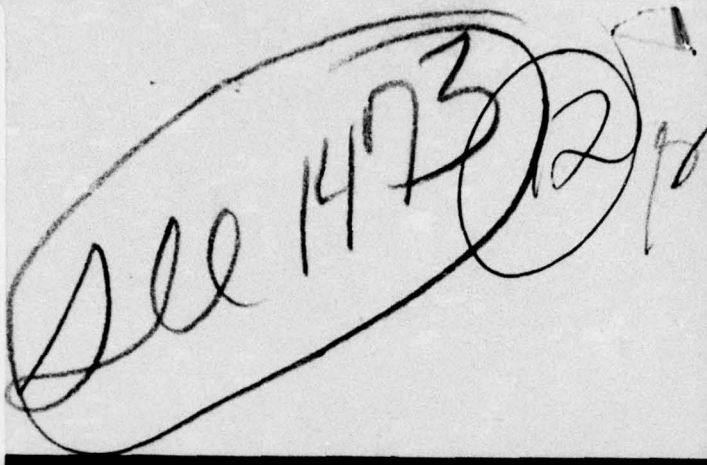
ADA033586



SUBSONIC AERODYNAMIC CHARACTERISTICS OF THE T-2C AIRCRAFT WITH SPANWISE BLOWING OVER THE WING FLAPS

by

Jonah Ottensoser

APPROVED FOR public release;
distribution unlimited - 6/9/76

Distribution limited to U.S. Government agencies only; Test and Evaluation ... 1973. Other requests for this document must be referred to ... Aviation and Surface Effects Department (16).

AVIATION AND SURFACE EFFECTS DEPARTMENT

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

Technical Note AL-300

September 1973

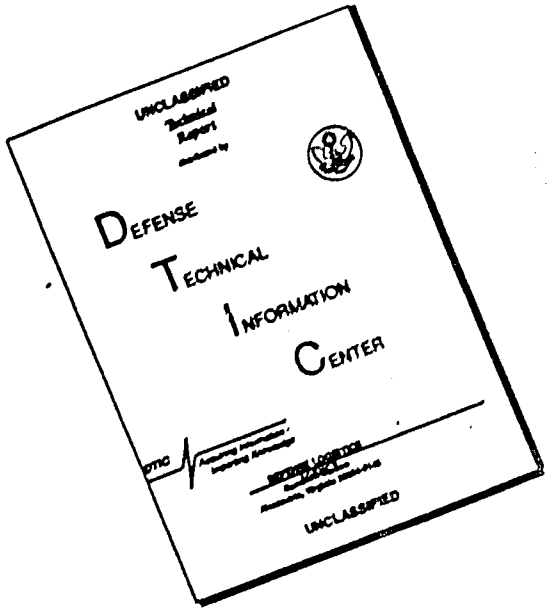
NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER

BETHESDA
MARYLAND
20034

DDC
RECEIVED
DEC 16 1976
F

Copy available to DDC does not permit fully legible reproduction

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

SUBSONIC AERODYNAMIC CHARACTERISTICS OF THE T-2C AIRCRAFT WITH SPANWISE BLOWING OVER THE WING FLAPS

by

Jonah Ottensoser

Distribution limited to U.S. Government agencies only; Test and Evaluation; September 1973. Other requests for this document must be referred to Head, Aviation and Surface Effects Department (16).

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

ACCESSION for
NTIS White Section ☑
DDC Buff Section ☐
UNANNOUNCED ☐
JUSTIFICATION .....
BY .....
DISTRIBUTION/AVAILABILITY CODES
Dist. AVAIL. and/or SPECIAL
A

September 1973

Technical Note AL-300

TABLE OF CONTENTS

	Page
SUMMARY	1
INTRODUCTION	1
MODEL	1
TEST AND MEASUREMENTS	3
TARES AND CORRECTIONS	4
RESULTS AND DISCUSSIONS	5
LONGITUDINAL CHARACTERISTICS	5
LIFT	5
DRAG	7
LONGITUDINAL STABILITY	8
AILERON CHARACTERISTICS	8
LATERAL STABILITY	9
CONCLUSIONS	9
ACKNOWLEDGEMENT	10
REFERENCES	11
APPENDIX A - TABULATED TEST DATA	49

LIST OF TABLES

Table 1 - Geometric Characteristics of the T-2 Aircraft	12
Table 2 - Run Schedule	14

LIST OF FIGURES

Figure 1 - View of Model Installed in Tunnel	18
Figure 2 - Nozzle Plate and Flap Nomenclature	19
Figure 3 - Schematic and Installed View of Nozzle Blocks	21
Figure 4 - Comparison of NSRDC Data with North American Aviation Data	22
Figure 5 - Lift Coefficient Variation with Angle of Attack for Various Flap Deflections	25
Figure 6 - Optimization of Nozzle Position and Jet Exit Angle	26
Figure 7 - Effect of C_μ on C_L Versus Alpha Curves	28
Figure 8 - Variation of Maximum Lift Coefficient with C_μ	32

Page

Figure 9 - Variation of Lift Coefficient with C_μ at Fixed Angles of Attack 33

Figure 10 - Effect of Ailerons Uprigged 3° 34

Figure 11 - Drag Polars for Various Flap Deflections 35

Figure 12 - Effect of C_μ on Drag Polars 36

Figure 13 - Pitching Moment Slope as a Function of Blowing Coefficient 39

Figure 14 - Elevator Characteristics 40

Figure 15 - Elevator Deflections Required for Trimming With and Without Spanwise Blowing 42

Figure 16 - Aileron Characteristics 43

Figure 17 - Aileron Effectiveness With and Without Blowing 47

Figure 18 - Lateral Stability 48

SYMBOLS

C_D	Three dimensional drag coefficient
C_L	Three dimensional lift coefficient
C_M	Three dimensional pitching moment coefficient
C_n	Three dimensional yawing moment coefficient
C_l	Three dimensional rolling moment coefficient
C_μ	Momentum coefficient, $\dot{m} V_j/qS$
dC_M/dC_L	Slope of curve of pitching moment coefficient with respect to lift coefficient
ΔC_D	Wall correction to drag coefficient
$\Delta C_{L_{MAX}}$	Change in maximum lift coefficient due to blowing
ΔC_M	Wall correction to pitching moment coefficient
ΔC_l	Change in rolling moment coefficient
$\dot{m}$	Mass efflux, slugs/sec
NP	Nozzle position in percent of flap working chord
P_{NOZ}	Total pressure of jet as measured in nozzle block lb/ft^2
P_∞	Free stream static pressure lb/ft^2
Q, q	Free stream dynamic pressure lb/ft^2
R	Universal gas constant, 1715 $ft^2/(sec^2\ ^\circ R)$
S	Wing area, ft^2
T_{NOZ}	Jet total temperature, $^\circ R$
V_j	Jet velocity, ft/sec
WRP	Wing reference plane
α, α_{FRL}	Angle of attack as measured from fuselage reference line, deg
$\Delta\alpha$	Wall correction to angle of attack, deg
β	Angle of sideslip, deg

γ	Ratio of specific heats
δ_a	Aileron deflection angle, deg
δ_F	Flap deflection angle, deg
δ_j	Jet exit angle as measured with respect to flap hinge line, deg
$\Delta\delta_a$	Absolute value of the difference between right and left aileron deflection, deg
ψ	Angle of yaw, deg

ACCESSION for

NTIS	White Section	☑
DDC	Buff Section	☐
UNANNOUNCED		☐

JUSTIFICATION .....

BY .....

DISTRIBUTION/AVAILABILITY CODES

Dist.	AVAIL. and/or SPECIAL
A	

SUMMARY

The wind tunnel study presented in this report was undertaken to evaluate the concept of spanwise blowing over the wing flaps as a means of increasing the lift coefficient of a T-2C aircraft. To optimize the lift coefficient, the following parameters were varied: nozzle position, nozzle angle, flap angle and blowing momentum coefficient. In addition, data were taken to evaluate the effect of spanwise blowing on aileron effectiveness, elevator effectiveness and lateral stability. Gains in lift coefficient over the entire angle of attack range below stall were noted. These gains were the greatest for the slotted flap at its largest deflection of 53° and at 43° flap deflection with the flap slot closed. No substantial effect of spanwise blowing on the stability and control of the aircraft was observed.

INTRODUCTION

The concept of blowing high pressure air out of the fuselage over the top of the wing flap in a spanwise direction, as proposed by the Lockheed-Georgia Aircraft Corporation, is an attractively simple concept for increasing the lift coefficient of an aircraft. The data presented in this report were taken to evaluate the potential of this concept as well as to evaluate the flight characteristics of an aircraft employing such a system. The model tested was a 20% scale model of a T-2C aircraft and it was chosen because of the availability of a full scale T-2C for possible flight tests as suggested by Lockheed-Georgia.

MODEL

The basic aircraft model was a 20% scale model of a T-2A aircraft modified to represent a T-2C aircraft. The main difference between the T-2A and the T-2C is that the T-2A aircraft has only one engine while the T-2C has two. To provide space for the two engines on the "C" version, the lower half of the fuselage was widened while the rest of the aircraft geometry remained essentially fixed.

To convert the T-2A model to a T-2C model, the external geometry of the lower half of the "A" fuselage was modified to represent that of the "C" version. While the "A" model had flow through ducting, the "C" model does not. Instead, the engine inlet areas were smoothly contoured into the fuselage. The basic model tested as installed in the tunnel is shown in Figure 1. Table 1 gives the basic dimensions of the model.

In order for a deflected flap to clear the lower half of the widened fuselage, an inboard section of the flap was removed. A fillet was then added between the inboard section of the flap and the fuselage. This fillet forms a continuous surface with the flap deflected at 0°. The fillet on the wind tunnel model was a scaled version of the fillet actually carried on the aircraft.

To incorporate spanwise blowing on the model, the fillet was removed and a nozzle plate, shown in Figure 2a, was attached to the inboard section of each flap. The five holes in the nozzle plate were located at 0, 12, 24, 36 and 48% of the "working chord" as defined in Figure 2b. (An initial set of data was taken with the fillet in place.) Nozzle blocks, shown in Figure 3, were screwed to the nozzle plate with the nozzles of these blocks exiting from any one of the five holes of the nozzle plate. Figure 3 shows a picture of the nozzle set-up.

There were four pairs of nozzle blocks made; each pair having a different angle (0, 10, 15 and 20°) between the centerline of the nozzle exit and the flap hinge line. (An additional pair of nozzle blocks was made without any exit to allow for calibration of pressure tares.) The nozzle exit diameter was 0.36 inches for all the nozzles and the nozzle centerline was one nozzle diameter above the flap surface.

In order for the jet to exit in a constant orientation with respect to the flap for each of the different nozzle blocks and positions, a 0.36 inch diameter drill bit was first inserted into the nozzle with the nozzle blocks loosely mounted on the nozzle plate. A set of shims was then placed on the flap surface under the drill bit and the nozzle block, with the drill bit in it, was rotated until the bit became parallel to and just contacted the shims. At this point the nozzle block was securely fastened to the

nozzle plate. By using this procedure, the centerline of the nozzle, and thus the jet exiting from the nozzle, was parallel to the local flap surface. The nozzle block had a total pressure probe, shown in Figure 3, just upstream of the nozzle exit.

Connected upstream of the nozzle block was a combination of rigid and flexible tubing (visible in Figure 3) which led to a plenum located in the aft lower section of the fuselage. The plenum was a steel cylinder measuring 2 3/4 inches inside diameter and 7.8 inches long, capped at both ends. The downstream end of the cylinder had a thermocouple and a pressure transducer (Figure 3) to measure the temperature and pressure in the plenum. The other end of the cylinder was connected to the large diameter flexible tubing (Figure 3) which brought the air up through the balance frame.

Flap angles tested were 0° (with no blowing), 33°, 43° and 53°, as defined in Figure 2b. For the configuration with the flaps deflected the gap and overhang, defined in Figure 2b, were each set at approximately 2% of the local wing chord.

All runs with the model in the tunnel were run with the vertical tail on. Lift coefficient optimization runs were made with horizontal tail off while stability runs were made with horizontal tail on. In addition, configurations with flap deflection were run with the flap slot open except where it is indicated that the flap slot was sealed. With the flap slot sealed, the flap was at the same relative position to the wing as with the flap slot open. The purpose of sealing the flap was to see if a sealed flap gap would provide a better working environment for spanwise blowing. If this were the case a comparable flap sealing modification would be made on the flight test article.

TEST AND MEASUREMENTS

This investigation was conducted in the Naval Ship Research and Development Center's 8 x 10 foot North Subsonic closed throat atmospheric wind tunnel. The majority of the runs were at a dynamic pressure of 30 psf which corresponded to a Reynolds number of 1.48×10^6, based on a mean aerodynamic chord of 1.48 feet. Additional runs were made at dynamic

pressures of 20 and 40 psf corresponding to Reynolds numbers of 1.18 and 1.73×10^6, respectively. No effect of Reynolds number on the data was observed.

The model was mounted on a main strut and a pitch strut as shown in Figure 1. Six component data were measured by the external Toledo mechanical balance system. The mechanical measurements were then converted to electrical signals which were processed by a Beckman 210 High-Speed Data System, digitized and recorded on magnetic tape.

In addition to recording the six component data, the pressures upstream of and at the throat of a venturi meter as well as the air temperature were recorded to calculate mass flow. Further, the total temperature and pressure in the plenum as well as the total pressure in the nozzle block were recorded. The latter pressure and the plenum temperatures were used to calculate the jet momentum coefficient (C_μ).

The jet momentum coefficient (C_μ) was determined from the following equation:

$$C_\mu = \dot{m} V_j / QS$$

The mass flow rate ($\dot{m}$) was measured by a calibrated venturi meter in the main supply line. The jet velocity (V_j) was calculated assuming isentropic expansion from nozzle block total pressure to free stream static pressure as follows:

$$V_j = \left\{ 2 RT_{NOZ} \left(\frac{\gamma}{\gamma - 1} \right) \left[1 - \left(\frac{P_\infty}{P_{NOZ}} \right)^{\frac{\gamma - 1}{\gamma}} \right] \right\}^{1/2}$$

A full set of test data is presented in Appendix A.

TARES AND CORRECTIONS

The data were corrected for solid blockage. In addition the following wall corrections were applied

$$\Delta\alpha = .965\ C_L$$

$$\Delta C_D = .0167\ (C_L)^2$$

$$\Delta C_M = .0182\ C_L \text{ (only with horizontal tail on)}$$

For all configurations wind-off weight tares were recorded and subtracted from the wind-on data in the data reduction routine. Additional tares were required to correct for the loads on the balance system when the air supply system was pressurized. The closed nozzle blocks mentioned earlier were connected, the system was pressurized to the various pressure values at which flow data would subsequently be run, and wind-off data were recorded. These pressure data were then subtracted from the corresponding components of wind-on data at the respective pressures by the data reduction routine.

The design of the model air supply system made it impossible to perform the conventional model-erect, model-inverted, image-struts-in, image-struts-out test sequence for determination of flow angularity effects and aerodynamic tares due to struts. Aerodynamic data were obtained on the struts installed on the test section in the absence of the model. As shown in Figure 4a application of these data as tares brought the results in closer agreement with T-2A data of Reference 1 for the zero-flap-deflection tail-off case. However, with the flaps at 43° the agreement was not improved (Figures 4b and 4c). Therefore it was decided to apply no strut tare corrections. Consequently, these results should not be directly translated into predicted aircraft characteristics, especially with respect to drag and stability characteristics. It is felt, however, that the presence of the uncorrected tares does not interfere materially with the primary purpose of examining the effects of the spanwise blowing system.

RESULTS AND DISCUSSIONS

LONGITUDINAL CHARACTERISTICS

Lift

A comparison of the lift variation with angle of attack for the basic flap deflections with no blowing is shown in Figure 5. As expected, with

increasing flap angle, the slopes of the C_L vs α curves remain constant as the curves themselves are shifted upwards. However, for the flap deflected to 43° and the slot sealed there is a decrease in the C_L vs α slope. This is probably due to the improved flow attachment of the slotted flap compared with the sealed flap. The characteristically sharp stall of this aircraft occurs at about the same angle of attack for all flap angles. It should also be noted that the removal of the fillet and replacement with the nozzle plate decreases the overall lift coefficient by about 0.025 while somewhat increasing $C_{L_{max}}$.

An evaluation of the effect of nozzle position and jet exit angle on C_L is presented in Figure 6. For a given jet exit angle of 15° Figure 6a shows that for the nozzle positions available, the nozzle should optimally be placed at the 48% chord position with the flap slot open, while with the flap slot closed the nozzle should be moved forward to the 36% chord position. With the nozzle located at the 48% chord position and the slot open, the overall best gain in C_L (but not $C_{L_{MAX}}$) is for a jet exit angle of 15° as shown in Figure 6b. However, as the nozzle is moved forward to the 36% chord position the jet exit angle should be increased to 20°.

These results are consistent with the hypothesis that the spanwise jet serves to energize the flap boundary layer and entrain flow coming over the flap. Thus, the high energy air incoming through the flap slot would need "assistance" from the spanwise jet further along the flap chord relative to the flap with the slot closed. In addition, if the jet exit position is moved forward the jet exit angle should be increased so that the jet can better focus on the rear portion of the flap where the flow is more likely to separate. Based on a preliminary evaluation of the test results, it was decided to evaluate the basic concept with the slot open, the nozzle at the 48% chord position and a jet exit angle of 15°. Some further evaluation of the spanwise concept with the slot closed was also performed but unfortunately not at the optimum nozzle position or angle.

The effects of C_μ on lift coefficient for various flap deflections, with and without the horizontal tail and with the flap slot open and closed are presented in Figure 7 and summarized in Figures 8 and 9. From Figure 7 it is seen that the stall angle or characteristic steepness is not significantly changed with blowing. It is also observed from Figures 7 and 8 that there is an initially large gain in $C_{L_{max}}$ with C_μ up to a C_μ of about 0.015 but beyond this value of C_μ the gain in $C_{L_{max}}$ with C_μ is not as pronounced. This same initial gain is visible in Figure 9 where C_L is plotted as a function of C_μ at two angles of attack below stall.

Further analysis of Figures 8 and 9 indicate that the configurations that gain most in C_L with increasing C_μ of spanwise blowing are the higher flap angles (most notably 53°) and the flap with the slot closed. The reason for these gains is that the spanwise blowing energizes the flow so that the flow remains attached and the flaps can then perform almost ideally. While spanwise blowing also energizes the flow for lower flap angles, the gains in C_L are not as great because the difference due to flow separation between the unblown and ideal performance of these lower flap angles is not as large.

During the test program it was learnt that the actual T-2 flies with ailerons uprigged 3° in their neutral position. A series of runs were made with the ailerons uprigged 3° and the data are shown in Figure 10. The effect of the 3° aileron deflection appears to be a decrease in C_L of about 0.04 throughout the angle of attack range, with and without blowing. Corrections to data can therefore readily be made. All other data was taken with ailerons at 0° except where specific aileron deflections are noted.

Drag

Drag polars for the basic aircraft without blowing for various flap deflections are presented in Figure 11. As the flap angle increases so does the drag for fixed values of C_L. Closing the flap slot does not appear to increase drag whereas replacing the fillet with the nozzle plate does increase drag.

The effect on drag by increasing C_μ is presented in Figure 12. At lift coefficients below stall, as C_μ increases there is only a slight increase in drag for the slotted flap configuration as shown in Figures 12a and 12b. At or beyond stall a much more severe drag penalty is imposed by spanwise blowing. For the configuration with the slot flap closed, however, a substantially higher drag penalty is experienced at all lift coefficients with increase in C_μ as shown in Figure 12c.

Longitudinal Stability

No substantial effects on longitudinal stability were noticed with the implementation of spanwise blowing in the T-2. Figure 13 presents a summary of pitching moment slope (dC_M/dC_L) before stall as a function of blowing coefficient which indicates almost no effect on dC_M/dC_L with increasing blowing coefficient for the flap at 43° with open slot with and without the horizontal tail. With the flap at 43° and flap slot closed with the horizontal tail off there appears to be a slight increase in stability with increasing blowing coefficient.

The elevator characteristics for the T-2 aircraft with and without blowing are presented in Figure 14 while Figure 15 is a summary plot showing elevator deflections required for trimming with and without blowing. From these two figures one can conclude that spanwise blowing has no large scale effects on the trim characteristics of the aircraft. In fact from Figure 15 it appears that there is even a slight reduction in elevator deflection required for trimming with blowing compared to without blowing.

AILERON CHARACTERISTICS

The aileron characteristics with and without blowing are presented in Figure 16 and summarized in Figure 17. Figure 17 presents the change in rolling moment coefficient as a function of the difference in deflection between the right and left aileron for configurations with and without blowing. No effect of spanwise blowing on aileron effectiveness is noted. North American (Reference 1) has pointed out that the severe rolling moments

encountered at stall are due to asymmetric characteristics peculiar to the model. This may also explain the erratic behavior of the rolling and yawing moments for C_μ = .017 shown in Figure 16b.

LATERAL STABILITY

The model was tested at three angles of yaw (0, -6, -12°) to determine the effect of spanwise blowing on lateral stability. Figure 18 contains a plot of yawing and rolling moment as a function of angle of yaw at a fixed angle of attack with and without blowing. It appears from this figure that the slopes of the C_n vs β and C_ℓ versus β curves remain relatively constant with and without blowing and therefore it may be concluded that spanwise blowing has no substantially detrimental effect on lateral stability.

CONCLUSIONS

A subsonic wind tunnel investigation was conducted on a 20% scale model of a T-2C aircraft to determine the potential gains realizable from the implementation of spanwise blowing over the flaps of such an aircraft. In addition, the effect of spanwise blowing on the flying qualities of such an aircraft was to be determined. The investigation yielded the following conclusions:

- Increments of $C_{L_{max}}$ on the order of 0.1 to 0.12 at blowing coefficients (C_μ) of about 0.035 were realizable for the slotted flap at 43° deflection. Gains of this magnitude were realizable over the entire angle of attack range before stall.

- For the slotted flap at 53° or the flap deflected at 43° with slot closed, gains in $C_{L_{max}}$ 0.16 to 0.18 were realized at C_μ's of about 0.035. Gains of this order were also realized for the entire angle of attack range before stall.

- No substantial effect on the stability and control of the aircraft due to the implementation of spanwise blowing was noted.

ACKNOWLEDGEMENT

The author wishes to express his appreciation to the Subsonic Wind Tunnel Crew of NSRDC's Aviation and Surface Effects Department for their valuable assistance during this investigation. Appreciation is also due to Mr. Charles Dixon of the Lockheed-Georgia Company for his guidance and assistance during the investigation.

REFERENCES

1. Cohen, M. H. and J. K. Kagawa, "Low Speed Wind Tunnel Tests of a 0.20-Scale Model of the T2J-1 Airplane to Determine General Aerodynamic Characteristics and Duct Pressure Recovery Data," North American Aviation Inc. Rpt. NA-56-1296 NAAL-358, Vol. 2, 159 p. incl. Illus (Sep 1957).

TABLE 1

GEOMETRIC CHARACTERISTICS OF THE T-2 AIRCRAFT

Full Scale Dimensions (Model Factor = 0.20)

Wing	
Area, ft^2	255.0
Span, ft. (including tip tanks)	37.75
Aspect ratio	5.0
Taper ratio	0.50
Chords: root (Wing Sta. 0.000), in.	114.198
tip, in.	57.087
M.A.C. (Wing Sta. 95.255), in.	88.86
Fus. Sta. of .25$\bar{c}$, in.	216.7
Wing Plane of .25$\bar{c}$, in.	6.12
Airfoil section: root and tip	NACA 64A212 modified
Dihedral, deg.	+3.00
Incidence of root chord, deg.	+2.00
Aerodynamic twist, deg.	-3.00
Element about which wing is twisted, % c	25
Sweepback angle of 25% elem., deg.	2.28
Flap (Fillet not included)	
Type	Single Slotted
Area (total), ft^2	50.0
Span (one side), in.	102.5
Root chord, in.	39.5
Tip chord, in.	29.5
Horizontal Tail	
Area, ft^2	58.0
Span, ft.	16.43
Aspect ratio	4.5
Taper ratio	0.5
Chords: root (H.T. Sta. 0.00), in.	58.4
tip	29.52

TABLE 1 (Continued)

M.A.C. (H.T. Sta. 43.80), inc.	45.40
Fus. Sta. of .25$\bar{c}_h$, in.	422.35
Wing Plane of .25$\bar{c}_h$, in.	57.20
Airfoil section: root and tip	NACA 65A012
Maximum Overall Fuselage Length, ft	38.7

TABLE 2 - RUN SCHEDULE

RUN NO.	HORIZONTAL TAIL (Elev. Ang)	FLAP ANGLE (Deg.)	AILERON ANGLE (Deg.)	NOZZLE POSITION (% Flap Chord)	NOZZLE ANGLE (Deg.)	C_μ (Approx.)	DYNAMIC PRESSURE (Approx.)	β (Deg.)	Remarks
2	(MODEL OUT OF TUNNEL ONLY MAIN AND TAIL STRUT IN)					0	30	0	
71	(MODEL OUT OF TUNNEL ONLY MAIN AND TAIL STRUT IN)							+20 -20	
4	OFF	43	0	--	--			0	WING FILLET ON
6		43		--	--				NOZZLE PLATE OFF
8		0		--	--				
9		33		--	--				
10		53		--	--				
12		43		--	--				WING FILLET OFF
19				48	0	0			NOZZLE PLATE ON
20				48	0	.027			FROM RUN 12
21				48	15	.026			THRU RUN 107
22				24	15	.026			
23				24	0	.027			
24				36	15	.026			
25				36	15	0			SLOT TAPED
26				36	15	.026			TOP AND BOTTOM
27				24	15	.025			
28				24	0	.026			
29				24	15	.026			
30				12	15	.027			
31				12	15	.028			SLOT TAPED BOTTOM

TABLE 2 - CONTINUED

RUN NO.	HORIZONTAL TAIL (Elev. Ang)	FLAP ANGLE (Deg.)	AILERON ANGLE (Deg.)	NOZZLE POSITION (% Flap Chord)	NOZZLE ANGLE (Deg.)	C_μ (Approx.)	DYNAMIC PRESSURE (Approx.)	β (Deg.)	Remarks
32	OFF	43	0	24	15	.006	30	0	SLOT TAPED TOP & BOT.
33						.017			
34						.035			
35						.060	20		
36				48		0	20		
37						.025	30		
38					0	.026			
39					15	.006			BACK TO OPEN SLOT
40						.017			
41						.025			
42						.035			
43						0	20		
44						.060	20		
45						0	40		
46						.020	40		
47						.026	30		
48					20	.025			
49					10	.026			
50				36	10	.027			
51				36	0	.027			
52				36	20	.026			
53		43		48	15	.041			

TABLE 2 - CONTINUED

RUN NO.	HORIZONTAL TAIL (Elev. Ang)	FLAP ANGLE (Deg.)	AILERON ANGLE (Deg.)	NOZZLE POSITION (% Flap Chord)	NOZZLE ANGLE (Deg.)	C_μ (Approx.)	DYNAMIC PRESSURE (Approx.)	β (Deg.)	Remarks
54	OFF	43	0	48	15	.041	30	0	
55	↓	33	↓	↓	↓	0	↓	↓	
56	↓	33	↓	↓	↓	.017	↓	↓	
57	↓	33	↓	↓	↓	.027	↓	↓	
58	↓	33	↓	↓	↓	.041	↓	↓	
59	↓	53	↓	36	↓	0	↓	↓	
60	↓	53	↓	↓	↓	.018	↓	↓	
61	↓	53	↓	↓	↓	.027	↓	↓	
62	↓	53	↓	↓	↓	.042	↓	↓	
67	ON(0°)	43	↓	48	↓	0	↓	↓	
68	↓	↓	↓	↓	↓	.017	↓	↓	
69	↓	↓	↓	↓	↓	.027	↓	↓	
72	↓	↓	↓	↓	↓	.043	↓	↓	
73	ON(-10°)	↓	↓	↓	↓	0	↓	↓	
74	↓	↓	↓	↓	↓	.017	↓	↓	
75	↓	↓	↓	↓	↓	.026	↓	↓	
76	↓	↓	↓	↓	↓	.039	↓	↓	
77	ON(-5°)	↓	↓	↓	↓	0	↓	↓	
78	↓	↓	↓	↓	↓	.019	↓	↓	For runs 78, 79, 80 "Q" too low; hence coefficients too high.
79	↓	↓	↓	↓	↓	.031	↓	↓	↓
80	↓	↓	↓	↓	↓	.049	↓	↓	↓
81	ON(+5°)	↓	↓	↓	↓	0	↓	↓	↓

TABLE 2 - CONCLUDED

RUN NO.	HORIZONTAL TAIL (Elev. Ang)	FLAP ANGLE (Deg.)	AILERON ANGLE (Deg.)	NOZZLE POSITION (% Flap Chord)	NOZZLE ANGLE (Deg.)	C_μ (Approx.)	DYNAMIC PRESSURE (Approx.)	β (Deg.)	Remarks
82	ON(+5°)	43	0	48	15	.017	30	0	
83	↓	↓	↓	↓	↓	.026	↓	↓	
84			↓			.041			
85			L=-3,R=-3			0			
86	↓		L=-3,R=-3			.026			
87	ON(0°)		L=0,R=-6			0			
88	↓		↓			.017			
89						.026			
90			↓			.041			
91			L=+5,R=-11			0			
92			↓			.017			
93						.026			
94			↓			.040		↓	
97			0			.026		6	
98			0			.026		12	
99			0			0		6	
100	↓	↓	0	↓	↓	0	↓	12	
102	OFF	33	0			↓	30	0	
103	↓	33	0				40		
104		33	L=-3,R=-3				40		
105		33	L=-3,R=-3	↓			30		
106		43	0	24		↓	30		FLOW SEPARATION STEP
107	↓	43	0	24	↓	.025	30	↓	ON FLAP

