

AFFDL TR-66-57

VOLUME II

**KC-135 POWER SPECTRAL  
VERTICAL GUST LOAD  
ANALYSIS**

**SUPPLEMENT RESULTS VOLUME II**

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THE BOEING COMPANY*

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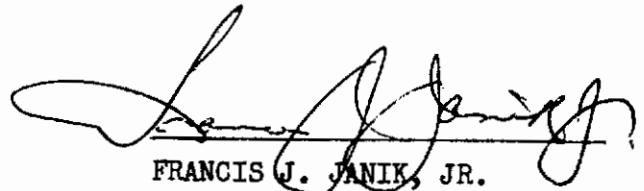
FOREWORD

The program described in this report was conducted by the Structural Dynamics Unit, Structures Staff, Commercial Airplane Division, The Boeing Company, Renton, Washington. The program was monitored by Mr. Paul Hasty (FDTR), Air Force Flight Dynamics Laboratory, Research and Technology Division, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio, under contract number AF33(615)-2454, "Investigation to Obtain Specific Design Calculations on Proven Transport Aircraft for the Verification of a Gust Design Procedure Based on Proven Spectral Techniques." The program was accomplished under system number 5(611367 62405334), project number 1367, "Structural Design Criteria", task number 136702, "Aerospace Vehicle Structural Loads Criteria." The time period covered by this final technical report is 1 July 1965 to 1 June 1966. The manuscript was released by the author on 1 April 1966 for publication as an RTD technical report.

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This technical report has been reviewed and is approved.



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## ABSTRACT

This report presents the results of an analysis to obtain the stress response parameters (level of stress per level of turbulence) and zero-crossing rates at two wing stations and two body stations of the KC-135 airplane where the margins of safety for gusts are minimum. Five combinations of gross weight, speed, and altitude were selected. The results of the computer analysis present the effects of changes in scale of turbulence and upper cutoff frequency on the response parameters and zero-crossing rates. Results indicate a large reduction in stress response parameter and small reduction in zero-crossing rate with increasing scale of turbulence. Variations of upper cutoff frequency above the highest modal frequency used in the analysis indicate negligible change in either stress response parameter or zero-crossing rate. The ratios of incremental limit allowable stress to stress response parameter obtained over a wide range of gross weight, speed, and scale of turbulence result in a minimum value of 53. This document (volume I) presents the analyses and specific results described above. Volume II presents response parameters, zero-crossing rates, frequency response functions, and power spectra of bending moment, shear, and torsion.

# *Contrails*

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## ABBREVIATIONS AND SYMBOLS

A	stress response parameter (rms value of incremental stress for a 1 fps rms random gust) (psi/fps)
$N_0$	zero-crossing rate (average number of times per second that the incremental stress crosses the lg mean value with positive slope)
$\omega$	frequency (radians per second)
$ H(\omega) $	absolute value of frequency response function
$\Phi_i(\omega)$	gust spectrum
$\omega_c$	upper cutoff frequency (radians per second)
$\Omega$	reduced frequency (radians per foot)
L	scale of turbulence (feet)
$\sigma$	rms level of turbulence intensity (fps)
$\sigma_{W^{\eta}_D}$	measure (fps) of the probability of exceeding limit stress. (It is equal to the ratio of incremental limit allowable stress to stress response parameter.)

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## SECTION I

### INTRODUCTION

A program is being conducted by the U. S. Air Force to establish a simplified procedure to design airplanes for gusts based on power spectral density techniques. To verify the proposed gust procedure, specific design calculations for selected airplanes were obtained from several airplane manufacturers. The Boeing Company was selected to obtain design calculations for the KC-135 airplane and these design calculations are presented in this report.

The specific design calculations presented are stress response parameters (ratio of rms level of stress to rms level of turbulence), zero-crossing rates, and stress frequency response functions. These data are calculated at two wing stations and two body stations where the margins of safety for gusts are minimum. The free-free mode shapes of the airplane are also included.

In volume II are presented response parameters, zero-crossing rates, frequency response functions, and power spectra of bending moment, shear, and torsion.

## SECTION II

### ANALYSIS

#### 1. Analysis Conditions:

a. The selection of flight conditions for analysis is based on two considerations. First, consideration is given to the gust design conditions used in the basic design of the KC-135 airplane (1). These are based on the use of the gust load formula (2). Second, consideration is given to the flight conditions that would result in minimum pitch stability, that contributes to high loads in random turbulence. The critical gust altitude of 24,000 feet was derived from the design gust analysis, and this altitude is selected for the present analysis. Past power-spectral analyses have shown that low pitch stability results in high loads. The conditions for low pitch stability are a high lift coefficient and an aft center of gravity. Since both of these conditions cannot be achieved simultaneously on the KC-135 airplane, five analysis conditions are selected to represent a wide range of gross weight, center of gravity, and speed.

b. Table I and figure 1 summarize the analysis conditions. Condition 1 is the maximum gross weight, maximum design speed condition and represents the maximum gust force input to the airplane. Using the gust load formula (2), this is the critical gust design condition for the inboard wing. It should be noted that the basic KC-135 wing is designed by maneuver rather than gust conditions. Analysis condition 2 represents a fuel transfer weight of the airplane. Analysis condition 3 represents the airplane with a full body and an empty wing, except for structural reserve fuel. Analysis condition 4 represents the operating-weight-empty airplane plus structural reserve fuel (the condition having the most-aft center of gravity). Analysis condition 5 represents the maximum-gross-weight airplane flying at the slowdown speed for severe gust. At this flight condition, the airplane is flying at maximum lift coefficient.

*Table I. Summary of Analysis Conditions*

Analysis condition number	Weight condition	Gross weight (lb)	Altitude (ft)	Equivalent airspeed (kn)	Mach number	Body fuel (lb)	Wing fuel (lb)
1	A	297,000	24,000	350	0.85	83,328	109,512
2	B	268,000	24,000	350	0.85	87,927	75,913
3	C	190,590	24,000	350	0.85	83,323	3,100
4	D	107,260	24,000	350	0.85	0	3,100
5	A	297,000	24,000	207	0.50	83,328	109,512

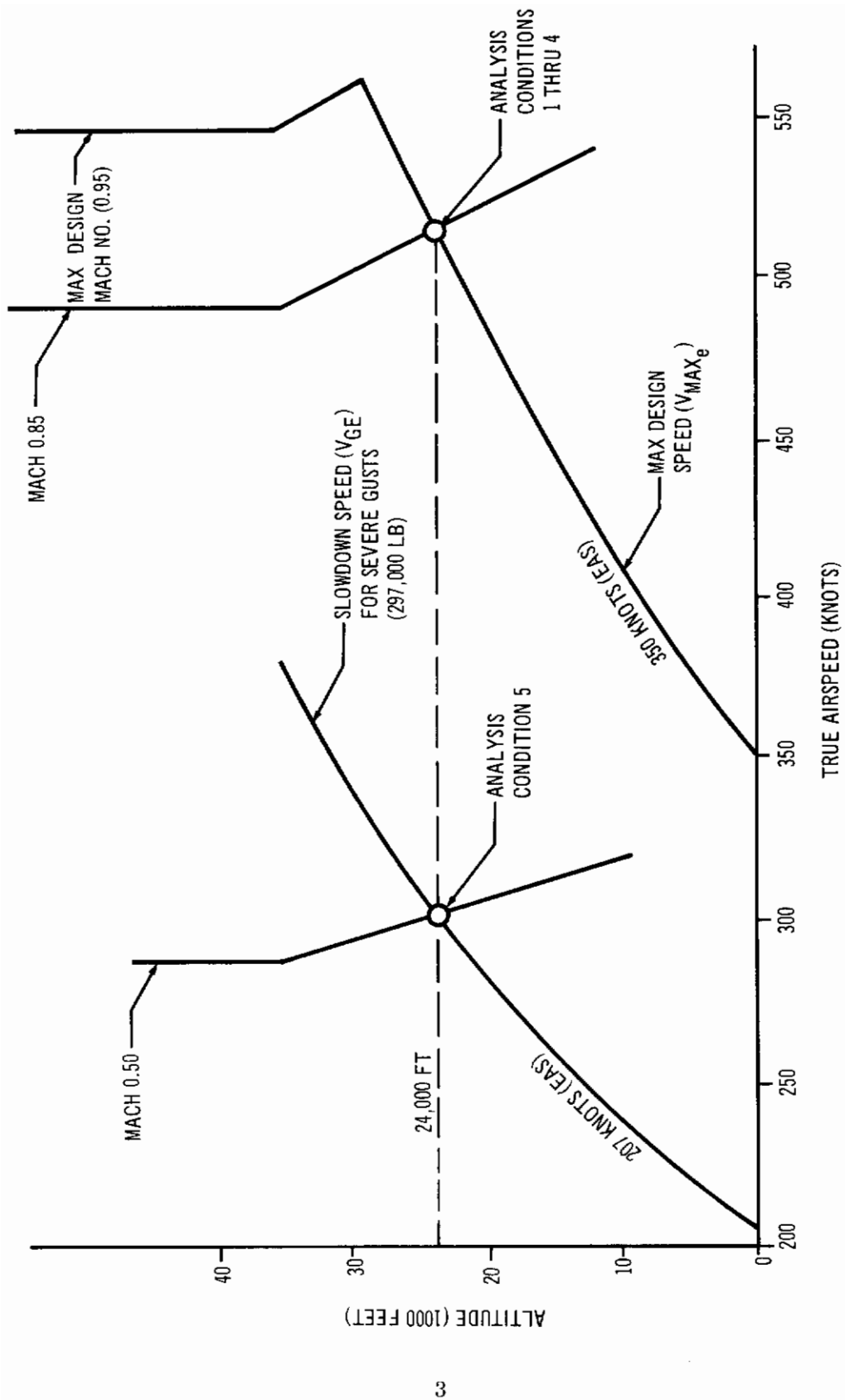


Figure 1. Speed-Altitude Conditions

2. Airplane Representation. The airplane used in this analysis is the KC-135. The airplane has a crew of four: pilot, copilot, navigator, and boom operator. It normally cruises at altitudes from 25,000 to 45,000 feet, gross weights to 297,000 pounds, and speeds to 525 knots (true air speed). The airplane has a wing span of 131 feet and an overall length of 136 feet. A two-view diagram is shown in figure 5, page 12. All major parts of the airplane except the fin and horizontal stabilizer are considered to be elastic in the analysis. Therefore, a rather comprehensive mass and stiffness description of the airplane is required. Simple beam-bending theory is used to represent the stiffness characteristics of the major components of the structure, such as the wing and forward and aft fuselage. The elastic axes are located approximately along the locus of shear centers of each component, except in the inboard portion of the wing where the elastic axis is determined from static tests.

a. **Weights Data:**

(1) The complete detailed description of panel weights (obtained from reference 3) used in this analysis is given in appendix I. The fuselage is divided into 18 weight panels and the panel weight and pitch inertia is determined for each panel. The wing semispan is divided into ten spanwise panels. Each of these panels are divided into five zones: leading edge, front spar, interspar, rear spar, and trailing edge. The weight and center of gravity are calculated for each zone and summed to give the total panel weight and center of gravity. The total panel-weight moments of inertia are computed by rotation and transfer of zone results into axes located parallel and perpendicular to the wing elastic axis.

(2) The mass properties for each engine, nacelle, and nacelle strut are combined and a lumped center of gravity is determined. Then, the nacelle mass moments of inertia are determined for axes located perpendicular and parallel to the airplane reference axis.

(3) Table II summarizes the weight conditions shown on the gross-weight-versus-center-of-gravity chart in figure 2.

**Table II. Summary of Weight Conditions**

Weight condition	Gross weight (lb)	CG (percent mac)	Fuel (lb)						
			Wing				Body		
			Outboard mains 1 & 4	Inboard mains 2 & 3	Center section	Outboard reserves	Forward	Aft	Upper
A	297,000	21.4	26,806	29,575	47,489	5,642	37,700	41,457	4,171
B	268,000	23.0	14,212	14,212	47,489	---	37,700	41,457	8,770
C	190,590	28.3	1,550	1,550	---	---	37,700	41,457	4,173
D	107,260	35.1	1,550	1,550	---	---	---	---	---
Capacity of tanks			26,806	29,575	47,489	5,642	37,700	41,457	14,131

Note: Fuel density at 6.5 pounds per gallon

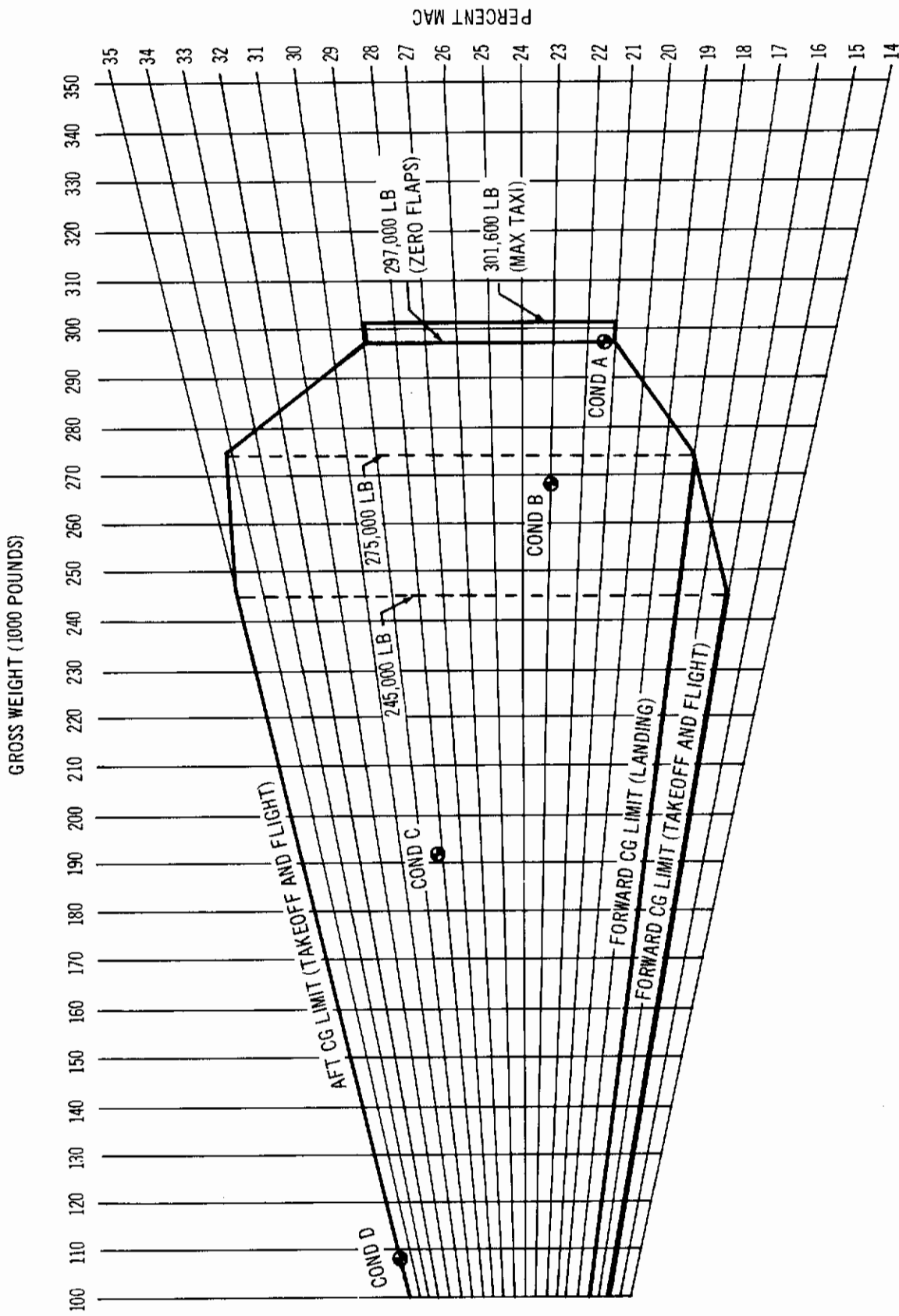


Figure 2. Gross Weight Conditions Relative to Operational Center-of-Gravity Limits

## b. Stiffness Data:

(1) The stiffness of each major component of the airplane (except nacelle struts) is described by a distribution of bending stiffness (EI) and torsional stiffness (GJ) along the elastic axis. The wing-section properties are computed using front and rear spar areas and all in-spar skin for both upper and lower surfaces. Values for modulus and shear modulus of elasticity (E and G) are  $10.3 \times 10^6$  and  $3.8 \times 10^6$  psi, respectively. The body-section properties are computed using stiffeners with full-skin effective in tension and a portion of skin effective in compression. The body cutout sections are analyzed individually by special analysis. The body center-section stiffness is estimated on the basis of variation of skin thickness, keel beam stiffness, and stringer size from body stations 620 through 820. The body stiffness is for the 2g dive maneuver condition (tension in the upper surface).

(2) The stiffness of the nacelle struts is calculated from the inertia of the nacelle-strut combination and the natural frequency and mode shapes obtained from ground shake tests (4, 5). The detailed stiffness data is given in appendix II.

## c. Structural Damping Data:

(1) The structural damping used in this analysis is obtained from the ground vibration test of the 707-320B airplane. These values of damping are considered to be representative of the KC-135 airplane, since the structure of the two airplanes is similar. The values of structural damping coefficient are equal to twice the fraction of critical damping.

<u>Mode</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
Structural damping coefficient	0.015	0.045	0.053	0.030	0.025	0.033	0.029	0.028

## d. Aerodynamic Data:

(1) All of the basic aerodynamic data required for these analyses are obtained from a series of wind tunnel tests (6). Wind tunnel pressure-model test results are used to establish wing- and fuselage-airload distribution. The aerodynamic coefficients are corrected for model flexibility before they are used for full-scale airplane analysis, and are later refined to obtain final agreement between the aeroelastic analysis and actual airplane flight-load survey measurements.

(2) The unsteady aerodynamics are based on two-dimensional strip theory, based on wind tunnel model-pressure data, and are modified to include aerodynamic induction effects (7). These induction effects account for the aerodynamic pressure carryover between wing panels and between the wing and horizontal tail. This is accomplished by using a downwash matrix based on lifting-line theory. The dynamic downwash matrix includes pressure-carryover and pressure-transmittal functions to provide the proper magnitude and phasing of the carryover pressure. The section (or strip) aerodynamics for zero frequency are made to agree with the comparable aeroelastic solution. Included in the aerodynamics is the effect of gradual penetration into the gust.



(3) Body lift distribution is based on wind tunnel pressure-model data adjusted to make the rigid airplane pitch and lift derivatives match those used in the aeroelastic analysis. Detailed aerodynamic data are given in appendix III. The maximum lift correction due to compressibility occurs at mach 0.85.

### 3. Atmospheric Turbulence Representation:

a. There are two power spectra that are in current use to represent the atmosphere (8), and the following spectrum was selected by Dr. Houbolt for this analysis:

$$\Phi(\Omega) = \left( \frac{\sigma^2 L}{\pi} \right) \frac{1 + \frac{8}{3} (1.339 L\Omega)^2}{\left[ 1 + (1.339 L\Omega)^2 \right]^{11/6}}$$

This power spectrum is plotted in figure 3 for scales of turbulence of 1,000, 3,000, and 5,000 feet. A value of 1 fps was used throughout the analysis for  $\sigma$ .

b. It is assumed that the turbulence is essentially "frozen" in space and is uniform normal to the line of flight of the airplane. The airplane passes over the turbulence much as an automobile would travel over a rough road. This approach assumes that the spanwise variation of turbulence (except for the effect of gradual penetration) is negligible.

### 4. Equations of Motion:

a. The airplane is represented by ten degrees of freedom: eight symmetrical free-free elastic modes, which are plotted in appendix IV, and rigid-airplane vertical translation and pitch. All flight control surfaces are assumed fixed in the 1g flight position. The response functions and zero-crossing rates are calculated from the following equations:

$$A = \int_0^{\omega_c} |H(\omega)|^2 \Phi_1(\omega) d\omega$$

$$N_o = \frac{1}{2\pi} \left[ \frac{\int_0^{\omega_c} \omega^2 |H(\omega)|^2 \Phi_1(\omega) d\omega}{\int_0^{\omega_c} |H(\omega)|^2 \Phi_1(\omega) d\omega} \right]^{1/2}$$

b. To check the equations of motion, the loads are obtained from the equations of motion for a 1g gust condition and compared with those obtained from the aeroelastic solution. This is accomplished by first obtaining the

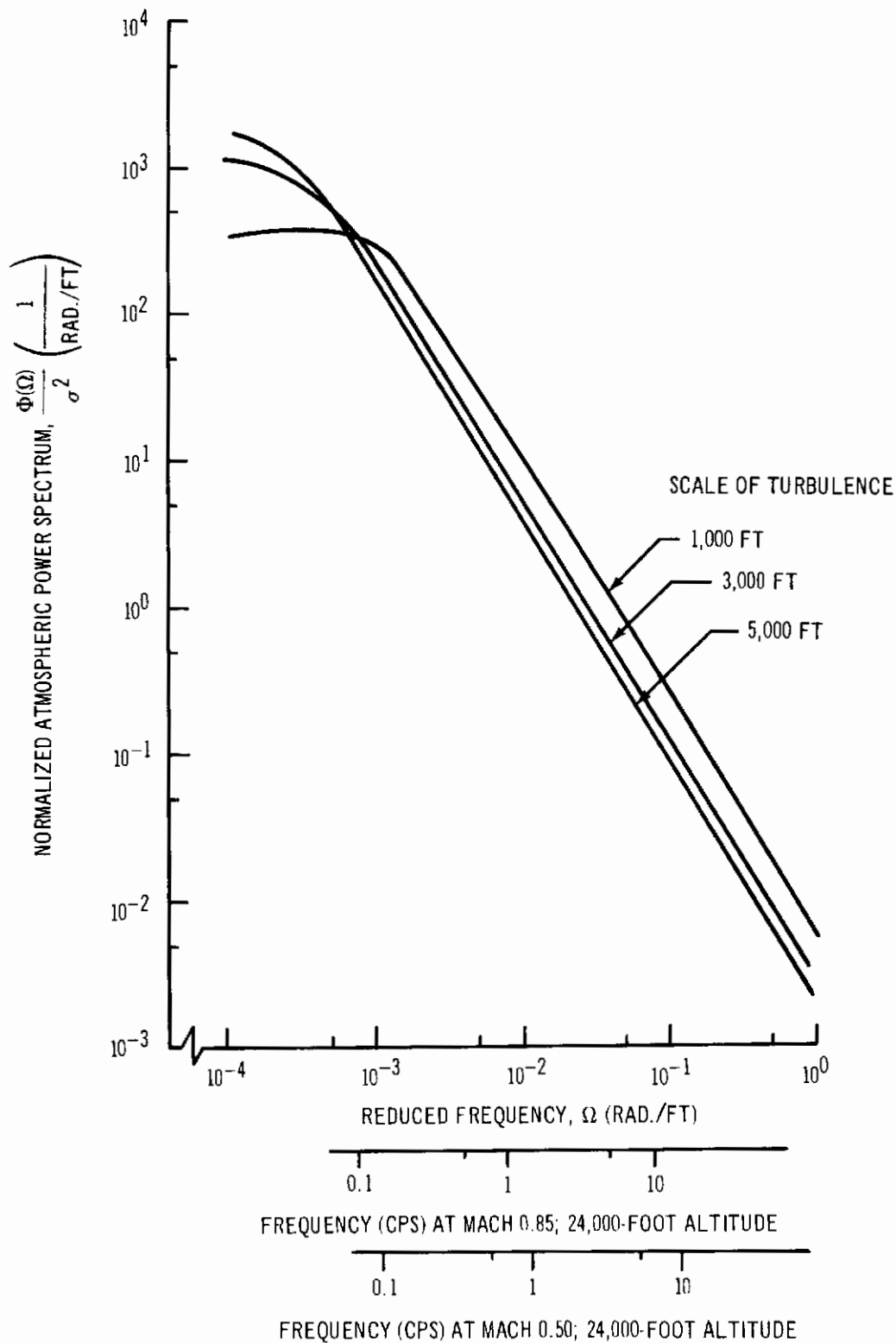
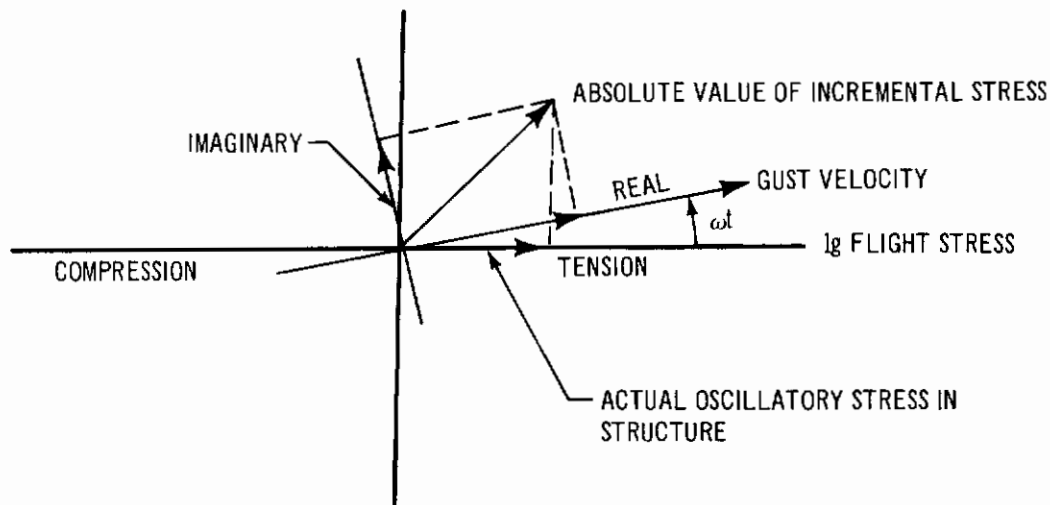


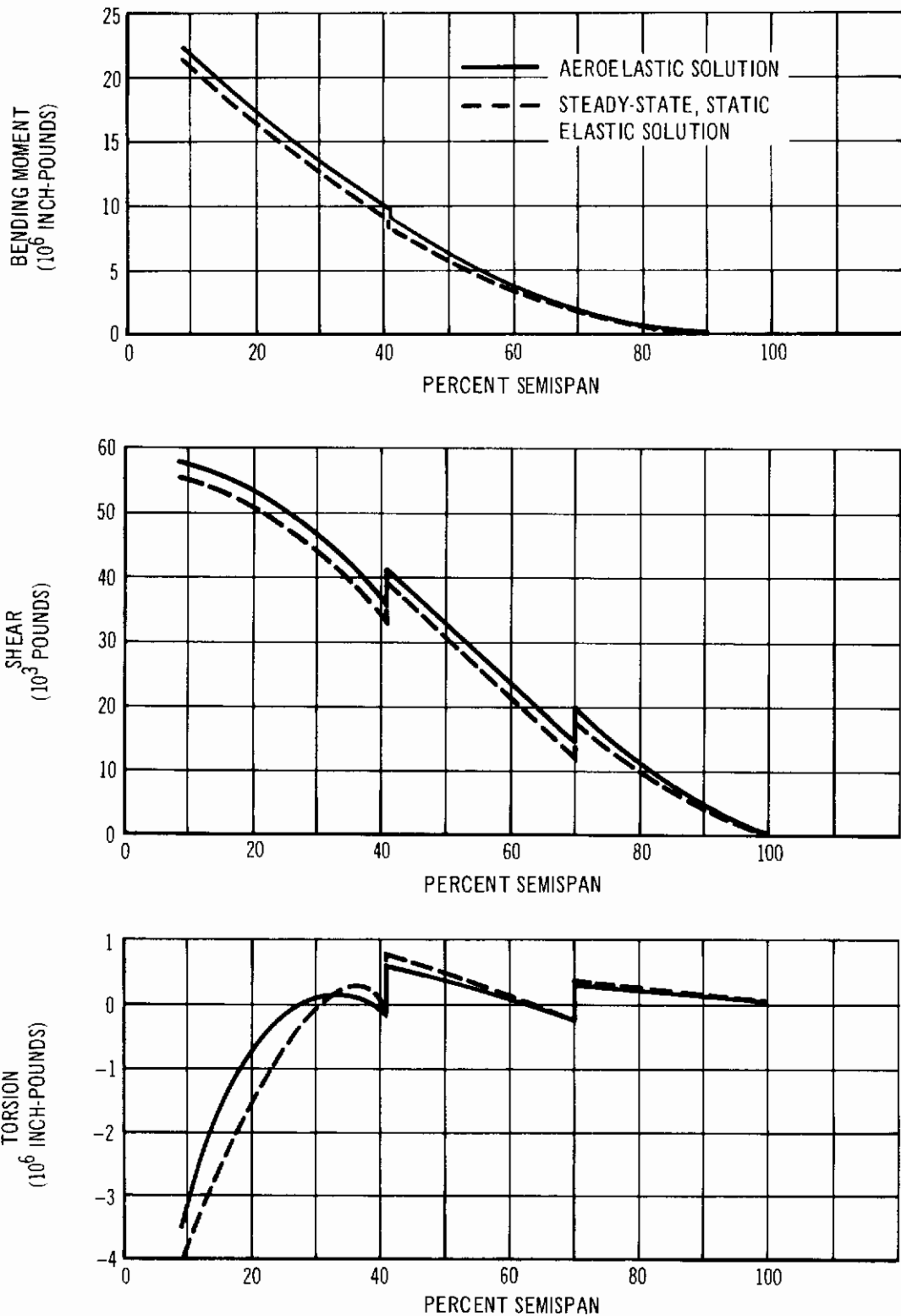
Figure 3. Analytical Representation of Atmospheric Spectra

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equations of motion for zero-frequency gust input. Then the pitch- and elastic-mode generalized coordinate accelerations, the pitch and translation displacement, and all of the generalized coordinate velocities are equated to zero. The vertical translation acceleration is equated to  $1g$ . To allow for an airplane moment balance, a tail load is added to the equations as an additional unknown. This tail load represents the change in tail lift required to balance the airplane while the airplane is flying through a gust that gives it a  $1g$  acceleration. The solution of these equations gives the elastic mode deflections, the gust angle required for  $1g$  acceleration, and the tail load required to balance the airplane. A comparison of wing loads is shown in figure 4 for analysis condition 1 (table I).

c. The stress frequency response functions for the airplane structure are obtained from the complex frequency responses of the generalized coordinates. Shear, moment, and torsion coefficients are calculated for unit deflections of the generalized coordinates. These coefficients are multiplied by the complex frequency responses of the generalized coordinates to obtain load frequency responses. The load frequency responses are multiplied by stress influence coefficients obtained from the airplane stress analysis to give the complex stress frequency response functions. The absolute value of these stress frequency-response functions is then used to obtain  $A$  and  $N_0$ . The stress frequency-response functions are given in complex form, and represent the incremental stress relative to the gust velocity and  $1g$  mean as shown below.





**Figure 4. Comparison of Steady-State, Static, Elastic Solution with Aeroelastic Solution (Analysis Condition 1)**

## SECTION III

### RESULTS AND DISCUSSION

Loads are obtained at two wing stations and two body stations where the gust margins are minimum. The margins of safety shown in table III are calculated using the gust load formula (2).

The wing and aft body are designed by maneuver conditions. The forward body is designed by braked-roll and pressurization conditions. However, for flight conditions, the margin of safety for gust for the forward body (which includes alleviation due to pitch) is less than for maneuver conditions. The fuselage and wing margins of safety are given in references 9 and 10, respectively.

**Table III. Margins of Safety**

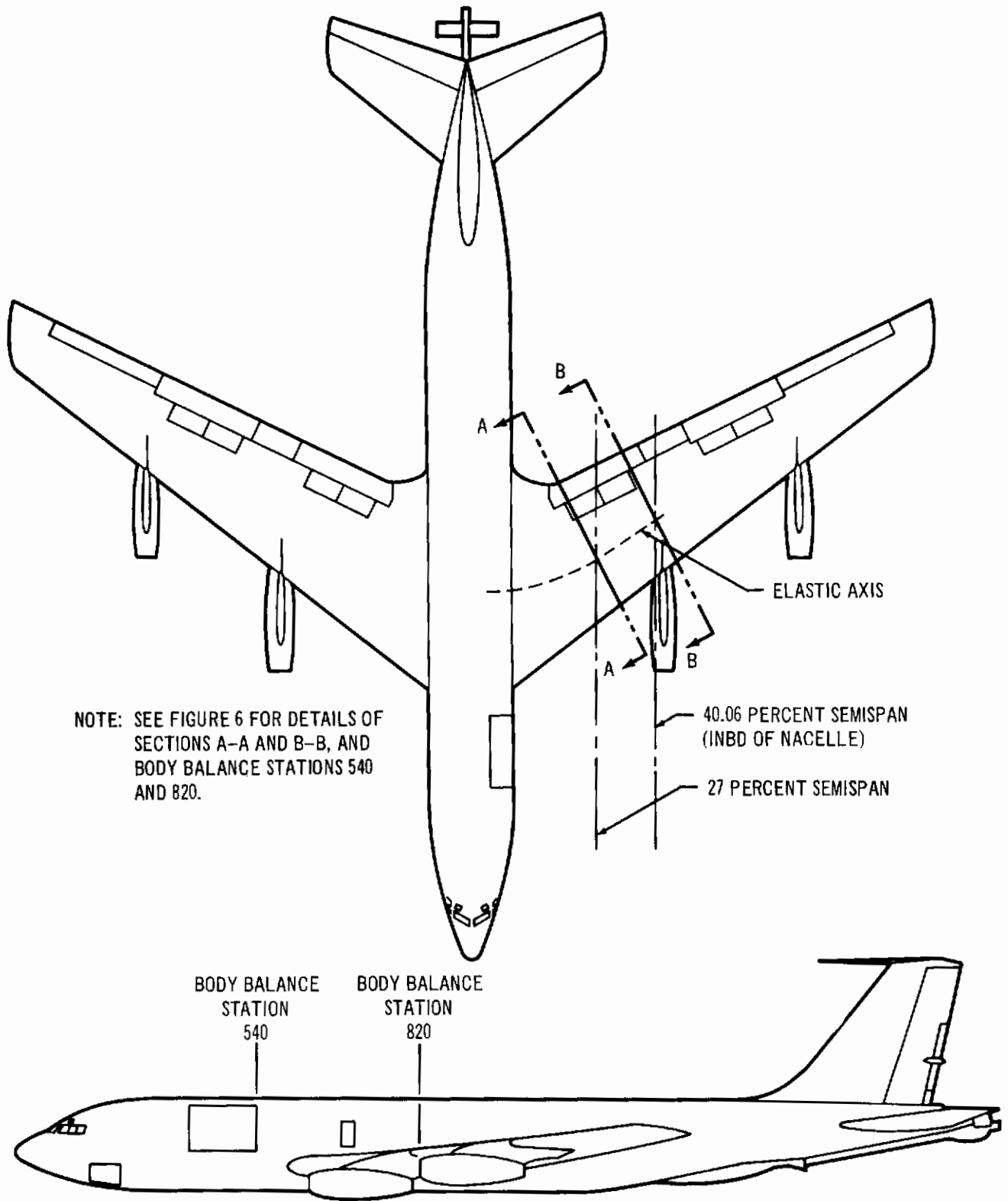
Location	Segment number	Type of loading	Gust margins of safety
<b>WING</b>			
27 percent semispan	10	Combined	0.20
27 percent semispan	14	Primarily tension	0.39
40.06 percent semispan (inboard of nacelle)	8	Combined	0.24
40.06 percent semispan (inboard of nacelle)	107	Combined	0.20
<b>BODY</b>			
Body balance station 540	S-17	Shear load only	0.20
Body balance station 820	S-1	Tension load only	0.14

Figures 5 and 6 show these locations on the airplane. The curves of margin of safety in figure 6 are included to show the variation along the cross section of the wing. The margins of safety are based on the following equation:

$$\text{Margin of safety} = \frac{\text{Allowable ultimate principal stress}}{\text{Design ultimate principal stress}} - 1$$

The results of this investigation are response parameters  $A$ , zero-crossing rates  $N_0$ , stress transfer functions, and the ratios of incremental limit allowable stress to stress response parameter. The stress frequency-response functions are tabulated in appendix V.

The effects of variations in scale of turbulence on response parameters  $A$  and zero-crossing rates  $N_0$  are shown in figures 7 and 8. The stress response parameters and zero-crossing rates are tabulated for each analysis



NOTE: SEE FIGURE 6 FOR DETAILS OF SECTIONS A-A AND B-B, AND BODY BALANCE STATIONS 540 AND 820.

**Figure 5. Locations at Which Stresses Are Obtained**

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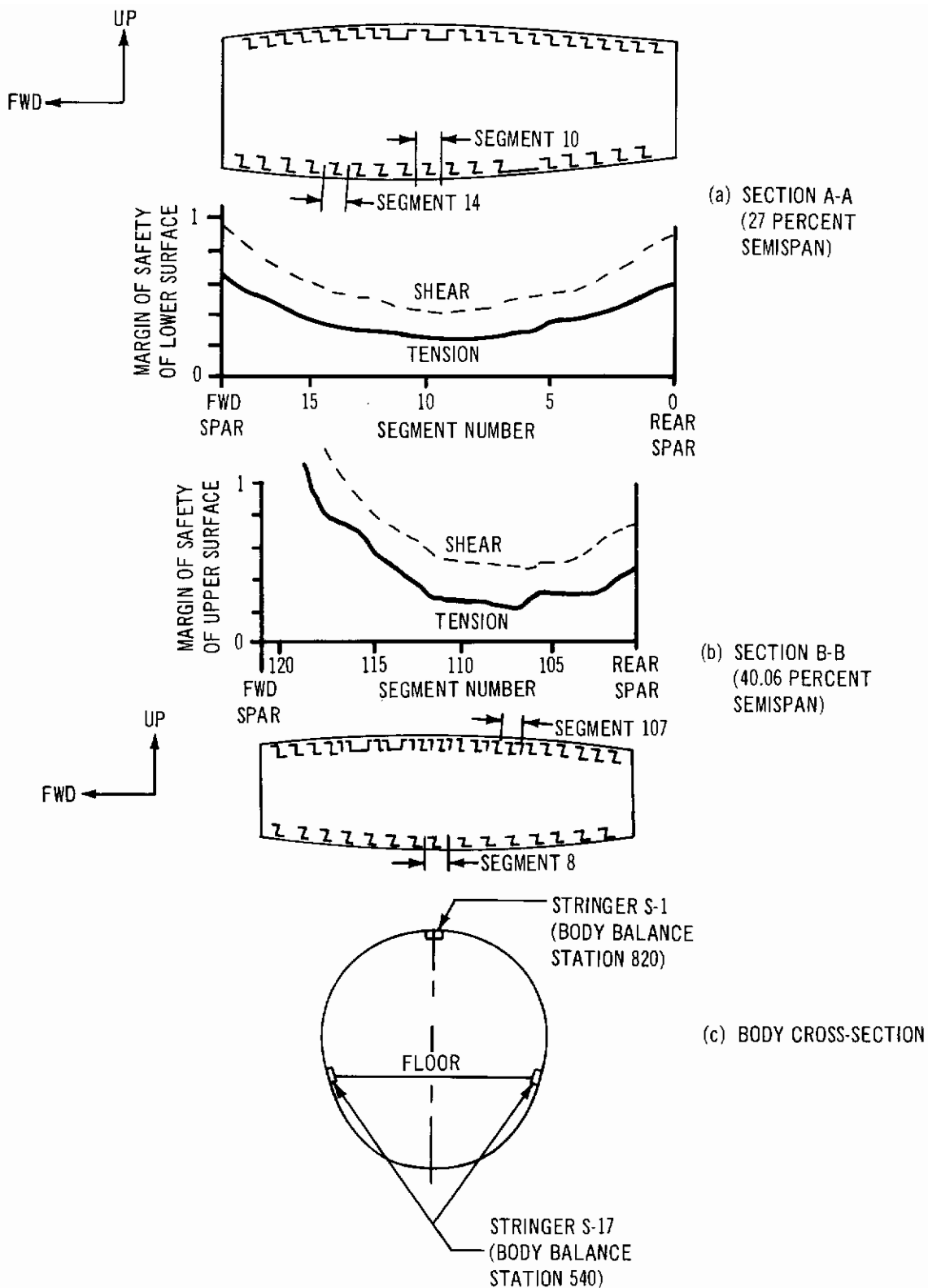
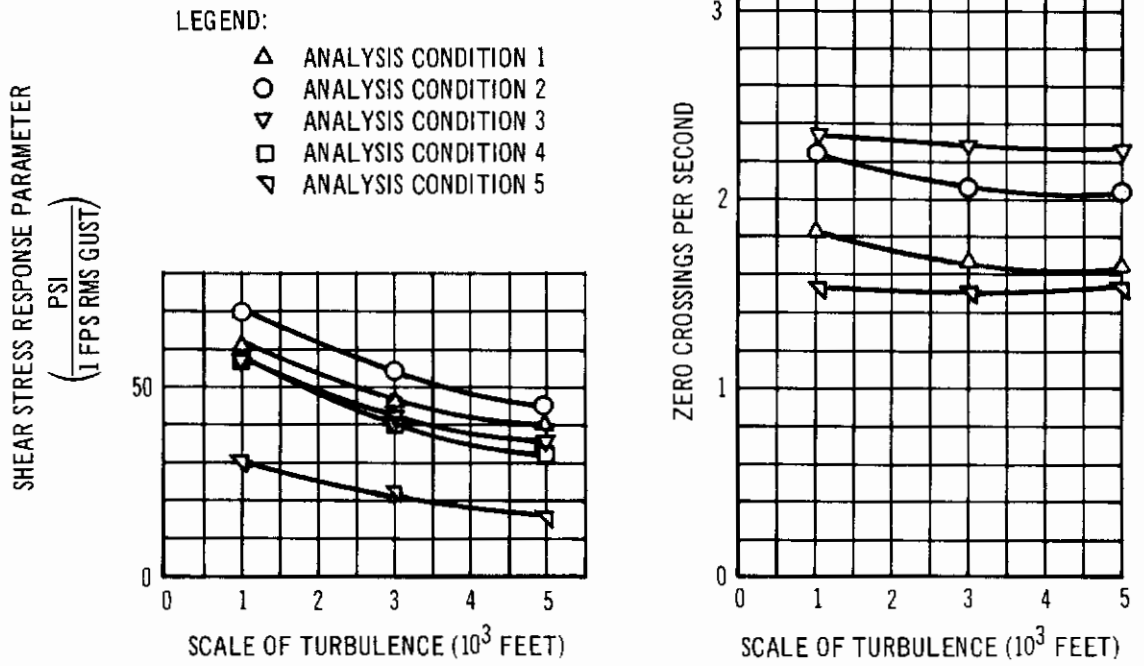
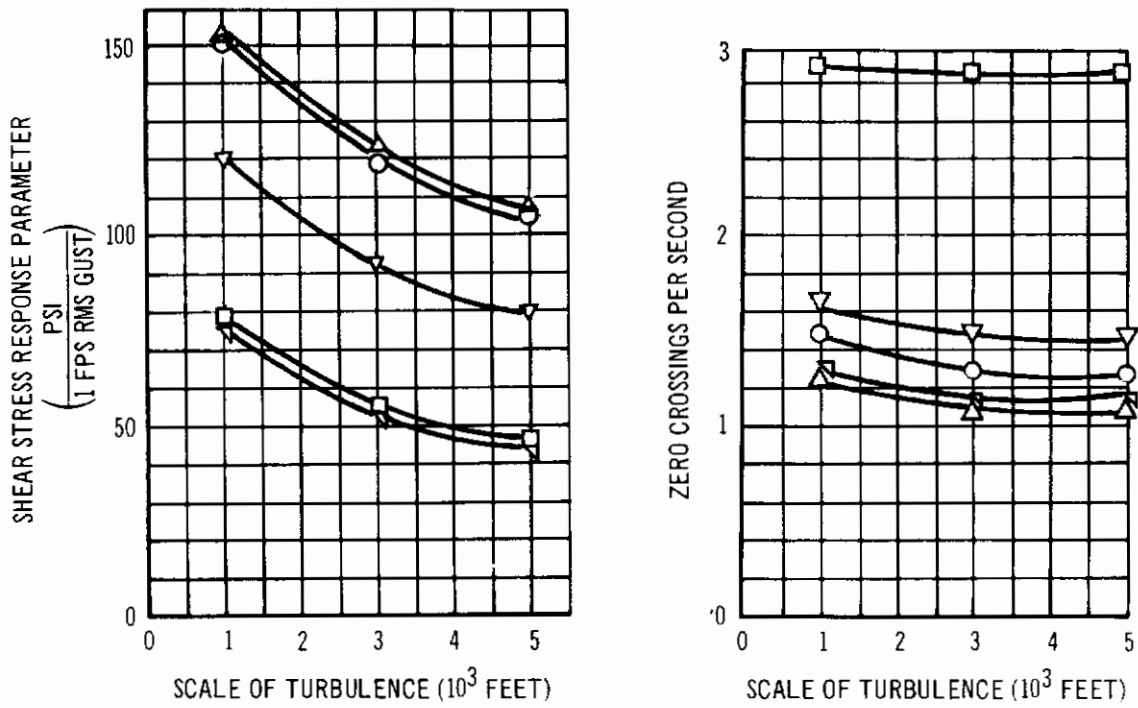


Figure 6. Segment Locations and Typical Distributions of Margins of Safety



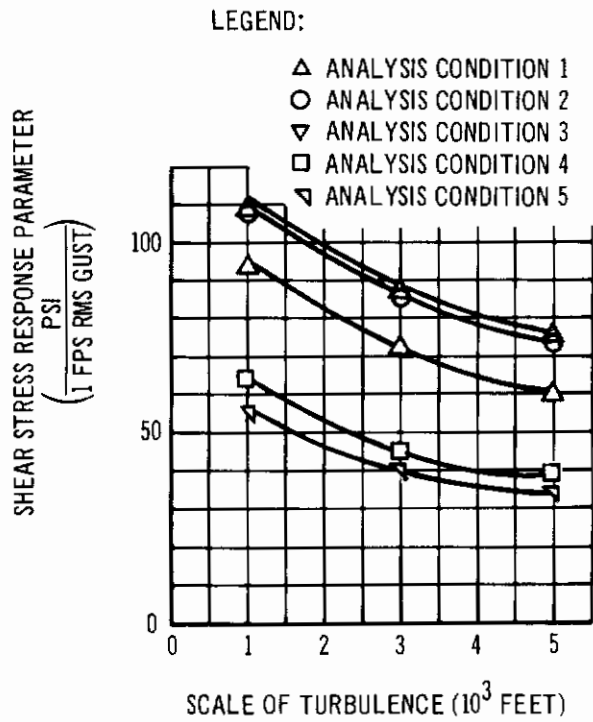
(a) 27 PERCENT SEMISPAN, SEGMENT NUMBER 10



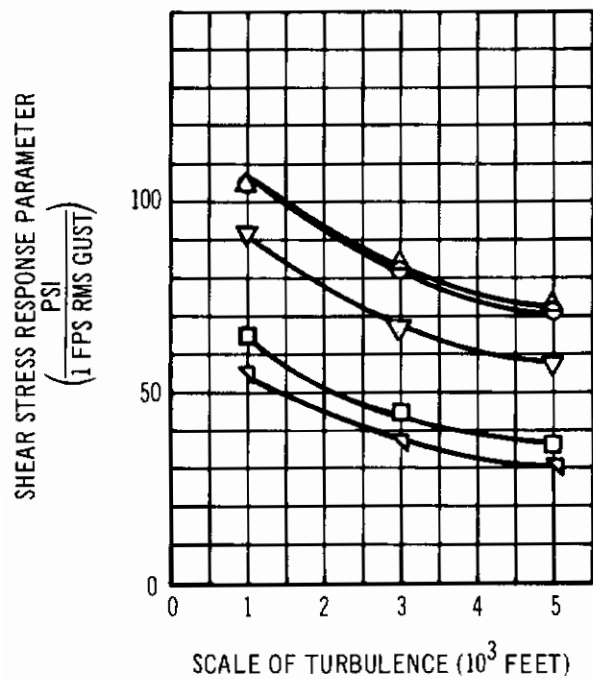
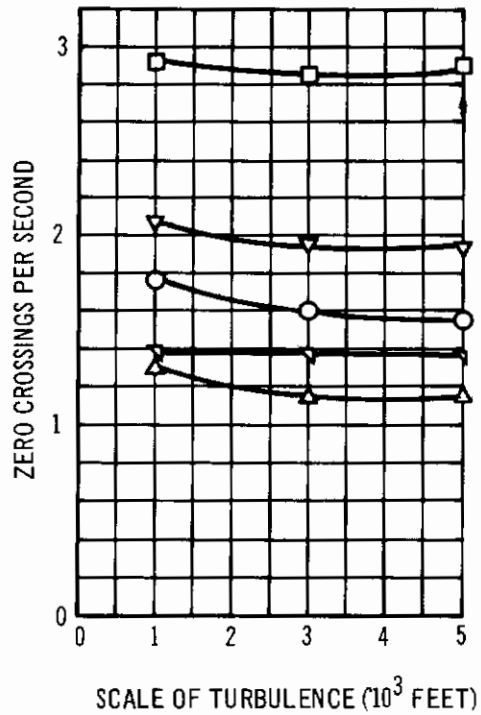
(b) 27 PERCENT SEMISPAN, SEGMENT NUMBER 14

Figure 7. Response Parameters and Zero-Crossing Rates for Shear Stress





(a) 40.06 PERCENT SEMISPAN, SEGMENT NUMBER 8



(b) 40.06 PERCENT SEMISPAN, SEGMENT NUMBER 107

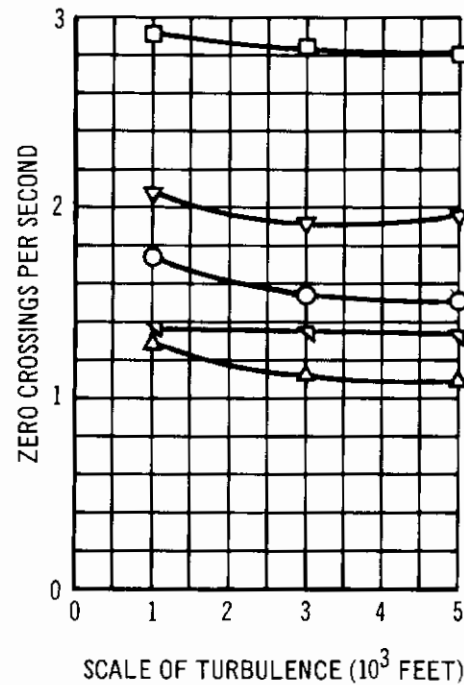
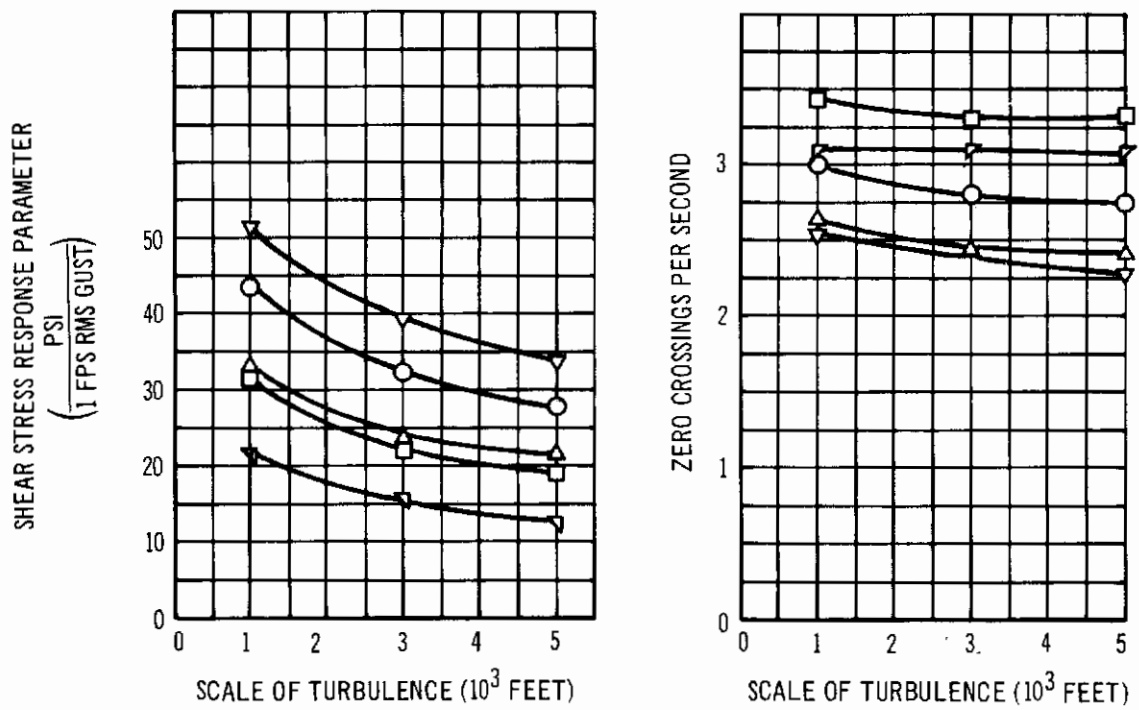


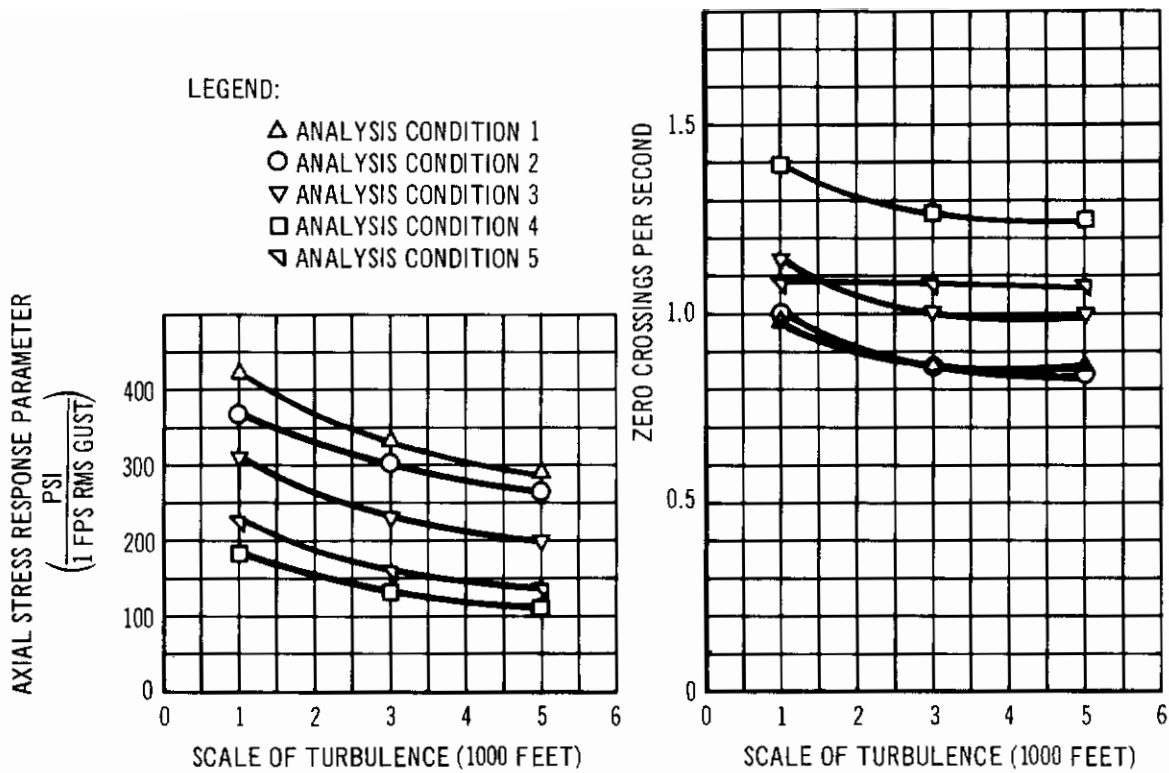
Figure 7 - - - Continued



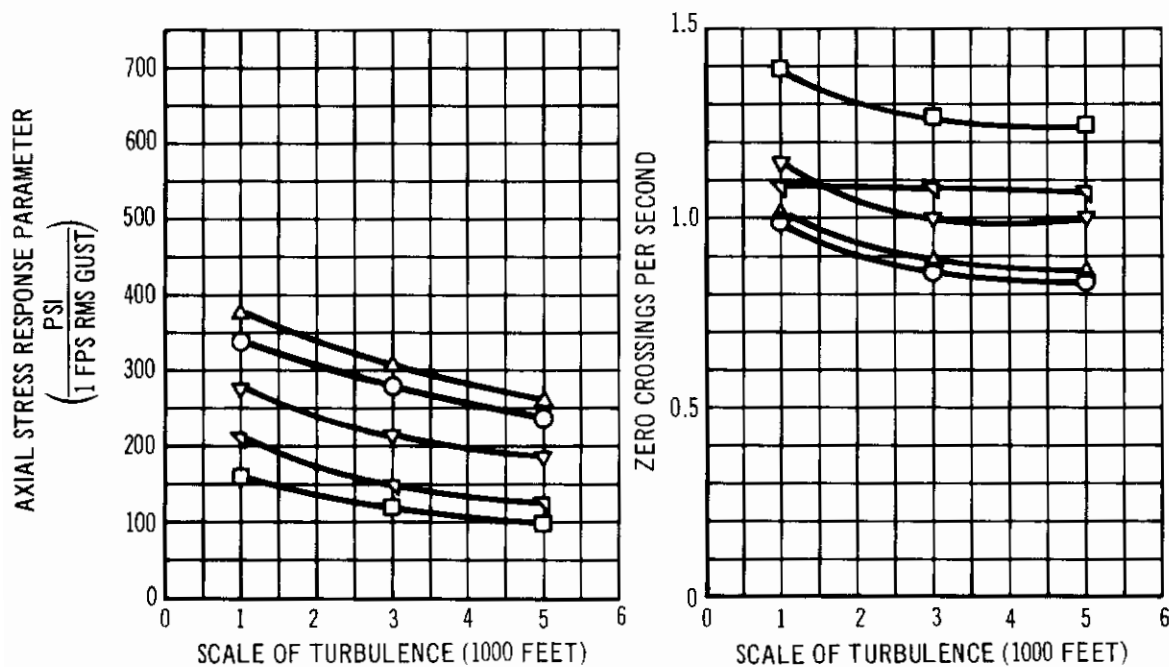
BODY BALANCE STATION 540, STRINGER S-7

- LEGEND:
- △ ANALYSIS CONDITION 1
  - ANALYSIS CONDITION 2
  - ▽ ANALYSIS CONDITION 3
  - ANALYSIS CONDITION 4
  - ◁ ANALYSIS CONDITION 5

**Figure 7 --- Concluded**

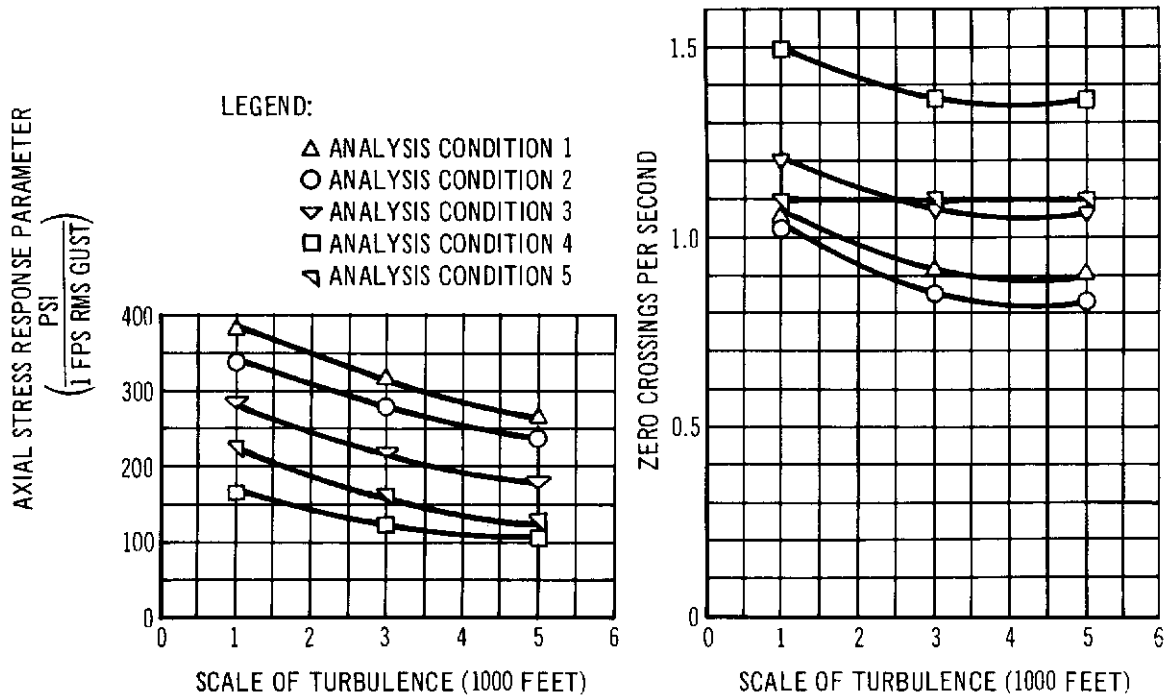


(a) 27 PERCENT SEMISPAN, SEGMENT NUMBER 10

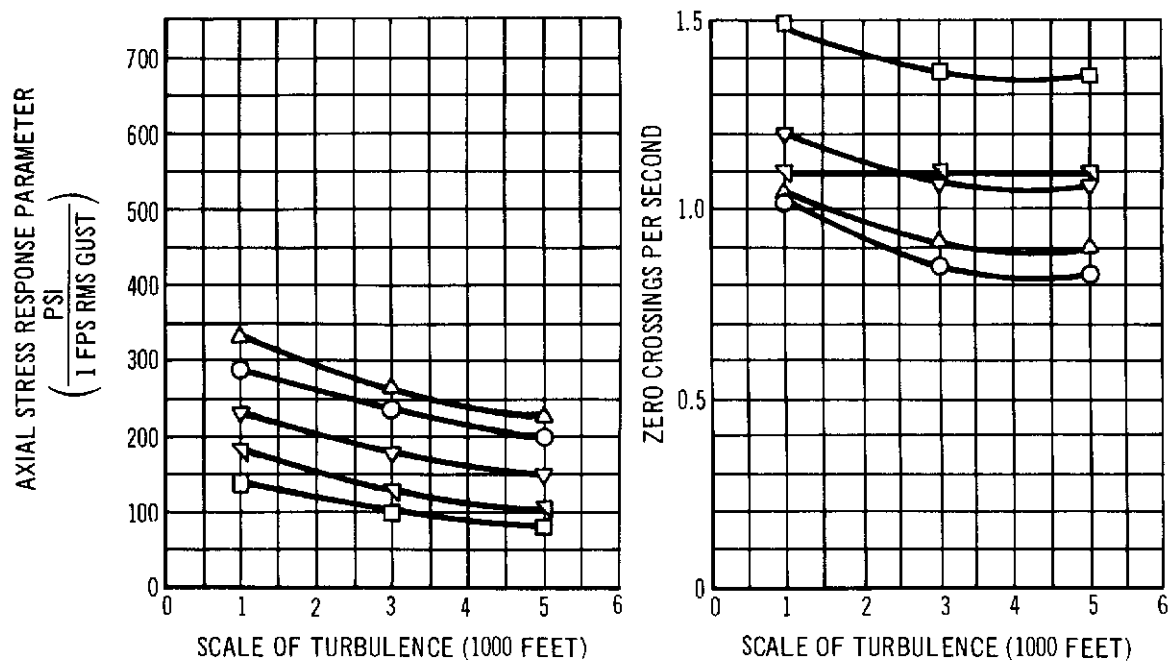


(b) 27 PERCENT SEMISPAN, SEGMENT NUMBER 14

**Figure 8. Response Parameters and Zero Crossing Rates for Axial Stress**



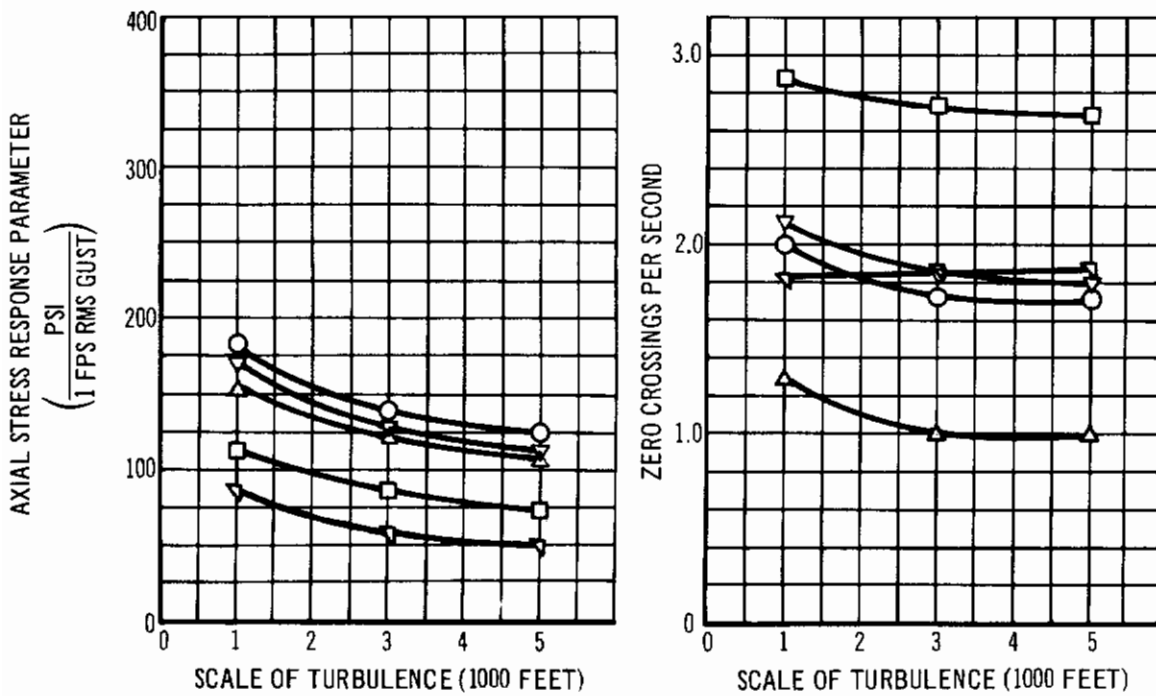
(a) 40.06 PERCENT SEMISPAN, SEGMENT NUMBER 8



(b) 40.06 PERCENT SEMISPAN, SEGMENT NUMBER 107

Figure 8 - - - Continued

## BODY BALANCE STATION 820



- LEGEND:
- △ ANALYSIS CONDITION 1
  - ANALYSIS CONDITION 2
  - ▽ ANALYSIS CONDITION 3
  - ANALYSIS CONDITION 4
  - ◂ ANALYSIS CONDITION 5

**Figure 8 --- Concluded**

condition in appendix VI. The tabulated data show that changing the upper cutoff frequency from 10 to 15 and 20 cycles per second, as specified by Dr. Houbolt, has a negligible effect on A and  $N_0$ . This is due to the highest elastic modes in the analysis having frequencies less than 10 cps, resulting in little response above that frequency.

