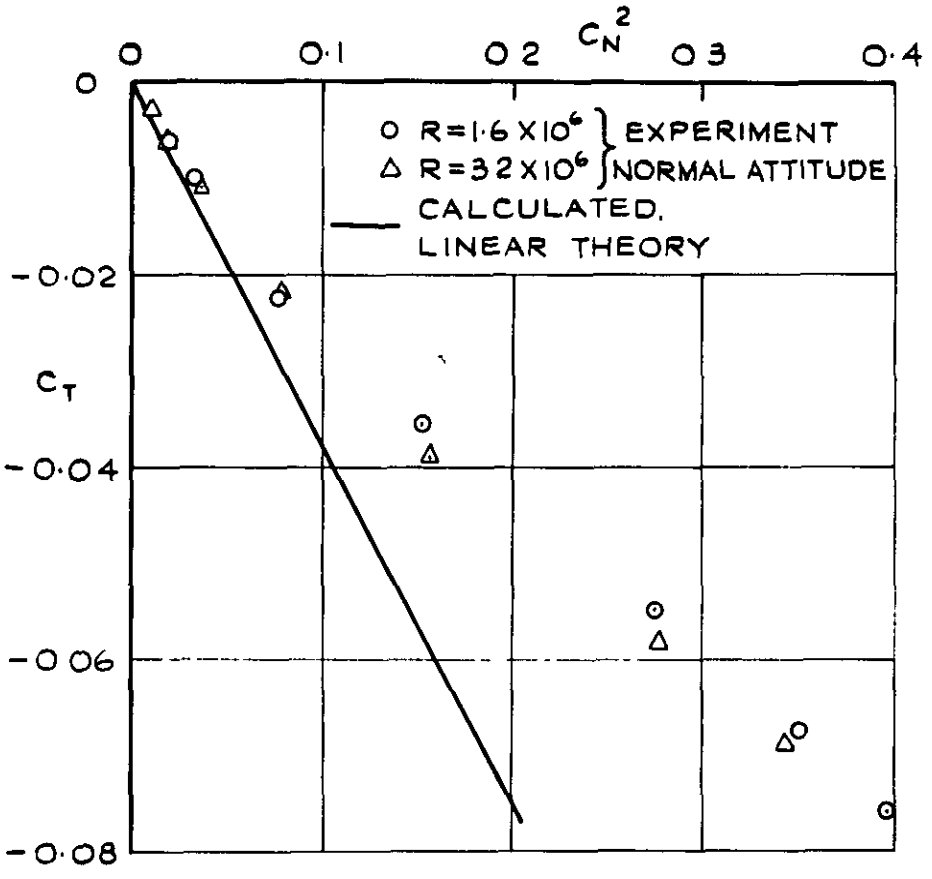
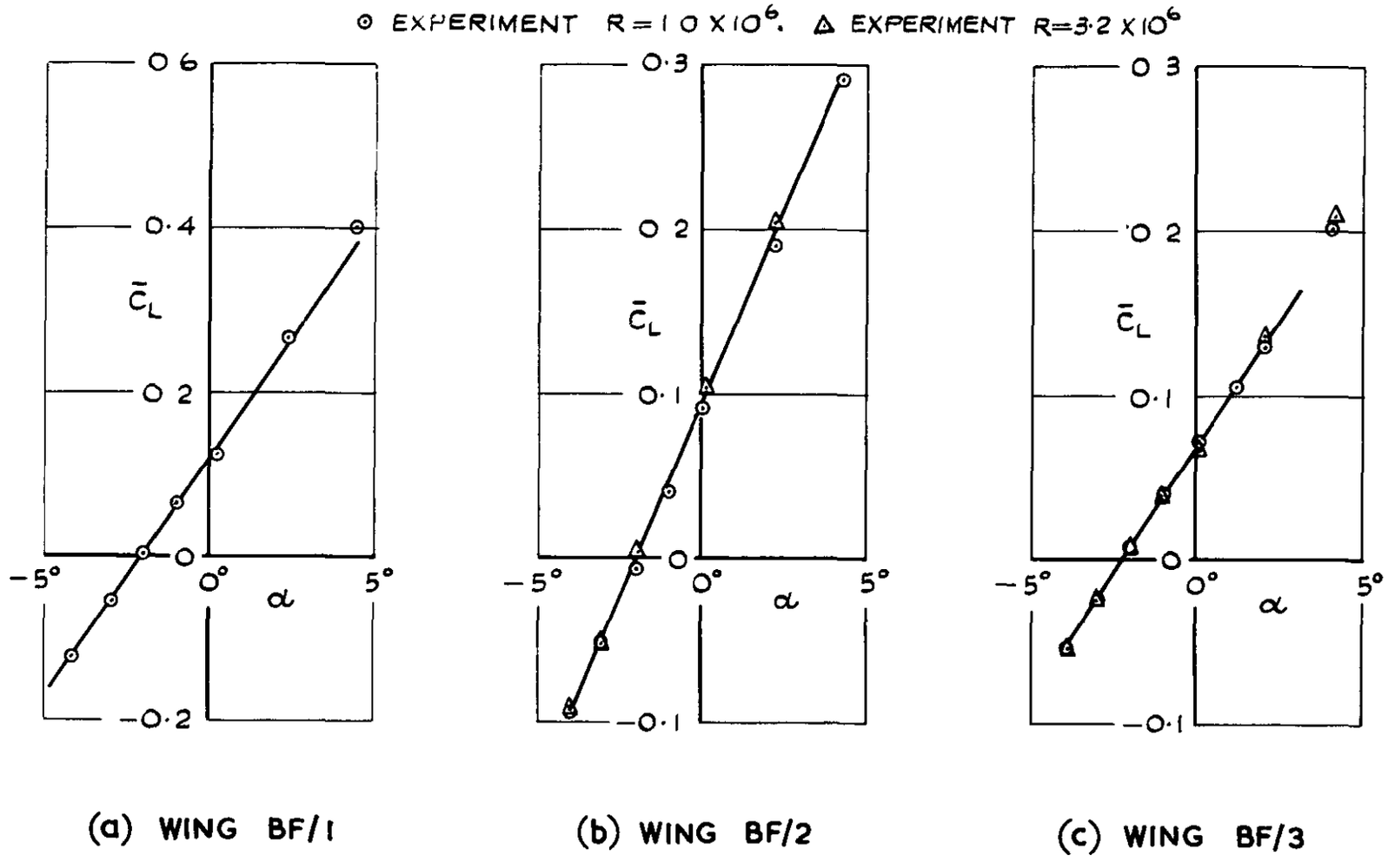