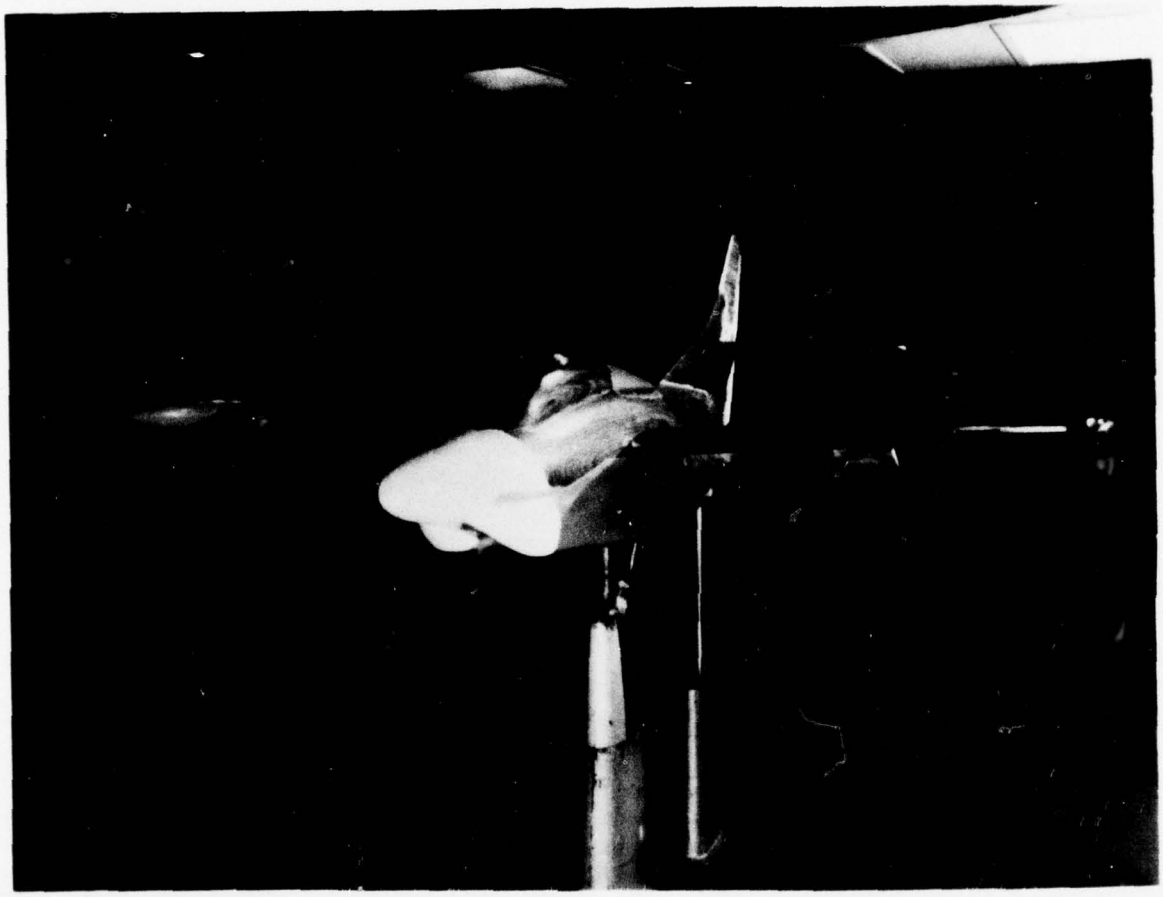


Figure 1 - View of Model Installed in Tunnel

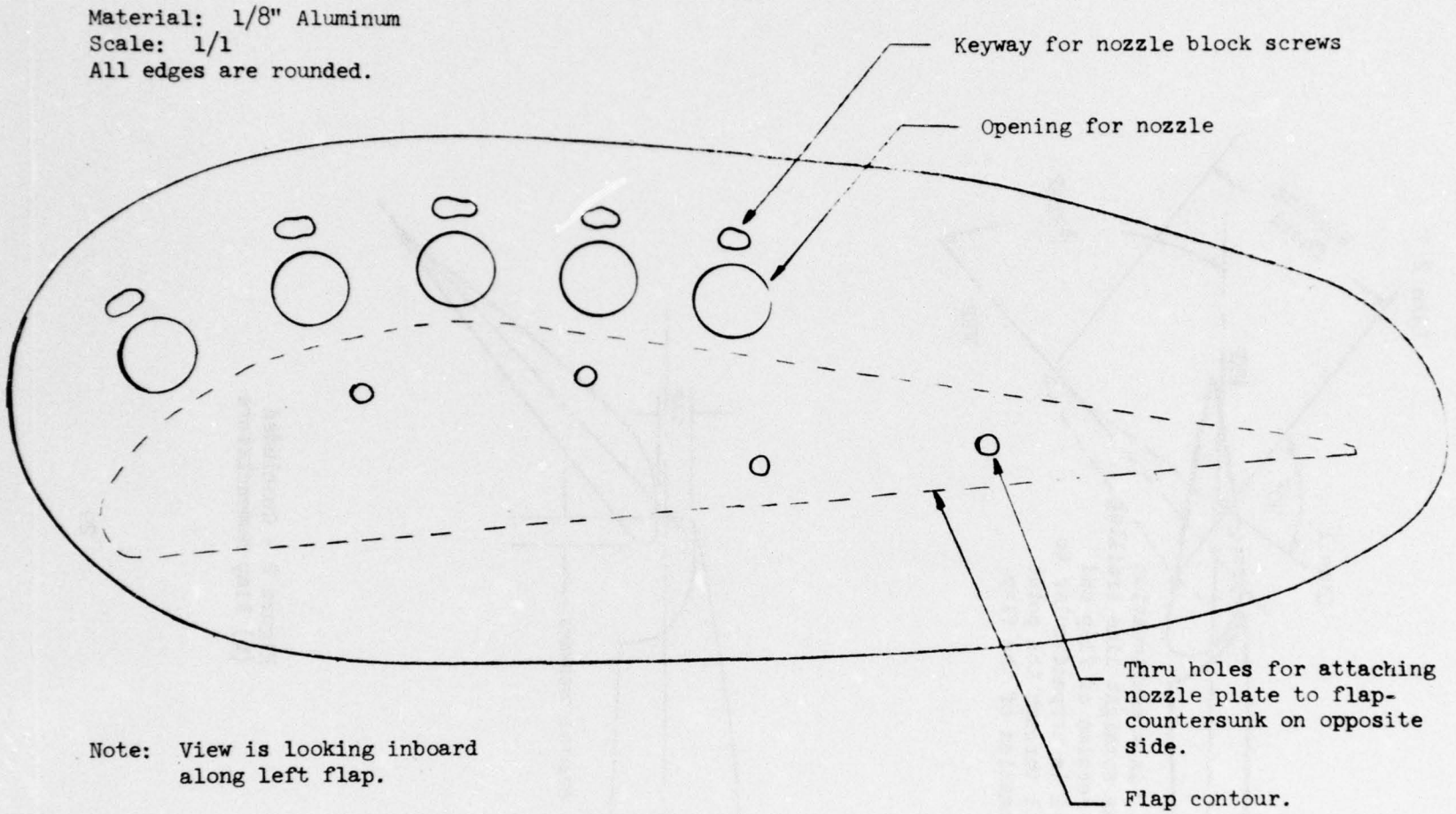
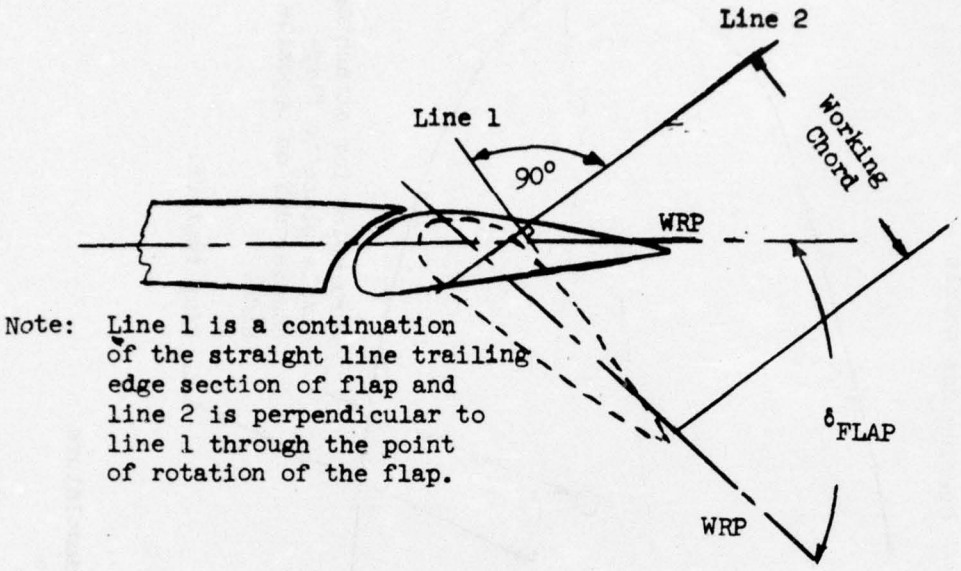


Figure 2 - Nozzle Plate and Flap Nomenclature
(a) Schematic of Nozzle Plate



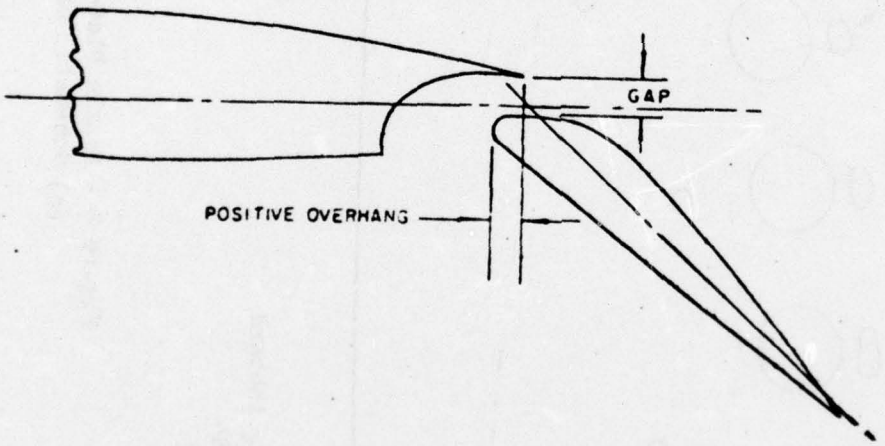
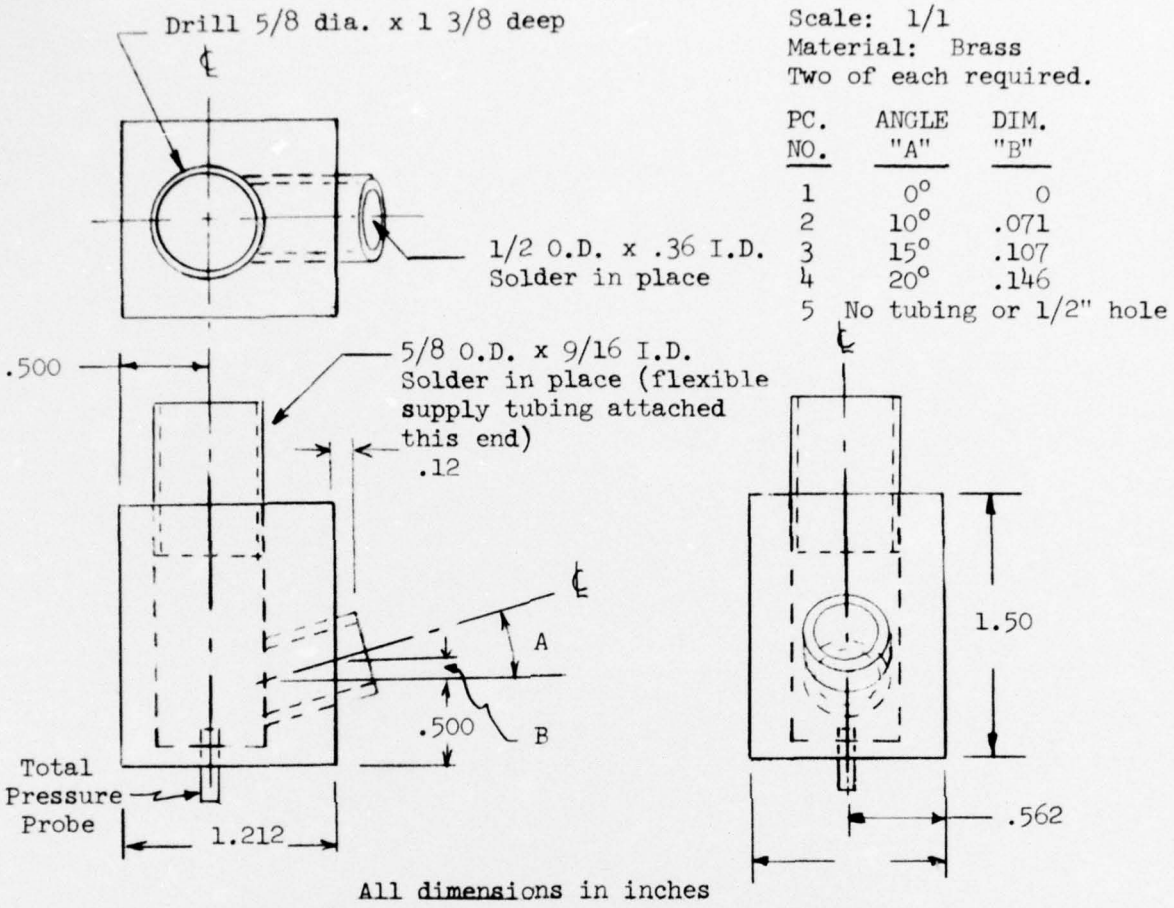


Figure 2 - Concluded
(b) Flap Nomenclature



Scale: 1/1
Material: Brass
Two of each required.

PC. NO.	ANGLE "A"	DIM. "B"
1	0°	0
2	10°	.071
3	15°	.107
4	20°	.146
5	No tubing or 1/2" hole	

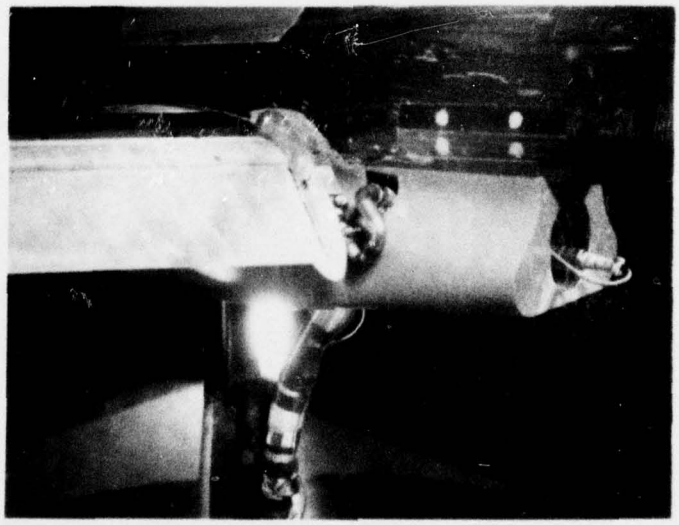


Figure 3 - Schematic and Installed View of Nozzle Blocks

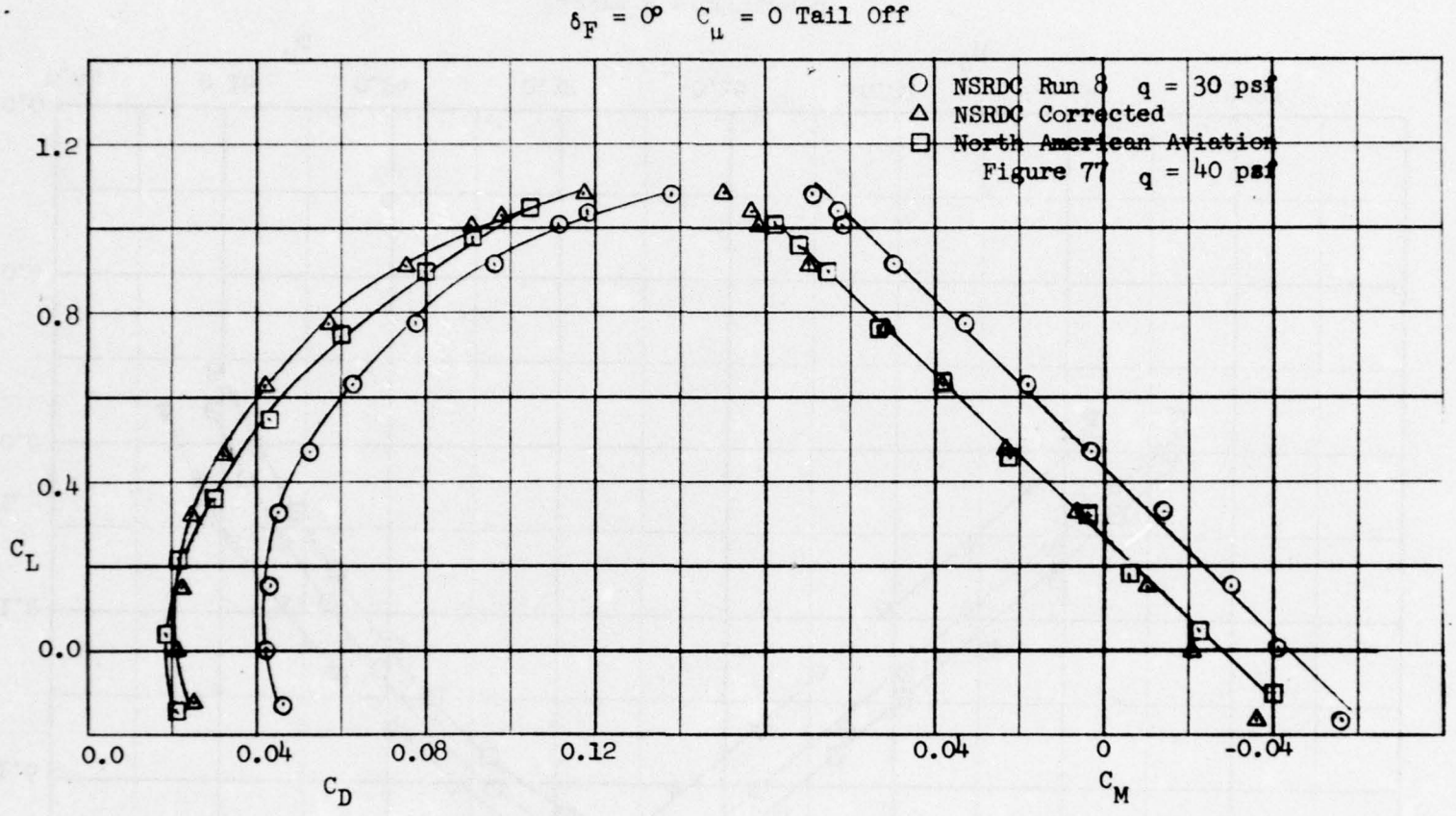


Figure 4 - Comparison of NSRDC Data with North American Aviation Data
(a) Tail Off - No Flap Deflection

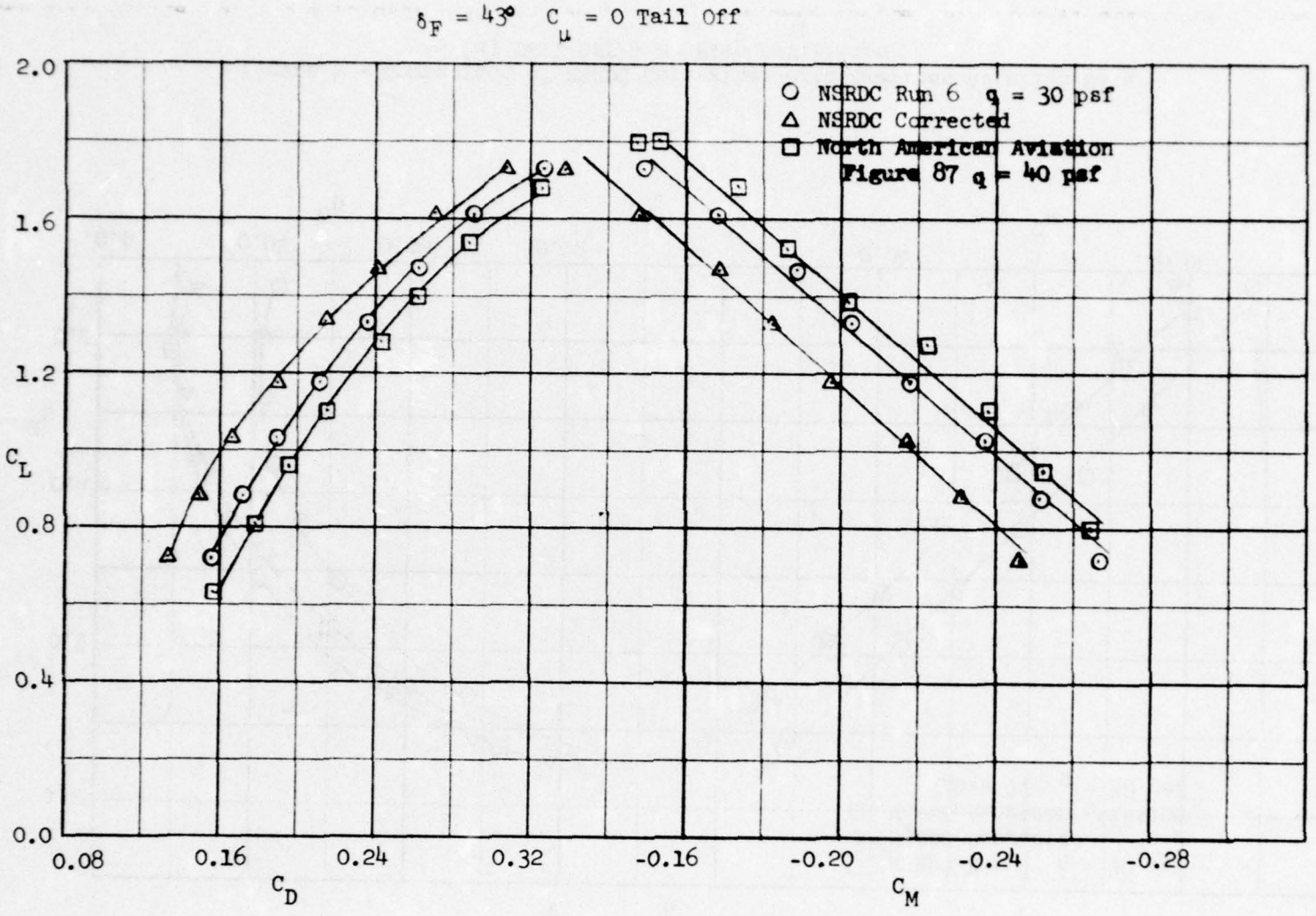


Figure 4 - Continued
(b) Tail Off - Flap Deflected 43°

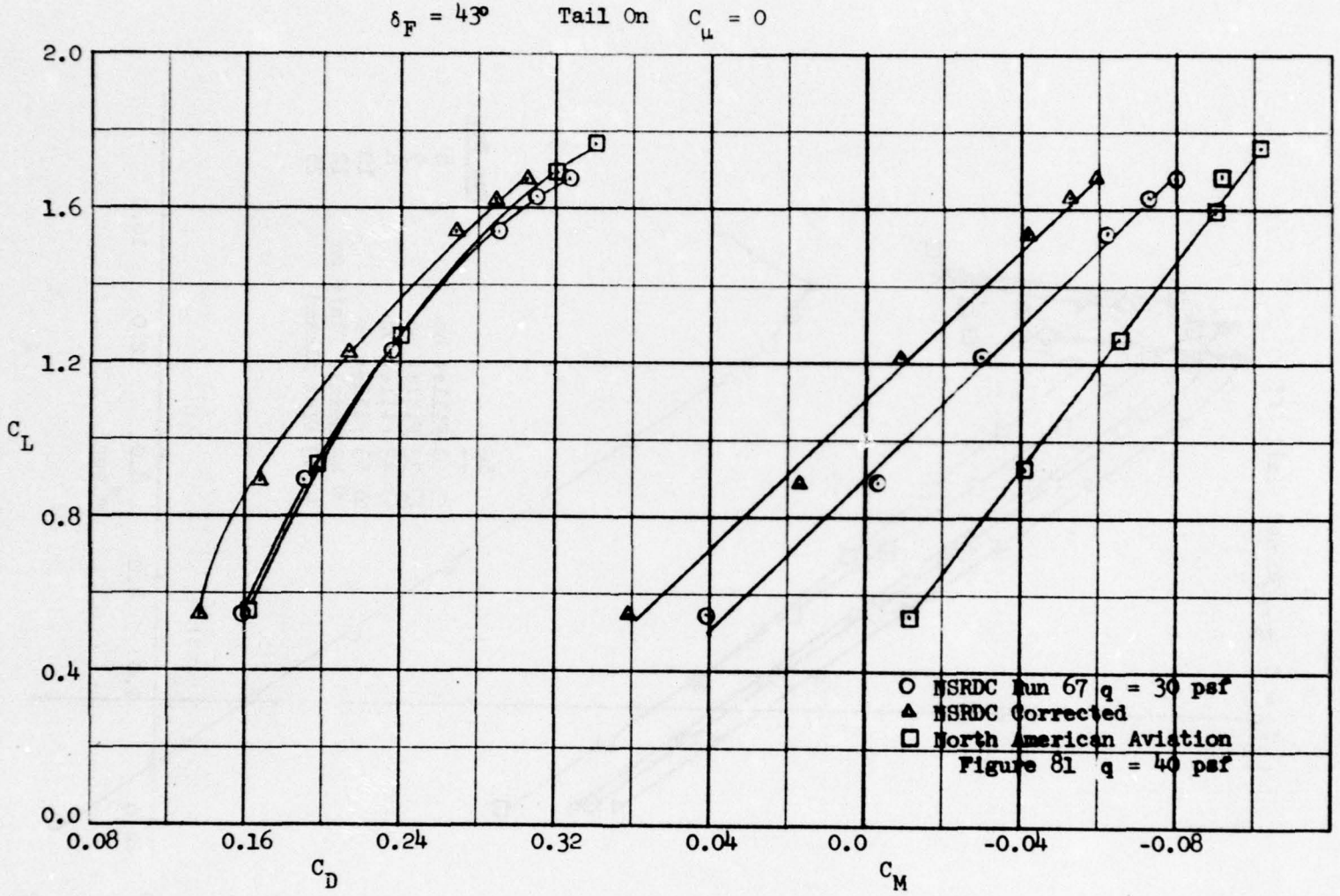


Figure 4 - Concluded
(c) Tail On - Flap Deflected 43°

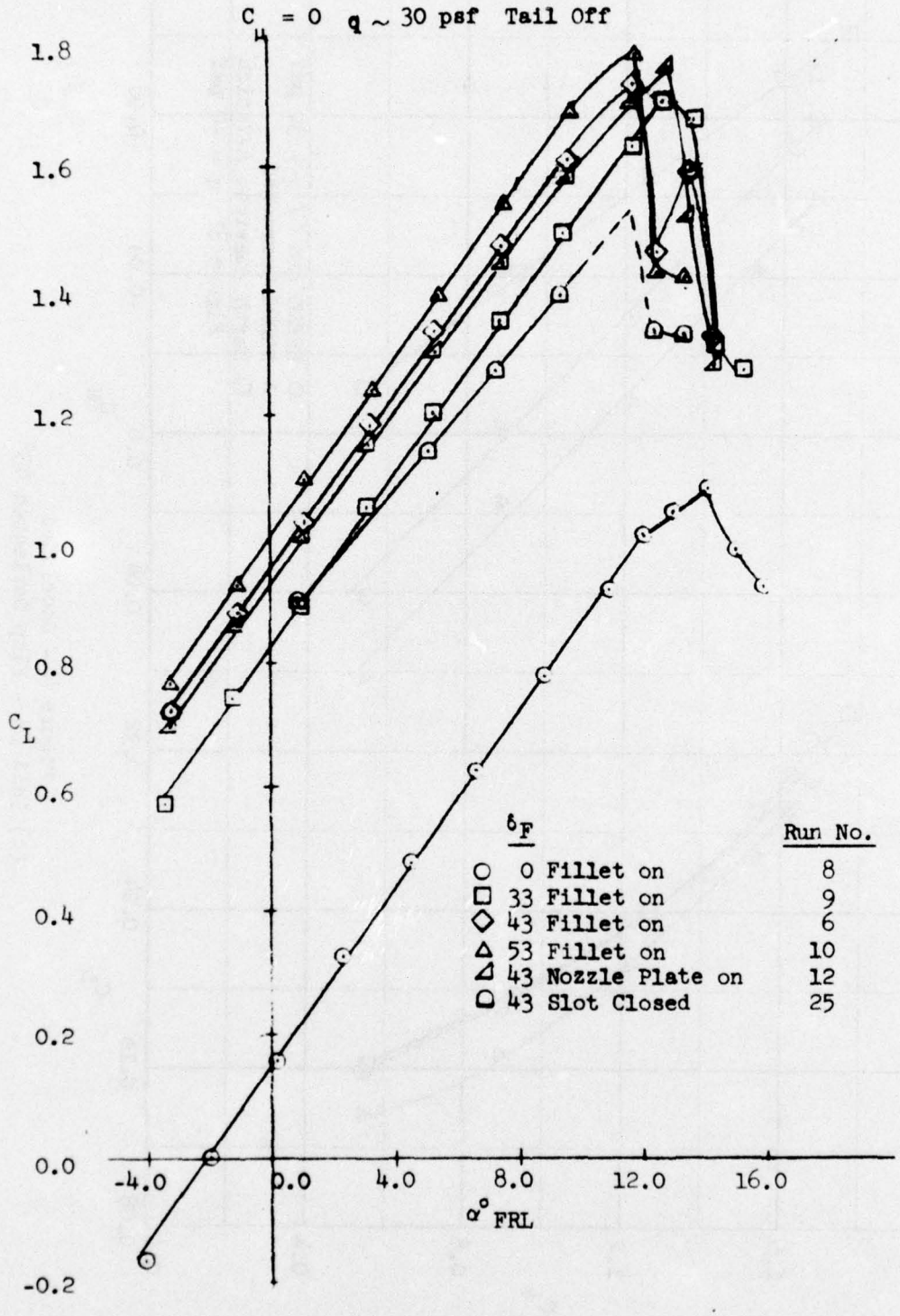


Figure 5 - Lift Coefficient Variation with Angle of Attack for Various Flap Deflections

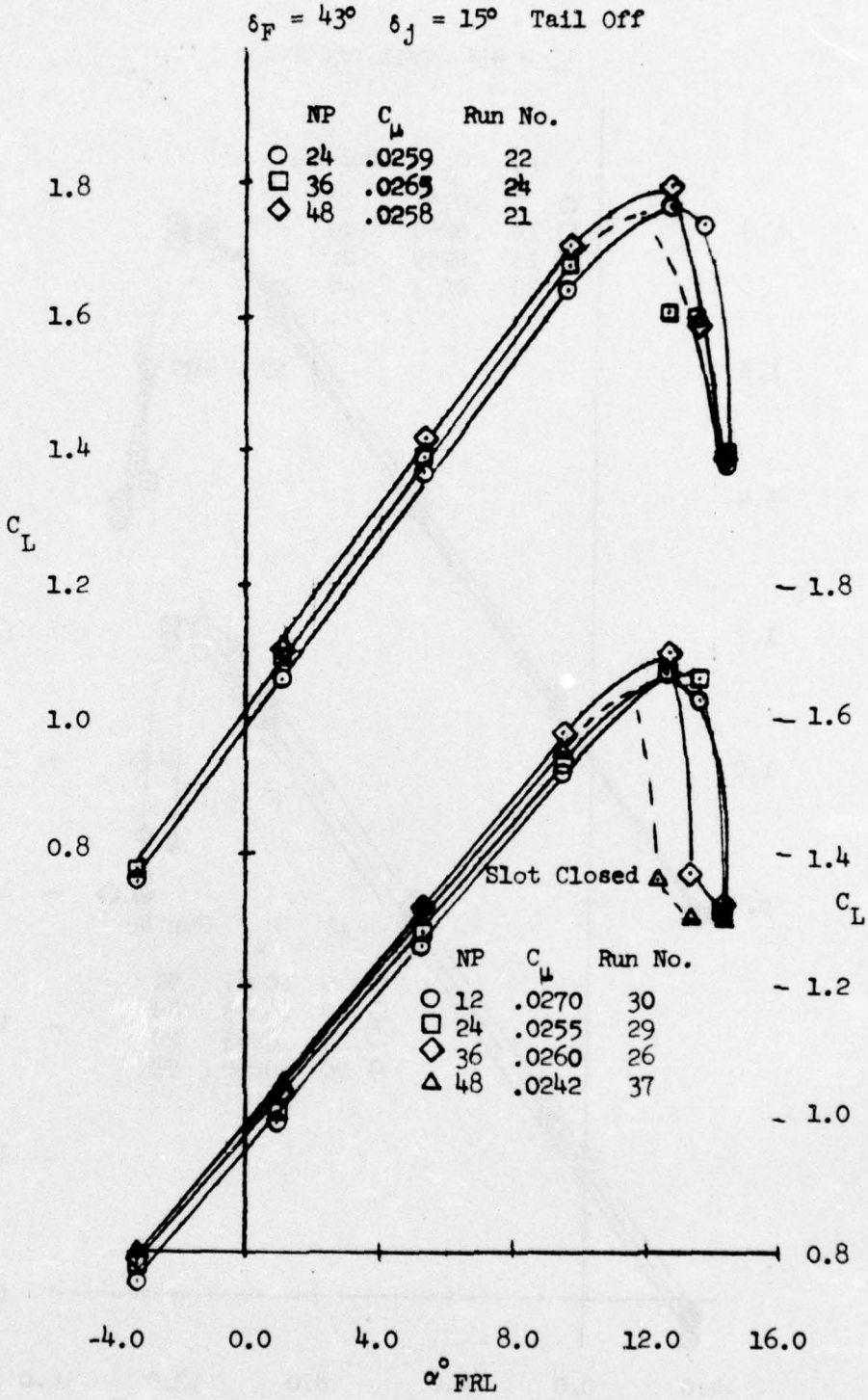


Figure 6 - Optimization of Nozzle Position and Jet Exit Angle
(a) Nozzle Position Variation

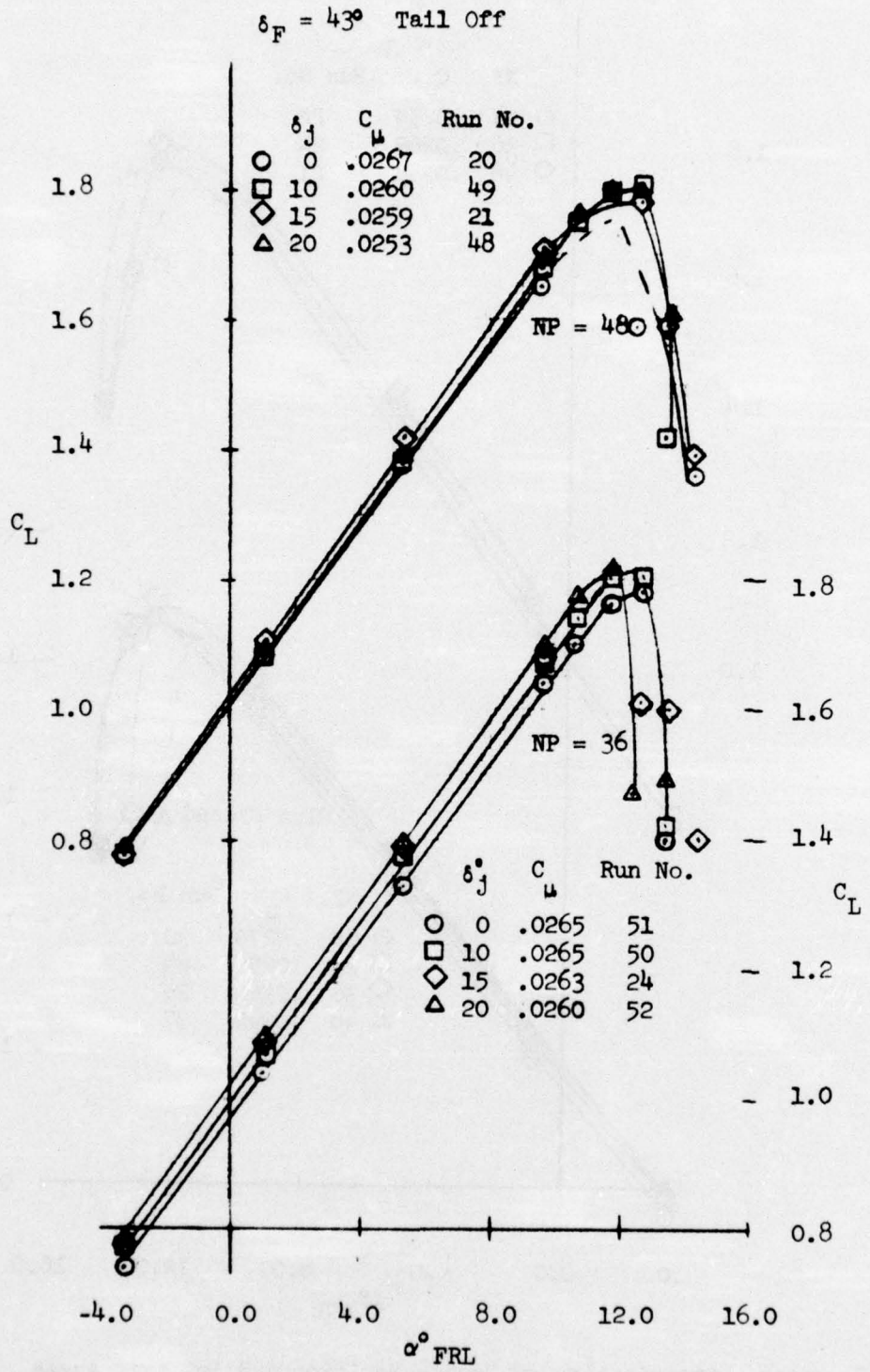


Figure 6 - Concluded
(b) Nozzle Angle Variation

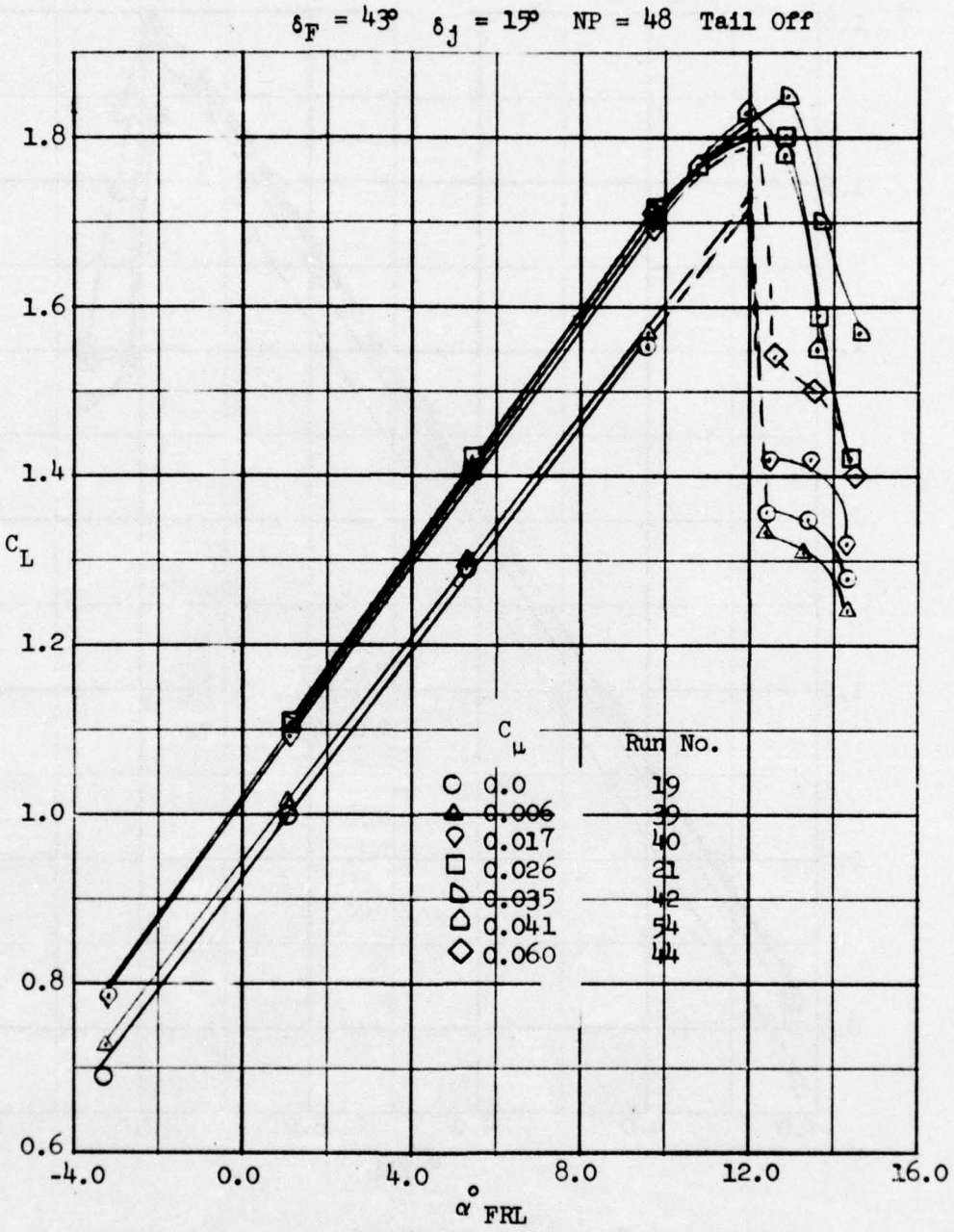


Figure 7 - Effect of C_μ on C_L Versus Alpha Curves
(a) Flap at 43° with Slot Open and Tail Off