Zero-crossing rate versus the ratio of incremental limit allowable stress to stress response parameter is plotted in figures 9 and 10. It should be noted that the critical condition is that of maximum gross weight and high dynamic pressure combined with a scale of turbulence of 1,000 feet. These data are directly comparable to the  $\sigma_{W^{\eta}D}$  of reference 11, remembering that in that report the scale of turbulence is 2,500 feet and, whereas the KC-135 airplane is designed to a 2g load factor, the 720 airplane is designed to a 2.5g load factor. The consequence of this is that the KC-135 has lower margins of safety for gust for the maximum gross weight conditions and a resultingly lower ratio of incremental limit allowable stress to stress response parameter.

The incremental limit allowable stresses tabulated in appendix VII are obtained from the stress interaction diagram for each section for which stresses are desired. A few definitions follow:

1. Allowable stress: the maximum stress at which failure will occur
2. Limit allowable stress: the allowable stress divided by 1.50
3. Incremental stress: the increment of stress above the 1g flight stress

A typical stress interaction diagram is shown in figure 11. Curve 1 is a plot of the following equation:

$$\left( \begin{array}{c} \text{Limit allowable} \\ \text{shear principal stress} \end{array} \right) = \sqrt{\left( \frac{\text{Axial skin tension stress}}{2} \right)^2 + (\text{Skin shear stress})^2}$$

Curve 2 is a plot of:

$$\left( \begin{array}{c} \text{Limit allowable} \\ \text{tensile principal stress} \end{array} \right) = \left( \frac{\text{Axial skin tension stress}}{2} \right) + \sqrt{\left( \frac{\text{Axial skin tension stress}}{2} \right)^2 + \left( \begin{array}{c} \text{Skin} \\ \text{shear} \\ \text{stress} \end{array} \right)^2}$$

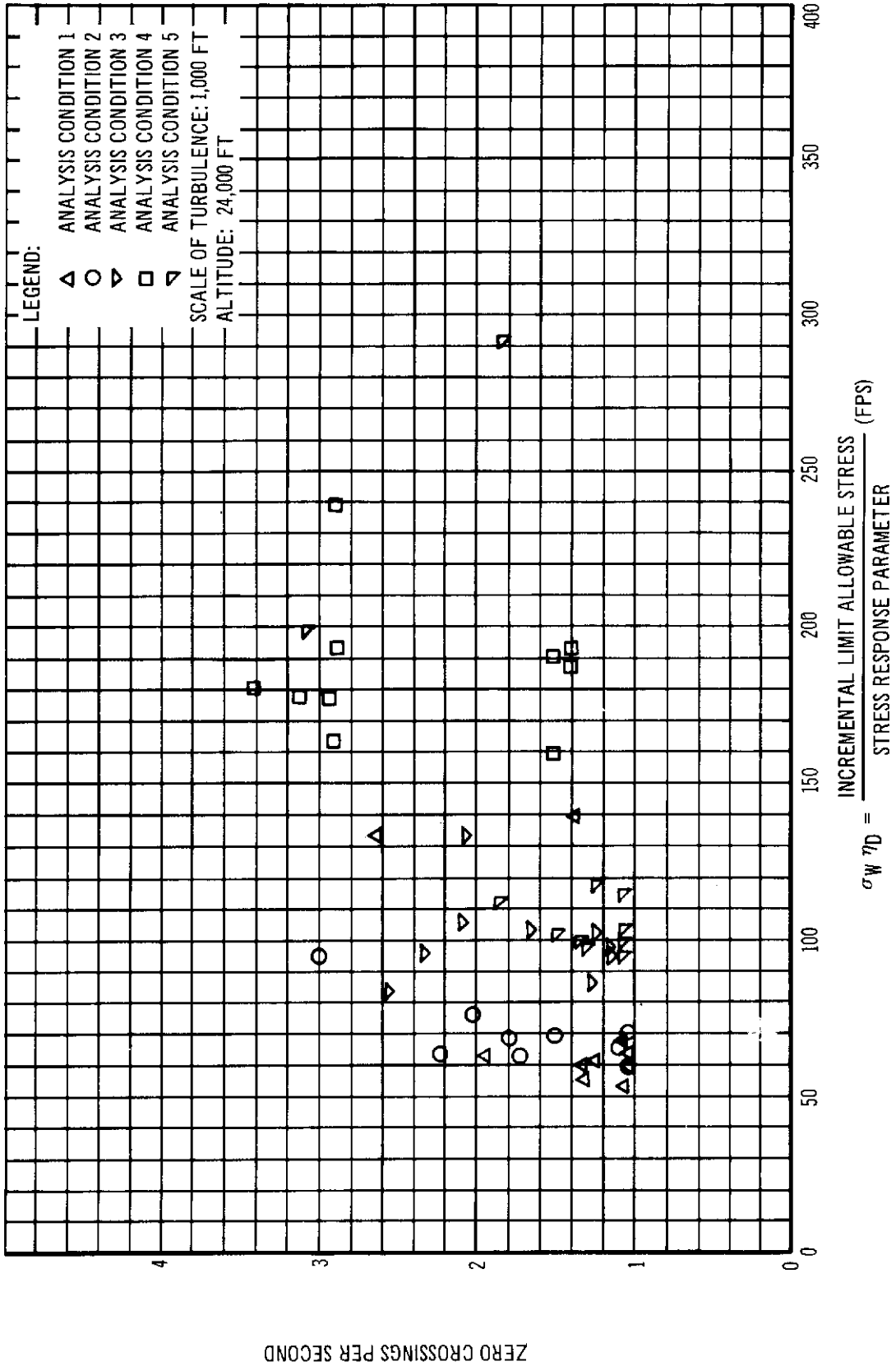


Figure 9. Zero-Crossing Rates Versus  $\sigma_W \eta_D$  (Linear Plot)

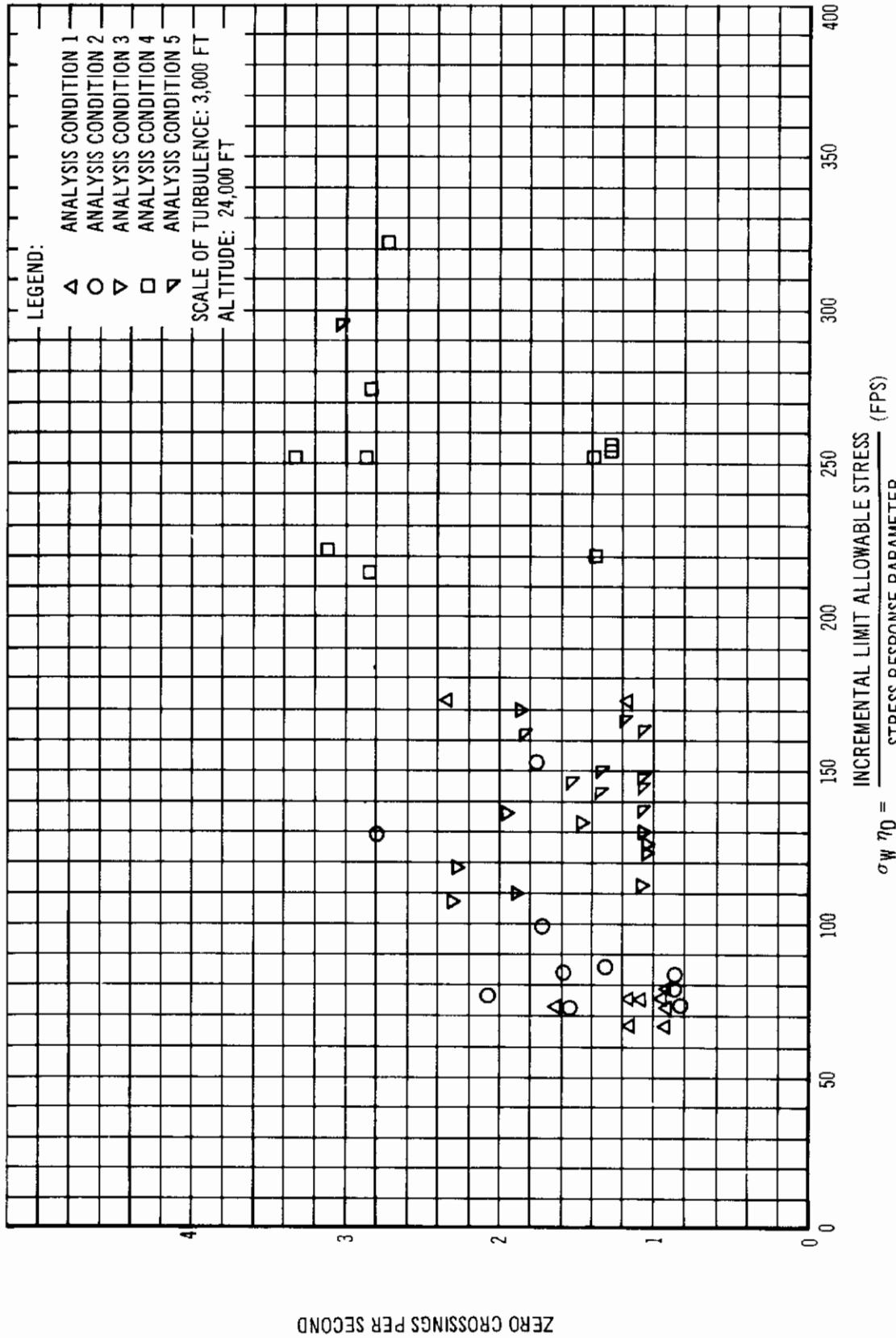


Figure 9 --- Continued



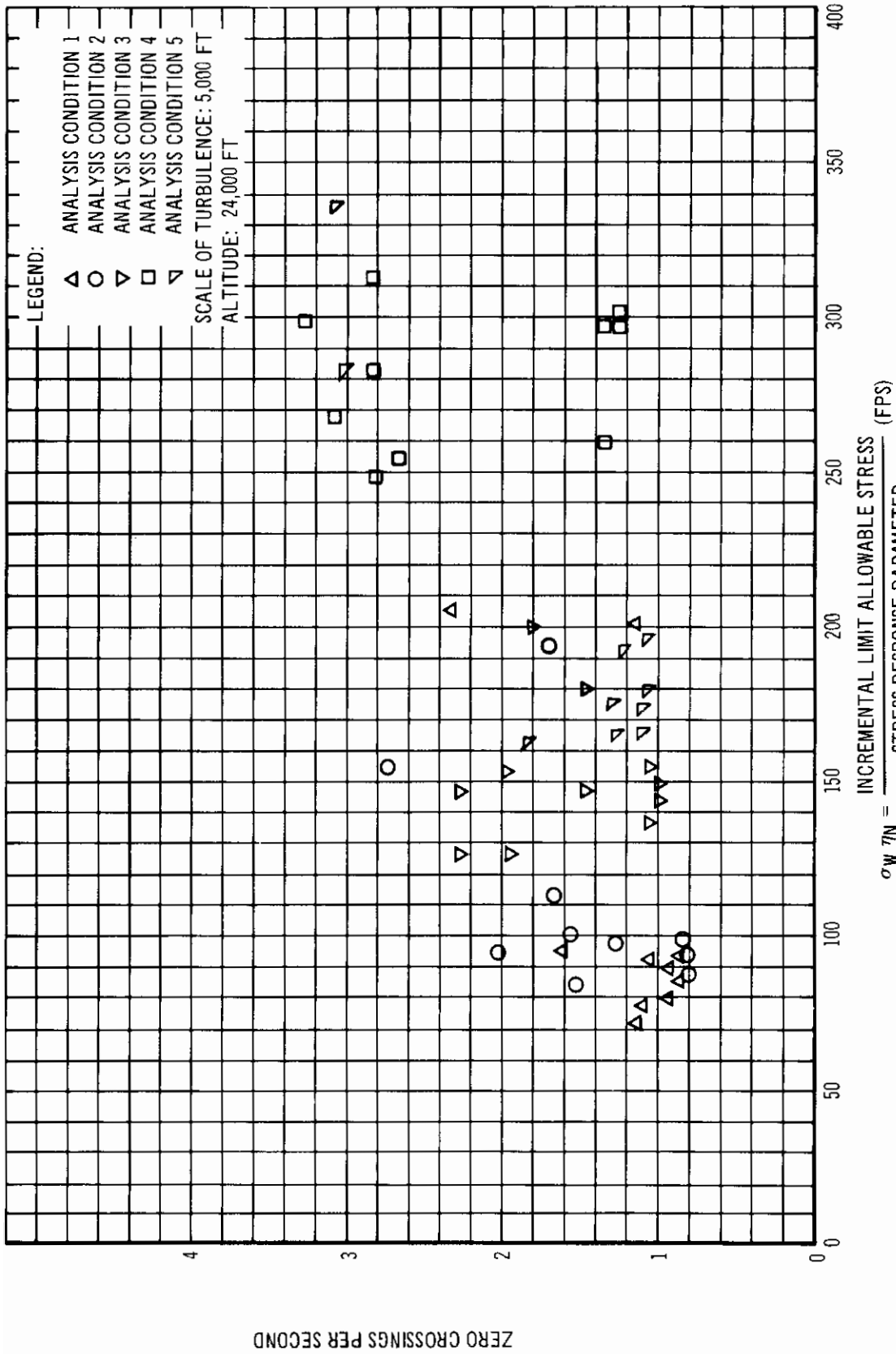
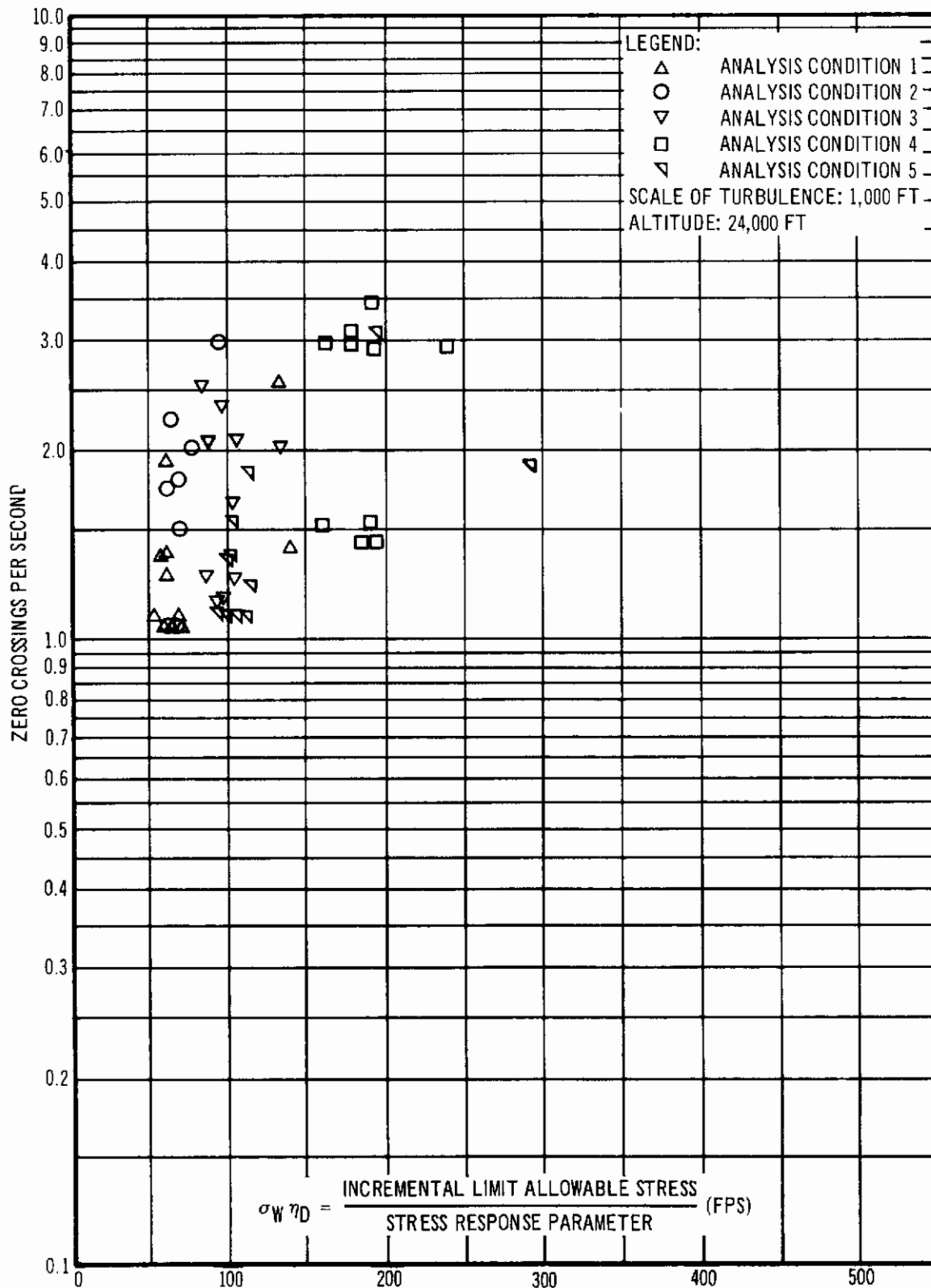


Figure 9 - - - Concluded



**Figure 10. Zero-Crossing Rates Versus  $\sigma_w \eta_D$  (Semilog Plot)**

# Contrails

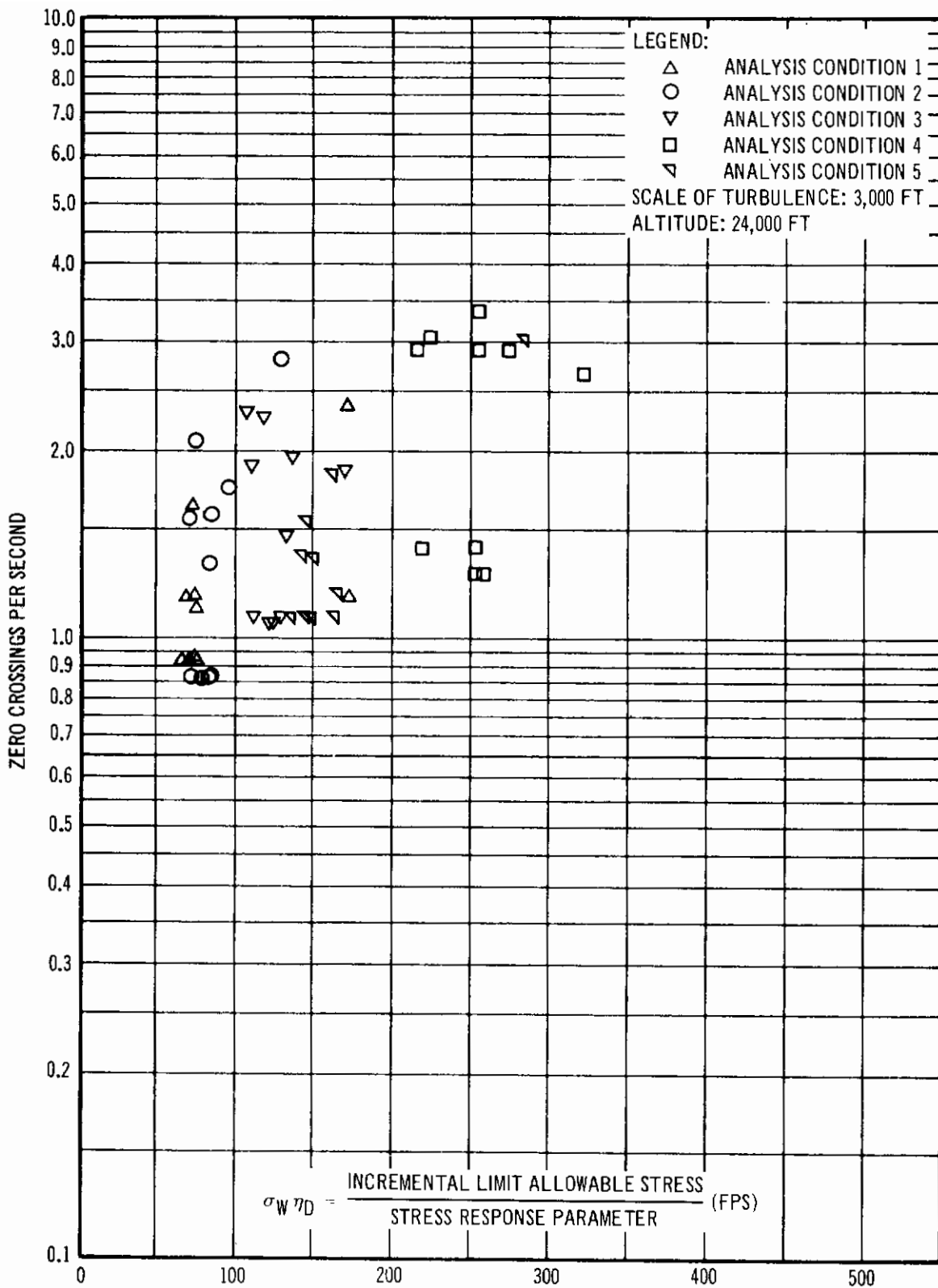


Figure 10 --- Continued

# Contrails

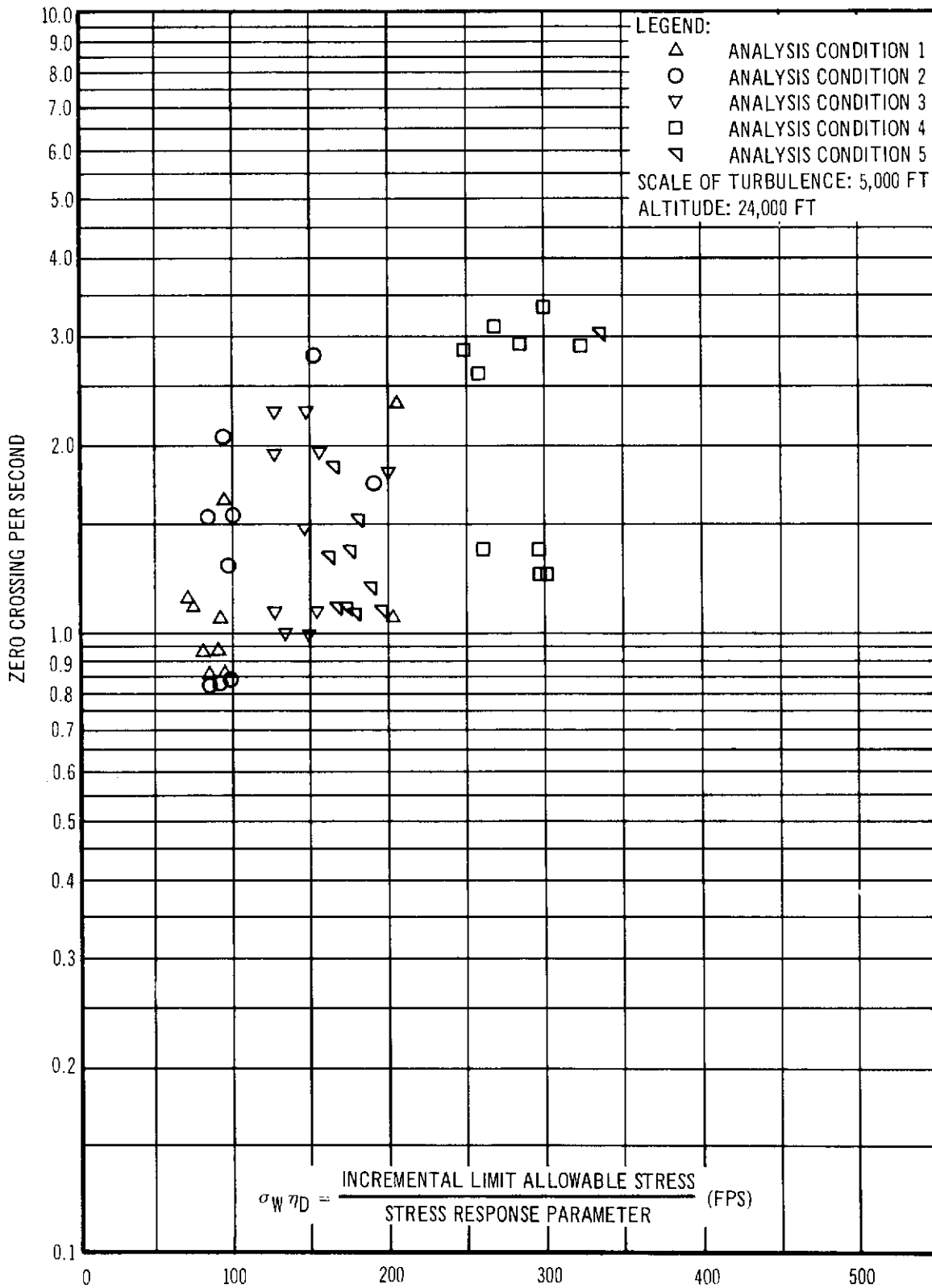


Figure 10 --- Concluded

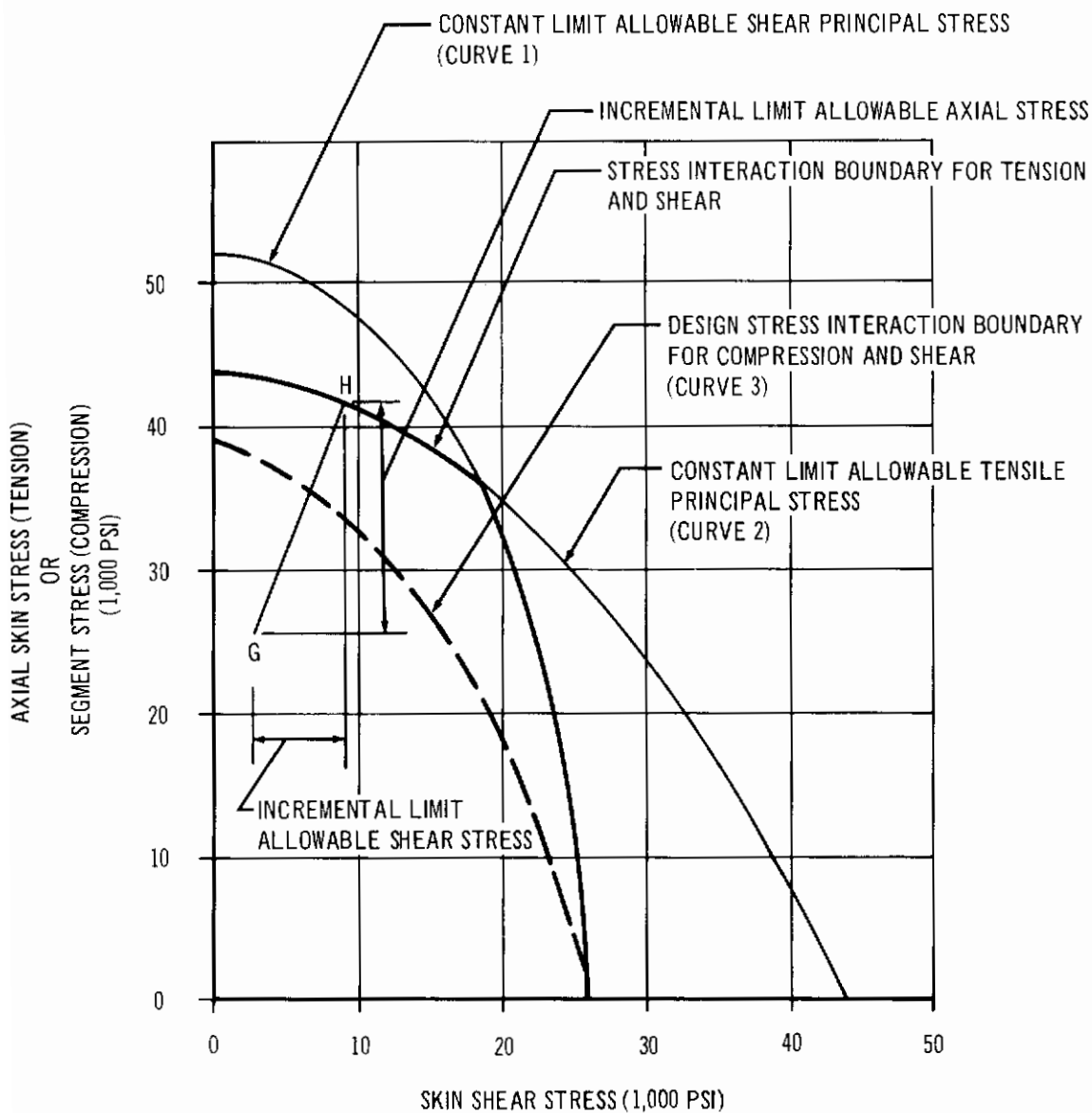
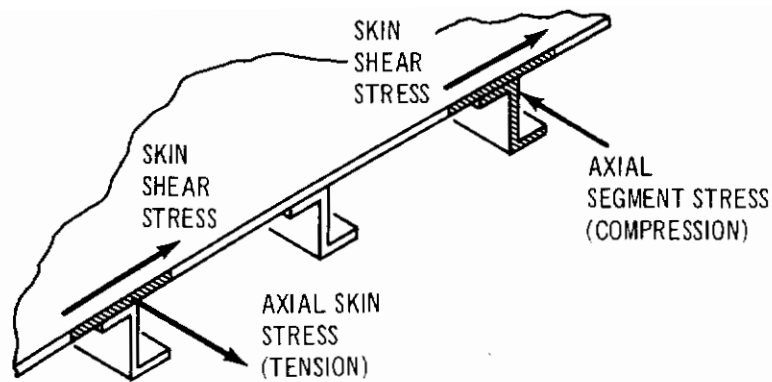


Figure 11. Stress Interaction Diagram

# *Contrails*

As shown in figure 11, the stress interaction curve used in design is formed by portions of these two curves and represents the combination of axial tension and shear that give the lower of the limit allowable shear or tensile principal stresses. Curve 3, the stress interaction curve for compression and shear, is a plot of:

$$\left( \begin{array}{c} \text{Limit allowable} \\ \text{compression stress} \end{array} \right) = \frac{\left( \begin{array}{c} \text{Axial segment} \\ \text{compression stress} \end{array} \right)}{2} + \sqrt{\left[ \frac{\left( \begin{array}{c} \text{Axial segment} \\ \text{compression stress} \end{array} \right)}{2} \right]^2 + \left[ \frac{\left( \begin{array}{c} \text{Skin} \\ \text{shear} \\ \text{stress} \end{array} \right)}{\left( \begin{array}{c} \text{Limit allowable} \\ \text{compression stress} \end{array} \right)} \right]^2}$$

The segment referred to in the equations includes the stringer area in addition to that of the skin; the area of both is used when computing compressive stresses. The limit allowable compressive stress is not a true principal stress, and its equation is an empirical variation of Mohr's circle equation for compression principal stress. Knowing the limit allowable shear, tension, and compression stresses, the stress interaction diagram is drawn. The next step is to determine the incremental limit allowable stresses.

The incremental limit allowable stress is derived in the following manner: The 1g flight axial and shear stresses at a particular point in the wing are plotted as point G in figure 11. Point H in figure 11 is determined by drawing a line from point G having a slope equal to the ratio of axial stress response parameter to the shear stress response parameter. The slope of line G-H is based on the assumption of 100-percent correlation between axial and shear stress. The resulting incremental limit allowable axial and shear stresses are shown in the figure. A method of analysis which includes the effect of correlation between stresses is described in reference 11.

SECTION IV

CONCLUSIONS

The minimum value of  $\sigma_W^* \eta_D$  for all the conditions investigated is 53, which is for the maximum-gross-weight high-speed flight condition and the 1,000-foot scale of turbulence.

The most critical (largest) value of stress response parameter is for the 1,000-foot scale of turbulence and the heavy gross weight, high-speed conditions. Reducing the gross weight, lowering the speed, and increasing the scale of turbulence reduces the value of the stress response parameter.

The largest zero-crossing rate is associated with the lowest-gross-weight airplane and is little affected by the scale of turbulence.

The stress response parameter and zero-crossing rate are little affected by the upper cutoff frequency, where the cutoff frequency is above the highest modal frequency included in the analysis.

# *Contrails*



## APPENDIX I WEIGHT DATA

**Table IV. Weight Condition A (Maximum Zero Flap Weight; Gross Weight: 297,000 Pounds)**

### BODY

Panel number	Body balance station	Weight (lb)	Center-of-gravity location (in.)			Moment of inertia about cg (lb-in. <sup>2</sup> x 10 <sup>-6</sup> )		
			Body balance station	Body buttock line	Body waterline <sup>e</sup>	Pitch	Roll	Yaw
1	130 to 259	2,771	220	0	218	4.45	3.95	3.57
2 <sup>a</sup>	259 to 360	5,290	320	↑ ↓	207	15.5	14.6	11.3
3	360 to 420	9,810	393		189	12.1	18.1	12.6
4	420 to 480	11,715	450		182	11.9	20.5	15.7
5	480 to 540	11,482	510		181	10.4	18.8	15.3
6	540 to 620	11,633	571		182	12.3	31	15.9
7	620 to 755	3,055	689		210	11	11.2	9.33
8	755 to 820	1,500	802		208	3.68	5.47	2.88
9 <sup>b</sup>	820 to 890	9,333	872		185	12.7	27.2	26.5
10	890 to 960	2,037	926		209	5.11	7.43	4.03
11	960 to 1020	11,823	989		183	10.1	18.7	15.9
12	1020 to 1080	10,717	1,050		189	8.61	15.9	13.7
13	1080 to 1140	10,042	1,110		184	8.56	16.3	12.2
14	1140 to 1200	10,004	1,170		189	10.6	18.3	12.4
15	1200 to 1280	5,958	1,223		191	5.47	9.94	7.57
16	1280 to 1360	1,252	1,321		217	2.58	3.79	2.55
17	1360 to 1440	5,035	1,406		220	3.63	6.45	6.85
18 <sup>c</sup>	1440 to 1676	9,697	1,569	0	288	130	113	102

### WING/SIDE

1	0 to 70.5	14,177	732.2	36.5	182.7	47.1	7.73	51.7
2 <sup>d</sup>	70.5 to 157.2	19,774	764.2	112.7	185.8	92.6	15	103
3	157.2 to 235.8	11,893	805.4	195.6	192.4	42.2	8.05	47.4
4	235.8 to 314.4	8,004	855.1	271.1	191.3	18.1	4.04	21
5	314.4 to 393	6,593	897.4	348.6	195.6	12.3	3.82	15.3
6	393.0 to 471.6	4,733	950.1	429.2	205.2	7.56	2.70	9.80
7	471.6 to 550.2	1,798	988.7	496.8	210.7	3.59	0.818	4.23
8	550.2 to 628.8	1,937	1,058.2	595.2	236.7	1.93	1.12	2.44
9	628.8 to 707.4	1,615	1,092	663.9	243.1	1.37	0.911	2.15
10	707.4 to 786.6	1,558	1,149.1	735.2	249.7	0.683	0.314	0.970

Fuel density at 6.5 pounds per gallon

- Notes: a Includes nose gear in the UP position  
 b Includes tires, truck assembly, air, wheels, and side strut of main landing gear in the UP position  
 c Includes the horizontal tail, vertical tail, and refueling boom  
 d Includes inner cylinder, outer cylinder, trunnion, and landing gear support structure in wing  
 e Cruise condition

**Table IV --- Concluded**

**TOTAL AIRPLANE**

Airplane section	Weight (lb)	Center-of-gravity location (in.)			Moment of inertia about cg (lb-in. <sup>2</sup> × 10 <sup>-6</sup> )		
		Body balance station	Body buttock line	Body waterline <sup>e</sup>	Pitch	Roll	Yaw
Body	133,154	858.4	0	196.9	19,200	452	19,200
Wing	142,164	823.8	212.4	192.9	1,770	3,960	5,650
Nacelles	10,938	713.7	322	159	16.9	2.64	15.7
Nacelles	10,744	898.1	552	197	16.2	2.60	15
<b>Total/avg</b>	<b>297,000</b>	<b>837.9</b>	<b>0</b>	<b>193.6</b>	<b>21,400</b>	<b>15,300</b>	<b>35,900</b>

**Table V. Weight Condition B (Maximum Transfer Weight; Gross Weight: 268,000 Pounds)**

BODY

Panel number	Body balance station	Weight (lb)	Center-of-gravity location (in.)			Moment of inertia about cg (lb-in. <sup>2</sup> x 10 <sup>-6</sup> )		
			Body balance station	Body buttock line	Body waterline <sup>e</sup>	Pitch	Roll	Yaw
1	130 to 259	2,771	220	0 ↑ ↓ 0	218	4.45	3.95	3.57
2 <sup>a</sup>	259 to 360	5,290	320		207	15.5	14.6	11.3
3	360 to 420	9,810	393		189	12.1	18.1	12.6
4	420 to 480	11,715	450		182	11.9	20.5	15.7
5	480 to 540	11,482	510		181	10.4	18.8	15.3
6	540 to 620	11,633	571		182	12.3	21	15.9
7	620 to 755	3,055	689		210	11	11.2	9.33
8	755 to 820	1,500	802		208	3.68	5.47	2.88
9 <sup>b</sup>	820 to 890	9,333	872		185	12.7	7.2	26.5
10	890 to 960	2,037	926		209	5.11	7.43	4.03
11	960 to 1020	11,823	989		183	10.1	18.7	15.9
12	1020 to 1080	10,717	1,050		189	8.61	15.9	13.7
13	1080 to 1140	10,042	1,110		184	8.56	16.3	12.2
14	1140 to 1200	10,004	1,170		189	10.6	18.3	12.4
15	1200 to 1280	5,958	1,223		191	5.47	9.94	7.57
16	1280 to 1360	1,252	1,321		217	2.58	3.79	2.55
17	1360 to 1440	9,273	1,408		233	6.38	11.6	11.8
18 <sup>c</sup>	1440 to 1676	10,057	1,564		287	136	114	108

WING/SIDE

1	0 to 70.5	14,177	732.2	36.5	182.7	47.1	7.73	51.7
2 <sup>d</sup>	70.5 to 157.2	18,531	765.4	110.5	181	89	12.8	98.4
3	157.2 to 235.8	7,039	819.3	195.5	177.8	27	4.49	30.9
4	235.8 to 314.4	6,177	868.5	275.9	185.9	12.4	2.95	14.8
5	314.4 to 393	4,521	900	346.6	188.8	8.92	2.45	11.1
6	393.0 to 471.6	1,598	965.6	424.8	197	3.38	0.947	4.24
7	471.6 to 550.2	951	1,016	506.5	205.5	1.60	0.427	1.97
8	550.2 to 628.8	647	1,053.6	580.7	220.1	1.09	0.311	1.37
9	628.8 to 707.4	378	1,098.5	660	233.4	0.690	0.209	0.885
10	707.4 to 786.6	264	1,161.1	744.5	253.9	0.525	0.204	0.721

Fuel density at 6.5 pounds per gallon

- Notes: a Includes nose gear in the UP position  
 b Includes tires, truck assembly, air, wheels, and side strut of main landing gear in the UP position  
 c Includes the horizontal tail, vertical tail, and refueling boom  
 d Includes inner cylinder, outer cylinder, trunnion, and landing gear support structure in wing  
 e Cruise condition

**Table V --- Concluded**

TOTAL AIRPLANE

Airplane section	Weight (lb)	Center-of-gravity location (in.)			Moment of inertia about cg (lb-in. <sup>2</sup> x 10 <sup>-6</sup> )		
		Body balance station	Body buttock line	Body waterline <sup>e</sup>	Pitch	Roll	Yaw
Body	137,752	876.9	0	198.7	20,600	468	20,500
Wing	108,566	804.6	169.4	184.3	1,110	2,140	3,220
Nacelles	10,938	713.7	322	159	16.9	2.64	15.7
Nacelles	10,744	898.1	552	197	16.2	2.60	15
Total/avg	268,000	841.8	0	191.2	22,300	10,200	31,800

**Table VI. Weight Condition C (Intermediate Gross Weight with Structural Reserve Fuel; Gross Weight: 190,590 Pounds)**

BODY

Panel number	Body balance station	Weight (lb)	Center-of-gravity location (in.)			Moment of inertia about cg (lb-in. <sup>2</sup> x 10 <sup>-6</sup> )			
			Body balance station	Body buttock line	Body waterline <sup>e</sup>	Pitch	Roll	Yaw	
1	130 to 259	2,771	220	0	218	4.45	3.95	3.57	
2 <sup>a</sup>	259 to 360	5,290	320	↑ ↓	207	15.5	14.6	11.3	
3	360 to 420	9,810	393		189	12.1	18.1	12.6	
4	420 to 480	11,715	450		182	11.9	20.5	15.7	
5	480 to 540	11,482	510		181	10.4	18.8	15.3	
6	540 to 620	11,633	571		182	12.3	21	15.9	
7	620 to 755	3,055	689		210	11	11.2	9.33	
8	755 to 820	1,500	802		208	3.68	5.47	2.88	
9 <sup>b</sup>	820 to 890	9,333	872		185	12.7	27.2	26.5	
10	890 to 960	2,037	926		209	5.11	7.43	4.03	
11	960 to 1020	11,023	909		183	10.1	18.7	15.9	
12	1020 to 1080	10,717	1,050		189	8.61	15.9	13.7	
13	1080 to 1140	10,042	1,110		184	8.56	16.3	12.2	
14	1140 to 1200	10,004	1,170		189	10.6	18.3	12.4	
15	1200 to 1280	5,958	1,223		191	5.47	9.94	7.57	
16	1280 to 1360	1,252	1,321		217	2.58	3.79	2.55	
17	1360 to 1440	5,035	1,406		220	3.63	6.45	6.85	
18 <sup>c</sup>	1440 to 1676	9,699	1,569		0	288	130	113	102

WING/SIDE

1	0 to 70.5	1,645	746.3	45.6	173	6.13	1.10	6.73
2 <sup>d</sup>	70.5 to 157.2	5,673	816	115.5	176.3	26.9	4.65	30.6
3	157.2 to 235.8	2,793	842.2	196.6	176.1	13.4	2.62	15.4
4	235.8 to 314.4	2,785	868.7	261	180.8	6.24	1.51	7.50
5	314.4 to 393	1,569	906.3	344.3	186.5	4.47	0.876	5.20
6	393.0 to 471.6	1,171	974.9	432.6	196.5	2.58	0.654	3.16
7	471.6 to 550.2	951	1,016	506.5	205.5	1.60	0.427	1.97
8	550.2 to 628.8	647	1,053.6	580.7	220.1	1.09	0.311	1.37
9	628.8 to 707.4	378	1,098.5	660	233.4	0.690	0.209	0.885
10	707.4 to 786.6	264	1,161.1	744.5	253.9	0.525	0.204	0.721

Fuel density at 6.5 pounds per gallon

- Notes: a Includes nose gear in the UP position  
 b Includes tires, truck assembly, air, wheels, and side strut of main landing gear in the UP position  
 c Includes the horizontal tail, vertical tail, and refueling boom  
 d Includes inner cylinder, outer cylinder, trunnion, and landing gear support structure in wing  
 e Cruise condition

**Table VI --- Concluded**

TOTAL AIRPLANE

Airplane section	Weight (lb)	Center-of-gravity location (in.)			Moment of inertia about cg (lb-in. <sup>2</sup> x 10 <sup>-6</sup> )		
		Body balance station	Body buttock line	Body waterline <sup>e</sup>	Pitch	Roll	Yaw
Body	133,156	858.4	0	196.9	19,200	452	19,200
Wing	35,752	870.5	243.7	184.4	422	1,020	1,420
Nacelles	10,938	713.7	322	159	16.9	2.64	15.7
Nacelles	10,744	898.1	552	197	16.2	2.60	15
Total/avg	190,590	854.6	0	192.4	20,000	8,030	27,400

**Table VII. Weight Condition D (Operating Weight Empty with Structural Reserve Fuel; Gross Weight: 107,260 Pounds)**

### BODY

Panel number	Body balance station	Weight (lb)	Center-of-gravity location (in.)			Moment of inertia about cg (lb-in. <sup>2</sup> x 10 <sup>-6</sup> )		
			Body balance station	Body buttock line	Body waterline <sup>e</sup>	Pitch	Roll	Yaw
1	130 to 259	2,771	220	0 ↑ ↓ 0	218	4.45	3.95	3.57
2 <sup>a</sup>	259 to 360	5,290	320		207	15.5	14.6	11.3
3	360 to 420	2,258	384		215	6.14	9.33	4.78
4	420 to 480	1,495	451		220	3.59	5.45	2.79
5	480 to 540	1,262	513		214	3.03	4.60	2.36
6	540 to 620	1,925	584		212	4.62	7.02	3.60
7	620 to 755	3,055	689		210	11	11.2	9.33
8	755 to 820	1,500	802		208	3.68	5.47	2.88
9 <sup>b</sup>	820 to 890	9,333	872		185	12.7	27.2	26.5
10	890 to 960	2,037	926		209	5.11	7.43	4.03
11	960 to 1020	1,806	982		185	4.33	6.59	3.37
12	1020 to 1080	1,104	1,051		211	2.65	4.03	2.06
13	1080 to 1140	1,146	1,110		214	2.63	4.07	2.14
14	1140 to 1200	1,834	1,174		221	3.94	6.26	3.43
15	1200 to 1280	1,197	1,238		215	2.74	3.97	2.52
16	1280 to 1360	1,252	1,321		217	2.58	3.79	2.55
17	1360 to 1440	1,273	1,395		223	2.07	2.83	2.11
18 <sup>c</sup>	1440 to 1676	9,288	1,574		291	121	111	95.3

### WING/SIDE

1	0 to 70.5	1,645	746.3	45.6	173	6.13	1.10	6.73
2 <sup>d</sup>	70.5 to 157.2	5,673	816	115.5	176.3	26.9	4.65	30.6
3	157.2 to 235.8	2,793	842.2	196.6	176.1	13.4	2.62	15.4
4	235.8 to 314.4	2,785	868.7	261	180.8	6.24	1.51	7.50
5	314.4 to 393	1,569	906.3	344.3	186.5	4.47	0.876	5.20
6	393.0 to 471.6	1,171	974.9	432.6	196.5	2.58	0.654	3.16
7	471.6 to 550.2	951	1,016	506.5	205.5	1.60	0.427	1.97
8	550.2 to 628.8	647	1,053.6	580.7	220.1	1.09	0.311	1.37
9	628.8 to 707.4	378	1,098.5	660	233.4	0.690	0.209	0.885
10	707.4 to 786.6	264	1,161.1	744.5	253.9	0.525	0.204	0.721

Fuel density at 6.5 pounds per gallon

- Notes: a Includes nose gear in the UP position  
 b Includes tires, truck assembly, air, wheels, and side strut of main landing gear in the UP position  
 c Includes the horizontal tail, vertical tail, and refueling boom  
 d Includes inner cylinder, outer cylinder, trunnion, and landing gear support structure in wing  
 e Cruise condition

**Table VII --- Concluded**

TOTAL AIRPLANE

Airplane section	Weight (lb)	Center-of-gravity location (in.)			Moment of inertia about cg (lb-in. <sup>2</sup> x 10 <sup>-6</sup> )		
		Body balance station	Body buttock line	Body waterline <sup>e</sup>	Pitch	Roll	Yaw
Body	49,826	900	0	221.4	9,900	381	9,810
Wing	35,752	870.5	243.7	184.4	422	1,020	1,420
Nacelles	10,938	713.7	322	159	16.9	2.64	15.7
Nacelles	10,744	898.1	552	197	16.2	2.60	15
<b>Total/avg</b>	<b>107,260</b>	<b>871</b>	<b>0</b>	<b>200.3</b>	<b>10,700</b>	<b>7,910</b>	<b>18,100</b>



APPENDIX II  
STIFFNESS DATA

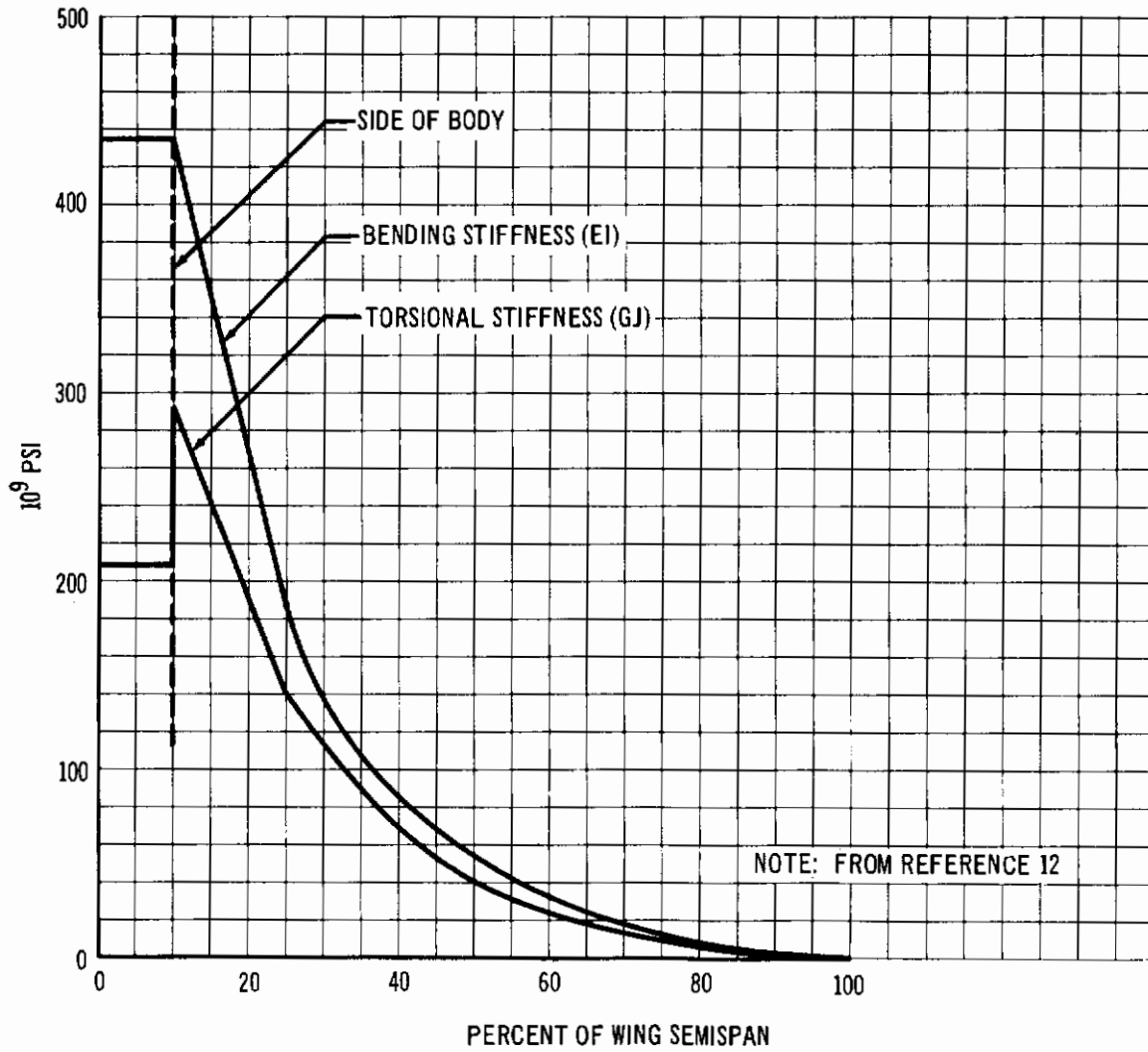
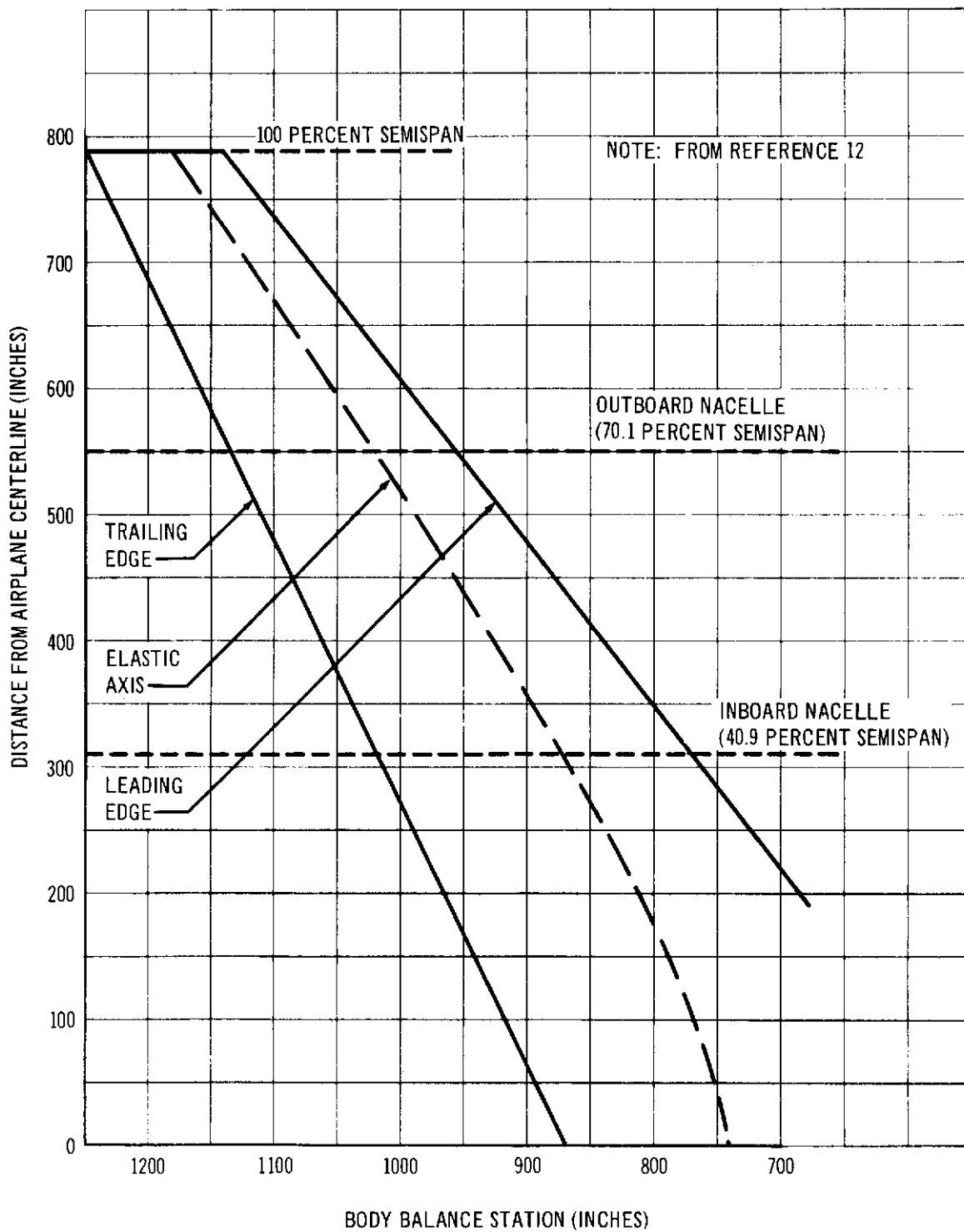