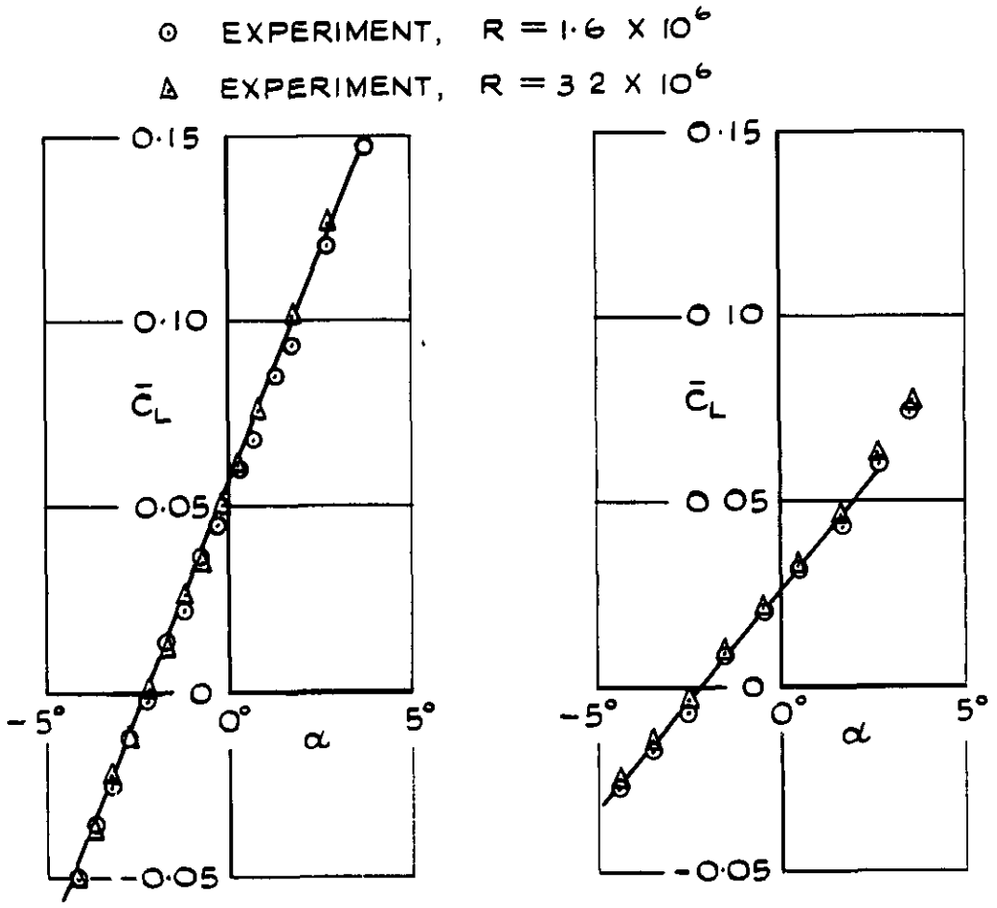