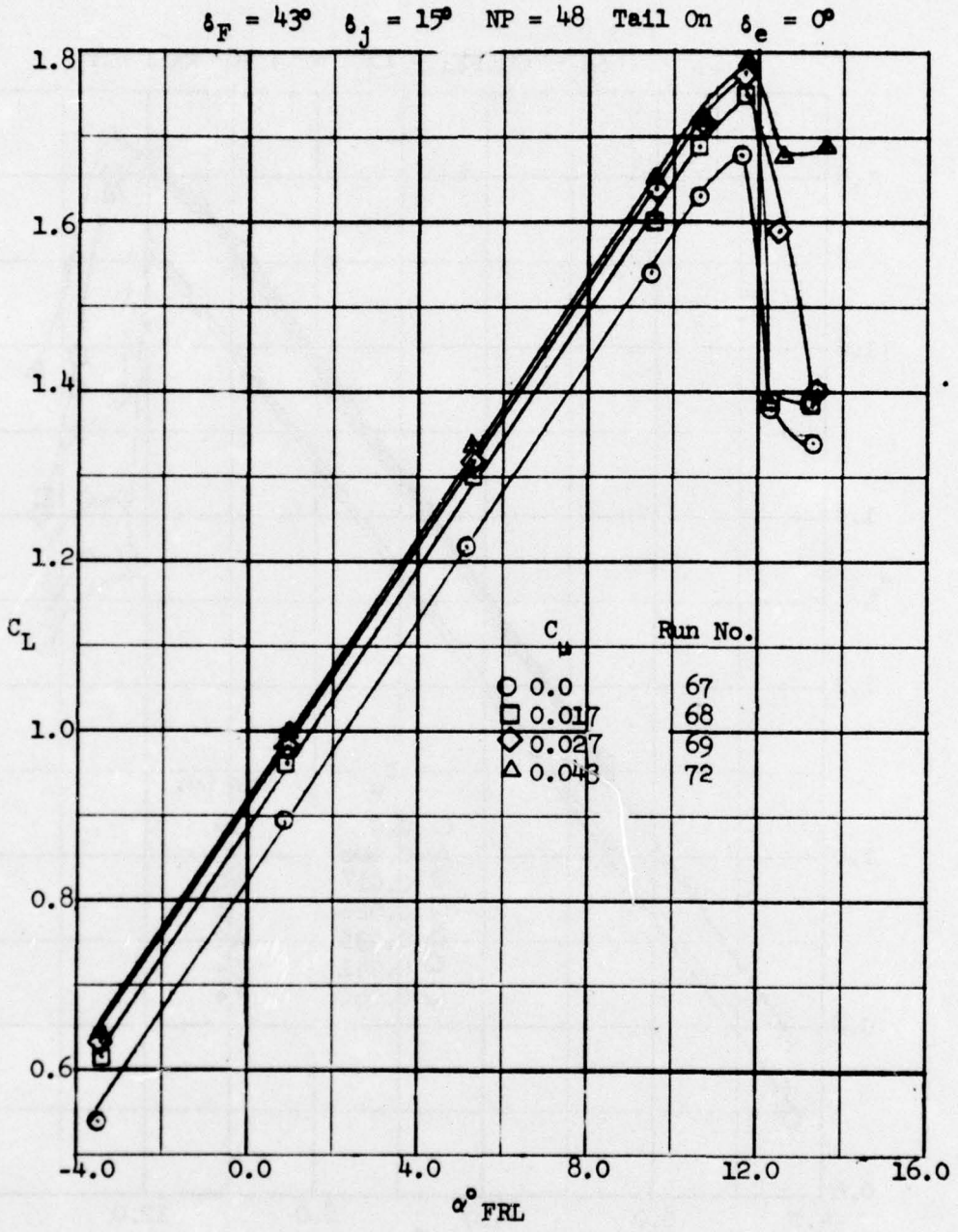


Figure 7 - Continued

(b) Flap at 43° with Slot Open and Tail On

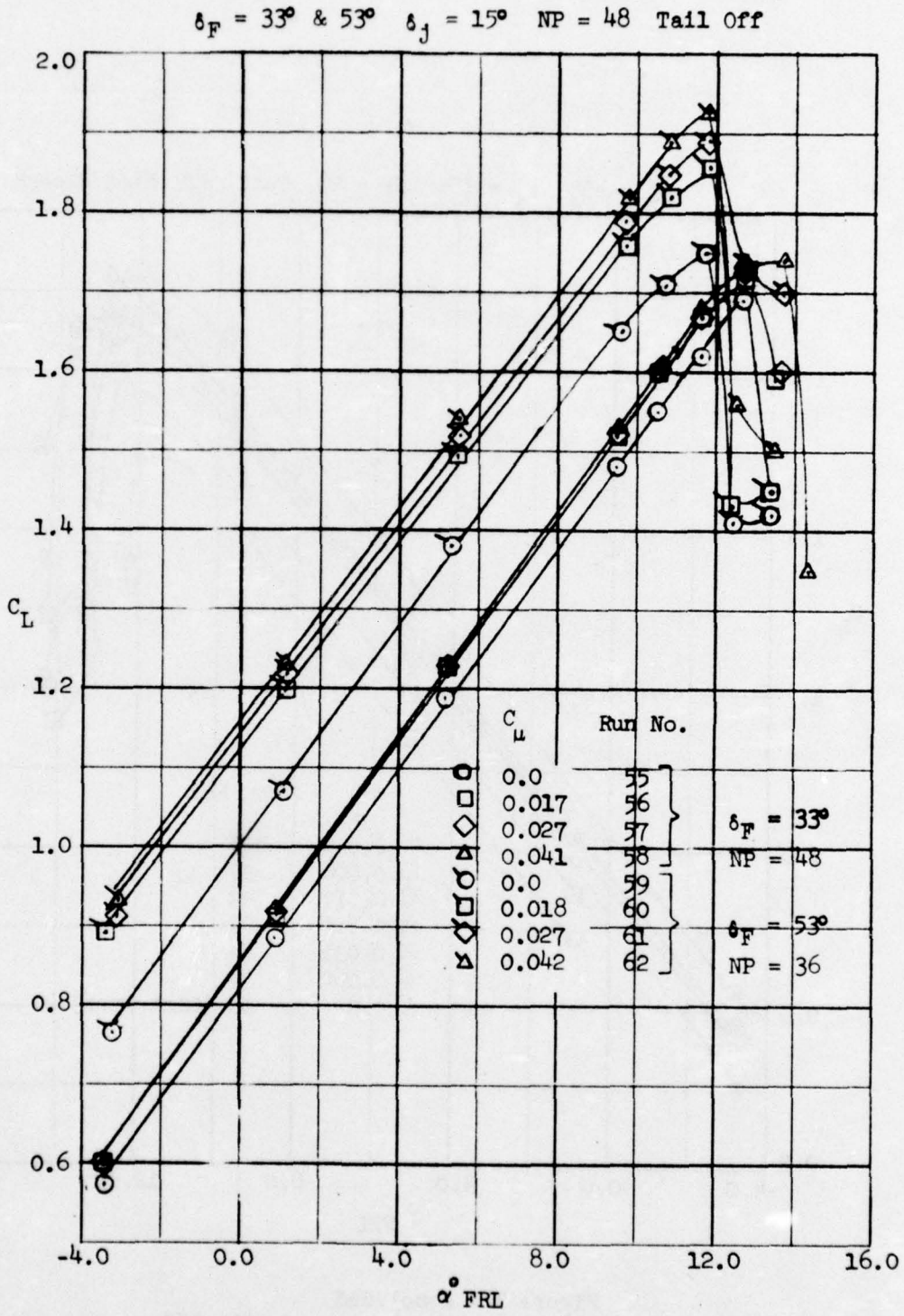


Figure 7 - Continued
(c) Flap at 33° and 53° with Slot Open and Tail Off

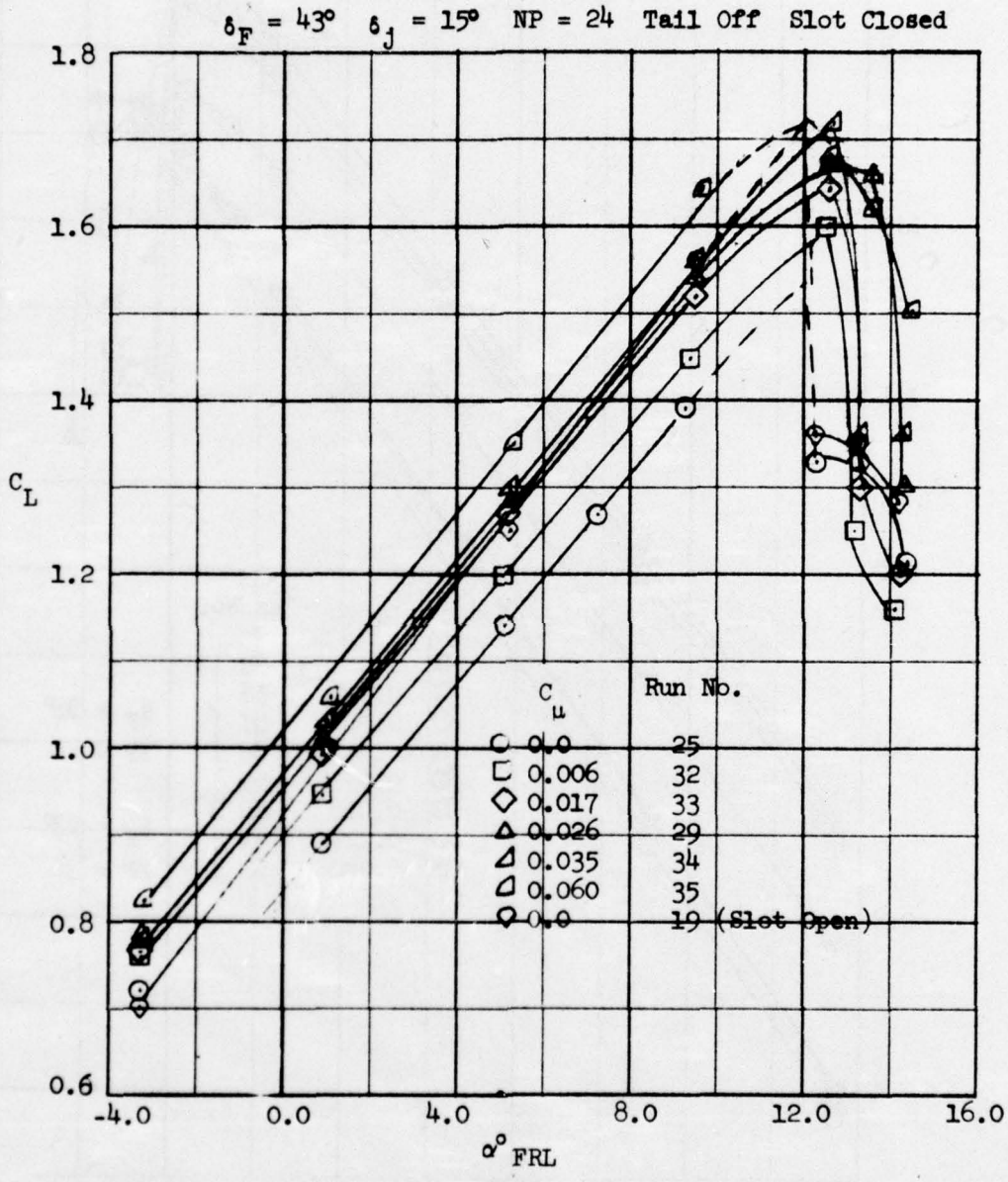


Figure 7 - Concluded
(d) Flap at 43° with Slot Closed and Tail Off

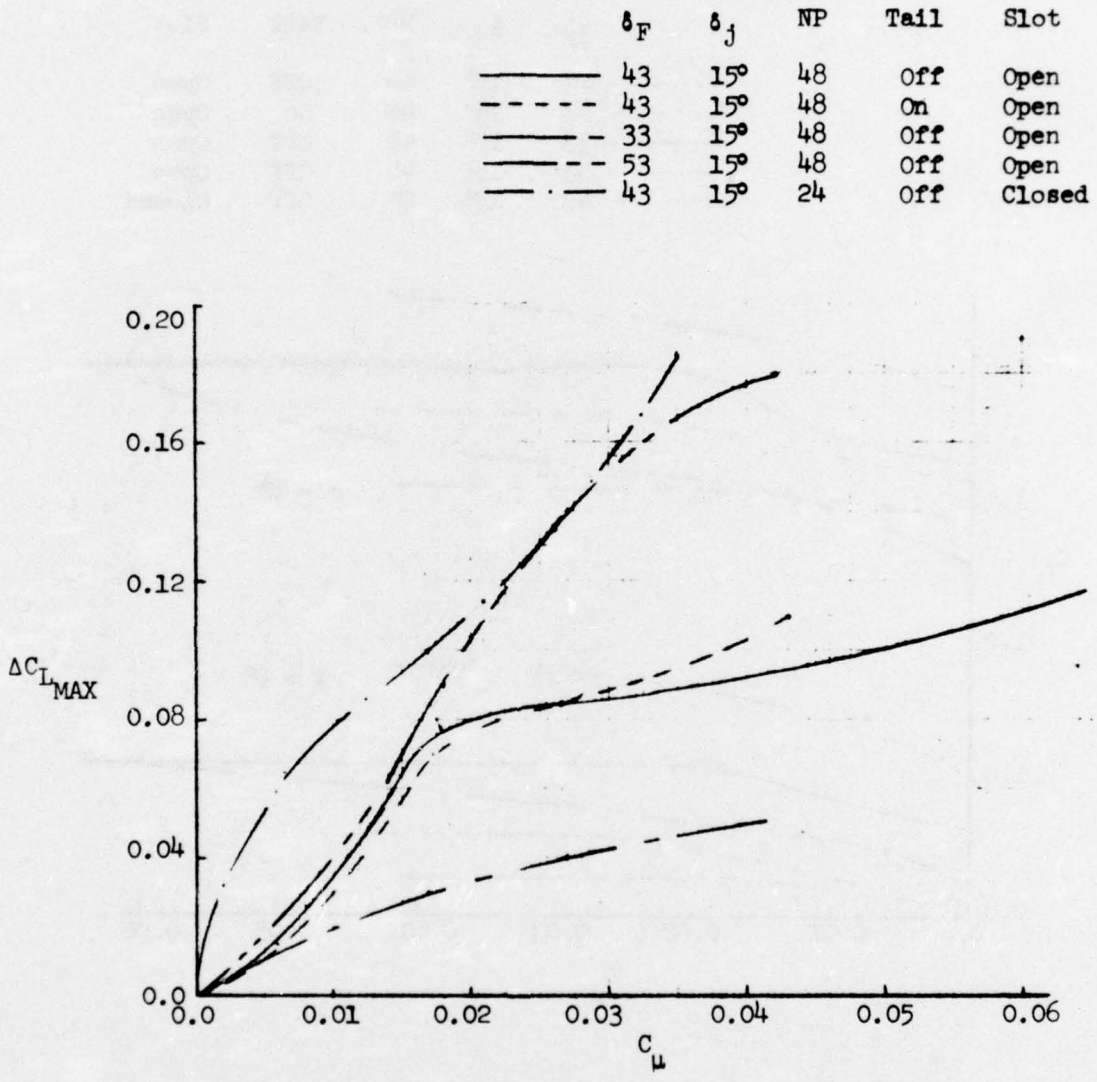


Figure 8 - Variation of Maximum Lift Coefficient with C_μ

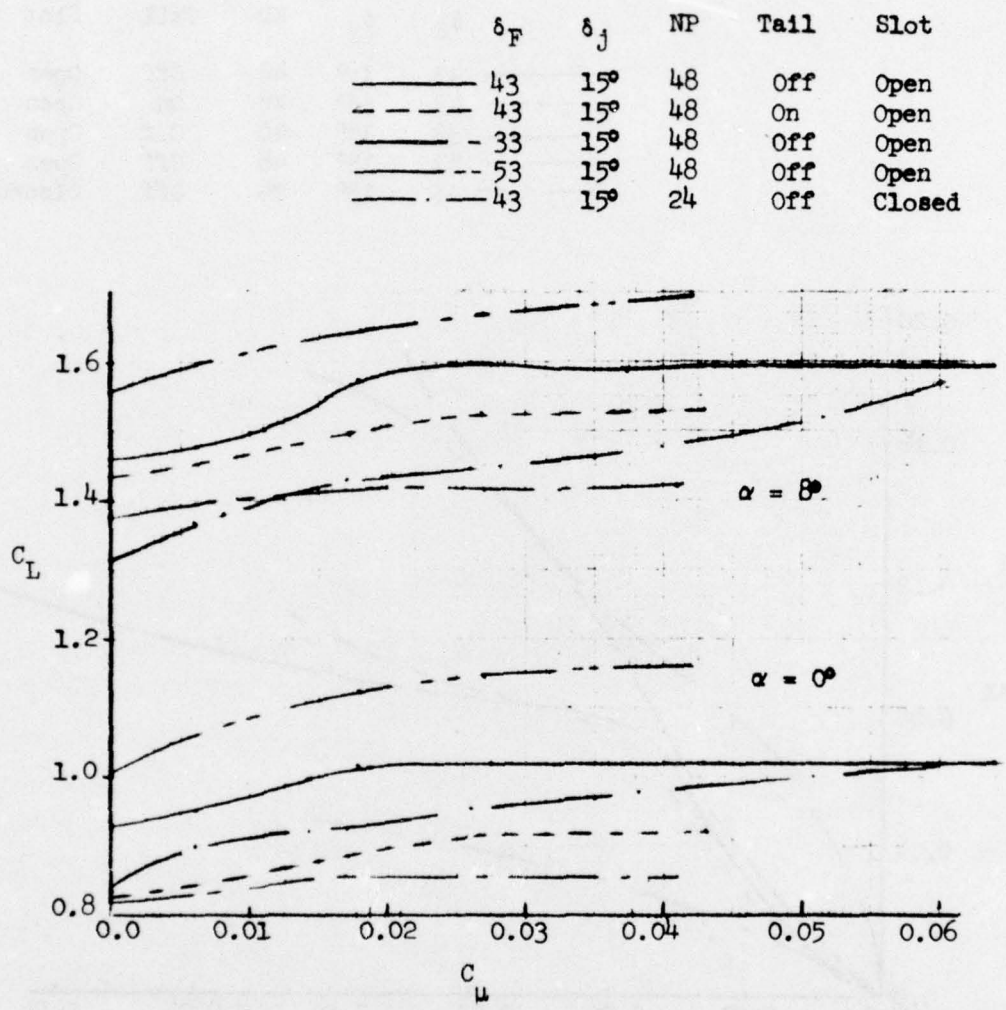


Figure 9 - Variation of Lift Coefficient with C_μ at Fixed Angles of Attack

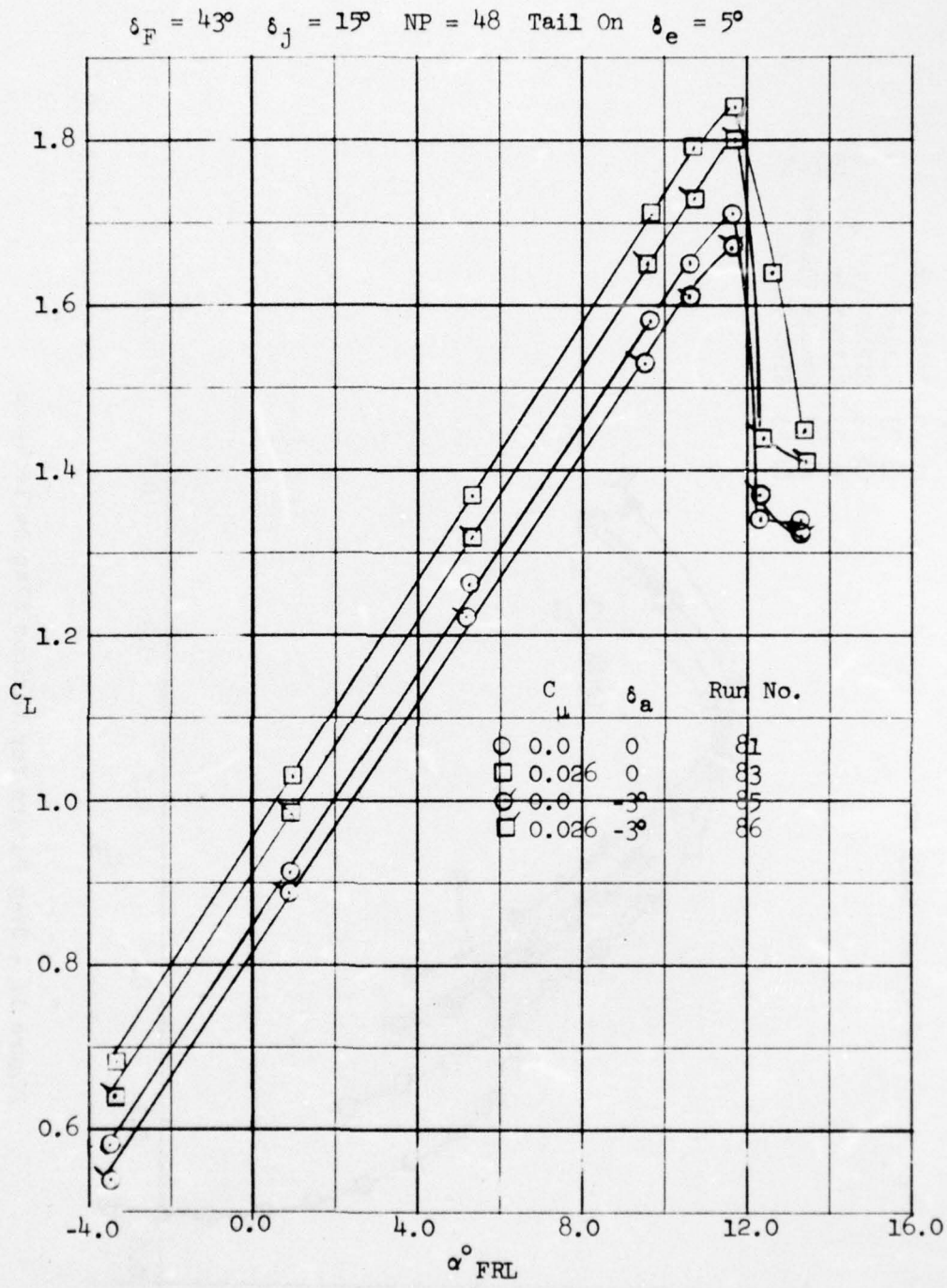


Figure 10 - Effect of Ailerons Uprigged 3°

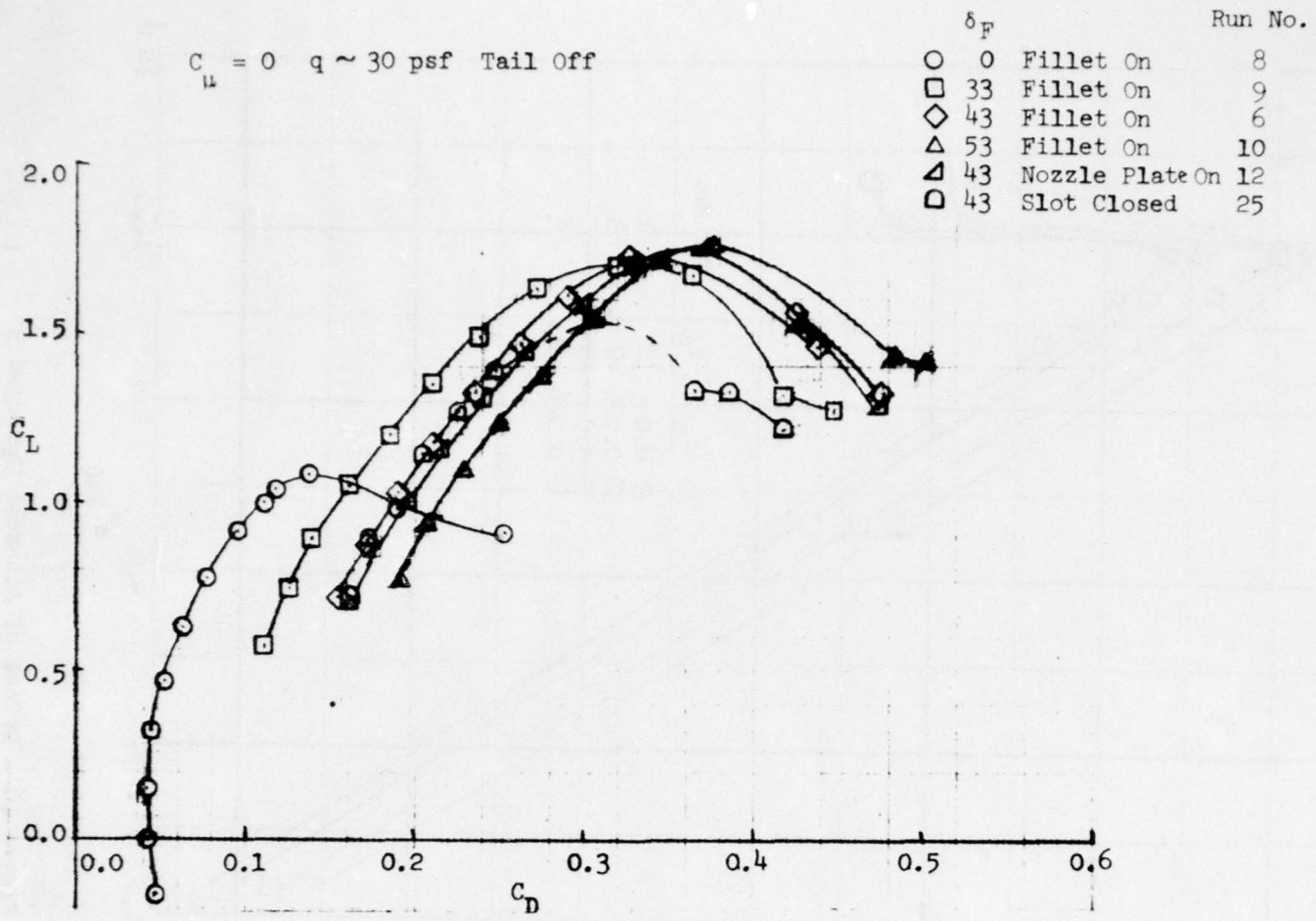


Figure 11 - Drag Polars for Various Flap Deflections

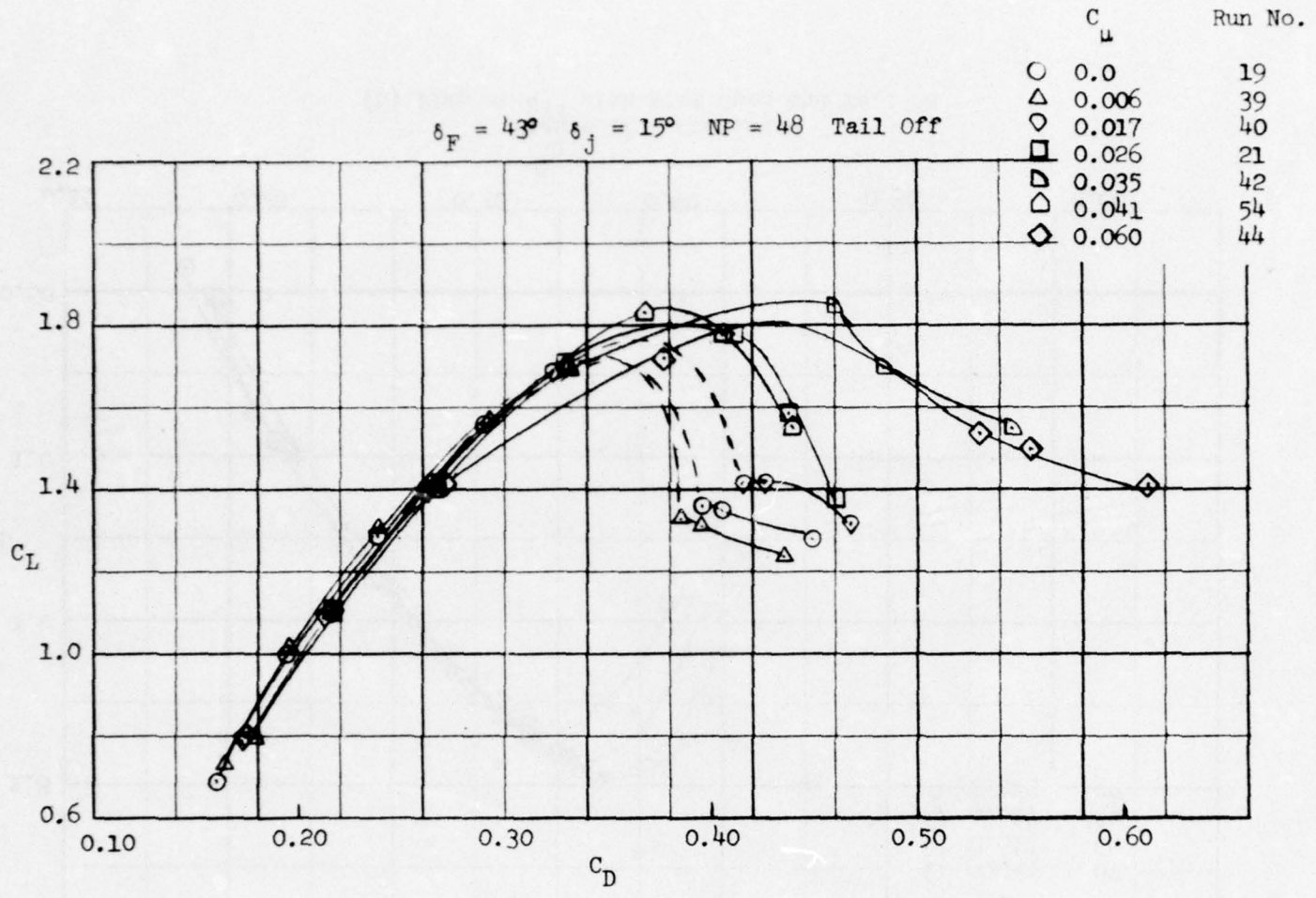


Figure 12 - Effect of C_μ on Drag Polars
(a) Flap at 43° with Slot Open and Tail Off