Figure 12. Wing Vertical-Bending and Torsion Stiffness



**Figure 13. Wing Elastic-Axis Location**

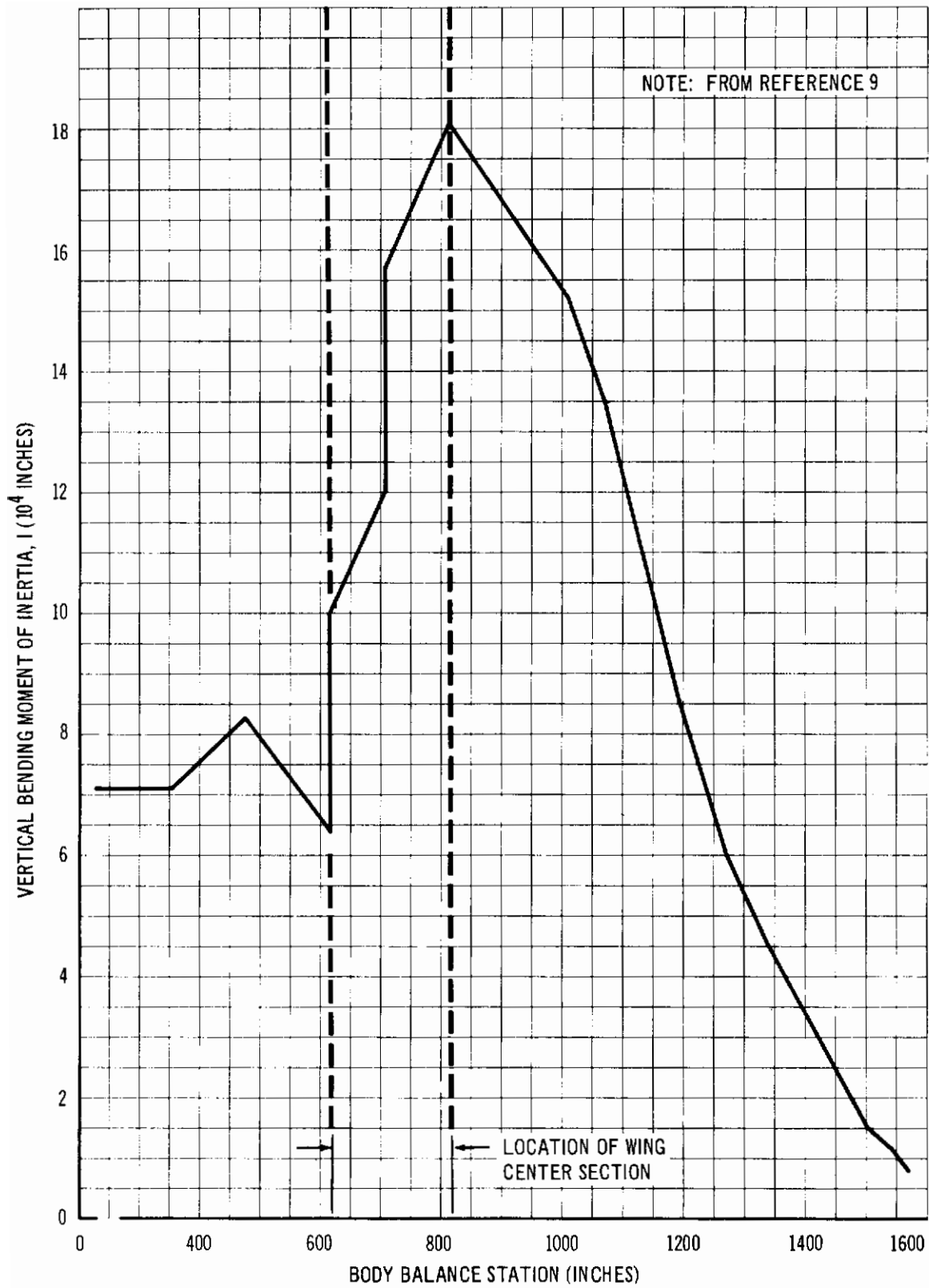


Figure 14. Body Vertical-Bending Section Moment of Inertia

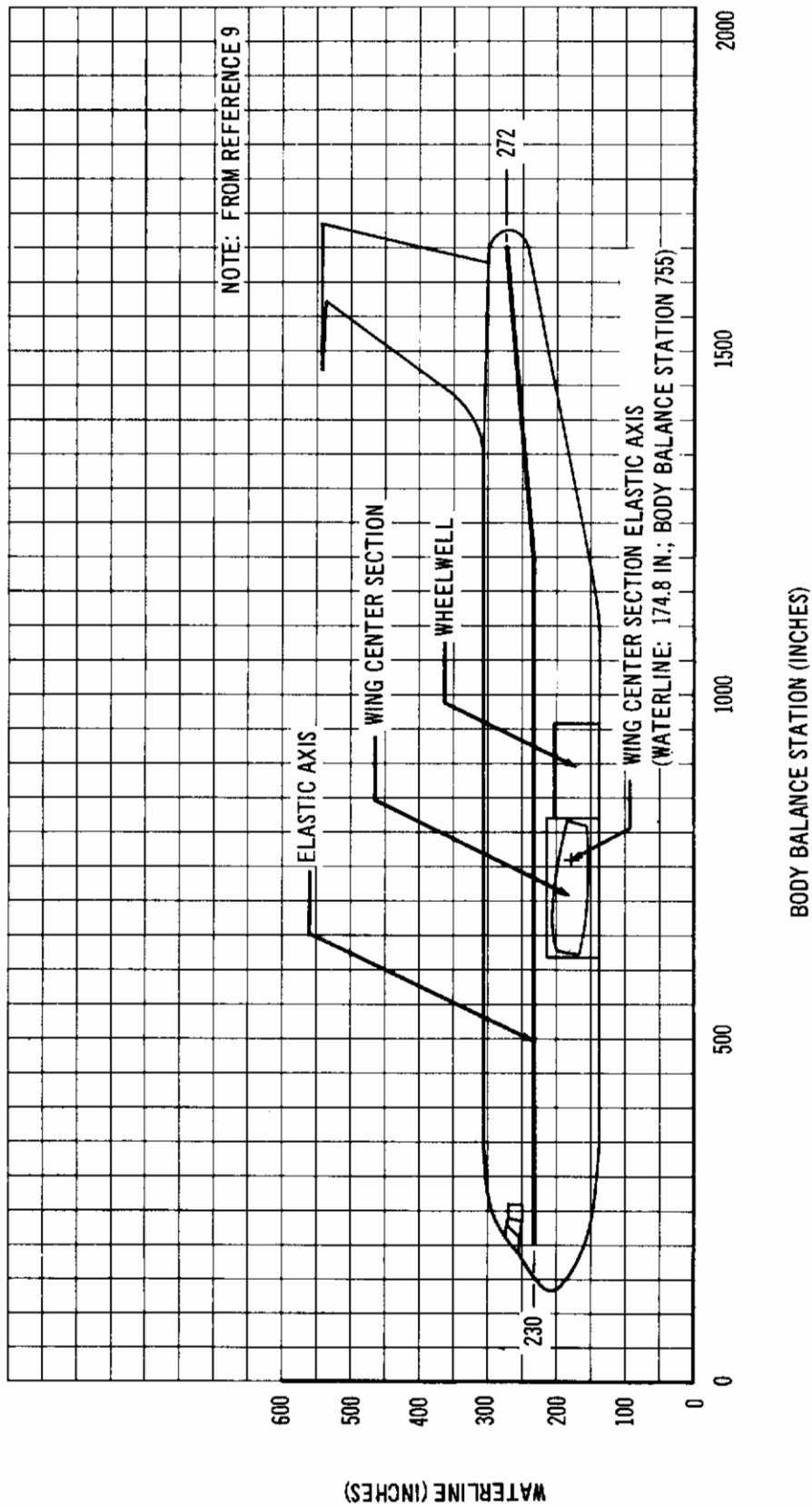
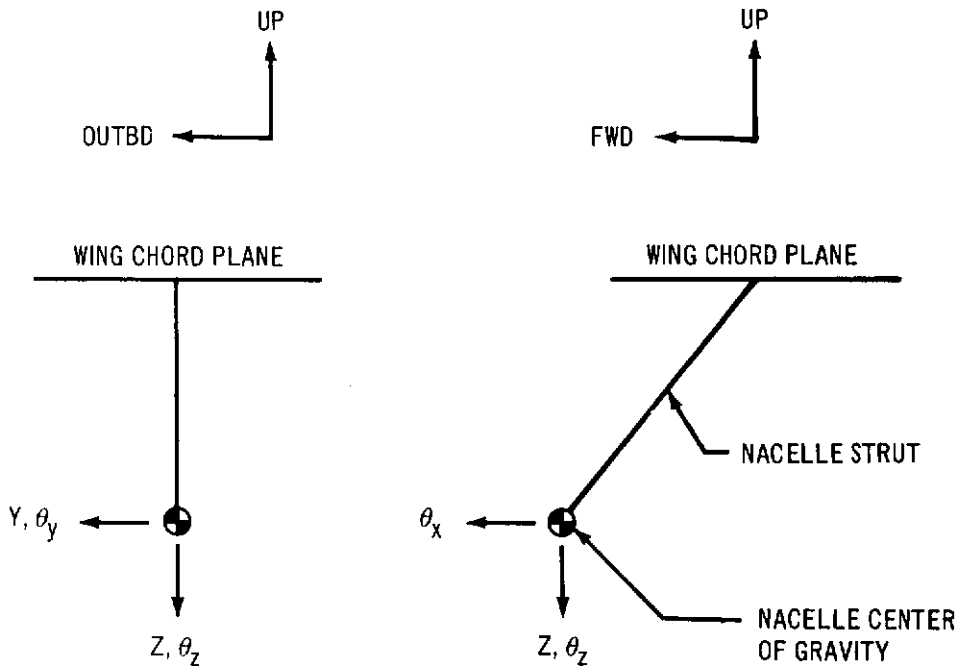


Figure 15. Body Elastic-Axis Location

**Table VIII. Nacelle Cantilever Mode Shapes and Frequencies**

Location	Vertical bending		Side bending		
	Z (in.)	$\theta_y$ (rad.)	Y (in.)	$\theta_z$ (rad.)	$\theta_x$ (rad.)
<b>MODE SHAPES</b>					
Inboard nacelle	108	-1	1	0.0136	-0.0057
Outboard nacelle	98	-1	1	0.0150	-0.0061
<b>FREQUENCIES (FROM REFERENCE 4)</b>					
Inboard nacelle	4.44 cps		2.31 cps		
Outboard nacelle	4.81 cps		2.50 cps		



# *Contrails*

APPENDIX III  
AERODYNAMIC DATA

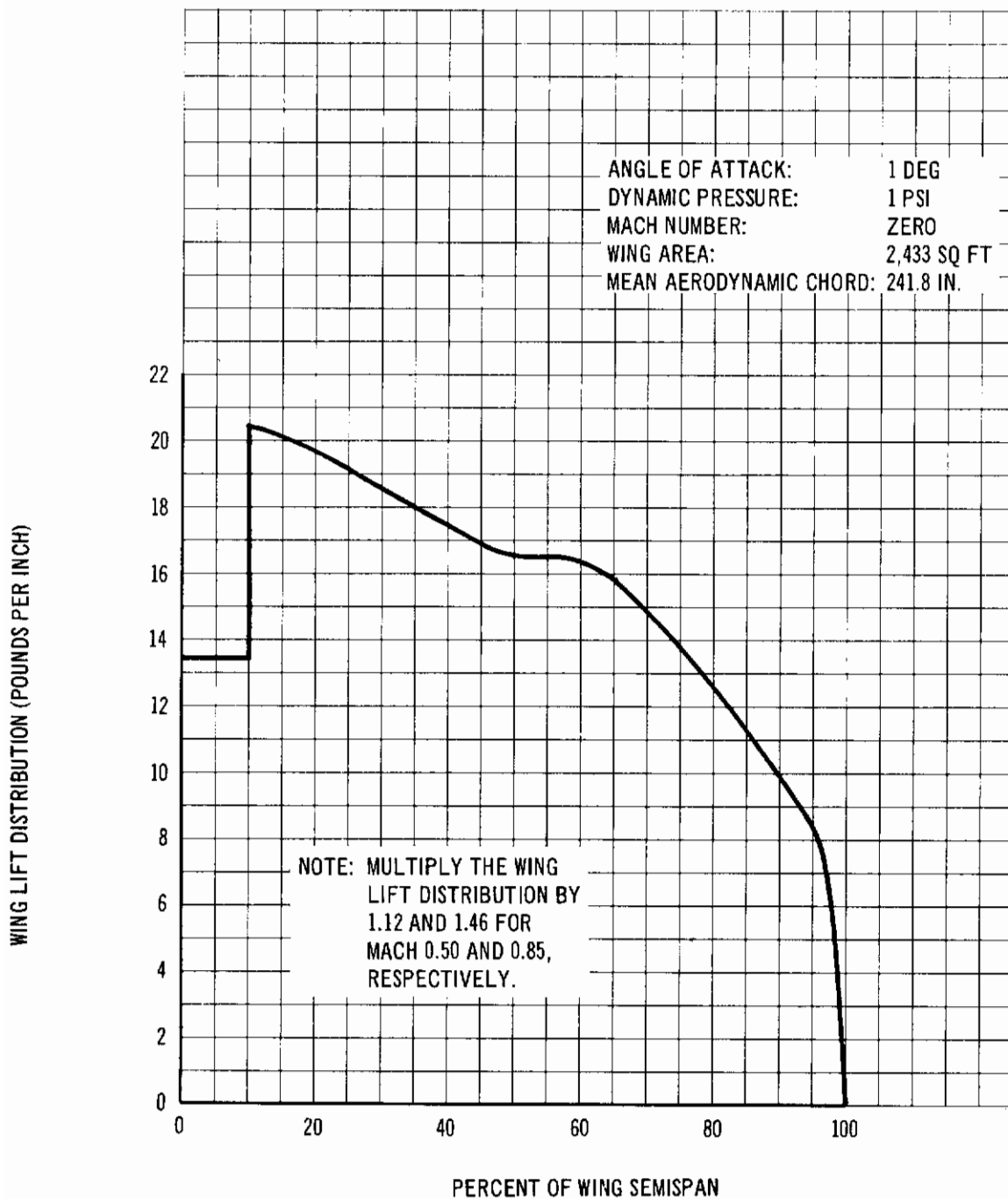


Figure 16. Wing Lift Distribution

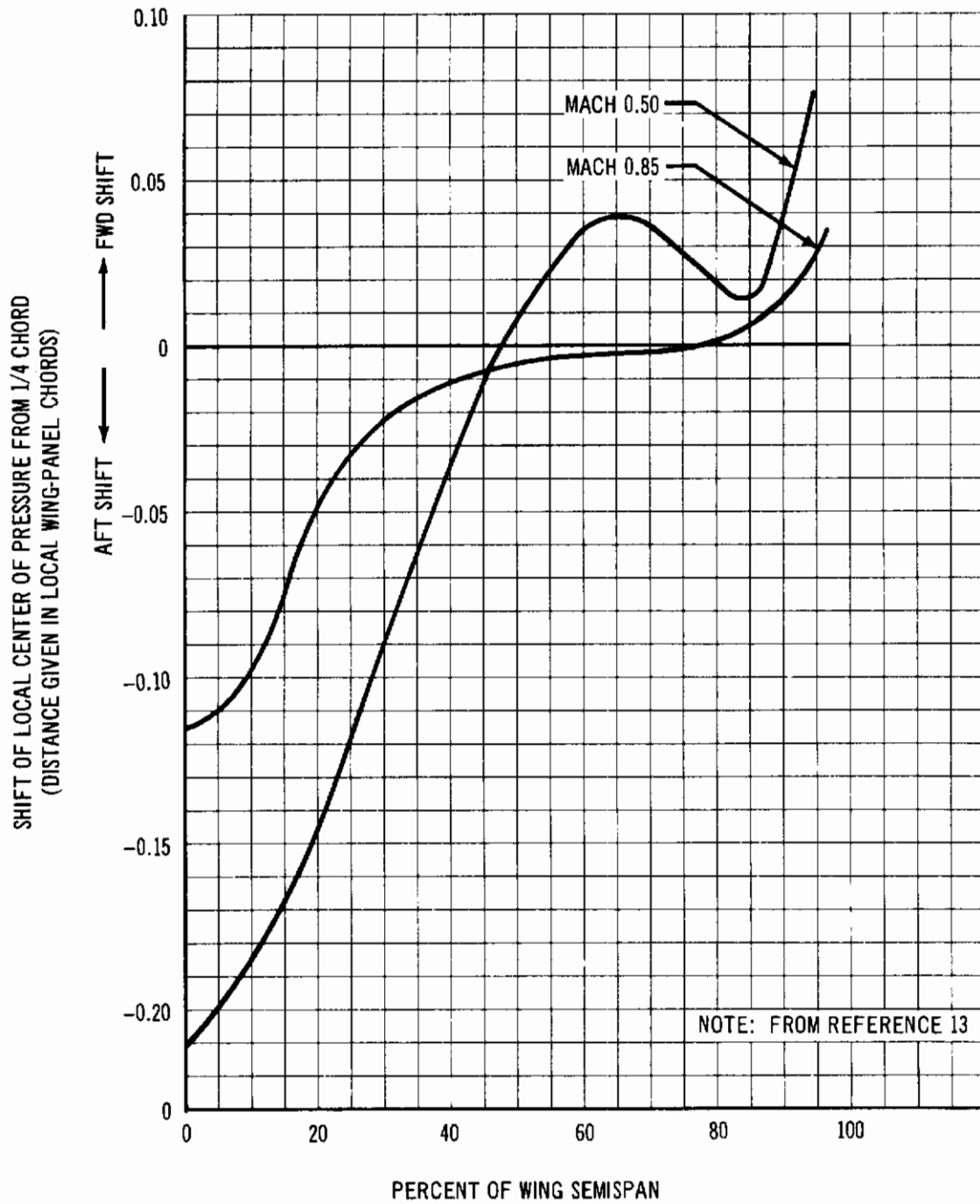


Figure 17. Local Center-of-Pressure Location



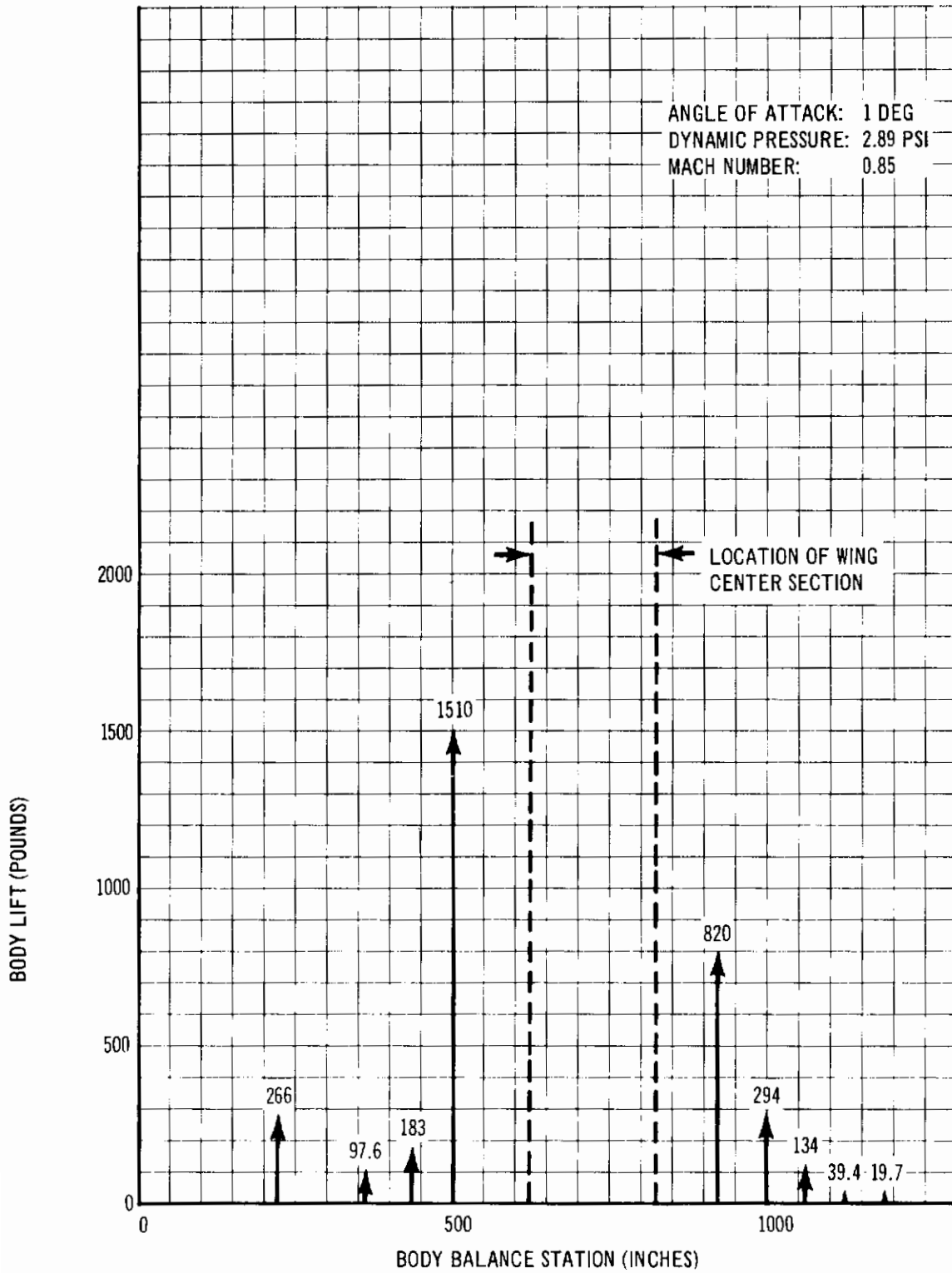


Figure 18. Body Lift Distribution (Mach 0.85)

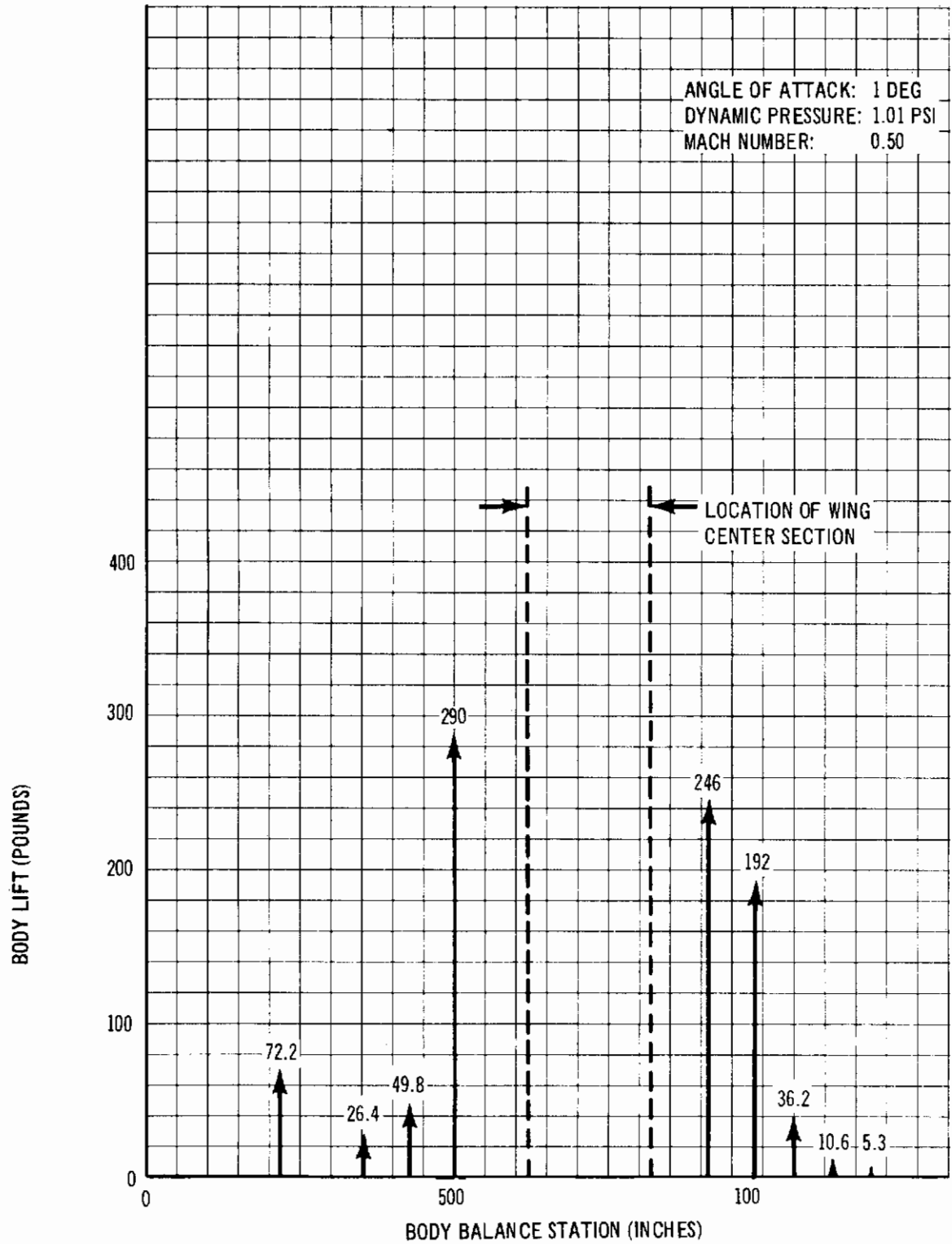


Figure 19. Body Lift Distribution (Mach 0.50)

# Contrails

**Table IX. Rigid-Airplane Derivatives  $\left(\frac{1}{\text{Radian}}\right)$**

Mach number	Analysis		Wind tunnel (from reference 6)	
	$C_{L\alpha}$	$C_{M\alpha}$	$C_{L\alpha}$	$C_{M\alpha}$
0.50	5.06	1.51	5.14	1.50
0.85	6.49	1.68	6.71	1.70

$$L = qsC_{L\alpha}\alpha$$

$$M = qs\bar{c}C_{M\alpha}\alpha$$

L = lift

M = pitching moment about body station 837.9

q = dynamic pressure

s = wing area = 2,433 square feet

$\alpha$  = angle of attack

c = wing mean aerodynamic chord = 241.8 inches

**Table X. Rigid-Horizontal-Stabilizer Lift at 24,000-Foot Altitude**

Mach number	Lift (lb./rad.)	For flexible horizontal stabilizer, multiply lift by:
0.50	61,068	0.971
0.80	183,156	0.923

Note: Horizontal stabilizer center of lift is at body balance station 1581.3.

# *Contrails*

APPENDIX IV  
AIRPLANE FREE-FREE MODE SHAPES

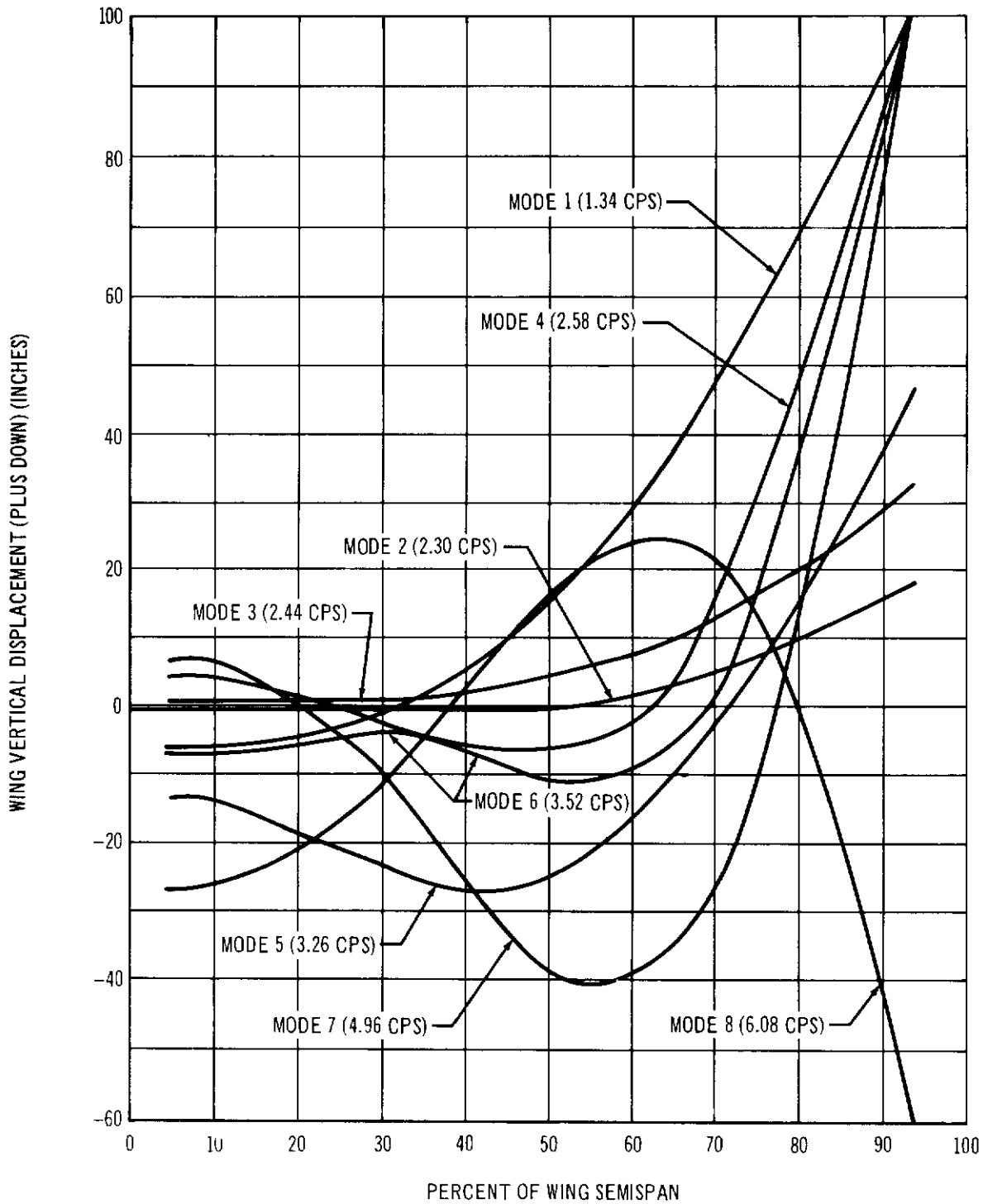


Figure 20. Wing Vertical Displacement in the Normalized Free-Free Airplane Modes; 297,000-Pound Gross Weight (Weight Condition A)

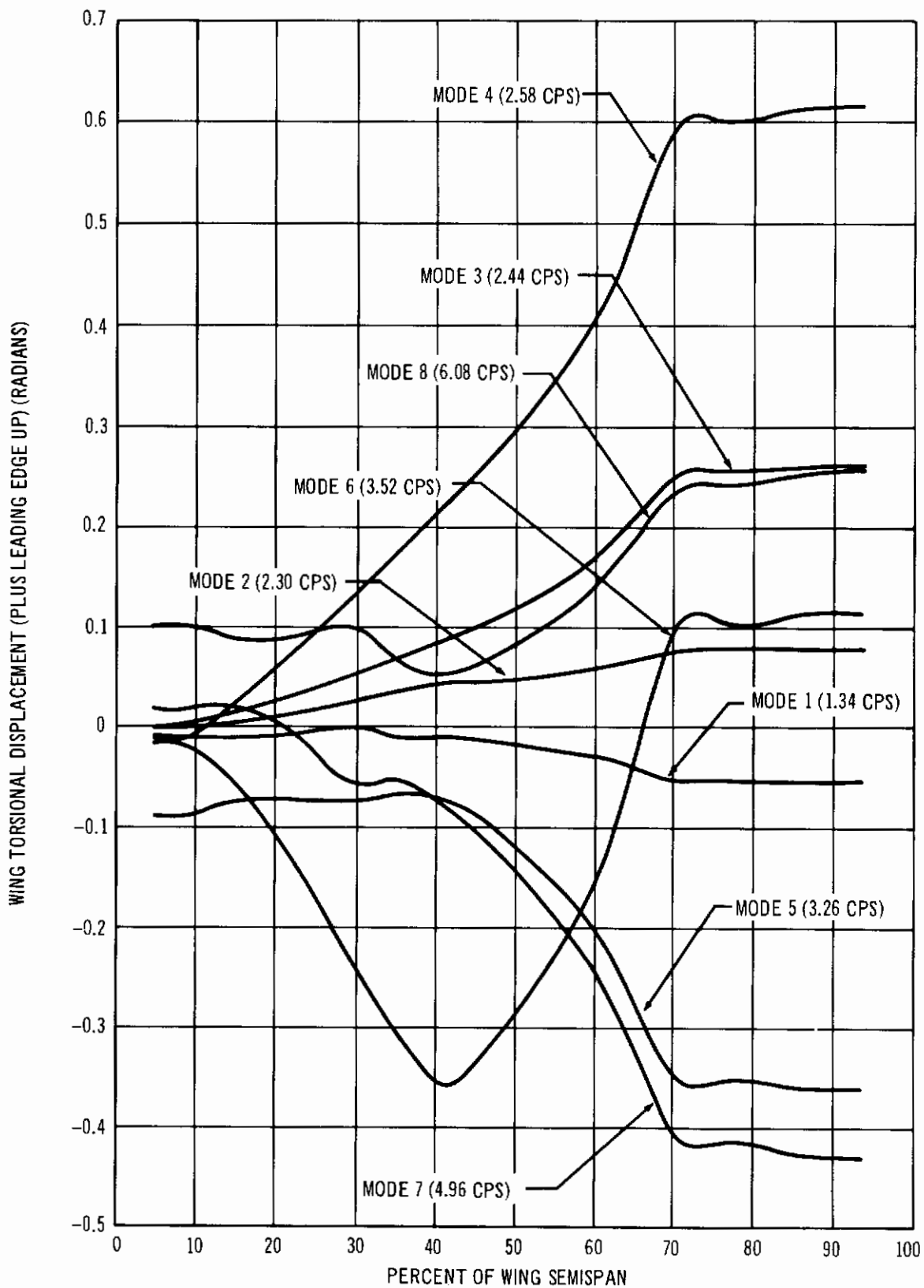


Figure 21. Wing Torsional Displacement in the Normalized Free-Free Airplane Modes; 297,000-Pound Gross Weight (Weight Condition A)

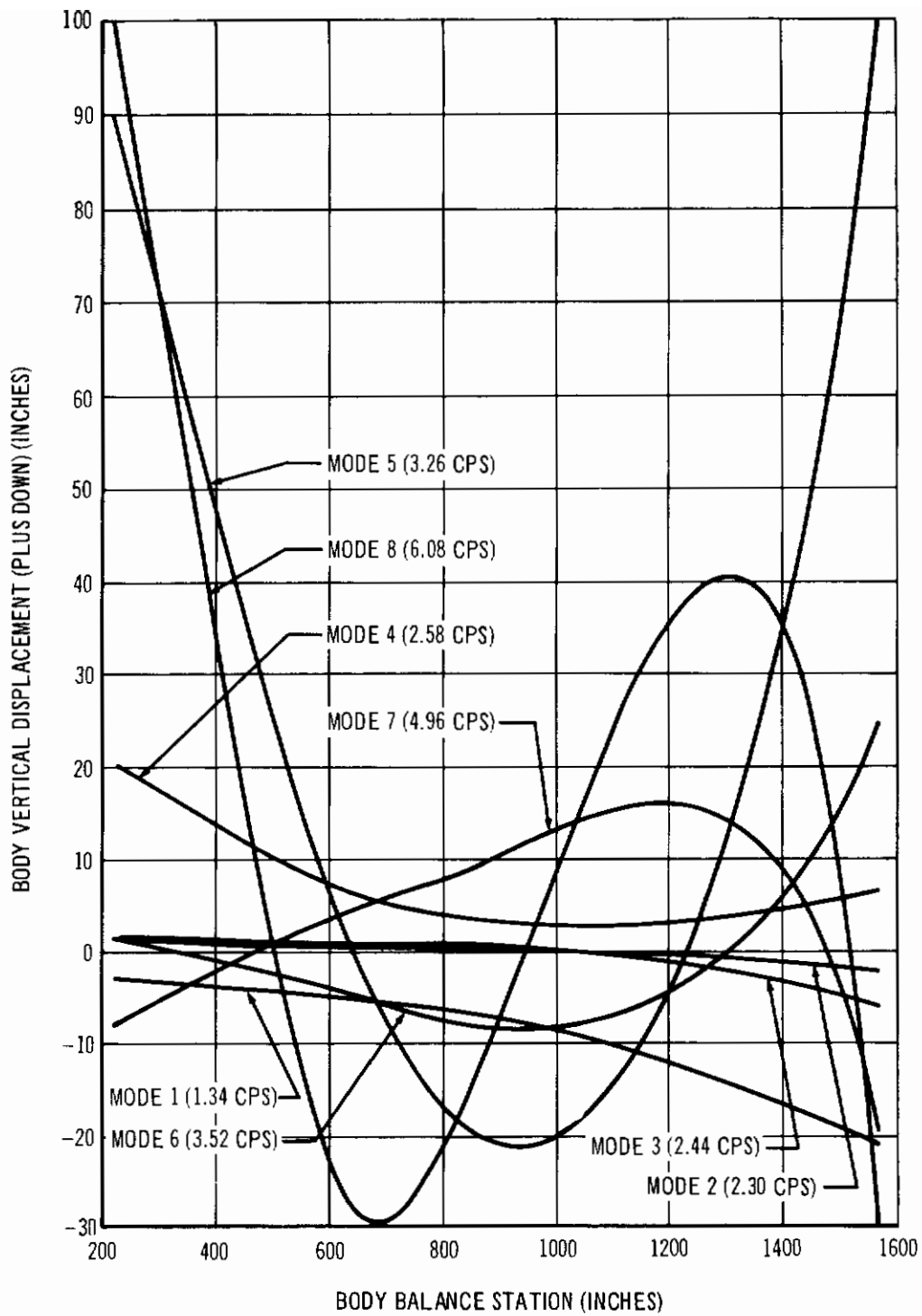


Figure 22. Body Vertical Displacement in the Normalized Free-Free Airplane Modes; 297,000-Pound Gross Weight (Weight Condition A)

**Table XI. Nacelle Mode Shapes (Weight Condition A)**

Nacelle position	Displacement	Mode number							
		1	2	3	4	5	6	7	8
Inboard	$\bar{x}$	-1.78	-1.68	-3.89	-8.30	+2.31	+15.20	+7.51	-5.05
	$\bar{y}$	-5.42	+74.55	-8.49	-18.88	+0.84	+2.72	-0.16	-0.28
	$\bar{z}$	+0.27	-8.29	-16.25	-51.95	-31.09	+125.88	-6.64	+18.78
	$\theta_x$	+0.0923	-0.4413	+0.0280	+0.0091	+0.0170	+0.0884	-0.0754	+0.0824
	$\theta_y$	+0.0375	+0.0565	+0.1293	+0.3345	+0.0751	-1.0573	-0.1073	-0.2043
	$\theta_z$	-0.0214	+1.0000	-0.1327	-0.3401	+0.0299	+0.1254	-0.0669	+0.0649
Outboard	$\bar{x}$	-3.37	-3.72	-10.29	-28.16	+4.64	-11.00	+8.47	-0.62
	$\bar{y}$	-11.32	+1.70	+70.74	-54.94	+12.57	+4.17	+0.98	+0.58
	$\bar{z}$	+42.33	+6.97	-21.99	-85.85	+41.71	-55.77	+12.70	-3.20
	$\theta_x$	+0.2173	-0.0159	-0.5017	+0.2549	+0.1643	+0.0990	+0.3341	-0.1780
	$\theta_y$	+0.0425	+0.1035	+0.3005	+0.8969	-0.3985	+0.5370	-0.3467	+0.2164
	$\theta_z$	-0.0407	+0.0206	+1.0000	-0.8936	+0.3983	+0.1712	+0.3107	-0.1431

Note: Sign convention for nacelle cg positive displacements

$\bar{x}$ Aft	$\theta_x$ Roll, bottom inboard
$\bar{y}$ Outboard	$\theta_y$ Pitch, nose up
$\bar{z}$ Down	$\theta_z$ Yaw, nose outboard



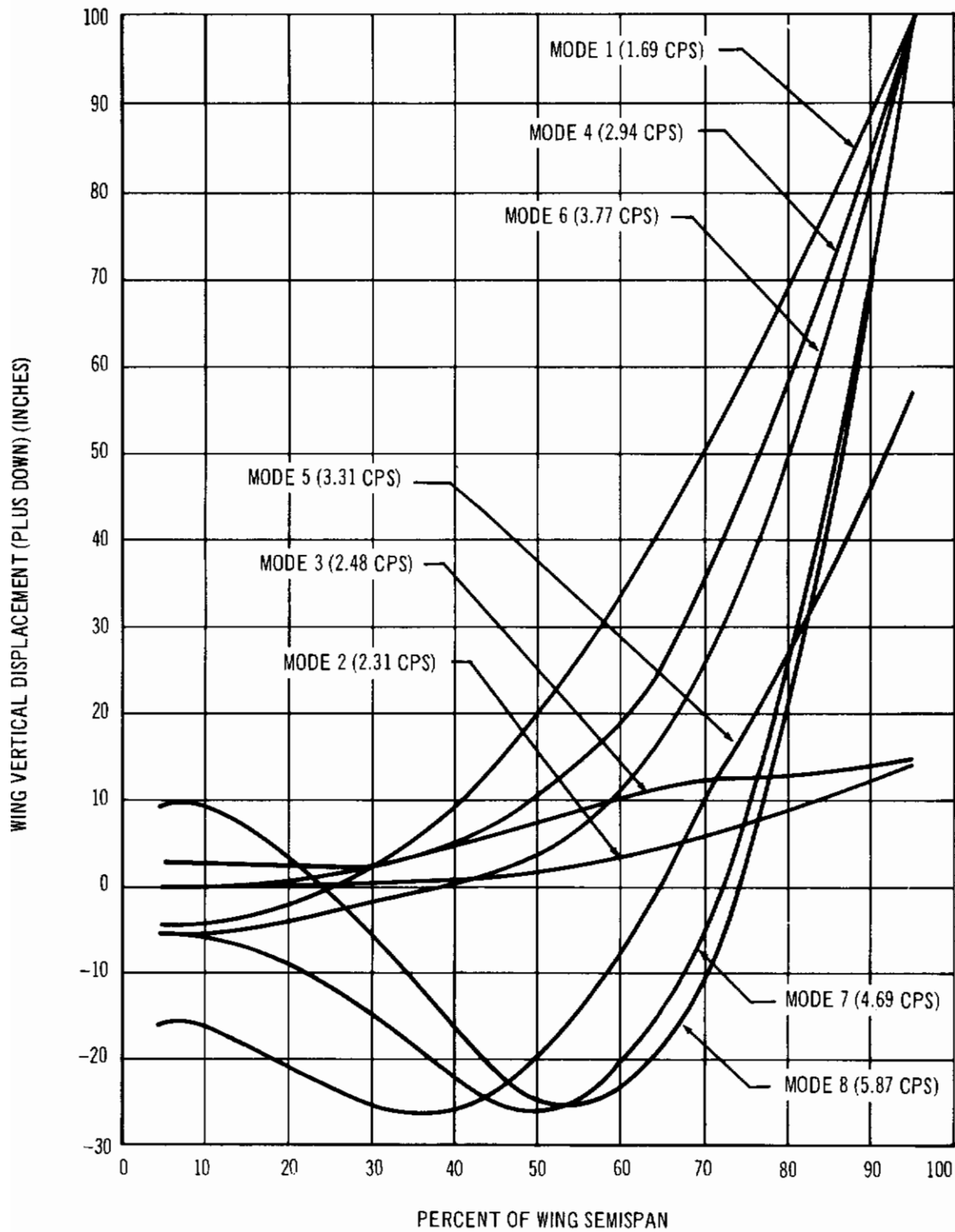


Figure 23. Wing Vertical Displacement in the Normalized Free-Free Airplane Modes; 268,000-Pound Gross Weight (Weight Condition B)

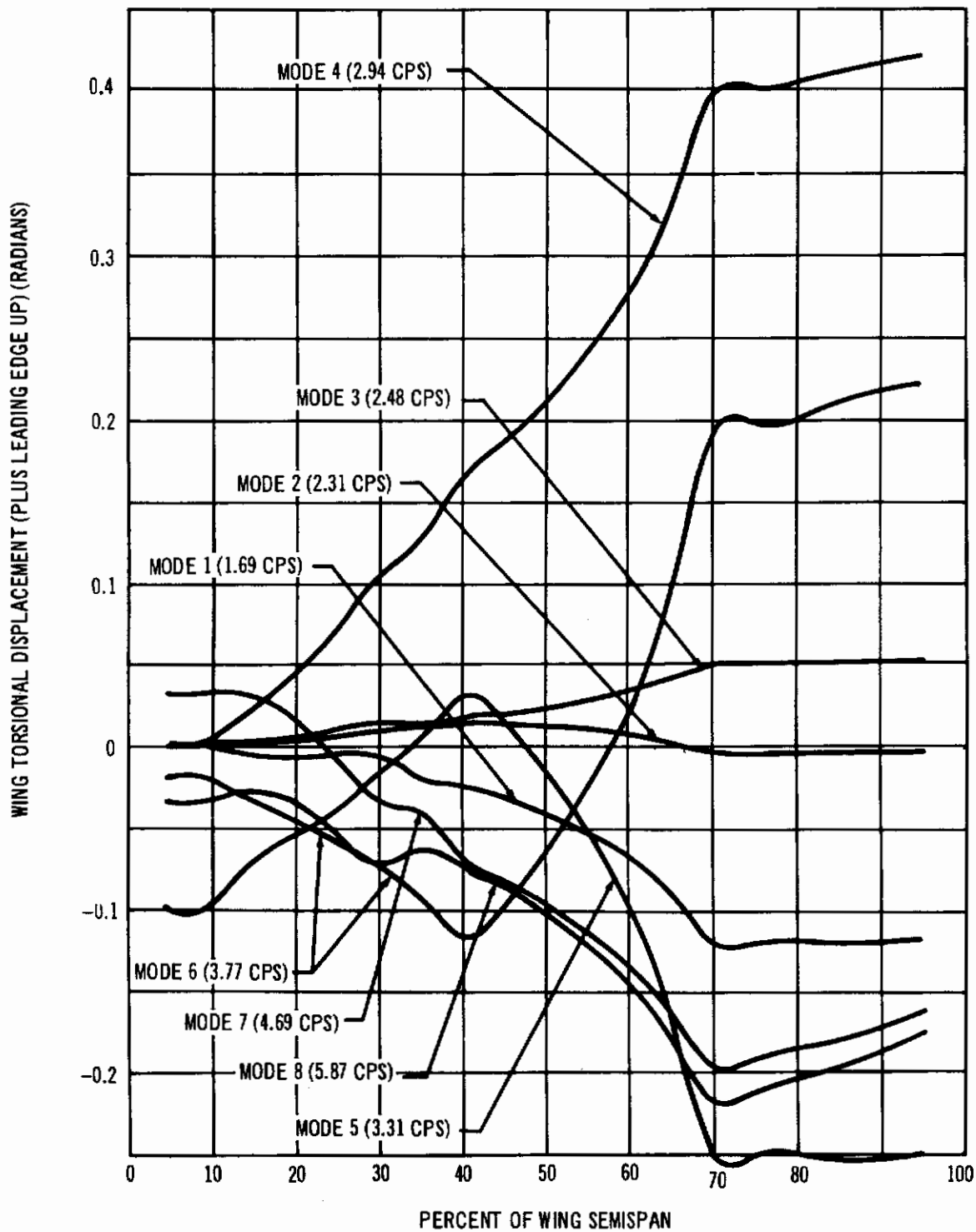


Figure 24. Wing Torsional Displacement in the Normalized Free-Free Airplane Modes; 268,000-Pound Gross Weight (Weight Condition B)

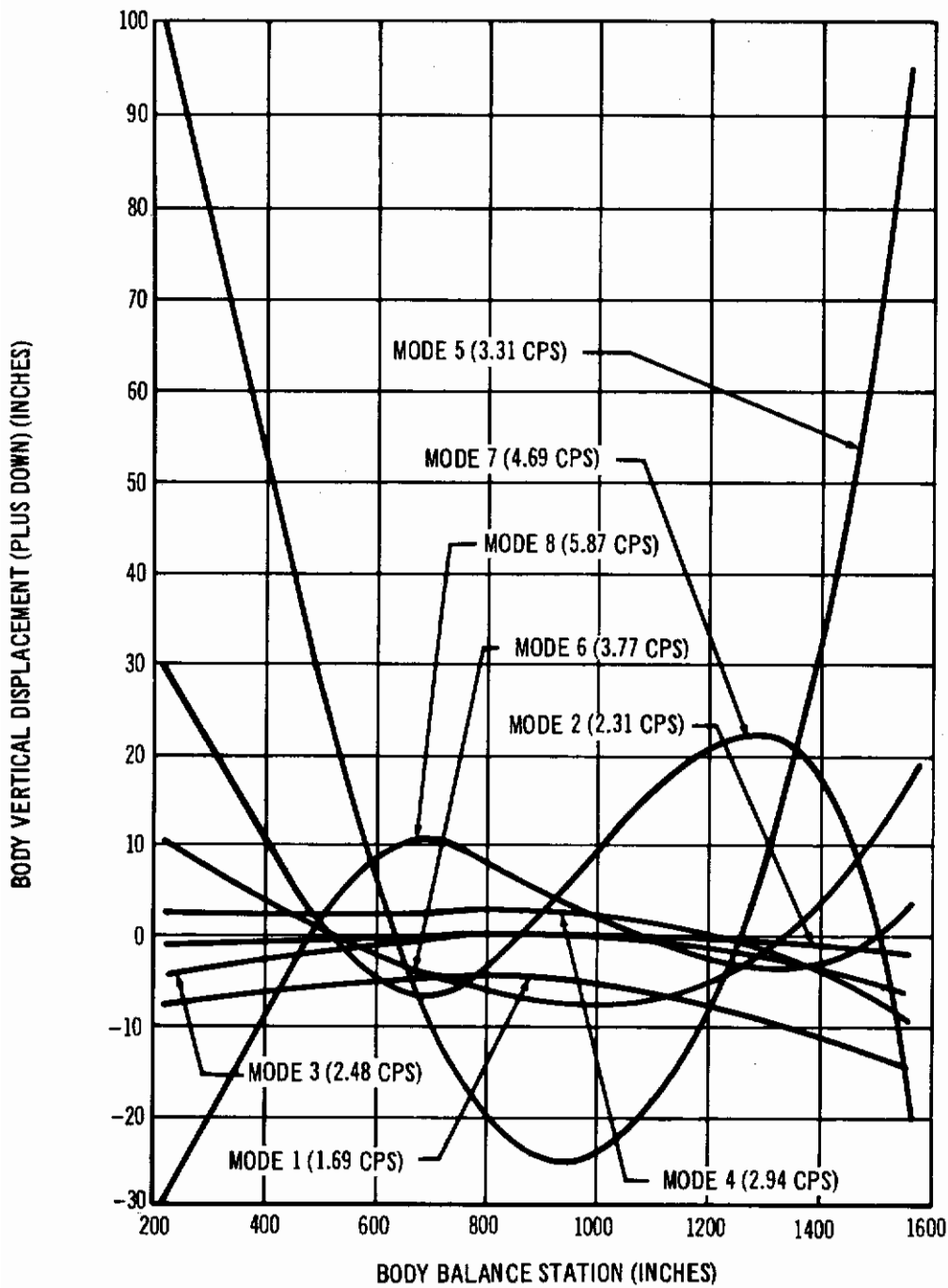


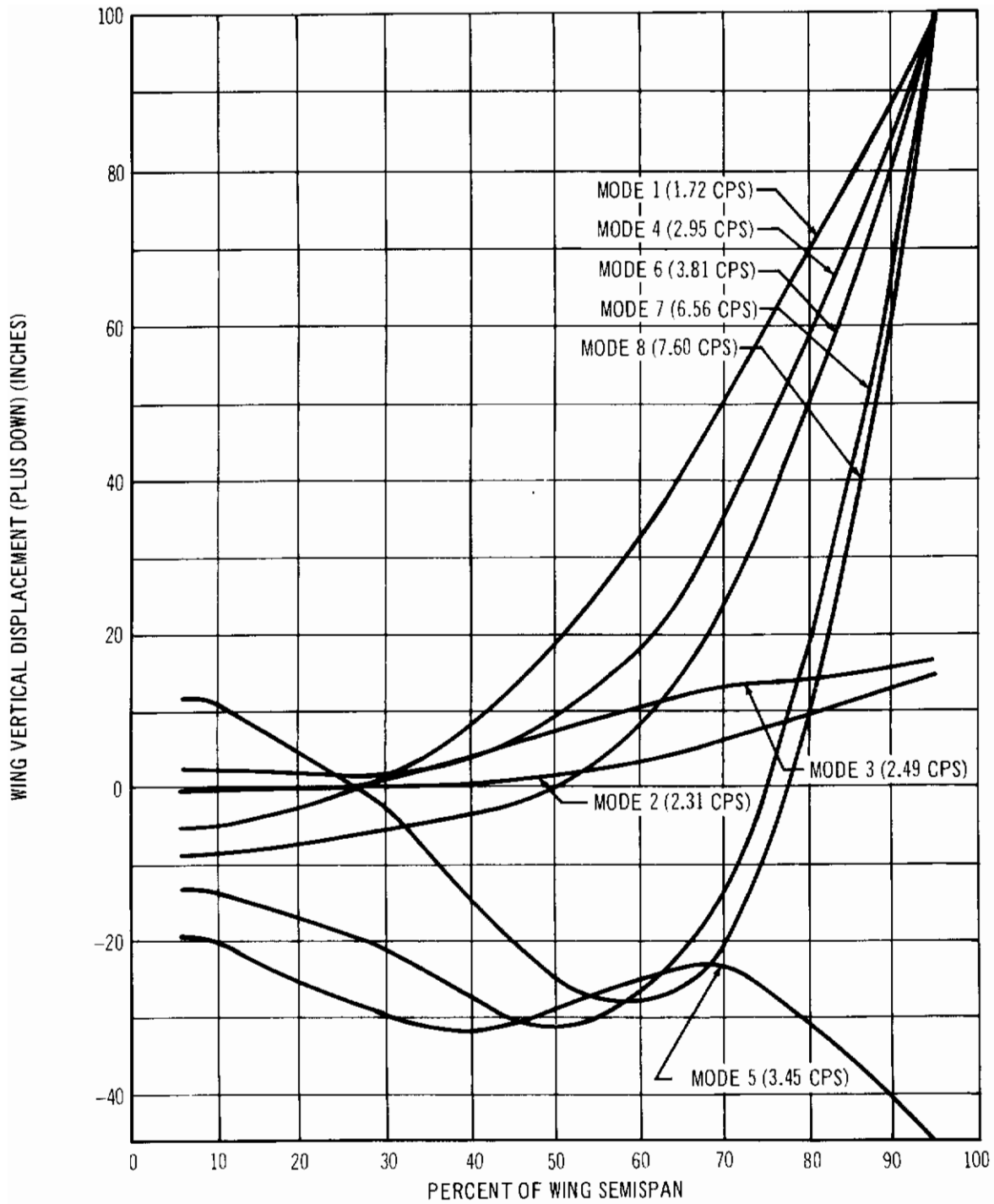
Figure 25. Body Vertical Displacement in the Normalized Free-Free Airplane Modes; 268,000-Pound Gross Weight (Weight Condition B)

**Table XII. Nacelle Mode Shapes (Weight Condition B)**

Nacelle position	Displacement	Mode number							
		1	2	3	4	5	6	7	8
Inboard	$\bar{x}$	-1.42	-0.73	-1.41	-7.79	-3.03	+3.82	+4.94	+5.54
	$\bar{y}$	-8.81	+73.67	+3.84	-2.47	+0.38	+1.12	+0.04	+0.22
	$\bar{z}$	+5.77	-2.51	-0.97	-39.67	-70.28	+51.44	+3.75	-5.20
	$\theta_x$	+0.1234	-0.4220	-0.0095	-0.0217	+0.0084	+0.0541	-0.0174	-0.0462
	$\theta_y$	+0.0248	+0.0225	+0.0353	+0.3295	+0.3905	-0.4251	-0.1930	-0.0489
	$\theta_z$	-0.0578	+1.0000	+0.0629	-0.0641	+0.0141	+0.0667	-0.0139	-0.0354
Outboard	$\bar{x}$	-0.19	-0.56	-1.76	-19.06	+0.64	-13.20	+2.21	+0.51
	$\bar{y}$	-15.85	-6.20	+67.73	-3.85	+9.75	+1.29	-0.60	-1.11
	$\bar{z}$	+57.66	+5.46	+8.93	-29.74	+45.09	-26.40	+3.84	+3.04
	$\theta_x$	+0.2614	+0.0571	-0.4315	-0.0129	+0.1461	+0.0487	+0.2417	+0.2426
	$\theta_y$	-0.0576	+0.0029	+0.0251	+0.5765	-0.3250	+0.4707	-0.0855	-0.1253
	$\theta_z$	-0.0944	-0.0763	+1.0000	-0.0890	+0.3251	+0.0688	+0.1982	+0.1886