FIG. 21 C_N^2 v C_T AT CENTRE SECTION, WING AP/5



(a) WING BF/1 (b) WING BF/2 (c) WING BF/3

FIG. 22 $\bar{C}_L$ v α, AND EXPERIMENTAL ZERO LIFT ANGLE; BF SERIES



(d) WING BF/4

(e) WING BF/5

FIG. 22 (CONTD)

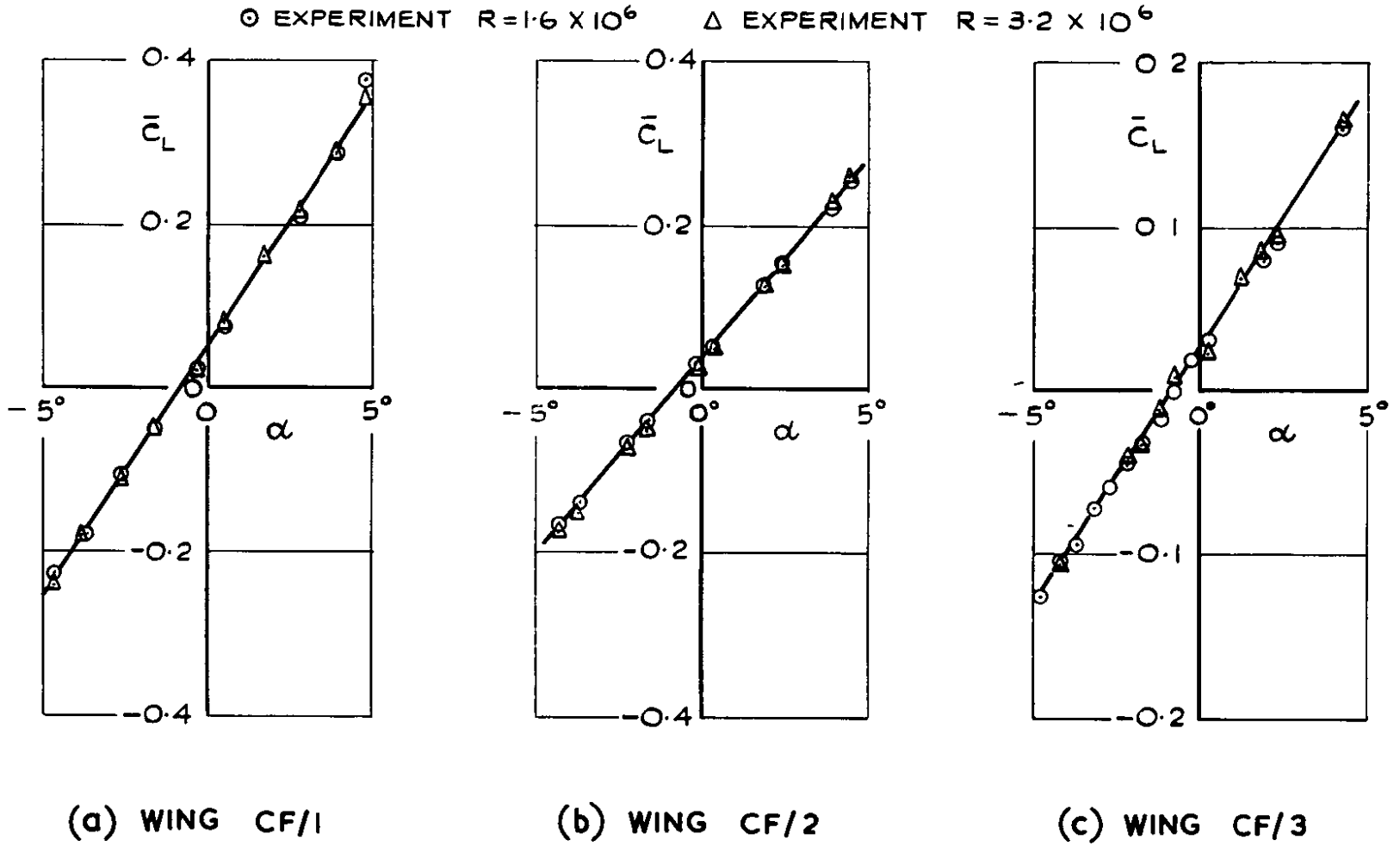
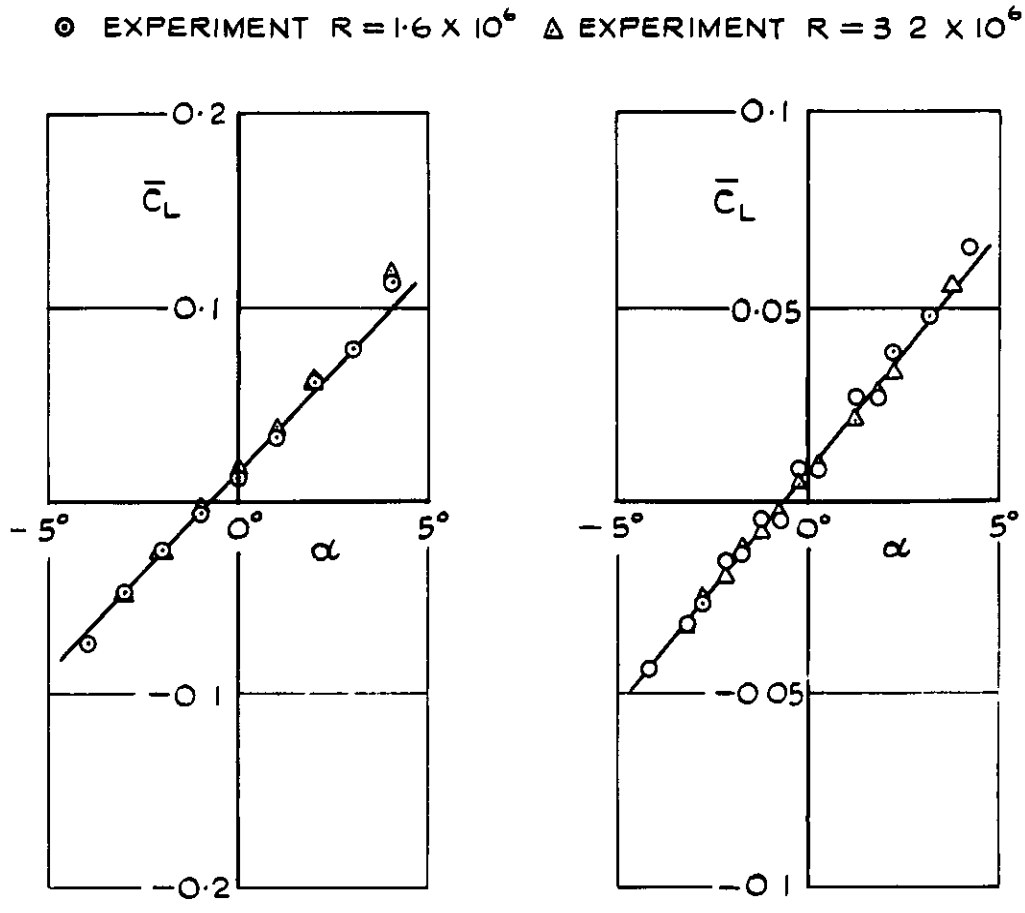