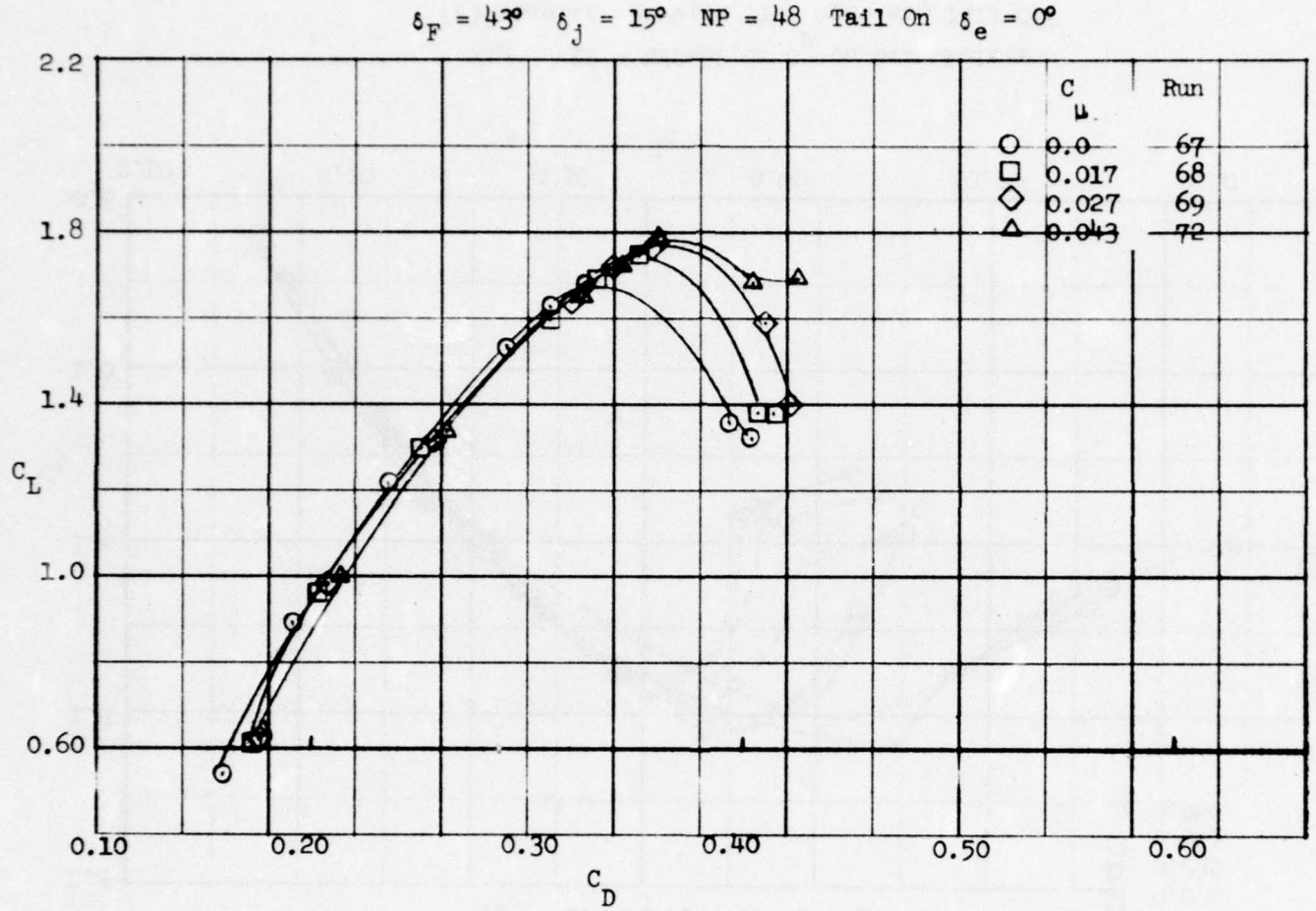


Figure 12 - Continued
(b) Flap at 43° with Slot Open and Tail On

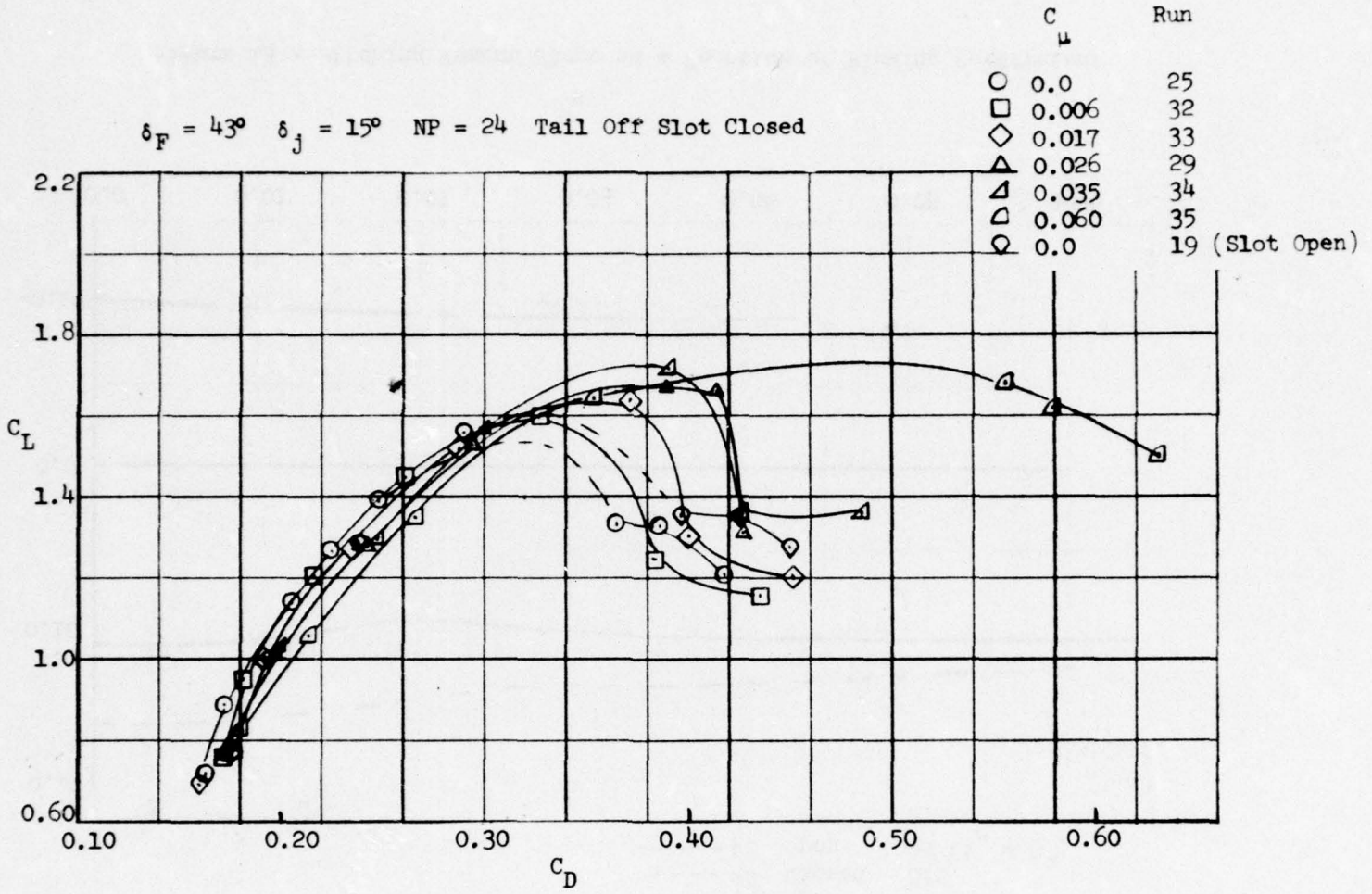


Figure 12 - Concluded
(c) Flap at 43° with Slot Closed and Tail Off

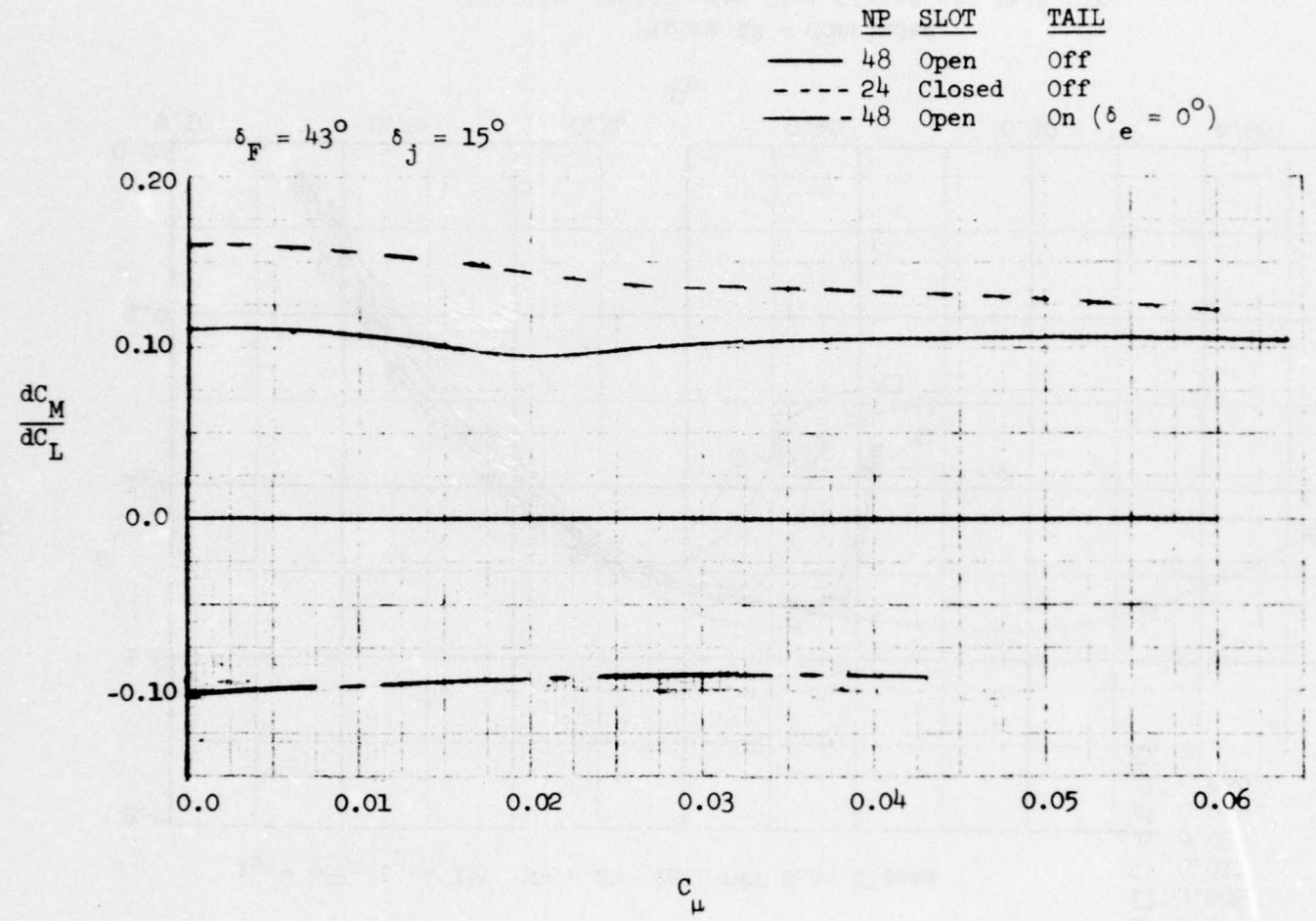


Figure 13 - Pitching Moment Slope as a Function of Blowing Coefficient

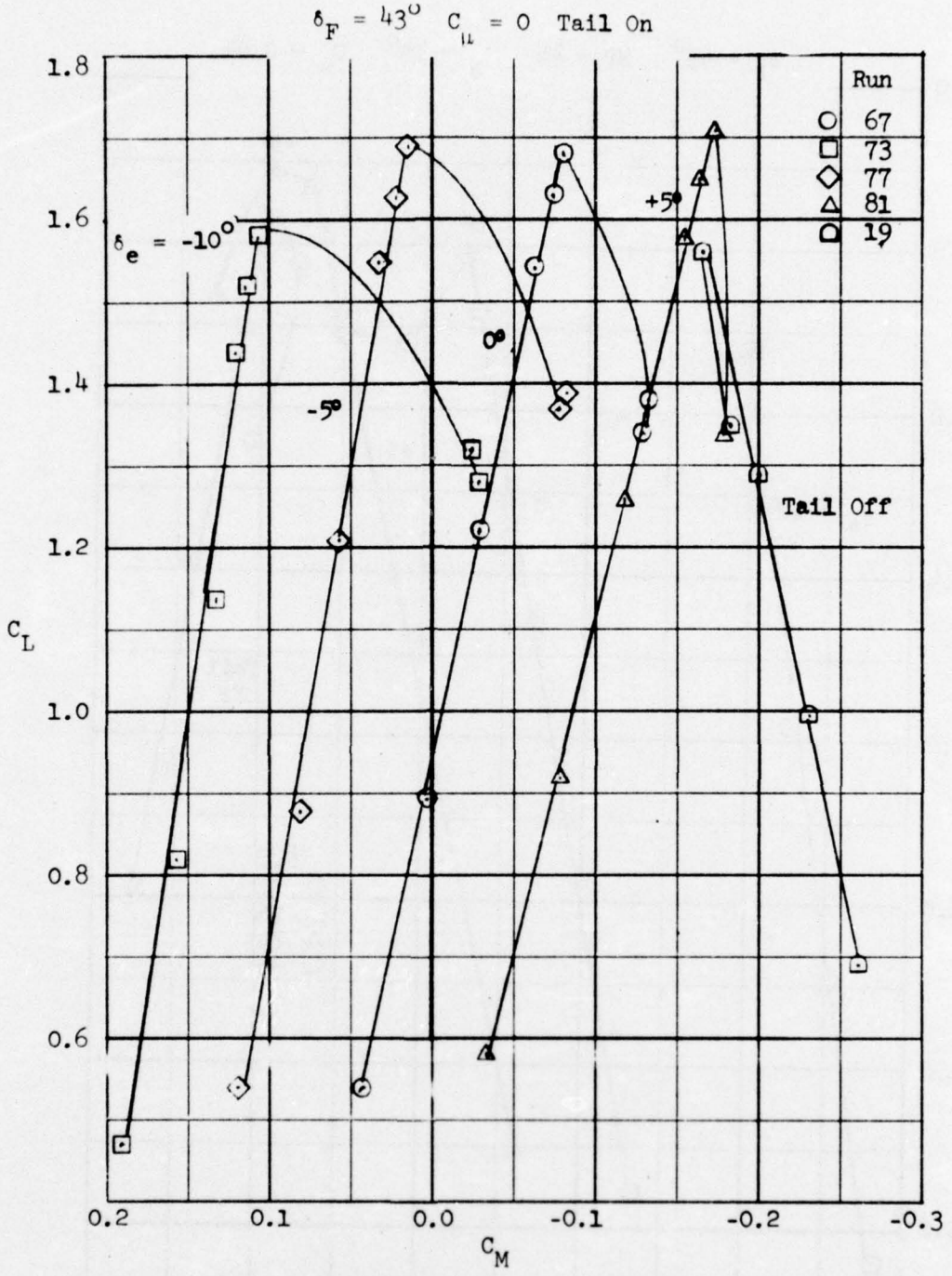


Figure 14 - Elevator Characteristics
(a) No Blowing

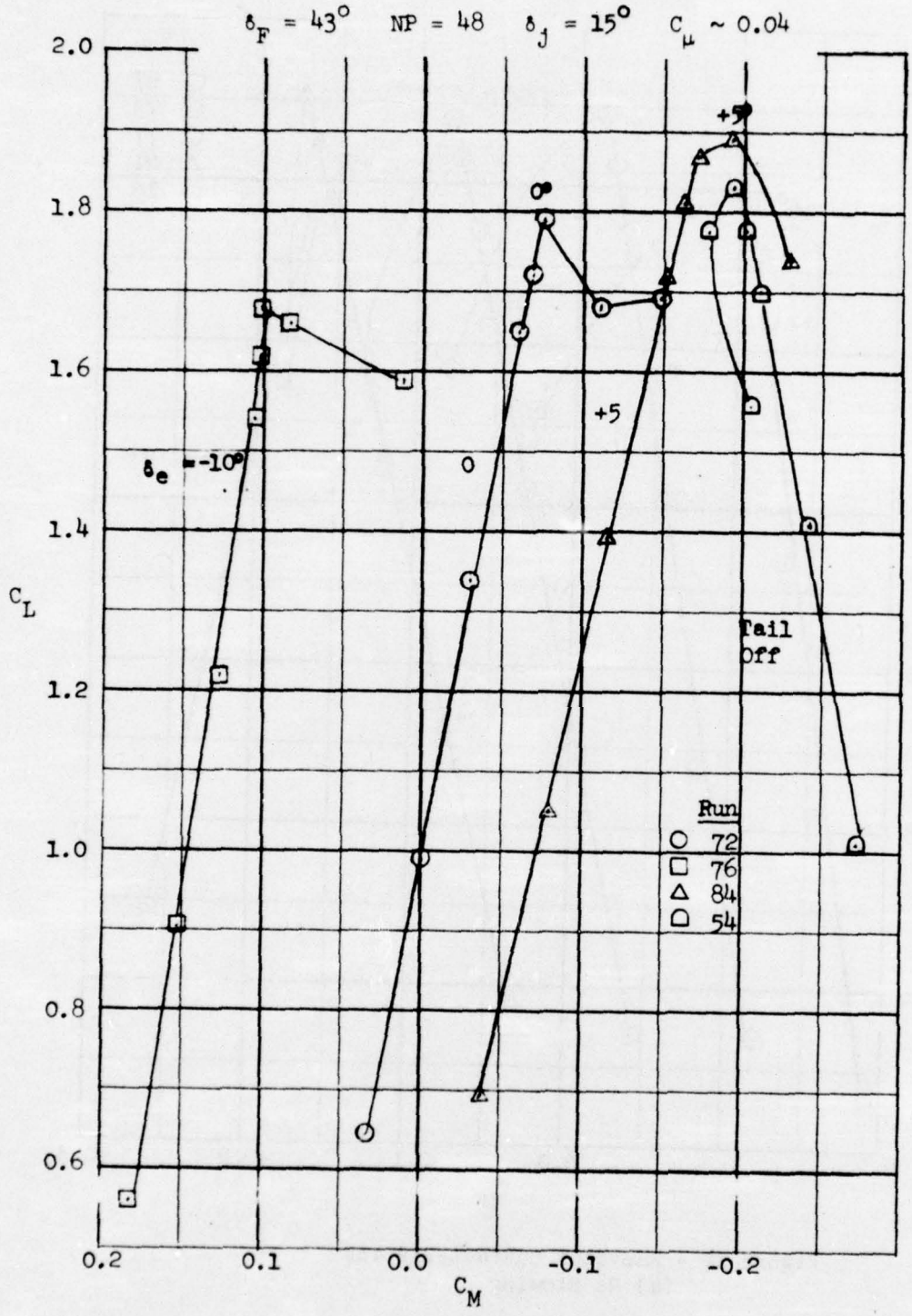


Figure 14 - Concluded
(b) Spanwise Blowing at a C_μ of 0.04

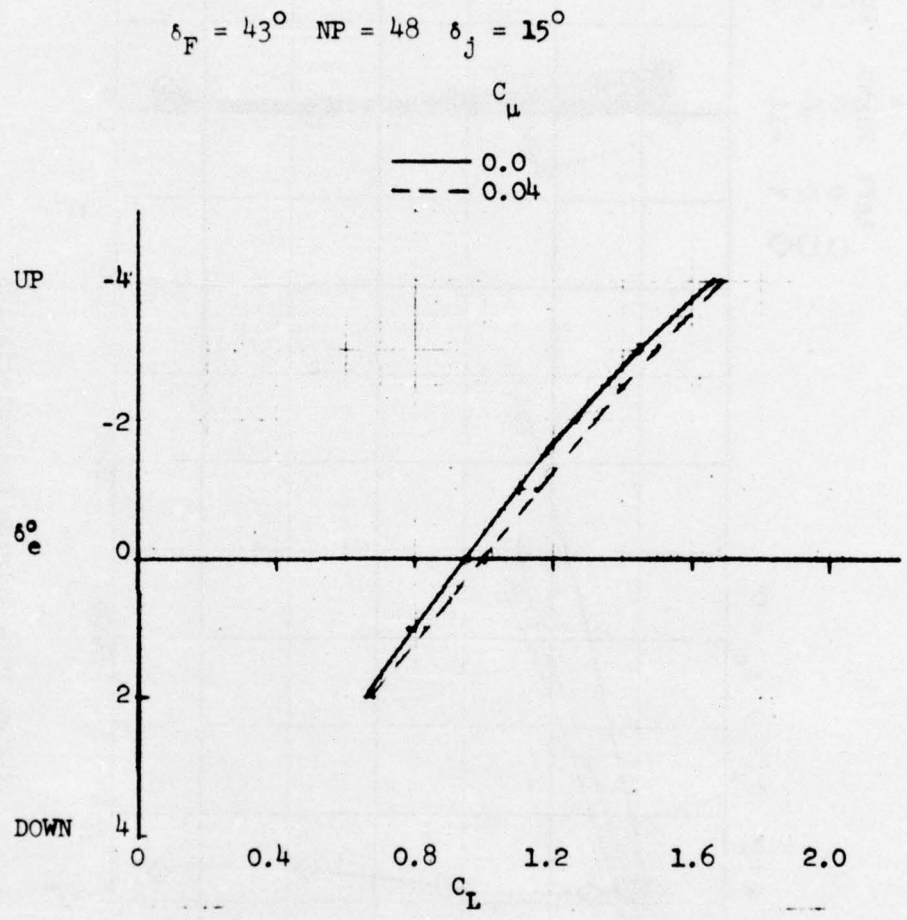


Figure 15 - Elevator Deflections Required for Trimming With and Without Spanwise Blowing