Note: Sign convention for nacelle cg positive displacements

$\bar{x}$ Aft	$\theta_x$ Roll, bottom inboard
$\bar{y}$ Outboard	$\theta_y$ Pitch, nose up
$\bar{z}$ Down	$\theta_z$ Yaw, nose outboard



**Figure 26. Wing Vertical Displacement in the Normalized Free-Free Airplane Modes; 190,590-Pound Gross Weight (Weight Condition C)**

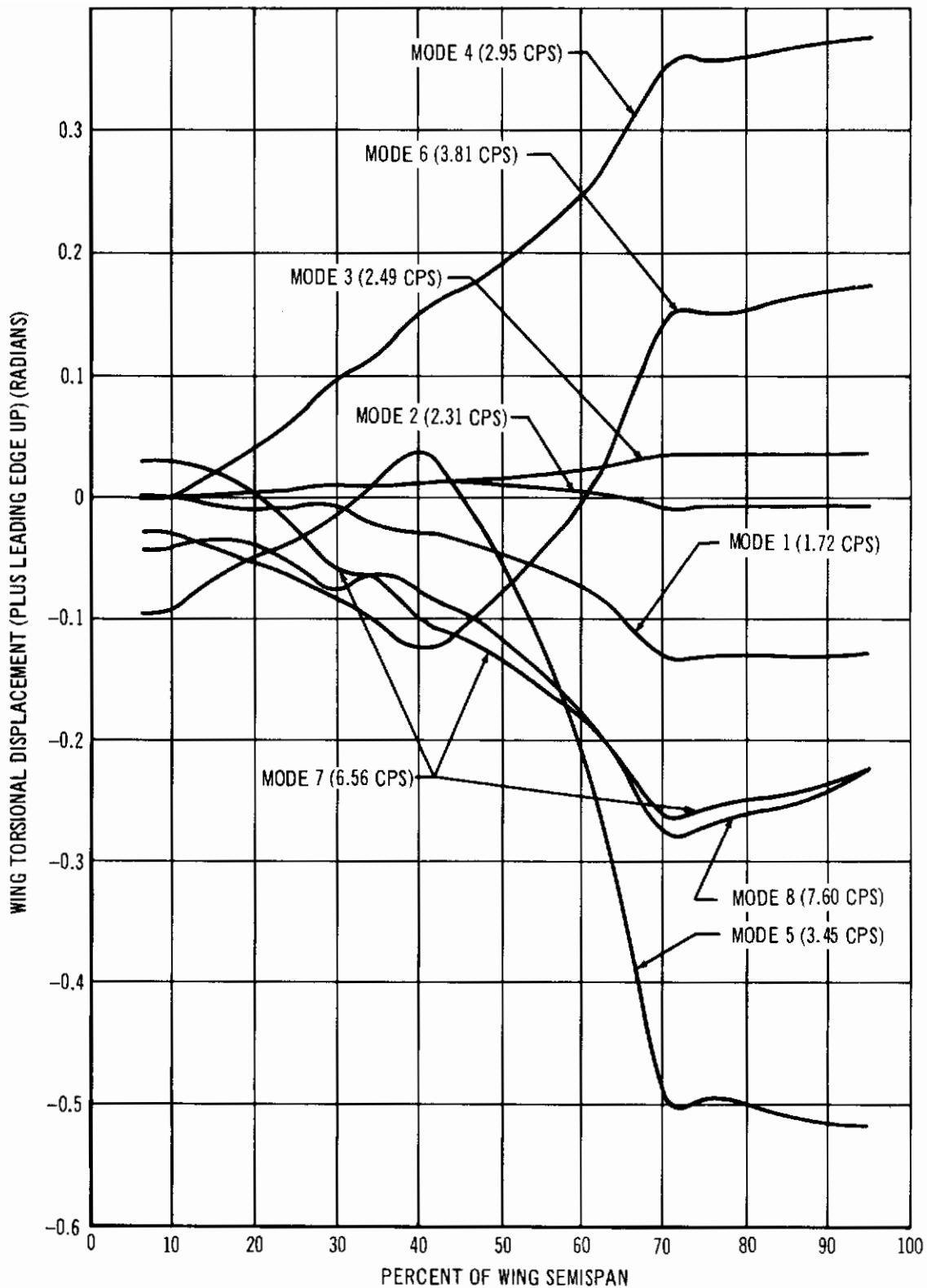


Figure 27. Wing Torsional Displacement in the Normalized Free-Free Airplane Modes; 190,590-Pound Gross Weight (Weight Condition C)

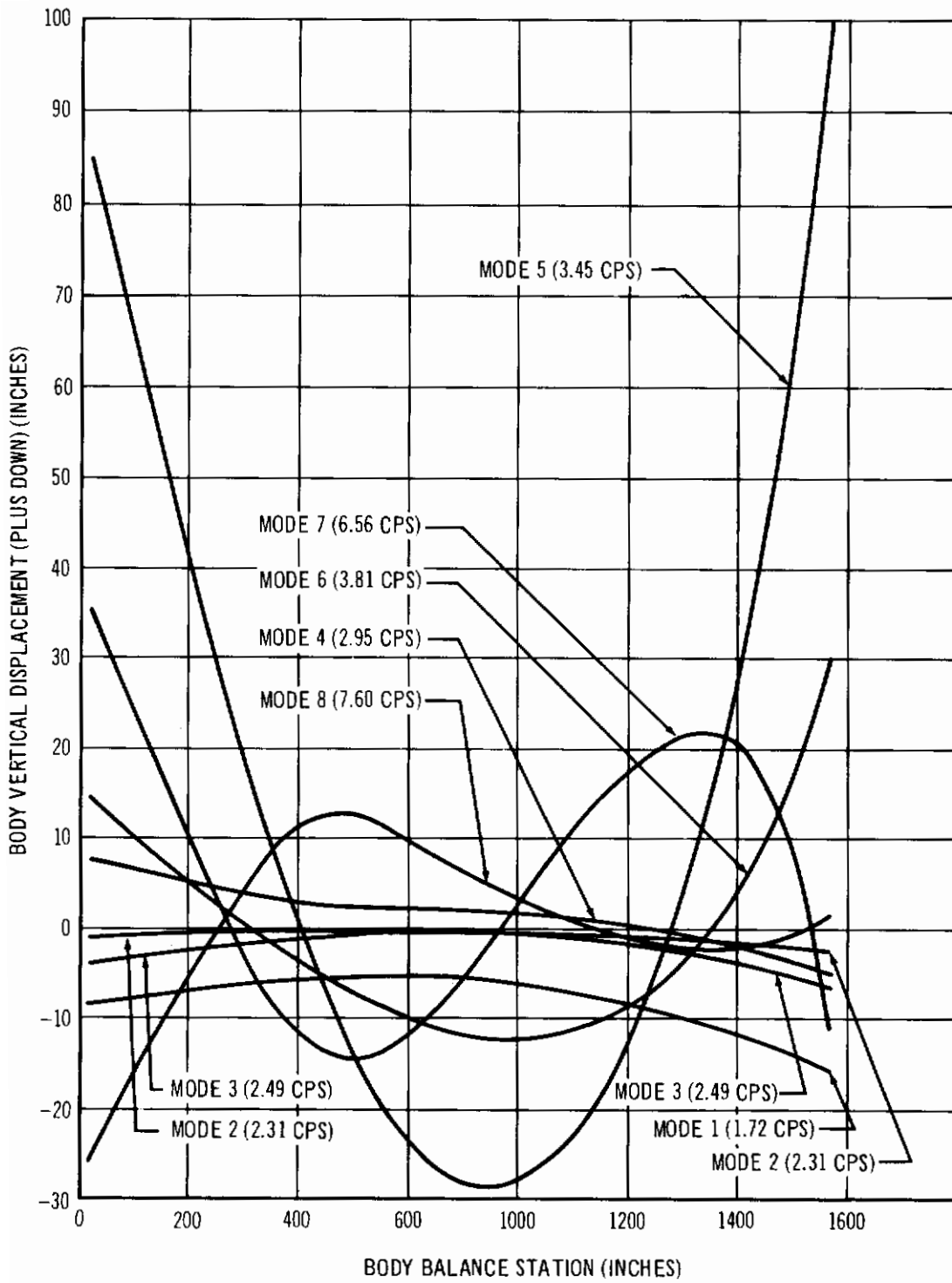


Figure 28. Body Vertical Displacement in the Normalized Free-Free Airplane Modes; 190,590-Pound Gross Weight (Weight Condition C)

**Table XIII. Nacelle Mode Shapes (Weight Condition C)**

Nacelle position	Displacement	Mode number							
		1	2	3	4	5	6	7	8
Inboard	$\bar{x}$	-1.28	-0.72	-1.25	-7.34	-2.69	+4.01	+5.92	+5.88
	$\bar{y}$	-9.21	-73.66	+4.31	-2.15	-0.18	+1.10	ZERO	+0.35
	$\bar{z}$	+5.35	-2.51	-0.31	-38.49	-90.38	+45.24	+1.88	-4.77
	$\theta_x$	+0.1256	-0.4218	-0.0100	-0.0195	-0.0053	+0.0570	ZERO	-0.0530
	$\theta_y$	+0.0219	+0.0222	+0.0298	+0.3146	+0.5241	-0.3998	-0.2097	-0.0338
	$\theta_z$	-0.0632	+1.0000	+0.0709	-0.0561	-0.0079	+0.0687	-0.0001	-0.0386
Outboard	$\bar{x}$	+0.04	-0.53	-1.37	-17.78	+14.83	-12.19	+4.54	+3.14
	$\bar{y}$	-16.83	-6.91	+67.23	-1.85	+6.36	+1.68	-1.26	-1.68
	$\bar{z}$	+57.98	+5.93	+11.59	-23.53	+62.89	-21.60	+1.54	+0.51
	$\theta_x$	+0.2724	+0.0636	-0.4198	-0.0065	+0.1306	+0.0688	+0.2679	+0.2479
	$\theta_y$	-0.0665	+0.0010	+0.0081	+0.5188	-0.7789	+0.4108	-0.1317	-0.1838
	$\theta_z$	-0.1049	-0.0849	+1.0000	-0.0430	+0.2427	+0.0944	+0.2075	+0.1816

Note: Sign convention for nacelle cg positive displacements

$\bar{x}$ Aft	$\theta_x$ Roll, bottom inboard
$\bar{y}$ Outboard	$\theta_y$ Pitch, nose up
$\bar{z}$ Down	$\theta_z$ Yaw, nose outboard



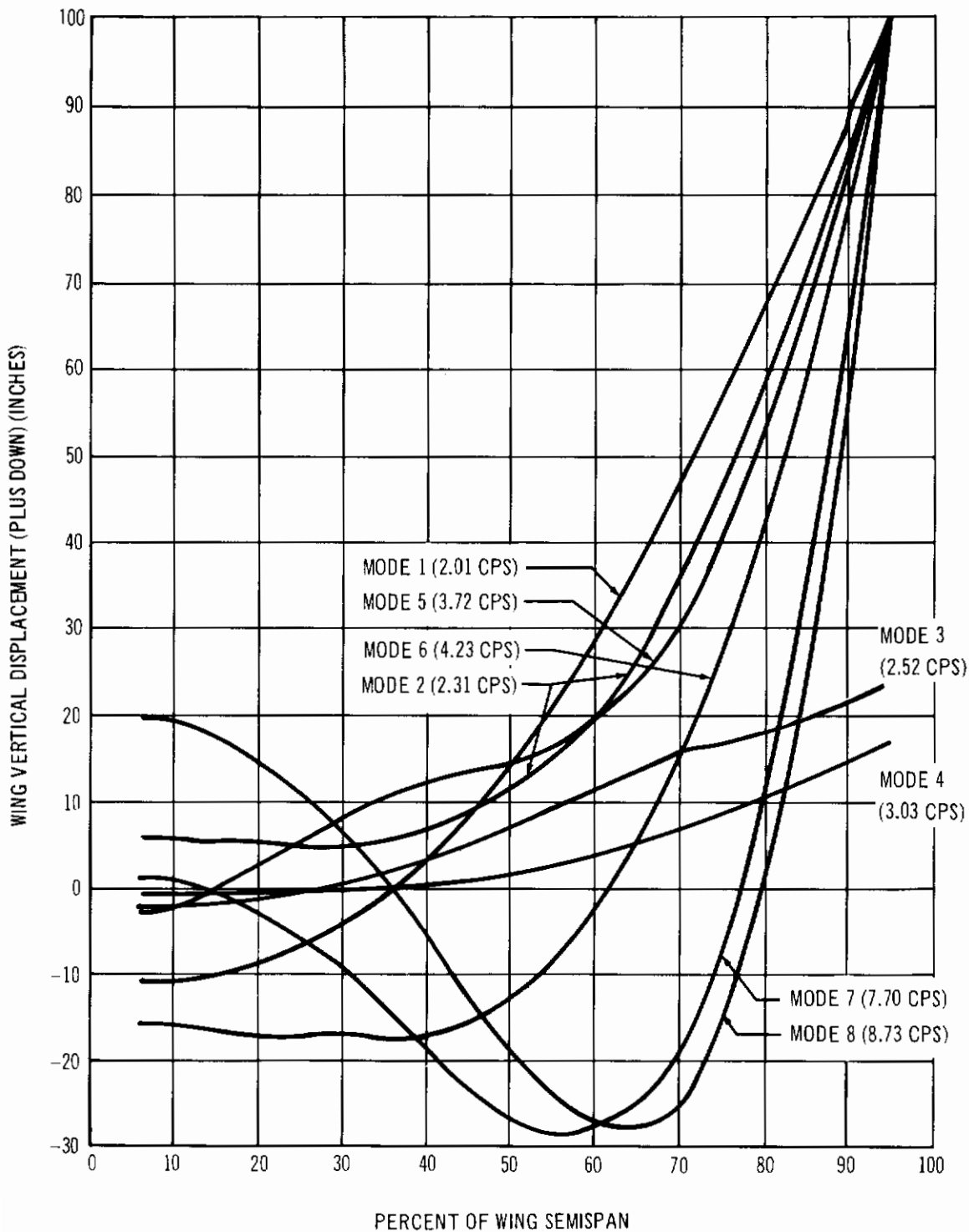


Figure 29. Wing Vertical Displacement in the Normalized Free-Free Airplane Modes; 107,260-Pound Gross Weight (Weight Condition D)

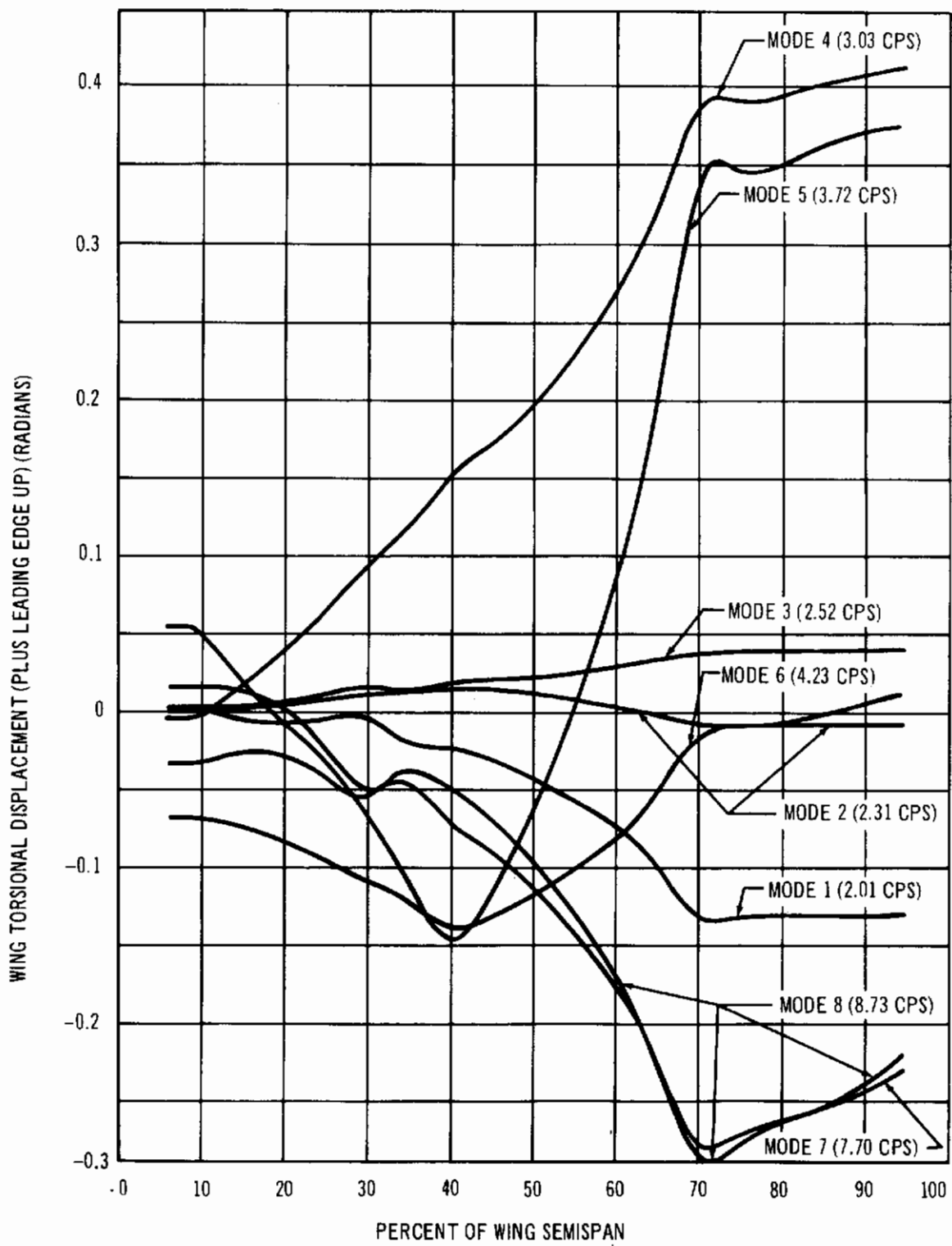
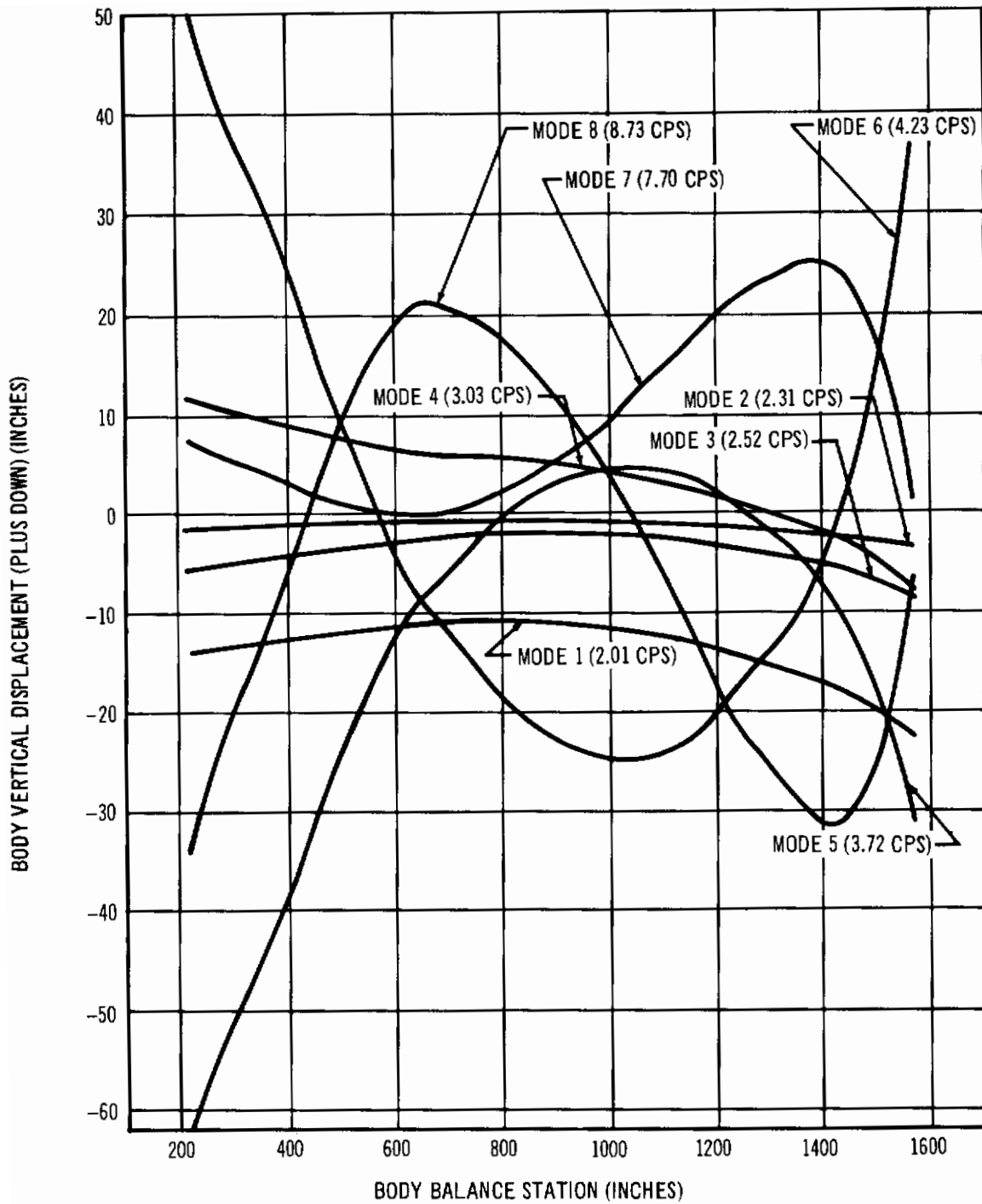


Figure 30. Wing Torsional Displacement in the Normalized Free-Free Airplane Modes; 107,260-Pound Gross Weight (Weight Condition D)



**Figure 31. Body Vertical Displacement in the Normalized Free-Free Airplane Modes; 107,260-Pound Gross Weight (Weight Condition D)**

# Contrails

**Table XIV. Nacelle Mode Shapes (Weight Condition D)**

Nacelle position	Displacement	Mode number							
		1	2	3	4	5	6	7	8
Inboard	$\bar{x}$	-1.53	-0.79	-1.64	-7.12	+5.13	+5.05	+5.54	+5.79
	$\bar{y}$	-10.75	+73.58	+4.77	-2.22	+1.48	+0.66	+0.25	+0.59
	$\bar{z}$	-1.92	-3.27	-3.52	-33.41	+94.06	+21.32	-2.44	-5.21
	$\theta_x$	+0.1351	-0.4204	-0.0103	-0.0231	+0.0622	+0.0611	-0.0393	-0.0778
	$\theta_y$	+0.0366	+0.0251	+0.0465	+0.2945	-0.6963	-0.2944	-0.0972	+0.0486
	$\theta_z$	-0.0833	+1.0000	+0.0793	-0.0604	+0.0801	+0.0639	-0.0288	-0.0552
Outboard	$\bar{x}$	-0.16	-0.57	-1.84	- 18.93	-15.69	-7.66	+5.19	+5.52
	$\bar{y}$	-19.48	-8.26	+66.64	-3.14	-0.43	+2.00	-1.66	-1.75
	$\bar{z}$	+54.51	+6.54	+13.17	-28.40	-47.22	-5.98	+0.48	-1.07
	$\theta_x$	+0.2969	+0.0759	-0.4062	-0.0146	-0.0133	+0.1489	+0.2558	+0.2235
	$\theta_y$	-0.0653	+0.0004	+0.0144	+0.5663	+0.7015	+0.1928	-0.1739	-0.2063
	$\theta_z$	-0.1371	-0.1016	+1.0000	-0.0763	-0.0202	+0.1700	+0.1889	+0.1589

Note: Sign convention for nacelle cg positive displacements

$\bar{x}$ Aft	$\theta_x$ Roll, bottom inboard
$\bar{y}$ Outboard	$\theta_y$ Pitch, nose up
$\bar{z}$ Down	$\theta_z$ Yaw, nose outboard

## APPENDIX V STRESS FREQUENCY RESPONSE FUNCTIONS

**Table XV Stress Frequency Response Functions (Analysis Condition 1)**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27      SEGMENT NUMBER 10

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY			
0.84771E-01	0.35385E 02	-0.80681E 00	0.30365E 03	0.	-0.	0.10
0.24347E 02	0.29947E 02	0.19898E 03	0.26210E 03	-0.	-0.	0.30
0.44132E 02	0.83692E 01	0.37020E 03	0.78906E 02	-0.	-0.	0.36
0.55393E 02	-0.51332E 01	0.47339E 03	-0.39261E 02	-0.	0.	0.44
0.53094E 02	-0.16505E 02	0.45759E 03	-0.14192E 03	-0.	0.	0.50
0.46190E 02	-0.22434E 02	0.40073E 03	-0.19748E 03	-0.	0.	0.60
0.41253E 02	-0.27016E 02	0.35800E 03	-0.24096E 03	-0.	0.	0.70
0.38231E 02	-0.31773E 02	0.32986E 03	-0.28530E 03	-0.	0.	0.80
0.36571E 02	-0.37815E 02	0.31144E 03	-0.33952E 03	-0.	0.	0.90
0.35926E 02	-0.59253E 02	0.29897E 03	-0.51720E 03	-0.	0.	1.00
0.36653E 02	-0.97188E 02	0.27761E 03	-0.80276E 03	-0.	0.	1.20
0.33495E 02	-0.12897E 03	0.20961E 03	-0.10256E 04	0.	0.	1.34
0.22848E 02	-0.16771E 03	0.96340E 02	-0.12780E 04	0.	-0.	1.40
-0.42896E 01	-0.18946E 03	-0.14204E 03	-0.14050E 04	0.	-0.	1.45
-0.32143E 02	-0.20625E 03	-0.36551E 03	-0.14789E 04	0.	-0.	1.47
-0.75685E 02	-0.17111E 03	-0.69482E 03	-0.10976E 04	0.	-0.	1.50
-0.19911E 03	-0.35902E 02	-0.15332E 04	-0.10140E 03	-0.	-0.	1.55
-0.23925E 03	0.46462E 02	-0.16662E 04	0.40830E 03	-0.	0.	1.60
-0.18287E 03	0.70084E 02	-0.11743E 04	0.40870E 03	-0.	0.	1.65
-0.70840E 02	0.64637E 02	-0.36373E 03	0.30779E 03	-0.	0.	1.80
-0.45308E 02	0.62249E 02	-0.20150E 03	0.23180E 03	-0.	0.	1.90
-0.30738E 02	0.63716E 02	-0.12059E 03	0.17513E 03	-0.	0.	2.00
-0.20436E 02	0.69980E 02	-0.77273E 02	0.12795E 03	-0.	0.	2.10
-0.96218E 01	0.74699E 02	-0.54149E 02	0.87179E 02	-0.	0.	2.20
0.14082E 02	0.70093E 02	-0.52018E 02	0.70001E 02	0.	0.	2.30
0.17233E 02	0.77041E 02	-0.52613E 02	0.46193E 02	0.	0.	2.35
0.24472E 02	0.79877E 02	-0.65530E 02	0.36245E 02	0.	0.	2.40
0.34041E 02	0.79724E 02	-0.85646E 02	0.35754E 02	0.	0.	2.43
0.39009E 02	0.72921E 02	-0.97472E 02	0.56486E 02	0.	0.	2.44
0.50533E 02	0.63392E 02	-0.12910E 03	0.10032E 03	0.	0.	2.47
0.50381E 02	0.69316E 02	-0.12646E 03	0.11476E 03	0.	0.	2.50
0.45535E 02	0.84011E 02	-0.84240E 02	0.97085E 02	0.	0.	2.54
0.54631E 02	0.10597E 03	-0.63312E 02	0.66091E 02	0.	0.	2.58
0.10107E 03	0.10496E 03	-0.68845E 02	0.56672E 02	0.	0.	2.65
0.16764E 03	-0.10530E 03	-0.96249E 02	0.14805E 03	0.	-0.	2.70
0.29234E 03	-0.16149E 03	-0.14615E 03	0.14327E 03	0.	-0.	2.80
-0.28309E 02	-0.11812E 03	0.16352E 02	0.11391E 03	-0.	-0.	3.00
-0.56137E 02	-0.93940E 02	0.26914E 02	0.96723E 02	-0.	-0.	3.10
-0.71372E 02	-0.85784E 02	0.30791E 02	0.90310E 02	-0.	-0.	3.20
-0.81036E 02	-0.83382E 02	0.33523E 02	0.87505E 02	-0.	-0.	3.26
-0.88238E 02	-0.82515E 02	0.36221E 02	0.80885E 02	-0.	-0.	3.29
-0.10972E 03	-0.71410E 02	0.45080E 02	0.62441E 02	-0.	-0.	3.35
-0.15204E 03	0.89707E 02	0.53823E 02	0.45047E 02	-0.	0.	3.40
-0.20169E 03	0.16767E 03	0.10523E 02	0.61216E 02	-0.	0.	3.42
-0.16405E 03	0.21643E 03	0.47720E 01	0.77443E 02	-0.	0.	3.52
-0.70035E 02	0.97863E 02	0.14542E 02	0.65131E 02	-0.	0.	3.56
0.75812E 02	0.12316E 02	0.47708E 02	0.42118E 02	0.	-0.	3.60
0.47726E 02	-0.54085E 01	0.47620E 02	0.32365E 02	0.	-0.	3.70
0.24912E 02	-0.10415E 02	0.44216E 02	0.25349E 02	0.	-0.	3.85
0.10327E 02	-0.10380E 02	0.42629E 02	0.18653E 02	0.	-0.	4.00
0.18707E-00	-0.92066E 01	0.47327E 02	0.11968E 02	-0.	-0.	4.20
-0.35289E 01	-0.84821E 01	0.60177E 02	0.28725E 01	-0.	-0.	4.50
-0.49824E 01	-0.67778E 01	0.73053E 02	-0.5318E 02	-0.	-0.	4.70
-0.69816E 01	-0.61227E 01	0.95124E 02	-0.82493E 02	-0.	0.	4.80
-0.72581E 01	-0.49639E 01	0.84297E 02	-0.85851E 02	-0.	0.	4.96
-0.70801E 01	-0.46116E 01	-0.17810E 02	-0.36016E 02	0.	0.	5.00
-0.78159E 01	-0.37278E 01	-0.30270E 02	-0.15076E 02	0.	0.	5.13
-0.91329E 01	-0.25388E 01	-0.22972E 02	-0.77192E 01	-0.	-0.	5.30
-0.10893E 02	-0.11493E 01	-0.20631E 02	-0.36687E 01	-0.	-0.	5.45
-0.13055E 02	0.38635E 01	-0.23959E 02	0.10526E 02	-0.	-0.	5.70
-0.17386E 02	0.60353E 01	-0.35203E 02	0.16962E 02	-0.	-0.	5.85
-0.18059E 02	0.89105E 01	-0.37039E 02	0.25569E 02	-0.	0.	6.00
-0.18167E 02	0.12310E 02	-0.37163E 02	0.35800E 02	-0.	0.	6.03
-0.17110E 02	0.13721E 02	-0.33715E 02	0.38920E 02	-0.	0.	6.06
-0.20813E 01	0.49234E 01	0.13415E 02	0.93671E 01	-0.	0.	6.08
-0.14308E 01	0.36368E 01	0.15748E 02	0.31734E 01	-0.	0.	6.20
-0.27608E 01	0.38199E 01	0.11146E 02	0.13424E-00	-0.	0.	6.40
-0.32940E 01	0.43904E 01	0.73715E 01	-0.86774E 00	-0.	0.	6.60
-0.28731E 01	0.51455E 01	0.58944E 01	-0.17366E 01	-0.	0.	7.00
-0.11105E 01	0.48479E 01	0.42603E 01	-0.23299E 01	-0.	0.	7.40
0.81622E 00	0.37366E 01	0.35497E 01	-0.28573E 01	-0.	0.	8.20
0.26288E 01	0.	0.22131E 01	0.	0.	0.	9.00

# Contrails

Table XV --- Continued

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27      SEGMENT NUMBER 14

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS		FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY	
0.62963E-02	0.10709E 03	-0.73216E 00	0.27555E 03	0.10
0.72152E 02	0.91329E 02	0.18057E 03	0.23705E 03	0.30
0.13203E 03	0.28474E 02	0.33594E 03	0.71605E 02	0.36
0.16670E 03	-0.14484E 02	0.42959E 03	-0.35629E 02	0.44
0.16010E 03	-0.49199E 02	0.41525E 03	-0.12879E 03	0.50
0.13927E 03	-0.67313E 02	0.36365E 03	-0.17921E 03	0.60
0.12390E 03	-0.81121E 02	0.32488E 03	-0.21866E 03	0.70
0.11416E 03	-0.95111E 02	0.29934E 03	-0.25891E 03	0.80
0.10807E 03	-0.11239E 02	0.28243E 03	-0.30810E 03	0.90
0.10451E 03	-0.17053E 03	0.27131E 03	-0.46935E 03	1.00
0.10109E 03	-0.26807E 03	0.25192E 03	-0.72849E 03	1.20
0.85405E 02	-0.34689E 03	0.19022E 03	-0.93069E 03	1.34
0.52699E 02	-0.43977E 03	0.87427E 02	-0.11597E 04	1.40
-0.22229E 02	-0.48954E 03	-0.12890E 03	-0.12750E 04	1.45
-0.95635E 02	-0.52411E 03	-0.33169E 03	-0.13421E 04	1.47
-0.20712E 03	-0.41590E 03	-0.63053E 03	-0.99607E 03	1.50
-0.50773E 03	-0.74567E 02	-0.13914E 04	-0.92016E 02	1.55
-0.58304E 03	0.11749E 03	-0.15120E 04	0.37053E 03	1.60
-0.42834E 03	0.14758E 03	-0.10656E 04	0.37089E 03	1.65
-0.14804E 03	0.12261E 03	-0.33008E 03	0.27932E 03	1.80
-0.88042E 02	0.10529E 03	-0.18286E 03	0.21035E 03	1.90
-0.55979E 02	0.95527E 02	-0.10944E 03	0.15893E 03	2.00
-0.35981E 02	0.92228E 02	-0.70124E 02	0.11611E 03	2.10
-0.19522E 02	0.88066E 02	-0.49139E 02	0.79113E 02	2.20
0.49824E 01	0.80290E 02	-0.47205E 02	0.63524E 02	2.30
0.82011E 01	0.81812E 02	-0.47745E 02	0.41919E 02	2.35
0.13072E 02	0.82053E 02	-0.59467E 02	0.32891E 02	2.40
0.17878E 02	0.81492E 02	-0.77721E 02	0.32446E 02	2.45
0.19791E 02	0.80379E 02	-0.88454E 02	0.51259E 02	2.47
0.22460E 02	0.84092E 02	-0.11716E 03	0.91037E 02	2.44
0.22214E 02	0.97227E 02	-0.11476E 03	0.10414E 03	2.50
0.30142E 02	0.10958E 03	-0.76446E 02	0.88102E 02	2.54
0.48325E 02	0.12536E 03	-0.57454E 02	0.59976E 02	2.58
0.10282E 03	0.11968E 03	-0.62475E 02	0.51429E 02	2.65
0.17392E 03	-0.10660E 03	-0.87343E 02	0.13435E 03	2.70
0.30256E 03	-0.17236E 03	-0.13263E 03	0.13002E 03	2.80
-0.32133E 02	-0.13427E 03	0.14839E 02	0.10337E 03	3.00
-0.67833E 02	-0.11983E 03	0.24424E 02	0.87774E 02	3.10
-0.84700E 02	-0.12069E 03	0.27943E 02	0.81954E 02	3.20
-0.10396E 03	-0.12418E 03	0.30421E 02	0.79409E 02	3.25
-0.12096E 03	-0.12836E 03	0.32870E 02	0.73401E 02	3.29
-0.17459E 03	-0.86947E 02	0.40909E 02	0.56664E 02	3.35
-0.26031E 03	0.16193E 03	0.48843E 02	0.40880E 02	3.40
-0.25943E 03	0.24410E 03	0.95496E 01	0.55552E 02	3.52
-0.20390E 03	0.29425E 03	0.43305E 01	0.70278E 02	3.56
-0.90671E 02	0.15183E 03	0.13194E 02	0.59105E 02	3.60
0.85432E 02	0.45470E 02	0.43294E 02	0.38221E 02	3.70
0.60834E 02	0.19492E 02	0.43214E 02	0.29370E 02	3.85
0.38280E 02	0.92409E 01	0.40125E 02	0.23003E 02	4.00
0.24863E 02	0.51270E 01	0.38685E 02	0.16927E 02	4.20
0.19941E 02	0.25259E 01	0.42948E 02	0.10861E 02	4.30
0.25291E 02	-0.19877E 01	0.54609E 02	0.26067E 01	4.70
0.32130E 02	-0.33487E 02	0.66294E 02	-0.48567E 02	4.80
0.44612E 02	-0.50092E 02	0.86322E 02	-0.74860E 02	4.96
0.38374E 02	-0.51639E 02	0.76497E 02	-0.77907E 02	5.00
-0.21209E 02	-0.21753E 02	-0.16162E 02	-0.32684E 02	5.15
-0.28879E 02	-0.83046E 01	-0.27449E 02	-0.13681E 02	5.30
-0.24804E 02	-0.27817E 01	-0.20846E 02	-0.70050E 01	5.50
-0.23532E 02	0.52690E 00	-0.18723E 02	-0.33293E 01	5.70
-0.25752E 02	0.10795E 02	-0.21742E 02	0.95523E 01	5.85
-0.33318E 02	0.15306E 02	-0.31946E 02	0.15393E 02	6.00
-0.34578E 02	0.21326E 02	-0.33612E 02	0.23204E 02	6.03
-0.34680E 02	0.28499E 02	-0.33724E 02	0.32487E 02	6.06
-0.32340E 02	0.31583E 02	-0.30596E 02	0.35319E 02	6.08
0.42938E-00	0.11871E 02	0.12174E 02	0.85005E 01	6.20
0.31108E 01	0.79756E 01	0.14291E 02	0.28797E 01	6.40
0.82100E 00	0.63024E 01	0.10115E 02	0.12182E-00	6.60
-0.28551E-00	0.59333E 01	0.66895E 01	-0.78745E 00	7.00
-0.40816E-01	0.54699E 01	0.53491E 01	-0.15799E 01	7.46
0.15482E 01	0.39499E 01	0.38661E 01	-0.21143E 01	8.20
0.29902E 01	0.23047E 01	0.32213E 01	-0.25929E 01	9.00
0.38000E 01	0.	0.20084E 01	0.	10.00

**Table XV --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMISPAN: 40.06    SEGMENT NUMBER 8

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY
REAL	IMAGINARY	REAL	IMAGINARY			CPS
-0.13477E-00	0.73780E 02	-0.12489E 01	0.27897E 03	0.	0.	0.10
0.49232E 02	0.63188E 02	0.18058E 03	0.24197E 03	0.	0.	0.20
0.90530E 02	0.18692E 02	0.33889E 03	0.73329E 02	0.	0.	0.30
0.11480E 03	-0.95981E 01	0.43606E 03	-0.36597E 02	0.	-0.	0.40
0.11057E 03	-0.33806E 02	0.42277E 03	-0.13336E 03	0.	-0.	0.50
0.96627E 02	-0.46699E 02	0.37131E 03	-0.18676E 03	0.	-0.	0.60
0.86442E 02	-0.56777E 02	0.33216E 03	-0.22918E 03	0.	-0.	0.70
0.80023E 02	-0.67218E 02	0.30607E 03	-0.27272E 03	0.	-0.	0.80
0.76207E 02	-0.80304E 02	0.28859E 03	-0.32593E 03	0.	-0.	0.90
0.74177E 02	-0.12527E 03	0.27612E 03	-0.49926E 03	0.	-0.	1.00
0.72555E 02	-0.20155E 03	0.25167E 03	-0.77483E 03	0.	-0.	1.20
0.60560E 02	-0.26338E 03	0.17801E 03	-0.98754E 03	0.	-0.	1.40
0.34717E 02	-0.39621E 03	0.62019E 02	-0.12251E 04	0.	-0.	1.60
-0.24606E 02	-0.37509E 03	-0.17589E 03	-0.13415E 04	-0.	-0.	1.80
-0.82486E 02	-0.40182E 03	-0.39572E 03	-0.14039E 04	-0.	-0.	2.00
-0.17080E 03	-0.31481E 03	-0.71632E 03	-0.10105E 04	-0.	-0.	2.20
-0.40766E 03	0.44464E 02	-0.15157E 04	-0.43774E 02	-0.	-0.	2.40
-0.46533E 03	0.10699E 03	-0.16147E 04	0.43392E 03	-0.	-0.	2.60
-0.34223E 03	0.13051E 03	-0.11241E 04	0.40837E 03	-0.	-0.	2.80
-0.11975E 03	0.11104E 03	-0.34088E 03	0.30448E 03	-0.	-0.	3.00
-0.71877E 02	0.97544E 02	-0.18770E 03	0.22666E 03	-0.	-0.	3.20
-0.46094E 02	0.89608E 02	-0.11287E 03	0.16780E 03	-0.	-0.	3.40
-0.30070E 02	0.85379E 02	-0.74624E 02	0.11631E 03	-0.	-0.	3.60
-0.18259E 02	0.85926E 02	-0.50672E 02	0.82019E 02	-0.	-0.	3.80
-0.11848E 02	0.93029E 02	-0.83442E 02	0.86987E 02	0.	0.	4.00
-0.40112E 01	0.96563E 02	-0.76428E 02	0.67019E 02	0.	0.	4.20
0.79364E 01	0.97221E 02	-0.77510E 02	0.58253E 02	0.	0.	4.40
0.18316E 02	0.96724E 02	-0.90500E 02	0.57577E 02	0.	0.	4.60
0.20197E 02	0.91623E 02	-0.98331E 02	0.71148E 02	0.	0.	4.80
0.29205E 02	0.84825E 02	-0.11755E 03	0.96304E 02	0.	0.	5.00
0.30806E 02	0.87224E 02	-0.11170E 03	0.94983E 02	0.	0.	5.20
0.29496E 02	0.95293E 02	-0.84988E 02	0.74559E 02	0.	0.	5.40
0.36266E 02	0.10757E 03	-0.79607E 02	0.46086E 02	0.	0.	5.60
0.65852E 02	0.10666E 03	-0.10917E 03	0.45512E 02	0.	0.	5.80
0.10612E 03	-0.13261E 02	-0.15902E 03	0.21357E 03	0.	-0.	6.00
0.17838E 03	-0.26827E 02	-0.23245E 03	0.21506E 03	0.	-0.	6.20
0.75319E 01	0.11346E 02	0.22571E 02	0.18451E 03	0.	-0.	6.40
0.51209E 01	0.47821E 02	0.37646E 02	0.18175E 03	-0.	0.	6.60
0.21322E 02	0.73985E 02	0.51011E 02	0.19243E 03	0.	0.	6.80
0.46046E 02	0.89867E 02	0.71164E 02	0.20092E 03	0.	0.	7.00
0.70777E 02	0.10414E 03	0.93273E 02	0.19993E 03	0.	0.	7.20
0.15033E 03	0.32819E 02	0.16767E 03	0.10561E 03	0.	0.	7.40
0.25798E 03	-0.19268E 03	0.25553E 03	-0.28114E 02	0.	-0.	7.60
0.14869E 03	-0.21570E 03	0.30876E 02	0.35956E 02	0.	-0.	7.80
0.10091E 03	-0.22697E 03	0.12640E 02	0.87636E 02	0.	-0.	8.00
0.38661E 02	-0.14463E 03	0.43518E 02	0.43237E 02	0.	-0.	8.20
-0.58454E 02	-0.75612E 02	0.11698E 03	-0.25420E 01	-0.	-0.	8.40
-0.57976E 02	-0.49976E 02	0.87771E 02	-0.12397E 02	-0.	-0.	8.60
-0.50958E 02	-0.33437E 02	0.64794E 02	-0.16934E 02	-0.	-0.	8.80
-0.46018E 02	-0.19654E 02	0.46988E 02	-0.20689E 02	-0.	-0.	9.00
-0.43871E 02	-0.12295E 02	0.28227E 02	-0.21220E 02	-0.	-0.	9.20
-0.46140E 02	-0.71800E 01	0.14421E 02	-0.18972E 02	-0.	-0.	9.40
-0.49380E 02	0.13853E 02	0.54529E 01	0.25395E 01	-0.	0.	9.60
-0.54496E 02	0.23633E 02	-0.10687E 02	0.14755E 02	-0.	0.	9.80
-0.50699E 02	0.25984E 02	-0.82812E 01	0.18381E 02	-0.	0.	10.00
-0.17279E 02	0.12101E 02	0.30522E 02	-0.30969E 01	-0.	0.	10.20
-0.12780E 02	0.77928E 01	0.33255E 02	-0.12940E 02	-0.	0.	10.40
-0.14123E 02	0.75495E 01	0.25541E 02	-0.16341E 02	-0.	0.	10.60
-0.14088E 02	0.78174E 01	0.18607E 02	-0.17001E 02	-0.	0.	10.80
-0.13001E 02	0.65373E 01	0.14196E 02	-0.15588E 02	-0.	0.	11.00
-0.10566E 02	0.56913E 01	0.97900E 01	-0.14667E 02	-0.	0.	11.20
-0.10184E 02	0.45190E 01	0.92537E 01	-0.13975E 02	-0.	-0.	11.40
-0.10087E 02	0.31275E 01	0.89962E 01	-0.13037E 02	-0.	-0.	11.60
-0.10561E 02	0.38419E 01	0.91907E 01	-0.14407E 02	-0.	-0.	11.80
-0.17239E 02	0.97298E 01	0.11805E 02	-0.14962E 02	-0.	0.	12.00
-0.15966E 02	0.11746E 02	0.75824E 01	-0.16396E 02	-0.	0.	12.20
-0.17637E 02	0.13694E 02	0.40058E 01	-0.13908E 02	-0.	0.	12.40
-0.96417E 01	0.14435E 02	-0.60244E 00	-0.11336E 02	-0.	0.	12.60
-0.61107E 01	0.14214E 02	-0.32139E 01	-0.67288E 01	-0.	0.	12.80
-0.75971E-01	0.12040E 02	-0.64070E 01	-0.16890E 01	-0.	0.	13.00
0.52006E 01	0.73408E 01	-0.68379E 01	0.19677E 01	0.	0.	13.20
0.91311E 01	0.	-0.42096E 01	0.	0.	0.	13.40

Table XV - - - Continued

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMISPAN: 40.06      SEGMENT NUMBER 107

INCREMENTAL SHEAR STRESS			INCREMENTAL AXIAL STRESS			FREQUENCY CPS
REAL	IMAGINARY		REAL	IMAGINARY		
-0.94903E-01	0.71707E 02	0.	0.10671E 01	-0.23836E 03	0.10	
0.48004E 02	0.61323E 02	0.	-0.15429E 03	-0.20674E 03	0.30	
0.88023E 02	0.18141E 02	0.	-0.28956E 03	-0.62655E 02	0.36	
0.11137E 03	-0.92001E 01	0.	-0.37259E 03	0.31270E 02	0.44	
0.10714E 03	-0.32463E 02	0.	-0.36123E 03	0.11395E 03	0.50	
0.93501E 07	-0.44728E 02	0.	-0.31726E 03	0.15958E 03	0.60	
0.83569E 02	-0.54230E 02	0.	-0.28381E 03	0.19582E 03	0.70	
0.77370E 02	-0.64027E 02	0.	-0.26151E 03	0.23302E 03	0.80	
0.73423E 02	-0.76292E 02	0.	-0.24658E 03	0.27849E 03	0.90	
0.71493E 02	-0.11851E 03	0.	-0.23593E 03	0.42658E 03	1.00	
0.70455E 02	-0.19038E 03	0.	-0.21504E 03	0.66204E 03	1.20	
0.59906E 02	-0.24886E 03	0.	-0.15210E 03	0.84379E 03	1.34	
0.36214E 02	-0.31807E 03	0.	-0.52991E 02	0.10467E 04	1.40	
-0.18887E 02	-0.35531E 03	0.	0.15029E 03	0.11462E 04	1.45	
-0.73177E 02	-0.38142E 03	0.	0.33811E 03	0.11992E 04	1.47	
-0.15588E 03	-0.30200E 03	0.	0.61205E 03	0.86337E 03	1.50	
-0.37994E 03	-0.47942E 02	0.	0.12951E 04	0.37402E 02	1.55	
-0.43737E 03	0.96081E 02	0.	0.13797E 04	-0.37076E 03	1.60	
-0.32866E 03	0.12073E 03	0.	0.96047E 03	-0.34892E 03	1.65	
-0.11348E 03	0.10294E 03	0.	0.29126E 03	-0.26015E 03	1.80	
-0.68088E 02	0.90529E 02	0.	0.16038E 03	-0.19366E 03	1.90	
-0.43528E 02	0.83204E 02	0.	0.96435E 02	-0.14337E 03	2.00	
-0.28166E 02	0.79240E 02	0.	0.63761E 02	-0.99383E 02	2.10	
-0.14717E 02	0.79222E 02	0.	0.50113E 02	-0.70080E 02	2.20	
-0.10193E 02	0.85323E 02	0.	0.71296E 02	-0.74324E 02	2.30	
-0.31319E 01	0.88129E 02	0.	0.65302E 02	-0.57263E 02	2.35	
0.75040E 01	0.88461E 02	0.	0.66227E 02	-0.49774E 02	2.40	
0.14571E 02	0.87990E 02	0.	0.77326E 02	-0.49196E 02	2.43	
0.17698E 02	0.84172E 02	0.	0.84017E 02	-0.60791E 02	2.44	
0.24526E 02	0.80294E 02	0.	0.10044E 03	-0.82285E 02	2.47	
0.25736E 02	0.84412E 02	0.	0.95439E 02	-0.81156E 02	2.50	
0.26670E 02	0.92077E 02	0.	0.72617E 02	-0.63706E 02	2.54	
0.34918E 02	0.10295E 03	0.	0.68018E 02	-0.39377E 02	2.58	
0.50666E 02	0.10103E 03	0.	0.93276E 02	-0.38887E 02	2.65	
0.10469E 03	-0.17763E 02	0.	0.13587E 03	-0.18248E 03	2.70	
0.17355E 03	-0.29493E 02	0.	0.19881E 03	-0.18376E 03	2.80	
0.67375E 01	0.66228E 01	0.	-0.19285E 02	-0.15765E 03	3.00	
0.47166E 01	0.40020E 02	0.	-0.32166E 02	-0.15529E 03	3.10	
0.10904E 02	0.63533E 02	0.	-0.43585E 02	-0.16442E 03	3.20	
0.42423E 02	0.77773E 02	0.	-0.60805E 02	-0.17167E 03	3.26	
0.64690E 02	0.91010E 02	0.	-0.79699E 02	-0.17083E 03	3.29	
0.13594E 03	0.28895E 02	0.	-0.14326E 03	-0.90406E 02	3.35	
0.23356E 03	-0.18190E 03	0.	-0.21833E 03	0.24021E 02	3.40	
0.14525E 03	-0.21045E 03	0.	-0.33216E 02	-0.30722E 02	3.52	
0.10007E 03	-0.22572E 03	0.	-0.10629E 02	-0.74879E 02	3.56	
0.35625E 02	-0.14012E 03	0.	-0.37183E 02	-0.36943E 02	3.60	
-0.65334E 02	-0.69218E 02	0.	-0.99948E 02	0.22061E 01	3.70	
-0.61337E 02	-0.43994E 02	0.	-0.74995E 02	0.10592E 02	3.85	
-0.52110E 02	-0.28084E 02	0.	-0.55362E 02	0.14469E 02	4.00	
-0.45395E 02	-0.14977E 02	0.	-0.40148E 02	0.17677E 02	4.20	
-0.40652E 02	-0.84863E 01	0.	-0.24118E 02	0.18131E 02	4.30	
-0.40059E 02	-0.47336E 01	0.	-0.12493E 02	0.16211E 02	4.70	
-0.40855E 02	0.73882E 01	0.	-0.46591E 01	-0.21699E 01	4.80	
-0.41978E 02	0.12512E 02	0.	0.91316E 01	-0.12607E 02	4.96	
-0.39523E 02	0.14125E 02	0.	0.70757E 01	-0.15706E 02	5.00	
-0.27051E 02	0.82321E 01	0.	-0.26079E 02	0.26461E 01	5.15	
-0.19756E 02	0.73037E 01	0.	-0.28414E 02	0.11057E 02	5.30	
-0.18951E 02	0.81940E 01	0.	-0.21823E 02	0.13962E 02	5.37	
-0.17951E 02	0.89575E 01	0.	-0.15898E 02	0.14526E 02	5.70	
-0.16827E 02	0.91622E 01	0.	-0.12130E 02	0.13315E 02	5.85	
-0.15288E 02	0.89938E 01	0.	-0.83649E 01	0.12705E 02	6.00	
-0.15069E 02	0.87355E 01	0.	-0.79067E 01	0.11940E 02	6.03	
-0.14960E 02	0.84372E 01	0.	-0.76866E 01	0.11140E 02	6.06	
-0.15048E 02	0.96028E 01	0.	-0.78528E 01	0.12310E 02	6.08	
-0.16486E 02	0.12237E 02	0.	-0.10155E 02	0.14493E 02	6.20	
-0.14573E 02	0.13445E 02	0.	-0.64786E 01	0.14009E 02	6.40	
-0.12478E 02	0.14763E 02	0.	-0.34227E 01	0.11880E 02	6.60	
-0.85533E 01	0.15110E 02	0.	0.51474E 00	0.96840E 01	7.00	
-0.90057E 01	0.14330E 02	0.	0.27632E 01	0.57489E 01	7.40	
0.97795E 00	0.11684E 02	0.	0.54743E 01	0.13748E 01	8.20	
0.60945E 01	0.66956E 01	0.	0.58425E 01	-0.16812E 01	9.00	
0.95378E 01	0.	0.	0.35968E 01	0.	10.00	



# Contrails

**Table XV -- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 540      SEGMENT NUMBER 17

INCREMENTAL SHEAR STRESS						FREQUENCY
REAL	IMAGINARY					CPS
-0.41556F-01	-0.11891F 01	0.	-0.	0.	-0.	0.10
-0.12179F 01	-0.77898F 00	0.	-0.	0.	-0.	0.30
-0.18598E 01	0.91125F-01	0.	-0.	0.	-0.	0.36
-0.19906F 01	0.50408E 00	-0.	-0.	-0.	-0.	0.44
-0.17376F 01	0.74625F 00	-0.	-0.	-0.	-0.	0.50
-0.11531E 01	0.80593E 00	-0.	-0.	-0.	-0.	0.60
-0.11179F 01	0.82421E 00	-0.	-0.	-0.	-0.	0.70
-0.98007E 00	0.84129F 00	-0.	-0.	-0.	-0.	0.80
-0.90381E 00	0.87597E 00	-0.	-0.	-0.	-0.	0.90
-0.87077E 00	0.10753F 01	-0.	-0.	-0.	-0.	1.00
-0.90624E 00	0.15150E 01	-0.	-0.	-0.	-0.	1.20
-0.56810F 00	0.19134E 01	0.	-0.	0.	-0.	1.34
-0.92368F 00	0.24331E 01	0.	-0.	0.	-0.	1.40
-0.69876F 00	0.27529F 01	-0.	-0.	-0.	-0.	1.45
-0.42273F-00	0.30482E 01	-0.	-0.	-0.	-0.	1.47
0.49574E-01	0.29039E 01	-0.	-0.	-0.	-0.	1.50
0.15715E 01	0.13965F 01	-0.	-0.	-0.	-0.	1.55
0.23187E 01	0.31194E-00	-0.	-0.	-0.	-0.	1.60
0.18053E 01	-0.14333E-00	-0.	0.	-0.	0.	1.65
0.45002E-00	-0.65090E-01	-0.	-0.	-0.	-0.	1.80
0.75392E-01	0.30583F-01	-0.	0.	-0.	0.	1.90
-0.17078E-00	0.13103E-00	-0.	0.	-0.	0.	2.00
-0.36177E-00	0.25075E-00	-0.	-0.	-0.	-0.	2.10
-0.53919E 00	0.45146E-00	0.	-0.	0.	-0.	2.20
-0.70218F 00	0.56544E 00	0.	-0.	0.	-0.	2.30
-0.73011E 00	0.70344E 00	0.	-0.	0.	-0.	2.35
-0.73506E 00	0.79091E 00	0.	-0.	0.	-0.	2.40
-0.66940F 00	0.81300E 00	0.	-0.	0.	-0.	2.43
-0.61489E 00	0.73339E 00	0.	-0.	0.	-0.	2.44
-0.42446E-00	0.42470E-00	0.	-0.	0.	-0.	2.47
-0.41417E-00	0.20201E-00	0.	-0.	0.	-0.	2.50
-0.78708E 00	0.23893E-00	0.	-0.	0.	-0.	2.54
-0.11547F 01	0.45288E-00	0.	-0.	0.	-0.	2.58
-0.17489F 01	0.77002E 00	0.	-0.	0.	-0.	2.65
-0.23210E 01	0.28963E 01	0.	-0.	0.	-0.	2.70
-0.31240F 01	0.46034E 01	0.	-0.	0.	-0.	2.80
-0.87678E 00	0.57242E 01	0.	-0.	0.	-0.	3.00
-0.43940E-00	0.79344E 01	0.	-0.	0.	-0.	3.10
0.77891E 00	0.10005E 02	-0.	-0.	-0.	-0.	3.20
0.27924E 01	0.11310F 02	-0.	-0.	-0.	-0.	3.26
0.49549F 01	0.12024F 02	-0.	-0.	-0.	-0.	3.29
0.12118E 02	0.39513E 01	-0.	-0.	-0.	-0.	3.35
0.20749E 02	-0.91543E 01	-0.	-0.	-0.	-0.	3.40
0.21839F 01	-0.42554E 01	-0.	-0.	-0.	-0.	3.52
-0.55691F 00	-0.18374E-00	0.	-0.	0.	-0.	3.56
0.95789E 00	-0.18467E 01	-0.	0.	-0.	0.	3.60
0.52653F 01	-0.36728E 01	-0.	0.	-0.	0.	3.70
0.31931F 01	-0.34853E 01	-0.	0.	-0.	0.	3.85
0.17466F 01	-0.25987F 01	-0.	0.	-0.	0.	4.00
0.77809E 00	-0.24141E 01	-0.	0.	-0.	0.	4.50
0.72858F-01	-0.21506E 01	-0.	0.	-0.	0.	4.50
-0.13809F-00	-0.20910F 01	-0.	0.	-0.	0.	4.70
-0.16757F-00	-0.23517E 01	-0.	0.	-0.	0.	4.80
-0.19904F-00	-0.25313F 01	-0.	0.	-0.	0.	4.96
-0.34872F-00	-0.23803F 01	-0.	0.	-0.	0.	5.00
-0.13132F 01	-0.18525F 01	0.	0.	0.	0.	5.15
-0.15916E 01	-0.15331F 01	0.	0.	0.	0.	5.30
-0.18654F 01	-0.12681E 01	0.	0.	0.	0.	5.40
-0.24453E 01	-0.87254F 00	0.	0.	0.	0.	5.70
-0.33136F 01	0.10737F 01	0.	-0.	0.	-0.	5.85
-0.51447F 01	0.19715E 01	0.	-0.	0.	-0.	6.00
-0.54273F 01	0.31694F 01	0.	-0.	0.	-0.	6.03
-0.54653F 01	0.45877F 01	0.	-0.	0.	-0.	6.06
-0.50013E 01	0.49601E 01	0.	-0.	0.	-0.	6.08
0.14277F 01	0.91832E 00	-0.	-0.	-0.	-0.	6.20
0.15643F 01	0.14376E-00	-0.	-0.	-0.	-0.	6.40
0.84113F 00	-0.12448E-00	-0.	-0.	-0.	-0.	6.60
0.25744F-00	-0.12172E-00	-0.	-0.	-0.	-0.	7.00
0.61850F-01	-0.54738E-01	-0.	-0.	-0.	-0.	7.40
-0.21216E-01	-0.37764E-01	-0.	-0.	-0.	-0.	8.20
0.12374E-03	-0.62769E-01	-0.	-0.	-0.	-0.	9.00
0.17713F-01	0.	-0.	0.	-0.	0.	10.00