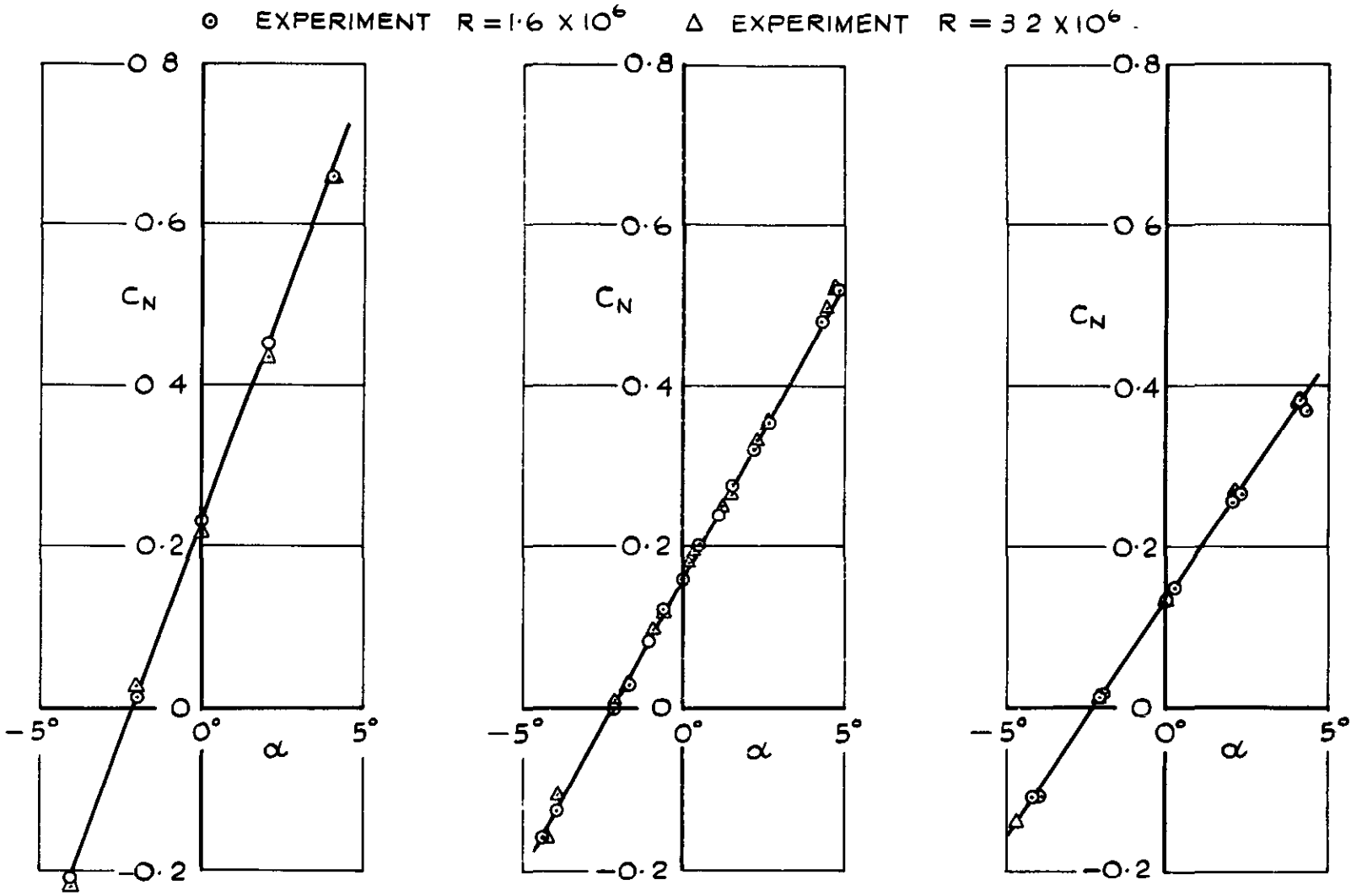
FIG. 23 $\bar{C}_L$ v α, AND EXPERIMENTAL ZERO LIFT ANGLE; CF SERIES