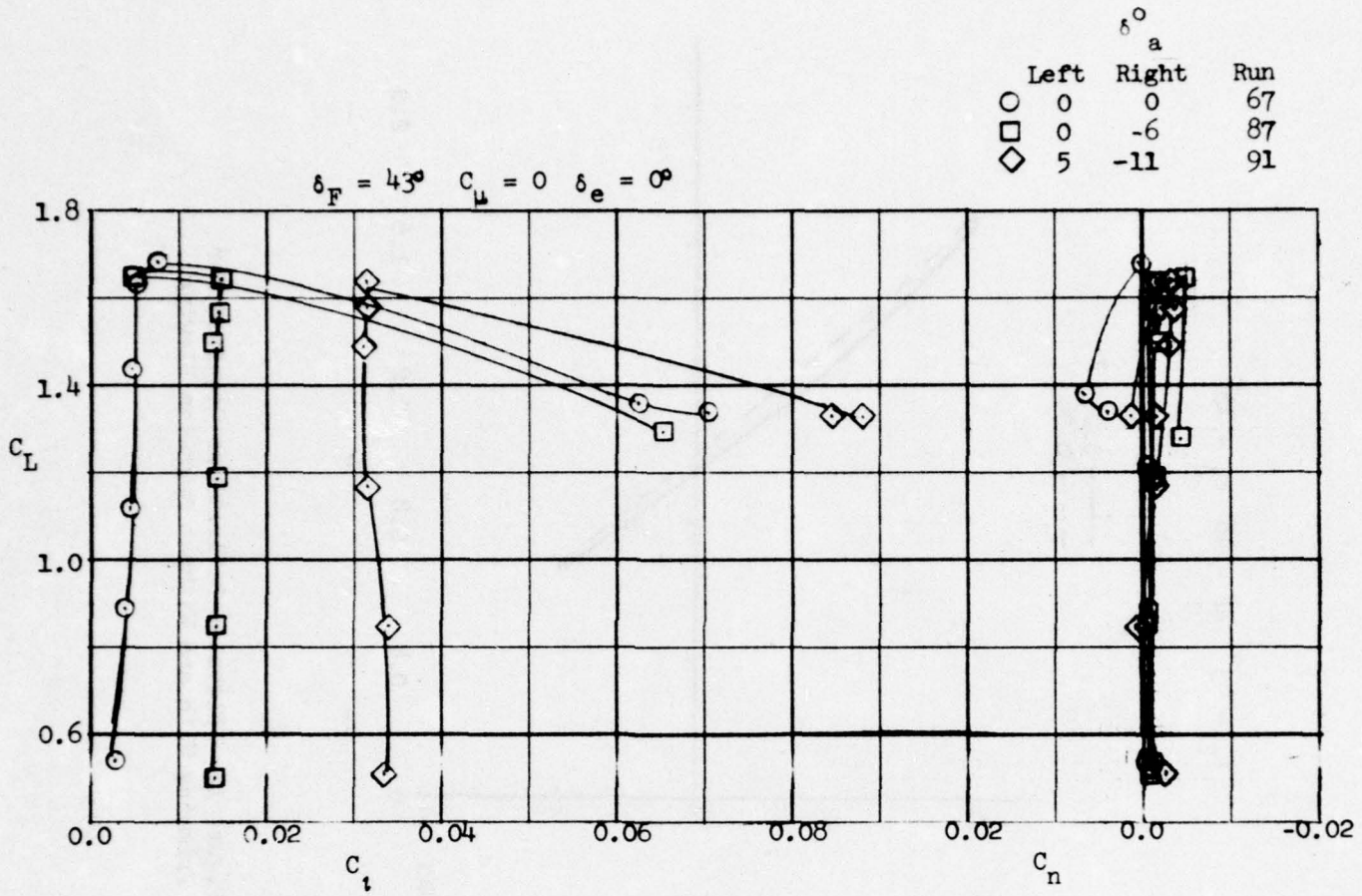


Figure 16 - Aileron Characteristics
(a) Flap at 43° with No Blowing

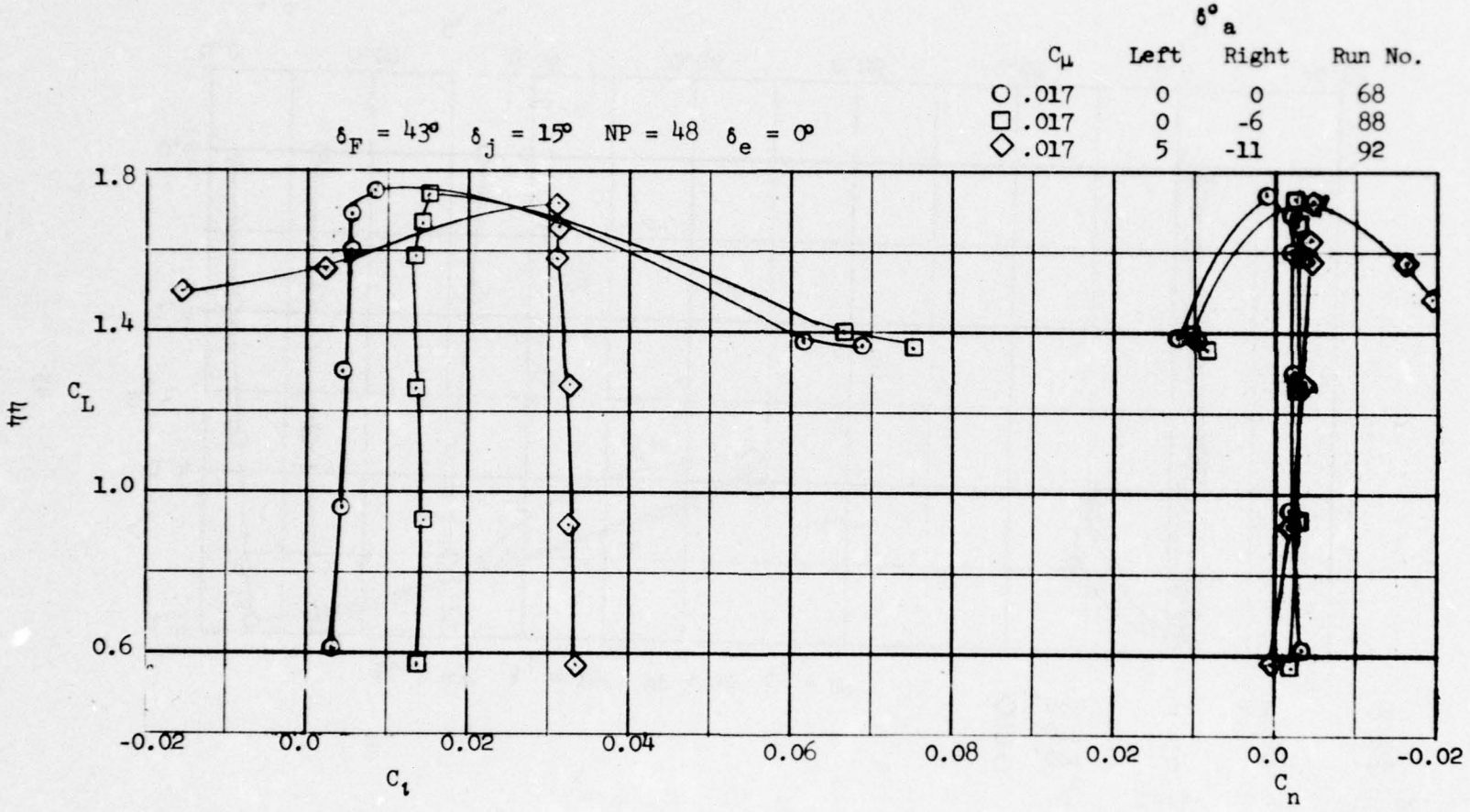


Figure 16 - Continued
(b) Flap at 43° with C_μ = .017

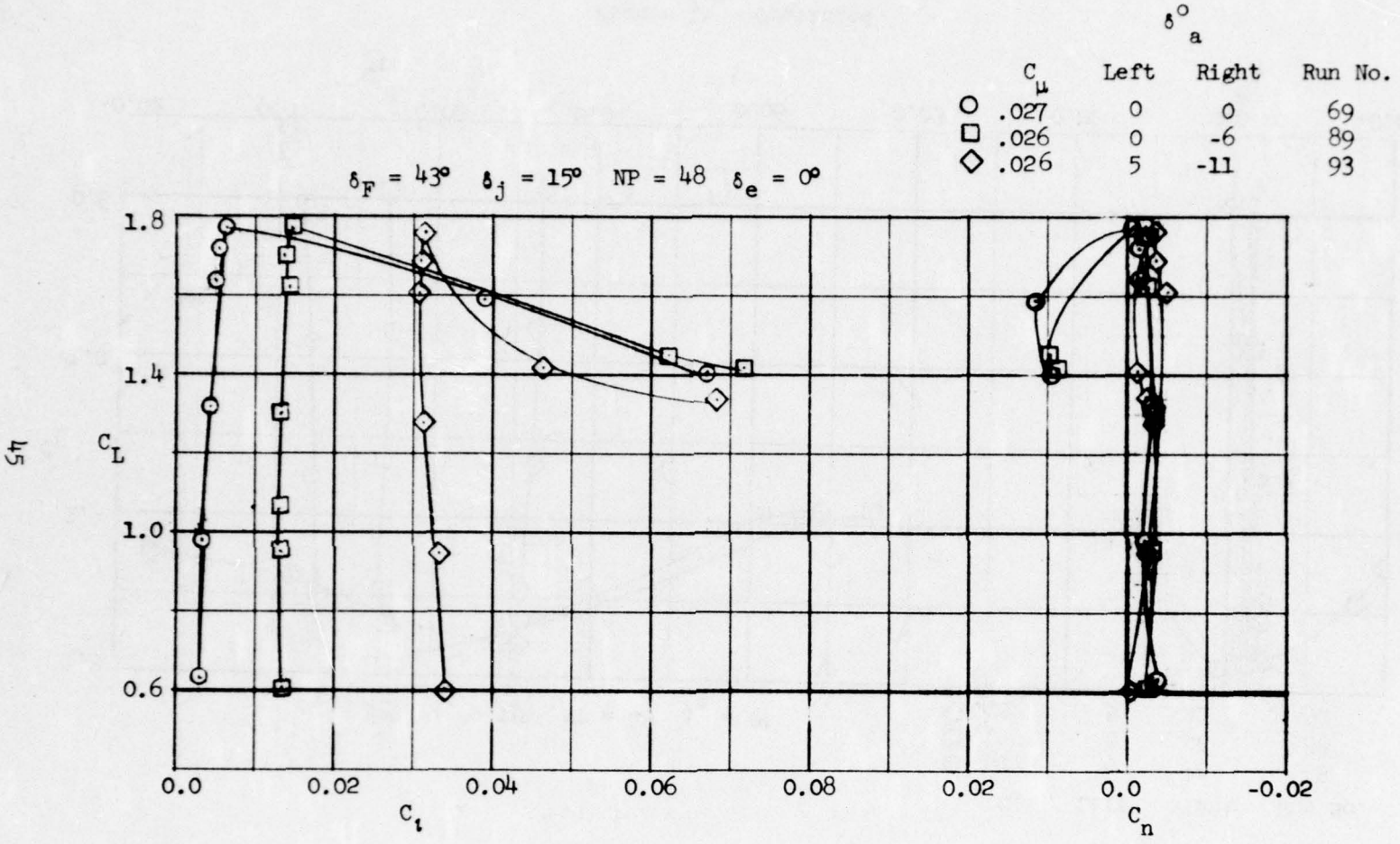


Figure 16 - Continued
(c) Flap at 43° with C_μ = .026

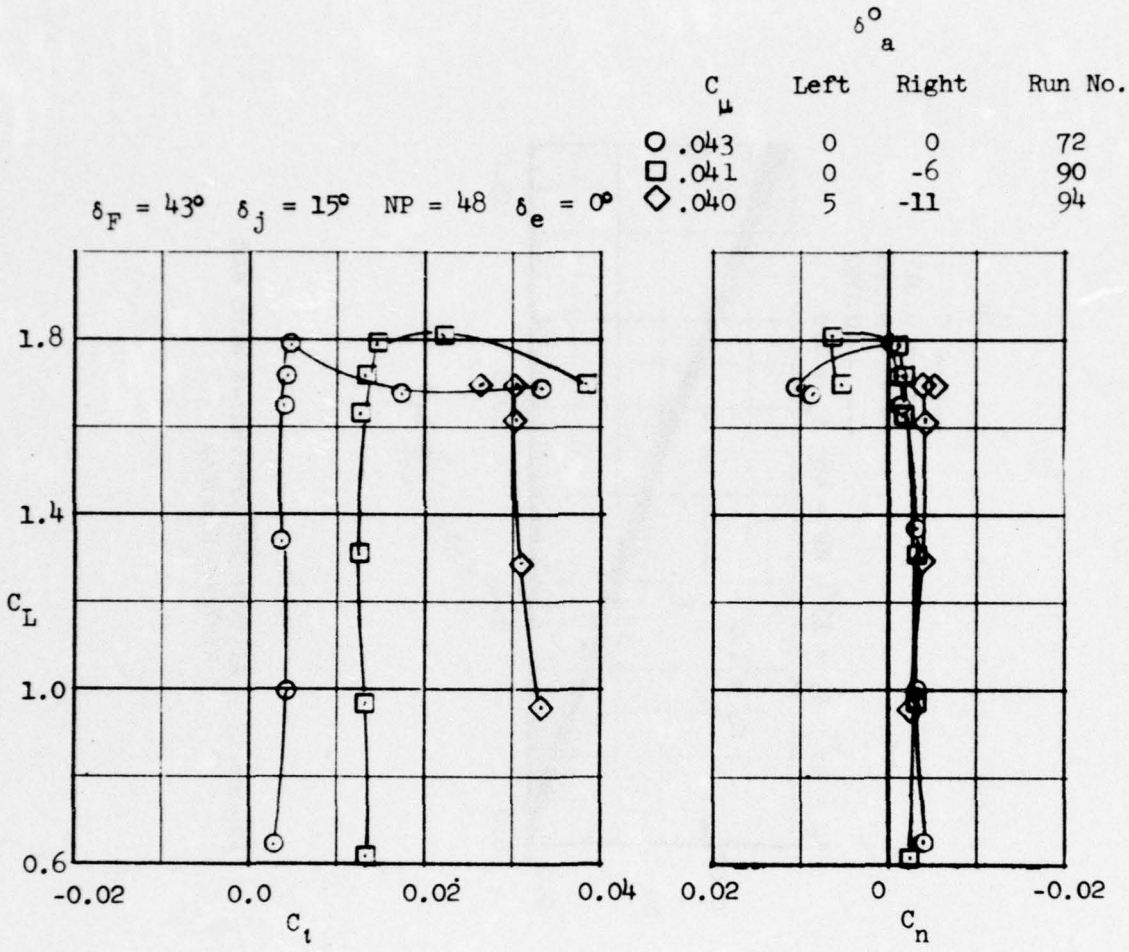


Figure 16 - Concluded
(d) Flap at 43° with C_μ = .04

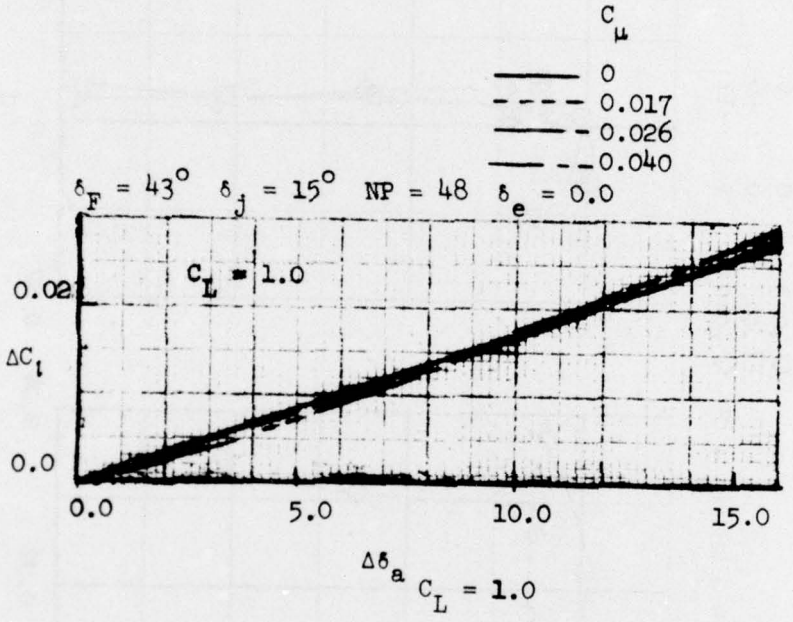


Figure 17 - Aileron Effectiveness With and Without Blowing

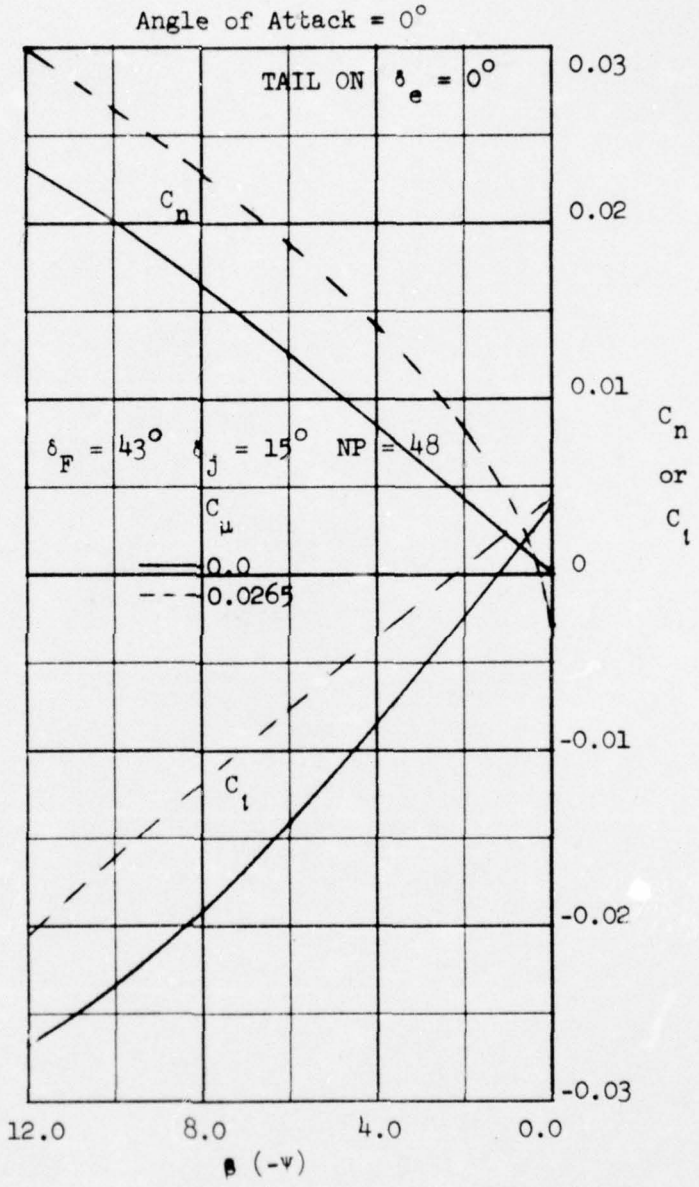


Figure 18 - Lateral Stability

APPENDIX A

TABULATED TEST DATA

Copy available to DDC does not
permit fully legible reproduction

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO.	2	CONFIG NO.	1											
.00	.04	.0028	.0232	-.0210	.0000	-.0001	-.0012	30.2639	158.09	1.5265	14.8	.0131	.0	.0000
-4.00	.02	.0023	.0244	-.0212	.0001	-.0001	-.0015	30.2516	158.08	1.5256	14.8	.0135	.0	.0000
.00	-.01	.0016	.0236	-.0212	-.0000	-.0002	.0004	29.9706	157.37	1.5179	14.8	.0137	.0	.0000
4.00	.02	.0023	.0223	-.0210	.0000	-.0001	.0002	30.4525	158.66	1.5293	14.8	.0105	.0	.0000
8.00	.01	.0029	.0212	-.0205	.0000	-.0001	.0006	30.3514	158.42	1.5261	14.8	.0131	.0	.0000
12.00	.03	.0030	.0203	-.0205	.0000	-.0001	.0005	30.0583	157.68	1.5180	14.8	.0066	.0	.0000
16.00	.02	.0025	.0198	-.0201	.0000	-.0001	.0005	30.2705	158.26	1.5228	14.8	.0105	.0	.0000
RUN NO.	71	CONFIG NO.	1											
.00	4.07	.0032	.0247	-.0226	-.0005	.0006	-.0025	30.0751	157.91	1.5147	14.8	.0000	.0	.0000
8.00	4.05	.0034	.0226	-.0221	-.0005	.0005	-.0030	30.2773	158.49	1.5184	14.8	.0000	.0	.0000
16.00	4.01	.0039	.0208	-.0213	-.0004	.0004	-.0026	30.2807	158.55	1.5173	14.8	.0000	.0	.0000
.00	12.05	.0051	.0310	-.0279	.0011	.0014	-.0069	30.2604	158.89	1.5072	14.8	.0000	.0	.0000
8.00	12.05	.0032	.0283	-.0272	.0011	.0011	-.0064	30.3312	159.14	1.5075	14.8	.0013	.0	.0000
16.00	12.05	.0041	.0257	-.0262	.0011	.0010	-.0058	30.1128	158.61	1.5010	14.8	.0000	.0	.0000
.00	20.04	.0046	.0312	-.0260	.0025	.0022	-.0103	30.4795	159.76	1.5056	14.8	.0000	.0	.0000
8.00	20.01	.0043	.0282	-.0252	.0025	.0017	-.0099	30.2739	159.31	1.4983	14.8	.0000	.0	.0000
16.00	20.01	.0049	.0256	-.0241	.0024	.0012	-.0090	30.2705	159.34	1.4973	14.8	.0059	.0	.0000
RUN NO.	4	CONFIG NO.	2											
.99	.00	1.0207	.1913	-.2428	.0046	-.0008	-.0010	30.3135	158.83	1.5135	14.8	.0013	.0	.0000
-1.16	.00	.8705	.1713	-.2562	.0041	-.0005	-.0053	30.1499	158.44	1.5084	14.8	.0000	.0	.0000
-3.31	.00	.7131	.1572	-.2731	.0040	-.0002	-.0080	30.3034	158.95	1.5115	14.8	.0000	.0	.0000
.99	.00	1.0236	.1896	-.2420	.0043	-.0005	-.0022	30.5043	159.43	1.5159	14.8	.0000	.0	.0000
3.13	.00	1.1744	.2120	-.2246	.0043	-.0014	.0044	30.1942	158.62	1.5081	14.8	.0013	.0	.0000
5.28	.00	1.3275	.2370	-.2076	.0049	-.0016	-.0014	30.1159	158.46	1.5049	14.8	.0132	.0	.0000
7.42	.00	1.4704	.2636	-.1895	.0048	-.0025	-.0014	30.1192	158.53	1.5037	14.8	.0137	.0	.0000
9.55	.00	1.6029	.2913	-.1725	.0055	-.0015	.0014	30.1261	158.58	1.5029	14.8	.0132	.0	.0000
11.66	.00	1.7236	.3292	-.1540	.0073	.0007	.0004	30.0681	158.46	1.5008	14.8	.0137	.0	.0000
13.52	.00	1.5756	.4251	-.1742	-.0491	-.0129	.1609	30.3339	159.29	1.5042	14.8	.0137	.0	.0000
RUN NO.	6	CONFIG NO.	3											
.99	.00	1.0265	.1891	-.2362	.0037	-.0004	-.0063	30.2181	159.39	1.4939	14.8	.0000	.0	.0000
-1.15	.00	.8800	.1716	-.2520	.0037	.0000	-.0024	30.2555	159.56	1.4931	14.8	.0000	.0	.0000
-3.30	.00	.7210	.1551	-.2666	.0039	-.0002	-.0042	30.2677	159.67	1.4916	14.8	.0097	.0	.0000
.99	.00	1.0275	.1890	-.2366	.0044	-.0003	-.0098	30.3482	159.91	1.4928	14.8	.0136	.0	.0000
3.14	.00	1.1827	.2110	-.2182	.0037	-.0007	-.0005	30.2181	159.61	1.4887	14.8	.0187	.0	.0000
5.29	.00	1.3316	.2356	-.2027	.0044	-.0010	-.0048	30.2863	159.82	1.4896	14.8	.0229	.0	.0000
7.42	.00	1.4721	.2619	-.1846	.0046	-.0012	-.0016	30.1636	159.53	1.4857	14.8	.0229	.0	.0000
9.55	.00	1.6084	.2908	-.1679	.0057	-.0015	.0015	30.5077	160.49	1.4930	14.8	.0264	.0	.0000
11.67	.00	1.7283	.3269	-.1487	.0085	.0010	-.0013	30.3169	160.04	1.4871	14.8	.0295	.0	.0000
12.41	.00	1.4600	.4387	-.1919	-.0616	.0025	.0684	30.4844	160.55	1.4896	14.8	.0298	.0	.0000
13.50	.00	1.5580	.4253	-.1715	-.0398	-.0106	.0192	30.2181	159.94	1.4808	14.8	.0350	.0	.0000
14.27	.00	1.3151	.4777	-.1848	-.0285	-.0149	-.0232	30.3033	160.29	1.4800	14.8	.0330	.0	.0000

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PRBZL	MASS FLOW	VJET	CMU
RUN NO• 8		CONFIG NO• 4												
•15	-•03	•1570	•0410	-•0292	•0014	-•0007	•0003	30•2552	159•57	1•4929	14•8	•0131	•0	•00 0
-2•00	-•02	•0008	•0420	-•0408	•0013	-•0008	•0008	30•2770	159•73	1•4910	14•8	•0131	•0	•00 0
-4•16	-•01	-•1612	•0462	-•0560	•0010	-•0003	-•0021	30•2986	159•83	1•4904	14•8	•0119	•0	•00 0
•15	-•00	•1575	•0417	-•0295	•0012	-•0010	-•0013	30•4254	160•19	1•4929	14•8	•0131	•0	•00 0
2•31	-•00	•3760	•0453	-•0136	•0017	-•0013	•0019	30•3771	160•08	1•4914	14•8	•0131	•0	•00 0
4•46	-•00	•4774	•0531	•0020	•0020	-•0017	•0004	30•1226	159•44	1•4243	14•8	•0131	•0	•00 0
6•60	-•01	•6260	•0634	•0181	•0021	-•0014	•0012	30•2738	159•86	1•4876	14•8	•0096	•0	•00 0
8•75	•00	•7754	•0773	•0330	•0025	-•0015	•0017	30•3355	160•06	1•4852	14•8	•0088	•0	•00 0
10•88	•00	•9148	•0960	•0496	•0031	-•0012	•0015	30•2614	159•83	1•4849	14•8	•0072	•0	•00 0
11•97	-•01	1•0062	•1111	•0621	•0037	-•0009	•0016	30•1039	159•52	1•4808	14•8	•0060	•0	•00 0
13•00	-•01	1•0767	•1180	•0623	•0041	-•0006	-•0005	30•1429	159•69	1•4809	14•8	•0066	•0	•00 0
14•04	-•02	1•0767	•1373	•0691	•0089	•0018	•0017	30•0988	159•57	1•4792	14•8	•0044	•0	•00 0
14•05	-•03	•9804	•1398	•0167	•0239	•0007	•0054	30•1226	159•73	1•4776	14•8	•0013	•0	•00 0
15•88	-•01	•9166	•2531	-•0046	•0084	-•0059	-•0024	30•1499	159•80	1•4782	14•8	•0032	•0	•00 0
RUN NO• 9		CONFIG NO• 5												
•86	•02	•8872	•1304	-•2166	•0025	•0011	-•0075	30•3510	159•82	1•4953	14•8	•0000	•0	•00 0
-1•28	•03	•7421	•1066	-•2342	•0025	•0009	-•0050	30•2794	159•66	1•4928	14•8	•0013	•0	•00 0
-3•45	•04	•5719	•1117	-•2470	•0013	•0013	-•0073	30•3053	159•96	1•4958	14•8	•0026	•0	•00 0
•86	•02	•8885	•1402	-•2179	•0023	•0009	-•0089	30•1272	159•28	1•4885	14•8	•0000	•0	•00 0
3•01	•03	1•0486	•1613	-•2013	•0028	•0005	•0007	30•1933	159•49	1•4893	14•8	•0000	•0	•00 0
5•16	•02	1•2001	•1845	-•1865	•0028	-•0003	-•0055	30•2984	159•69	1•4903	14•8	•0000	•0	•00 0
7•31	•04	1•3525	•2102	-•1680	•0028	-•0016	•0024	30•4007	160•36	1•4947	14•8	•0000	•0	•00 0
9•44	•04	1•4931	•2392	-•1534	•0037	-•0006	-•0007	30•1295	159•44	1•4849	14•8	•0000	•0	•00 0
11•58	•02	1•6323	•2719	-•1376	•0045	•0003	•0060	29•8330	158•68	1•4771	14•8	•0000	•0	•00 0
12•64	•01	1•7028	•3013	-•1351	•0079	•0073	-•0022	30•0168	159•20	1•4809	14•8	•0012	•0	•00 0
13•61	•00	1•6713	•3041	-•1427	-•0070	-•0065	•0208	30•3238	160•04	1•4877	14•8	•0013	•0	•00 0
14•27	•00	1•3148	•4183	-•1750	•0384	-•0536	-•0291	29•8092	158•81	1•4718	14•8	•0039	•0	•00 0
15•23	•00	1•2722	•4481	-•1750	•0468	-•0593	-•0174	30•2249	159•95	1•4812	14•8	•0026	•0	•00 0
RUN NO• 10		CONFIG NO• 6												
1•05	•02	1•0835	•2075	-•2401	•0051	-•0010	-•0105	30•2673	159•38	1•4984	14•8	•0000	•0	•00 0
-1•10	•03	•9286	•2078	-•2543	•0041	•0004	-•0091	30•3441	159•60	1•5000	14•8	•0000	•0	•00 0
-3•26	•01	•7683	•1921	-•2689	•0030	•0009	-•0127	30•1613	159•13	1•4952	14•8	•0000	•0	•00 0
1•06	•02	1•0973	•2301	-•2437	•0040	-•0004	-•0014	30•2419	159•39	1•4960	14•8	•0000	•0	•00 0
3•20	•03	1•2446	•2548	-•2281	•0047	-•0012	-•0035	30•2149	159•35	1•4947	14•8	•0000	•0	•00 0
5•35	•09	1•3941	•2781	-•2116	•0048	-•0016	-•0014	30•2986	159•60	1•4960	14•8	•0012	•0	•00 0
7•48	•01	1•5360	•3054	-•1949	•0052	-•0024	-•0027	30•0920	159•07	1•4906	14•8	•0013	•0	•00 0
9•62	•07	1•6756	•3362	-•1786	•0051	-•0015	•0044	29•9318	158•68	1•4858	14•8	•0013	•0	•00 0
11•71	•03	1•7741	•3763	-•1575	•0090	•0025	•0002	29•5427	157•69	1•4750	14•8	•0000	•0	•00 0
12•38	•04	1•4903	•4829	-•2043	•0696	-•0072	-•0299	30•2242	159•63	1•4888	14•8	•0024	•0	•00 0
13•37	•02	1•4173	•5027	-•2080	•0739	-•0094	-•0598	30•2597	159•75	1•4891	14•8	•0000	•0	•00 0
RUN NO• 12		CONFIG NO• 7												
•97	•06	1•0034	•1941	-•2334	•0034	•0000	-•0024	30•2317	157•35	1•5468	14•8	•0000	•0	•00 0
-1•17	•04	•8593	•1764	-•2487	•0027	•0003	•0033	30•1534	157•11	1•5456	14•8	•0000	•0	•00 0
-3•32	•01	•6998	•1631	-•2630	•0029	•0001	-•0039	30•4007	158•02	1•5534	14•8	•0000	•0	•00 0
•97	•06	1•0076	•1960	-•2345	•0038	-•0004	-•0103	30•3169	157•60	1•5484	14•8	•0000	•0	•00 0
3•11	•05	1•1528	•2174	-•2150	•0035	-•0006	-•0033	30•1261	157•11	1•5431	14•8	•0000	•0	•00 0
5•25	•04	1•2974	•2400	-•1973	•0038	-•0015	-•0052	30•3714	157•82	1•5477	14•8	•0000	•0	•00 0
7•39	•07	1•4449	•2664	-•1814	•0040	-•0022	•0042	30•3066	157•70	1•5448	14•8	•0000	•0	•00 0
9•53	•08	1•5835	•2966	-•1643	•0043	-•0009	•0015	30•4429	158•09	1•5474	14•8	•0000	•0	•00 0
11•64	•07	1•7015	•3303	-•1445	•0068	•0006	•0049	30•1976	157•50	1•5399	14•8	•0000	•0	•00 0
12•69	•02	1•7545	•3712	-•1373	•0089	•0083	-•0067	30•3203	157•86	1•5420	14•8	•0000	•0	•00 0
13•47	•06	1•5191	•4273	-•1672	-•0441	-•0104	•0631	30•0307	157•19	1•5325	14•8	•0000	•0	•00 0
14•24	•05	1•2814	•4742	-•1820	•0570	-•0145	-•0281	30•2664	157•95	1•5350	14•8	•0000	•0	•00 0

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO.	19	CONFIG NO.	9											
.96	.03	.9997	.1937	-.2327	.0046	.0012	-.0124	31.0300	162.57	1.5139	14.5	.0000	.0	.0000
-3.33	.03	.6924	.1590	-.2601	.0034	.0003	-.0075	31.0495	162.59	1.5144	14.5	.0000	.0	.0000
.96	.00	.9951	.1940	-.2321	.0040	.0006	-.0107	31.0733	162.73	1.5132	14.5	.0000	.0	.0000
5.24	.02	1.2878	.2377	-.1996	.0042	.0001	.0003	30.8791	162.26	1.5074	14.5	.0000	.0	.0000
9.50	.00	1.5585	.2904	-.1652	.0054	-.0004	.0051	30.8042	162.17	1.5032	14.5	.0000	.0	.0000
12.31	.02	1.3584	.3957	-.1813	.0674	.0063	-.0626	32.1261	165.74	1.5320	14.5	.0000	.0	.0000
13.30	-.01	1.3489	.4053	-.1810	.0724	.0031	-.0470	32.2248	166.06	1.5329	14.5	.0000	.0	.0000
14.24	.01	1.2823	.4498	-.1835	.0614	-.0104	-.0462	32.5907	167.08	1.5396	14.5	.0000	.0	.0000
RUN NO.	20	CONFIG NO.	9											
1.04	-.06	1.0791	.2128	-.2580	.0024	.0021	-.0104	30.9541	162.68	1.5032	52.6	.1955	1404.4	.0270
-3.25	-.04	.7770	.1757	-.2885	.0014	.0009	-.0084	31.0188	162.88	1.5041	52.6	.1948	1404.9	.0269
1.05	-.05	1.0836	.2128	-.2568	.0024	.0019	-.0150	31.0700	163.09	1.5034	52.6	.1957	1405.4	.0270
5.33	-.04	1.3765	.2598	-.2264	.0028	.0009	-.0056	31.1823	163.45	1.5048	52.6	.1951	1405.8	.0268
9.60	-.01	1.6542	.3181	-.1950	.0040	.0013	-.0093	31.1074	163.29	1.5021	52.6	.1945	1405.9	.0267
12.53	-.04	1.5887	.3949	-.1716	.0293	.0049	-.0531	31.4890	164.38	1.5092	52.6	.1943	1406.3	.0265
13.54	-.02	1.5932	.4151	-.1704	.0333	.0056	-.0397	31.6048	164.72	1.5111	52.6	.1940	1406.4	.0263
14.31	-.05	1.3601	.4521	-.1799	.0709	-.0004	-.0702	32.2004	166.39	1.5223	52.6	.1922	1406.8	.0256
RUN NO.	21	CONFIG NO.	10											
1.07	.00	1.1099	.2158	-.2691	.0042	.0029	-.0162	30.4055	158.58	1.5560	52.8	.1859	1414.4	.0264
5.37	.00	1.4216	.2663	-.2383	.0046	.0030	-.0173	30.5895	159.12	1.5593	52.8	.1840	1415.7	.0260
9.65	.00	1.7125	.3290	-.2093	.0064	.0031	-.0147	30.6917	159.44	1.5605	52.8	.1865	1416.1	.0263
12.73	.00	1.7962	.4114	-.1621	.0146	.0064	-.0104	31.0665	160.48	1.5683	52.8	.1845	1416.7	.0256
13.54	.00	1.5941	.4375	-.1913	.0403	.0094	-.0696	31.4583	161.57	1.5761	52.8	.1849	1416.9	.0254
14.34	.00	1.3928	.4604	-.1994	.0580	.0002	-.0621	31.8473	162.67	1.5832	52.8	.1842	1416.9	.0249
RUN NO.	22	CONFIG NO.	11											
1.02	.00	1.0568	.2045	-.2556	.0030	-.0005	-.0010	30.6542	159.41	1.5553	52.6	.1852	1413.1	.0260
-3.27	.00	.7584	.1688	-.2812	.0023	-.0016	-.0016	30.9234	160.10	1.5625	52.6	.1856	1414.2	.0259
1.02	.00	1.0559	.2043	-.2550	.0032	-.0008	-.0031	30.8178	159.87	1.5587	52.6	.1881	1414.8	.0264
5.32	.00	1.3654	.2550	-.2219	.0032	.0003	-.0028	30.8893	160.10	1.5593	52.6	.1854	1414.8	.0259
9.59	.00	1.6491	.3112	-.1902	.0040	.0004	-.0015	30.8283	160.00	1.5563	52.6	.1867	1414.7	.0261
12.71	.00	1.7714	.3862	-.1583	.0082	.0083	.0025	31.1857	160.96	1.5644	52.6	.1866	1414.3	.0258
13.68	.01	1.7364	.4177	-.1582	.0082	.0042	-.0046	31.1687	160.95	1.5631	52.6	.1869	1414.2	.0258
14.34	.00	1.3845	.4481	-.1802	.0733	-.0008	-.0600	32.3304	164.06	1.5886	52.6	.1885	1412.7	.0251

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 23		CONFIG NO. 12												
.93	.00	.9637	.1954	-.2273	.0018	.0018	-.0077	30.8212	160.37	1.5462	52.6	.1911	1416.7	.0267
-3.36	.02	.6594	.1642	-.2579	.0007	.0004	-.0051	30.8791	160.55	1.5468	52.6	.1924	1417.7	.0269
.93	.00	.9654	.1971	-.2265	.0014	.0003	-.0043	30.8893	160.60	1.5464	52.6	.1930	1418.2	.0270
5.22	.05	1.2692	.2351	-.1936	.0025	.0003	-.0060	30.9847	160.91	1.5473	52.6	.1923	1418.5	.0268
9.49	.00	1.5474	.2935	-.1634	.0037	-.0002	-.0064	30.7531	160.36	1.5402	52.6	.1921	1418.7	.0270
12.62	.01	1.6832	.3749	-.1387	.0123	.0072	-.0064	31.1892	161.55	1.5498	52.6	.1921	1418.6	.0266
13.61	.00	1.6705	.4024	-.1426	.0090	.0039	-.0100	31.1753	161.54	1.5488	52.6	.1924	1418.5	.0266
14.51	.00	1.5651	.4411	-.1641	.0321	.0045	-.0464	31.5747	162.67	1.5564	52.6	.1931	1418.0	.0265
RUN NO. 24		CONFIG NO. 13												
1.04	.03	1.0827	.2095	-.2632	.0022	-.0024	.0023	30.6883	160.34	1.5347	52.7	.1900	1418.2	.0267
-3.25	.02	.7742	.1746	-.2931	.0018	-.0007	.0011	30.9745	161.09	1.5417	52.7	.1901	1420.3	.0265
1.05	.04	1.0912	.2101	-.2620	.0024	-.0018	-.0048	30.8927	160.88	1.5396	52.7	.1915	1421.5	.0268
5.34	.05	1.3910	.2606	-.2295	.0035	-.0012	-.0022	30.8757	160.88	1.5381	52.7	.1895	1422.1	.0266
9.62	.03	1.6788	.3204	-.2001	.0043	-.0008	-.0010	30.9132	161.00	1.5385	52.7	.1888	1422.1	.0265
12.55	.04	1.6068	.4019	-.1845	.0361	.0079	-.0638	31.5345	162.72	1.5510	52.7	.1890	1421.9	.0270
13.54	.02	1.5932	.4259	-.1801	.0427	.0104	-.0533	31.7172	163.24	1.5545	52.7	.1918	1421.5	.0262
14.35	.02	1.4016	.4576	-.1895	.0746	.0001	-.0729	32.1124	164.31	1.5627	52.7	.1880	1421.2	.0253
RUN NO. 25		CONFIG NO. 14												
.86	-.05	.8904	.1734	-.1856	.0013	.0009	-.0056	30.9477	161.19	1.5402	14.5	.0062	.0	.0050
-3.30	-.05	.7214	.1633	-.2436	-.0055	.0007	.0019	30.8723	160.90	1.5389	14.5	.0037	.0	.0050
.86	-.04	.8906	.1722	-.1870	.0012	.0011	-.0109	30.8960	160.93	1.5393	14.5	.0018	.0	.0050
5.10	-.05	1.1414	.2049	-.1461	.0017	.0000	-.0039	31.1381	161.60	1.5453	14.5	.0104	.0	.0050
7.23	-.05	1.2707	.2446	-.1254	.0020	-.0003	-.0031	31.1006	161.51	1.5440	14.5	.0018	.0	.0050
9.34	-.05	1.3932	.2982	-.1075	.0029	-.0009	.0029	30.8280	160.82	1.5368	14.5	.0000	.0	.0050
12.29	-.05	1.3333	.3650	-.1178	-.0256	-.0131	.0379	31.9523	163.77	1.5636	14.5	.0000	.0	.0050
13.28	-.04	1.3865	.3859	-.1239	-.0386	-.0111	-.0001	32.1294	164.24	1.5675	14.5	.0013	.0	.0050
14.17	-.04	1.2079	.4179	-.1426	-.0621	.0095	.0424	32.2214	164.54	1.5683	14.5	.0013	.0	.0050
RUN NO. 26		CONFIG NO. 14												
1.01	.00	1.0432	.2066	-.2341	.0018	.0004	-.0012	30.6269	160.44	1.5276	52.7	.1867	1411.0	.0262
-3.24	.00	.7921	.1732	-.2721	-.0025	.0013	-.0006	31.0903	161.63	1.5394	52.7	.1852	1412.8	.0266
1.01	.01	1.0435	.2077	-.2350	.0018	.0000	-.0040	30.9050	161.58	1.5324	52.7	.1855	1414.3	.0268
5.28	.00	1.3237	.2553	-.2005	.0026	-.0007	.0019	30.9336	161.48	1.5294	52.7	.1885	1413.8	.0263
9.53	.02	1.5805	.3095	-.1674	.0036	-.0011	.0028	31.0528	161.84	1.5310	52.7	.1864	1413.3	.0259
12.64	.02	1.6079	.3723	-.1382	.0134	.0094	-.0078	31.6015	163.32	1.5433	52.7	.1851	1412.8	.0252
13.32	.02	1.3692	.4101	-.1656	.0642	.0062	-.0771	31.8501	164.10	1.5459	52.7	.1864	1411.9	.0251
14.28	.00	1.3234	.4391	-.1633	.0677	-.0006	-.0637	32.2930	165.26	1.5560	52.7	.1852	1411.5	.0247