# Contrails

**Table XV --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 820      SEGMENT NUMBER 1

INCREMENTAL AXIAL STRESS						FREQUENCY
REAL	IMAGINARY					CPS
0.	0.	0.14028E 01	0.11502E 03	0.	0.	0.10
0.	0.	0.91791E 02	0.90364E 02	0.	0.	0.30
0.	0.	0.15584E 03	0.15400E 02	0.	0.	0.36
0.	-0.	0.18558E 03	-0.27779E 02	0.	-0.	0.44
0.	-0.	0.17321E 03	-0.61320E 02	0.	-0.	0.50
0.	-0.	0.14671E 03	-0.77793E 02	0.	-0.	0.60
0.	-0.	0.12895E 03	-0.90059E 02	0.	-0.	0.70
0.	-0.	0.11819E 03	-0.10295E 03	0.	-0.	0.80
0.	-0.	0.11194E 03	-0.11949E 03	0.	-0.	0.90
0.	-0.	0.10861E 03	-0.17704E 03	0.	-0.	1.00
0.	-0.	0.10547E 03	-0.27270E 03	0.	-0.	1.20
0.	-0.	0.88204E 02	-0.34835E 03	0.	-0.	1.34
0.	-0.	0.53972E 02	-0.43528E 03	0.	-0.	1.40
0.	-0.	-0.21786E 02	-0.48013E 03	-0.	-0.	1.45
-0.	-0.	-0.94391E 02	-0.50846E 03	-0.	-0.	1.47
-0.	-0.	-0.20281E 03	-0.39070E 03	-0.	-0.	1.90
-0.	-0.	-0.48575E 03	-0.60810E 02	-0.	-0.	1.95
-0.	0.	-0.53849E 03	0.11326E 03	-0.	0.	1.60
-0.	0.	-0.37861E 03	0.11786E 03	-0.	0.	1.65
-0.	0.	-0.10442E 03	0.82115E 02	-0.	0.	1.80
-0.	0.	-0.46515E 02	0.52419E 02	-0.	0.	1.90
-0.	0.	-0.15921E 02	0.26898E 02	-0.	0.	2.00
0.	0.	0.16612E 01	0.86538E 00	0.	0.	2.10
0.	-0.	0.11133E 02	-0.25298E 02	0.	-0.	2.20
0.	-0.	0.41083E 01	-0.33168E 02	0.	-0.	2.30
0.	-0.	0.33618E 01	-0.51983E 02	0.	-0.	2.35
-0.	-0.	-0.54249E 01	-0.61054E 02	-0.	-0.	2.40
-0.	-0.	-0.21615E 02	-0.62007E 02	-0.	-0.	2.43
-0.	-0.	-0.31440E 02	-0.46208E 02	-0.	-0.	2.44
-0.	-0.	-0.58657E 02	-0.98328E 01	-0.	-0.	2.47
-0.	-0.	-0.57863E 02	0.25182E 01	-0.	0.	2.50
-0.	-0.	-0.22123E 02	-0.13984E 02	-0.	-0.	2.54
-0.	-0.	-0.26805E 01	-0.47191E 02	-0.	-0.	2.58
-0.	-0.	-0.47438E 01	-0.63847E 02	-0.	-0.	2.65
-0.	-0.	-0.27224E 02	-0.47928E 01	-0.	-0.	2.70
-0.	-0.	-0.80642E 02	-0.46099E 02	-0.	-0.	2.80
0.	-0.	0.59613E 02	-0.12611E 03	0.	-0.	3.00
0.	-0.	0.60151E 02	-0.23512E 03	0.	-0.	3.10
0.	-0.	0.19308E 02	-0.32541E 03	0.	-0.	3.20
-0.	-0.	-0.56971E 02	-0.38009E 03	-0.	-0.	3.26
-0.	-0.	-0.14021E 03	-0.41035E 03	-0.	-0.	3.29
-0.	-0.	-0.41580E 03	-0.95408E 02	-0.	-0.	3.35
-0.	0.	-0.73783E 03	0.34171E 03	-0.	0.	3.40
0.	0.	0.18019E 02	0.11410E 03	0.	0.	3.52
-0.	-0.	0.10482E 03	-0.63286E 02	0.	-0.	3.56
0.	0.	0.13287E 01	0.58239E 02	0.	0.	3.60
-0.	0.	-0.22218E 03	0.15885E 03	-0.	0.	3.70
-0.	0.	-0.12256E 03	0.15279E 03	-0.	0.	3.85
-0.	0.	-0.54874E 02	0.13011E 03	-0.	0.	4.00
-0.	0.	-0.10158E 02	0.10090E 03	-0.	0.	4.20
0.	0.	0.24833E 02	0.84378E 02	0.	0.	4.50
0.	0.	0.42422E 02	0.74936E 02	0.	0.	4.70
0.	0.	0.52274E 02	0.44714E 02	0.	0.	4.80
0.	0.	0.67968E 02	0.31256E 02	0.	0.	4.96
0.	0.	0.65695E 02	0.21498E 02	0.	0.	5.00
0.	0.	0.31126E 02	0.34112E 02	0.	0.	5.15
0.	0.	0.30421E 02	0.34785E 02	0.	0.	5.30
0.	0.	0.40272E 02	0.29496E 02	0.	0.	5.40
0.	0.	0.53146E 02	0.21124E 02	0.	0.	5.70
0.	-0.	0.68493E 02	-0.12977E 02	0.	-0.	5.85
0.	-0.	0.98498E 02	-0.27972E 02	0.	-0.	6.00
0.	-0.	0.10297E 03	-0.47786E 02	0.	-0.	6.03
0.	-0.	0.10341E 03	-0.71000E 02	0.	-0.	6.06
0.	-0.	0.95663E 02	-0.77724E 02	0.	-0.	6.08
-0.	-0.	-0.86335E 01	-0.14992E 02	-0.	-0.	6.20
-0.	-0.	-0.10725E 02	-0.51051E 01	-0.	-0.	6.40
0.	-0.	0.12145E-01	-0.47990E 01	0.	-0.	6.50
0.	-0.	0.63163E 01	-0.72223E 01	0.	-0.	7.00
0.	-0.	0.58231E 01	-0.96245E 01	0.	-0.	7.40
0.	-0.	0.45788E-00	-0.85328E 01	0.	-0.	8.20
-0.	-0.	-0.50718E 01	-0.43969E 01	-0.	-0.	9.00
-0.	0.	-0.89844E 01	0.	-0.	0.	10.00

**Table XV --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 15 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27      SEGMENT NUMBER 10

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY
REAL	IMAGINARY	REAL	IMAGINARY			CPS
0.44721F-01	0.35385F 02	-0.80681E 00	0.30365E 03	0.	-0.	0.10
0.24347F 02	0.29947F 02	0.19898E 03	0.26210E 03	-0.	-0.	0.20
0.44132F 02	0.83692F 01	0.37020E 03	0.78906E 02	-0.	-0.	0.30
0.55393F 02	-0.51332F 01	0.47339E 03	-0.39261E 02	-0.	0.	0.40
0.53094E 02	-0.16505F 02	0.45759E 03	-0.14192E 03	-0.	0.	0.50
0.46190F 02	-0.22434E 02	0.40073E 03	-0.19748E 03	-0.	0.	0.60
0.41253F 02	-0.27014E 02	0.35800E 03	-0.24096E 03	-0.	0.	0.70
0.38231F 02	-0.31773E 02	0.32986E 03	-0.28530E 03	-0.	0.	0.80
0.36571E 02	-0.37815E 02	0.31144E 03	-0.33952E 03	-0.	0.	0.90
0.35926F 02	-0.59753E 02	0.29897E 03	-0.51720E 03	-0.	0.	1.00
0.34653F 02	-0.97188E 02	0.27761E 03	-0.80276E 03	-0.	0.	1.20
0.33495E 02	-0.12897E 03	0.20961F 03	-0.10256E 04	0.	0.	1.34
0.22848F 02	-0.16771F 03	0.96340E 02	-0.12780E 04	0.	-0.	1.40
-0.42894E 01	-0.18946E 03	-0.14204E 03	-0.14050F 04	0.	-0.	1.45
-0.32143F 02	-0.20625E 03	-0.36551F 03	-0.14789E 04	0.	-0.	1.47
-0.75685E 02	-0.17111E 03	-0.69482E 03	-0.10976E 04	0.	-0.	1.50
-0.19911F 03	-0.35902F 02	-0.15332E 04	-0.10140E 03	-0.	-0.	1.55
-0.23925E 03	0.46662F 02	-0.16662E 04	0.40830F 03	-0.	0.	1.60
-0.18287E 03	0.70084E 02	-0.11743F 04	0.40870E 03	-0.	0.	1.65
-0.70840E 02	0.64637E 02	-0.36373E 03	0.30779E 03	-0.	0.	1.80
-0.45308E 02	0.62749E 02	-0.20150E 03	0.23180E 03	-0.	0.	1.90
-0.30738E 02	0.63716E 02	-0.12059E 03	0.17513E 03	-0.	0.	2.00
-0.20436E 02	0.69980F 02	-0.77273E 02	0.12795E 03	-0.	0.	2.10
-0.96218E 01	0.74699E 02	-0.54149E 02	0.87179E 02	-0.	0.	2.20
0.14082E 02	0.70093F 02	-0.52018E 02	0.70001E 02	0.	0.	2.30
0.17235E 02	0.77041F 02	-0.52613E 02	0.46193E 02	0.	0.	2.35
0.24472E 02	0.79877F 02	-0.65530F 02	0.36245E 02	0.	0.	2.40
0.34061F 02	0.79724E 02	-0.85646F 02	0.35754F 02	0.	0.	2.43
0.39009E 02	0.72921E 02	-0.97472F 02	0.56486E 02	0.	0.	2.44
0.50533F 02	0.63392E 02	-0.12910E 03	0.19032E 03	0.	0.	2.47
0.50381F 02	0.69316F 02	-0.12646E 03	0.11476F 03	0.	0.	2.50
0.45535E 02	0.84011E 02	-0.84240E 02	0.97085F 02	0.	0.	2.54
0.54631F 02	0.10597E 03	-0.63312E 02	0.66091E 02	0.	0.	2.58
0.10102F 03	0.10496E 03	-0.68845E 02	0.56672E 02	0.	0.	2.65
0.16764F 03	-0.10530F 03	-0.96249F 02	0.14805E 03	0.	-0.	2.70
0.29236E 03	-0.16149E 03	-0.14615E 03	0.14327E 03	0.	-0.	2.80
-0.28309E 02	-0.11812E 03	0.16352E 02	0.11391E 03	-0.	-0.	3.00
-0.56137E 02	-0.93940E 02	0.26914F 02	0.96723E 02	-0.	-0.	3.10
-0.71372E 02	-0.85784E 02	0.30791E 02	0.90310E 02	-0.	-0.	3.20
-0.81034E 02	-0.83382E 02	0.33523E 02	0.87505E 02	-0.	-0.	3.25
-0.88238E 02	-0.82515E 02	0.36221F 02	0.80885E 02	-0.	-0.	3.29
-0.10972F 03	-0.71410E 02	0.45080E 02	0.62441E 02	-0.	-0.	3.35
-0.15204F 03	0.89707E 02	0.53823E 02	0.49047E 02	-0.	0.	3.40
-0.20169F 03	0.16767F 03	0.10523E 02	0.61216E 02	-0.	0.	3.50
-0.16405F 03	0.21643E 03	0.47720E 01	0.77443E 02	-0.	0.	3.55
-0.70035E 02	0.97863E 02	0.14582E 02	0.65131E 02	-0.	0.	3.60
0.75812E 02	0.12316E 02	0.47708E 02	0.42118E 02	0.	-0.	3.70
0.47726F 02	-0.54085F 01	0.47620E 02	0.32365E 02	0.	-0.	3.75
0.24912F 02	-0.10415E 02	0.44216E 02	0.25349E 02	0.	-0.	3.80
0.10327E 02	-0.10380E 02	0.42629E 02	0.18653E 02	0.	-0.	3.85
0.18767E-00	-0.92066E 01	0.47327E 02	0.11968E 02	-0.	-0.	3.90
-0.35789E 01	-0.84821F 01	0.60177E 02	0.28725E 01	-0.	-0.	3.95
-0.49824F 01	-0.67778F 01	0.73053E 02	-0.53518E 02	-0.	0.	4.00
-0.69816E 01	-0.61227E 01	0.95124E 02	-0.82493E 02	-0.	0.	4.05
-0.72581E 01	-0.49439E 01	0.84297E 02	-0.85851E 02	-0.	0.	4.10
-0.76801E 01	-0.46116F 01	-0.17810E 02	-0.36016E 02	0.	0.	4.15
-0.78159E 01	-0.37278E 01	-0.30270E 02	-0.15076E 02	0.	-0.	4.20
-0.41329E 01	-0.25388E 01	-0.22972E 02	-0.77192E 01	-0.	-0.	4.25
-0.10893E 02	-0.11493F 01	-0.70631E 02	-0.36687E 01	-0.	-0.	4.30
-0.13055E 02	0.38635F 01	-0.23959E 02	0.10526E 02	-0.	-0.	4.35
-0.17386E 02	0.60353F 01	-0.35203E 02	0.16492E 02	-0.	0.	4.40
-0.18059E 02	0.89105F 01	-0.37039E 02	0.23569E 02	-0.	0.	4.45
-0.18167E 02	0.12310E 02	-0.37163E 02	0.35800E 02	-0.	0.	4.50
-0.17110F 02	0.13721E 02	-0.33715E 02	0.38920E 02	-0.	0.	4.55
-0.20913F 01	0.49234F 01	0.13415E 02	0.93671E 01	-0.	0.	4.60
-0.14308E 01	0.36368F 01	0.15748E 02	0.31794E 01	-0.	0.	4.65
-0.27608F 01	0.38199E 01	0.11146F 02	0.13424E-00	-0.	0.	4.70
-0.32940E 01	0.43904F 01	0.73715E 01	-0.84774E 00	-0.	0.	4.75
-0.28731F 01	0.51455F 01	0.50944E 01	-0.17366E 01	-0.	0.	4.80
-0.11105E 01	0.48479E 01	0.42603E 01	-0.23299F 01	-0.	0.	4.85
0.81682F 00	0.37366E 01	0.35497E 01	-0.28573E 01	-0.	0.	4.90
0.24288F 01	0.19723E 01	0.22131E 01	-0.30441E 01	0.	0.	4.95
0.36106F 01	0.23041F-00	0.12964E 01	-0.28345E 01	0.	0.	5.00
0.37481F 01	-0.12214E 01	0.26049F-00	-0.24430F 01	0.	-0.	5.05
0.31242E 01	-0.21871E 01	-0.44565F 00	-0.18949E 01	0.	-0.	5.10
0.21401F 01	-0.25813E 01	-0.10458E 01	-0.12299F 01	0.	-0.	5.15
0.97849F 00	0.	-0.14243E 01	0.	0.	0.	5.20

# Contrails

**Table XV --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 15 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27      SEGMENT NUMBER 14

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY
REAL	IMAGINARY	REAL	IMAGINARY	REAL	IMAGINARY	CPS
0.62943E-02	0.10709E 03	-0.73216E 00	0.27555E 03	0.	-0.	0.10
0.77152E 02	0.91329E 02	0.18057E 03	0.23785E 03	-0.	-0.	0.30
0.13203E 03	0.26474E 02	0.33594E 03	0.71605E 02	-0.	-0.	0.36
0.16670E 03	-0.14484E 02	0.42959E 03	-0.35629E 02	-0.	0.	0.44
0.16010E 03	-0.49199E 02	0.41525E 03	-0.12879E 03	-0.	0.	0.50
0.13927E 03	-0.67313E 02	0.36365E 03	-0.17921E 03	-0.	0.	0.60
0.12398E 03	-0.81121E 02	0.92488E 03	-0.21866E 03	-0.	0.	0.70
0.11416E 03	-0.95111E 02	0.29934E 03	-0.25891E 03	-0.	0.	0.80
0.10807E 03	-0.11235E 03	0.28263E 03	-0.30810E 03	-0.	0.	0.90
0.10451E 03	-0.17053E 03	0.27131E 03	-0.46935E 03	-0.	0.	1.00
0.10105E 03	-0.26807E 03	0.25192E 03	-0.72849E 03	-0.	0.	1.20
0.85405E 02	-0.34689E 03	0.19022E 03	-0.93069E 03	0.	0.	1.34
0.52699E 02	-0.43977E 03	0.87427E 02	-0.11597E 04	0.	-0.	1.40
-0.22229E 02	-0.48954E 03	-0.12890E 03	-0.12750E 04	0.	-0.	1.45
-0.95635E 02	-0.52411E 03	-0.33169E 03	-0.13421E 04	0.	-0.	1.47
-0.20712E 03	-0.41590E 03	-0.63053E 03	-0.99607E 03	0.	-0.	1.50
-0.50773E 03	-0.74567E 02	-0.13914E 04	-0.92016E 02	-0.	-0.	1.55
-0.58304E 03	0.11749E 03	-0.15120E 04	0.37053E 03	-0.	0.	1.60
-0.42834E 03	0.14758E 03	-0.10656E 04	0.37089E 03	-0.	0.	1.65
-0.14804E 03	0.12261E 03	-0.33008E 03	0.27932E 03	-0.	0.	1.80
-0.88042E 03	0.10529E 03	-0.18286E 03	0.21035E 03	-0.	0.	1.90
-0.55979E 02	0.95527E 02	-0.10944E 03	0.15893E 03	-0.	0.	2.00
-0.35981E 02	0.92228E 02	-0.70124E 02	0.11611E 03	-0.	0.	2.10
-0.19522E 02	0.88066E 02	-0.49139E 02	0.79113E 02	-0.	0.	2.20
0.45824E 01	0.80290E 02	-0.47205E 02	0.63524E 02	0.	0.	2.30
0.82011E 01	0.81812E 02	-0.47745E 02	0.41919E 02	0.	0.	2.35
0.13072E 02	0.82053E 02	-0.59467E 02	0.32891E 02	0.	0.	2.40
0.17878E 02	0.81692E 02	-0.77721E 02	0.32446E 02	0.	0.	2.45
0.19791E 02	0.80379E 02	-0.88454E 02	0.51259E 02	0.	0.	2.44
0.22460E 02	0.84092E 02	-0.11716E 03	0.91037E 02	0.	0.	2.47
0.22214E 02	0.97227E 02	-0.11476E 03	0.10414E 03	0.	0.	2.50
0.30142E 02	0.10950E 03	-0.76446E 02	0.88102E 02	0.	0.	2.54
0.48375E 02	0.12536E 03	-0.57454E 02	0.59976E 02	0.	0.	2.58
0.10282E 03	0.11960E 03	-0.62475E 02	0.51429E 02	0.	0.	2.65
0.17392E 03	-0.10660E 03	-0.87343E 02	0.13435E 03	0.	-0.	2.70
0.30256E 03	-0.17236E 03	-0.13263E 03	0.13002E 03	0.	-0.	2.80
-0.32133E 02	-0.13427E 03	0.14839E 02	0.10337E 03	-0.	-0.	3.00
-0.67833E 02	-0.11983E 03	0.24424E 02	0.87774E 02	-0.	-0.	3.10
-0.84700E 02	-0.12069E 03	0.27943E 02	0.81954E 02	-0.	-0.	3.20
-0.10396E 03	-0.12418E 03	0.30421E 02	0.79409E 02	-0.	-0.	3.26
-0.12096E 03	-0.12836E 03	0.32870E 02	0.73401E 02	-0.	-0.	3.29
-0.17459E 03	-0.86947E 02	0.40909E 02	0.56664E 02	-0.	-0.	3.35
-0.26031E 03	0.16193E 03	0.48843E 02	0.40880E 02	-0.	-0.	3.40
-0.25943E 03	0.24410E 03	0.95496E 01	0.55552E 02	-0.	0.	3.52
-0.20390E 03	0.29425E 03	0.43305E 01	0.70278E 02	-0.	0.	3.56
-0.90671E 02	0.15183E 03	0.13196E 02	0.59105E 02	-0.	0.	3.60
0.85437E 02	0.45470E 02	0.43294E 02	0.38221E 02	0.	0.	3.70
0.60874E 02	0.19492E 02	0.43214E 02	0.29370E 02	0.	-0.	3.85
0.38280E 02	0.92409E 01	0.40125E 02	0.23003E 02	0.	-0.	4.00
0.24863E 02	0.51220E 01	0.38685E 02	0.16927E 02	0.	-0.	4.20
0.19941E 02	0.25259E 01	0.42948E 02	0.10861E 02	-0.	-0.	4.30
0.25291E 02	-0.19877E 01	0.54609E 02	0.26067E 01	-0.	-0.	4.70
0.32130E 02	-0.33487E 02	0.66294E 02	-0.48567E 02	-0.	0.	4.80
0.44612E 02	-0.50092E 02	0.86322E 02	-0.74860E 02	-0.	0.	4.96
0.38374E 02	-0.51639E 02	0.76497E 02	-0.77907E 02	-0.	0.	5.00
-0.21209E 02	-0.21753E 02	-0.16162E 02	-0.32684E 02	0.	0.	5.15
-0.28879E 02	-0.83046E 01	-0.27469E 02	-0.13681E 02	0.	-0.	5.30
-0.24804E 02	-0.27817E 01	-0.20846E 02	-0.70050E 01	-0.	-0.	5.50
-0.23532E 02	0.52690E 00	-0.18723E 02	-0.33293E 01	-0.	-0.	5.70
-0.25752E 02	0.10795E 02	-0.21742E 02	0.95523E 01	-0.	-0.	5.85
-0.33318E 02	0.15306E 02	-0.31946E 02	0.15393E 02	-0.	-0.	6.00
-0.34578E 02	0.21326E 02	-0.33612E 02	0.23204E 02	-0.	0.	6.03
-0.36800E 02	0.28499E 02	-0.33724E 02	0.32487E 02	-0.	0.	6.06
-0.37340E 02	0.31583E 02	-0.40596E 02	0.35319E 02	-0.	0.	6.08
0.42938E-00	0.11871E 02	0.12174E 02	0.805005E 01	-0.	0.	6.20
0.31108E 01	0.79756E 01	0.14291E 02	0.28797E 01	-0.	0.	6.40
0.82100E 00	0.63026E 01	0.10115E 02	0.12182E-00	-0.	0.	6.60
-0.28551E-00	0.59333E 01	0.66895E 01	-0.78749E 00	-0.	0.	7.00
-0.60816E-01	0.54699E 01	0.53491E 01	-0.15759E 01	-0.	0.	7.40
0.15642E 01	0.39499E 01	0.38661E 01	-0.21143E 01	-0.	0.	8.20
0.29902E 01	0.73047E 01	0.32213E 01	-0.25929E 01	-0.	0.	9.00
0.36000E 01	0.62232E 00	0.20084E 01	-0.27624E 01	0.	0.	10.00
0.35553E 01	-0.45267E-00	0.11765E 01	-0.25722E 01	0.	0.	11.00
0.29808E 01	-0.96154E 00	0.23638E-00	-0.22170E 01	0.	-0.	12.00
0.27235E 01	-0.17206E 01	-0.49516E-00	-0.17196E 01	0.	-0.	13.00
0.17172E 01	-0.12542E 01	-0.94902E 00	-0.11161E 01	0.	-0.	14.00
0.13756E 01	0.	-0.12925E 01	0.	0.	0.	15.00

**Table XV - - - Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 15 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 40.06      SEGMENT NUMBER 8

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY			
-0.13427E-00	0.73780F 02	-0.12489E 01	0.27897E 03	0.	0.	0.10
0.49232E 02	0.63188F 02	0.18058E 03	0.24197E 03	0.	0.	0.30
0.90530F 02	0.18692F 02	0.33899E 03	0.73329E 02	0.	0.	0.36
0.11480F 03	-0.95961E 01	0.43606E 03	-0.36597E 02	0.	-0.	0.44
0.11057F 03	-0.33806E 02	0.42277E 03	-0.13336E 03	0.	-0.	0.50
0.96627E 02	-0.46699E 02	0.37131E 03	-0.18676E 03	0.	-0.	0.60
0.86442F 02	-0.56777E 02	0.33216E 03	-0.22918E 03	0.	-0.	0.70
0.80023F 02	-0.67218E 02	0.30607E 03	-0.27272E 03	0.	-0.	0.80
0.76207E 02	-0.80304E 02	0.28859F 03	-0.32593E 03	0.	-0.	0.90
0.74177E 02	-0.12527E 03	0.27612E 03	-0.49926E 03	0.	-0.	1.00
0.72555F 07	-0.20155E 03	0.25167E 03	-0.77483E 03	0.	-0.	1.20
0.60560E 02	-0.26338E 03	0.17801E 03	-0.98754E 03	0.	-0.	1.34
0.34717E 02	-0.33621F 03	0.62019E 02	-0.12251E 04	0.	-0.	1.40
-0.24606E 02	-0.37509E 03	-0.17589E 03	-0.13415E 04	-0.	-0.	1.45
-0.82686E 02	-0.40182E 03	-0.39572E 03	-0.14035E 04	-0.	-0.	1.47
-0.17040E 03	-0.31481E 03	-0.71632E 03	-0.10105E 04	-0.	-0.	1.50
-0.40766E 03	-0.44464E 02	-0.15157E 04	-0.43774E 02	-0.	-0.	1.55
-0.46553F 03	0.10699E 03	-0.16147E 04	0.43392E 03	-0.	0.	1.60
-0.34223E 03	0.13051E 03	-0.11241E 04	0.40837E 03	-0.	0.	1.65
-0.11975E 03	0.11104E 03	-0.34088E 03	0.30448E 03	-0.	0.	1.80
-0.71877E 02	0.97544E 02	-0.18770F 03	0.22666E 03	-0.	0.	1.90
-0.46094E 02	0.89608E 02	-0.11287E 03	0.16780E 03	-0.	0.	2.00
-0.30070F 02	0.85379E 02	-0.74624E 02	0.11631E 03	-0.	0.	2.10
-0.18259E 02	0.85926E 02	-0.58672E 02	0.82019E 02	-0.	0.	2.20
-0.11848E 02	0.93029F 02	-0.83442E 02	0.86987E 02	0.	0.	2.30
-0.47112F 01	0.96563E 02	-0.76428E 02	0.67019E 02	0.	0.	2.35
0.79364E 01	0.97221E 02	-0.77510E 02	0.58253E 02	0.	0.	2.40
0.16316F 02	0.96724E 02	-0.40500E 02	0.57577E 02	0.	0.	2.43
0.20197F 02	0.91623F 02	-0.98311E 02	0.71148E 02	0.	0.	2.44
0.29205E 02	0.84825E 02	-0.11755E 03	0.96304E 02	0.	0.	2.47
0.30806E 02	0.87224F 02	-0.11170E 03	0.94983E 02	0.	0.	2.50
0.29496F 02	0.95793F 02	-0.84988E 02	0.74559E 02	0.	0.	2.54
0.36266E 02	0.10757E 03	-0.79607E 02	0.46086E 02	0.	0.	2.58
0.65852F 02	0.10666E 03	-0.10917E 03	0.45512E 02	0.	0.	2.65
0.10612F 03	-0.13261E 02	-0.15902E 03	0.21357E 03	0.	-0.	2.70
0.17839F 03	-0.26827E 02	-0.23245E 03	0.21906E 03	0.	-0.	2.80
0.75319F 01	0.11346E 02	0.22571E 02	0.18451E 03	0.	-0.	3.00
0.51209E 01	0.47821F 02	0.37646E 02	0.18175E 03	-0.	0.	3.10
0.21322F 02	0.73985E 02	0.51011E 02	0.19243E 03	0.	0.	3.20
0.46046E 02	0.89867E 02	0.71164E 02	0.20092E 03	0.	0.	3.26
0.70777E 02	0.10414E 03	0.93273E 02	0.19993E 03	0.	0.	3.29
0.15033E 03	0.32819E 02	0.16767E 03	0.10581E 03	0.	0.	3.39
0.25798E 03	-0.19268E 03	0.25553E 03	-0.28114E 02	0.	-0.	3.40
0.14869E 03	-0.21570E 03	0.38876E 02	0.35956E 02	0.	-0.	3.52
0.10091F 03	-0.22697E 03	0.12440E 02	0.87636E 02	0.	-0.	3.56
0.38661F 02	-0.14463E 03	0.43518E 02	0.43237E 02	0.	-0.	3.60
-0.58454E 02	-0.75612E 02	0.11698E 03	-0.25820E 01	-0.	-0.	3.70
-0.57976F 02	-0.49976F 02	0.87771E 02	-0.12397E 02	-0.	-0.	3.85
-0.50958F 02	-0.33437E 02	0.64794E 02	-0.16934E 02	-0.	-0.	4.00
-0.46018E 02	-0.19654E 02	0.46988E 02	-0.20689E 02	-0.	-0.	4.20
-0.43821F 02	-0.12295E 02	0.78227E 02	-0.21220E 02	-0.	-0.	4.30
-0.46140F 02	-0.71800E 01	0.14621E 02	-0.18972F 02	-0.	-0.	4.70
-0.49380E 02	0.13853E 02	0.54529E 01	0.25395E 01	-0.	0.	4.80
-0.54696F 02	0.23633E 02	-0.10687E 02	0.14755E 02	-0.	0.	4.96
-0.50699E 02	0.25984E 02	-0.82812E 01	0.18381E 02	-0.	0.	5.00
-0.17279E 02	0.12101F 02	0.30522E 02	-0.30969E 01	-0.	0.	5.15
-0.12780F 02	0.77928E 01	0.33255E 02	-0.12940F 02	-0.	0.	5.30
-0.14123E 02	0.75495E 01	0.25541F 02	-0.16341E 02	-0.	0.	5.50
-0.14088E 02	0.78174E 01	0.18607E 02	-0.17001E 02	-0.	0.	5.70
-0.13001F 02	0.65373E 01	0.14196E 02	-0.15583F 02	-0.	0.	5.85
-0.10566E 02	0.56913E 01	0.97900F 01	-0.14867E 02	-0.	0.	6.00
-0.10184F 02	0.45190F 01	0.92537E 01	-0.13975E 02	-0.	-0.	6.03
-0.10087E 02	0.31275E 01	0.89962E 01	-0.13037E 02	-0.	-0.	6.06
-0.10561E 02	0.38619E 01	0.91907F 01	-0.14407E 02	-0.	-0.	6.08
-0.17239E 02	0.97798F 01	0.11885E 02	-0.16962E 02	-0.	0.	6.20
-0.15966E 02	0.11746F 02	0.75824E 01	-0.16396E 02	-0.	0.	6.40
-0.13617E 02	0.13694F 02	0.40058E 01	-0.13903E 02	-0.	0.	6.60
-0.46417E 01	0.14435F 02	-0.60244F 00	-0.11334E 02	-0.	0.	7.00
-0.61107E 01	0.14214E 02	-0.32339E 01	-0.67283E 01	-0.	0.	7.40
-0.75921F-01	0.12040E 02	-0.64070F 01	-0.16090E 01	-0.	0.	8.20
0.52006E 01	0.73404F 01	-0.68379E 01	0.19677E 01	0.	0.	9.00
0.91311F 01	0.20057F 01	-0.42096E 01	0.33020E 01	0.	0.	10.00
0.10648F 02	-0.28879F 01	-0.11278E 01	0.22374F 01	0.	-0.	11.00
0.94345E 01	-0.64974E 01	0.18304E 01	-0.20993E-00	0.	-0.	12.00
0.64287F 01	-0.80264F 01	0.30311E 01	-0.28541E 01	0.	-0.	13.00
0.25512F 01	-0.77335F 01	0.24030E 01	-0.45381E 01	0.	-0.	14.00
-0.12972E 01	0.	0.11744E-00	0.	-0.	0.	15.00

# Contrails

Table XV --- Continued

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 15 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 40.06      SEGMENT NUMBER 107

INCREMENTAL SHEAR STRESS				INCREMENTAL AXIAL STRESS				FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY	REAL	IMAGINARY	IMAGINARY		
-0.94903E-01	0.71707E 02	0.	0.	0.10671E 01	-0.23836E 03	-0.23836E 03	0.10	
0.44004E 02	0.61323E 02	0.	0.	-0.15429F 03	-0.20674E 03	-0.20674E 03	0.30	
0.88023E 02	0.18141E 02	0.	0.	-0.28956E 03	-0.62655E 02	-0.62655E 02	0.56	
0.11137F 03	-0.92001E 01	0.	0.	-0.37259F 03	0.31270E 02	0.31270E 02	0.84	
0.10714F 03	-0.32463E 02	0.	0.	-0.36123E 03	0.11395F 03	0.11395F 03	0.90	
0.93501F 02	-0.44728F 02	0.	0.	-0.31726E 03	0.15958E 03	0.15958E 03	0.60	
0.83569F 02	-0.54230E 02	0.	0.	-0.28381E 03	0.19582E 03	0.19582E 03	0.70	
0.77320F 02	-0.64027E 02	0.	0.	-0.26151E 03	0.23302E 03	0.23302E 03	0.80	
0.73623F 02	-0.76292F 02	0.	0.	-0.24658E 03	0.27849F 03	0.27849F 03	0.90	
0.71693E 02	-0.11851E 03	0.	0.	-0.23593F 03	0.42658E 03	0.42658E 03	1.00	
0.70455E 02	-0.19038E 03	0.	0.	-0.21504E 03	0.66204E 03	0.66204E 03	1.20	
0.59906F 02	-0.24886E 03	0.	0.	-0.15210E 03	0.84379F 03	0.84379F 03	1.34	
0.36214F 02	-0.31807F 03	0.	0.	-0.52991E 02	0.10467E 04	0.10467E 04	1.40	
-0.14887E 02	-0.35531E 03	-0.	-0.	0.15079E 03	0.11462E 04	0.11462E 04	1.65	
-0.73177E 02	-0.38142E 03	-0.	-0.	0.33811E 03	0.11992E 04	0.11992E 04	1.47	
-0.15588F 03	-0.30200F 03	-0.	-0.	0.61205E 03	0.86337E 03	0.86337E 03	1.30	
-0.37994E 03	-0.47942E 02	-0.	-0.	0.12951E 04	0.37402E 02	0.37402E 02	1.55	
-0.43737E 03	0.96081E 02	-0.	0.	0.13797E 04	-0.37076E 03	-0.37076E 03	1.60	
-0.3228E 03	0.12073E 03	-0.	0.	0.96047E 03	-0.34892E 03	-0.34892E 03	1.65	
-0.11348F 03	0.10294E 03	-0.	0.	0.29126F 03	-0.26015E 03	-0.26015E 03	1.80	
-0.68088E 02	0.90529E 02	-0.	0.	0.16038F 03	-0.19366E 03	-0.19366E 03	1.90	
-0.43528E 02	0.83204F 02	-0.	0.	0.96435E 02	-0.14337E 03	-0.14337E 03	2.00	
-0.28166E 02	0.79240F 02	-0.	0.	0.63761E 02	-0.99383E 02	-0.99383E 02	2.10	
-0.16717E 02	0.79222E 02	-0.	0.	0.50131E 02	-0.70080E 02	-0.70080E 02	2.20	
-0.10193E 02	0.85323E 02	0.	0.	0.71296E 02	-0.74324E 02	-0.74324E 02	2.30	
-0.31319E 01	0.88129F 02	0.	0.	0.65302F 02	-0.57263E 02	-0.57263E 02	2.35	
0.75040F 01	0.88461E 02	0.	0.	0.66227E 02	-0.49774E 02	-0.49774E 02	2.40	
0.14571F 02	0.87990F 02	0.	0.	0.77326E 02	-0.49196E 02	-0.49196E 02	2.45	
0.17698E 02	0.84172F 02	0.	0.	0.84017E 02	-0.60791E 02	-0.60791E 02	2.44	
0.24526F 02	0.80294F 02	0.	0.	0.10044E 03	-0.82285E 02	-0.82285E 02	2.47	
0.25736F 02	0.84412E 02	0.	0.	0.95439E 02	-0.81156E 02	-0.81156E 02	2.50	
0.26670E 02	0.92077F 02	0.	0.	0.72617E 02	-0.63706E 02	-0.63706E 02	2.54	
0.34918E 02	0.10295F 03	0.	0.	0.68018F 02	-0.39377E 02	-0.39377E 02	2.58	
0.65066F 02	0.10103F 03	0.	0.	0.93276E 02	-0.38887E 02	-0.38887E 02	2.65	
0.10469F 03	-0.17763F 02	0.	-0.	0.13587E 03	-0.18248E 03	-0.18248E 03	2.70	
0.17355E 03	-0.29493F 02	0.	-0.	0.19861E 03	-0.18376E 03	-0.18376E 03	2.80	
0.67375F 01	0.66228E 01	0.	0.	-0.19285F 02	-0.15765E 03	-0.15765E 03	3.00	
0.47166F 01	0.40020E 02	-0.	-0.	-0.32166E 02	-0.15529E 03	-0.15529E 03	3.10	
0.19904E 02	0.63533E 02	0.	0.	-0.43585E 02	-0.16442E 03	-0.16442E 03	3.20	
0.42423E 02	0.77773F 02	0.	0.	-0.60805E 02	-0.17167E 03	-0.17167E 03	3.25	
0.64690E 02	0.91010E 02	0.	0.	-0.79695E 02	-0.17083E 03	-0.17083E 03	3.25	
0.13596F 03	0.28895E 02	0.	0.	-0.14326E 03	-0.90406E 02	-0.90406E 02	3.35	
0.23356F 03	-0.18190F 03	0.	-0.	-0.21833E 03	0.24021E 02	0.24021E 02	3.40	
0.14525F 03	-0.21045E 03	0.	0.	-0.33716E 02	-0.30722E 02	-0.30722E 02	3.52	
0.10007E 03	-0.22572E 03	0.	-0.	-0.10629E 02	-0.74879E 02	-0.74879E 02	3.56	
0.35625F 02	-0.14012F 03	0.	-0.	-0.37183E 02	-0.36943E 02	-0.36943E 02	3.60	
-0.65344E 02	-0.69218E 02	-0.	-0.	-0.99948E 02	0.22061E 01	0.22061E 01	3.70	
-0.61337E 02	-0.43994E 02	-0.	-0.	-0.74995E 02	0.10592E 02	0.10592E 02	3.85	
-0.52110E 02	-0.28084E 02	-0.	-0.	-0.55362E 02	0.14469F 02	0.14469F 02	4.00	
-0.45395E 02	-0.14977F 02	-0.	-0.	-0.40148E 02	0.17677E 02	0.17677E 02	4.20	
-0.40652E 02	-0.84863E 01	-0.	-0.	-0.24118E 02	0.18131E 02	0.18131E 02	4.30	
-0.40059E 02	-0.47336E 01	-0.	-0.	-0.12493E 02	0.16211F 02	0.16211F 02	4.70	
-0.40846E 02	0.73882F 01	-0.	0.	-0.46591E 01	-0.21699E 01	-0.21699E 01	4.80	
-0.41978F 02	0.12812F 02	-0.	-0.	0.91318E 01	-0.12607E 02	-0.12607E 02	4.96	
-0.39523E 02	0.14125E 02	-0.	0.	0.70757E 01	-0.15706E 02	-0.15706E 02	5.00	
-0.22051E 02	0.82521E 01	-0.	0.	-0.26079E 02	0.26461E 01	0.26461E 01	5.15	
-0.19256F 02	0.73037F 01	-0.	0.	-0.28414E 02	0.11057E 02	0.11057E 02	5.30	
-0.18951F 02	0.81940E 01	-0.	0.	-0.21823E 02	0.13962E 02	0.13962E 02	5.40	
-0.17951E 02	0.89575E 01	-0.	0.	-0.15898E 02	0.14526E 02	0.14526E 02	5.70	
-0.16827E 02	0.91622E 01	-0.	0.	-0.12130E 02	0.13315E 02	0.13315E 02	5.85	
-0.15288E 02	0.89935E 01	-0.	0.	-0.83649E 01	0.12703E 02	0.12703E 02	6.00	
-0.15069E 02	0.87355E 01	-0.	0.	-0.79067E 01	0.11940E 02	0.11940E 02	6.05	
-0.14560E 02	0.84372E 01	-0.	0.	-0.76866E 01	0.11140E 02	0.11140E 02	6.08	
-0.14048E 02	0.96028F 01	-0.	0.	-0.78528E 01	0.12310E 02	0.12310E 02	6.08	
-0.14573E 02	0.12237F 02	-0.	0.	-0.10155E 02	0.14493E 02	0.14493E 02	6.20	
-0.14747E 02	0.13445F 02	-0.	0.	-0.64786E 01	0.14009E 02	0.14009E 02	6.40	
-0.12678E 02	0.14763E 02	-0.	0.	-0.34227E 01	0.11080E 02	0.11080E 02	6.60	
-0.85533E 01	0.15110E 02	-0.	0.	0.51474E 00	0.9640E 01	0.9640E 01	7.00	
-0.50057E 01	0.14330F 02	-0.	0.	0.27632E 01	0.57489E 01	0.57489E 01	7.40	
0.97795F 00	0.11684F 02	-0.	0.	0.54743E 01	0.13748E 01	0.13748E 01	8.20	
0.60965F 01	0.66956E 01	0.	0.	0.58425E 01	-0.16812E 01	-0.16812E 01	9.00	
0.95328F 01	0.13647E 01	0.	0.	0.35968E 01	-0.28213E 01	-0.28213E 01	10.00	
0.10665F 02	-0.33034E 01	0.	-0.	0.94356E 00	-0.19117E 01	-0.19117E 01	11.00	
0.91100E 01	-0.66079E 01	0.	-0.	-0.15649E 01	0.17937E-00	0.17937E-00	12.00	
0.41152E 01	-0.78380E 01	0.	-0.	-0.25899E 01	0.24386E 01	0.24386E 01	13.00	
0.22178F 01	-0.73866E 01	0.	-0.	-0.20532E 01	0.38775E 01	0.38775E 01	14.00	
-0.14058E 01	0.	-0.	0.	-0.10034E-00	0.	0.	15.00	

**Table XV -- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 15 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 540      SEGMENT NUMBER 17

INCREMENTAL SHEAR STRESS						FREQUENCY
REAL	IMAGINARY					CPS
-0.41556E-01	-0.11891E 01	0.	-0.	0.	-0.	0.10
-0.12179E 01	-0.77898E 00	0.	-0.	0.	-0.	0.30
-0.18598E 01	0.41125E-01	0.	-0.	0.	-0.	0.36
-0.19906E 01	0.50408E 00	-0.	-0.	0.	-0.	0.44
-0.17376E 01	0.74625E 00	-0.	-0.	0.	-0.	0.50
-0.13511E 01	0.80593E 00	-0.	-0.	0.	-0.	0.60
-0.11179E 01	0.82421E 00	-0.	-0.	0.	-0.	0.70
-0.98007E 00	0.84129E 00	-0.	-0.	0.	-0.	0.80
-0.90381E 00	0.87597E 00	-0.	-0.	0.	-0.	0.90
-0.87077E 00	0.10753E 01	-0.	-0.	0.	-0.	1.00
-0.90624E 00	0.15150E 01	-0.	-0.	0.	-0.	1.20
-0.56810E 00	0.19134E 01	0.	-0.	0.	-0.	1.34
-0.92368E 00	0.24331E 01	0.	-0.	0.	-0.	1.40
-0.69876E 00	0.27529E 01	-0.	-0.	0.	-0.	1.45
-0.42273E-00	0.30482E 01	-0.	-0.	0.	-0.	1.47
0.49574E-01	0.29039E 01	-0.	-0.	0.	-0.	1.50
0.15715E 01	0.13965E 01	-0.	-0.	0.	-0.	1.55
0.23187E 01	0.31194E-00	-0.	-0.	0.	-0.	1.60
0.18053E 01	-0.14333E-00	-0.	0.	0.	0.	1.65
0.45007E-00	-0.65090E-01	-0.	0.	0.	0.	1.80
0.75392E-01	0.30583E-01	-0.	0.	0.	0.	1.90
-0.17078E-00	0.13103E-00	-0.	-0.	0.	-0.	2.00
-0.36177E-00	0.25075E-00	-0.	-0.	0.	-0.	2.10
-0.53919E 00	0.44514E-00	0.	-0.	0.	-0.	2.20
-0.70218E 00	0.56544E 00	0.	-0.	0.	-0.	2.30
-0.73011E 00	0.70344E 00	0.	-0.	0.	-0.	2.35
-0.73506E 00	0.79091E 00	0.	-0.	0.	-0.	2.40
-0.66940E 00	0.81300E 00	0.	-0.	0.	-0.	2.43
-0.61485E 00	0.73339E 00	0.	-0.	0.	-0.	2.44
-0.42446E-00	0.42470E-00	0.	-0.	0.	-0.	2.47
-0.41417E-00	0.20201E-00	0.	-0.	0.	-0.	2.50
-0.78708E 00	0.23893E-00	0.	-0.	0.	-0.	2.54
-0.11547E 01	0.45288E-00	0.	-0.	0.	-0.	2.58
-0.17489E 01	0.77002E 00	0.	-0.	0.	-0.	2.65
-0.23210E 01	0.28963E 01	0.	-0.	0.	-0.	2.70
-0.31240E 01	0.46034E 01	0.	-0.	0.	-0.	2.80
-0.87678E 00	0.57242E 01	0.	-0.	0.	-0.	3.00
-0.43960E-00	0.79344E 01	0.	-0.	0.	-0.	3.10
0.77891E 00	0.10005E 02	-0.	-0.	0.	-0.	3.20
0.27924E 01	0.11310E 02	-0.	-0.	0.	-0.	3.26
0.49549E 01	0.12024E 02	-0.	-0.	0.	-0.	3.29
0.12118E 02	0.39513E 01	-0.	-0.	0.	-0.	3.35
0.20749E 02	-0.91543E 01	-0.	0.	0.	0.	3.40
0.21839E 01	-0.42554E 01	-0.	0.	0.	0.	3.52
-0.55691E 00	-0.18374E-00	0.	-0.	0.	-0.	3.56
0.95789E 00	-0.18467E 01	-0.	0.	0.	0.	3.60
0.52653E 01	-0.36728E 01	-0.	0.	0.	0.	3.70
0.31931E 01	-0.34853E 01	-0.	0.	0.	0.	3.85
0.17466E 01	-0.29987E 01	-0.	0.	0.	0.	4.00
0.77809E 00	-0.24141E 01	-0.	0.	0.	0.	4.20
0.72858E-01	-0.21506E 01	-0.	0.	0.	0.	4.50
-0.13809E-00	-0.20910E 01	-0.	0.	0.	0.	4.70
-0.16757E-00	-0.23517E 01	-0.	0.	0.	0.	4.80
-0.14904E-00	-0.25313E 01	-0.	0.	0.	0.	4.96
-0.34072E-00	-0.23803E 01	-0.	0.	0.	0.	5.00
-0.13132E 01	-0.18525E 01	0.	0.	0.	0.	5.15
-0.15916E 01	-0.15331E 01	0.	0.	0.	0.	5.30
-0.18658E 01	-0.12681E 01	0.	0.	0.	0.	5.50
-0.24453E 01	-0.87254E 00	0.	0.	0.	0.	5.70
-0.33136E 01	0.10717E 01	0.	-0.	0.	-0.	5.85
-0.51447E 01	0.19715E 01	0.	-0.	0.	-0.	6.00
-0.54273E 01	0.31694E 01	0.	-0.	0.	-0.	6.03
-0.54653E 01	0.45877E 01	0.	-0.	0.	-0.	6.06
-0.40013E 01	0.49601E 01	0.	-0.	0.	-0.	6.08
0.14277E 01	0.91832E 00	-0.	-0.	0.	-0.	6.20
0.15643E 01	0.14376E-00	-0.	-0.	0.	-0.	6.40
0.84113E 00	-0.32448E-00	-0.	-0.	0.	-0.	6.60
0.25744E-00	-0.12172E-00	-0.	-0.	0.	-0.	7.00
0.61850E-01	-0.54738E-01	-0.	-0.	0.	-0.	7.40
-0.21216E-01	-0.37764E-01	-0.	-0.	0.	-0.	8.20
0.12324E-03	-0.62769E-01	-0.	-0.	0.	-0.	9.00
0.17713E-01	-0.96605E-01	-0.	-0.	0.	-0.	10.00
0.29169E-02	-0.10807E-00	-0.	0.	0.	0.	11.00
-0.59261E-01	-0.85250E-01	-0.	0.	0.	0.	12.00
-0.74680E-01	-0.48494E-01	-0.	-0.	0.	-0.	13.00
-0.88888E-01	-0.17083E-01	-0.	-0.	0.	-0.	14.00
-0.75923E-01	0.	-0.	0.	-0.	0.	16.00

# Contrails

**Table XV --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 820    SEGMENT NUMBER 1

		INCREMENTAL AXIAL STRESS				FREQUENCY
		REAL	IMAGINARY			CPS
0.	0.	0.14028E 01	0.11502E 03	0.	0.	0.10
0.	0.	0.91791E 02	0.90364E 02	0.	0.	0.30
0.	0.	0.15584E 03	0.15400E 02	0.	0.	0.36
0.	0.	0.18558E 03	-0.27779E 02	0.	-0.	0.44
0.	-0.	0.17321E 03	-0.61520E 02	0.	0.	0.50
0.	-0.	0.14671E 03	-0.77793E 02	0.	-0.	0.60
0.	-0.	0.12895E 03	-0.90059E 02	0.	-0.	0.70
0.	-0.	0.11819E 03	-0.10295E 03	0.	-0.	0.80
0.	-0.	0.11194E 03	-0.11949E 03	0.	-0.	0.90
0.	-0.	0.10861E 03	-0.17704E 03	0.	-0.	1.00
0.	-0.	0.10547E 03	-0.27270E 03	0.	-0.	1.20
0.	-0.	0.88204E 02	-0.34835E 03	0.	-0.	1.34
0.	-0.	0.53972E 02	-0.43528E 03	0.	-0.	1.40
0.	-0.	-0.21786E 02	-0.48013E 03	-0.	-0.	1.45
-0.	-0.	-0.94391E 02	-0.50846E 03	-0.	-0.	1.47
-0.	-0.	-0.20291E 03	-0.39070E 03	-0.	-0.	1.50
-0.	-0.	-0.48505E 03	-0.60810E 02	-0.	-0.	1.55
-0.	-0.	-0.53849E 03	0.11326E 03	-0.	0.	1.60
-0.	-0.	-0.37861E 03	0.11786E 03	-0.	0.	1.65
-0.	-0.	-0.10442E 03	0.82115E 02	-0.	0.	1.80
-0.	-0.	-0.48515E 02	0.52419E 02	-0.	0.	1.90
-0.	-0.	-0.15921E 02	0.26898E 02	-0.	0.	2.00
-0.	-0.	0.16612E 01	0.86538E 00	0.	0.	2.10
-0.	-0.	0.11133E 02	-0.25298E 02	0.	-0.	2.20
-0.	-0.	0.41083E 01	-0.33168E 02	0.	-0.	2.30
-0.	-0.	0.33816E 01	-0.51983E 02	0.	-0.	2.35
-0.	-0.	-0.54249E 01	-0.41054E 02	-0.	-0.	2.40
-0.	-0.	-0.21615E 02	-0.62007E 02	-0.	-0.	2.43
-0.	-0.	-0.31440E 02	-0.46208E 02	-0.	-0.	2.44
-0.	-0.	-0.58637E 02	-0.98328E 01	-0.	-0.	2.47
-0.	-0.	-0.57863E 02	0.25182E 01	-0.	0.	2.50
-0.	-0.	-0.22123E 02	0.13984E 02	-0.	-0.	2.54
-0.	-0.	-0.28605E 01	-0.47191E 02	-0.	-0.	2.58
-0.	-0.	-0.47438E 01	-0.63847E 02	-0.	-0.	2.65
-0.	-0.	-0.27224E 02	-0.47928E 01	-0.	-0.	2.70
-0.	-0.	-0.80642E 02	-0.44099E 02	-0.	-0.	2.80
-0.	-0.	0.59613E 02	-0.12611E 03	0.	-0.	3.00
-0.	-0.	0.60151E 02	-0.23512E 03	0.	-0.	3.10
-0.	-0.	0.19306E 02	-0.32541E 03	0.	-0.	3.20
-0.	-0.	-0.56971E 02	-0.38009E 03	-0.	-0.	3.26
-0.	-0.	-0.14021E 03	-0.41035E 03	-0.	-0.	3.29
-0.	-0.	-0.41580E 03	-0.95408E 02	-0.	-0.	3.35
-0.	-0.	-0.73783E 03	0.34171E 03	-0.	0.	3.40
-0.	-0.	0.18019E 02	0.11410E 03	0.	0.	3.52
-0.	-0.	0.10482E 03	-0.63286E 02	0.	-0.	3.56
-0.	-0.	0.13287E 01	0.58239E 02	0.	0.	3.60
-0.	-0.	-0.22218E 03	0.15885E 03	-0.	0.	3.70
-0.	-0.	-0.12256E 03	0.15279E 03	-0.	0.	3.85
-0.	-0.	-0.54874E 02	0.13011E 03	-0.	0.	4.00
-0.	-0.	-0.10158E 02	0.10090E 03	-0.	0.	4.20
-0.	-0.	0.24833E 02	0.84378E 02	0.	0.	4.30
-0.	-0.	0.42422E 02	0.74936E 02	0.	0.	4.70
-0.	-0.	0.52274E 02	0.44714E 02	0.	0.	4.80
-0.	-0.	0.67968E 02	0.31256E 02	0.	0.	4.96
-0.	-0.	0.65695E 02	0.21498E 02	0.	0.	5.00
-0.	-0.	0.31126E 02	0.34112E 02	0.	0.	5.15
-0.	-0.	0.30421E 02	0.34785E 02	0.	0.	5.30
-0.	-0.	0.40272E 02	0.29496E 02	0.	0.	5.50
-0.	-0.	0.53146E 02	0.21124E 02	0.	0.	5.70
-0.	-0.	0.68493E 02	-0.12977E 02	0.	-0.	5.85
-0.	-0.	0.98498E 02	-0.27972E 02	0.	-0.	6.00
-0.	-0.	0.10297E 03	-0.47786E 02	0.	-0.	6.05
-0.	-0.	0.10341E 03	-0.71080E 02	0.	-0.	6.08
-0.	-0.	0.95663E 02	-0.77724E 02	0.	-0.	6.08
-0.	-0.	-0.86335E 01	-0.14992E 02	-0.	-0.	6.20
-0.	-0.	-0.10725E 02	-0.51031E 01	-0.	-0.	6.40
-0.	-0.	0.12145E 01	-0.47990E 01	0.	-0.	6.60
-0.	-0.	0.63163E 01	-0.7223E 01	0.	-0.	7.00
-0.	-0.	0.58231E 01	-0.96245E 01	0.	-0.	7.40
-0.	-0.	0.45788E 00	-0.83328E 01	0.	-0.	8.20
-0.	-0.	-0.50716E 01	-0.43969E 01	-0.	-0.	9.00
-0.	-0.	-0.89844E 01	-0.12324E 00	-0.	-0.	10.00
-0.	-0.	-0.94285E 01	0.26358E 01	-0.	0.	11.00
-0.	-0.	-0.78866E 01	0.36723E 01	-0.	0.	12.00
-0.	-0.	-0.57688E 01	0.34388E 01	-0.	0.	13.00
-0.	-0.	-0.41276E 01	0.27940E 01	-0.	0.	14.00
-0.	-0.	-0.32340E 01	0.	-0.	0.	15.00



# Contrails

**Table XV --- Continued**

(PSI/PPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 20 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27      SEGMENT NUMBER 10