(d) WING CF/4

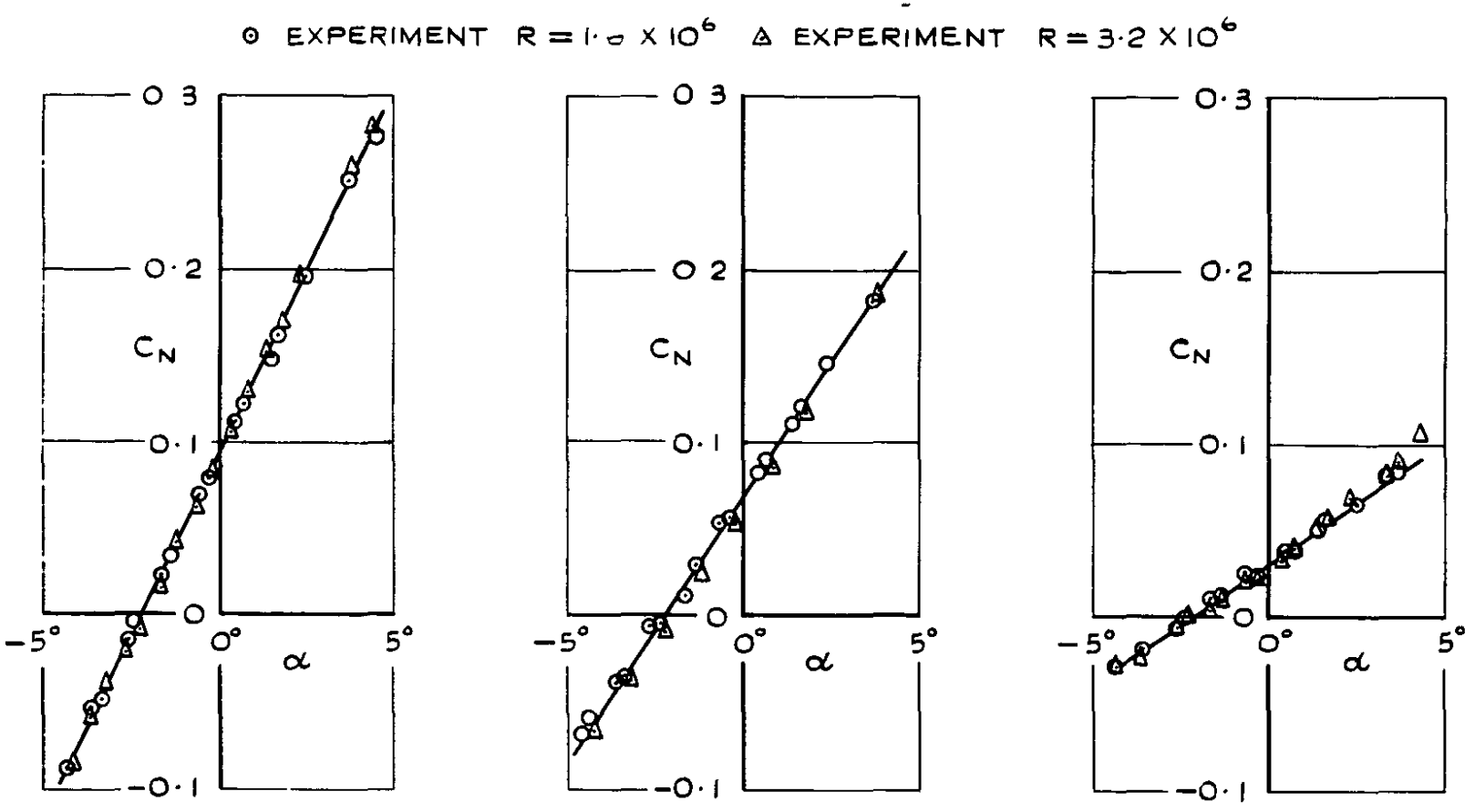
(e) WING CF/5

FIG. 23 (CONTD)