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 27		CONFIG NO. 15												
.97	.01	1.0103	.1982	-.2259	.0014	.0009	-.0051	30.6372	160.32	1.5313	52.4	.1841	1407.2	.0258
-3.26	.00	.7656	.1697	-.2646	-.0009	.0016	-.0023	30.9405	161.06	1.5403	52.4	.1862	1409.2	.0259
.98	.01	1.0102	.1990	-.2265	.0013	.0008	-.0014	30.7906	160.69	1.5360	52.4	.1818	1410.6	.0254
5.24	.00	1.2821	.2432	-.1905	.0029	-.0005	-.0064	30.8869	160.95	1.5381	52.4	.1823	1412.0	.0254
9.49	.00	1.5444	.2982	-.1586	.0039	-.0006	-.0013	30.9745	161.19	1.5399	52.4	.1832	1412.9	.0255
12.61	.00	1.6691	.3908	-.1385	.0131	.0088	.0029	31.6696	163.04	1.5560	52.4	.1841	1413.4	.0260
13.62	.01	1.6745	.4169	-.1428	.0098	.0061	-.0060	31.4345	162.43	1.5502	52.4	.1821	1413.8	.0259
14.27	.01	1.3124	.4058	-.1606	.0677	-.0016	-.0555	32.5224	165.32	1.5743	52.4	.1836	1413.7	.0263
RUN NO. 28		CONFIG NO. 16												
.94	-.00	.9741	.1925	-.2102	.0026	-.0015	.0046	31.1346	159.51	1.5774	52.8	.1923	1411.6	.0265
-3.28	.00	.7497	.1691	-.2553	-.0043	-.0010	.0029	31.1551	159.54	1.5785	52.8	.1908	1414.1	.0264
.93	.00	.9687	.1908	-.2099	.0023	-.0015	.0016	31.2471	159.78	1.5803	52.8	.1915	1415.8	.0265
5.19	-.01	1.2298	.2290	-.1720	.0026	-.0004	.0003	31.3016	159.96	1.5805	52.8	.1870	1417.7	.0258
9.42	.00	1.4734	.2797	-.1405	.0037	-.0006	.0037	31.6116	160.82	1.5865	52.8	.1873	1418.0	.0256
12.55	-.00	1.6014	.3661	-.1173	.0104	.0072	-.0025	31.7445	161.23	1.5881	52.8	.1896	1418.1	.0258
13.53	-.01	1.5840	.3819	-.1180	.0105	.0093	.0105	31.9182	161.70	1.5918	52.8	.1909	1418.0	.0259
14.08	-.01	1.1208	.5025	-.1491	.0413	-.0224	-.0186	33.8837	166.74	1.6366	52.8	.1906	1416.6	.0243
RUN NO. 29		CONFIG NO. 17												
.97	.00	1.0081	.1979	-.2248	.0017	-.0011	.0004	30.9832	159.94	1.5529	52.9	.1852	1406.2	.0256
-3.24	.00	.7941	.1736	-.2672	-.0038	-.0005	.0042	31.1448	160.37	1.5566	52.9	.1866	1412.0	.0258
.97	.00	1.0101	.1982	-.2242	.0021	-.0008	-.0028	30.9368	159.88	1.5503	52.9	.1858	1413.6	.0259
5.23	.00	1.2755	.2406	-.1881	.0026	-.0013	-.0003	31.1994	160.61	1.5556	52.9	.1848	1415.2	.0255
9.48	.00	1.5288	.2928	-.1537	.0037	-.0005	.0023	31.0631	160.34	1.5502	52.9	.1863	1416.4	.0259
12.61	.00	1.6721	.3897	-.1378	.0129	.0088	-.0080	31.6764	161.99	1.5635	52.9	.1852	1416.8	.0262
13.60	.00	1.6629	.4139	-.1394	.0113	.0062	.0032	31.7445	162.22	1.5639	52.9	.1857	1417.0	.0262
14.26	.00	1.3059	.4265	-.1569	.0649	-.0009	-.0401	32.4531	164.14	1.5783	52.9	.1853	1416.3	.0267
RUN NO. 30		CONFIG NO. 18												
.96	.05	.9919	.1921	-.2181	.0016	.0004	-.0124	31.0700	161.08	1.5327	53.0	.1967	1410.9	.0272
-3.27	.05	.7566	.1732	-.2645	-.0019	.0021	-.0074	30.9575	160.83	1.5288	53.0	.1960	1413.5	.0273
.96	.05	.9927	.1928	-.2188	.0015	.0018	-.0136	30.9813	160.93	1.5285	53.0	.1977	1415.4	.0275
5.22	.05	1.2605	.2366	-.1837	.0020	-.0013	.0048	31.0495	161.16	1.5289	53.0	.1961	1416.8	.0273
9.47	.05	1.5205	.2895	-.1527	.0031	-.0012	.0013	31.0903	161.32	1.5286	53.0	.1988	1417.7	.0276
12.61	.05	1.6683	.3876	-.1373	.0099	.0091	-.0028	31.5401	162.56	1.5376	53.0	.1994	1418.2	.0273
13.57	.05	1.6253	.4107	-.1408	.0122	.0063	-.0042	31.7581	163.16	1.5420	53.0	.1966	1418.6	.0267
14.26	.05	1.3058	.4301	-.1562	.0684	-.0011	-.0627	32.4633	165.08	1.5562	53.0	.1974	1418.2	.0263

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO.	31	CONFIG NO.	19											
.93	.00	.9646	.1916	-.2155	-.0021	.0001	-.0001	30.9813	161.48	1.5160	54.8	.1989	1426.1	.0279
-3.28	-.00	.7476	.1766	-.2641	-.0100	.0017	-.0020	31.1551	162.07	1.5169	54.8	.1992	1427.9	.0278
.92	-.00	.9581	.1900	-.2131	-.0016	-.0006	-.0059	31.0495	161.85	1.5131	54.8	.2016	1426.2	.0282
5.19	.00	1.2284	.2076	-.1756	-.0030	-.0012	.0084	31.0631	161.95	1.5118	54.8	.2010	1428.3	.0282
9.43	.00	1.4769	.2772	-.1416	-.0006	-.0023	.0111	30.9700	161.64	1.5069	54.8	.2015	1428.1	.0283
12.60	.00	1.6570	.3819	-.1327	.0080	.0088	-.0020	31.6934	163.73	1.5237	54.8	.1995	1427.7	.0274
13.58	.00	1.6327	.4110	-.1427	.0114	.0052	-.0099	31.8297	164.14	1.5256	54.8	.1968	1427.4	.0269
14.24	.00	1.2844	.4190	-.1498	.0651	-.0030	-.0685	32.3168	165.54	1.5337	54.8	.1996	1426.4	.0278
RUN NO.	32	CONFIG NO.	20											
.91	.00	.9393	.1900	-.2011	.0009	-.0015	-.0029	30.6304	161.34	1.4888	22.0	.0768	836.2	.0084
-3.27	.00	.7586	.1715	-.2601	-.0014	-.0012	.0000	30.6032	161.35	1.4864	22.0	.0762	836.6	.0083
.91	.00	.9452	.1806	-.2025	.0009	-.0008	.0007	30.6236	161.47	1.4853	22.0	.0776	836.9	.0084
5.16	.00	1.1991	.2164	-.1614	.0018	-.0015	-.0034	30.6678	161.69	1.4838	22.0	.0761	836.2	.0083
9.40	.00	1.4530	.2614	-.1227	.0026	-.0012	-.0028	30.5712	161.51	1.4798	22.0	.0755	836.4	.0083
12.55	.00	1.6031	.3080	-.0977	.0102	.0078	-.0033	30.8416	162.34	1.4837	22.0	.0755	836.5	.0082
13.21	.00	1.2538	.3932	-.1442	.0679	.0005	-.0536	31.5946	164.46	1.4983	22.0	.0748	836.6	.0080
14.12	.00	1.1616	.4351	-.1441	.0493	-.0186	-.0255	32.0647	165.81	1.5062	22.0	.0768	836.9	.0081
RUN NO.	33	CONFIG NO.	20											
.96	.00	.9908	.1904	-.2203	.0014	-.0026	.0064	30.8076	162.71	1.4780	38.5	.1378	1244.1	.0169
-3.26	.00	.7658	.1746	-.2648	.0003	-.0021	-.0012	30.6304	162.38	1.4655	38.5	.1385	1244.8	.0172
.96	.00	.9985	.1922	-.2200	.0015	-.0015	.0033	30.5724	162.27	1.4631	38.5	.1370	1244.9	.0170
5.22	.00	1.2657	.2353	-.1844	.0027	-.0023	.0053	30.5349	162.34	1.4583	38.5	.1379	1245.5	.0171
9.47	.00	1.5230	.2882	-.1493	.0039	-.0016	.0045	30.5861	162.53	1.4583	38.5	.1364	1245.5	.0169
12.58	.00	1.6357	.3720	-.1239	.0145	.0113	-.0123	30.9438	163.57	1.4648	38.5	.1379	1245.6	.0169
13.26	.00	1.3042	.3989	-.1550	.0674	.0078	-.0694	31.4726	165.08	1.4745	38.5	.1374	1245.7	.0165
14.16	.00	1.1978	.4524	-.1572	.0494	-.0145	-.0293	32.2487	167.16	1.4914	38.5	.1380	1245.8	.0163
RUN NO.	34	CONFIG NO.	20											
1.00	.02	1.0365	.2007	-.2308	.0020	-.0014	.0029	30.9643	163.65	1.4655	67.0	.2348	1507.1	.0349
-3.26	.01	.7697	.1722	-.2664	.0025	-.0019	.0063	30.9983	163.85	1.4638	67.0	.2326	1508.2	.0345
1.00	.02	1.0384	.2009	-.2301	.0008	-.0006	.0010	30.7019	163.14	1.4550	67.0	.2323	1508.8	.0348
5.25	.03	1.2998	.2439	-.1928	.0012	-.0009	.0021	30.8996	163.74	1.4580	67.0	.2356	1509.1	.0350
9.51	.02	1.5650	.3011	-.1596	.0018	-.0005	.0062	30.6673	163.17	1.4515	67.0	.2340	1509.2	.0350
12.66	.01	1.7220	.3924	-.1486	.0126	.0088	-.0016	31.0120	164.19	1.4571	67.0	.2340	1509.1	.0347
13.31	.06	1.3579	.4061	-.1701	.0578	.0052	-.0726	31.6321	165.95	1.4689	67.0	.2355	1509.0	.0342
14.31	.07	1.3583	.4853	-.2050	.0623	-.0011	-.0393	31.9387	166.82	1.4744	67.0	.2331	1508.9	.0335

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 35		CONFIG NO. 20												
1.03	-.01	1.0677	.2106	-.2412	-.0014	-.0003	.0038	20.6508	134.09	1.1871	75.5	.2638	1554.2	.06[illegible]5
-3.20	.00	.8250	.1700	-.2786	-.0029	.0002	-.0056	20.6945	134.26	1.1878	75.5	.2627	1554.3	.06[illegible]1
1.02	.00	1.0422	.2137	-.2451	-.0019	-.0007	-.0010	20.4930	133.61	1.1820	75.5	.2639	1554.5	.0610
5.31	.00	1.3541	.2661	-.2124	-.0007	-.0014	-.0009	20.4460	133.46	1.1806	75.5	.2666	1554.5	.0618
9.58	-.00	1.6363	.3328	-.1836	-.0006	-.0001	.0086	20.4460	133.47	1.1803	75.5	.2651	1554.5	.0614
12.62	.00	1.8825	.5561	-.2689	-.0137	-.0170	.0750	20.8354	134.77	1.1906	75.5	.2644	1554.3	.0612
13.56	.00	1.8705	.5787	-.2800	-.0325	-.0172	.1189	21.1709	135.88	1.1996	75.5	.2654	1554.1	.0613
14.45	.00	1.9004	.6301	-.3045	-.0599	-.0121	.1146	21.3650	136.53	1.2045	75.5	.2658	1553.9	.0619
RUN NO. 36		CONFIG NO. 20												
.87	.00	.8974	.1734	-.1925	.0015	.0007	-.0129	20.4191	133.92	1.1809	14.7	.0118	.0	.00[illegible]0
-3.19	.00	.8362	.1794	-.2787	-.0069	-.0007	-.0082	20.6038	133.95	1.1855	14.7	.0026	.0	.00[illegible]0
.86	.00	.8940	.1730	-.1951	.0011	.0002	-.0079	20.5870	133.93	1.1844	14.7	.0105	.0	.00[illegible]0
5.10	.00	1.1376	.2053	-.1506	.0007	-.0019	.0055	20.5736	133.90	1.1836	14.7	.0000	.0	.00 0
9.32	.00	1.3714	.2467	-.1110	.0023	-.0011	.0023	20.5501	133.83	1.1828	14.7	.0026	.0	.00 0
12.15	.00	1.1953	.3606	-.1403	.0620	.0000	-.0422	21.2413	136.11	1.2015	14.7	.0000	.0	.00[illegible]0
13.06	.00	1.0986	.4044	-.1495	.0421	-.0143	-.0141	21.5562	137.14	1.2097	14.7	.0026	.0	.00 0
14.02	.00	1.0529	.4338	-.1484	.0340	-.0212	-.0041	21.7972	137.92	1.2162	14.7	.0039	.0	.00 0
RUN NO. 37		CONFIG NO. 21												
1.01	.01	1.0492	.2152	-.2391	.0008	.0053	-.0193	31.3016	163.46	1.4997	52.6	.1820	1403.1	.02[illegible]8
-3.22	.00	.8040	.1867	-.2751	.0023	.0046	-.0188	31.5231	163.94	1.5073	52.6	.1823	1403.3	.02[illegible]8
1.01	.00	1.0456	.2124	-.2368	.0013	.0048	-.0232	31.5605	164.03	1.5084	52.6	.1806	1403.4	.02[illegible]5
5.27	.00	1.3156	.2586	-.2028	.0016	.0027	-.0093	31.6287	164.18	1.5108	52.6	.1853	1403.9	.02[illegible]0
9.50	.00	1.5815	.3076	-.1677	.0029	.0025	-.0145	31.6900	164.27	1.5138	52.6	.1822	1404.1	.02[illegible]6
12.31	.00	1.3411	.3852	-.1587	.0463	.0076	-.0755	32.7597	167.07	1.5380	52.6	.1819	1404.4	.02[illegible]7
13.25	.00	1.2975	.4004	-.1642	.0650	.0082	-.0729	33.0663	167.84	1.5454	52.6	.1829	1404.4	.02[illegible]6
14.25	.00	1.2920	.4310	-.1621	.0660	-.0008	-.0627	33.7031	169.43	1.5606	52.6	.1825	1404.5	.02[illegible]2
RUN NO. 38		CONFIG NO. 22												
.98	.00	1.0176	.2090	-.2283	.0022	.0040	-.0237	31.2198	162.51	1.5153	52.8	.1867	1403.8	.02[illegible]6
-3.25	-.00	.7773	.1792	-.2637	.0003	.0035	-.0247	31.4311	163.03	1.5210	52.8	.1861	1404.1	.02[illegible]6
.98	-.00	1.0110	.2073	-.2270	.0019	.0039	-.0219	31.5503	163.34	1.5238	52.8	.1905	1404.5	.02[illegible]9
5.24	-.00	1.2972	.2585	-.1913	.0021	.0019	-.0072	31.4890	163.20	1.5218	52.8	.1891	1404.8	.02[illegible]7
9.48	-.02	1.5316	.3056	-.1592	.0029	.0015	-.0052	32.2011	165.04	1.5390	52.8	.1904	1405.1	.02[illegible]3
12.56	-.02	1.6218	.3769	-.1283	.0164	.0106	-.0113	32.1137	164.86	1.5358	52.8	.1913	1405.2	.02[illegible]5
13.23	-.02	1.2754	.4100	-.1506	.0627	.0077	-.0650	32.8244	166.75	1.5508	52.8	.1880	1405.3	.02[illegible]6
14.24	-.04	1.2833	.4483	-.1723	.0690	.0000	-.0625	33.1344	167.56	1.5577	52.8	.1872	1405.3	.02[illegible]2

ALPHA	BETA	CLS	CDS	CMS	CRØLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PRØZL	MASS FLØW	VJET	CMU
RUN NØ. 39		CØNFIG NØ. 23												
1.00	.00	1.0316	.1975	-.2477	.0026	.0009	-.0092	31.1142	161.91	1.5204	21.8	.0738	827.6	.00[illegible]0
-3.30	-.00	.7299	.1635	-.2727	.0014	.0028	-.0226	31.4617	162.78	1.5297	21.8	.0753	827.7	.00[illegible]0
.99	.00	1.0246	.1948	-.2450	.0027	.0001	-.0060	31.4106	162.70	1.5272	21.8	.0744	827.8	.00[illegible]0
5.25	-.00	1.2995	.2379	-.2100	.0028	-.0017	.0004	31.6491	163.39	1.5311	21.8	.0751	827.7	.00[illegible]0
9.52	.00	1.5708	.2927	-.1774	.0042	-.0009	.0011	31.9353	164.14	1.5377	21.8	.0737	827.6	.00[illegible]9
12.28	-.00	1.3309	.3853	-.1810	.0625	.0089	-.0572	33.3047	167.76	1.5672	21.8	.0744	827.6	.00[illegible]7
13.26	-.01	1.3090	.3954	-.1788	.0690	.0052	-.0698	33.3830	167.96	1.5699	21.8	.0749	827.6	.00[illegible]7
14.19	-.02	1.2361	.4049	-.1759	.0575	-.0090	-.0521	33.5091	168.29	1.5715	21.8	.0759	827.6	.00[illegible]7
RUN NØ. 40		CØNFIG NØ. 23												
1.05	.01	1.0912	.2101	-.2640	.0034	.0021	-.0125	30.8042	161.13	1.5120	38.4	.1382	1240.2	.0[illegible]70
-3.24	.00	.7849	.1732	-.2923	.0021	.0009	-.0077	30.7087	160.93	1.5086	38.4	.1384	1240.8	.0[illegible]70
1.06	.02	1.0939	.2115	-.2665	.0037	.0030	-.0164	30.8143	161.25	1.5100	38.4	.1383	1241.3	.0[illegible]70
5.35	.02	1.4034	.2629	-.2356	.0035	.0020	-.0148	30.7326	161.10	1.5067	38.4	.1386	1241.6	.0[illegible]71
9.63	.00	1.6918	.3228	-.2057	.0056	.0024	-.0166	30.8280	161.40	1.5076	38.4	.1385	1241.9	.0[illegible]70
12.37	.00	1.4043	.4145	-.1984	.0676	.0128	-.0098	31.6900	163.78	1.5253	38.4	.1380	1242.3	.0[illegible]4
13.37	.00	1.4022	.4257	-.1987	.0721	.0111	-.0089	31.6593	163.75	1.5235	38.4	.1378	1242.5	.0[illegible]4
14.28	.01	1.3246	.4682	-.1943	.0651	-.0061	-.0054	32.0886	164.90	1.5326	38.4	.1384	1242.7	.0[illegible]3
RUN NØ. 41		CØNFIG NØ. 23												
1.06	-.00	1.1025	.2146	-.2693	.0035	.0009	-.0137	30.6781	161.16	1.5003	52.6	.1835	1401.8	.0[illegible]5
-3.23	-.00	.7963	.1777	-.2983	.0027	.0000	-.0124	30.9302	161.85	1.5058	52.6	.1837	1402.4	.0[illegible]4
1.07	.00	1.1085	.2158	-.2695	.0024	.0015	-.0024	30.8110	161.62	1.5011	52.6	.1844	1402.8	.0[illegible]6
5.36	.00	1.4119	.2660	-.2384	.0029	.0013	-.0107	30.6781	161.35	1.4959	52.6	.1862	1403.2	.0[illegible]0
9.64	.00	1.7036	.3280	-.2090	.0049	.0025	-.0110	30.7769	161.68	1.4966	52.6	.1842	1403.5	.0[illegible]6
12.55	.00	1.6099	.4159	-.1950	.0424	.0121	-.0849	31.5605	163.84	1.5129	52.6	.1845	1403.7	.0[illegible]0
13.39	.00	1.4362	.4357	-.2040	.0704	.0107	-.0752	31.8566	164.68	1.5183	52.6	.1848	1403.9	.0[illegible]8
14.29	.00	1.3401	.4752	-.1991	.0591	-.0049	-.0396	31.9182	164.84	1.5173	52.6	.1829	1403.9	.0[illegible]5
RUN NØ. 42		CØNFIG NØ. 23												
1.07	.00	1.1045	.2147	-.2691	.0035	.0008	-.0069	30.7735	161.81	1.4933	66.9	.2391	1506.1	.0[illegible]6
-3.23	.00	.7993	.1788	-.2985	.0022	.0003	-.0083	30.7803	161.86	1.4928	66.9	.2352	1506.3	.0[illegible]5
1.07	.00	1.1041	.2156	-.2709	.0032	.0011	-.0188	30.9063	162.26	1.4940	66.9	.2379	1506.5	.0[illegible]3
5.35	.00	1.4029	.2656	-.2383	.0038	.0015	-.0155	30.7053	161.78	1.4882	66.9	.2407	1506.6	.0[illegible]0
9.63	.00	1.6901	.3318	-.2125	.0050	.0012	-.0105	30.9677	162.52	1.4932	66.9	.2391	1506.7	.0[illegible]4
12.78	.00	1.8487	.4578	-.2264	.0136	.0121	-.0086	31.0358	162.80	1.4925	66.9	.2370	1506.7	.0[illegible]0
13.64	.00	1.7016	.4830	-.2549	.0351	.0124	-.0487	31.4385	163.94	1.5001	66.9	.2384	1506.7	.03[illegible]9
14.52	.00	1.5732	.5457	-.2511	.0113	-.0074	.0060	31.8433	165.06	1.5084	66.9	.2378	1506.5	.03[illegible]3

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 43		CONFIG NO. 23												
.95	-.08	.9830	.1942	-.2344	.0026	.0022	-.0098	20.6441	132.75	1.2178	14.7	.0013	.0	.0010
-3.34	-.06	.6820	.1615	-.2627	.0020	.0013	-.0087	20.6240	132.70	1.2168	14.7	.0000	.0	.0010
.95	-.09	.9863	.1924	-.2354	.0030	.0010	-.0108	20.5434	132.47	1.2139	14.7	.0058	.0	.0030
5.23	-.10	1.2731	.2360	-.1995	.0038	.0003	-.0133	20.5266	132.42	1.2133	14.7	.0000	.0	.0010
9.49	-.09	1.5471	.2896	-.1651	.0048	-.0007	.0020	20.5602	132.56	1.2136	14.7	.0013	.0	.0010
12.29	-.08	1.3374	.3931	-.1781	.0457	.0063	-.0735	21.2370	134.95	1.2343	14.7	.0000	.0	.0010
13.15	-.08	1.1976	.4151	-.1630	.0455	-.0092	-.0402	21.3387	135.25	1.2367	14.7	.0039	.0	.0010
14.09	-.03	1.1283	.4401	-.1603	.0319	-.0135	-.0163	21.6542	136.08	1.2445	14.7	.0024	.0	.0010
RUN NO. 44		CONFIG NO. 23												
1.07	.06	1.1056	.2138	-.2720	.0011	.0010	-.0028	20.6005	132.60	1.2164	74.4	.2622	1545.1	.0599
-3.23	.04	.7999	.1751	-.3001	.0021	.0010	-.0050	20.5434	132.40	1.2152	74.4	.2651	1545.8	.0608
1.07	.05	1.1101	.2166	-.2722	.0018	.0025	-.0120	20.4561	132.15	1.2118	74.4	.2659	1546.4	.0612
5.36	.06	1.4130	.2712	-.2414	.0016	.0013	-.0076	20.5131	132.35	1.2132	74.4	.2665	1546.6	.0613
9.66	.06	1.7173	.3778	-.2560	-.0023	.0025	.0148	20.5932	132.61	1.2154	74.4	.2642	1546.8	.0615
12.49	.07	1.5414	.5310	-.3072	.0523	.0118	-.0451	21.1608	134.48	1.2309	74.4	.2673	1546.7	.0595
13.44	.09	1.4974	.5502	-.3204	.0608	.0052	-.0523	21.2513	134.79	1.2331	74.4	.2677	1546.6	.0593
14.36	.07	1.4099	.6119	-.3310	.0510	-.0093	-.0370	21.6935	136.20	1.2453	74.4	.2704	1546.4	.0597
RUN NO. 45		CONFIG NO. 23												
.95	-.03	.9839	.1999	-.2304	.0029	.0023	-.0125	42.0484	185.55	1.8287	14.7	.0000	.0	.0010
-3.35	-.04	.6767	.1570	-.2566	.0022	.0016	-.0106	41.9556	185.46	1.8239	14.7	.0000	.0	.0010
.94	-.04	.9741	.1883	-.2298	.0029	.0022	-.0140	42.1010	185.87	1.8247	14.7	.0000	.0	.0010
5.22	-.05	1.2632	.2332	-.1976	.0027	-.0005	-.0074	41.8356	185.40	1.8159	14.7	.0000	.0	.0010
9.49	-.05	1.5399	.2866	-.1646	.0040	.0005	-.0065	41.9989	185.91	1.8158	14.7	.0000	.0	.0010
11.60	-.05	1.6612	.3170	-.1462	.0061	.0024	-.0076	42.2269	186.51	1.8183	14.7	.0000	.0	.0010
12.43	-.05	1.4906	.3827	-.1705	.0379	.0073	-.0615	43.0535	188.59	1.8295	14.7	.0000	.0	.0010
13.43	-.05	1.4776	.3979	-.1683	.0427	.0089	-.0463	43.2065	188.95	1.8322	14.7	.0000	.0	.0010
RUN NO. 46		CONFIG NO. 23												
1.05	.00	1.0846	.2087	-.2645	.0024	.0015	-.0043	41.4988	185.21	1.7948	52.8	.1946	1395.5	.0199
-3.25	.00	.7747	.1724	-.2918	.0019	.0011	-.0053	41.6416	185.64	1.7951	52.8	.1896	1396.0	.0194
1.04	.00	1.0864	.2091	-.2654	.0024	.0015	-.0121	41.6315	185.75	1.7915	52.8	.1905	1396.2	.0195
5.33	.00	1.3782	.2590	-.2338	.0030	.0017	-.0147	41.7845	186.19	1.7926	52.8	.1910	1396.4	.0195
9.61	-.01	1.6688	.3207	-.2065	.0040	.0015	-.0076	41.7948	186.31	1.7902	52.8	.1904	1396.6	.0194
11.73	-.00	1.7916	.3571	-.1869	.0077	.0046	-.0131	41.9955	186.85	1.7923	52.8	.1931	1396.6	.0196
12.70	-.00	1.7658	.3907	-.1652	.0155	.0100	-.0135	42.2642	187.55	1.7956	52.8	.1883	1396.6	.0190
13.43	-.02	1.4795	.4183	-.1988	.0522	.0130	-.0504	43.0807	189.77	1.8025	52.8	.1921	1396.8	.0190

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMJ
RUN NO. 47		CONFIG NO. 23												
1.06	.03	1.0945	.2132	-.2688	.0028	.0007	-.0168	30.9472	160.70	1.5319	52.7	.1873	1396.2	.02[illegible]
-3.24	.02	.7861	.1765	-.2954	.0023	.0000	-.0133	31.0086	160.91	1.5323	52.7	.1882	1396.6	.02[illegible]
1.06	.01	1.0951	.2128	-.2683	.0027	.0023	-.0066	31.1346	161.29	1.5339	52.7	.1863	1396.6	.02[illegible]
5.34	.00	1.3931	.2624	-.2367	.0019	.0008	-.0049	31.0461	161.14	1.5298	52.7	.1890	1396.7	.02[illegible]
9.62	.00	1.6795	.3241	-.2083	.0049	.0017	-.0081	31.3269	161.90	1.5360	52.7	.1888	1396.8	.02[illegible]
10.69	.00	1.7532	.3443	-.2006	.0059	.0035	-.0170	31.1108	161.38	1.5298	52.7	.1877	1396.7	.02[illegible]
11.74	.00	1.8036	.3616	-.1902	.0077	.0046	-.0079	31.2198	161.70	1.5315	52.7	.1915	1396.8	.02[illegible]
12.73	.00	1.7960	.3987	-.1739	.0172	.0114	-.0093	31.5128	162.53	1.5370	52.7	.1943	1396.8	.02[illegible]
13.58	.02	1.6407	.4182	-.1955	.0389	.0134	-.0817	31.9586	163.74	1.5461	52.7	.1946	1396.8	.02[illegible]
RUN NO. 48		CONFIG NO. 24												
1.05	.00	1.0908	.2118	-.2665	.0029	.0010	-.0085	30.9780	161.23	1.5218	53.2	.1851	1400.5	.02[illegible]
-3.24	.01	.7876	.1763	-.2940	.0020	-.0004	.0001	31.2607	161.99	1.5281	53.2	.1872	1400.8	.02[illegible]
1.05	.00	1.0929	.2130	-.2683	.0029	.0012	-.0101	31.1346	161.73	1.5234	53.2	.1836	1400.9	.02[illegible]
5.34	.00	1.3914	.2630	-.2380	.0032	.0020	-.0106	31.1857	161.92	1.5233	53.2	.1848	1401.0	.02[illegible]
9.63	.00	1.6857	.3267	-.2092	.0050	.0016	-.0075	31.4004	162.50	1.5278	53.2	.1862	1401.1	.02[illegible]
10.70	-.00	1.7581	.3458	-.2000	.0058	.0022	-.0155	31.5265	162.87	1.5299	53.2	.1862	1401.2	.02[illegible]
11.74	.00	1.8019	.3641	-.1922	.0075	.0029	-.0123	31.2130	162.09	1.5215	53.2	.1846	1401.3	.02[illegible]
12.74	.00	1.8007	.3986	-.1686	.0084	.0120	-.0007	31.5844	163.11	1.5292	53.2	.1822	1401.4	.02[illegible]
13.55	.00	1.6081	.4511	-.2098	.0402	.0162	-.0636	32.0477	164.38	1.5385	53.2	.1831	1401.4	.02[illegible]
RUN NO. 49		CONFIG NO. 25												
1.04	.00	1.0778	.2126	-.2624	.0025	.0014	-.0085	31.1756	162.01	1.5198	52.5	.1899	1393.6	.02[illegible]
-3.25	.00	.7765	.1748	-.2898	.0020	.0004	-.0073	31.0803	161.86	1.5161	52.5	.1909	1394.0	.02[illegible]
1.05	-.00	1.0856	.2132	-.2610	.0027	.0012	-.0100	31.2341	162.26	1.5188	52.5	.1939	1394.2	.02[illegible]
5.34	-.02	1.3840	.2627	-.2314	.0022	.0007	-.0019	30.9677	161.67	1.5100	52.5	.1948	1394.6	.02[illegible]
9.62	-.05	1.6769	.3240	-.2012	.0042	.0013	-.0077	31.2743	162.51	1.5163	52.5	.1920	1394.8	.02[illegible]
10.69	-.02	1.7486	.3437	-.1945	.0056	.0006	-.0000	31.1687	162.27	1.5130	52.5	.1915	1394.9	.02[illegible]
11.73	-.05	1.7951	.3709	-.1936	.0049	.0024	.0059	31.0155	161.96	1.5071	52.5	.1929	1395.1	.02[illegible]
12.74	-.03	1.8071	.4249	-.1938	.0156	.0111	-.0187	31.4754	163.22	1.5168	52.5	.1934	1395.3	.02[illegible]
13.37	-.05	1.4163	.4586	-.2260	.0668	.0098	-.0669	32.1942	165.20	1.5310	52.5	.1944	1395.3	.02[illegible]
RUN NO. 50		CONFIG NO. 26												
-3.26	.00	.7701	.1732	-.2886	.0016	.0011	-.0023	30.9816	162.19	1.5011	52.6	.1928	1397.2	.02[illegible]
1.03	.00	1.0717	.2073	-.2580	.0030	.0011	-.0124	31.0358	162.36	1.5010	52.6	.1927	1397.5	.02[illegible]
5.33	.00	1.3759	.2586	-.2279	.0032	.0004	-.0112	31.0836	162.56	1.5003	52.6	.1912	1398.0	.02[illegible]
9.61	-.01	1.6698	.3258	-.2025	.0043	-.0004	-.0002	31.0461	162.48	1.4991	52.6	.1931	1398.1	.02[illegible]
10.68	-.00	1.7417	.3567	-.2044	.0032	.0008	.0097	31.1040	162.67	1.4995	52.6	.1937	1398.3	.02[illegible]
11.74	.00	1.7985	.3897	-.2097	.0050	.0026	.0067	30.9438	162.28	1.4949	52.6	.1942	1398.3	.02[illegible]
12.74	-.03	1.8024	.4409	-.2105	.0159	.0113	-.0160	31.2675	163.16	1.5060	52.6	.1961	1398.4	.02[illegible]
13.37	-.00	1.4235	.4710	-.2372	.0684	.0085	-.0629	32.2453	165.79	1.5230	52.6	.1932	1398.5	.02[illegible]

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 51		CONFIG NO. 27												
1.00	.00	1.0320	.2024	-.2460	.0011	.0007	.0007	31.1312	162.87	1.4976	52.6	.1925	1397.8	.0254
-3.29	-.00	.7772	.1691	-.2754	.0008	.0000	-.0003	31.1756	163.05	1.4970	52.6	.1938	1398.1	.0265
1.00	-.00	1.0363	.2039	-.2447	.0018	-.0001	-.0026	31.2130	163.21	1.4966	52.6	.1925	1398.4	.0253
5.28	.00	1.3310	.2485	-.2133	.0018	.0001	-.0036	31.1040	162.97	1.4928	52.6	.1933	1398.7	.0255
9.58	-.00	1.6364	.3118	-.1842	.0031	-.0003	.0019	30.8007	162.37	1.4810	52.6	.1954	1399.1	.0270
10.64	-.00	1.7008	.3299	-.1780	.0042	-.0003	-.0003	31.0631	163.10	1.4864	52.6	.1949	1399.2	.0267
11.70	-.01	1.7604	.3476	-.1688	.0056	.0014	.0013	31.0836	163.19	1.4861	52.6	.1948	1399.3	.0267
12.72	.00	1.7824	.3984	-.1744	.0121	.0104	-.0112	31.1517	163.47	1.4854	52.6	.1948	1399.4	.0256
13.35	-.00	1.4018	.4442	-.2080	.0663	.0036	-.0680	31.9353	165.66	1.5005	52.6	.1962	1399.5	.0252
RUN NO. 52		CONFIG NO. 28												
1.05	.00	1.0913	.2106	-.2671	.0029	.0000	-.0069	31.0120	163.38	1.4794	53.3	.1879	1406.0	.0290
-3.24	-.01	.7853	.1762	-.2961	.0022	-.0002	-.0044	30.8826	163.16	1.4734	53.3	.1871	1406.7	.0290
1.06	.00	1.0962	.2114	-.2673	.0027	.0000	-.0032	30.8688	163.16	1.4723	53.3	.1867	1407.3	.0280
5.35	.00	1.4025	.2639	-.2347	.0030	-.0005	-.0011	31.4447	164.70	1.4854	53.3	.1868	1407.6	.0285
9.64	-.00	1.6982	.3417	-.2211	.0025	-.0006	.0112	30.9711	163.52	1.4726	53.3	.1875	1406.0	.0260
10.70	.00	1.7650	.3459	-.1997	.0049	-.0003	-.0005	31.0916	163.87	1.4749	53.3	.1869	1408.8	.0283
11.76	.00	1.8188	.3663	-.1908	.0077	.0012	.0027	31.0358	163.75	1.4730	53.3	.1876	1409.0	.0290
12.42	.00	1.4743	.4204	-.2000	.0511	.0186	-.1007	31.5844	165.33	1.4826	53.3	.1887	1409.3	.0257
13.44	.00	1.4928	.4323	-.1990	.0532	.0108	-.0441	31.9830	166.41	1.4912	53.3	.1875	1409.4	.0252
RUN NO. 53		CONFIG NO. 29												
1.07	.00	1.1133	.2194	-.2722	.0027	.0004	-.0109	30.9030	163.40	1.4729	74.4	.2660	1546.9	.0416
-3.23	.00	.8018	.1789	-.3013	.0021	.0000	-.0059	30.9541	163.58	1.4729	74.4	.2674	1548.0	.0417
1.07	.00	1.1102	.2161	-.2724	.0025	.0009	-.0094	30.9336	163.59	1.4709	74.4	.2648	1548.8	.0414
5.37	.00	1.4202	.2681	-.2425	.0029	.0000	-.0111	30.8518	163.50	1.4661	74.4	.2667	1549.4	.0418
9.65	.00	1.7086	.3308	-.2128	.0051	.0014	-.0164	30.9813	163.90	1.4681	74.4	.2672	1549.4	.0417
10.72	.00	1.7850	.3535	-.2046	.0056	.0011	-.0045	30.9677	163.95	1.4657	74.4	.2675	1549.4	.0418
11.78	.00	1.8414	.3715	-.1966	.0065	.0021	-.0143	30.7769	163.49	1.4602	74.4	.2672	1549.2	.0410
12.63	.00	1.6925	.4618	-.2428	.0265	.0095	-.0380	31.2465	164.85	1.4685	74.4	.2679	1549.0	.0414
13.59	.00	1.6455	.4996	-.2534	.0396	.0134	-.0506	31.4447	165.44	1.4717	74.4	.2688	1548.8	.0403
RUN NO. 54		CONFIG NO. 29												
1.07	.00	1.1089	.2160	-.2716	.0025	.0009	-.0057	30.8621	163.84	1.4600	74.3	.2679	1547.5	.0409
5.36	.00	1.4123	.2683	-.2414	.0028	.0001	-.0043	30.9336	164.16	1.4589	74.3	.2667	1547.6	.0406
9.64	.00	1.6996	.3310	-.2112	.0050	.0003	-.0104	31.0733	164.60	1.4606	74.3	.2664	1547.5	.0404
10.71	.00	1.7727	.3493	-.2031	.0055	.0013	-.0052	30.9234	164.28	1.4553	74.3	.2679	1547.2	.0408
11.77	.00	1.8344	.3676	-.1941	.0071	.0019	-.0089	30.7223	163.81	1.4490	74.3	.2687	1547.1	.0412
12.72	.00	1.7797	.4060	-.1779	.0152	.0096	-.0206	30.7939	164.12	1.4482	74.3	.2676	1546.7	.0410
13.50	.00	1.5493	.4408	-.2051	.0559	.0117	-.0985	31.7172	166.65	1.4676	74.3	.2687	1546.6	.0400