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY
REAL	IMAGINARY	REAL	IMAGINARY			ξ CPS
0.84721E-01	0.35385E 02	-0.80681E C0	0.30365E 03	0.	-0.	0.10
0.24347E 02	0.29947E 02	0.19898E C3	0.26210E 03	-0.	-0.	0.30
0.44132E 02	0.83652E 01	0.3702CE C3	0.78906E 02	-0.	-0.	0.56
0.55393E 02	-0.51332E 01	0.47339E C3	-0.39261E 02	-0.	0.	0.84
0.53094E 02	-0.16505E 02	0.45759E C3	-0.14192E 03	-0.	0.	0.50
0.46190E 02	-0.22434E 02	0.40073E C3	-0.19748E 03	-0.	0.	0.60
0.41253E 02	-0.27016E 02	0.3580CE 03	-0.24096E 03	-0.	0.	0.70
0.38231E 02	-0.31773E 02	0.32986E C3	-0.28530E 03	-0.	0.	0.80
0.36571E 02	-0.37815E 02	0.31144E C3	-0.33952E 03	-0.	0.	0.90
0.35926E 02	-0.55253E 02	0.29857E C3	-0.51720E 03	-0.	0.	1.00
0.36653E C2	-0.57188E 02	0.27761E 03	-0.80276E 03	-0.	0.	1.20
0.33495E 02	-0.12897E 03	0.20961E 03	-0.10256E 04	0.	0.	1.34
0.22848E 02	-0.16771E 03	0.96340E 02	-0.12780E 04	0.	-0.	1.40
-0.42896E 01	-0.18946E 03	-0.14204E 03	-0.14050E 04	0.	-0.	1.45
-0.32143E 02	-0.20625E 03	-0.36551E 03	-0.14789E 04	0.	-0.	1.47
-0.75695E 02	-0.17111E 03	-0.65482E 03	-0.10976E 04	0.	-0.	1.50
-0.19911E 03	-0.35902E 02	-0.15332E 04	-0.10140E 03	-0.	-0.	1.55
-0.23925E 03	0.46462E 02	-0.16662E 04	0.40830E 03	-0.	0.	1.60
-0.18287E 03	0.70084E 02	-0.11743E 04	0.40870E 03	-0.	0.	1.65
-0.70840E 02	0.64637E 02	-0.36373E 03	0.30779E 03	-0.	0.	1.80
-0.45308E 02	0.62249E 02	-0.20150E 03	0.23180E 03	-0.	0.	1.90
-0.30738E 02	0.63716E 02	-0.12059E 03	0.17513E 03	-0.	0.	2.00
-0.20436E 02	0.65980E C2	-0.77273E 02	0.12795E 03	-0.	0.	2.10
-0.96218E 01	0.74699E 02	-0.54149E 02	0.87179E 02	-0.	0.	2.20
0.14082E 02	0.70093E 02	-0.52018E 02	0.70001E 02	0.	0.	2.30
0.17233E 02	0.77041E 02	-0.52613E C2	0.46193E 02	0.	0.	2.35
0.24472E C2	0.79877E 02	-0.65530E 02	0.36425E 02	0.	0.	2.40
0.34061E 02	0.79724E 02	-0.85646E 02	0.35754E 02	0.	0.	2.43
0.39009E 02	0.72921E 02	-0.97472E C2	0.56486E 02	0.	0.	2.44
0.50533E 02	0.63352E 02	-0.12910E 03	0.10032E 03	0.	0.	2.47
0.50381E 02	0.69316E 02	-0.12646E 03	0.11476E 03	0.	0.	2.50
0.45535E 02	0.84011E 02	-0.8424CE 02	0.97085E 02	0.	0.	2.54
0.54631E C2	0.10597E 03	-0.63312E 02	0.66091E 02	0.	0.	2.58
0.10102E 03	0.10456E 03	-0.68845E 02	0.56672E 02	0.	0.	2.65
0.16764E 03	-0.10530E 03	-0.96245E C2	0.14805E 03	-0.	-0.	2.70
0.29234E 03	-0.16149E 03	-0.14615E 03	0.14327E 03	-0.	-0.	2.80
-0.28309E 02	-0.11812E 03	0.16352E C2	0.11391E 03	-0.	-0.	3.00
-0.56137E 02	-0.93940E 02	0.26914E 02	0.96723E 02	-0.	-0.	3.10
-0.71372E 02	-0.85784E 02	0.30791E 02	0.90310E 02	-0.	-0.	3.20
-0.81036E 02	-0.83382E 02	0.33523E 02	0.87505E 02	-0.	-0.	3.26
-0.88238E 02	-0.82515E C2	0.36221E 02	0.80885E 02	-0.	-0.	3.29
-0.10977E 03	-0.71410E 02	0.45080E 02	0.62441E 02	-0.	-0.	3.35
-0.15204E 03	0.89707E 02	0.53823E 02	0.45047E 02	-0.	-0.	3.40
-0.20169E 03	0.16767E 03	0.10523E 02	0.61216E 02	-0.	0.	3.52
-0.16405E 03	0.21643E 03	0.47720E 01	0.77443E 02	-0.	0.	3.56
-0.70035E 02	0.67863E 02	0.14542E 02	0.65131E 02	-0.	0.	3.60
0.75812E 02	0.12316E 02	0.47708E 02	0.42118E 02	0.	-0.	3.70
0.47726E 02	-0.54085E 01	0.4762CE 02	0.32365E 02	0.	-0.	3.85
0.24912E 02	-0.10415E 02	0.44216E 02	0.25349E 02	0.	-0.	4.00
0.10327E 02	-0.10390E 02	0.42624E 02	0.14653E 02	0.	-0.	4.20
0.18707E-00	-0.92066E 01	0.47327E 02	0.11968E 02	-0.	-0.	4.50
-0.35285E 01	-0.84821E 01	0.60177E 02	0.28725E 01	-0.	-0.	4.70
-0.49824E 01	-0.67778E 01	0.73053E 02	-0.53518E 02	-0.	-0.	4.80
-0.69816E 01	-0.61227E 01	0.95124E 02	-0.82493E 02	-0.	0.	4.96
-0.72581E 01	-0.49439E 01	0.84297E 02	-0.85851E 02	-0.	0.	5.00
-0.70801E 01	-0.46116E 01	-0.17810E 02	-0.36016E 02	0.	0.	5.15
-0.78159E 01	-0.37278E 01	-0.30270E 02	-0.15076E 02	-0.	-0.	5.30
-0.91329E 01	-0.25388E 01	-0.22972E 02	-0.77192E 01	-0.	-0.	5.50
-0.10893E 02	-0.11493E 01	-0.20631E 02	-0.36687E 01	-0.	-0.	5.70
-0.13055E 02	0.38635E 01	-0.23959E 02	0.10526E 02	-0.	-0.	5.85
-0.17386E 02	0.60353E C1	-0.35203E 02	0.16962E 02	-0.	0.	6.00
-0.18059E 02	0.89105E 01	-0.37039E 02	0.25569E 02	-0.	0.	6.03
-0.18167E 02	0.12310E 02	-0.37163E 02	0.35800E 02	-0.	0.	6.06
-0.17110E 02	0.13721E 02	-0.33715E 02	0.38920E 02	-0.	0.	6.08
-0.20813E 01	0.49234E 01	-0.13415E 02	0.93671E 01	-0.	0.	6.20
-0.14308E 01	0.36168E 01	0.15748E 02	0.31734E 01	-0.	0.	6.40
-0.27608E 01	0.38199E 01	-0.11146E 02	0.13424E-00	-0.	0.	6.60
-0.32940E 01	0.43964E 01	0.73715E 01	-0.86774E 00	-0.	0.	7.00
-0.28731E 01	0.51455E 01	0.58944E 01	-0.17366E 01	-0.	0.	7.40
-0.11105E 01	0.48479E 01	0.42603E 01	-0.23299E 01	-0.	0.	8.20
0.81687E 00	0.37366E 01	0.35497E 01	-0.28573E 01	-0.	0.	9.00
0.76288E 01	0.15723E 01	0.22131E 01	-0.30441E 01	0.	0.	10.00
0.36106E 01	0.23041E-00	0.17964E 01	-0.28345E 01	0.	0.	11.00
0.37481E 01	-0.12214E 01	0.26049E-00	-0.24430E 01	0.	-0.	12.00
0.31242E 01	-0.21871E 01	-0.54565E 00	-0.18949E 01	0.	-0.	13.00
0.21401E 01	-0.25413E 01	-0.10458E 02	-0.12299E 01	0.	-0.	14.00
0.97849E 00	-0.25394E 01	-0.14243E 01	-0.66189E 00	0.	-0.	15.00
-0.13660E-00	-0.20756E 01	-0.15827E 01	-0.19647E-01	-0.	-0.	16.00
-0.10099E 01	-0.13980E 01	-0.16200E 01	0.62906E 00	-0.	-0.	17.00
-0.16059E 01	-0.64391E 00	-0.15614E 01	0.12811E 01	-0.	0.	18.00
-0.18238E 01	0.77286E-01	-0.12944E 01	0.19489E 01	-0.	0.	19.00
-0.17891E 01	0.	-0.78691E 00	0.	-0.	0.	20.00

# Contrails

Table XV --- Continued

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27    SEGMENT NUMBER 14

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS		FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY	
0.42963E-02	0.10709E 03	0.73216E 00	0.27555E 03	0.10
0.72152E 02	0.51329E 02	0.18057E 03	0.23785E 03	0.30
0.13203E 03	0.26474E 02	0.33594E 03	0.71605E 02	0.36
0.16670E 03	-0.14484E 02	0.42959E 03	-0.35629E 02	0.44
0.16010E 03	-0.49199E 02	0.41525E 03	-0.12879E 03	0.50
0.13927E 03	-0.67313E 02	0.36365E 03	-0.17921E 03	0.60
0.12396E 03	-0.81121E 02	0.32408E 03	-0.21866E 03	0.70
0.11414E 03	-0.95111E 02	0.29934E 03	-0.25891E 03	0.80
0.10807E 03	-0.11235E 03	0.28263E 03	-0.30810E 03	0.90
0.10451E 03	-0.17053E 03	0.27131E 03	-0.46935E 03	1.00
0.10109E 03	-0.26807E 03	0.25152E 03	-0.72849E 03	1.20
0.85405E 02	-0.34899E 03	0.19022E 03	-0.93069E 03	1.34
0.52699E 02	-0.43977E 03	0.87427E 02	-0.11597E 04	1.40
-0.22729E 02	-0.46954E 03	-0.12890E 03	-0.12750E 04	1.45
-0.95635E 02	-0.52411E 03	-0.33169E 03	-0.13421E 04	1.47
-0.20717E 03	-0.41590E 03	-0.63053E 03	-0.99607E 03	1.50
-0.50773E 03	-0.74567E 02	-0.13914E 04	-0.92016E 02	1.55
-0.58304E 03	0.11749E 03	-0.15120E 04	0.37053E 03	1.60
-0.42834E 03	0.14758E 03	-0.10656E 04	0.37089E 03	1.65
-0.14804E 03	0.12261E 03	-0.33008E 03	0.27932E 03	1.80
-0.88042E 02	0.10529E 03	-0.18286E 03	0.21035E 03	1.90
-0.55979E 02	0.95527E 02	-0.10944E 03	0.15893E 03	2.00
-0.35581E 02	0.92228E 02	-0.70124E 02	0.11811E 03	2.10
-0.19527E 02	0.68066E 02	-0.49139E 02	0.79113E 02	2.20
0.49824E 01	0.80290E 02	-0.47205E 02	0.63524E 02	2.30
0.82011E 01	0.81812E 02	-0.47745E 02	0.41919E 02	2.35
0.13077E 02	0.82053E 02	-0.59467E 02	0.32891E 02	2.40
0.17879E 02	0.81692E 02	-0.77721E 02	0.32446E 02	2.45
0.19791E 02	0.80379E 02	-0.88454E 02	0.51259E 02	2.44
0.22460E 02	0.84092E 02	-0.11716E 03	0.91037E 02	2.47
0.22214E 02	0.97227E 02	-0.11476E 03	0.10414E 03	2.50
0.30142E 02	0.10958E 03	-0.76446E 02	0.88102E 02	2.54
0.48235E 02	0.12536E 03	-0.57454E 02	0.59976E 02	2.58
0.10282E 03	0.11968E 03	-0.62475E 02	0.51429E 02	2.65
0.17392E 03	-0.10660E 03	-0.87343E 02	0.13435E 03	2.70
0.30256E 03	-0.17236E 03	-0.13263E 03	0.13002E 03	2.80
-0.32137E 02	-0.13427E 03	0.14839E 02	0.10337E 03	3.00
-0.62833E 02	-0.11983E 03	0.24424E 02	0.87774E 02	3.10
-0.84700E 02	-0.12069E 03	0.27943E 02	0.81954E 02	3.20
-0.10394E 03	-0.12418E 03	0.30421E 02	0.79409E 02	3.26
-0.12094E 03	-0.12836E 03	0.32870E 02	0.73401E 02	3.29
-0.17459E 03	-0.86947E 02	0.40909E 02	0.56664E 02	3.35
-0.26031E 03	0.16193E 03	0.48843E 02	0.40880E 02	3.40
-0.25543E 03	0.24410E 03	0.95496E 01	0.55552E 02	3.52
-0.20390E 03	0.29425E 03	0.43305E 01	0.70278E 02	3.56
-0.90671E 02	0.15183E 03	0.13196E 02	0.59105E 02	3.60
0.85432E 02	0.45470E 02	0.43294E 02	0.38221E 02	3.70
0.60834E 02	0.15492E 02	0.43214E 02	0.29370E 02	3.85
0.38280E 02	0.92409E 01	0.40125E 02	0.23003E 02	4.00
0.24863E 02	0.51220E 01	0.38685E 02	0.16927E 02	4.20
0.19941E 02	0.25259E 01	0.42948E 02	0.10851E 02	4.30
0.25251E 02	-0.15977E 01	0.54609E 02	0.26067E 01	4.70
0.32130E 02	-0.33487E 02	0.66294E 02	-0.48567E 02	4.80
0.44612E 02	-0.50092E 02	0.86322E 02	-0.74860E 02	4.96
0.38374E 02	-0.51639E 02	0.76497E 02	-0.77907E 02	5.00
-0.21204E 02	-0.83046E 01	-0.16162E 02	-0.32684E 02	5.15
-0.28879E 02	-0.21753E 02	-0.27469E 02	-0.13681E 02	5.20
-0.24804E 02	-0.27817E 01	-0.20846E 02	-0.70050E 01	5.50
-0.23532E 02	0.52690E 00	-0.18723E 02	-0.35293E 01	5.70
-0.25752E 02	0.10755E 02	-0.21742E 02	0.95523E 01	5.85
-0.33318E 02	0.15306E 02	-0.31946E 02	0.15393E 02	6.00
-0.34579E 02	0.21326E 02	-0.33612E 02	0.25204E 02	6.03
-0.34880E 02	0.28499E 02	-0.33724E 02	0.32487E 02	6.06
-0.32340E 02	0.31583E 02	-0.30596E 02	0.35319E 02	6.08
0.42938E-00	0.11871E 02	0.12174E 02	0.85005E 01	6.20
0.31108E 01	0.79756E 01	0.14291E 02	0.28797E 01	6.40
0.82100E 00	0.43026E 01	0.10115E 02	0.12182E-00	6.60
-0.28551E-00	0.59333E 01	0.66895E 01	-0.78745E 00	7.00
-0.60816E-01	0.54649E 01	0.53491E 01	-0.15759E 01	7.40
0.15682E 01	0.39499E 01	0.38661E 01	-0.21143E 01	8.20
0.29907E 01	0.23047E 01	0.32213E 01	-0.25929E 01	9.00
0.36000E 01	0.42232E 00	0.20084E 01	-0.27624E 01	10.00
0.35553E 01	-0.45747E-00	0.11765E 01	-0.25722E 01	11.00
0.29808E 01	-0.98154E 00	0.23638E-00	-0.22170E 01	12.00
0.22235E 01	-0.12206E 01	-0.49516E-00	-0.17196E 01	13.00
0.17172E 01	-0.12542E 01	-0.94902E 00	-0.11161E 01	14.00
0.13756E 01	-0.14971E 01	-0.12925E 01	-0.60065E 00	15.00
0.11350E 01	-0.17283E 01	-0.14363E 01	-0.17829E-01	16.00
0.86456E 00	-0.20385E 01	-0.14702E 01	0.57086E 00	17.00
0.37448E-00	-0.22227E 01	-0.14169E 01	0.11626E 01	18.00
-0.26450E-00	-0.20971E 01	-0.11750E 01	0.17686E 01	19.00
-0.11484E 01	0.	-0.71410E 00	0.	20.00

**Table XV- -- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 20 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 40.06      SEGMENT NUMBER 8

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY
REAL	IMAGINARY	REAL	IMAGINARY			CPS
-0.13427E-00	0.73780E 02	-0.12489E 01	0.27897E 03	0.	0.	0.10
0.49232E 02	0.63188E 02	0.18058E 03	0.24197E 03	0.	0.	0.30
0.50530E 02	0.18692E 02	0.33889E 03	0.73329E 02	0.	0.	0.36
0.11480E 03	-0.95961E 01	0.43606E 03	-0.36597E 02	0.	-0.	0.44
0.11057E 03	-0.33906E 02	0.42277E 03	-0.13336E 03	0.	-0.	0.50
0.56627E 02	-0.46659E 02	0.37131E 03	-0.18676E 03	0.	-0.	0.60
0.86442E 02	-0.56777E 02	0.33216E 03	-0.22918E 03	0.	-0.	0.70
0.80023E 02	-0.67218E 02	0.30607E 03	-0.27272E 03	0.	-0.	0.80
0.76207E 02	-0.80304E 02	0.28859E 03	-0.32593E 03	0.	-0.	0.90
0.74177E 02	-0.12527E 03	0.27612E 03	-0.49926E 03	0.	-0.	1.00
0.72555E 02	-0.20155E 03	0.25167E 03	-0.77483E 03	0.	-0.	1.20
0.60560E 02	-0.26338E 03	0.17801E 03	-0.98754E 03	0.	-0.	1.34
0.34717E 02	-0.33621E 03	0.62019E 02	-0.12251E 04	0.	-0.	1.40
-0.24606E 02	-0.37509E 03	-0.17589E 03	-0.13415E 04	-0.	-0.	1.45
-0.82686E 02	-0.40182E 03	-0.39572E 03	-0.14035E 04	-0.	-0.	1.47
-0.17080E 03	-0.31481E 03	-0.71632E 03	-0.10105E 04	-0.	-0.	1.50
-0.40766E 03	-0.44464E 02	-0.15157E 04	-0.43774E 02	-0.	-0.	1.55
-0.46553E 03	0.10699E 03	-0.16147E 04	0.43392E 03	-0.	0.	1.60
-0.34223E 03	0.13051E 03	-0.11241E 04	0.40837E 03	-0.	0.	1.65
-0.11575E 03	0.11104E 03	-0.34088E 03	0.30448E 03	-0.	0.	1.80
-0.71877E 02	0.97544E 02	-0.18770E 03	0.22666E 03	-0.	0.	1.90
-0.46054E 02	0.89608E 02	-0.11287E 03	0.16780E 03	-0.	0.	2.00
-0.30070E 02	0.85379E 02	-0.74624E 02	0.11631E 03	-0.	0.	2.10
-0.18259E 02	0.85926E 02	-0.58672E 02	0.82019E 02	-0.	0.	2.20
-0.11848E 02	0.93029E 02	-0.83442E 02	0.86987E 02	0.	0.	2.30
-0.40112F 01	0.96563E 02	-0.76428E 02	0.67019E 02	0.	0.	2.35
0.79364E 01	0.97221E 02	-0.77510E 02	0.58253E 02	0.	0.	2.40
0.16317E 02	0.96724E 02	-0.90500E 02	0.57577E 02	0.	0.	2.43
0.20197E 02	0.91623E 02	-0.98331E 02	0.71148E 02	0.	0.	2.44
0.29205E 02	0.84825E 02	-0.11755E 03	0.96304E 02	0.	0.	2.47
0.30800E 02	0.87224E 02	-0.11170E 03	0.94983E 02	0.	0.	2.50
0.29494E 02	0.95293E 02	-0.84988E 02	0.74559E 02	-0.	0.	2.54
0.36266E 02	0.10757E 03	-0.79607E 02	0.46086E 02	0.	0.	2.58
0.65852F 02	0.10666E 03	-0.10917E 03	0.45512E 02	0.	0.	2.65
0.10612F 03	-0.13261E 02	-0.15902E 03	0.21357E 03	0.	-0.	2.70
0.17838F 03	-0.26827E 02	-0.23245E 03	0.21506E 03	0.	-0.	2.80
0.75315E 01	0.11346E 02	0.22571E 02	0.18451E 03	0.	-0.	3.00
0.51209F 01	0.47821E 02	0.37646E 02	0.18175E 03	-0.	0.	3.10
0.21322F 02	0.73985E 02	0.51011E 02	0.19243E 03	0.	0.	3.20
0.46046E 02	0.89867E 02	0.71164E 02	0.20092E 03	0.	0.	3.26
0.70777E 02	0.10414E 03	0.93273E 02	0.19993E 03	0.	0.	3.29
0.15033E 03	0.32819E 02	0.16767E 03	0.10581E 03	0.	0.	3.35
0.25798F 03	-0.19268E 03	0.25553E 03	-0.28114E 02	0.	-0.	3.40
0.14869E 03	-0.21570E 03	0.38876E 02	0.35956E 02	0.	-0.	3.52
0.10091E 03	-0.22697E 03	0.12440E 02	0.87636E 02	0.	-0.	3.56
0.38661E 02	-0.14463E 03	0.43518E 02	0.43237E 02	0.	0.	3.60
-0.58454E 02	-0.75612F 02	0.11698E 03	-0.25820E 01	-0.	-0.	3.70
-0.57978F 02	-0.49976E 02	0.87771E 02	-0.12397E 02	-0.	-0.	3.85
-0.50958E 02	-0.33437E 02	0.64794E 02	-0.16934E 02	-0.	-0.	4.00
-0.46018E 02	-0.19654E 02	0.46988E 02	-0.20689E 02	-0.	-0.	4.20
-0.43821E 02	-0.12295F 02	0.28227E 02	-0.21220E 02	-0.	-0.	4.30
-0.46140F 02	-0.71800E 01	0.14621E 02	-0.18972E 02	-0.	-0.	4.50
-0.49380F 02	0.13853E 02	0.54529E 01	0.25395E 01	-0.	0.	4.60
-0.54694E 02	0.23633F 02	-0.10687E 02	0.14755E 02	-0.	0.	4.66
-0.50699F 02	0.25984F 02	-0.82812E 01	0.18381E 02	-0.	0.	5.00
-0.17275F 02	0.12101E 02	0.30522E 02	-0.30969E 01	-0.	0.	5.15
-0.12780E 02	0.77928E 01	0.33255E 02	-0.12940E 02	-0.	0.	5.30
-0.14123E 02	0.75495E 01	0.25541E 02	-0.16341E 02	-0.	0.	5.50
-0.14089F 02	0.78174E 01	0.18607E 02	-0.17001E 02	-0.	0.	5.70
-0.13001E 02	0.65373E 01	0.14156E 02	-0.15583E 02	-0.	0.	5.85
-0.10566F 02	0.56913E 01	0.97900E 01	-0.14867E 02	-0.	0.	6.00
-0.10184F 02	0.45190E 01	0.92537E 01	-0.13975E 02	-0.	0.	6.03
-0.10087E 02	0.31225E 01	0.89962E 01	-0.13037E 02	-0.	0.	6.06
-0.10561E 02	0.38419E 01	0.91907E 01	-0.14407E 02	-0.	0.	6.08
-0.17239F 02	0.97298E 01	0.11885E 02	-0.16962E 02	-0.	0.	6.20
-0.15964E 02	0.11746E 02	0.75824E 01	-0.16396E 02	-0.	0.	1.40
-0.13631E 02	0.13694E 02	0.40058E 01	-0.13903E 02	-0.	0.	1.60
-0.96417E 01	0.14435E 02	-0.60244F 00	-0.11334E 02	-0.	0.	1.80
-0.61107E 01	0.14214F 02	-0.32339F 01	-0.67283F 01	-0.	0.	7.40
-0.75621F 01	0.12040E 02	-0.64070E 01	-0.16090E 01	-0.	0.	8.20
0.52000E 01	0.73408E 01	-0.68379E 01	0.19677E 01	0.	0.	9.00
0.91311E 01	0.20057E 01	-0.42096E 01	0.33020E 01	0.	0.	10.00
0.10448E 02	-0.28879E 01	-0.11278E 01	0.22374E 01	0.	-0.	11.00
0.94345E 01	-0.64974E 01	0.18304E 01	-0.20993E-00	0.	-0.	12.00
0.65287E 01	-0.80264E 01	0.30311E 01	-0.28541E 01	0.	-0.	13.00
0.25512E 01	-0.77335E 01	0.24030E 01	-0.45381E 01	0.	-0.	14.00
-0.12972E 01	-0.57897E 01	0.11744E-00	-0.44539E 01	-0.	-0.	15.00
-0.42634E 01	-0.30551E 01	-0.29933E 01	-0.25030F 01	-0.	-0.	16.00
-0.59672E 01	-0.91029E 01	-0.55505E 01	0.86736E 00	-0.	-0.	17.00
-0.61324E 01	0.24047E 01	-0.68224F 01	0.45982E 01	-0.	-0.	18.00
-0.51799E 01	0.40225E 01	-0.59449F 01	0.75800F 01	-0.	-0.	19.00
-0.33513E 01	0.	-0.30854E 01	0.	-0.	-0.	20.00

# Contrails

**Table XV - - - Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 20 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 40.06      SEGMENT NUMBER 107

INCREMENTAL SHEAR STRESS				INCREMENTAL AXIAL STRESS		FREQUENCY CPS
REAL	IMAGINARY			REAL	IMAGINARY	
-0.94901E-01	0.71707E 02	0.	0.	0.10671E 01	-0.23836E 03	0.10
0.49004E 02	0.61323E 02	0.	0.	-0.15429E 03	-0.20674E 03	0.30
0.88023E 02	0.18141E 02	0.	0.	-0.28956E 03	-0.62655E 02	0.36
0.11137E 03	-0.92001E 01	0.	-0.	-0.37259E 03	0.31270E 02	0.44
0.10714E 03	-0.32463E 02	0.	0.	-0.36123E 03	0.11395E 03	0.50
0.93501E 02	-0.44728E 02	0.	-0.	-0.31726E 03	0.15958E 03	0.60
0.83569E 02	-0.54230E 02	0.	-0.	-0.28381E 03	0.19582E 03	0.70
0.77320E 02	-0.64027E 02	0.	-0.	-0.26151E 03	0.23302E 03	0.80
0.73623E 02	-0.76292E 02	0.	-0.	-0.24658E 03	0.27849E 03	0.90
0.71693E 02	-0.11851E 03	0.	-0.	-0.23593E 03	0.42658E 03	1.00
0.70455E 02	-0.19038E 03	0.	-0.	-0.21504E 03	0.62204E 03	1.20
0.59906E 02	-0.24886E 03	0.	-0.	-0.15210E 03	0.84379E 03	1.34
0.36214E 02	-0.31807E 03	0.	-0.	-0.52991E 02	0.10462E 04	1.40
-0.18887E 02	-0.35531E 03	-0.	-0.	0.15029E 03	0.11992E 04	1.45
-0.73177E 02	-0.38142E 03	-0.	-0.	0.33811E 03	0.11992E 04	1.47
-0.15588E 03	-0.30200E 03	-0.	-0.	0.61205E 03	0.86337E 04	1.50
-0.37096E 03	-0.47942E 02	-0.	-0.	0.12951E 04	0.37407E 02	1.55
-0.43737E 03	0.96081E 02	-0.	0.	0.13797E 04	-0.34892E 03	1.60
-0.32287E 03	0.12073E 03	-0.	0.	0.96047E 03	-0.34892E 03	1.65
-0.11349E 03	0.10294E 03	-0.	0.	0.29126E 03	-0.26015E 03	1.80
-0.68088E 02	0.90529E 02	-0.	0.	0.16038E 03	-0.19566E 03	1.90
-0.43529E 02	0.83204E 02	-0.	0.	0.96435E 02	-0.14337E 03	2.00
-0.28166E 02	0.79240E 02	-0.	0.	0.63761E 02	-0.99383E 02	2.10
-0.16717E 02	0.79222E 02	-0.	0.	0.50131E 02	-0.70080E 02	2.20
-0.10193E 02	0.85323E 02	0.	0.	0.71296E 02	-0.74324E 02	2.30
-0.31319E 01	0.88129E 02	0.	0.	0.65302E 02	-0.57263E 02	2.40
0.75040E 01	0.88461E 02	0.	0.	0.66227E 02	-0.49774E 02	2.45
0.14571E 02	0.87990E 02	0.	0.	0.77326E 02	-0.49197E 02	2.46
0.17698E 02	0.84172E 02	0.	0.	0.84017E 02	-0.60791E 02	2.47
0.24526E 02	0.80294E 02	0.	0.	0.10044E 03	-0.82285E 02	2.48
0.25736E 02	0.84412E 02	0.	0.	0.95439E 02	-0.81156E 02	2.49
0.26702E 02	0.92077E 02	0.	0.	0.72617E 02	-0.63706E 02	2.50
0.34918E 02	0.10295E 03	0.	0.	0.68018E 02	-0.39377E 02	2.51
0.50066E 02	0.10103E 03	0.	0.	0.93276E 02	-0.38887E 02	2.52
0.10464E 03	-0.17763E 02	0.	-0.	0.13587E 03	-0.18248E 03	2.53
0.17355E 03	-0.29493E 02	0.	-0.	0.19861E 03	-0.18376E 03	2.54
0.67375E 01	0.66228E 01	0.	-0.	-0.19285E 02	-0.15765E 03	2.55
0.47166E 01	0.60020E 02	-0.	0.	-0.32166E 02	-0.15529E 03	2.56
0.19904E 02	0.63533E 02	0.	0.	-0.43585E 02	-0.16442E 03	2.57
0.42423E 02	0.77773E 02	0.	0.	-0.60805E 02	-0.17167E 03	2.58
0.64690E 02	0.91010E 02	0.	0.	-0.79695E 02	-0.17083E 03	2.59
0.13596E 03	0.28895E 02	0.	0.	-0.14326E 03	-0.90406E 02	2.60
0.23356E 03	-0.18150E 03	0.	-0.	-0.21833E 03	0.24021E 02	2.61
0.14525E 03	-0.21045E 03	0.	-0.	-0.33216E 02	-0.30722E 02	2.62
0.10007E 03	-0.22572E 03	0.	-0.	-0.10629E 02	-0.74879E 02	2.63
0.35625E 02	-0.14012E 03	0.	-0.	-0.37183E 02	-0.36943E 02	2.64
-0.65334E 02	-0.69218E 02	-0.	-0.	-0.99948E 02	0.22061E 01	2.65
-0.61337E 02	-0.43954E 02	-0.	-0.	-0.74995E 02	0.10592E 02	2.66
-0.52110E 02	-0.28084E 02	-0.	-0.	-0.55362E 02	0.14469E 02	2.67
-0.45395E 02	-0.14977E 02	-0.	-0.	-0.40148E 02	0.17677E 02	2.68
-0.40652E 02	-0.84863E 01	-0.	-0.	-0.24118E 02	0.18131E 02	2.69
-0.40055E 02	-0.47336E 01	-0.	-0.	-0.12493E 02	0.16211E 02	2.70
-0.40855E 02	0.73882E 01	-0.	0.	-0.46591E 01	-0.21699E 01	2.71
-0.41978E 02	0.12512E 02	-0.	0.	0.91316E 01	-0.12607E 02	2.72
-0.39523E 02	0.14125E 02	-0.	0.	0.70757E 01	-0.15706E 02	2.73
-0.22051E 02	0.82327E 01	-0.	0.	-0.26079E 02	0.26461E 01	2.74
-0.19256E 02	0.73037E 01	-0.	0.	-0.28414E 02	0.11057E 02	2.75
-0.18951E 02	0.81940E 01	-0.	0.	-0.21823E 02	0.13962E 02	2.76
-0.17951E 02	0.89575E 01	-0.	0.	-0.15898E 02	0.14526E 02	2.77
-0.16827E 02	0.91672E 01	-0.	0.	-0.12130E 02	0.13315E 02	2.78
-0.15289E 02	0.89598E 01	-0.	0.	-0.83649E 01	0.12703E 02	2.79
-0.15069E 02	0.87355E 01	-0.	-0.	-0.79067E 01	0.11940E 02	2.80
-0.14960E 02	0.84372E 01	-0.	-0.	-0.76866E 01	0.11140E 02	2.81
-0.15048E 02	0.96028E 01	-0.	-0.	-0.78528E 01	0.12310E 02	2.82
-0.16486E 02	0.12237E 02	-0.	-0.	-0.10155E 02	0.14493E 02	2.83
-0.14573E 02	0.13445E 02	-0.	0.	-0.64786E 01	0.14009E 02	2.84
-0.12478E 02	0.14763E 02	-0.	0.	-0.34227E 01	0.11880E 02	2.85
-0.85537E 01	0.15110E 02	-0.	0.	0.51474E 00	0.96840E 01	2.86
-0.50057E 01	0.14330E 02	-0.	0.	0.27632E 01	0.57489E 01	2.87
0.97795E 00	0.11684E 02	-0.	0.	0.54743E 01	0.13748E 01	2.88
0.60965E 01	0.66956E 01	0.	0.	0.58425E 01	-0.16812E 01	2.89
0.95328E 01	0.13647E 01	0.	0.	0.35968E 01	-0.28213E 01	2.90
0.10665E 02	-0.33034E 01	0.	-0.	0.96358E 00	-0.19117E 01	2.91
0.91100E 01	-0.66079E 01	0.	-0.	-0.15639E 01	0.17937E-00	2.92
0.61157E 01	-0.78380E 01	0.	-0.	-0.25899E 01	0.24386E 01	2.93
0.22178E 01	-0.73866E 01	0.	-0.	-0.20532E 01	0.38775E 01	2.94
-0.14059E 01	-0.54432E 01	-0.	-0.	-0.10034E-00	0.38055E 01	2.95
-0.40910E 01	-0.28838E 01	-0.	-0.	0.25576E 01	0.21386E 01	2.96
-0.56078E 01	-0.17401E-00	-0.	-0.	0.47475E 01	-0.74110E 00	2.97
-0.57021E 01	0.20822E 01	-0.	0.	0.58293E 01	-0.39289E 01	2.98
-0.48797E 01	0.35629E 01	-0.	0.	0.50812E 01	-0.64766E 01	2.99
-0.32850E 01	0.	-0.	0.	0.26362E 01	0.	30.00

# Contrails

**Table XV -- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 20 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 540      SEGMENT NUMBER 17

INCREMENTAL GEAR STRESS						FREQUENCY
REAL	IMAGINARY					CPS
-0.41556E-01	-0.11891E 01	0.	-0.	0.	-0.	0.10
-0.12179E 01	-0.77898E 00	0.	-0.	0.	-0.	0.30
-0.18598E 01	0.91125E-01	0.	-0.	0.	-0.	0.50
-0.19904E 01	0.50408E 00	-0.	-0.	-0.	-0.	0.70
-0.17376E 01	0.74625E 00	-0.	-0.	-0.	-0.	0.90
-0.13531E 01	0.80593E 00	-0.	-0.	-0.	-0.	1.10
-0.11179E 01	0.82421E 00	-0.	-0.	-0.	-0.	1.30
-0.98007E 00	0.84129E 00	-0.	-0.	-0.	-0.	1.50
-0.90381E 00	0.87597E 00	-0.	-0.	-0.	-0.	1.70
-0.87077E 00	0.87553E 01	-0.	-0.	-0.	-0.	1.90
-0.90624E 00	0.15150E 01	-0.	-0.	-0.	-0.	2.10
-0.56810E 00	0.19134E 01	0.	-0.	-0.	-0.	2.30
-0.92368E 00	0.24331E 01	0.	-0.	-0.	-0.	2.50
-0.69876E 00	0.27579E 01	-0.	-0.	-0.	-0.	2.70
-0.42273E-00	0.30482E 01	-0.	-0.	-0.	-0.	2.90
0.49574E-01	0.29039E 01	-0.	-0.	-0.	-0.	3.10
0.15715E 01	0.33965E 01	-0.	-0.	-0.	-0.	3.30
0.23187E 01	0.31154E-00	-0.	-0.	-0.	-0.	3.50
0.18053E 01	-0.14333E-00	-0.	-0.	-0.	-0.	3.70
0.45002E-00	-0.65060E-01	-0.	0.	-0.	0.	3.90
0.75352E-01	0.30583E-01	-0.	0.	-0.	0.	4.10
-0.17078E-00	0.13103E-00	-0.	0.	-0.	0.	4.30
-0.36177E-00	0.25075E-00	-0.	-0.	-0.	-0.	4.50
-0.53919E 00	0.45146E-00	0.	-0.	-0.	-0.	4.70
-0.70218E 00	0.56544E 00	0.	-0.	-0.	-0.	4.90
-0.73011E 00	0.70344E 00	0.	-0.	-0.	-0.	5.10
-0.73506E 00	0.79091E 00	0.	-0.	-0.	-0.	5.30
-0.66940E 00	0.81303E 00	0.	-0.	-0.	-0.	5.50
-0.61489E 00	0.73339E 00	0.	-0.	-0.	-0.	5.70
-0.42446E-00	0.42470E-00	0.	-0.	-0.	-0.	5.90
-0.41417E-00	0.20201E-00	0.	-0.	-0.	-0.	6.10
-0.78708E 00	0.23893E-00	0.	-0.	-0.	-0.	6.30
-0.11547E 01	0.45288E-00	0.	-0.	-0.	-0.	6.50
-0.17489E 01	0.77002E 00	0.	-0.	-0.	-0.	6.70
-0.23210E 01	0.28963E 01	0.	-0.	-0.	-0.	6.90
-0.31240E 01	0.46034E 01	0.	-0.	-0.	-0.	7.10
-0.87678E 00	0.57242E 01	0.	-0.	-0.	-0.	7.30
-0.43960E-00	0.79344E 01	0.	-0.	-0.	-0.	7.50
0.77891E 00	0.10005E 02	-0.	-0.	-0.	-0.	7.70
0.27924E 01	0.11310E 02	-0.	-0.	-0.	-0.	7.90
0.49545E 01	0.12024E 02	-0.	-0.	-0.	-0.	8.10
0.12118E 02	0.39513E 01	-0.	-0.	-0.	-0.	8.30
0.20749E 02	-0.91543E 01	-0.	0.	-0.	0.	8.50
0.21839E 01	-0.42554E 01	-0.	0.	-0.	0.	8.70
-0.55691E 00	-0.18374E-00	0.	-0.	-0.	-0.	8.90
0.95789E 00	-0.18467E 01	-0.	0.	-0.	0.	9.10
0.52653E 01	-0.36728E 01	-0.	0.	-0.	0.	9.30
0.31931E 01	-0.34853E 01	-0.	0.	-0.	0.	9.50
0.17466E 01	-0.25987E 01	-0.	0.	-0.	0.	9.70
0.77809E 00	-0.24141E 01	-0.	0.	-0.	0.	9.90
0.7289E-01	-0.21506E 01	-0.	0.	-0.	0.	10.10
-0.13809E-00	-0.20910E 01	-0.	0.	-0.	0.	10.30
-0.16757E-00	-0.23517E 01	-0.	0.	-0.	0.	10.50
-0.19904E-00	-0.25313E 01	-0.	0.	-0.	0.	10.70
-0.34072E-00	-0.23803E 01	-0.	0.	-0.	0.	10.90
-0.13132E 01	-0.18525E 01	0.	0.	-0.	0.	11.10
-0.15916E 01	-0.15331E 01	0.	0.	-0.	0.	11.30
-0.18658E 01	-0.12681E 01	0.	0.	-0.	0.	11.50
-0.24453E 01	-0.87254E 00	0.	0.	-0.	0.	11.70
-0.33136E 01	0.10737E 01	0.	-0.	-0.	-0.	11.90
-0.51447E 01	0.19715E 01	0.	-0.	-0.	-0.	12.10
-0.54273E 01	0.31694E 01	0.	-0.	-0.	-0.	12.30
-0.54653E 01	0.45877E 01	0.	-0.	-0.	-0.	12.50
-0.50013E 01	0.49601E 01	0.	-0.	-0.	-0.	12.70
0.14277E 01	0.91832E 00	-0.	-0.	-0.	-0.	12.90
0.15643E 01	0.14376E-00	-0.	-0.	-0.	-0.	13.10
0.84113E 00	-0.12448E-00	-0.	-0.	-0.	-0.	13.30
0.25744E-00	-0.12172E-00	-0.	-0.	-0.	-0.	13.50
0.61850E-01	-0.54738E-01	-0.	-0.	-0.	-0.	13.70
-0.71216E-01	-0.37764E-01	-0.	-0.	-0.	-0.	13.90
0.12324E-03	-0.62769E-01	-0.	-0.	-0.	-0.	14.10
0.17713E-01	-0.96605E-01	-0.	-0.	-0.	-0.	14.30
0.29369E-02	-0.10807E-00	-0.	0.	-0.	0.	14.50
-0.39261E-01	-0.85250E-01	-0.	0.	-0.	0.	14.70
-0.74680E-01	-0.48494E-01	-0.	-0.	-0.	-0.	14.90
-0.88888E-01	-0.17083E-01	-0.	-0.	-0.	-0.	15.10
-0.75923E-01	-0.72081E-02	-0.	-0.	-0.	-0.	15.30
-0.50305E-01	-0.19938E-01	-0.	0.	-0.	0.	15.50
-0.34450E-01	-0.43249E-01	-0.	0.	-0.	0.	15.70
-0.38823E-01	-0.54482E-01	-0.	0.	-0.	0.	15.90
-0.87129E-01	-0.41010E-01	-0.	0.	-0.	0.	16.10
-0.10530E-00	0.	-0.	0.	-0.	0.	16.30

# Contrails

**Table XV --- Concluded**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 20 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 820      SEGMENT NUMBER 1

		INCREMENTAL AXIAL STRESS				FREQUENCY
		REAL	IMAGINARY			CPS
0.	0.	0.14028E 01	0.11502E 03	0.	3.	0.10
0.	0.	0.91791E 02	0.90364E 02	0.	0.	0.30
0.	0.	0.15584E 03	0.15400E 02	0.	0.	0.36
0.	-0.	0.18558E 03	-0.27779E 02	0.	-0.	0.44
0.	-0.	0.17321E 03	-0.61520E 02	0.	-0.	0.90
0.	-0.	0.14671E 03	-0.77793E 02	0.	-0.	0.60
0.	-0.	0.12895E 03	-0.90059E 02	0.	-0.	0.70
0.	-0.	0.11819E 03	-0.10295E 03	0.	-0.	0.80
0.	-0.	0.11194E 03	-0.11949E 03	0.	-0.	0.90
0.	-0.	0.10861E 03	-0.17704E 03	0.	-0.	1.00
0.	-0.	0.10547E 03	-0.27270E 03	0.	-0.	1.20
0.	-0.	0.88204E 02	-0.34835E 03	0.	-0.	1.34
0.	-0.	0.53972E 02	-0.43528E 03	0.	-0.	1.40
-0.	-0.	-0.21786E 02	-0.48013E 03	-0.	-0.	1.45
-0.	-0.	-0.94391E 02	-0.50846E 03	-0.	-0.	1.47
-0.	-0.	-0.20281E 03	-0.39070E 03	-0.	-0.	1.50
-0.	-0.	-0.48505E 03	-0.60810E 02	-0.	-0.	1.55
-0.	0.	-0.53849E 03	0.11326E 03	-0.	0.	1.60
-0.	0.	-0.37861E 03	0.11788E 03	-0.	0.	1.65
-0.	0.	-0.10442E 03	0.82115E 02	-0.	0.	1.80
-0.	0.	-0.46515E 02	0.52419E 02	-0.	0.	1.90
-0.	0.	-0.15921E 02	0.26898E 02	-0.	0.	2.00
0.	0.	0.16612E 01	0.86538E 00	0.	0.	2.10
0.	-0.	0.11133E 02	-0.25298E 02	0.	-0.	2.20
0.	-0.	0.41083E 01	-0.33168E 02	0.	-0.	2.30
0.	-0.	0.33619E 01	-0.51983E 02	0.	-0.	2.35
-0.	-0.	-0.54249E 01	-0.61054E 02	-0.	-0.	2.40
-0.	-0.	-0.21615E 02	-0.62007E 02	-0.	-0.	2.45
-0.	-0.	-0.31440E 02	-0.46208E 02	-0.	-0.	2.44
-0.	-0.	-0.58857E 02	-0.98328E 01	-0.	-0.	2.47
-0.	-0.	-0.57863E 02	-0.25182E 01	-0.	-0.	2.50
-0.	-0.	-0.22123E 02	-0.13984E 02	-0.	-0.	2.54
-0.	-0.	-0.28605E 01	-0.47191E 02	-0.	-0.	2.58
-0.	-0.	-0.47438E 01	-0.63847E 02	-0.	-0.	2.65
-0.	-0.	-0.27224E 02	-0.47928E 01	-0.	-0.	2.70
-0.	-0.	-0.80642E 02	-0.46099E 02	-0.	-0.	2.80
0.	-0.	0.59613E 02	-0.12611E 03	0.	-0.	3.00
0.	-0.	0.60151E 02	-0.23512E 03	0.	-0.	3.10
0.	-0.	0.19306E 02	-0.32541E 03	0.	-0.	3.20
-0.	-0.	-0.56971E 02	-0.38009E 03	-0.	-0.	3.26
-0.	-0.	-0.14021E 03	-0.41035E 03	-0.	-0.	3.29
-0.	-0.	-0.41580E 03	-0.95408E 02	-0.	-0.	3.35
-0.	0.	-0.73783E 03	0.34171E 03	-0.	0.	3.40
0.	0.	0.18019E 02	0.11410E 03	0.	0.	3.52
0.	-0.	0.10462E 03	-0.63286E 02	0.	-0.	3.56
0.	0.	0.13287E 01	0.58239E 02	0.	0.	3.60
-0.	0.	-0.22218E 03	0.15885E 03	-0.	0.	3.70
-0.	0.	-0.12256E 03	0.15279E 03	-0.	0.	3.85
-0.	0.	-0.54874E 02	0.13011E 03	-0.	0.	4.00
-0.	0.	-0.10158E 02	0.10090E 03	-0.	0.	4.20
0.	0.	0.24833E 02	0.84378E 02	0.	0.	4.30
0.	0.	0.42422E 02	0.74936E 02	0.	0.	4.70
0.	0.	0.52274E 02	0.44714E 02	0.	0.	4.80
0.	0.	0.67968E 02	0.31256E 02	0.	0.	4.96
0.	0.	0.65645E 02	0.21698E 02	0.	0.	5.00
0.	0.	0.31126E 02	0.34112E 02	0.	0.	5.15
0.	0.	0.30471E 02	0.34785E 02	0.	0.	5.30
0.	0.	0.40272E 02	0.29496E 02	0.	0.	5.70
0.	0.	0.53146E 02	0.21124E 02	0.	0.	5.70
0.	-0.	0.68493E 02	-0.12977E 02	0.	-0.	5.85
0.	-0.	0.98498E 02	-0.27972E 02	0.	-0.	6.00
0.	-0.	0.10297E 03	-0.47786E 02	0.	-0.	6.05
0.	-0.	0.10341E 03	-0.71080E 02	0.	-0.	6.06
0.	-0.	0.95663E 02	-0.77724E 02	0.	-0.	6.08
-0.	-0.	-0.86335E 01	-0.14992E 02	-0.	-0.	6.20
-0.	-0.	-0.10725E 02	-0.51051E 01	-0.	-0.	6.40
0.	-0.	0.12145E-01	-0.47990E 01	0.	-0.	6.60
0.	-0.	0.63163E 01	-0.72223E 01	0.	-0.	7.00
0.	-0.	0.58231E 01	-0.96245E 01	0.	-0.	7.40
-0.	-0.	-0.45788E-00	-0.85328E 01	-0.	-0.	8.20
-0.	-0.	-0.50716E 01	-0.43969E 01	-0.	-0.	9.00
-0.	-0.	-0.89844E 01	-0.12324E-00	-0.	-0.	10.00
-0.	0.	-0.94285E 01	0.26358E 01	-0.	0.	11.00
-0.	0.	-0.78866E 01	0.36723E 01	-0.	0.	12.00
-0.	0.	-0.57688E 01	0.34388E 01	-0.	0.	13.00
-0.	0.	-0.41276E 01	0.27960E 01	-0.	0.	14.00
-0.	0.	-0.32340E 01	0.21957E 01	-0.	0.	15.00
-0.	0.	-0.28365E 01	0.17949E 01	-0.	0.	16.00
-0.	0.	-0.25374E 01	0.13024E 01	-0.	0.	17.00
-0.	0.	-0.21031E 01	0.35563E-00	-0.	0.	18.00
-0.	-0.	-0.17228E 01	-0.10769E 01	-0.	-0.	19.00
-0.	0.	-0.18833E 01	0.	-0.	0.	20.00

**Table XVI Stress Frequency Response Functions (Analysis Condition 2)**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27    SEGMENT NUMBER 10

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY
REAL	IMAGINARY	REAL	IMAGINARY			CPS
1.30497E-00	0.33527E 02	0.61051E 00	0.29829E 03	0.	-0.	0.10
0.33941E 02	0.21879E 02	0.28946E 03	0.19822E 03	-0.	-0.	0.20
0.49582E 02	0.23587E 01	0.42891E 03	0.25825E 02	-0.	-0.	0.30
0.53714E 02	-0.78171E 01	0.46704E 03	-0.65016E 02	-0.	0.	0.40
0.50625E 02	-0.16911E 02	0.43899E 03	-0.14578E 03	-0.	0.	0.50
0.45020E 02	-0.22383E 02	0.38534E 03	-0.14233E 03	-0.	0.	0.60
0.41157E 02	-0.26967E 02	0.34486E 03	-0.22829E 03	-0.	0.	0.70
0.38690E 02	-0.31709E 02	0.31485E 03	-0.26202E 03	-0.	0.	0.80
0.37171E 02	-0.37361E 02	0.29137E 03	-0.29845E 03	-0.	0.	0.90
0.36289E 02	-0.53894E 02	0.27132E 03	-0.39104E 03	-0.	0.	1.00
0.35553E 02	-0.74851E 02	0.23433E 03	-0.49384E 03	0.	-0.	1.20
0.34211E 02	-0.88353E 02	0.19840E 03	-0.55562E 03	0.	-0.	1.40
0.32314E 02	-0.10306E 03	0.17419E 03	-0.62029E 03	0.	-0.	1.60
0.29138E 02	-0.11197E 03	0.14477E 03	-0.65845E 03	0.	-0.	1.80
0.26602E 02	-0.12219E 03	0.12495E 03	-0.70130E 03	0.	-0.	2.00
0.23094E 02	-0.14740E 03	0.10012E 03	-0.80339E 03	0.	-0.	2.20
0.11384E 02	-0.18019E 03	0.27434E 02	-0.92844E 03	0.	-0.	2.40
-0.11964E 02	-0.21854E 03	-0.99115E 02	-0.10589E 04	-0.	-0.	2.60
-0.59543E 02	-0.33325E 02	-0.33015E 03	-0.11039E 03	-0.	-0.	2.80
-0.33927E 03	0.13073E 03	-0.13719E 04	0.45037E 03	-0.	0.	3.00
-0.20047E 03	0.13384E 03	-0.69391E 03	0.37378E 03	-0.	0.	3.20
-0.10278E 03	0.11989E 03	-0.30630E 03	0.26271E 03	-0.	0.	3.40
-0.57829E 02	0.10925E 03	-0.15257E 03	0.17426E 03	-0.	0.	3.60
-0.32122E 02	0.99165E 02	-0.84126E 02	0.10437E 03	-0.	0.	3.80
-0.10603E 02	0.90912E 02	-0.64087E 02	0.81173E 02	-0.	0.	4.00
-0.68524E 01	0.88016E 02	-0.58829E 02	0.50042E 02	0.	0.	4.20
-0.45882E 01	0.86493E 02	-0.61991E 02	0.33574E 02	0.	0.	4.40
-0.34858E 01	0.85915E 02	-0.74949E 02	0.28717E 02	0.	0.	4.60
-0.33533E 01	0.85483E 02	-0.83481E 02	0.29685E 02	0.	0.	4.80
-0.42973E 01	0.88673E 02	-0.11255E 03	0.59435E 02	0.	0.	5.00
-0.56245E 01	0.95866E 02	-0.13199E 03	0.97708E 02	0.	0.	5.20
-0.16194E 01	0.99622E 02	-0.10600E 03	0.95698E 02	0.	0.	5.40
0.59595E 01	0.10232E 03	-0.70676E 02	0.67747E 02	0.	0.	5.60
0.17910E 02	0.10426E 03	-0.43793E 02	0.48897E 02	0.	0.	5.80
0.26114E 02	0.10972E 03	-0.38264E 02	0.20273E 02	0.	0.	6.00
0.43608E 02	0.12833E 03	-0.40236E 02	-0.18527E 02	0.	0.	6.20
0.10282E 03	0.13734E 03	-0.71105E 02	-0.29113E 02	0.	0.	6.40
0.16452E 03	0.11662E 03	-0.10347E 03	-0.19437E 02	0.	0.	6.60
0.28827E 03	0.22209E 02	-0.16171E 03	0.27594E 02	0.	0.	6.80
0.40981E 03	-0.10634E 03	-0.21267E 03	0.88335E 02	0.	-0.	7.00
0.45925E 03	-0.36059E 03	-0.22810E 03	0.19966E 03	0.	-0.	7.20
0.30453E -03	-0.30536E 03	-0.13726E 03	0.15690E 03	0.	-0.	7.40
0.99056E 02	-0.31219E 03	-0.19872E 02	0.27808E 02	0.	-0.	7.60
0.32591E 02	-0.29060E 03	-0.29131E 02	0.15402E 02	0.	-0.	7.80
-0.43659E 02	-0.24686E 03	-0.45690E 02	0.70146E 01	-0.	-0.	8.00
-0.89493E 02	-0.15219E 03	-0.61286E 02	-0.18427E 01	-0.	-0.	8.20
-0.12734E 03	-0.69159E 02	-0.10414E 03	0.22626E 02	-0.	-0.	8.40
-0.13189E 03	0.70290E 00	-0.18341E 03	0.14940E 03	-0.	-0.	8.60
-0.12048E 03	0.53387E 02	-0.27380E 03	0.44482E 03	-0.	-0.	8.80
-0.31757E 02	-0.82668E 01	-0.49196E 02	0.15792E 03	-0.	-0.	9.00
-0.52292E 01	-0.12621E 02	0.20854E 03	0.63275E 02	-0.	-0.	9.20
-0.15472E 02	-0.11747E 02	0.17910E 03	0.36785E 02	-0.	-0.	9.40
-0.18705E 02	-0.90481E 01	0.16398E 03	0.72192E 01	-0.	-0.	9.60
-0.22215E 02	-0.82109E 01	0.14342E 03	0.11251E 01	-0.	-0.	9.80
-0.22900E 02	-0.50006E 01	0.13877E 03	-0.17251E 02	-0.	-0.	10.00
-0.24849E 02	-0.11934E 01	0.12434E 03	-0.33629E 02	-0.	0.	10.20
-0.26447E 02	0.51097E 01	0.11177E 03	-0.54695E 02	-0.	0.	10.40
-0.28358E 02	0.16764E 02	0.97817E 02	-0.84255E 02	-0.	0.	10.60
-0.29672E 02	0.34278E 02	0.81437E 02	-0.11751E 03	-0.	0.	10.80
-0.22481E 02	0.31057E 02	0.50620E 02	-0.99944E 02	-0.	0.	11.00
0.14808E 02	0.24143E 02	-0.23361E 02	-0.88007E 02	0.	0.	11.20
0.17610E 02	0.17632E 02	-0.26633E 02	-0.78143E 02	0.	0.	11.40
0.14055E 02	0.12222E 02	-0.26155E 02	-0.71159E 02	0.	0.	11.60
0.16903E 02	0.84016E 00	-0.23663E 02	-0.86046E 02	0.	0.	11.80
0.69738E 01	-0.31186E-00	-0.14597E 02	-0.79876E 02	0.	0.	12.00
-0.31961E 01	0.33698E 01	-0.47786E 02	-0.22148E 01	0.	-0.	12.20
-0.62819E 01	0.50833E 01	-0.10377E 03	0.32176E 02	0.	-0.	12.40
-0.54820E 01	0.63166E 01	-0.32547E 01	0.11866E 02	-0.	-0.	12.60
-0.44608E 01	0.77709E 01	0.96861E 01	-0.10689E 01	-0.	-0.	12.80
-0.20678E 01	0.74488E 01	0.82708E 01	-0.39169E 01	-0.	-0.	13.00
0.98984E 00	0.56939E 01	0.48337E 01	-0.37888E 01	-0.	0.	13.20
0.38771E 01	0.	0.16689E 01	0.	0.	0.	13.40

# Contrails

Table XVI --- Continued

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMISPAN: 27    SEGMENT NUMBER 14

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY			
0.59626E 00	0.10581E 03	0.55402E 00	0.27069E 03	0.	-0.	0.10
0.10498E 03	0.69568E 02	0.26267E 03	0.17988E 03	-0.	-0.	0.30
0.15407E 03	0.83658E 01	0.36922E 03	0.23436E 02	-0.	-0.	0.56
0.16683E 03	-0.23503E 02	0.42382E 03	-0.59000E 02	-0.	0.	0.84
0.15663E 03	-0.51574E 02	0.39837E 03	-0.13229E 03	-0.	0.	0.90
0.13779E 03	-0.67734E 02	0.34969E 03	-0.17454E 03	-0.	0.	0.60
0.12407E 03	-0.80421E 02	0.31295E 03	-0.20717E 03	-0.	0.	0.70
0.11438E 03	-0.92686E 02	0.28572E 03	-0.23778E 03	-0.	0.	0.80
0.10732E 03	-0.10643E 03	0.26442E 03	-0.27084E 03	-0.	0.	0.90
0.10182E 03	-0.14358E 03	0.24621E 03	-0.35486E 03	-0.	0.	1.00
0.93019E 02	-0.18758E 03	0.21265E 03	-0.44814E 03	0.	-0.	1.20
0.84261E 02	-0.21501E 03	0.18005E 03	-0.50421E 03	0.	-0.	1.34
0.77194E 02	-0.24434E 03	0.15807E 03	-0.56290E 03	0.	-0.	1.60
0.68136E 02	-0.26193E 03	0.13138E 03	-0.59753E 03	0.	-0.	1.45
0.61470E 02	-0.28189E 03	0.11339E 03	-0.63641E 03	0.	-0.	1.47
0.52754E 02	-0.33046E 03	0.90856E 02	-0.72905E 03	0.	-0.	1.90
0.25631E 02	-0.39220E 03	0.24895E 02	-0.84254E 03	0.	-0.	1.55
-0.24958E 02	-0.46140E 03	-0.89944E 02	-0.96095E 03	-0.	-0.	1.60
-0.12306E 03	-0.73232E 02	-0.29960E 03	-0.10017E 03	-0.	-0.	1.65
-0.64338E 03	0.22167E 03	-0.12450E 04	0.40870E 03	-0.	-0.	1.80
-0.35781E 01	0.21078E 03	-0.62971E 03	0.33919E 03	-0.	0.	1.90
-0.17283E 03	0.17296E 03	-0.27796E 03	0.23840E 03	-0.	0.	2.00
-0.92518E 02	0.14231E 03	-0.13844E 03	0.15814E 03	-0.	0.	2.10
-0.50845E 02	0.11571E 03	-0.76342E 02	0.94718E 02	-0.	0.	2.20
-0.26298E 02	0.10342E 03	-0.58158E 02	0.73663E 02	-0.	0.	2.30
-0.21444E 02	0.92711E 02	-0.53386E 02	0.45412E 02	-0.	0.	2.35
-0.19883E 02	0.86805E 02	-0.56256E 02	0.30468E 02	0.	0.	2.40
-0.22753E 02	0.84980E 02	-0.48801E 02	0.26060E 02	0.	0.	2.45
-0.25292E 02	0.85520E 02	-0.75757E 02	0.26939E 02	0.	0.	2.44
-0.35505E 02	0.98948E 02	-0.10214E 03	0.53934E 02	0.	0.	2.47
-0.43283E 02	0.11965E 03	-0.11978E 03	0.88668E 02	0.	0.	2.90
-0.31138E 02	0.12444E 03	-0.96196E 02	0.86844E 02	0.	0.	2.54
-0.11847E 02	0.12018E 03	-0.64137E 02	0.61479E 02	0.	0.	2.58
0.99998E 01	0.11727E 03	-0.39741E 02	0.44373E 02	0.	0.	2.65
0.21178E 02	0.11537E 03	-0.34723E 02	0.18397E 02	0.	0.	2.70
0.41073E 02	0.12324E 03	-0.36513E 02	-0.16813E 02	0.	0.	2.80
0.10184E 03	0.12693E 03	-0.64526E 02	-0.26419E 02	0.	0.	3.00
0.16531E 03	0.96851E 02	-0.93897E 02	-0.17838E 02	0.	0.	3.10
0.29467E 03	-0.12729E 02	-0.14674E 03	0.25005E 02	0.	0.	3.20
0.42226E 03	-0.15837E 03	-0.19299E 03	0.80162E 02	-0.	-0.	3.26
0.47180E 03	-0.44684E 03	-0.20707E 03	0.18119E 03	0.	-0.	3.29
0.28610E 03	-0.38600E 03	-0.12456E 03	0.14238E 03	0.	-0.	3.35
0.32686E 02	-0.31484E 03	-0.18034E 02	0.25235E 02	0.	-0.	3.40
-0.54252E 02	-0.28691E 03	-0.26436E 02	0.13977E 02	0.	-0.	3.52
-0.11759E 03	-0.24332E 03	-0.41463E 02	0.63656E 01	-0.	-0.	3.56
-0.15680E 03	-0.15054E 03	-0.55616E 02	-0.16722E 01	-0.	-0.	3.60
-0.19550E 03	-0.56974E 02	-0.94508E 02	0.20533E 02	-0.	-0.	3.70
-0.22090E 03	0.62721E 02	-0.16644E 03	0.13558E 03	-0.	-0.	3.85
-0.23899E 03	0.23035E 03	-0.24847E 03	0.40366E 03	-0.	-0.	4.00
-0.57753E 02	0.57654E 02	-0.44644E 02	0.14331E 03	-0.	-0.	4.20
0.73750E 02	0.15817E 02	0.18924E 03	0.57421E 02	-0.	-0.	4.50
0.55342E 02	0.57963E 01	0.16253E 03	0.33382E 02	-0.	-0.	4.70
0.47793E 02	-0.44066E 01	0.14881E 03	0.65513E 01	-0.	-0.	4.80
0.38669E 02	-0.64014E 01	0.13015E 03	0.10210E 01	-0.	-0.	4.96
0.36784E 02	-0.12347E 02	0.12593E 03	-0.15655E 02	-0.	-0.	5.00
0.31333E 02	-0.17848E 02	0.11284E 03	-0.30517E 02	-0.	-0.	5.15
0.27036E 02	-0.25741E 02	0.10143E 03	-0.49635E 02	-0.	0.	5.30
0.22487E 02	-0.38136E 02	0.88767E 02	-0.74459E 02	-0.	0.	5.40
0.16308E 02	-0.51976E 02	0.73902E 02	-0.10663E 03	-0.	0.	5.70
0.27420E 01	-0.42872E 02	0.45936E 02	-0.90697E 02	-0.	0.	5.80
-0.27111E 02	-0.38142E 02	-0.21200E 02	-0.79844E 02	0.	0.	5.85
-0.27831E 02	-0.34552E 02	-0.24169E 02	-0.70913E 02	0.	0.	6.00
-0.27106E 02	-0.32358E 02	-0.23735E 02	-0.66575E 02	0.	0.	6.03
-0.25730E 02	-0.34407E 02	-0.21474E 02	-0.59935E 02	0.	0.	6.06
-0.22951E 02	-0.43948E 02	-0.13246E 02	-0.72486E 02	0.	0.	6.08
-0.49719E 02	0.12067E 02	-0.43364E 02	-0.20098E 01	0.	-0.	6.20
-0.92591E 02	0.41122E 02	-0.94171E 02	0.29199E 02	0.	-0.	6.40
-0.13650E 02	0.25981E 02	-0.29536E 01	0.10768E 02	-0.	-0.	6.60
0.61439E 00	0.13923E 02	0.87899E 01	-0.87000E 00	-0.	0.	7.00
0.68715E 01	0.74401E 01	0.75055E 01	-0.35545E 01	-0.	0.	7.40
0.83872E 01	0.27062E 01	0.43845E 01	-0.84382E 01	-0.	0.	8.20
0.79027E 01	0.	0.15072E 01	0.	0.	0.	9.00
						10.00