(a) WING BP/0 (b) WING BP/1 (c) WING BP/2

FIG. 24 C_N v α, AND EXPERIMENTAL ZERO LIFT ANGLE; BP SERIES



(d) WING BP/3 (e) WING BP/4 (f) WING BP/5

FIG. 24 (CONTD)

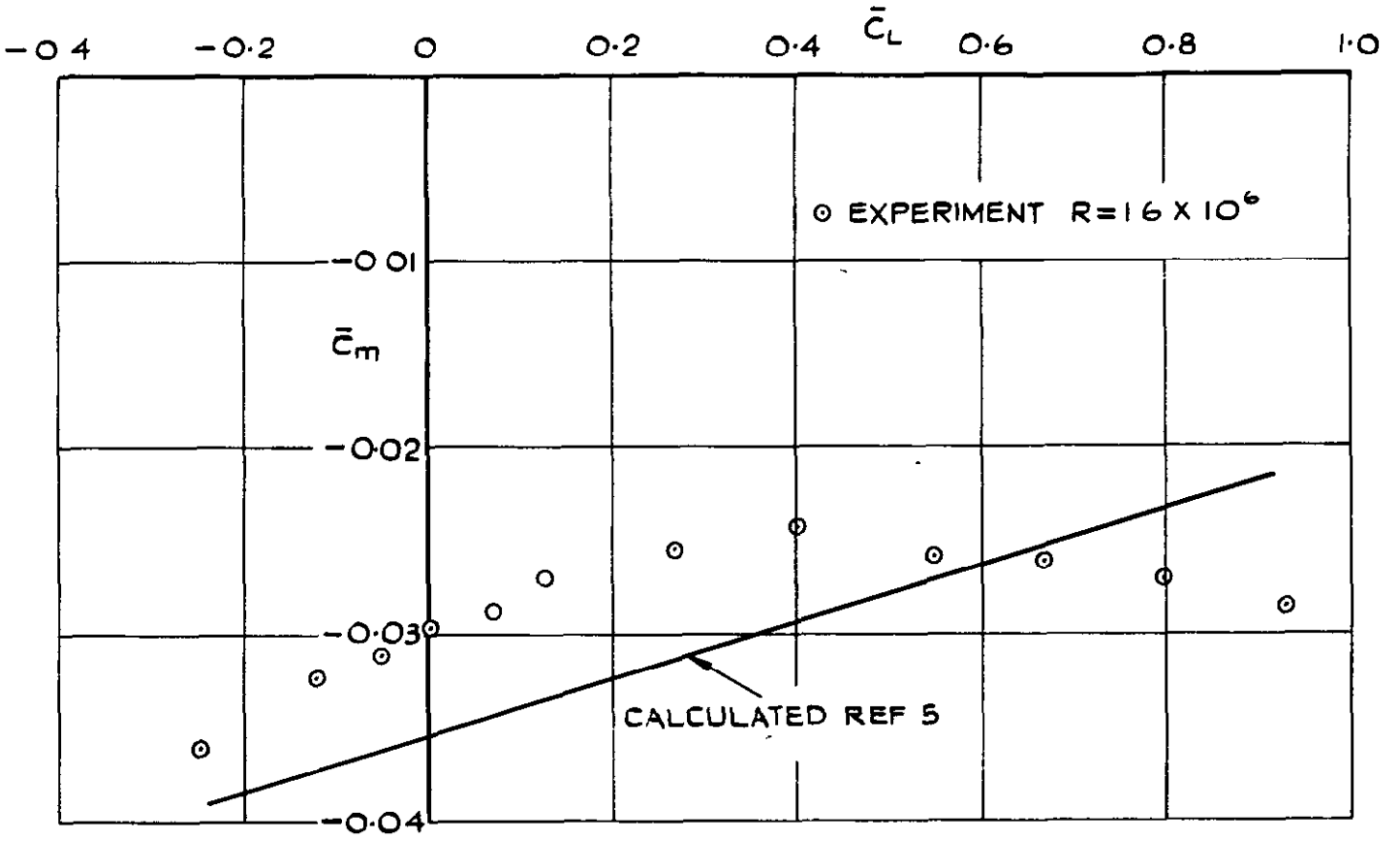


FIG. 25 PITCHING MOMENT v LIFT, WING BF/1

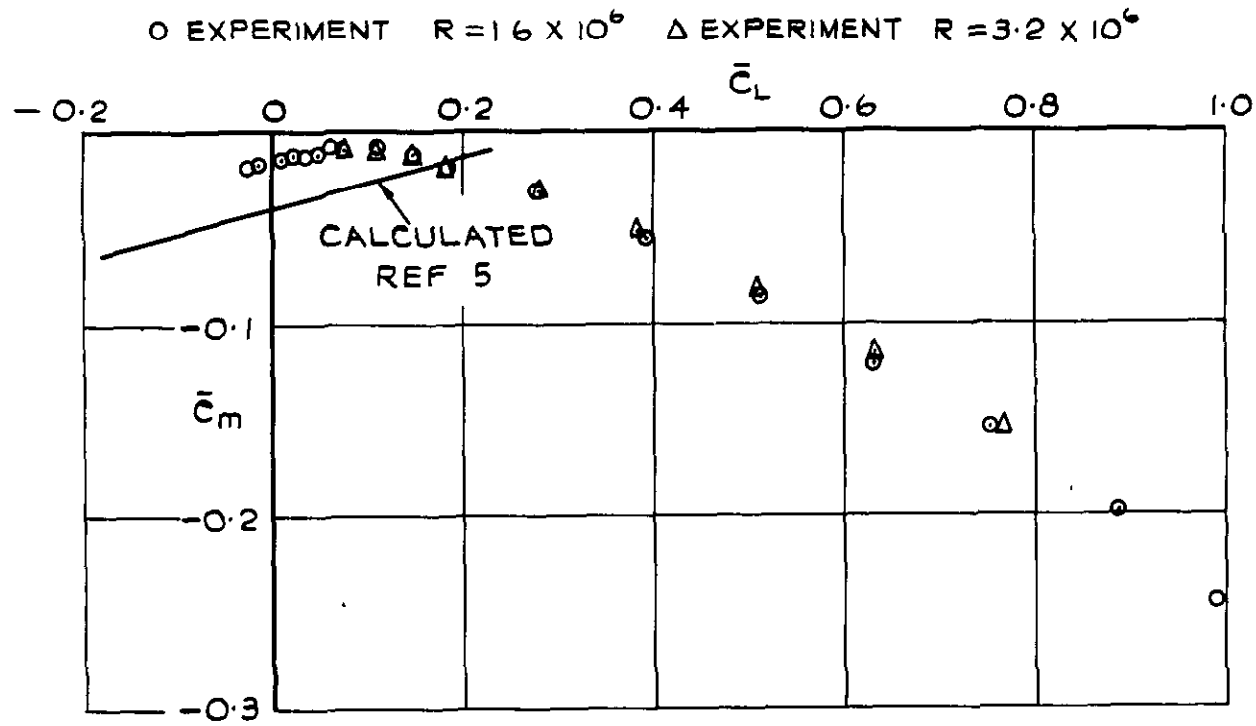


FIG. 26 PITCHING MOMENT v LIFT, WING BF/5

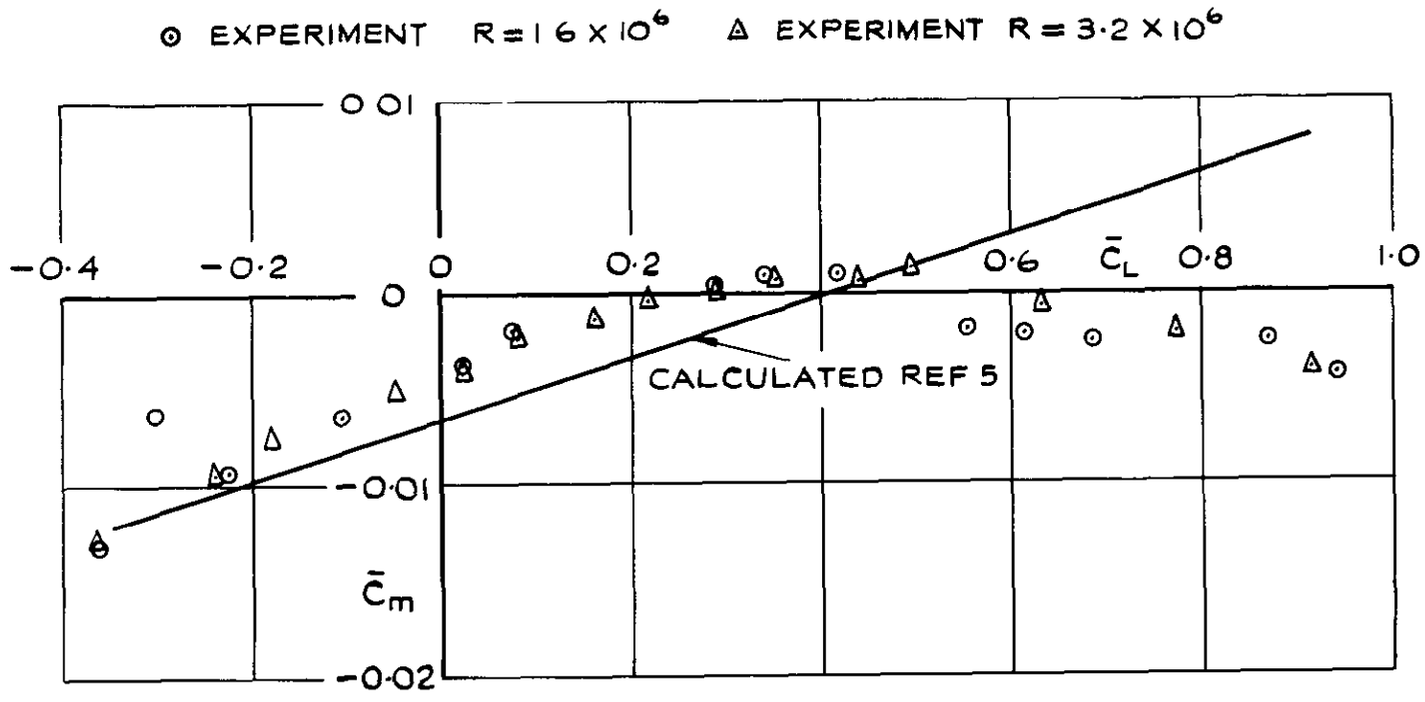


FIG. 27 PITCHING MOMENT v LIFT, WING CF/1

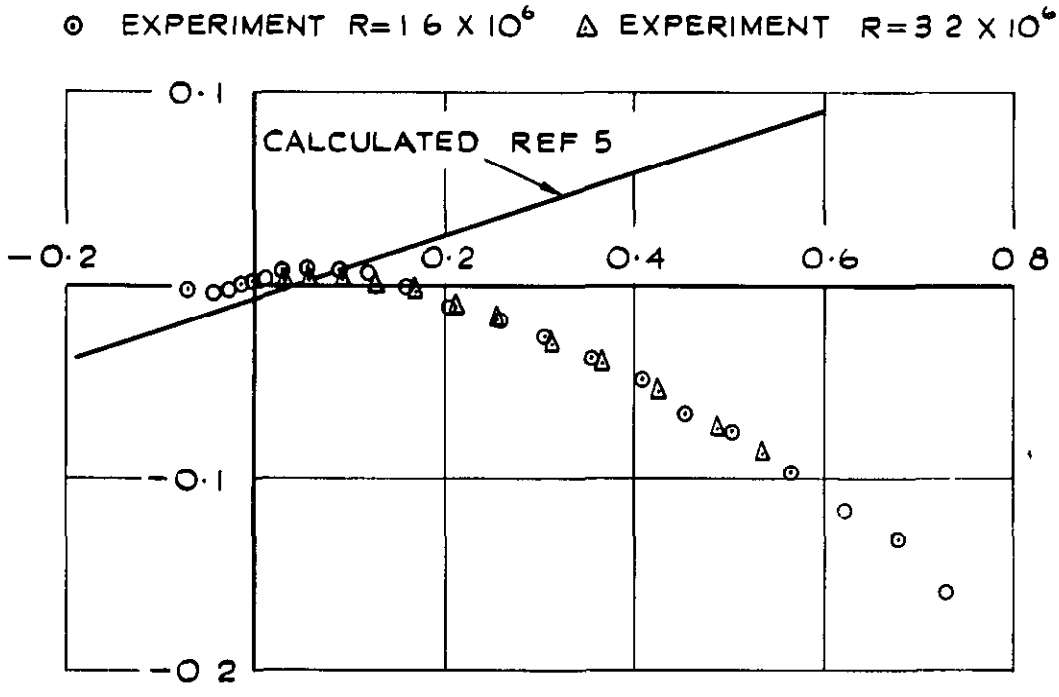


FIG. 28 PITCHING MOMENT v LIFT, WING CF/5

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A.R.C. C.P. No. 916
October 1965

Brebner, G. G.
Wyatt, L. A.