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	C_{μ}
RUN NO. 55 CONFIG NO. 30														
.85	.00	.8856	.1483	-.2209	.0001	.0035	-.0158	31.0155	164.12	1.4673	14.6	.0065	.0	.0000
5.15	.00	1.1891	.1925	-.1881	.0016	.0009	-.0087	30.8280	163.67	1.4618	14.6	.0091	.0	.0000
9.43	.00	1.4778	.2444	-.1567	.0023	-.0006	.0048	30.6641	163.27	1.4571	14.6	.0024	.0	.0000
10.50	.00	1.5549	.2630	-.1480	.0037	-.0008	-.0023	31.0017	164.24	1.4635	14.6	.0013	.0	.0000
11.57	.00	1.6248	.2805	-.1419	.0050	.0001	-.0051	30.5827	163.18	1.4523	14.6	.0078	.0	.0000
12.63	.00	1.6912	.2979	-.1386	.0090	.0086	-.0035	30.9575	164.22	1.4603	14.6	.0039	.0	.0000
13.40	.00	1.7515	.3682	-.1543	-.0327	-.0147	.0817	31.2232	164.99	1.4649	14.6	.0013	.0	.0000
-3.45	.00	.5722	.1213	-.2474	-.0006	.0034	-.0171	30.7168	163.72	1.4514	14.6	.0000	.0	.0000
RUN NO. 56 CONFIG NO. 30														
.88	.00	.9146	.1517	-.2322	.0016	-.0007	-.0062	30.7633	163.69	1.4570	38.1	.1395	1241.6	.0172
5.19	.00	1.2314	.1992	-.2021	.0020	-.0019	.0045	30.6611	163.51	1.4527	38.1	.1395	1241.7	.0172
9.47	.01	1.5182	.2550	-.1732	.0035	-.0019	.0047	30.5758	163.32	1.4497	38.1	.1406	1241.9	.0174
10.54	.00	1.5977	.2731	-.1642	.0040	-.0011	.0073	30.6372	163.50	1.4509	38.1	.1393	1241.8	.0172
11.61	.01	1.6685	.2915	-.1581	.0052	-.0014	.0049	30.8042	163.95	1.4546	38.1	.1404	1241.9	.0173
12.66	.01	1.7227	.3332	-.1526	.0090	.0068	.0032	30.9336	164.33	1.4568	38.1	.1389	1241.9	.0170
13.54	.00	1.5936	.3750	-.1498	-.0161	-.0110	.0271	31.2743	165.26	1.4642	38.1	.1395	1241.9	.0169
.89	.00	.9221	.1539	-.2337	.0014	-.0008	-.0057	30.4940	163.26	1.4441	38.1	.1396	1242.1	.0173
-3.43	.00	.5955	.1224	-.2597	.0012	.0002	-.0027	30.5452	163.43	1.4446	38.1	.1394	1242.2	.0173
RUN NO. 57 CONFIG NO. 30														
.88	.01	.9170	.1562	-.2338	.0016	-.0009	-.0081	30.8791	164.03	1.4595	52.3	.1918	1402.7	.0265
5.18	.02	1.2191	.1972	-.2052	.0021	-.0025	.0029	30.6951	163.59	1.4539	52.3	.1935	1403.0	.0269
9.47	.00	1.5238	.2558	-.1761	.0028	-.0023	.0070	30.9950	164.42	1.4604	52.3	.1948	1403.1	.0268
10.55	.00	1.6039	.2748	-.1689	.0043	-.0019	.0018	30.7757	163.83	1.4552	52.3	.1931	1403.3	.0268
11.61	.01	1.6678	.2926	-.1635	.0050	-.0010	.0048	30.9063	164.20	1.4578	52.3	.1950	1403.4	.0270
12.67	.00	1.7282	.3344	-.1558	.0096	.0063	-.0037	31.0903	164.74	1.4612	52.3	.1915	1403.4	.0264
13.55	.00	1.6017	.3665	-.1494	-.0121	-.0090	.0265	31.4140	165.63	1.4679	52.3	.1928	1403.6	.0263
.89	.01	.9172	.1519	-.2343	.0011	-.0002	-.0041	30.6644	163.74	1.4481	52.3	.1919	1403.7	.0267
-3.43	.02	.5954	.1220	-.2607	.0008	.0005	.0036	30.8376	164.24	1.4513	52.3	.1911	1403.8	.0265
RUN NO. 58 CONFIG NO. 30														
.89	.02	.9219	.1510	-.2351	.0015	.0003	-.0029	30.6917	163.61	1.4541	74.0	.2676	1547.8	.0411
5.19	.00	1.2342	.1997	-.2063	.0022	-.0032	.0084	30.9336	164.30	1.4587	74.0	.2662	1548.2	.0406
9.48	.00	1.5339	.2584	-.1805	.0036	-.0021	.0060	30.9063	164.28	1.4569	74.0	.2665	1548.4	.0407
10.56	.01	1.6128	.2777	-.1722	.0044	-.0014	.0022	30.8416	164.11	1.4553	74.0	.2685	1548.3	.0411
11.62	.02	1.6795	.2953	-.1667	.0052	-.0007	-.0020	30.7906	164.01	1.4534	74.0	.2661	1548.3	.0408
12.67	.02	1.7337	.3291	-.1566	.0104	.0054	-.0095	31.1312	164.92	1.4611	74.0	.2668	1548.3	.0404
13.68	.06	1.7360	.3524	-.1552	.0092	.0054	-.0089	31.3357	165.50	1.4650	74.0	.2662	1548.1	.0401
14.31	.01	1.3546	.4180	-.1858	.0507	-.0008	-.2083	32.2623	168.06	1.4837	74.0	.2642	1547.7	.0386
.89	.03	.9183	.1545	-.2378	.0016	.0001	-.0034	30.7497	164.05	1.4489	74.0	.2671	1547.3	.0409
-3.43	.01	.5939	.1235	-.2600	.0002	.0056	-.0253	30.8840	164.44	1.4514	74.0	.2685	1547.3	.0410

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO.	59	CONFIG NO.	31											
1.03	.00	1.0698	.2379	-.2421	.0045	.0002	-.0074	30.8451	159.10	1.5739	14.6	.0223	.0	.0000
5.33	.00	1.3762	.2880	-.2116	.0063	-.0011	-.0068	31.1448	159.93	1.5802	14.6	.0221	.0	.0000
9.59	-.00	1.6504	.3419	-.1779	.0076	-.0014	.0009	31.0700	159.80	1.5765	14.6	.0227	.0	.0000
10.65	.00	1.7148	.3574	-.1704	.0077	-.0007	.0004	31.0049	159.67	1.5739	14.6	.0233	.0	.0000
11.69	.00	1.7535	.3813	-.1603	.0116	.0020	-.0089	31.0461	159.82	1.5738	14.6	.0248	.0	.0000
12.37	.00	1.4184	.4593	-.2047	.0734	.0016	-.0261	32.3615	163.31	1.6034	14.6	.0223	.0	.0000
13.37	.00	1.4224	.4687	-.2029	.0790	.0004	-.0640	32.2809	163.14	1.6004	14.6	.0245	.0	.0000
1.03	-.00	1.0708	.2397	-.2409	.0047	-.0005	-.0104	31.1176	160.18	1.5712	14.6	.0258	.0	.0000
-3.26	.00	.7667	.2010	-.2656	.0043	-.0009	-.0116	30.9770	159.82	1.5678	14.6	.0255	.0	.0000
RUN NO.	60	CONFIG NO.	31											
1.15	.00	1.1961	.2597	-.2790	.0069	-.0055	.0048	30.8518	159.71	1.5591	38.4	.1483	1240.7	.0181
5.44	.00	1.4919	.3157	-.2478	.0065	-.0048	.0140	30.9166	159.96	1.5586	38.4	.1478	1242.5	.0181
9.70	.00	1.7619	.3743	-.2146	.0077	-.0036	.0096	31.1312	160.55	1.5632	38.4	.1470	1243.5	.0179
10.76	.00	1.8249	.3944	-.2077	.0084	-.0014	-.0004	31.0801	160.43	1.5617	38.4	.1482	1243.9	.0180
11.79	-.00	1.8571	.4164	-.1969	.0121	.0026	-.0074	31.0733	160.45	1.5606	38.4	.1496	1244.3	.0182
12.38	.00	1.4328	.4644	-.2122	.0768	.0075	-.0745	32.2317	163.58	1.6051	38.4	.1478	1245.0	.0174
13.40	.00	1.4468	.4758	-.2103	.0809	.0064	-.0933	32.0796	163.24	1.5804	38.4	.1488	1245.4	.0176
1.14	.00	1.1833	.2619	-.2794	.0062	-.0060	.0153	31.0155	160.46	1.5550	38.4	.1487	1246.1	.0182
-3.14	.00	.8912	.2245	-.3088	.0044	-.0045	.0135	30.9200	160.24	1.5519	38.4	.1485	1246.3	.0182
RUN NO.	61	CONFIG NO.	31											
1.18	.00	1.2185	.2702	-.2850	.0061	-.0055	.0079	31.0256	160.51	1.5556	52.6	.1959	1406.8	.0271
5.46	.00	1.5159	.3221	-.2538	.0063	-.0035	.0023	30.7292	159.83	1.5460	52.6	.1959	1406.5	.0273
9.73	.00	1.7912	.3847	-.2247	.0067	-.0028	.0055	30.8382	160.15	1.5478	52.6	.1957	1406.5	.0272
10.79	.00	1.8536	.4038	-.2155	.0071	-.0013	-.0072	30.8791	160.29	1.5478	52.6	.1961	1406.5	.0272
11.82	.00	1.8891	.4240	-.2021	.0098	.0030	.0028	30.9405	160.47	1.5489	52.6	.1975	1406.5	.0274
12.67	.00	1.7327	.4719	-.2067	.0329	.0041	-.0526	31.6457	162.37	1.5646	52.6	.1965	1406.5	.0266
13.65	.00	1.7059	.4839	-.2040	.0359	.0041	-.0688	31.7049	162.58	1.5646	52.6	.1958	1406.4	.0265
1.18	.00	1.2186	.2702	-.2860	.0058	-.0058	.0159	30.7258	160.07	1.5397	52.6	.1955	1406.2	.0273
-3.12	.00	.9116	.2298	-.3164	.0045	-.0048	.0042	30.9302	160.62	1.5443	52.6	.1959	1406.0	.0271
RUN NO.	62	CONFIG NO.	31											
1.19	.00	1.2322	.2731	-.2879	.0044	-.0046	.0194	30.6849	159.96	1.5387	68.6	.2827	1517.7	.0426
5.48	.00	1.5371	.3300	-.2582	.0056	-.0028	.0047	30.8076	160.32	1.5407	68.6	.2840	1517.3	.0426
9.76	.00	1.8226	.3946	-.2290	.0071	-.0017	.0019	31.2062	161.39	1.5500	68.6	.2817	1517.0	.0418
10.83	.00	1.8917	.4150	-.2227	.0077	-.0004	-.0026	31.0495	161.03	1.5448	68.6	.2771	1516.6	.0413
11.87	.00	1.9348	.4369	-.2122	.0110	.0028	-.0124	30.7531	160.27	1.5372	68.6	.2780	1516.3	.0418
12.51	.00	1.5643	.4826	-.2240	.0682	.0075	-.0885	31.9863	163.65	1.5628	68.6	.2758	1515.9	.0398
13.45	.00	1.4990	.4963	-.2231	.0801	.0051	-.0822	32.1075	164.06	1.5634	68.6	.2774	1515.3	.0399
1.19	.00	1.2282	.2716	-.2897	.0052	-.0045	.0073	30.7223	160.43	1.5306	68.6	.2809	1514.3	.0422
-3.10	.00	.9344	.2378	-.3225	.0039	-.0038	.0052	30.7664	160.57	1.5310	68.6	.2851	1513.8	.0427

ALPHA	BETA	CLS	CDS	CMS	CRSLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	RNBZL	MASS FLOW	VJET	CMJ
RUN NO. 67		CONFIG NO. 32												
.86	.02	.8947	.1908	.0030	.0038	-.0004	-.0080	30.8416	161.53	1.5169	14.6	.0224	.0	.0000
5.18	-.02	1.2942	.2345	-.0296	.0045	-.0005	-.0089	30.8046	161.52	1.5155	14.6	.0231	.0	.0000
9.49	-.01	1.5410	.2910	-.0620	.0046	-.0010	.0013	30.6939	161.03	1.5098	14.6	.0231	.0	.0000
10.57	.00	1.6062	.3102	-.0726	.0052	-.0009	-.0035	30.8066	161.52	1.5140	14.6	.0253	.0	.0000
11.63	-.02	1.6944	.3073	-.0799	.0077	.0004	-.0020	30.8791	161.74	1.5151	14.6	.0242	.0	.0000
12.34	.01	1.3839	.3036	-.1336	.0625	.0069	-.0755	31.8658	164.25	1.5352	14.6	.0256	.0	.0000
13.30	.01	1.3936	.4044	-.1296	.0703	.0040	-.0614	31.6693	163.90	1.5310	14.6	.0248	.0	.0000
.86	-.05	.8872	.1904	.0040	.0035	-.0005	-.0046	31.0222	162.40	1.5117	14.6	.0238	.0	.0000
-3.48	-.03	.5415	.1592	.0410	.0029	-.0010	-.0078	31.3039	163.29	1.5167	14.6	.0248	.0	.0000
RUN NO. 68		CONFIG NO. 32												
.93	-.04	.9642	.2028	.0010	.0043	-.0018	.0001	31.5091	163.92	1.5188	38.2	.1417	1246.8	.0171
5.26	-.04	1.3028	.2495	-.0290	.0044	-.0021	.0038	31.1885	163.06	1.5079	38.2	.1441	1250.3	.0176
9.55	-.03	1.6035	.3108	-.0570	.0055	-.0017	.0022	31.2710	163.40	1.5097	38.2	.1430	1251.8	.0175
10.63	-.04	1.6864	.3322	-.0670	.0056	-.0020	.0058	31.2369	163.33	1.5083	38.2	.1424	1252.6	.0174
11.68	-.03	1.7454	.3511	-.0740	.0082	.0011	.0034	31.6052	164.36	1.5171	38.2	.1428	1253.1	.0173
12.34	-.05	1.3853	.4072	-.1341	.0612	.0122	-.0915	31.8773	165.18	1.5193	38.2	.1435	1255.1	.0172
13.34	-.05	1.3846	.4119	-.1308	.0689	.0095	-.0912	32.2147	166.10	1.5263	38.2	.1450	1255.5	.0172
.93	-.05	.9663	.2041	.0017	.0041	-.0020	-.0045	31.0103	163.04	1.4957	38.2	.1423	1256.0	.0176
-3.40	-.05	.6175	.1730	.0351	.0033	-.0033	.0063	31.1312	163.42	1.4971	38.2	.1437	1256.3	.0177
RUN NO. 69		CONFIG NO. 32												
.95	-.05	.9812	.2066	.0014	.0032	-.0026	.0082	31.0358	163.12	1.4959	52.5	.1923	1417.8	.0287
5.28	-.05	1.3824	.2561	-.0293	.0044	-.0031	.0021	31.0903	163.33	1.4957	52.5	.1939	1417.7	.0289
9.58	-.05	1.6412	.3201	-.0573	.0050	-.0014	.0011	31.0801	163.38	1.4936	52.5	.1929	1417.4	.0288
10.66	-.05	1.7150	.3394	-.0672	.0054	-.0017	.0082	31.1060	163.73	1.4954	52.5	.1935	1417.1	.0288
11.71	-.05	1.7740	.3576	-.0740	.0065	-.0008	.0077	30.9234	163.06	1.4878	52.5	.1938	1417.0	.0290
12.53	-.05	1.5892	.4099	-.1366	.0391	.0112	-.0846	31.7650	165.34	1.5061	52.5	.1919	1416.8	.0291
13.35	-.05	1.4021	.4218	-.1351	.0667	.0094	-.0874	31.9693	165.93	1.5096	52.5	.1928	1416.6	.0291
.95	-.05	.9828	.2082	.0023	.0030	-.0026	.0024	31.0256	163.52	1.4858	52.5	.1927	1416.2	.0288
-3.39	-.05	.6320	.1756	.0343	.0031	-.0039	.0077	30.9677	163.43	1.4830	52.5	.1954	1416.1	.0292
RUN NO. 72		CONFIG NO. 32												
.96	-.05	.9988	.2127	-.0004	.0043	-.0036	.0004	31.2675	164.18	1.4911	74.2	.2974	1563.2	.0453
5.29	-.05	1.3369	.2616	-.0298	.0037	-.0032	.0090	31.0427	163.73	1.4824	74.2	.2990	1553.9	.0457
9.59	-.05	1.6514	.3260	-.0604	.0039	-.0016	.0054	31.0793	163.91	1.4813	74.2	.2764	1550.9	.0425
10.66	-.05	1.7218	.3428	-.0668	.0045	-.0011	.0034	31.0235	163.79	1.4795	74.2	.2802	1556.4	.0438
11.72	-.05	1.7859	.3601	-.0753	.0049	-.0002	.0044	31.1108	164.06	1.4805	74.2	.2820	1555.9	.0430
12.62	-.05	1.6762	.4042	-.1173	.0174	.0083	-.0343	31.4720	165.05	1.4882	74.2	.2815	1555.6	.0424
13.63	-.05	1.6896	.4247	-.1485	.0333	.0103	-.0481	31.6525	165.55	1.4919	74.2	.2835	1555.2	.0424
.95	-.06	.9870	.2126	-.0003	.0033	-.0031	.0045	31.2214	164.64	1.4825	74.2	.2845	1554.4	.0431
-3.38	-.05	.6452	.1781	.0334	.0028	-.0039	.0051	31.1823	164.41	1.4786	74.2	.2859	1554.0	.0434

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO.	73	CONFIG NO.	33											
.79	-.01	.8213	.1925	.1568	.0038	-.0003	-.0056	30.9575	162.57	1.5022	14.6	.0013	.0	.0010
5.10	-.01	1.1425	.2281	.1343	.0043	-.0013	-.0033	31.2165	163.24	1.5086	14.6	.0078	.0	.0030
9.39	-.00	1.4416	.2792	.1213	.0048	-.0010	-.0026	30.9137	162.50	1.5001	14.6	.0113	.0	.0030
10.47	-.01	1.5183	.2924	.1151	.0052	-.0006	-.0027	31.7275	164.62	1.5198	14.6	.0026	.0	.0010
11.52	-.01	1.5753	.3120	.1073	.0072	.0008	-.0005	31.5933	164.31	1.5157	14.6	.0071	.0	.0020
12.28	-.01	1.6218	.3774	-.0235	.0579	.0068	-.0393	32.1849	165.93	1.5276	14.6	.0145	.0	.0030
13.24	.00	1.2841	.3906	-.0295	.0645	.0043	-.0530	31.9643	165.41	1.5214	14.6	.0098	.0	.0030
.79	-.00	.8134	.1898	.1572	.0032	-.0005	-.0048	31.4230	164.00	1.5083	14.6	.0036	.0	.0010
-3.54	-.01	.4748	.1645	.1904	.0028	-.0014	-.0026	31.1790	163.45	1.5006	14.6	.0065	.0	.0010
RUN NO.	74	CONFIG NO.	33											
.86	.00	.8865	.2024	.1551	.0029	-.0013	-.0017	31.1437	163.34	1.4999	38.2	.1393	1241.9	.0169
5.17	.00	1.2137	.2448	.1291	.0043	-.0012	-.0016	31.7445	164.94	1.5138	38.2	.1409	1241.9	.0168
9.47	-.00	1.5280	.3031	.1124	.0049	-.0022	.0024	31.5376	164.40	1.5088	38.2	.1436	1242.1	.0172
10.55	-.00	1.6016	.3190	.1112	.0056	-.0019	.0040	31.4571	164.20	1.5066	38.2	.1416	1242.1	.0170
11.60	-.00	1.6538	.3387	.1095	.0080	-.0002	.0017	31.7922	165.12	1.5136	38.2	.1395	1242.2	.0166
12.31	-.00	1.3585	.3897	-.0210	.0566	.0122	-.0749	32.2840	166.49	1.5229	38.2	.1409	1242.2	.0165
13.28	.00	1.3315	.4011	-.0282	.0666	.0104	-.0888	32.4729	167.02	1.5264	38.2	.1403	1242.4	.0163
.86	.00	.8870	.2024	.1552	.0041	-.0018	.0001	31.7018	164.98	1.5091	38.2	.1409	1242.5	.0168
-3.47	.00	.5464	.1742	.1845	.0032	-.0024	.0029	31.3630	164.15	1.4998	38.2	.1418	1242.5	.0171
RUN NO.	75	CONFIG NO.	33											
.87	.00	.8997	.2067	.1546	.0031	-.0022	-.0024	31.5980	164.63	1.5086	52.5	.1872	1401.6	.0253
5.18	-.00	1.2222	.2481	.1280	.0034	-.0024	.0095	31.4416	164.26	1.5039	52.5	.1887	1401.6	.0256
9.49	-.00	1.5435	.3062	.1096	.0040	-.0024	.0027	31.5838	164.61	1.5077	52.5	.1918	1401.5	.0260
10.56	.00	1.6181	.3243	.1075	.0048	-.0016	.0073	31.5043	164.41	1.5057	52.5	.1905	1401.5	.0258
11.62	-.00	1.6749	.3403	.1062	.0065	-.0005	.0026	31.9588	165.60	1.5163	52.5	.1889	1401.4	.0252
12.49	-.00	1.5433	.3828	.0180	.0286	.0092	-.0622	32.1942	166.28	1.5203	52.5	.1871	1401.2	.0248
13.28	.00	1.3307	.4043	-.0308	.0625	.0105	-.0842	32.6677	167.56	1.5300	52.5	.1883	1401.2	.0246
.86	.00	.8890	.2050	.1532	.0026	-.0023	-.0022	31.8058	165.28	1.5109	52.5	.1900	1400.7	.0255
-3.46	-.01	.5607	.1762	.1820	.0027	-.0022	.0027	31.5724	164.68	1.5052	52.5	.1855	1400.4	.0250
RUN NO.	76	CONFIG NO.	33											
.87	-.01	.9051	.2072	.1537	.0031	-.0026	-.0033	31.9464	165.48	1.5180	74.5	.2634	1543.2	.0387
5.18	.00	1.2238	.2495	.1280	.0036	-.0027	.0039	31.8672	165.30	1.5157	74.5	.2651	1543.0	.0391
9.48	-.00	1.5385	.3065	.1062	.0044	-.0015	-.0039	31.7377	164.96	1.5126	74.5	.2665	1542.6	.0395
10.56	.00	1.6178	.3247	.1015	.0045	-.0020	.0012	32.1204	165.94	1.5219	74.5	.2650	1542.3	.0387
11.62	.00	1.6765	.3417	.1016	.0055	-.0008	.0040	31.8318	165.20	1.5149	74.5	.2637	1541.9	.0389
12.60	.00	1.6631	.3820	.0829	.0180	.0076	-.0265	32.2964	166.44	1.5252	74.5	.2643	1541.5	.0385
13.53	.00	1.5851	.4010	.0117	.0299	.0103	-.0518	32.4915	166.98	1.5290	74.5	.2631	1541.3	.0380
.87	.00	.9046	.2067	.1528	.0026	-.0023	.0045	31.8507	165.32	1.5139	74.5	.2624	1540.3	.0386
-3.46	.00	.5606	.1772	.1812	.0026	-.0028	.0080	31.8783	165.43	1.5135	74.5	.2642	1540.0	.0389

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 77		CONFIG NO. 34												
.85	.00	.8772	.1972	.0824	.0033	-.0010	-.0070	30.0601	157.29	1.5495	14.6	.0035	.0	.0000
5.17	.00	1.2165	.2382	.0574	.0036	-.0018	-.0016	29.9889	157.13	1.5471	14.6	.0083	.0	.0000
9.49	.00	1.5466	.2941	.0316	.0043	-.0012	-.0012	30.2146	157.77	1.5516	14.6	.0104	.0	.0000
10.57	.00	1.6276	.3127	.0229	.0044	-.0008	.0043	30.1159	157.54	1.5483	14.6	.0052	.0	.0000
11.63	.00	1.6930	.3326	.0150	.0077	.0004	-.0022	29.8568	156.88	1.5413	14.6	.0039	.0	.0000
12.33	.00	1.3749	.4003	-.0770	.0627	.0078	-.0603	30.4040	158.66	1.5547	14.6	.0078	.0	.0000
13.34	.00	1.3892	.4163	-.0816	.0717	.0040	-.0672	30.4634	158.65	1.5521	14.6	.0109	.0	.0000
.88	.00	.9091	.2037	.0820	.0031	-.0008	-.0020	29.1241	155.15	1.5169	14.6	.0013	.0	.0000
-3.48	.00	.5436	.1745	.1200	.0027	-.0025	.0002	28.7970	154.37	1.5062	14.6	.0026	.0	.0000
RUN NO. 78		CONFIG NO. 34												
.98	.00	1.0185	.2054	.0842	.0040	-.0039	.0094	28.7322	154.47	1.4976	38.1	.1308	1240.2	.0114
5.34	.00	1.4927	.2766	.0573	.0046	-.0036	.0076	28.1766	153.02	1.4817	38.1	.1300	1247.8	.0126
9.68	.00	1.7379	.3426	.0354	.0051	-.0027	.0032	28.3471	153.54	1.4849	38.1	.1306	1247.5	.0116
10.77	.00	1.8341	.3669	.0282	.0052	-.0026	.0086	28.1055	153.02	1.4771	38.1	.1308	1252.1	.0118
11.84	.01	1.9150	.3913	.0241	.0091	.0006	-.0035	27.8572	152.37	1.4679	38.1	.1303	1252.8	.0121
12.65	.01	1.7094	.4469	-.0760	.0416	.0133	-.0862	28.6198	154.63	1.4832	38.1	.1401	1251.9	.0107
13.49	.01	1.5400	.4665	-.0904	.0759	.0116	-.0777	28.5754	154.61	1.4797	38.1	.1392	1251.9	.0106
1.01	.00	1.0514	.2038	.0868	.0038	-.0029	.0064	27.3441	151.25	1.4472	38.1	.1415	1252.2	.0127
-3.36	.00	.6648	.1982	.1222	.0037	-.0039	.0115	27.3408	151.35	1.4446	38.1	.1401	1252.4	.0125
RUN NO. 79		CONFIG NO. 34												
1.06	.01	1.1010	.2427	.0897	.0039	-.0042	.0090	26.5752	149.20	1.4237	52.5	.1926	1416.0	.0312
5.45	.04	1.5000	.3002	.0594	.0036	-.0032	.0108	26.7239	149.69	1.4259	52.5	.1912	1416.3	.0318
9.80	.02	1.8665	.3726	.0361	.0051	-.0027	.0094	26.7536	149.79	1.4262	52.5	.1915	1416.5	.0318
10.89	.03	1.9562	.3986	.0306	.0051	-.0024	.0093	26.6975	149.68	1.4237	52.5	.1910	1416.4	.0318
11.96	.04	2.0076	.4185	.0263	.0085	.0010	.0007	26.7172	149.77	1.4233	52.5	.1904	1416.4	.0317
12.95	.04	2.0185	.4731	-.0018	.0129	.0081	.0007	26.7536	150.01	1.4209	52.5	.1905	1416.3	.0317
13.82	.03	1.8912	.4925	-.0876	.0402	.0123	-.0746	26.8934	150.45	1.4234	52.5	.1915	1416.1	.0317
1.07	.07	1.1095	.2487	.0884	.0035	-.0040	.0027	26.1920	148.53	1.4034	52.5	.1901	1414.9	.0313
-3.31	.01	.7147	.2107	.1270	.0036	-.0039	.0119	26.2448	148.75	1.4031	52.5	.1909	1414.9	.0314
RUN NO. 80		CONFIG NO. 34												
1.11	.07	1.1494	.2551	.0908	.0035	-.0045	.0098	25.9273	147.81	1.3957	74.5	.2677	1561.4	.0491
5.45	.05	1.5446	.3179	.0583	.0038	-.0025	.0089	25.9934	148.06	1.3959	74.5	.2667	1561.3	.0488
9.86	.06	1.9310	.3906	.0339	.0048	-.0017	-.0032	26.0497	148.24	1.3969	74.5	.2659	1559.9	.0485
10.95	.08	2.0254	.4157	.0292	.0053	-.0007	-.0053	25.8398	147.69	1.3901	74.5	.2670	1561.5	.0491
12.03	.07	2.1015	.4379	.0230	.0070	.0002	-.0021	25.9570	148.11	1.3912	74.5	.2656	1558.7	.0492
13.05	.06	2.1203	.4829	.0053	.0172	.0039	-.0181	26.1258	148.65	1.3943	74.5	.2691	1559.2	.0489
13.89	.06	1.9546	.5170	-.0884	.0387	.0142	-.0763	26.2817	149.15	1.3972	74.5	.2693	1557.9	.0486
1.12	.06	1.1582	.2609	.0913	.0032	-.0043	.0126	25.6790	147.51	1.3790	74.5	.2665	1556.3	.0492
-3.27	.09	.7562	.2218	.1258	.0026	-.0050	.0173	25.5689	147.23	1.3753	74.5	.2671	1555.9	.0495

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO.	81	CONFIG NO.	35											
.89	.02	.9213	.1921	-.0781	.0033	-.0009	-.0031	30.8791	161.47	1.5192	14.6	.0000	.0	.0000
5.21	.01	1.2583	.2372	-.1165	.0039	-.0015	-.0026	30.8655	161.44	1.5188	14.6	.0000	.0	.0000
9.52	.01	1.5762	.2960	-.1539	.0039	-.0014	-.0007	31.0086	161.88	1.5206	14.6	.0000	.0	.0000
10.60	.01	1.6548	.3143	-.1627	.0051	-.0009	.0016	31.1790	162.37	1.5237	14.6	.0000	.0	.0000
11.65	.01	1.7128	.3357	-.1727	.0075	.0014	-.0010	30.8587	161.54	1.5157	14.6	.0037	.0	.0000
12.30	.02	1.3448	.3953	-.1779	.0667	.0057	-.0574	31.9898	164.60	1.5401	14.6	.0000	.0	.0000
13.30	.01	1.3444	.4051	-.1755	.0710	.0025	-.0545	31.9727	164.60	1.5388	14.6	.0000	.0	.0000
.90	.00	.9305	.1954	-.0794	.0029	-.0005	-.0055	30.7416	161.36	1.5097	14.6	.0000	.0	.0000
-3.44	.00	.5812	.1613	-.0337	.0027	-.0018	-.0061	30.9166	161.88	1.5127	14.6	.0000	.0	.0000
RUN NO.	82	CONFIG NO.	35											
.98	.01	1.0130	.2076	-.0781	.0034	-.0022	-.0003	30.7837	161.47	1.5101	38.3	.1404	1247.5	.0174
5.30	.04	1.3465	.2568	-.1127	.0045	-.0012	-.0040	30.7019	161.32	1.5065	38.3	.1387	1250.3	.0172
9.61	.04	1.6713	.3228	-.1497	.0046	-.0024	.0043	30.8962	161.89	1.5098	38.3	.1406	1251.8	.0174
10.69	.02	1.7533	.3453	-.1609	.0056	-.0016	-.0009	30.9212	161.98	1.5098	38.3	.1404	1252.8	.0173
11.74	.03	1.8035	.3640	-.1658	.0080	.0000	.0010	30.9057	162.01	1.5078	38.3	.1393	1254.0	.0172
12.56	.01	1.6185	.4116	-.1958	.0585	.0112	-.0819	31.3834	163.41	1.5158	38.3	.1402	1255.1	.0171
13.36	.02	1.4123	.4235	-.1801	.0706	.0092	-.0671	31.8752	164.78	1.5254	38.3	.1403	1255.7	.0168
.97	.03	1.0037	.2064	-.0778	.0030	-.0027	.0087	30.6814	161.66	1.4966	38.3	.1386	1256.3	.0173
-3.37	.02	.6554	.1729	-.0376	.0026	-.0037	.0087	30.7564	161.92	1.4969	38.3	.1393	1256.6	.0174
RUN NO.	83	CONFIG NO.	35											
.99	.06	1.0299	.2131	-.0794	.0029	-.0029	.0073	30.5554	161.35	1.4934	52.7	.1823	1420.5	.0258
5.32	.05	1.3674	.2631	-.1132	.0029	-.0028	.0042	30.8348	162.14	1.4990	52.7	.1827	1420.3	.0257
9.65	.06	1.7053	.3328	-.1512	.0046	-.0023	-.0051	30.3441	160.90	1.4856	52.7	.1882	1420.3	.0258
10.73	.03	1.7899	.3552	-.1612	.0043	-.0016	.0107	30.4225	161.16	1.4865	52.7	.1893	1420.3	.0259
11.77	.04	1.8390	.3739	-.1672	.0073	.0009	.0051	30.7189	161.98	1.4928	52.7	.1866	1420.0	.0253
12.58	.05	1.6406	.4192	-.2045	.0395	.0114	-.0594	31.0972	163.11	1.4987	52.7	.1899	1419.7	.0265
13.40	.05	1.4466	.4354	-.1873	.0697	.0085	-.0800	31.6968	164.74	1.5115	52.7	.1892	1419.4	.0258
1.00	.05	1.0357	.2163	-.0785	.0028	-.0038	.0039	30.4464	161.44	1.4818	52.7	.1880	1419.2	.0257
-3.34	.07	.6822	.1793	-.0378	.0031	-.0039	.0046	30.3884	161.34	1.4792	52.7	.1854	1419.0	.0254
RUN NO.	84	CONFIG NO.	35											
1.02	.04	1.0549	.2201	-.0802	.0029	-.0043	.0070	30.1056	160.57	1.4727	74.5	.2627	1562.6	.0416
5.35	.07	1.3948	.2721	-.1151	.0026	-.0031	.0114	30.2212	160.92	1.4746	74.5	.2625	1562.4	.0414
9.66	.05	1.7217	.3382	-.1512	.0037	-.0015	.0050	30.2828	161.08	1.4762	74.5	.2619	1562.1	.0412
10.75	.07	1.8133	.3616	-.1605	.0043	-.0010	-.0006	30.1976	160.89	1.4732	74.5	.2621	1561.7	.0413
11.80	.05	1.8680	.3798	-.1700	.0058	-.0004	-.0025	30.1329	160.76	1.4708	74.5	.2596	1561.0	.0410
12.82	.06	1.8992	.4262	-.1910	.0156	.0085	-.0132	30.8933	162.84	1.4875	74.5	.2617	1559.8	.0412
13.68	.10	1.7369	.4471	-.2292	.0349	.0111	-.0518	30.7564	162.52	1.4833	74.5	.2607	1558.4	.0412
1.02	.05	1.0527	.2206	-.0791	.0025	-.0041	.0097	30.1499	160.98	1.4670	74.5	.2605	1556.2	.0410
-3.33	.07	.6944	.1821	-.0390	.0019	-.0042	.0113	30.2181	161.20	1.4678	74.5	.2604	1555.1	.0408