**Table XVI --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 40.06    SEGMENT NUMBER 8

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY			
0.25514E-00	0.68828E 02	-0.24416E-01	0.27155E 03	0.	0.	0.10
0.67833E 02	0.45532E 02	0.26127E 03	0.18101E 03	0.	0.	0.30
0.99953E 02	0.58171E 01	0.38903E 03	0.23530E 02	0.	0.	0.36
0.10877E 03	-0.15047E 02	0.42488E 03	-0.60032E 02	0.	-0.	0.44
0.10256E 03	-0.33733E 02	0.39971E 03	-0.13492E 03	0.	-0.	0.50
0.90933E 02	-0.44860E 02	0.35073E 03	-0.17844E 03	0.	-0.	0.60
0.82594E 02	-0.53954E 02	0.31326E 03	-0.21214E 03	0.	-0.	0.70
0.76893E 02	-0.63073E 02	0.28500E 03	-0.24366E 03	0.	-0.	0.80
0.72918E 02	-0.73601E 02	0.26240E 03	-0.27747E 03	0.	-0.	0.90
0.69985E 02	-0.10300E 03	0.24258E 03	-0.36225E 03	0.	-0.	1.00
0.65407E 02	-0.13863E 03	0.20463E 03	-0.45503E 03	0.	-0.	1.20
0.59859E 02	-0.16104E 03	0.16740E 03	-0.51033E 03	0.	-0.	1.34
0.54861E 02	-0.18510E 03	0.14203E 03	-0.56791E 03	0.	-0.	1.40
0.47754E 02	-0.19955E 03	0.11356E 03	-0.60174E 03	0.	-0.	1.45
0.42508E 02	-0.21598E 03	0.94103E 02	-0.63960E 03	0.	-0.	1.47
0.35561E 02	-0.25600E 03	0.69973E 02	-0.72923E 03	0.	-0.	1.50
0.13627E 02	-0.30693E 03	0.39709E-00	-0.83756E 03	0.	-0.	1.55
-0.27747E 02	-0.36420E 03	-0.11847E 03	-0.94701E 03	-0.	-0.	1.60
-0.10854E 03	-0.41612E 02	-0.33154E 03	-0.57372E 02	-0.	-0.	1.65
-0.53774E 03	0.20257E 03	-0.12366E 04	0.42220E 03	-0.	0.	1.80
-0.29973E 03	0.19305E 03	-0.60791E 03	0.33870E 03	-0.	0.	1.90
-0.14539E 03	0.16062E 03	-0.26348E 03	0.23199E 03	-0.	0.	2.00
-0.78111E 02	0.13232E 03	-0.13106E 03	0.14652E 03	-0.	0.	2.10
-0.44430E 02	0.11204E 03	-0.76822E 02	0.07647E 02	-0.	0.	2.20
-0.39047E 02	0.11852E 03	-0.86203E 02	0.92763E 02	-0.	0.	2.30
-0.30166E 02	0.11201E 03	-0.75357E 02	0.69486E 02	-0.	0.	2.35
-0.18179E 02	0.10695E 03	-0.63436E 02	0.55440E 02	-0.	0.	2.40
-0.15431E 02	0.10509E 03	-0.67709E 02	0.50974E 02	-0.	0.	2.43
-0.15197E 02	0.10248E 03	-0.71829E 02	0.47999E 02	-0.	0.	2.44
-0.16899E 02	0.10560E 03	-0.87142E 02	0.62213E 02	0.	0.	2.47
-0.18688E 02	0.11238E 03	-0.96842E 02	0.79548E 02	0.	0.	2.50
-0.12328E 02	0.11298E 03	-0.80160E 02	0.73594E 02	0.	0.	2.54
-0.26409E 01	0.10892E 03	-0.59854E 02	0.51141E 02	0.	0.	2.58
0.92304E 01	0.10609E 03	-0.46753E 02	0.36934E 02	0.	0.	2.65
0.15461E 02	0.10258E 03	-0.46202E 02	0.16323E 02	0.	0.	2.70
0.25469E 02	0.10247E 03	-0.53964E 02	-0.49968E 01	0.	0.	2.80
0.45097E 02	0.10616E 03	-0.92988E 02	-0.22624E 01	0.	0.	2.80
0.56654E 02	0.11452E 03	-0.13006E 03	0.32477E 02	0.	0.	3.10
0.69941E 02	0.12727E 03	-0.19510E 03	0.11301E 03	0.	0.	3.20
0.78267E 02	0.14287E 03	-0.24786E 03	0.20577E 03	0.	0.	3.28
0.85546E 02	0.18599E 03	-0.25412E 03	0.36971E 03	0.	0.	3.29
0.13359E 03	0.18429E 03	-0.90160E 02	0.30493E 03	0.	0.	3.35
0.23602E 03	-0.88743E 02	0.12737E 03	-0.59766E 02	0.	-0.	3.40
0.26845E 03	-0.10154E 03	0.13236E 03	-0.85403E 02	0.	-0.	3.52
0.19899E 03	-0.87747E 02	0.54555E 02	-0.83552E 02	0.	-0.	3.56
0.16050E 03	-0.55533E 02	0.70814E 00	-0.59541E 02	0.	-0.	3.60
0.14089E 03	-0.61555E 02	-0.78477E 02	-0.86825E 01	0.	-0.	3.70
0.17677E 03	-0.15939E 03	-0.15973E 03	0.11728E 03	0.	-0.	3.85
0.27645E 03	-0.36710E 03	-0.22714E 03	0.34063E 03	0.	-0.	4.00
0.21434E 02	-0.12274E 03	-0.16088E 02	0.07302E 02	0.	-0.	4.20
-0.16377E 03	-0.51119E 02	0.14932E 03	0.22172E 02	-0.	-0.	4.30
-0.13721E 03	-0.31646E 02	0.10722E 03	0.72489E 01	-0.	-0.	4.70
-0.12490E 03	-0.10388E 02	0.88297E 02	-0.52309E 01	-0.	-0.	4.80
-0.10870E 03	-0.60998E 01	0.62397E 02	-0.68999E 01	-0.	-0.	4.96
-0.10511E 03	0.65244E 01	0.56401E 02	-0.89379E 01	-0.	-0.	5.00
-0.94080E 02	0.17218E 02	0.37199E 02	-0.54680E 01	-0.	0.	5.15
-0.84688E 02	0.29945E 02	0.19536E 02	0.86046E 01	-0.	0.	5.30
-0.74715E 02	0.46288E 02	-0.74234E 00	0.45012E 02	-0.	0.	5.50
-0.64591E 02	0.64364E 02	-0.15830E 02	0.10228E 03	-0.	0.	5.70
-0.48629E 02	0.58020E 02	0.41215E 01	0.08317E 02	-0.	0.	5.85
-0.94065E 01	0.52013E 02	0.11946E 03	0.66528E 02	-0.	0.	6.00
-0.70277E 01	0.46886E 02	0.12642E 03	0.46786E 02	-0.	0.	6.05
-0.67294E 01	0.43109E 02	0.12598E 03	0.31176E 02	-0.	0.	6.06
-0.75866E 01	0.39121E 02	0.12082E 03	0.63735E 01	-0.	0.	6.08
-0.11871E 02	0.44974E 02	0.89145E 02	0.21189E 02	-0.	0.	6.20
0.60630E 00	0.17556E 02	0.91883E 02	-0.44859E 02	0.	0.	6.40
0.27794E 02	0.68152E 01	0.14063E 03	-0.85430E 02	0.	0.	6.60
-0.99091E 01	0.14962E 02	0.23288E 02	-0.58602E 02	-0.	0.	7.00
-0.10278E 02	0.19010E 02	-0.66789E 01	-0.28218E 02	-0.	0.	7.40
-0.19616E 01	0.16923E 02	-0.23609E 02	-0.79153E 01	-0.	0.	8.20
0.60764E 01	0.10529E 02	-0.24915E 02	0.43087E 01	0.	0.	9.00
0.12184E 02	0.	-0.17164E 02	0.	0.	0.	10.00

# Contrails

Table XVI --- Continued

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 268,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 40.06      SEGMENT NUMBER 107

INCREMENTAL SHEAR STRESS				INCREMENTAL AXIAL STRESS		FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY	REAL	IMAGINARY	
0.29011E-00	0.67503E 02	0.	0.	0.20862E-01	-0.23202E 03	0.10
0.66654E 02	0.44623E 02	0.	0.	-0.22324E 03	-0.15466E 03	0.30
0.98047E 02	0.57601E 01	0.	0.	-0.33240E 03	-0.20105E 02	0.36
0.10655E 03	-0.14589E 02	0.	0.	-0.36303E 03	0.51294E 02	0.44
0.10040E 03	-0.32725E 02	0.	0.	-0.34153E 03	0.11528E 03	0.50
0.88949E 02	-0.43448E 02	0.	0.	-0.29968E 03	0.15246E 03	0.60
0.80764E 02	-0.52164E 02	0.	0.	-0.26766E 03	0.18126E 03	0.70
0.75186E 02	-0.60880E 02	0.	0.	-0.24352E 03	0.20819E 03	0.80
0.71317E 02	-0.70932E 02	0.	0.	-0.22421E 03	0.23707E 03	0.90
0.68493E 02	-0.99010E 02	0.	0.	-0.20727E 03	0.30952E 03	1.00
0.64211E 02	-0.13308E 03	0.	0.	-0.17484E 03	0.38879E 03	1.20
0.59115E 02	-0.15451E 03	0.	0.	-0.14303E 03	0.43604E 03	1.34
0.54482E 02	-0.17753E 03	0.	0.	-0.12204E 03	0.48524E 03	1.40
0.47851E 02	-0.19137E 03	0.	0.	-0.97027E 02	0.51415E 03	1.45
0.42936E 02	-0.20710E 03	0.	0.	-0.80404E 02	0.54449E 03	1.47
0.38411E 02	-0.24546E 03	0.	0.	-0.59787E 02	0.62307E 03	1.50
0.15733E 02	-0.29437E 03	0.	0.	-0.33928E-00	0.71564E 03	1.55
-0.23448E 02	-0.34957E 03	-0.	-0.	0.10123E 03	0.80915E 03	1.60
-0.10018E 03	-0.44532E 02	-0.	-0.	0.28328E 03	0.49020E 02	1.65
-0.51185E 03	0.18992E 03	-0.	0.	0.10566E 04	-0.36074E 03	1.80
-0.28621E 03	0.18164E 03	-0.	0.	0.51942E 03	-0.28939E 03	1.90
-0.13881E 03	0.19088E 03	-0.	0.	0.22512E 03	-0.19822E 03	2.00
-0.74382E 02	0.12375E 03	-0.	0.	0.11198E 03	-0.12519E 03	2.10
-0.42064E 02	0.10379E 03	-0.	0.	0.65639E 02	-0.74888E 02	2.20
-0.36745E 02	0.10928E 03	-0.	0.	0.73654E 02	-0.79259E 02	2.30
-0.28650E 02	0.10248E 03	-0.	0.	0.64387E 02	-0.59571E 02	2.35
-0.17993E 02	0.97350E 02	-0.	0.	0.54202E 02	-0.47369E 02	2.40
-0.16190E 02	0.95520E 02	-0.	0.	0.57853E 02	-0.43554E 02	2.43
-0.16441E 02	0.93500E 02	0.	0.	0.61373E 02	-0.41011E 02	2.44
-0.19613E 02	0.98321E 02	0.	0.	0.74457E 02	-0.53157E 02	2.47
-0.22416E 02	0.10723E 03	0.	0.	0.82744E 02	-0.67968E 02	2.50
-0.15236E 02	0.10825E 03	0.	0.	0.68491E 02	-0.62881E 02	2.54
-0.42879E 01	0.10375E 03	0.	0.	0.51141E 02	-0.43697E 02	2.58
0.84842E 01	0.10056E 03	0.	0.	0.39947E 02	-0.31558E 02	2.63
0.14866E 02	0.96393E 02	0.	0.	0.39476E 02	-0.1397E 02	2.70
0.24766E 02	0.94570E 02	0.	0.	0.46108E 02	0.42694E 01	2.80
0.43387E 02	0.96887E 02	0.	0.	0.79452E 02	0.19330E 01	3.00
0.53849E 02	0.10325E 03	0.	0.	0.11113E 03	-0.27749E 02	3.10
0.65015E 02	0.11449E 03	0.	0.	0.18670E 03	-0.96558E 02	3.20
0.70926E 02	0.12932E 03	0.	0.	0.21178E 03	-0.17582E 03	3.26
0.76192E 02	0.17171E 03	0.	0.	0.21713E 03	-0.31509E 03	3.29
0.11940E 03	0.17109E 03	0.	0.	0.77038E 02	-0.26054E 03	3.35
0.21455E 03	-0.74991E 02	0.	-0.	-0.10883E 03	0.51065E 02	3.40
0.24592E 03	-0.86632E 02	0.	-0.	-0.11309E 03	0.72971E 02	3.52
0.18470E 03	-0.74771E 02	0.	-0.	-0.46614E 02	0.71389E 02	3.56
0.15119E 03	-0.47735E 02	0.	-0.	-0.60508E 00	0.50874E 02	3.60
0.13566E 03	-0.57072E 02	0.	-0.	0.67053E 02	0.74186E 01	3.70
0.17041E 03	-0.15274E 03	0.	-0.	0.13648E 03	-0.10021E 03	3.85
0.21598E 03	-0.34761E 03	0.	-0.	0.19407E 03	-0.29105E 03	4.00
0.16883E 02	-0.11263E 03	0.	-0.	0.13748E 02	-0.74593E 02	4.20
-0.15412E 03	-0.45829E 02	-0.	-0.	-0.12759E 03	-0.18945E 02	4.50
-0.12704E 03	-0.28004E 02	-0.	-0.	-0.91615E 02	-0.61937E 01	4.70
-0.11472E 03	-0.89511E 01	-0.	-0.	-0.75443E 02	0.44694E 01	4.80
-0.98513E 02	-0.51949E 01	-0.	-0.	-0.53314E 02	0.58955E 01	4.86
-0.94905E 02	0.55711E 01	-0.	-0.	-0.48191E 02	0.76368E 01	5.00
-0.83796E 02	0.14166E 02	-0.	0.	-0.31784E 02	0.46721E 01	5.15
-0.74263E 02	0.23403E 02	-0.	0.	-0.18692E 02	-0.73520E 01	5.30
-0.64094E 02	0.33505E 02	-0.	0.	0.63428E 00	-0.38460E 02	5.50
-0.54495E 02	0.43256E 02	-0.	0.	0.13525E 02	-0.87395E 02	5.70
-0.43541E 02	0.40046E 02	-0.	0.	-0.35216E 01	-0.75461E 02	5.85
-0.21740E 02	0.37142E 02	-0.	0.	-0.10207E 03	-0.56844E 02	6.00
-0.20370E 02	0.34720E 02	-0.	0.	-0.10801E 03	-0.39976E 02	6.03
-0.19975E 02	0.32994E 02	-0.	0.	-0.10764E 03	-0.26637E 02	6.06
-0.20122E 02	0.31641E 02	-0.	0.	-0.10323E 03	-0.54557E 01	6.08
-0.20703E 02	0.34810E 02	-0.	0.	-0.76168E 02	-0.18105E 02	6.20
-0.11866E 02	0.20886E 02	0.	0.	-0.78508E 02	0.38329E 02	6.40
0.66920E 01	0.16807E 02	0.	0.	-0.12016E 03	0.72994E 02	6.60
-0.12101E 02	0.20623E 02	-0.	0.	-0.19898E 02	0.50071E 02	7.00
-0.87533E 01	0.20909E 02	-0.	0.	0.37067E 01	0.24111E 02	7.40
0.51427E 00	0.17071E 02	-0.	0.	0.20172E 02	0.67631E 01	8.20
0.81871E 01	0.97759E 01	0.	0.	0.21288E 02	-0.53903E 01	9.00
0.13327E 02	0.	0.	0.	0.14685E 02	0.	10.00

**Table XVI --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 268,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 540      SEGMENT NUMBER 17

INCREMENTAL SHEAR STRESS								FREQ. (CPS)
REAL	IMAGINARY							CPS
-0.49923E-01	-0.13098E 01	0.	0.	0.	0.	-0.	0.	0.30
-0.17275E 01	-0.66827E 00	0.	0.	0.	0.	-0.	0.	0.30
-0.22837E 01	0.18195E-00	0.	0.	0.	0.	-0.	0.	0.36
-0.22518E 01	0.55171E 00	0.	0.	0.	0.	-0.	0.	0.44
-0.20058E 01	0.81240E 00	0.	0.	0.	0.	-0.	0.	0.50
-0.18647E 01	0.92139E 00	0.	0.	0.	0.	-0.	0.	0.60
-0.18459E 01	0.99006E 00	0.	0.	0.	0.	-0.	0.	0.70
-0.18068E 01	0.10542E 01	0.	0.	0.	0.	-0.	0.	0.80
-0.12192E 01	0.11321E 01	0.	0.	0.	0.	-0.	0.	0.90
-0.11863E 01	0.13785E 01	0.	0.	0.	0.	-0.	0.	1.00
-0.11312E 01	0.17055E 01	0.	0.	0.	0.	-0.	0.	1.20
-0.11299E 01	0.19174E 01	0.	0.	0.	0.	-0.	0.	1.36
-0.11193E 01	0.21477E 01	0.	0.	0.	0.	-0.	0.	1.60
-0.10925E 01	0.22872E 01	0.	0.	0.	0.	-0.	0.	1.85
-0.10675E 01	0.24469E 01	0.	0.	0.	0.	-0.	0.	1.87
-0.10301E 01	0.28417E 01	0.	0.	0.	0.	-0.	0.	1.90
-0.89339E 00	0.33576E 01	0.	0.	0.	0.	-0.	0.	1.95
-0.59813E 00	0.39790E 01	-0.	0.	0.	0.	-0.	0.	1.60
0.37473E-01	0.16984E 01	-0.	0.	0.	0.	-0.	0.	1.65
0.41681E 01	-0.66833E 00	-0.	0.	0.	0.	-0.	0.	1.80
0.23039E 01	-0.66523E 00	-0.	0.	0.	0.	-0.	0.	1.90
0.88277E 00	-0.33028E-00	-0.	0.	0.	0.	-0.	0.	2.00
0.70586E-00	0.48503E-01	-0.	0.	0.	0.	-0.	0.	2.10
-0.18677E-00	0.47288E-00	-0.	0.	0.	0.	-0.	0.	2.20
-0.27606E-00	0.60652E 00	-0.	0.	0.	0.	-0.	0.	2.30
-0.30556E-00	0.85997E 00	-0.	0.	0.	0.	-0.	0.	2.35
-0.29295E-00	0.10162E 01	-0.	0.	0.	0.	-0.	0.	2.40
-0.17504E-00	0.10654E 01	-0.	0.	0.	0.	-0.	0.	2.45
-0.91834E-01	0.10597E 01	-0.	0.	0.	0.	-0.	0.	2.46
-0.20746E-00	0.14317E 00	-0.	0.	0.	0.	-0.	0.	2.47
0.42241E-00	0.30614E-00	-0.	0.	0.	0.	-0.	0.	2.90
-0.13668E-00	0.31668E-00	-0.	0.	0.	0.	-0.	0.	2.94
-0.29326E-00	0.67677E 00	-0.	0.	0.	0.	-0.	0.	2.98
-0.70151E 00	0.97545E 00	0.	0.	0.	0.	-0.	0.	2.65
-0.85476E 00	0.15905E 01	0.	0.	0.	0.	-0.	0.	2.70
-0.10220E 01	0.33199E 01	0.	0.	0.	0.	-0.	0.	2.80
-0.10703E 01	0.47466E 01	0.	0.	0.	0.	-0.	0.	3.00
-0.88959E 00	0.71872E 01	0.	0.	0.	0.	-0.	0.	3.10
-0.38419E-00	0.10033E 02	-0.	0.	0.	0.	-0.	0.	3.20
0.47738E-00	0.12616E 02	-0.	0.	0.	0.	-0.	0.	3.26
0.18362E 01	0.17435E 02	-0.	0.	0.	0.	-0.	0.	3.29
0.91356E 01	0.15730E 02	-0.	0.	0.	0.	-0.	0.	3.35
0.71350E 02	-0.20286E 02	-0.	0.	0.	0.	-0.	0.	3.40
0.21750E 02	-0.21756E 02	-0.	0.	0.	0.	-0.	0.	3.52
0.11088E 02	-0.19559E 02	-0.	0.	0.	0.	-0.	0.	3.56
0.43886E 01	-0.13334E 02	-0.	0.	0.	0.	-0.	0.	3.60
-0.27374E 01	-0.76597E 01	0.	0.	0.	0.	-0.	0.	3.70
-0.64150E 01	-0.19242E 01	0.	0.	0.	0.	-0.	0.	3.85
-0.85201E 01	0.59906E 01	0.	0.	0.	0.	-0.	0.	4.00
-0.24609E 01	0.16795E-01	0.	0.	0.	0.	-0.	0.	4.30
0.24966E 01	-0.13846E 01	-0.	0.	0.	0.	-0.	0.	4.50
0.14329E 01	-0.16489E 01	-0.	0.	0.	0.	-0.	0.	4.70
0.94502E 00	-0.18127E 01	-0.	0.	0.	0.	-0.	0.	4.80
0.25993E-00	-0.18212E 01	-0.	0.	0.	0.	-0.	0.	4.96
0.95385E-01	-0.17674E 01	-0.	0.	0.	0.	-0.	0.	5.00
-0.46247E-00	-0.15716E 01	-0.	0.	0.	0.	-0.	0.	5.15
-0.10502E 01	-0.97463E 00	0.	0.	0.	0.	-0.	0.	5.30
-0.19087E 01	0.80594E 00	0.	0.	0.	0.	-0.	0.	5.40
-0.27820E 01	0.42903E 01	0.	0.	0.	0.	-0.	0.	5.70
-0.20926E 01	0.38455E 01	0.	0.	0.	0.	-0.	0.	5.80
0.57327E 01	0.22594E 01	-0.	0.	0.	0.	-0.	0.	6.00
0.64181E 01	0.69949E 00	-0.	0.	0.	0.	-0.	0.	6.05
0.65625E 01	-0.66135E 00	-0.	0.	0.	0.	-0.	0.	6.06
0.83150E 01	-0.40820E 01	-0.	0.	0.	0.	-0.	0.	6.08
0.36367E 01	-0.53717E 01	-0.	0.	0.	0.	-0.	0.	6.20
-0.13054E 01	-0.49306E-00	0.	0.	0.	0.	-0.	0.	6.40
-0.52076E 01	0.13681E 01	0.	0.	0.	0.	-0.	0.	6.60
-0.19495E-00	0.46397E-00	-0.	0.	0.	0.	-0.	0.	7.00
0.24697E-00	0.11715E-01	-0.	0.	0.	0.	-0.	0.	7.40
0.17297E-00	-0.85347E-01	-0.	0.	0.	0.	-0.	0.	8.20
0.96220E-01	-0.11990E-00	-0.	0.	0.	0.	-0.	0.	9.00
0.37472E-01	0.	-0.	0.	0.	0.	-0.	0.	10.00

# Contrails

**Table XVI --- Concluded**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 268,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 820      SEGMENT NUMBER 1

		INCREMENTAL AXIAL STRESS				FREQUENCY
		REAL	IMAGINARY			CPS
0.	0.	0.19861E 01	0.12282E 03	0.	0.	0.10
0.	0.	0.13570E 03	0.74433E 02	0.	0.	0.30
0.	0.	0.19119E 03	0.12575E -00	0.	0.	0.56
0.	-0.	0.19999E 03	-0.36305E 02	0.	-0.	0.84
0.	-0.	0.18426E 03	-0.66417E 02	0.	-0.	0.90
0.	-0.	0.15874E 03	-0.82477E 02	0.	-0.	0.60
0.	-0.	0.14090E 03	-0.94470E 02	0.	-0.	0.70
0.	-0.	0.12854E 03	-0.10579E 03	0.	-0.	0.80
0.	-0.	0.11962E 03	-0.11833E 03	0.	-0.	0.90
0.	-0.	0.11271E 03	-0.15158E 03	0.	-0.	1.00
0.	-0.	0.10176E 03	-0.18952E 03	0.	-0.	1.20
0.	-0.	0.91757E 02	-0.21247E 03	0.	-0.	1.34
0.	-0.	0.84650E 02	-0.23652E 03	0.	-0.	1.40
0.	-0.	0.75632E 02	-0.25071E 03	0.	-0.	1.45
0.	-0.	0.69379E 02	-0.26666E 03	0.	-0.	1.47
0.	-0.	0.61405E 02	-0.30471E 03	0.	-0.	1.50
0.	-0.	0.37466E 02	-0.35162E 03	0.	-0.	1.55
-0.	-0.	-0.53421E 01	-0.40167E 03	-0.	-0.	1.60
-0.	-0.	-0.85172E 02	-0.80783E 02	-0.	-0.	1.65
-0.	0.	-0.46169E 03	0.12020E 03	-0.	0.	1.80
-0.	0.	-0.22474E 03	0.90614E 02	-0.	0.	1.90
-0.	0.	-0.84671E 02	0.44676E 02	-0.	0.	2.00
-0.	0.	-0.27708E 02	0.26494E 01	-0.	0.	2.10
-0.	-0.	-0.26835E 01	-0.34904E 02	-0.	-0.	2.20
-0.	-0.	-0.48540E 01	-0.43256E 02	-0.	-0.	2.30
-0.	-0.	-0.36407E 01	-0.63865E 02	-0.	-0.	2.35
-0.	-0.	-0.68058E 01	-0.75733E 02	-0.	-0.	2.40
-0.	-0.	-0.17599E 02	-0.79236E 02	-0.	-0.	2.45
-0.	-0.	-0.24594E 02	-0.77880E 02	-0.	-0.	2.44
-0.	-0.	-0.48228E 02	-0.54080E 02	-0.	-0.	2.47
-0.	-0.	-0.64105E 02	-0.24223E 02	-0.	-0.	2.50
-0.	-0.	-0.43754E 02	-0.27380E 02	-0.	-0.	2.54
-0.	-0.	-0.15831E 02	-0.54645E 02	-0.	-0.	2.58
0.	-0.	0.52787E 01	-0.75316E 02	0.	-0.	2.65
0.	-0.	0.93254E 01	-0.11449E 03	0.	-0.	2.70
0.	-0.	0.59499E 01	-0.20922E 03	0.	-0.	2.80
-0.	-0.	-0.35664E 02	-0.27514E 03	-0.	-0.	3.00
-0.	-0.	-0.87805E 02	-0.35846E 03	-0.	-0.	3.10
-0.	-0.	-0.19445E 03	-0.40504E 03	-0.	-0.	3.20
-0.	-0.	-0.31064E 03	-0.41905E 03	-0.	-0.	3.26
-0.	-0.	-0.39597E 03	-0.43868E 03	-0.	-0.	3.29
-0.	-0.	-0.57364E 03	-0.41330E 03	-0.	-0.	3.35
-0.	0.	-0.91030E 03	0.96583E 03	-0.	0.	3.40
-0.	0.	-0.88818E 03	0.10056E 04	-0.	0.	3.52
-0.	0.	-0.43510E 03	0.88894E 03	-0.	0.	3.54
-0.	0.	-0.15554E 03	0.58864E 03	-0.	0.	3.60
0.	0.	0.12050E 03	0.33458E 03	0.	0.	3.70
0.	0.	0.22216E 03	0.14210E 03	0.	0.	3.85
0.	-0.	0.24492E 03	-0.24609E 02	0.	-0.	4.00
0.	0.	0.80081E 02	0.83403E 02	0.	0.	4.20
0.	0.	0.23352E 02	0.84314E 02	0.	0.	4.30
0.	0.	0.54239E 02	0.77781E 02	0.	0.	4.70
0.	0.	0.65869E 02	0.63841E 02	0.	0.	4.80
0.	0.	0.80900E 02	0.59751E 02	0.	0.	4.96
0.	0.	0.84333E 02	0.43971E 02	0.	0.	5.00
0.	0.	0.95579E 02	0.24360E 02	0.	0.	5.15
0.	-0.	0.10693E 03	-0.10986E 02	0.	-0.	5.30
0.	-0.	0.12275E 03	-0.82769E 02	0.	-0.	5.40
0.	-0.	0.13619E 03	-0.19580E 03	0.	-0.	5.70
0.	-0.	0.92749E 02	-0.17331E 03	0.	-0.	5.85
-0.	-0.	-0.14964E 03	-0.12745E 03	-0.	-0.	6.00
-0.	-0.	-0.16764E 03	-0.84240E 02	-0.	-0.	6.03
-0.	-0.	-0.17007E 03	-0.48287E 02	-0.	-0.	6.06
-0.	0.	-0.16192E 03	0.27433E 02	-0.	0.	6.08
-0.	0.	-0.93856E 02	0.33772E 02	-0.	0.	6.20
-0.	0.	-0.25055E 02	0.15525E 02	-0.	0.	6.40
-0.	0.	-0.99005E 01	0.16231E 02	-0.	0.	6.60
0.	0.	0.22013E 01	0.79878E 01	0.	0.	7.00
0.	-0.	0.95612E 01	-0.38849E 01	0.	-0.	7.40
0.	-0.	0.88014E 01	-0.88779E 01	0.	-0.	8.20
0.	-0.	0.25679E 01	-0.84422E 01	0.	-0.	9.00
-0.	0.	-0.46770E 01	0.	-0.	0.	10.00

**Table XVII Stress Frequency Response Functions ( Analysis Condition 3 )**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27    SEGMENT NUMBER 10

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY			
0.1448RF 01	0.16311E 02	0.19029E 02	0.19340F 03	-0.	-0.	0.10
0.23312F 02	0.10499E 02	0.26594E 03	0.12602E 03	-0.	-0.	0.30
0.29578E 02	0.18436E 01	0.33885E 03	0.24623E 02	-0.	-0.	0.36
0.43310F 02	-0.35651F 01	0.36873E 03	-0.38487F 02	-0.	0.	0.44
0.31994E 02	-0.96094E 01	0.36179E 03	-0.10708E 03	-0.	0.	0.50
0.30427F 02	-0.13961F 02	0.33581E 03	-0.15287E 03	-0.	0.	0.60
0.29086E 02	-0.17861F 02	0.31032E 03	-0.18951E 03	-0.	0.	0.70
0.28241F 02	-0.21951F 02	0.28852E 03	-0.22319E 03	-0.	0.	0.80
0.27851E 02	-0.26813E 02	0.26987E 03	-0.25823E 03	-0.	0.	0.90
0.27835F 02	-0.40892F 02	0.25298E 03	-0.34250F 03	-0.	0.	1.00
0.28466E 02	-0.58514E 02	0.22065E 03	-0.43151E 03	-0.	0.	1.20
0.28343E 02	-0.69752E 02	0.19020E 03	-0.48371E 03	-0.	-0.	1.34
0.27336E 02	-0.81903E 02	0.17022E 03	-0.53764E 03	-0.	-0.	1.40
0.25354E 02	-0.89239E 02	0.14695E 03	-0.56922E 03	-0.	-0.	1.45
0.23690F 02	-0.97617E 02	0.13161E 03	-0.60452E 03	-0.	-0.	1.47
0.21343F 02	-0.11825E 03	0.11270E 03	-0.68844E 03	-0.	-0.	1.50
0.13389E 02	-0.14534E 03	0.58705E 02	-0.79270E 03	-0.	-0.	1.55
-0.25248E 01	-0.17904E 03	-0.32451E 02	-0.91156E 03	-0.	-0.	1.60
-0.16978E 02	-0.65786E 02	-0.19561E 03	-0.35480F 03	-0.	-0.	1.65
-0.30621F 03	0.11509E 03	-0.12468E 04	0.37398E 03	-0.	0.	1.80
-0.21290F 03	0.13190E 03	-0.73854E 03	0.34806E 03	-0.	0.	1.90
-0.10799F 03	0.11983E 03	-0.32130E 03	0.24510F 03	-0.	0.	2.00
-0.59464F 02	0.10928E 03	-0.15885E 03	0.16000E 03	-0.	0.	2.10
-0.32384F 02	0.98963E 02	-0.85438E 02	0.92564E 02	-0.	0.	2.20
-0.10713E 02	0.90871E 02	-0.64132E 02	0.70562E 02	-0.	0.	2.30
-0.66254E 01	0.87532E 02	-0.58481E 02	0.40768E 02	-0.	0.	2.39
-0.40966E 01	0.85662E 02	-0.60136E 02	0.24295E 02	-0.	0.	2.40
-0.30235E 01	0.84923E 02	-0.71197E 02	0.18922E 02	-0.	0.	2.45
-0.29447E 01	0.84024E 02	-0.78696E 02	0.15855E 02	-0.	0.	2.44
-0.42278E 01	0.87021E 02	-0.10599E 03	0.39935E 02	-0.	0.	2.47
-0.64551E 01	0.95449E 02	-0.12971E 03	0.82225E 02	-0.	0.	2.50
-0.31523F 01	0.99937E 02	-0.11241E 03	0.85780E 02	-0.	0.	2.54
0.52718E 01	0.10202E 03	-0.76890E 02	0.60623E 02	-0.	0.	2.58
0.18405E 02	0.10311E 03	-0.47903E 02	0.42636E 02	-0.	0.	2.65
0.26948F 02	0.10649E 03	-0.41788E 02	0.15434E 02	-0.	0.	2.70
0.44515E 02	0.11789E 03	-0.43386E 02	-0.20305E 02	-0.	0.	2.80
0.10112E 03	0.17020F 03	-0.74153E 02	-0.28794E 02	-0.	0.	3.00
0.15853E 03	0.87071E 02	-0.10682E 03	-0.14418E 02	-0.	0.	3.10
0.27243E 03	-0.23708E 03	-0.16623E 03	0.41240E 02	-0.	-0.	3.20
0.37741E 03	-0.16321E 03	-0.21576E 03	0.10878E 03	-0.	-0.	3.36
0.40213E 03	-0.38437E 03	-0.22334E 03	0.20511E 03	-0.	-0.	3.39
0.18671F 03	-0.29507F 03	-0.11240E 03	0.15194E 03	-0.	-0.	3.35
-0.36681F 02	-0.52738E 02	-0.10562E 02	0.35139E 02	-0.	-0.	3.40
-0.58021E 02	-0.17649E 02	-0.94073E 01	0.18592E 02	-0.	-0.	3.52
-0.24844F 02	0.38874E 00	-0.22697E 02	0.70359E 01	-0.	0.	3.56
0.18682F 02	-0.77998E 02	-0.36277E 02	-0.11750E 02	-0.	-0.	3.60
0.13456F 03	-0.19200E 03	-0.73584E 02	0.23942E 00	-0.	-0.	3.70
-0.56698E 02	-0.67322E 02	-0.15221E 03	0.87804E 02	-0.	-0.	3.85
-0.11920F 03	0.28333E 02	-0.23117E 03	0.35327E 03	-0.	-0.	4.00
-0.60278E 02	-0.17288E 02	-0.14905E 03	0.18742E 03	-0.	-0.	4.20
-0.78987E 01	-0.16731E 02	-0.18127E 03	0.77461E 02	-0.	-0.	4.30
-0.17595E 02	-0.15118E 02	-0.16537E 03	0.47575E 02	-0.	-0.	4.70
-0.20640E 02	-0.11236E 02	-0.15063E 03	0.16191E 02	-0.	-0.	4.80
-0.73440E 02	-0.10142E 02	0.12865E 03	0.10138F 02	-0.	-0.	4.96
-0.23860F 02	-0.62965F 01	0.12348E 03	-0.67784E 01	-0.	-0.	5.00
-0.24435E 02	-0.24302E 01	0.10700E 03	-0.19493E 02	-0.	-0.	5.15
-0.24601F 02	0.22692E 01	0.92136E 02	-0.31394E 02	-0.	0.	5.30
-0.23706F 02	0.69024E 01	0.75443E 02	-0.40357E 02	-0.	-0.	5.40
-0.20307E 02	0.10229E 02	0.60075E 02	-0.45416E 02	-0.	0.	5.70
-0.17861E 02	0.13651E 02	0.49704E 02	-0.49940E 02	-0.	-0.	5.85
-0.17343F 02	0.14630E 02	0.38804E 02	-0.50655E 02	-0.	0.	6.00
-0.16786E 02	0.15325E 02	0.36888E 02	-0.51353E 02	-0.	0.	6.03
-0.16185F 02	0.16036E 02	0.34947E 02	-0.52037E 02	-0.	0.	6.06
-0.12723E 02	0.19480E 02	0.32976E 02	-0.54905E 02	-0.	0.	6.08
-0.94206F 02	0.25307E 02	0.23487E 02	-0.57259E 02	-0.	0.	6.20
-0.24026F 02	-0.86019E 01	0.24455E 01	-0.34020F 02	-0.	0.	6.40
-0.94515F 01	-0.36088E 01	-0.23228F 02	-0.34045F 02	-0.	-0.	6.60
-0.73624F 01	0.54895E 01	-0.68375E 01	-0.27879E 02	-0.	-0.	7.00
-0.64488F 01	0.42438E 01	-0.52441F 02	0.19406F 02	-0.	-0.	7.40
-0.19473F 01	0.89025F 01	0.23464F 02	-0.45361E 01	-0.	-0.	8.20
0.28407F 01	0.78713E 01	0.12694E 02	-0.63699F 01	-0.	0.	9.00
	0.	0.33263E 01	0.	0.	0.	10.00

# Contrails

Table XVII --- Continued

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 190,590 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27      SEGMENT NUMBER 14

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS		FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY	
0.54070E 01	0.64912E 02	0.13639E 02	0.17550E 03	0.10
0.40784E 02	0.41989E 02	0.24135E 03	0.11436E 03	0.30
0.11506E 03	0.79387E 01	0.30750E 03	0.22345E 02	0.50
0.12478E 03	-0.13067E 02	0.33461E 03	-0.34926E 02	0.70
0.17217E 03	-0.35757E 02	0.32831E 03	-0.97169E 02	0.90
0.11386E 03	-0.50920E 02	0.30474E 03	-0.13872E 03	1.10
0.10583E 03	-0.63227E 02	0.28161E 03	-0.17197E 03	1.30
0.99335E 02	-0.74857E 02	0.26183E 03	-0.20294E 03	1.50
0.94168E 02	-0.87414E 02	0.24490E 03	-0.23434E 03	1.70
0.89913E 02	-0.11969E 03	0.22957E 03	-0.31081E 03	1.90
0.82853E 02	-0.15642E 03	0.20024E 03	-0.39159E 03	2.10
0.76033E 02	-0.17887E 03	0.17242E 03	-0.43895E 03	2.30
0.70883E 02	-0.20263E 03	0.15447E 03	-0.48789E 03	2.50
0.64090E 02	-0.21678E 03	0.13335E 03	-0.51655E 03	2.70
0.59269E 02	-0.23280E 03	0.11943E 03	-0.54859E 03	2.90
0.53033E 02	-0.27164E 03	0.10227E 03	-0.62474E 03	3.10
0.33960E 02	-0.32155E 03	0.53274E 02	-0.71935E 03	3.30
-0.83919E 00	-0.38168E 03	-0.29448E 02	-0.82722E 03	3.50
-0.67411E 02	-0.17702E 03	-0.17751E 03	-0.32198E 03	3.70
-0.56721E 03	0.18302E 03	-0.11314E 04	0.33938E 03	3.90
-0.37109E 03	0.19742E 03	-0.67021E 03	0.31585E 03	4.10
-0.17714E 03	0.16459E 03	-0.29157E 03	0.22242E 03	4.30
-0.92932E 02	0.13608E 03	-0.14234E 03	0.14519E 03	4.50
-0.50202E 02	0.11106E 03	-0.77533E 02	0.84000E 02	4.70
-0.75263E 02	0.99444E 02	-0.58198E 02	0.64034E 02	4.90
-0.20033E 02	0.89501E 02	-0.53070E 02	0.36996E 02	5.10
-0.17651E 02	0.83660E 02	-0.54572E 02	0.22047E 02	5.30
-0.19592E 02	0.81647E 02	-0.64600E 02	0.17171E 02	5.50
-0.21621E 02	0.80476E 02	-0.71415E 02	0.14388E 02	5.70
-0.30702E 02	0.91094E 02	-0.96094E 02	0.36240E 02	5.90
-0.39992E 02	0.11315E 03	-0.11771E 03	0.74617E 02	6.10
-0.31855E 02	0.12016E 03	-0.10201E 03	0.77843E 02	6.30
-0.12741E 02	0.11707E 03	-0.69776E 02	0.55014E 02	6.50
0.10140E 02	0.11429E 03	-0.43471E 02	0.38691E 02	6.70
0.21749E 02	0.11712E 03	-0.37922E 02	0.14006E 02	6.90
0.42117E 02	0.11692E 03	-0.39372E 02	-0.18426E 02	7.10
0.10292E 03	0.11647E 03	-0.67292E 02	-0.26130E 02	7.30
0.16545E 03	0.75727E 02	-0.96939E 02	-0.13084E 02	7.50
0.79219E 03	-0.53210E 02	-0.15085E 03	0.37424E 02	7.70
0.41049E 03	-0.21485E 03	-0.19580E 03	0.98716E 02	7.90
0.43726E 03	-0.47255E 03	-0.20268E 03	0.18613E 03	8.10
0.18582E 03	-0.37233E 03	-0.10200E 03	0.13788E 03	8.30
-0.76967E 02	-0.95432E 02	-0.95844E 01	0.31888E 02	8.50
-0.11959E 03	-0.54759E 02	-0.85349E 01	0.16872E 02	8.70
-0.88949E 02	-0.30726E 02	-0.70597E 02	0.63849E 01	8.90
-0.49939E 02	-0.90111E 02	-0.32921E 02	-0.10663E 02	9.10
0.55627E 02	-0.18476E 03	-0.66776E 02	0.21727E -00	9.30
-0.13206E 03	-0.35095E 02	-0.13813E 03	0.79680E 02	9.50
-0.21133E 03	0.14693E 03	-0.20978E 03	0.32059E 03	9.70
-0.11991E 03	0.49665E 02	-0.13527E 03	0.17008E 03	9.90
0.44173E 02	0.90535E 01	0.16450E 03	0.70294E 02	10.10
0.30284E 02	0.84373E 00	0.15007E 03	0.43173E 02	10.30
0.22917E 02	-0.57043E 01	0.13667E 03	0.14693E 02	10.50
0.13747E 02	-0.66571E 01	0.11675E 03	0.92000E 01	10.70
0.11835E 02	-0.86666E 01	0.11396E 03	-0.61512E 01	10.90
0.63032E 01	-0.94445E 01	0.97100E 02	-0.17689E 02	11.10
0.70073E 01	-0.94771E 01	0.83611E 02	-0.28489E 02	11.30
-0.21144E 01	-0.89152E 01	0.68450E 02	-0.36623E 02	11.50
-0.43395E 01	-0.82731E 01	0.54517E 02	-0.41214E 02	11.70
-0.72440E 01	-0.73968E 01	0.45105E 02	-0.45319E 02	11.90
-0.90107E 01	-0.72228E 01	0.35214E 02	-0.45968E 02	12.10
-0.92943E 01	-0.70408E 01	0.33475E 02	-0.46602E 02	12.30
-0.95724E 01	-0.68500E 01	0.31714E 02	-0.47222E 02	12.50
-0.98451E 01	-0.58519E 01	0.29925E 02	-0.49825E 02	12.70
-0.10998E 02	-0.32999E 01	0.21314E 02	-0.51961E 02	12.90
-0.12257E 02	-0.12037E 01	0.23130E 01	-0.30872E 02	13.10
-0.87799E 01	-0.87448E 01	-0.21079E 02	-0.30895E 02	13.30
-0.16781E 02	-0.95591E 00	-0.62044E 01	-0.25300E 02	13.50
-0.37345E 02	0.25028E 02	-0.47607E 02	0.17792E 02	13.70
0.86169E 01	0.10340E 02	0.21293E 02	-0.41164E 01	13.90
0.86884E 01	0.54199E 01	0.11520E 02	-0.57806E 01	14.10
0.78205E 01	0.	0.30185E 01	0.	14.30

**Table XVII -- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMISPAN: 40.06    SEGMENT NUMBER 8

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY
REAL	IMAGINARY	REAL	IMAGINARY			CPS
0.32486E 01	0.41220E 02	0.12531E 02	0.16923E 03	0.	0.	0.10
0.57061E 02	0.26936E 02	0.23148E 03	0.11044E 03	0.	0.	0.30
0.72666E 02	0.54810E 01	0.29607E 03	0.21133E 02	0.	0.	0.56
0.79349E 02	-0.79128E 01	0.32336E 03	-0.34449E 02	0.	-0.	0.84
0.78304E 02	-0.22687E 02	0.31795E 03	-0.96617E 02	0.	-0.	0.90
0.73708E 02	-0.32956E 02	0.29593E 03	-0.13846E 03	0.	-0.	0.60
0.69424E 02	-0.41700E 02	0.27373E 03	-0.17243E 03	0.	-0.	0.70
0.66111E 02	-0.40397E 02	0.25457E 03	-0.20400E 03	0.	-0.	0.80
0.63713E 02	-0.60194E 02	0.23797E 03	-0.23703E 03	0.	-0.	0.90
0.61910E 02	-0.86653E 02	0.22245E 03	-0.31656E 03	0.	-0.	1.00
0.59100E 02	-0.11779E 03	0.19158E 03	-0.40017E 03	0.	-0.	1.20
0.55329E 02	-0.13704E 03	0.16102E 03	-0.44894E 03	0.	-0.	1.34
0.51734E 02	-0.15751E 03	0.14116E 03	-0.49914E 03	0.	-0.	1.60
0.46554E 02	-0.16973E 03	0.11788E 03	-0.52844E 03	0.	-0.	1.45
0.42722E 02	-0.18357E 03	0.10261E 03	-0.56112E 03	0.	-0.	1.47
0.37659E 02	-0.21721E 03	0.83875E 02	-0.63842E 03	0.	-0.	1.30
0.27188E 02	-0.26049E 03	0.30815E 02	-0.73357E 03	0.	-0.	1.55
-0.77569E 01	-0.31270E 03	-0.57710E 02	-0.84009E 03	-0.	-0.	1.60
-0.44920E 02	-0.13496E 03	-0.21412E 03	-0.28708E 03	-0.	-0.	1.65
-0.49710E 03	0.17736E 03	-0.11798E 04	0.37720E 03	-0.	0.	1.20
-0.32534E 03	0.18889E 03	-0.68103E 03	0.33774E 03	-0.	0.	1.90
-0.15567E 03	0.15859E 03	-0.29179E 03	0.23346E 03	-0.	0.	2.00
-0.81751E 02	0.13000E 03	-0.14217E 03	0.14630E 03	-0.	0.	2.10
-0.45563E 02	0.10861E 03	-0.81503E 02	0.84489E 02	-0.	0.	2.20
-0.39274E 02	0.11451E 03	-0.88321E 02	0.88161E 02	-0.	0.	2.30
-0.30566E 02	0.10732E 03	-0.77640E 02	0.63333E 02	-0.	0.	2.35
-0.18769E 02	0.10170E 03	-0.65751E 02	0.47863E 02	-0.	0.	2.40
-0.16329E 02	0.99565E 02	-0.70343E 02	0.42624E 02	-0.	0.	2.43
-0.16307E 02	0.96221E 02	-0.74767E 02	0.37189E 02	-0.	0.	2.44
-0.19011E 02	0.99411E 02	-0.92214E 02	0.51041E 02	0.	0.	2.47
-0.22772E 02	0.10888E 03	-0.10737E 03	0.75742E 02	0.	0.	2.30
-0.17559E 02	0.11085E 03	-0.93869E 02	0.73373E 02	0.	0.	2.54
-0.63644E 01	0.10596E 03	-0.69478E 02	0.49230E 02	0.	0.	2.58
0.72037E 01	0.10200E 03	-0.52095E 02	0.32855E 02	0.	0.	2.65
0.13713E 02	0.95016E 02	-0.50751E 02	0.79719E 01	0.	0.	2.70
0.23086E 02	0.87953E 02	-0.59354E 02	-0.23685E 02	0.	0.	2.80
0.36302E 02	0.85624E 02	-0.10746E 03	-0.27187E 02	0.	0.	3.00
0.38540E 02	0.89210E 02	-0.15537E 03	0.62513E 01	0.	0.	3.10
0.29907E 02	0.10948E 03	-0.24669E 03	0.10336E 03	0.	0.	3.20
0.13974E 02	0.13974E 03	-0.32144E 03	0.21672E 03	0.	0.	3.25
0.89375E 01	0.20339E 03	-0.32893E 03	0.37572E 03	0.	0.	3.29
0.49112E 02	0.20075E 03	-0.13836E 03	0.28931E 03	0.	0.	3.30
0.13193E 03	0.15260E 03	0.33897E 02	0.10442E 03	0.	0.	3.35
0.22222E 03	0.13719E 03	0.54258E 02	0.78756E 02	0.	0.	3.40
0.25433E 03	0.11434E 03	0.42202E 02	0.59675E 02	0.	0.	3.52
0.29349E 03	-0.45828E 02	0.32032E 02	0.72726E 01	0.	-0.	3.60
0.38505E 03	-0.19171E 03	0.85973E 01	-0.16408E 02	0.	-0.	3.70
0.17873E 03	-0.16556E 03	-0.12123E 03	0.93894E 02	0.	-0.	3.80
0.16147E 03	-0.31380E 03	-0.21624E 03	0.36612E 03	0.	-0.	4.00
0.82691E 02	-0.15529E 03	-0.11639E 03	0.17406E 03	0.	-0.	4.00
-0.14528E 03	-0.67991E 02	0.20291E 03	0.65742E 02	-0.	-0.	4.20
-0.13908E 03	-0.44173E 02	0.17534E 03	0.37848E 02	-0.	-0.	4.70
-0.12704E 03	-0.18903E 02	0.15509E 03	0.10150E 02	-0.	-0.	4.80
-0.10976E 03	-0.13980E 02	0.13063E 03	0.51289E 01	-0.	-0.	4.96
-0.10576E 03	-0.89792E -01	0.12459E 03	-0.79365E 01	-0.	0.	5.00
-0.93142E 02	0.10577E 02	0.10571E 03	-0.16264E 02	-0.	0.	5.00
-0.81918E 02	0.20709E 02	0.89354E 02	-0.21930E 02	-0.	0.	5.15
-0.69575E 02	0.28725E 02	0.72252E 02	-0.23711E 02	-0.	0.	5.30
-0.54424E 02	0.33544E 02	0.58431E 02	-0.23016E 02	-0.	0.	5.70
-0.50994E 02	0.38203E 02	0.50678E 02	-0.20609E 02	-0.	0.	5.80
-0.43196E 02	0.38983E 02	0.44527E 02	-0.22014E 02	-0.	0.	6.00
-0.41817E 02	0.39761E 02	0.43718E 02	-0.19362E 02	-0.	0.	6.03
-0.40417E 02	0.40538E 02	0.42996E 02	-0.18652E 02	-0.	0.	6.06
-0.38990E 02	0.44033E 02	0.42370E 02	-0.14707E 02	-0.	0.	6.08
-0.37011E 02	0.48814E 02	0.41053E 02	-0.67581E 01	-0.	0.	6.20
-0.15548E 02	0.32265E 02	0.49416E 02	-0.32034E 02	-0.	0.	6.40
0.93017E 01	0.27155E 02	0.79697E 02	-0.48902E 02	0.	0.	6.60
-0.93229E 01	0.29140E 02	0.15339E 02	-0.32193E 02	-0.	0.	7.00
0.14961E 02	0.78601E 01	0.17467E 02	-0.40533E 02	0.	0.	7.40
-0.12339E 02	0.17690E 02	-0.20234E 02	-0.15383E 02	-0.	0.	8.20
-0.55730E 00	0.13539E 02	-0.24026E 02	-0.50809E 00	-0.	0.	9.00
0.96464E 01	0.	-0.18832E 02	0.	0.	0.	20.00

**Table XVII -- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 40.06    SEGMENT NUMBER 107

INCREMENTAL SHEAR STRESS				INCREMENTAL AXIAL STRESS		FREQUENCY CPS
REAL	IMAGINARY			REAL	IMAGINARY	
0.32924E 01	0.41183E 02	0.	0.	-0.10707E 02	-0.14460E 03	0.10
0.47041E 02	0.26906E 02	0.	0.	-0.19778E 03	-0.94366E 02	0.30
0.72546E 02	0.54479E 01	0.	0.	-0.25297E 03	-0.18056E 02	0.36
0.79088E 02	-0.77270E 01	0.	0.	-0.27629E 03	0.29862E 02	0.44
0.77919E 02	-0.22271E 02	0.	0.	-0.27167E 03	0.82553E 02	0.50
0.73192E 02	-0.32276E 02	0.	0.	-0.25277E 03	0.11831E 03	0.60
0.68805E 02	-0.40717E 02	0.	0.	-0.23388E 03	0.14733E 03	0.70
0.65426E 02	-0.49030E 02	0.	0.	-0.21751E 03	0.17430E 03	0.80
0.62933E 02	-0.58355E 02	0.	0.	-0.20327E 03	0.20253E 03	0.90
0.61070E 02	-0.68437E 02	0.	0.	-0.19007E 03	0.27048E 03	1.00
0.58245E 02	-0.11291E 03	0.	0.	-0.16369E 03	0.34192E 03	1.20
0.54691E 02	-0.13114E 03	0.	0.	-0.13758E 03	0.38359E 03	1.34
0.51345E 02	-0.15053E 03	0.	0.	-0.12061E 03	0.42648E 03	1.40
0.46521E 02	-0.16211E 03	0.	0.	-0.10072E 03	0.45152E 03	1.45
0.42949E 02	-0.17523E 03	0.	0.	-0.87676E 02	0.47944E 03	1.47
0.38223E 02	-0.20714E 03	0.	0.	-0.71666E 02	0.54548E 03	1.30
0.23378E 02	-0.24625E 03	0.	0.	-0.26329E 02	0.62678E 03	1.55
-0.43341E 01	-0.29796E 03	-0.	-0.	0.49309E 02	0.71700E 03	1.60
-0.58102E 02	-0.13256E 03	-0.	-0.	0.18299E 03	0.24529E 03	1.65
-0.46791E 03	0.16375E 03	-0.	0.	0.10081E 04	-0.32230E 03	1.80
-0.30745E 03	0.17562E 03	-0.	0.	0.58186E 03	-0.28857E 03	1.90
-0.14713E 03	0.14733E 03	-0.	0.	0.24931E 03	-0.19948E 03	2.00
-0.77083E 02	0.12037E 03	-0.	0.	0.12147E 03	-0.12500E 03	2.10
-0.42719E 02	0.99791E 02	-0.	0.	0.69638E 02	-0.72190E 02	2.20
-0.36591E 02	0.10489E 03	-0.	0.	0.75464E 02	-0.75327E 02	2.30
-0.28654E 02	0.97696E 02	-0.	0.	0.66338E 02	-0.54114E 02	2.35
-0.18068E 02	0.92149E 02	-0.	0.	0.56188E 02	-0.40895E 02	2.40
-0.16351E 02	0.90074E 02	-0.	0.	0.60103E 02	-0.36419E 02	2.43
-0.16678E 02	0.87168E 02	-0.	0.	0.63883E 02	-0.31775E 02	2.44
-0.20433E 02	0.91513E 02	-0.	0.	0.78791E 02	-0.43611E 02	2.47
-0.25071E 02	0.10272E 03	-0.	0.	0.91740E 02	-0.64716E 02	2.50
-0.19565E 02	0.10526E 03	-0.	0.	0.80204E 02	-0.62693E 02	2.54
-0.75712E 01	0.10037E 03	-0.	0.	0.59364E 02	-0.42063E 02	2.58
0.66895E 01	0.96343E 02	0.	0.	0.44511E 02	-0.28072E 02	2.65
0.13315E 02	0.90187E 02	0.	0.	0.43372E 02	-0.68114E 01	2.70
0.22697E 02	0.81946E 02	0.	0.	0.50717E 02	0.20237E 02	2.80
0.75875E 02	0.79206E 02	0.	0.	0.91821E 02	0.23229E 02	3.00
0.38308E 02	0.81607E 02	0.	0.	0.13361E 03	-0.53413E 01	3.10
0.30320E 02	0.99761E 02	0.	0.	0.21078E 03	-0.88313E 02	3.20
0.14848E 02	0.12787E 03	0.	0.	0.27465E 03	-0.18517E 03	3.26
0.93079E 01	0.18879E 03	0.	0.	0.28109E 03	-0.32103E 03	3.29
0.59045E 02	0.18764E 03	0.	0.	0.11822E 03	-0.24719E 03	3.33
0.12406E 03	0.14217E 03	0.	0.	-0.28963E 02	-0.88220E 02	3.40
0.21068E 03	0.12724E 03	0.	0.	-0.46359E 02	-0.67292E 02	3.52
0.24111E 03	0.10531E 03	0.	0.	-0.36058E 02	-0.50988E 02	3.56
0.27798E 03	-0.45860E 02	0.	-0.	-0.27412E 02	-0.62139E 01	3.60
0.36722E 03	-0.18190E 03	0.	-0.	-0.73458E 01	0.14019E 02	3.70
0.17081E 03	-0.16079E 03	0.	-0.	0.10356E 03	-0.80226E 02	3.85
0.15657E 03	-0.30652E 03	0.	-0.	0.18476E 03	-0.31282E 03	4.00
0.77004E 02	-0.14906E 03	0.	-0.	0.99189E 02	-0.14872E 03	4.20
-0.15323E 03	-0.64483E 02	-0.	-0.	-0.17337E 03	-0.56172E 02	4.30
-0.13609E 03	-0.41604E 02	-0.	-0.	-0.14985E 03	-0.32338E 02	4.30
-0.12397E 03	-0.17514E 02	-0.	-0.	-0.13405E 03	-0.86721E 01	4.40
-0.10677E 03	-0.12854E 02	-0.	-0.	-0.11162E 03	-0.43823E 01	4.96
-0.10274E 03	0.19187E 00	-0.	0.	-0.10645E 03	0.67812E 01	5.00
-0.90733E 02	0.10015E 02	-0.	0.	-0.90321E 02	0.13896E 02	5.15
-0.79206E 02	0.19234E 02	-0.	0.	-0.76347E 02	0.18737E 02	5.30
-0.67176E 02	0.26273E 02	-0.	0.	-0.61734E 02	0.20259E 02	5.57
-0.56527E 02	0.30371E 02	-0.	0.	-0.49927E 02	0.19665E 02	5.78
-0.49594E 02	0.34214E 02	-0.	0.	-0.43301E 02	0.17609E 02	5.87
-0.42517E 02	0.34845E 02	-0.	0.	-0.38045E 02	0.17100E 02	6.00
-0.41292E 02	0.35470E 02	-0.	0.	-0.37354E 02	0.16543E 02	6.03
-0.40057E 02	0.36091E 02	-0.	0.	-0.36737E 02	0.15936E 02	6.06
-0.38804E 02	0.38841E 02	-0.	0.	-0.36202E 02	0.12566E 02	6.08
-0.32845E 02	0.42549E 02	-0.	0.	-0.35077E 02	0.57744E 01	6.20
-0.19700E 02	0.31171E 02	-0.	0.	-0.42222E 02	0.27371E 02	6.40
-0.83171E 00	0.27662E 02	-0.	0.	-0.68096E 02	0.41783E 02	6.60
-0.11336E 02	0.28719E 02	-0.	0.	-0.13081E 02	0.27506E 02	7.00
0.74852E 01	0.13465E 02	0.	0.	-0.15266E 02	0.34633E 02	7.40
-0.78935E 01	0.18375E 02	-0.	0.	0.17289E 02	0.13144E 02	8.20
0.28838E 01	0.12817E 02	-0.	0.	0.20529E 02	0.43413E 00	9.00
0.11437E 02	0.	0.	0.	0.16091E 02	0.	10.00