Ilott, Gladys P.

533.693.6 :
533.6.048.2 :
533.6.048.1 :
533.6.013.12/13 :
533.6.013.152 :
532.526.3

LOW SPEED WIND TUNNEL TESTS ON A SERIES OF RECTANGULAR WINGS OF VARYING ASPECT RATIO AND AEROFOIL SECTION

To provide experimental evidence on the loading and pressure distribution of low aspect ratio wings and on the variation of aerofoil section characteristics with aspect ratio, wind tunnel tests were done on a series of rectangular wings with aspect ratios varying from 4.0 to 0.5 and three different aerofoil sections. Two of the sections were cambered and all had the RAE 101 thickness distribution, t/c = 0.10. The tests comprised balance measurements of lift, drag and pitching moment, pressure measurements at the centre section (which have been integrated to obtain local forces and moments) and boundary layer transition observations.

(over)

A.R.C. C.P. No. 916
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533.6.048.2 :
533.6.048.1 :
533.6.013.12/13 :
533.6.013.152 :
532.526.3

LOW SPEED WIND TUNNEL TESTS ON A SERIES OF RECTANGULAR WINGS OF VARYING ASPECT RATIO AND AEROFOIL SECTION

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533.693.6 :
533.6.048.2 :
533.6.048.1 :
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