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 85		CONFIG NO. 36												
.85	-.02	.8854	.1942	-.0721	.0026	-.0003	-.0106	30.8159	162.44	1.4908	14.6	.0000	.0	.000
5.17	-.05	1.2168	.2363	-.1093	.0036	-.0007	-.0083	31.0392	163.04	1.4957	14.6	.0013	.0	.000
9.48	-.05	1.5293	.2920	-.1484	.0039	-.0016	-.0002	31.1756	163.46	1.4975	14.6	.0117	.0	.000
10.55	-.05	1.6105	.3105	-.1569	.0041	-.0012	.0042	31.0528	163.14	1.4946	14.6	.0052	.0	.000
11.61	-.04	1.6735	.3309	-.1645	.0069	.0004	.0003	31.0188	163.08	1.4930	14.6	.0013	.0	.000
12.32	-.02	1.3660	.3904	-.1762	.0595	.0059	-.0423	31.7513	165.11	1.5079	14.6	.0078	.0	.000
13.27	-.03	1.3192	.4001	-.1694	.0683	.0032	-.0605	31.9898	165.77	1.5126	14.6	.0013	.0	.000
.85	-.04	.8839	.1943	-.0730	.0024	-.0006	-.0053	30.9643	163.06	1.4890	14.6	.0000	.0	.000
-3.48	-.02	.5383	.1643	-.0284	.0022	-.0013	.0015	31.0451	163.36	1.4889	14.6	.0012	.0	.000
RUN NO. 86		CONFIG NO. 36												
.95	-.04	.9820	.2100	-.0711	.0024	-.0030	.0038	30.8996	163.00	1.4848	52.4	.1877	1403.4	.025
5.27	-.04	1.3191	.2594	-.1058	.0030	-.0029	.0025	30.8688	163.03	1.4815	52.4	.1848	1405.0	.027
9.59	-.04	1.6471	.3257	-.1409	.0040	-.0023	.0021	31.0325	163.54	1.4836	52.4	.1896	1406.1	.026
10.67	-.02	1.7077	.3445	-.1497	.0045	-.0016	.0021	30.9405	163.32	1.4809	52.4	.1908	1406.3	.025
11.73	-.01	1.7962	.3658	-.1579	.0056	-.0008	.0023	30.9983	163.50	1.4817	52.4	.1903	1406.5	.025
12.39	-.02	1.4376	.4157	-.1839	.0567	.0114	-.0381	31.6366	165.41	1.4955	52.4	.1857	1406.8	.024
13.36	-.04	1.4089	.4233	-.1792	.0668	.0097	-.0768	31.7939	165.74	1.4970	52.4	.1869	1406.8	.025
.95	-.02	.9805	.2115	-.0714	.0025	-.0029	.0044	30.8757	163.35	1.4746	52.4	.1872	1406.7	.025
-3.38	-.04	.6391	.1799	-.0334	.0027	-.0043	.0076	30.7053	162.97	1.4690	52.4	.1873	1406.6	.025
RUN NO. 87		CONFIG NO. 37												
.92	-.00	.8483	.1903	.0115	.0143	-.0003	-.0062	31.3936	163.89	1.5061	14.6	.0076	.0	.000
5.15	.00	1.1875	.2337	-.0221	.0142	-.0014	-.0040	31.1305	163.20	1.4998	14.6	.0049	.0	.000
9.44	-.00	1.4913	.2863	-.0531	.0138	-.0019	-.0015	31.2402	163.50	1.5023	14.6	.0107	.0	.000
10.52	-.01	1.5701	.3034	-.0630	.0147	-.0017	-.0058	31.1267	163.23	1.4989	14.6	.0000	.0	.000
11.58	-.00	1.6403	.3206	-.0711	.0148	-.0013	-.0028	31.0256	162.96	1.4964	14.6	.0120	.0	.000
12.60	.00	1.6538	.3853	-.1148	.0048	-.0049	.0006	31.3731	163.90	1.5042	14.6	.0144	.0	.000
13.24	-.00	1.2871	.4117	-.1336	.0652	-.0041	-.0560	31.7699	165.04	1.5111	14.6	.0102	.0	.000
.92	-.00	.8450	.1925	.0120	.0133	-.0003	-.0040	30.9405	162.92	1.4902	14.6	.0070	.0	.000
-3.51	-.00	.5075	.1651	.0489	.0139	-.0005	-.0006	31.0188	163.24	1.4894	14.6	.0013	.0	.000
RUN NO. 88		CONFIG NO. 37												
.90	.00	.9282	.2051	.0116	.0145	-.0029	.0006	30.9643	163.28	1.4854	38.2	.1402	1243.1	.017
5.22	.00	1.2611	.2491	-.0179	.0134	-.0025	.0044	30.5657	162.24	1.4755	38.2	.1392	1243.7	.017
9.53	.00	1.5992	.3130	-.0477	.0135	-.0033	.0044	30.9702	163.26	1.4829	38.2	.1393	1244.7	.017
10.61	-.00	1.6724	.3335	-.0566	.0141	-.0026	.0066	30.7137	162.70	1.4774	38.2	.1409	1245.2	.017
11.69	-.00	1.7362	.3534	-.0634	.0150	-.0002	.0058	31.1245	163.82	1.4866	38.2	.1404	1245.7	.017
12.35	.00	1.3954	.4009	-.1233	.0667	.0103	-.0811	31.5537	165.09	1.4933	38.2	.1399	1246.6	.016
13.33	.00	1.3762	.4141	-.1275	.0750	.0087	-.0768	31.8126	165.79	1.4989	38.2	.1405	1246.8	.015
.90	.00	.9333	.2077	.0111	.0145	-.0029	.0054	30.6338	162.69	1.4709	38.2	.1406	1247.3	.017
-3.44	.00	.5770	.1784	.0428	.0138	-.0021	.0099	30.7292	162.99	1.4721	38.2	.1407	1247.6	.017

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO.	89	CONFIG NO.	37											
.92	.00	.9530	.2119	.0094	.0131	-.0030	.0049	30.9405	163.42	1.4801	52.5	.1864	1408.5	.0259
5.25	.00	1.2060	.2622	-.0204	.0133	-.0037	.0055	30.7019	162.82	1.4737	52.5	.1864	1408.6	.0261
9.57	-.01	1.6231	.3719	-.0468	.0143	-.0027	-.0031	30.5452	162.34	1.4713	52.5	.1854	1408.8	.0261
10.64	.00	1.6984	.3408	-.0554	.0137	-.0029	.0111	30.7880	163.04	1.4760	52.5	.1859	1408.7	.0259
11.71	.00	1.7707	.3604	-.0633	.0147	-.0024	.0070	30.7667	163.01	1.4747	52.5	.1894	1408.7	.0265
12.40	.00	1.4477	.4132	-.1300	.0621	.0099	-.0726	31.4617	164.98	1.4882	52.5	.1890	1408.5	.0258
13.37	.00	1.4700	.4017	-.1296	.0719	.0087	-.0721	31.5912	165.37	1.4901	52.5	.1874	1408.4	.0254
.91	-.01	.9463	.2097	.0115	.0132	-.0030	.0072	30.7973	163.28	1.4711	52.5	.1863	1408.2	.0260
-3.42	.00	.6025	.1813	.0434	.0135	-.0029	.0094	30.5997	162.82	1.4651	52.5	.1879	1408.2	.0264
RUN NO.	90	CONFIG NO.	37											
.93	.00	.9670	.2180	.0098	.0131	-.0030	.0141	30.7428	163.03	1.4722	74.5	.2639	1551.8	.0406
5.26	-.00	1.3095	.2635	-.0187	.0126	-.0031	.0087	30.4873	162.41	1.4647	74.5	.2653	1551.6	.0412
9.57	-.00	1.6257	.3057	-.0496	.0128	-.0018	.0026	30.7871	163.25	1.4711	74.5	.2636	1551.3	.0404
10.66	.00	1.7193	.3467	-.0554	.0131	-.0018	.0026	30.5452	162.62	1.4650	74.5	.2631	1551.2	.0407
11.72	-.00	1.7964	.3656	-.0628	.0145	-.0012	-.0005	30.5384	162.65	1.4636	74.5	.2639	1550.9	.0408
12.75	-.00	1.8087	.4044	-.0839	.0222	.0066	-.0203	31.1551	164.39	1.4759	74.5	.2649	1550.2	.0412
13.64	.00	1.6983	.4035	-.1339	.0381	.0082	-.0311	31.2216	164.65	1.4757	74.5	.2648	1549.8	.0411
.93	.00	.9407	.2156	.0105	.0136	-.0039	.0058	30.4567	162.66	1.4566	74.5	.2663	1549.1	.0413
-3.40	.00	.6183	.1857	.0426	.0130	-.0024	.0128	30.6260	163.18	1.4590	74.5	.2667	1548.8	.0411
RUN NO.	91	CONFIG NO.	38											
.82	.00	.8521	.1966	.0115	.0340	.0009	-.0021	31.0668	163.70	1.4845	14.6	.0052	.0	.0000
5.13	.00	1.1717	.2344	-.0175	.0315	-.0014	.0022	30.9461	163.41	1.4809	14.6	.0121	.0	.0000
9.44	.00	1.4914	.2904	-.0476	.0311	-.0031	-.0019	30.9677	163.51	1.4805	14.6	.0076	.0	.0000
10.52	.00	1.5750	.3091	-.0601	.0316	-.0037	-.0077	31.1585	164.02	1.4848	14.6	.0013	.0	.0000
11.58	-.00	1.6402	.3236	-.0675	.0314	-.0031	.0006	31.1226	163.96	1.4831	14.6	.0024	.0	.0000
12.28	.00	1.3302	.3867	-.1215	.0846	.0012	-.0748	32.1230	166.65	1.5050	14.6	.0119	.0	.0000
13.28	.00	1.3071	.3965	-.1240	.0880	-.0013	-.0643	31.8945	166.11	1.4984	14.6	.0102	.0	.0000
.82	.00	.8457	.1967	.0109	.0337	.0009	.0006	31.3239	164.59	1.4856	14.6	.0100	.0	.0000
-3.51	.00	.5109	.1690	.0480	.0333	.0025	.0022	31.3459	164.74	1.4841	14.6	.0144	.0	.0000
RUN NO.	92	CONFIG NO.	38											
.89	.00	.9232	.2087	.0101	.0328	-.0015	.0083	30.9438	163.59	1.4766	38.2	.1354	1243.5	.0166
5.22	.00	1.2655	.2547	-.0184	.0317	-.0033	.0057	31.1721	164.22	1.4813	38.2	.1408	1243.9	.0171
9.52	.00	1.5775	.3146	-.0461	.0310	-.0045	.0047	31.0142	163.82	1.4770	38.2	.1394	1244.4	.0170
10.61	.00	1.6638	.3347	-.0534	.0312	-.0045	.0008	31.1790	164.27	1.4807	38.2	.1383	1244.4	.0168
11.66	.00	1.7245	.3520	-.0585	.0311	-.0044	.0060	31.0870	164.02	1.4786	38.2	.1386	1244.6	.0169
12.53	.00	1.5816	.4101	-.1031	.0024	-.0161	.0573	31.6082	165.52	1.4882	38.2	.1407	1245.2	.0169
13.44	.00	1.4944	.4312	-.1299	-.0154	-.0194	.1148	31.8058	166.37	1.4852	38.2	.1382	1246.0	.0165
.89	.00	.9252	.2106	.0099	.0339	-.0016	.0121	30.6920	163.47	1.4580	38.2	.1386	1246.2	.0172
-3.44	.00	.5765	.1802	.0423	.0337	.0002	.0121	31.0086	164.35	1.4647	38.2	.1381	1246.1	.0169

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 93		CONFIG NO. 38												
.92	.01	.5506	.2151	.0105	.0331	-.0023	.0106	31.0885	164.44	1.4692	52.4	.1872	1405.6	.0258
5.23	.00	1.2782	.2592	-.0170	.0313	-.0034	.0067	30.9608	164.14	1.4653	52.4	.1904	1405.8	.0264
9.55	.00	1.6088	.3244	-.0444	.0307	-.0051	.0076	31.0017	164.29	1.4654	52.4	.1867	1405.9	.0258
10.63	.00	1.6916	.3436	-.0523	.0310	-.0037	.0004	30.8042	163.79	1.4602	52.4	.1849	1405.9	.0257
11.70	.02	1.7579	.3618	-.0580	.0316	-.0038	.0005	31.1163	164.65	1.4668	52.4	.1850	1406.0	.0255
12.36	.00	1.4087	.4164	-.1293	.0464	-.0015	-.0860	31.7885	166.44	1.4821	52.4	.1849	1405.7	.0259
13.29	.00	1.3419	.4411	-.1478	.0682	-.0026	-.0747	32.2317	167.61	1.4921	52.4	.1859	1405.7	.0257
.91	.00	.9475	.2152	.0109	.0331	-.0021	.0102	30.6920	163.55	1.4562	52.4	.1868	1405.6	.0261
-3.42	.00	.6009	.1847	.0434	.0339	-.0003	.0119	31.0389	164.50	1.4636	52.4	.1855	1405.6	.0256
RUN NO. 94		CONFIG NO. 38												
.93	.00	.9617	.2195	.0106	.0330	-.0024	.0117	30.9150	164.02	1.4642	74.5	.2620	155[illegible].1	.0411
5.25	.00	1.2922	.2649	-.0175	.0309	-.0038	.0104	30.7478	163.61	1.4595	74.5	.2639	1550.3	.0405
9.56	.00	1.6172	.3286	-.0463	.0305	-.0042	.0085	31.1278	164.63	1.4683	74.5	.2637	1550.3	.0401
10.64	.00	1.7026	.3505	-.0534	.0305	-.0041	.0034	30.9063	164.06	1.4627	74.5	.2637	1550.3	.0413
11.64	.00	1.6991	.3787	-.0531	.0265	-.0051	.0082	30.9472	164.10	1.4652	74.5	.2642	1549.7	.0413
.92	.01	.9562	.2189	.0093	.0410	.0029	.0034	30.7667	163.68	1.4596	74.5	.0000	1546.4	.0000
-3.41	.01	.6111	.1855	.0418	.0417	.0045	.0068	30.9302	164.12	1.4632	74.5	.0000	1546.3	.0000
RUN NO. 97		CONFIG NO. 39												
.96	5.97	.9918	.2098	-.0261	-.0070	.0185	-.1090	31.1381	161.22	1.5307	52.6	.1912	1407.1	.0264
5.28	5.98	1.3283	.2604	-.0571	-.0073	.0161	-.1023	31.2914	161.69	1.5328	52.6	.1906	1410.4	.0262
9.58	5.98	1.6339	.3229	-.0848	-.0079	.0175	-.1016	30.8665	160.64	1.5210	52.6	.1905	1411.6	.0265
10.65	6.00	1.7090	.3402	-.0935	-.0073	.0172	-.1042	31.4209	162.12	1.5338	52.6	.1911	1412.3	.0262
11.70	5.99	1.7666	.3587	-.0993	-.0044	.0201	-.1142	31.1517	161.48	1.5257	52.6	.1892	1412.9	.0262
12.51	6.00	1.5621	.4118	-.1645	.0276	.0159	-.1379	31.8501	163.37	1.5406	52.6	.1900	1413.1	.0257
13.35	5.99	1.4041	.4263	-.1485	.0566	.0131	-.1315	32.2147	164.51	1.5443	52.6	.1900	1412.8	.0254
.96	6.00	.9967	.2122	-.0265	-.0071	.0180	-.1089	31.0421	161.71	1.5106	52.6	.1897	1411.8	.0253
-3.37	6.01	.6504	.1758	.0068	-.0088	.0218	-.1189	31.0916	161.93	1.5098	52.6	.1879	1411.7	.0260
RUN NO. 98		CONFIG NO. 39												
.98	12.00	1.0167	.2046	-.0945	-.0204	.0301	-.2036	30.7850	161.29	1.4985	52.6	.1897	1411.7	.0255
5.29	12.00	1.3326	.2532	-.1257	-.0199	.0312	-.1996	30.9813	161.84	1.5023	52.6	.1891	1410.9	.0253
9.58	11.99	1.6401	.3131	-.1511	-.0188	.0318	-.2073	30.9234	161.73	1.5001	52.6	.1887	1410.8	.0253
10.65	12.00	1.7068	.3303	-.1591	-.0174	.0317	-.2138	30.7694	161.34	1.4960	52.6	.1887	1410.8	.0254
11.57	12.00	1.6295	.3685	-.2114	.0019	.0235	-.2072	31.3561	162.95	1.5084	52.6	.1893	1410.6	.0260
12.57	12.00	1.6240	.4093	-.2187	.0110	.0209	-.2091	31.7275	163.96	1.5161	52.6	.1881	1410.5	.0255
13.50	12.00	1.5539	.4470	-.2109	.0127	.0150	-.2008	31.7070	164.11	1.5108	52.6	.1880	1410.2	.0255
.99	12.00	1.0218	.2065	-.0956	-.0209	.0298	-.1988	30.6176	161.45	1.4802	52.6	.1865	1409.9	.0262
-3.33	12.00	.6936	.1711	-.0616	-.0210	.0294	-.1998	30.5216	161.38	1.4738	52.6	.1898	1409.9	.0257

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 99		CONFIG NO. 39												
.87	6.00	.9031	.1911	-.0301	-.0140	.0124	-.1026	30.7871	162.32	1.4741	14.8	.0079	.0	.0000
5.18	6.00	1.2200	.2334	-.0603	-.0142	.0093	-.0902	31.1567	163.33	1.4821	14.8	.0131	.0	.0000
9.48	5.99	1.5321	.2920	-.0920	-.0142	.0097	-.0707	31.0563	163.25	1.4756	14.8	.0052	.0	.0000
10.56	5.99	1.6120	.3098	-.1030	-.0141	.0103	-.0919	30.9677	163.04	1.4729	14.8	.0131	.0	.0000
11.61	5.91	1.6657	.3270	-.1103	-.0112	.0133	-.0951	30.8686	162.82	1.4696	14.8	.0119	.0	.0000
12.29	5.91	1.3324	.3048	-.1478	.0468	.0034	-.1075	31.8195	165.53	1.4869	14.8	.0131	.0	.0000
13.28	5.91	1.3304	.4120	-.1437	.0524	.0012	-.0969	31.9148	165.80	1.4887	14.8	.0131	.0	.0000
.88	5.92	.9110	.1927	-.0296	-.0136	.0122	-.1015	30.8927	163.22	1.4625	14.8	.0105	.0	.0000
-3.45	5.92	.5667	.1637	.0075	-.0148	.0156	-.1131	31.0049	163.59	1.4635	14.8	.0060	.0	.0000
RUN NO. 100		CONFIG NO. 39												
.90	11.91	.9288	.1858	-.0984	-.0263	.0233	-.1943	30.6338	162.70	1.4525	14.8	.0131	.0	.0000
5.19	11.92	1.2296	.2302	-.1037	-.0262	.0230	-.1882	30.6487	162.74	1.4528	14.8	.0083	.0	.0000
9.49	11.93	1.5408	.2851	-.1644	-.0251	.0223	-.1898	31.1783	164.17	1.4648	14.8	.0000	.0	.0000
10.56	11.91	1.6150	.3062	-.1757	-.0243	.0227	-.1779	30.8872	163.42	1.4575	14.8	.0064	.0	.0000
11.39	11.91	1.4444	.3656	-.2021	.0052	.0083	-.1845	31.7853	165.21	1.4755	14.8	.0026	.0	.0000
12.31	11.93	1.3614	.4015	-.1763	.0308	.0016	-.1698	31.7922	165.98	1.4744	14.8	.0039	.0	.0000
13.32	11.95	1.3717	.4200	-.1683	.0366	.0018	-.1582	31.9650	166.46	1.4778	14.8	.0012	.0	.0000
.90	11.95	.9342	.1885	-.0991	-.0267	.0237	-.1968	30.6394	163.13	1.4434	14.8	.0000	.0	.0000
-3.43	11.95	.5905	.1560	-.0606	-.0277	.0236	-.1979	30.6582	163.29	1.4412	14.8	.0033	.0	.0000
RUN NO. 102		CONFIG NO. 40												
.87	.00	.9008	.1521	-.2193	-.0057	.0011	-.0049	30.8076	162.64	1.4701	14.8	.0065	.0	.0000
5.15	.00	1.1947	.1924	-.1868	-.0060	-.0013	-.0012	30.7156	162.46	1.4664	14.8	.0052	.0	.0000
9.43	.00	1.4801	.2468	-.1544	-.0065	-.0011	.0038	30.6673	162.38	1.4641	14.8	.0048	.0	.0000
10.50	-.01	1.5538	.2629	-.1457	-.0064	-.0003	.0038	30.9302	163.12	1.4694	14.8	.0052	.0	.0000
11.55	-.00	1.6107	.2800	-.1378	-.0066	.0001	.0045	30.5997	162.28	1.4607	14.8	.0065	.0	.0000
12.62	.00	1.6757	.3217	-.1355	-.0028	.0085	-.0071	31.0222	163.43	1.4699	14.8	.0052	.0	.0000
13.41	-.01	1.4645	.3661	-.1489	-.0430	-.0117	.0891	31.5946	165.03	1.4813	14.8	.0039	.0	.0000
14.13	.00	1.1720	.4011	-.1576	.0259	-.0065	.0394	32.1124	166.48	1.4909	14.8	.0026	.0	.0000
.88	-.00	.9095	.1517	-.2186	-.0060	.0017	-.0095	30.5929	162.62	1.4524	14.8	.0092	.0	.0000
-3.44	-.01	.5480	.1206	-.2463	-.0028	.0014	-.0079	30.6032	162.80	1.4502	14.8	.0118	.0	.0000
RUN NO. 103		CONFIG NO. 40												
.86	-.00	.8897	.1484	-.2166	-.0043	.0016	-.0088	41.1576	189.03	1.6768	14.8	.0107	.0	.0000
5.15	-.00	1.1936	.1998	-.1858	-.0055	-.0002	-.0049	41.0496	189.22	1.6648	14.8	.0026	.0	.0000
9.43	.00	1.4832	.2448	-.1531	-.0071	-.0007	.0018	41.1211	189.60	1.6614	14.8	.0013	.0	.0000
10.50	.00	1.5590	.2615	-.1464	-.0078	-.0003	.0053	41.1211	189.62	1.6609	14.8	.0052	.0	.0000
11.56	.00	1.6129	.2781	-.1384	-.0065	.0006	.0030	41.0564	189.52	1.6587	14.8	.0000	.0	.0000
12.62	-.00	1.6924	.3201	-.1350	-.0021	.0090	-.0045	41.3246	190.22	1.6621	14.8	.0036	.0	.0000
13.29	.00	1.3370	.3593	-.1675	.0392	.0106	-.0299	42.3306	192.85	1.6751	14.8	.0011	.0	.0000
14.25	-.01	1.2996	.3884	-.1717	.0546	.0011	.0029	42.5942	193.59	1.6772	14.8	.0052	.0	.0000
.87	-.00	.9004	.1508	-.2189	-.0045	.0014	-.0099	41.1514	190.33	1.6474	14.8	.0048	.0	.0000
-3.44	.00	.5783	.1208	-.2459	-.0032	.0014	-.0102	41.1619	190.39	1.6468	14.8	.0052	.0	.0000

ALPHA	BETA	CLS	CDS	CMS	CROLLS	CYAWS	CYS	Q	V	RN-TUN 10**6	PNOZL	MASS FLOW	VJET	CMU
RUN NO. 104		CONFIG NO. 41												
.83	.00	.8593	.1494	-.2131	-.0048	.0016	-.0051	41.0871	189.56	1.6599	14.8	.0089	.0	.0000
5.11	.00	1.1553	.1885	-.1801	-.0049	-.0010	.0026	41.2689	190.07	1.6615	14.8	.0036	.0	.0000
9.39	-.00	1.4428	.2411	-.1490	-.0060	-.0002	-.0010	41.1177	189.81	1.6565	14.8	.0102	.0	.0000
10.46	-.00	1.5175	.2574	-.1404	-.0066	.0002	.0030	41.2232	190.12	1.6571	14.8	.0013	.0	.0000
11.53	.00	1.5923	.2734	-.1330	-.0063	.0005	.0013	41.3082	190.36	1.6579	14.8	.0032	.0	.0000
12.58	-.01	1.6398	.3004	-.1332	-.0063	.0052	-.0049	41.8050	191.54	1.6670	14.8	.0023	.0	.0000
13.31	.00	1.3619	.3536	-.1599	.0406	.0091	-.0696	42.0545	192.27	1.6685	14.8	.0024	.0	.0000
14.24	-.00	1.2823	.3829	-.1639	.0549	.0025	-.0406	42.3916	193.12	1.6733	14.8	.0036	.0	.0000
.83	.00	.8622	.1501	-.2111	-.0039	.0019	-.0109	41.1891	190.25	1.6506	14.8	.0013	.0	.0000
RUN NO. 105		CONFIG NO. 41												
5.12	.00	1.1652	.1922	-.1815	-.0051	-.0004	-.0003	30.6508	164.17	1.4227	14.8	.0032	.0	.0000
9.40	.00	1.4472	.2428	-.1496	-.0061	-.0003	-.0039	30.9780	165.05	1.4299	14.8	.0039	.0	.0000
10.47	.00	1.5195	.2602	-.1415	-.0057	-.0004	.0024	30.8893	164.74	1.4272	14.8	.0000	.0	.0000
11.53	.00	1.5890	.2768	-.1350	-.0056	.0008	-.0003	30.7531	164.45	1.4248	14.8	.0063	.0	.0000
12.46	.00	1.5151	.3452	-.1417	-.0275	-.0083	.0479	31.3146	165.94	1.4379	14.8	.0048	.0	.0000
13.40	-.01	1.4550	.3614	-.1470	-.0379	-.0118	.0382	31.3085	165.93	1.4375	14.8	.0000	.0	.0000
.84	.00	.8672	.1499	-.2146	-.0054	.0022	-.0025	30.6051	164.34	1.4225	14.8	.0000	.0	.0000
-3.48	.00	.5434	.1250	-.2423	-.0030	.0016	-.0075	30.5990	164.09	1.4201	14.8	.0012	.0	.0000
RUN NO. 106		CONFIG NO. 42												
.69	-.00	.7124	.1665	-.1579	-.0041	-.0012	.0031	31.1926	159.78	1.5700	14.8	.0013	.0	.0000
4.96	.00	.9952	.1982	-.1269	-.0050	-.0009	.0012	31.4617	160.56	1.5744	14.8	.0066	.0	.0000
9.22	.00	1.2650	.2411	-.0976	-.0057	-.0009	.0009	31.3595	160.38	1.5698	14.8	.0013	.0	.0000
10.29	.00	1.3405	.2585	-.0890	-.0051	-.0005	.0061	31.5844	161.02	1.5738	14.8	.0105	.0	.0000
11.35	.00	1.3955	.2662	-.0811	-.0054	-.0002	.0067	31.8467	161.76	1.5786	14.8	.0071	.0	.0000
12.41	.00	1.4585	.3030	-.0812	-.0009	.0073	-.0092	31.7581	161.57	1.5754	14.8	.0116	.0	.0000
13.19	.00	1.2378	.3565	-.1216	.0342	-.0008	-.0250	32.5758	163.75	1.5928	14.8	.0151	.0	.0000
.68	.00	.7024	.1644	-.1542	-.0046	-.0009	-.0027	31.7018	161.61	1.5696	14.8	.0111	.0	.0000
-3.60	-.01	.4162	-.0100	-.1426	-.0027	-.0008	-.0101	31.7853	161.97	1.5679	14.8	.0105	.0	.0000
RUN NO. 107		CONFIG NO. 42												
.84	-.00	.8724	.0539	-.1717	-.0058	.0007	-.0008	32.1291	163.03	1.5718	52.6	.1893	1399.5	.0291
5.11	-.02	1.1477	.0734	-.1400	-.0068	-.0007	.0017	31.9693	162.70	1.5660	52.6	.1902	1402.2	.0254
9.36	-.01	1.4077	.1373	-.1080	-.0073	.0001	-.0004	32.0102	162.91	1.5645	52.6	.1901	1405.1	.0254
10.42	-.01	1.4679	.1498	-.0968	-.0074	.0006	-.0012	32.1261	163.22	1.5669	52.6	.1894	1405.4	.0252
11.46	-.01	1.5180	.1644	-.0890	-.0071	.0012	.0010	32.4122	164.00	1.5725	52.6	.1923	1406.1	.0254
12.49	-.02	1.5436	.2162	-.0884	-.0043	.0047	-.0055	32.5758	164.45	1.5756	52.6	.1920	1406.4	.0252
13.43	-.01	1.4834	.2590	-.1009	-.0221	-.0073	.0340	32.8380	165.19	1.5799	52.6	.1913	1406.8	.0249
.84	-.01	.8712	.0527	-.1705	-.0056	-.0010	-.0016	32.2656	163.81	1.5635	52.6	.1908	1406.5	.0253
-3.43	-.01	.5905	.0273	-.2007	-.0041	.0000	-.0065	32.4735	164.45	1.5668	52.6	.1929	1406.2	.0254

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)
Aviation and Surface Effects Department
Naval Ship Research and Development Center
Bethesda, Maryland 20034

2a. REPORT SECURITY CLASSIFICATION
UNCLASSIFIED

2b. GROUP

3. REPORT TITLE
(6) SUBSONIC AERODYNAMIC CHARACTERISTICS OF THE T-2C AIRCRAFT WITH SPANWISE BLOWING OVER THE WING FLAPS.

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)
Technical Note

5. AUTHOR(S) (First name, middle initial, last name)
(10) Jonah Ottensoser (12) 80p.

6. REPORT DATE
(11) September 1973

7a. TOTAL NO. OF PAGES

7b. NO. OF REFS
1

8a. CONTRACT OR GRANT NO.
(16) WR41421

b. PROJECT NO.
(17) WR 41 421 212
NSRDC 1690-125

d.

9a. ORIGINATOR'S REPORT NUMBER(S)
(9) Technical Note AL-300

9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
(14) TN-AL-300

10. DISTRIBUTION STATEMENT
Distribution limited to U.S. Government agencies only; Test and Evaluation; September 1973. Other requests for this document must be referred to Head, Aviation and Surface Effects Department (16).

11. SUPPLEMENTARY NOTES

12. SPONSORING MILITARY ACTIVITY
Commander
Naval Air Systems Command (320)
Washington, D. C. 20361

13. ABSTRACT

(4A) The wind tunnel study presented in this report was undertaken in order to evaluate the concept of blowing spanwise over the wing from the fuselage as a means of increasing lift coefficient of a T-2C aircraft. To optimize gains in lift coefficient, the parameters varied were nozzle position, nozzle angle, flap angle and blowing momentum coefficient. In addition, data were taken to evaluate the effect of spanwise blowing on aileron effectiveness, elevator effectiveness and lateral stability. Gains in lift coefficient over the entire angle of attack range below stall were noted. These gains were most substantial for the slotted flap at its largest deflection of 53 degrees at 43 degrees flap deflection with the flap slot closed. No substantial effect of spanwise blowing on the stability and control of the aircraft was observed.

(4A) (4B)

DD FORM 1 NOV 68 1473 (PAGE 1)

S/N 0101-807-6801

UNCLASSIFIED

Security Classification

387695

14 KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Spanwise Blowing						
T-2C						
High Lift Devices						
Boundary Layer Control						