**Table XVII -- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 190,590 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 540      SEGMENT NUMBER 17

INCREMENTAL SHEAR STRESS						FREQUENCY
REAL	IMAGINARY					CPS
-0.33429E 01	-0.27740E 02	0.	0.	0.	0.	0.10
-0.44444E 02	-0.16055E 02	0.	0.	0.	0.	0.30
-0.53940E 02	-0.53280E 00	0.	0.	0.	0.	0.56
-0.55410E 02	0.81572E 01	0.	0.	0.	0.	0.84
-0.53027E 02	0.16442E 02	0.	0.	0.	0.	0.90
-0.47271E 02	0.21007E 02	0.	0.	0.	0.	0.60
-0.42415E 02	0.24020E 02	0.	0.	0.	0.	0.70
-0.38631E 02	0.26397E 02	0.	0.	0.	0.	0.80
-0.35713E 02	0.28630E 02	0.	0.	0.	0.	0.90
-0.33419E 02	0.33825E 02	0.	0.	0.	0.	1.00
-0.30272E 02	0.39886E 02	0.	0.	0.	0.	1.20
-0.28593E 02	0.42912E 02	0.	0.	0.	0.	1.34
-0.27780E 02	0.46530E 02	0.	0.	0.	0.	1.40
-0.26873E 02	0.48684E 02	0.	0.	0.	0.	1.45
-0.26269E 02	0.51125E 02	0.	0.	0.	0.	1.47
-0.25505E 02	0.57078E 02	0.	0.	0.	0.	1.50
-0.23189E 02	0.64841E 02	0.	0.	0.	0.	1.55
-0.18888E 02	0.74557E 02	0.	0.	0.	0.	1.60
-0.10357E 02	0.55150E 02	0.	0.	0.	0.	1.65
0.67920E 02	0.29499E 01	0.	0.	0.	0.	1.80
0.41647E 02	-0.91740E 00	0.	0.	0.	0.	1.90
0.15135E 02	0.38670E 01	0.	0.	0.	0.	2.00
0.30824E 01	0.93878E 01	0.	0.	0.	0.	2.10
-0.30169E 01	0.15383E 02	0.	0.	0.	0.	2.20
-0.47536E 01	0.16948E 02	0.	0.	0.	0.	2.30
-0.50720E 01	0.20127E 02	0.	0.	0.	0.	2.35
-0.51403E 01	0.22244E 02	0.	0.	0.	0.	2.40
-0.37822E 01	0.22987E 02	0.	0.	0.	0.	2.43
-0.27654E 01	0.23472E 02	0.	0.	0.	0.	2.44
0.12123E 01	0.19804E 02	0.	0.	0.	0.	2.47
0.51168E 01	0.12524E 02	0.	0.	0.	0.	2.50
0.28127E 01	0.11013E 02	0.	0.	0.	0.	2.54
-0.31574E 01	0.14212E 02	0.	0.	0.	0.	2.58
-0.94759E 01	0.17070E 02	0.	0.	0.	0.	2.65
-0.12062E 02	0.22418E 02	0.	0.	0.	0.	2.70
-0.15706E 02	0.34825E 02	0.	0.	0.	0.	2.80
-0.25105E 02	0.44944E 02	0.	0.	0.	0.	3.00
-0.35952E 02	0.70125E 02	0.	0.	0.	0.	3.10
-0.61154E 02	0.11789E 03	0.	0.	0.	0.	3.20
-0.84501E 02	0.17108E 03	0.	0.	0.	0.	3.26
-0.83635E 02	0.25455E 03	0.	0.	0.	0.	3.29
0.84698E 01	0.23261E 03	0.	0.	0.	0.	3.35
0.10451E 03	0.17010E 03	0.	0.	0.	0.	3.40
0.19766E 03	0.15581E 03	0.	0.	0.	0.	3.52
0.23654E 03	0.13112E 03	0.	0.	0.	0.	3.56
0.28879E 03	-0.98627E 02	0.	0.	0.	0.	3.60
0.42353E 03	-0.32151E 03	0.	0.	0.	0.	3.70
0.20886E 02	-0.13205E 03	0.	0.	0.	0.	3.85
-0.11585E 03	0.27851E 02	0.	0.	0.	0.	4.00
-0.73891E 02	-0.33063E 01	0.	0.	0.	0.	4.20
0.21205E 02	-0.18675E 02	0.	0.	0.	0.	4.50
0.12121E 02	-0.20259E 02	0.	0.	0.	0.	4.70
0.74143E 01	-0.19695E 02	0.	0.	0.	0.	4.80
0.15380E 01	-0.19216E 02	0.	0.	0.	0.	4.86
0.31168E 00	-0.16967E 02	0.	0.	0.	0.	5.00
-0.32136E 01	-0.14060E 02	0.	0.	0.	0.	5.15
-0.58644E 01	-0.97526E 01	0.	0.	0.	0.	5.30
-0.81363E 01	-0.45193E 01	0.	0.	0.	0.	5.40
-0.92912E 01	-0.57949E 01	0.	0.	0.	0.	5.70
-0.92211E 01	0.57970E 01	0.	0.	0.	0.	5.85
-0.78214E 01	0.69646E 01	0.	0.	0.	0.	6.00
-0.73685E 01	0.81497E 01	0.	0.	0.	0.	6.03
-0.68797E 01	0.94769E 01	0.	0.	0.	0.	6.06
-0.61914E 01	0.16150E 02	0.	0.	0.	0.	6.08
-0.15724E 01	0.29093E 02	0.	0.	0.	0.	6.20
0.20643E 02	-0.98080E 01	0.	0.	0.	0.	6.40
0.78894E 02	-0.52938E 02	0.	0.	0.	0.	6.60
-0.18047E 02	-0.22341E 02	0.	0.	0.	0.	7.00
-0.49646E 02	0.13420E 02	0.	0.	0.	0.	7.40
0.58506E 01	0.11442E 01	0.	0.	0.	0.	8.20
0.36034E 01	-0.13286E 01	0.	0.	0.	0.	9.00
0.17133E 01	0.	0.	0.	0.	0.	10.00

# Contrails

**Table XVII - - - Concluded**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 190,590 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 820      SEGMENT NUMBER 1

		INCREMENTAL AXIAL STRESS				FREQUENCY
		REAL	IMAGINARY			CPS
0.	0.	0.10820E 02	0.10549E 03	0.	0.	0.10
0.	0.	0.15918E 03	0.64265F 02	0.	0.	0.30
0.	0.	0.19704E 03	0.66361F 01	0.	0.	0.36
0.	-0.	0.20835E 03	-0.27207E 02	0.	-0.	0.44
0.	-0.	0.20088E 03	-0.61645E 02	0.	-0.	0.50
0.	-0.	0.18260E 03	-0.82745E 02	0.	-0.	0.60
0.	-0.	0.16635E 03	-0.98404E 02	0.	-0.	0.70
0.	-0.	0.15325E 03	-0.11204E 03	0.	-0.	0.80
0.	-0.	0.14269E 03	-0.12577E 03	0.	-0.	0.90
0.	-0.	0.13380E 03	-0.15808E 03	0.	-0.	1.00
0.	-0.	0.11900E 03	-0.19178E 03	0.	-0.	1.20
0.	-0.	0.10725E 03	-0.21139E 03	0.	-0.	1.34
0.	-0.	0.10022E 03	-0.23156E 03	0.	-0.	1.60
0.	-0.	0.92130E 02	-0.24334E 03	0.	-0.	1.45
0.	-0.	0.86847E 02	-0.25648E 03	0.	-0.	1.47
0.	-0.	0.80352E 02	-0.28768E 03	0.	-0.	1.90
0.	-0.	0.61826E 02	-0.32649E 03	0.	-0.	1.55
0.	-0.	0.30443E 02	-0.37122E 03	0.	-0.	1.60
-0.	-0.	-0.26123E 02	-0.18998E 03	-0.	-0.	1.65
-0.	0.	-0.40201E 03	0.67341E 02	-0.	0.	1.80
-0.	0.	-0.23937E 03	0.57189E 02	-0.	0.	1.90
-0.	0.	-0.83642E 02	0.16329E 02	-0.	0.	2.00
-0.	-0.	-0.25459E 02	-0.21511E 02	-0.	-0.	2.10
-0.	-0.	-0.12175E 01	-0.54651E 02	-0.	-0.	2.28
-0.	-0.	-0.28741E 01	-0.61124E 02	-0.	-0.	2.30
-0.	-0.	-0.21885E 01	-0.78169E 02	-0.	-0.	2.35
-0.	-0.	-0.38228E 01	-0.88525E 02	-0.	-0.	2.40
-0.	-0.	-0.11997E 02	-0.91937E 02	-0.	-0.	2.43
-0.	-0.	-0.17435E 02	-0.93546E 02	-0.	-0.	2.44
-0.	-0.	-0.35948E 02	-0.76598E 02	-0.	-0.	2.47
-0.	-0.	-0.54263E 02	-0.46995E 02	-0.	-0.	2.50
-0.	-0.	-0.43224E 02	-0.44653E 02	-0.	-0.	2.54
-0.	-0.	-0.19055E 02	-0.63860E 02	-0.	-0.	2.58
0.	-0.	0.82100E 00	-0.78791E 02	0.	-0.	2.65
0.	-0.	0.51077E 01	-0.10512E 03	0.	-0.	2.70
0.	-0.	0.44560E 01	-0.15824E 03	0.	-0.	2.80
-0.	-0.	-0.13093E 02	-0.18990E 03	-0.	-0.	3.00
-0.	-0.	-0.27894E 02	-0.23365E 03	-0.	-0.	3.10
-0.	-0.	-0.45217E 02	-0.27969E 03	-0.	-0.	3.20
-0.	-0.	-0.58646E 02	-0.32030E 03	-0.	-0.	3.26
-0.	-0.	-0.76737E 02	-0.38766E 03	-0.	-0.	3.29
-0.	-0.	-0.16294E 03	-0.39898E 03	-0.	-0.	3.35
-0.	-0.	-0.26033E 03	-0.40773E 03	-0.	-0.	3.40
-0.	-0.	-0.50035E 03	-0.39401E 03	-0.	-0.	3.52
-0.	-0.	-0.62865E 03	-0.34068E 03	-0.	-0.	3.56
-0.	0.	-0.79791E 03	0.31623E 03	-0.	0.	3.60
-0.	0.	-0.12327E 04	0.97089E 03	-0.	0.	3.70
-0.	0.	-0.70809E 02	0.42332E 03	-0.	0.	3.85
0.	0.	0.29261E 03	0.50792E 02	0.	0.	4.00
0.	0.	0.17317E 03	0.93933E 02	0.	0.	4.20
0.	0.	0.26537E 02	0.91176E 02	0.	0.	4.30
0.	0.	0.51053E 02	0.81506E 02	0.	0.	4.70
0.	0.	0.59479E 02	0.63799E 02	0.	0.	4.80
0.	0.	0.67703E 02	0.59135E 02	0.	0.	4.96
0.	0.	0.69028E 02	0.43090E 02	0.	0.	5.00
0.	0.	0.71725E 02	0.27133E 02	0.	0.	5.15
0.	0.	0.72028E 02	0.75240E 01	0.	0.	5.20
-0.	-0.	0.69562E 02	-0.12331E 02	-0.	-0.	5.25
0.	-0.	0.63984E 02	-0.27050E 02	0.	-0.	5.30
0.	-0.	0.57747E 02	-0.44055E 02	0.	-0.	5.70
0.	-0.	0.47970E 02	-0.47223E 02	0.	-0.	5.85
0.	-0.	0.45792E 02	-0.50481E 02	0.	-0.	6.00
0.	-0.	0.43417E 02	-0.53839E 02	0.	-0.	6.03
0.	-0.	0.40814E 02	-0.70352E 02	0.	-0.	6.08
0.	-0.	0.25167E 02	-0.98879E 02	0.	-0.	6.20
-0.	-0.	-0.32324E 02	-0.11754E 02	-0.	-0.	6.40
-0.	0.	-0.15911E 03	0.57452E 02	-0.	0.	6.60
0.	0.	0.24374E 02	0.77446E 01	0.	0.	6.80
0.	0.	0.23203E 02	0.30191E 01	0.	0.	7.40
0.	0.	0.21905E 02	-0.11644E 02	0.	-0.	8.20
0.	-0.	0.11166E 02	-0.12938E 02	0.	-0.	9.00
-0.	0.	-0.15865E 01	0.	-0.	0.	10.00

**Table XVIII Stress Frequency Response Functions (Analysis Condition 4)**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 107,260 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 27      SEGMENT NUMBER 10

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY			
-0.15909F 01	-0.63291E 01	0.20823E 02	0.92277E 02	-0.	-0.	0.10
-0.95263E 01	-0.51536E 01	0.13478E 03	0.76787E 02	-0.	-0.	0.30
-0.11348E 02	-0.30347E 01	0.16484F 03	0.46235E 02	-0.	-0.	0.36
-0.12859E 02	-0.12354E 01	0.19414F 03	0.18108F 02	-0.	-0.	0.44
-0.13316E 02	0.12674E 01	0.20816F 03	-0.25857E 02	-0.	0.	0.50
-0.12970F 02	0.29916F 01	0.21410E 03	-0.63495E 02	-0.	0.	0.60
-0.11849F 02	0.39670E 01	0.21280F 03	-0.95232F 02	-0.	0.	0.70
-0.10373E 02	0.42656E 01	0.20411E 03	-0.12265E 03	-0.	0.	0.80
-0.87636E 01	0.39136E 01	0.19329F 03	-0.14809E 03	-0.	0.	0.90
-0.70868F 01	0.98525F 00	0.18169F 03	-0.19880E 03	-0.	0.	1.00
-0.37917F 01	-0.38857E 01	0.15867E 03	-0.24329F 03	-0.	0.	1.20
-0.16292F 01	-0.71564E 01	0.14071F 03	-0.26699E 03	-0.	0.	1.34
-0.89965E 00	-0.10716F 02	0.13148F 03	-0.29022F 03	-0.	0.	1.40
-0.50019F 00	-0.12862E 02	0.12222E 03	-0.30337E 03	-0.	0.	1.47
-0.41798E 00	-0.15305E 02	0.11677E 03	-0.31776F 03	-0.	0.	1.55
-0.45036E 00	-0.21291E 02	0.11056F 03	-0.35108E 03	-0.	0.	1.65
-0.10325F 01	-0.29201E 02	0.94919E 02	-0.39213E 03	-0.	0.	1.75
-0.27852E 01	-0.39750E 02	0.72441E 02	-0.44331E 03	-0.	0.	1.80
-0.67836E 01	-0.86952E 02	0.37728E 02	-0.62715E 03	-0.	-0.	1.85
-0.70520E 02	-0.12126E 02	-0.31112E 03	-0.22483E 03	-0.	0.	1.90
-0.17930E 03	0.99958E 02	-0.75802E 03	0.21088E 03	-0.	0.	1.90
-0.12036E 03	0.10859E 03	-0.42991E 03	0.18239F 03	-0.	0.	2.00
-0.61041E 02	0.10333E 03	-0.18373E 03	0.11029E 03	-0.	0.	2.10
-0.31533E 02	0.97112E 02	-0.88224E 02	0.48987E 02	-0.	0.	2.20
-0.10473E 02	0.91746E 02	-0.60443E 02	0.31785E 02	-0.	0.	2.30
-0.61693E 01	0.90334E 02	-0.53906E 02	0.64268E 01	0.	0.	2.35
-0.27894E 01	0.89603F 02	-0.51216E 02	-0.90399E 01	0.	0.	2.40
-0.81701E 00	0.89266F 02	-0.57793E 02	-0.14855E 02	0.	0.	2.43
-0.15629E 00	0.88577E 02	-0.62866E 02	-0.24242E 02	0.	0.	2.44
0.73417E 00	0.89357E 02	-0.83621F 02	-0.14570E 02	0.	0.	2.47
0.27300F 00	0.94704F 02	-0.11070E 03	0.27574E 02	0.	0.	2.50
0.11080F 01	0.10006E 03	-0.11641E 03	0.46526E 02	0.	0.	2.54
0.45924E 01	0.10479E 03	-0.85736E 02	0.31185F 02	0.	0.	2.58
0.17748F 02	0.10759E 03	-0.50968E 02	0.15885F 02	0.	0.	2.65
0.25488F 02	0.11429E 03	-0.42208E 02	-0.94437E 01	0.	0.	2.70
0.41494E 02	0.13628E 03	-0.40590E 02	-0.45448E 02	0.	0.	2.80
0.91227E 02	0.15240F 03	-0.63471E 02	-0.59627E 02	0.	0.	3.00
0.13796F 03	0.16825F 03	-0.87237E 02	-0.70048E 02	0.	0.	3.10
0.22345E 03	0.16555E 03	-0.12744E 03	-0.69334E 02	0.	0.	3.20
0.31866E 03	0.14692E 03	-0.16762E 03	-0.61455E 02	0.	0.	3.25
0.39747F 03	0.19024E 02	-0.19907E 03	-0.10750E 02	0.	0.	3.28
0.58719F 03	-0.35587E 03	-0.26939E 03	0.12576F 03	0.	-0.	3.35
0.68266F 03	-0.49585E 03	-0.29604E 03	0.14069E 03	0.	-0.	3.40
-0.11372E 03	-0.35981E 03	-0.25656E 02	0.89418E 02	-0.	-0.	3.52
-0.17035F 03	-0.26391E 03	-0.19929E 02	0.55206F 02	-0.	-0.	3.56
-0.18163E 03	-0.12547E 03	-0.30093E 02	0.14090E 02	-0.	-0.	3.60
-0.16011E 03	-0.30587E 02	-0.76811E 02	0.36569E 02	-0.	-0.	3.70
-0.10471E 03	-0.32449E 02	-0.17132E 03	0.21036E 03	-0.	-0.	3.85
-0.32707F 02	-0.38240E 02	-0.17042E 03	0.18621E 03	0.	-0.	4.00
-0.75137E 02	0.38684E 02	-0.26585E 02	0.24654E 03	-0.	-0.	4.20
-0.14264E 02	-0.47359E 01	0.11097E 03	0.97173E 02	-0.	-0.	4.30
0.10168F 01	-0.11272E 02	0.17518E 03	0.53656E 02	-0.	-0.	4.70
-0.56334E 01	-0.12461E 02	0.15928F 03	0.14974E 02	-0.	-0.	4.80
-0.13359F 02	-0.11997F 02	0.13702E 03	0.83307E 01	-0.	-0.	4.96
-0.14704F 02	-0.94890E 01	0.12577E 03	-0.90252E 01	-0.	-0.	5.00
-0.17869F 02	-0.63966E 01	0.10663E 03	-0.21058E 02	-0.	-0.	5.15
-0.19382E 02	-0.25278E 01	0.90391E 02	-0.31635E 02	-0.	-0.	5.30
-0.19757F 02	0.10244E 01	0.73102E 02	-0.39067E 02	-0.	0.	5.50
-0.19044E 02	0.32590F 01	0.57948F 02	-0.42897E 02	-0.	0.	5.70
-0.18111E 02	0.57549F 01	0.48171E 02	-0.45901E 02	-0.	0.	5.85
-0.16842F 02	0.56892E 01	0.38484E 02	-0.46324E 02	-0.	0.	6.00
-0.16599E 02	0.60161E 01	0.36868F 02	-0.46722E 02	-0.	0.	6.03
-0.16349F 02	0.63356F 01	0.35266E 02	-0.47095E 02	-0.	0.	6.08
-0.16053F 02	0.78840E 01	0.33674E 02	-0.48490E 02	-0.	0.	6.08
-0.14863E 02	0.96035E 01	0.26630E 02	-0.49888E 02	-0.	0.	6.20
-0.12552E 02	0.11142F 02	0.15195F 02	-0.50262E 02	-0.	0.	6.40
-0.97965F 01	0.12479E 02	0.32624E 01	-0.45226E 02	-0.	0.	6.60
-0.19770E 01	-0.11645E 01	-0.27068E 02	0.16305E 02	0.	-0.	7.00
0.87964F 01	0.80864F 01	-0.60962E 02	-0.21729E 02	0.	0.	7.40
-0.10658E 02	0.10488E 02	-0.27075E 02	0.11514E 02	-0.	0.	8.20
-0.99973E 00	0.81755E 01	0.27798E 02	-0.79705E 01	-0.	0.	9.00
0.36570E 01	0.	0.81592F 01	0.	0.	0.	10.00

**Table XVIII --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMISPAN: 27    SEGMENT NUMBER 14

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY
REAL	IMAGINARY	REAL	IMAGINARY	-	-	CPS
0.22156F 01	0.14233E 02	0.18896E 02	0.83739E 02	-0.	-0.	0.10
0.20952E 02	0.11844F 02	0.12231E 03	0.69682E 02	-0.	-0.	0.30
0.25767E 02	0.70627F 01	0.14959E 03	0.41947E 02	-0.	-0.	0.56
0.40411F 02	0.25904E 01	0.17618F 03	0.16432E 02	-0.	-0.	0.44
0.33054E 02	-0.45746E 01	0.18890E 03	-0.23444E 02	-0.	-0.	0.50
0.34907E 02	-0.10980E 02	0.19611E 03	-0.57620E 02	-0.	-0.	0.60
0.35037E 02	-0.16726F 02	0.19311E 03	-0.86421E 02	-0.	-0.	0.70
0.34350F 02	-0.22119E 02	0.18523E 03	-0.11130E 03	-0.	-0.	0.80
0.33473F 02	-0.27656E 02	0.17541F 03	-0.13439E 03	-0.	-0.	0.90
0.42517F 02	-0.40723F 02	0.16488E 03	-0.18040E 03	-0.	-0.	1.00
0.40402E 02	-0.54422E 02	0.14399E 03	-0.22078E 03	-0.	-0.	1.20
0.25267E 02	-0.62400E 02	0.12769F 03	-0.24228E 03	-0.	-0.	1.34
0.24160F 02	-0.70586F 02	0.11932E 03	-0.26337E 03	-0.	-0.	1.40
0.26744E 02	-0.75355E 02	0.11091E 03	-0.27950E 03	-0.	-0.	1.45
0.25767F 02	-0.80673E 02	0.10596E 03	-0.28836E 03	-0.	-0.	1.47
0.24532F 02	-0.93350E 02	0.10039E 03	-0.31589E 03	-0.	-0.	1.50
0.20929F 02	-0.10949E 03	0.86136F 02	-0.40229E 03	-0.	-0.	1.55
0.14838E 02	-0.13038E 03	0.65738E 02	-0.45913E 03	-0.	-0.	1.60
0.41143F 01	-0.21595E 03	0.34237E 02	-0.56913E 03	-0.	-0.	1.65
-0.12855F 03	-0.62800E 02	-0.28234E 03	-0.20403E 03	-0.	-0.	1.80
-0.32890F 03	0.13837E 03	-0.68788E 03	0.19136E 03	-0.	-0.	1.90
-0.20657F 03	0.14272E 03	-0.39013E 03	0.16551E 03	-0.	-0.	2.00
-0.67780E 02	0.12347E 03	-0.16673E 03	0.10009E 03	-0.	-0.	2.10
-0.48748E 02	0.10501F 03	-0.80061E 02	0.44455E 02	-0.	-0.	2.20
-0.23159F 02	0.97219E 02	-0.54851E 02	0.28844E 02	-0.	-0.	2.30
-0.17099E 02	0.90713E 02	-0.48918E 02	0.58322E 01	-0.	-0.	2.35
-0.12790F 02	0.86673E 02	-0.46477E 02	-0.82035E 01	-0.	-0.	2.40
-0.12297F 02	0.85090E 02	-0.52445E 02	-0.13481E 02	-0.	-0.	2.43
-0.12835E 02	0.82524E 02	-0.57050F 02	-0.21999E 02	-0.	-0.	2.44
-0.16947E 02	0.86141E 02	-0.75894E 02	-0.13222E 02	-0.	-0.	2.47
-0.24121F 02	0.10278F 03	-0.10046E 03	-0.25022E 02	-0.	-0.	2.50
-0.24732E 02	0.11386F 03	-0.10564E 03	0.42221E 02	-0.	-0.	2.54
-0.11343E 02	0.11635E 03	-0.77803F 02	0.28300E 02	-0.	-0.	2.58
0.94485F 01	0.11632F 03	-0.46252E 02	0.14052E 02	-0.	-0.	2.65
0.20305E 02	0.11892F 03	-0.38303E 02	-0.85700E 01	-0.	-0.	2.70
0.39077F 02	0.13715E 03	-0.36834E 02	-0.41261E 02	-0.	-0.	2.80
0.92175F 02	0.15308E 03	-0.57598F 02	-0.54110E 02	-0.	-0.	3.00
0.14219F 03	0.16928F 03	-0.79165E 02	-0.63567E 02	-0.	-0.	3.10
0.23676E 03	0.16548E 03	-0.11565E 03	0.62919E 02	-0.	-0.	3.20
0.34238F 03	0.14398E 03	-0.15211E 03	-0.55769E 02	-0.	-0.	3.26
0.43105F 03	-0.23713E 01	-0.18065E 03	-0.97554E 01	-0.	-0.	3.29
0.64616F 03	-0.43266E 03	-0.24447E 03	0.11412F 03	-0.	-0.	3.35
0.75525E 03	-0.60281E 03	-0.26865E 03	0.12767F 03	-0.	-0.	3.40
-0.16867F 03	-0.44775F 03	-0.23282E 02	0.81145E 02	-0.	-0.	3.52
-0.24004E 03	-0.33797E 03	-0.18085E 02	0.50098E 02	-0.	-0.	3.56
-0.24988E 03	-0.17621E 03	-0.27309E 02	0.12786E 02	-0.	-0.	3.60
-0.25704F 03	-0.35099F 02	-0.69704E 02	0.33185E 02	-0.	-0.	3.70
-0.24177F 03	0.87443F 02	-0.15547E 03	0.19089E 03	-0.	-0.	3.85
-0.14439E 03	0.46440E 02	-0.15465E 03	0.16899E 03	-0.	-0.	4.00
-0.72518E 02	0.10313F 03	-0.24126F 02	0.22373E 03	-0.	-0.	4.20
0.16157E 02	0.24391F 02	0.10071E 03	0.88183E 02	-0.	-0.	4.50
0.45540F 02	0.64374E 01	0.15897E 03	0.48692E 02	-0.	-0.	4.70
0.75596F 02	-0.58341E 01	0.14454E 03	0.13588E 02	-0.	-0.	4.80
0.21874F 02	-0.74086E 01	0.11981E 03	0.75599E 01	-0.	-0.	4.96
0.18841E 02	-0.10495F 02	0.11413E 03	-0.81901E 01	-0.	-0.	5.00
0.10974E 02	-0.11584E 02	0.96769F 02	-0.19110E 02	-0.	-0.	5.15
0.52558E 01	-0.11678F 02	0.82028E 02	-0.28708E 02	-0.	-0.	5.30
0.12755E-00	-0.11136E 02	0.66338E 02	-0.35453E 02	-0.	-0.	5.40
-0.36458E 01	-0.10566E 02	0.52586F 02	-0.38928E 02	-0.	-0.	5.70
-0.57732E 01	-0.98800E 01	0.43714E 02	-0.41654E 02	-0.	-0.	5.85
-0.76908F 01	-0.97567E 01	0.34923F 02	-0.42038F 02	-0.	-0.	6.00
-0.79951F 01	-0.96323E 01	0.33457F 02	-0.42399E 02	-0.	-0.	6.05
-0.82935F 01	-0.95072F 01	0.32003E 02	-0.42738E 02	-0.	-0.	6.08
-0.85862E 01	-0.89390E 01	0.30559E 02	-0.44003E 02	-0.	-0.	6.08
-0.98490F 01	-0.80079E 01	0.24167E 02	-0.45272E 02	-0.	-0.	6.20
-0.11848F 02	-0.70756E 01	0.13789F 02	-0.45611E 02	-0.	-0.	6.40
-0.14032E 02	-0.40812E 01	0.29606F 01	-0.41042E 02	-0.	-0.	6.60
-0.21000F 02	0.17795E 02	-0.24563E 02	0.14797F 02	-0.	-0.	7.00
-0.29564F 02	0.38593E 01	-0.55230E 02	-0.19715E 02	-0.	-0.	7.40
-0.14094F 02	0.17214F 02	-0.24570E 02	0.10449E 02	-0.	-0.	8.20
0.13020F 02	0.53895E 01	0.24772E 02	-0.72330E 01	-0.	-0.	9.00
0.88497F 01	0.	0.74043E 01	0.	-0.	-0.	10.00

**Table XVIII --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 40.06    SEGMENT NUMBER 8

INCREMENTAL SEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY			
0.3228E 01	0.1523E 02	0.1873E 02	0.8556E 02	-0.	-0.	0.10
0.2166E 02	0.1284E 02	0.1240E 03	0.7135E 02	-0.	-0.	0.30
0.2665E 02	0.8036E 01	0.1521E 03	0.4302E 02	-0.	-0.	0.36
0.3165E 02	0.3545E 01	0.1798E 03	0.1673E 02	-0.	0.	0.44
0.3420E 02	-0.3601E 01	0.1933E 03	-0.2472E 02	-0.	0.	0.50
0.3607E 02	-0.9923E 01	0.2013E 03	-0.6060E 02	-0.	0.	0.60
0.3625E 02	-0.1554E 02	0.1987E 03	-0.9118E 02	-0.	0.	0.70
0.3565E 02	-0.2079E 02	0.1908E 03	-0.1178E 03	-0.	0.	0.80
0.3490E 02	-0.2617E 02	0.1807E 03	-0.1428E 03	-0.	-0.	0.90
0.3414E 02	-0.3899E 02	0.1696E 03	-0.1926E 03	0.	-0.	1.00
0.3294E 02	-0.5253E 02	0.1468E 03	-0.2361E 03	0.	-0.	1.20
0.3191E 02	-0.6044E 02	0.1284E 03	-0.2591E 03	0.	-0.	1.34
0.3106E 02	-0.6856E 02	0.1188E 03	-0.2816E 03	0.	-0.	1.40
0.2988E 02	-0.7329E 02	0.1091E 03	-0.2942E 03	0.	-0.	1.45
0.2904E 02	-0.7856E 02	0.1034E 03	-0.3081E 03	0.	-0.	1.47
0.2796E 02	-0.9111E 02	0.9705E 02	-0.3400E 03	0.	-0.	1.50
0.2470E 02	-0.1071E 03	0.8092E 02	-0.3792E 03	0.	0.	1.55
0.1905E 02	-0.1278E 03	0.5747E 02	-0.4277E 03	0.	0.	1.60
0.8929E 01	-0.2133E 03	0.2295E 02	-0.5947E 03	0.	-0.	1.65
-0.1191E 03	-0.6674E 02	-0.3178E 03	-0.1964E 03	-0.	-0.	1.80
-0.3152E 03	0.1285E 03	-0.7343E 03	0.2095E 03	-0.	0.	1.90
-0.1973E 03	0.1310E 03	-0.4069E 03	0.1721E 03	-0.	0.	2.00
-0.8142E 02	0.1080E 03	-0.1729E 03	0.9542E 02	-0.	0.	2.10
-0.4494E 02	0.8758E 02	-0.8664E 02	0.3546E 02	-0.	0.	2.20
-0.3410E 02	0.9278E 02	-0.8233E 02	0.3853E 02	-0.	0.	2.30
-0.2669E 02	0.8680E 02	-0.7391E 02	0.1681E 02	-0.	0.	2.35
-0.1535E 02	0.8152E 02	-0.6138E 02	0.1792E 01	-0.	0.	2.40
-0.1266E 02	0.7936E 02	-0.6410E 02	-0.3889E 01	-0.	0.	2.43
-0.1246E 02	0.7501E 02	-0.6752E 02	-0.1371E 02	-0.	0.	2.44
-0.1481E 02	0.7588E 02	-0.8308E 02	-0.7888E 01	0.	0.	2.47
-0.2043E 02	0.8751E 02	-0.1040E 03	0.2299E 02	0.	0.	2.50
-0.2120E 02	0.9490E 02	-0.1076E 03	0.3490E 02	0.	0.	2.54
-0.1024E 02	0.9313E 02	-0.8322E 02	0.1796E 02	0.	0.	2.58
0.6527E 01	0.8975E 02	-0.5754E 02	0.2654E 01	0.	0.	2.65
0.1444E 02	0.8418E 02	-0.5279E 02	-0.2177E 03	0.	0.	2.70
0.2565E 02	0.7584E 02	-0.5713E 02	-0.5816E 02	0.	0.	2.80
0.4407E 02	0.7133E 02	-0.9422E 02	-0.7263E 02	0.	0.	3.00
0.5269E 02	0.6480E 02	-0.1300E 03	-0.8154E 02	0.	0.	3.10
0.5955E 02	0.5926E 02	-0.1919E 03	-0.7518E 02	0.	0.	3.20
0.6020E 02	0.5600E 02	-0.2552E 03	-0.5886E 02	0.	0.	3.26
0.5751E 02	0.5554E 02	-0.3058E 03	0.3261E 02	0.	0.	3.29
0.4221E 02	0.8459E 02	-0.4188E 03	0.2698E 03	0.	0.	3.35
0.1906E 02	0.1531E 03	-0.4562E 03	0.3013E 03	0.	0.	3.40
0.1199E 03	0.1434E 03	0.2754E 02	0.2158E 03	0.	0.	3.52
0.1506E 03	0.1329E 03	0.4653E 02	0.1590E 03	0.	0.	3.56
0.1767E 03	0.1021E 03	0.4011E 02	0.8833E 02	0.	0.	3.60
0.2468E 03	-0.2612E 02	-0.1459E 01	0.7818E 02	0.	-0.	3.70
0.3906E 03	-0.4224E 03	-0.6871E 02	0.1494E 03	0.	-0.	3.85
0.2969E 03	-0.2740E 03	-0.7469E 02	0.1485E 03	0.	-0.	4.00
-0.7005E 03	-0.1408E 03	-0.5374E 02	0.2855E 03	-0.	-0.	4.20
-0.1159E 03	-0.6969E 02	0.1380E 03	0.9464E 02	-0.	-0.	4.50
-0.1783E 03	-0.4543E 02	0.2092E 03	0.4471E 02	-0.	-0.	4.70
-0.1195E 03	-0.2033E 02	0.1849E 03	0.4314E 01	-0.	-0.	4.80
-0.1042E 03	-0.1555E 02	0.1473E 03	-0.2016E 01	-0.	-0.	4.96
-0.1005E 03	-0.2229E 01	0.1391E 03	-0.1722E 02	-0.	-0.	5.00
-0.8883E 02	0.7757E 01	0.1146E 03	-0.2617E 02	-0.	0.	5.13
-0.7832E 02	0.1706E 02	0.9495E 02	-0.3236E 02	-0.	0.	5.30
-0.6672E 02	0.2399E 02	0.7552E 02	-0.3534E 02	-0.	0.	5.50
-0.5638E 02	0.2779E 02	0.6074E 02	-0.3618E 02	-0.	0.	5.70
-0.4969E 02	0.3104E 02	0.5142E 02	-0.3631E 02	-0.	0.	5.85
-0.4308E 02	0.3153E 02	0.4356E 02	-0.3627E 02	-0.	0.	6.00
-0.4198E 02	0.3200E 02	0.4234E 02	-0.3621E 02	-0.	0.	6.03
-0.4088E 02	0.3246E 02	0.4115E 02	-0.3613E 02	-0.	0.	6.06
-0.3980E 02	0.3431E 02	0.4000E 02	-0.3561E 02	-0.	0.	6.08
-0.3500E 02	0.3673E 02	0.3523E 02	-0.3420E 02	-0.	0.	6.20
-0.2721E 02	0.3843E 02	0.2871E 02	-0.3224E 02	-0.	0.	6.40
-0.1913E 02	0.3819E 02	0.2383E 02	-0.2843E 02	-0.	0.	6.60
0.2847E 00	0.8731E 01	0.2084E 02	-0.4622E 02	0.	0.	7.00
0.2214E 00	0.2598E 02	0.2838E 02	-0.2622E 02	0.	0.	7.40
0.4556E 01	0.1344E 02	-0.2616E 02	-0.9404E 01	0.	0.	8.20
-0.3367E 01	0.1378E 02	-0.1217E 02	-0.2680E 01	-0.	0.	9.00
0.9357E 01	0.	-0.1198E 02	0.	0.	0.	10.00

# Contrails

**Table XVIII --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

PERCENT SEMI SPAN: 40.06    SEGMENT NUMBER 107

INCREMENTAL SHEAR STRESS				INCREMENTAL AXIAL STRESS				FREQUENCY CPS
REAL	IMAGINARY			REAL	IMAGINARY			
0.33210E 01	0.15610E 02	-0.	-0.	-0.16006E 02	-0.73110E 02	0.10		
0.27333E 02	0.13135E 02	-0.	-0.	-0.10599E 03	-0.60968E 02	0.30		
0.27393E 02	0.41938E 01	-0.	-0.	-0.13003E 03	-0.36760E 02	0.56		
0.32414E 02	0.36163E 01	-0.	0.	-0.15368E 03	-0.14296E 02	0.44		
0.34932E 02	-0.36025E 01	-0.	0.	-0.16519E 03	0.21125E 02	0.50		
0.36695E 02	-0.99102E 01	-0.	0.	-0.17206E 03	0.41781E 02	0.60		
0.36719E 02	-0.15441E 02	-0.	0.	-0.16982E 03	0.77914E 02	0.70		
0.36012E 02	-0.20532E 02	-0.	0.	-0.16308E 03	0.10071E 03	0.80		
0.35097E 02	-0.25699E 02	0.	-0.	-0.15443E 03	0.12202E 03	0.90		
0.34219E 02	-0.37847E 02	0.	-0.	-0.14494E 03	0.16459E 03	1.00		
0.32884E 02	-0.50627E 02	0.	-0.	-0.12547E 03	0.20175E 03	1.20		
0.31849E 02	-0.58086E 02	0.	-0.	-0.10971E 03	0.22141E 03	1.34		
0.31049E 02	-0.55743E 02	0.	-0.	-0.10151E 03	0.24061E 03	1.40		
0.29940E 02	-0.70205E 02	0.	-0.	-0.93268E 02	0.25144E 03	1.45		
0.29131E 02	-0.75181E 02	0.	-0.	-0.88425E 02	0.26327E 03	1.47		
0.28175E 02	-0.87026E 02	0.	-0.	-0.82924E 02	0.29056E 03	1.50		
0.27157E 02	-0.10216E 03	0.	-0.	-0.69142E 02	0.32401E 03	1.55		
0.19907E 02	-0.12173E 03	0.	-0.	-0.49534E 02	0.36544E 03	1.60		
0.10475E 02	-0.20311E 03	0.	-0.	-0.19614E 02	0.50817E 03	1.65		
-0.10725E 03	-0.66239E 02	-0.	-0.	0.27154E 03	0.14783E 03	1.80		
-0.29845E 03	0.11852E 03	-0.	-0.	0.62741E 03	-0.17930E 03	1.90		
-0.18661E 03	0.12154E 03	-0.	0.	0.34771E 03	-0.14711E 03	2.00		
-0.85806E 02	0.10001E 03	-0.	0.	0.14777E 03	-0.81537E 02	2.10		
-0.41832E 02	0.80566E 02	-0.	0.	0.74033E 02	-0.30301E 02	2.20		
-0.31273E 02	0.85104E 02	-0.	0.	0.70353E 02	-0.32929E 02	2.30		
-0.24535E 02	0.79195E 02	-0.	0.	0.63154E 02	-0.14364E 02	2.35		
-0.14166E 02	0.74031E 02	-0.	0.	0.52445E 02	-0.15318E 01	2.40		
-0.11957E 02	0.71923E 02	-0.	0.	0.54771E 02	0.33235E 01	2.43		
-0.11659E 02	0.67785E 02	-0.	0.	0.57692E 02	0.11717E 02	2.44		
-0.11493E 02	0.69145E 02	0.	0.	0.70987E 02	0.67398E 01	2.47		
-0.21105E 02	0.81777E 02	0.	0.	0.88858E 02	-0.19647E 02	2.50		
-0.22101E 02	0.89717E 02	0.	0.	0.91969E 02	-0.29826E 02	2.54		
-0.10775E 02	0.88094E 02	0.	0.	0.71109E 02	-0.15349E 02	2.58		
0.62848E 01	0.84725E 02	0.	0.	0.49168E 02	-0.22683E 01	2.65		
0.14211E 02	0.79171E 02	0.	0.	0.45111E 02	0.18603E 02	2.70		
0.25900E 02	0.70748E 02	0.	0.	0.48820E 02	0.49694E 02	2.80		
0.47402E 02	0.66093E 02	0.	0.	0.80511E 02	0.62060E 02	3.00		
0.51895E 02	0.59245E 02	0.	0.	0.11115E 03	0.69678E 02	3.10		
0.48724E 02	0.53408E 02	0.	0.	0.16398E 03	0.64237E 02	3.20		
0.59490E 02	0.49812E 02	0.	0.	0.21812E 03	0.50300E 02	3.26		
0.66943E 02	0.48180E 02	0.	0.	0.26110E 03	-0.27868E 02	3.29		
0.41956E 02	0.74880E 02	0.	0.	0.35785E 03	-0.23057E 03	3.35		
0.18190E 02	0.14367E 03	0.	0.	0.38986E 03	-0.25747E 03	3.40		
0.11709E 03	0.13442E 03	0.	0.	-0.23535E 02	-0.18442E 03	3.52		
0.14289E 03	0.12435E 03	0.	0.	-0.39759E 02	-0.13593E 03	3.56		
0.16423E 03	0.94193E 02	0.	0.	-0.34273E 02	-0.75474E 02	3.60		
0.23545E 03	-0.29481E 02	0.	-0.	0.12469E 01	-0.66402E 02	3.70		
0.37138E 03	-0.40509E 03	0.	-0.	0.58713E 02	-0.12769E 03	3.85		
0.27910E 03	-0.26215E 03	0.	-0.	0.63823E 02	-0.12694E 03	4.00		
-0.65202E 03	-0.14019E 03	-0.	-0.	0.45918E 02	-0.24396E 03	4.20		
-0.11546E 03	-0.66960E 02	-0.	-0.	-0.11794E 03	-0.80669E 02	4.50		
-0.12790E 03	-0.42861E 02	-0.	-0.	-0.17883E 03	-0.38203E 02	4.70		
-0.11842E 03	-0.18460E 02	-0.	-0.	-0.15400E 03	-0.36862E 01	4.80		
-0.10251E 03	-0.13874E 02	-0.	-0.	-0.12590E 03	0.17233E 01	4.96		
-0.68726E 02	-0.12428E 01	-0.	-0.	-0.11885E 03	0.14720E 02	5.00		
-0.66753E 02	0.80714E 01	-0.	0.	-0.97954E 02	0.22363E 02	5.15		
-0.76767E 02	0.16596E 02	-0.	0.	-0.81136E 02	0.27655E 02	5.30		
-0.64824E 02	0.22807E 02	-0.	0.	-0.64514E 02	0.30190E 02	5.50		
-0.54809E 02	0.26166E 02	-0.	0.	-0.51475E 02	0.30919E 02	5.70		
-0.48444E 02	0.29001E 02	-0.	0.	-0.43939E 02	0.31027E 02	5.85		
-0.42254E 02	0.29427E 02	-0.	0.	-0.37224E 02	0.30991E 02	6.00		
-0.41232E 02	0.24837E 02	-0.	0.	-0.36180E 02	0.30940E 02	6.03		
-0.40220E 02	0.30231E 02	-0.	0.	-0.35167E 02	0.30876E 02	6.06		
-0.39219E 02	0.31826E 02	-0.	0.	-0.34183E 02	0.30430E 02	6.08		
-0.34873E 02	0.33889E 02	-0.	0.	-0.30105E 02	0.29222E 02	6.20		
-0.27710E 02	0.35318E 02	-0.	0.	-0.24539E 02	0.27551E 02	6.40		
-0.20728E 02	0.35277E 02	-0.	0.	-0.20366E 02	0.24299E 02	6.60		
-0.46725E 01	0.14660E 02	0.	0.	-0.17809E 02	0.39494E 02	7.00		
0.12516E 02	0.25494E 02	0.	0.	-0.24254E 02	0.22406E 02	7.40		
0.35217E 01	0.15497E 02	0.	0.	0.22354E 02	0.80355E 01	8.20		
0.84544E 00	0.13001E 02	-0.	0.	0.10401E 02	0.22902E 01	9.00		
0.11144E 02	0.	0.	0.	0.10241E 02	0.	10.00		

**Table XVIII -- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 107,260 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 540      SEGMENT NUMBER 17

INCREMENTAL SHEAR STRESS						FREQUENCY
REAL	IMAGINARY					CPS
-0.18744E-07	-0.56730E 00	0.	0.	0.	0.	0.10
-0.10561E 01	-0.41030E-00	0.	0.	0.	0.	0.30
-0.12428E 01	-0.15013E-00	0.	0.	0.	0.	0.36
-0.13875E 01	0.61359E-01	0.	-0.	0.	-0.	0.44
-0.14238E 01	0.35005E-00	0.	-0.	0.	-0.	0.50
-0.13790E 01	0.55578E 00	0.	-0.	0.	-0.	0.60
-0.12736E 01	0.69612E 00	0.	-0.	0.	-0.	0.70
-0.11541E 01	0.79202E 00	0.	-0.	0.	-0.	0.80
-0.10431E 01	0.86307E 00	0.	-0.	0.	-0.	0.90
-0.94720E 00	0.97962E 00	0.	-0.	0.	-0.	1.00
-0.81049E 00	0.10819E 01	0.	-0.	0.	-0.	1.20
-0.74640E 00	0.11396E 01	0.	-0.	0.	-0.	1.34
-0.72374E 00	0.11982E 01	0.	-0.	0.	-0.	1.40
-0.70505E 00	0.12322E 01	0.	-0.	0.	-0.	1.45
-0.69518E 00	0.12699E 01	0.	-0.	0.	-0.	1.47
-0.68452E 00	0.13594E 01	0.	-0.	0.	-0.	1.50
-0.67883E 00	0.14733E 01	0.	-0.	0.	-0.	1.55
-0.67177E 00	0.16209E 01	0.	-0.	0.	-0.	1.60
-0.66095E 00	0.22900E 01	0.	-0.	0.	-0.	1.65
0.21512E-00	0.15409E 01	-0.	-0.	-0.	-0.	1.80
0.15780E 01	0.25628E-00	-0.	-0.	-0.	-0.	1.90
0.95722E 00	0.20042E-00	-0.	-0.	-0.	-0.	2.00
0.34559E-00	0.35724E-00	-0.	-0.	-0.	-0.	2.10
0.45755E-01	0.55122E 00	-0.	-0.	-0.	-0.	2.20
-0.52779E-01	0.59644E 00	-0.	-0.	-0.	-0.	2.30
-0.70477E-01	0.68965E 00	-0.	-0.	-0.	-0.	2.35
-0.92722E-01	0.75802E 00	-0.	-0.	-0.	-0.	2.40
-0.69796E-01	0.78576E 00	-0.	-0.	-0.	-0.	2.45
-0.47920E-01	0.83524E 00	-0.	-0.	-0.	-0.	2.44
0.50328E-01	0.79130E 00	-0.	-0.	-0.	-0.	2.47
0.19333E-00	0.55898E 00	-0.	-0.	-0.	-0.	2.50
0.24186E-00	0.42460E-00	-0.	-0.	-0.	-0.	2.54
0.77424E-01	0.46483E-00	-0.	-0.	-0.	-0.	2.58
-0.15676E-00	0.53391E 00	0.	-0.	0.	-0.	2.65
-0.25236E-00	0.65558E 00	0.	-0.	0.	-0.	2.70
-0.37805E-00	0.83749E 00	0.	-0.	0.	-0.	2.80
-0.68174E 00	0.89972E 00	0.	-0.	0.	-0.	3.00
-0.10167E 01	0.99685E 00	0.	-0.	0.	-0.	3.10
-0.17704E 01	0.12275E 01	0.	-0.	0.	-0.	3.20
-0.27196E 01	0.15811E 01	0.	-0.	0.	-0.	3.26
-0.35629E 01	0.34340E 01	0.	-0.	0.	-0.	3.29
-0.56787E 01	0.84924E 01	0.	-0.	0.	-0.	3.35
-0.65616E 01	0.10881E 02	0.	-0.	0.	-0.	3.40
0.50602E 01	0.92636E 01	-0.	-0.	-0.	-0.	3.52
0.64196E 01	0.81326E 01	-0.	-0.	-0.	-0.	3.56
0.72931E 01	0.62744E 01	-0.	-0.	-0.	-0.	3.60
0.96272E 01	0.12151E 01	-0.	-0.	-0.	-0.	3.70
0.15589E 02	-0.16700E 02	-0.	0.	-0.	0.	3.85
0.12309E 02	-0.94417E 01	-0.	0.	-0.	0.	4.00
-0.88812E 01	0.54045E 01	0.	-0.	0.	-0.	4.20
-0.40395E-00	0.19367E-00	0.	-0.	0.	-0.	4.50
0.25759E 01	-0.82772E 00	-0.	0.	-0.	0.	4.70
0.19428E 01	-0.13196E 01	-0.	0.	-0.	0.	4.80
0.10770E 01	-0.13468E 01	-0.	0.	-0.	0.	4.96
0.90382E 00	-0.13141E 01	-0.	0.	-0.	0.	5.00
0.46213E-00	-0.11903E 01	-0.	0.	-0.	0.	5.15
0.17543E-00	-0.10032E 01	-0.	0.	-0.	0.	5.30
-0.40446E-01	-0.81876E 00	-0.	0.	-0.	0.	5.42
-0.15725E-00	-0.69857E 00	0.	0.	0.	0.	5.70
-0.19890E-00	-0.58294E 00	0.	0.	0.	0.	5.85
-0.21508E-00	-0.56423E 00	0.	0.	0.	0.	6.00
-0.21537E-00	-0.54588E 00	0.	0.	0.	0.	6.03
-0.21497E-00	-0.52788E 00	0.	0.	0.	0.	6.06
-0.21390E-00	-0.45135E-00	0.	0.	0.	0.	6.08
-0.20107E-00	-0.34159E-00	0.	0.	0.	0.	6.20
-0.15221E-00	-0.25357E-00	0.	0.	0.	0.	6.40
-0.65765E-01	-0.18955E-00	0.	0.	0.	0.	6.60
0.29069E-00	-0.12628E 01	-0.	0.	-0.	0.	7.00
0.10407E 01	-0.81816E 00	-0.	0.	-0.	0.	7.40
-0.26913E 01	0.93376E 00	0.	-0.	0.	-0.	8.20
0.88968E 00	-0.86075E-01	-0.	-0.	-0.	-0.	9.00
0.45390E-00	0.	-0.	0.	-0.	0.	10.00

# Contrails

**Table XVIII --- Concluded**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 107,260 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85

BODY BALANCE STATION: 820      SEGMENT NUMBER 1

		INCREMENTAL AXIAL STRESS				FREQUENCY
		REAL	IMAGINARY			CPS
0.	0.	0.12938E 02	0.46905E 02	0.	0.	0.10
0.	0.	0.76771E 02	0.36895E 02	0.	0.	0.30
0.	0.	0.42098E 02	0.18922E 02	0.	0.	0.36
0.	0.	0.10575E 03	0.33793E 01	0.	0.	0.44
0.	-0.	0.11117E 03	-0.19425E 02	0.	-0.	0.50
0.	-0.	0.11209E 03	-0.37500E 02	0.	-0.	0.60
0.	-0.	0.10771E 03	-0.51609E 02	0.	-0.	0.70
0.	-0.	0.10133E 03	-0.62954E 02	0.	-0.	0.80
0.	-0.	0.94672E 02	-0.72893E 02	0.	-0.	0.90
0.	-0.	0.88327E 02	-0.91764E 02	0.	-0.	1.00
0.	-0.	0.77536E 02	-0.10794E 03	0.	-0.	1.20
0.	-0.	0.70429E 02	-0.11645E 03	0.	-0.	1.34
0.	-0.	0.67086E 02	-0.12473E 03	0.	-0.	1.40
0.	-0.	0.63860E 02	-0.12938E 03	0.	-0.	1.45
0.	-0.	0.62004E 02	-0.13445E 03	0.	-0.	1.47
0.	-0.	0.59919E 02	-0.14607E 03	0.	-0.	1.50
0.	-0.	0.54752E 02	-0.16024E 03	0.	-0.	1.55
0.	-0.	0.47449E 02	-0.17771E 03	0.	-0.	1.60
0.	-0.	0.36299E 02	-0.24062E 03	0.	-0.	1.65
-0.	-0.	-0.74462E 02	-0.11756E 03	-0.	-0.	1.80
-0.	0.	-0.21665E 03	0.16158E 02	-0.	0.	1.90
-0.	0.	-0.11427E 03	0.23458E 01	-0.	0.	2.00
-0.	-0.	-0.37579E 02	-0.27002E 02	-0.	-0.	2.10
-0.	-0.	-0.92994E 01	-0.53639E 02	-0.	-0.	2.20
-0.	-0.	-0.81248E 01	-0.58227E 02	-0.	-0.	2.30
-0.	-0.	-0.75869E 01	-0.70745E 02	-0.	-0.	2.35
-0.	-0.	-0.73994E 01	-0.78980E 02	-0.	-0.	2.40
-0.	-0.	-0.11945E 02	-0.82118E 02	-0.	-0.	2.43
-0.	-0.	-0.15127E 02	-0.87229E 02	-0.	-0.	2.44
-0.	-0.	-0.27521E 02	-0.82019E 02	-0.	-0.	2.47
-0.	-0.	-0.43295E 02	-0.59380E 02	-0.	-0.	2.50
-0.	-0.	-0.47462E 02	-0.49909E 02	-0.	-0.	2.54
-0.	-0.	-0.31698E 02	-0.60559E 02	-0.	-0.	2.58
-0.	-0.	-0.14665E 02	-0.71266E 02	-0.	-0.	2.65
-0.	-0.	-0.11443E 02	-0.90096E 02	-0.	-0.	2.70
-0.	-0.	-0.13918E 02	-0.12461E 03	-0.	-0.	2.80
-0.	-0.	-0.35313E 02	-0.14187E 03	-0.	-0.	3.00
-0.	-0.	-0.53625E 02	-0.15914E 03	-0.	-0.	3.10
-0.	-0.	-0.79631E 02	-0.16834E 03	-0.	-0.	3.20
-0.	-0.	-0.10079E 03	-0.17203E 03	-0.	-0.	3.26
-0.	-0.	-0.11498E 03	-0.17178E 03	-0.	-0.	3.29
-0.	-0.	-0.14258E 03	-0.15931E 03	-0.	-0.	3.35
-0.	-0.	-0.16054E 03	-0.19688E 03	-0.	-0.	3.40
-0.	-0.	-0.18403E 03	-0.21296E 03	-0.	-0.	3.52
-0.	-0.	-0.21718E 03	-0.22387E 03	-0.	-0.	3.56
-0.	-0.	-0.25812E 03	-0.22524E 03	-0.	-0.	3.60
-0.	-0.	-0.40206E 03	-0.21689E 02	-0.	-0.	3.70
-0.	0.	-0.75824E 03	0.91701E 03	-0.	0.	3.85
-0.	0.	-0.63481E 03	0.55228E 03	-0.	0.	4.00
0.	-0.	0.47443E 03	-0.18345E 03	0.	-0.	4.20
0.	0.	0.77330E 02	0.33971E 02	0.	0.	4.30
-0.	0.	-0.47036E 02	0.68872E 02	-0.	0.	4.70
-0.	0.	-0.18377E 02	0.76566E 02	-0.	0.	4.80
0.	0.	0.17586E 02	0.74638E 02	0.	0.	4.96
0.	0.	0.24010E 02	0.63590E 02	0.	0.	5.00
0.	0.	0.39459E 02	0.49948E 02	0.	0.	5.15
0.	0.	0.47425E 02	0.33203E 02	0.	0.	5.30
0.	0.	0.50569E 02	0.18212E 02	0.	0.	5.38
0.	0.	0.48919E 02	0.89888E 01	0.	0.	5.70
0.	0.	0.45827E 02	0.49444E 00	0.	0.	5.85
0.	-0.	0.41318E 02	-0.84580E 00	0.	-0.	6.00
0.	-0.	0.40432E 02	-0.21520E 01	0.	-0.	6.03
0.	-0.	0.39515E 02	-0.34247E 01	0.	-0.	6.06
0.	-0.	0.38569E 02	-0.87508E 01	0.	-0.	6.20
0.	-0.	0.33948E 02	-0.16183E 02	0.	-0.	6.40
0.	-0.	0.24967E 02	-0.22000E 02	0.	-0.	6.60
0.	-0.	0.13738E 02	-0.24904E 02	0.	-0.	6.80
-0.	0.	-0.21693E 02	0.57566E 02	-0.	0.	7.00
-0.	0.	-0.77494E 02	0.12186E 02	-0.	0.	7.40
-0.	-0.	-0.95470E 02	-0.37787E 02	-0.	-0.	8.20
-0.	-0.	-0.15572E 02	-0.10826E 02	-0.	-0.	9.00
-0.	0.	-0.14218E 02	0.	-0.	0.	10.00



**Table XIX Stress Frequency Response Functions (Analysis Condition 5)**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.50

PERCENT SEMI SPAN: 27    SEGMENT NUMBER 10

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQUENCY
REAL	IMAGINARY	REAL	IMAGINARY			CPS
0.56628E 00	-0.67701E 00	-0.77131E 01	0.56303E 01	0.	-0.	0.10
0.36134E 02	-0.91346E 01	0.31922E 03	-0.73260E 02	-0.	0.	0.30
0.29242E 02	-0.17775E 02	0.26271E 03	-0.10975E 03	-0.	0.	0.35
0.23319E 02	-0.14302E 02	0.21198E 03	-0.12588E 03	-0.	0.	0.44
0.20479E 02	-0.16322E 02	0.18712E 03	-0.14717E 03	-0.	0.	0.50
0.17670E 02	-0.18507E 02	0.16193E 03	-0.16944E 03	-0.	0.	0.60
0.15847E 02	-0.21278E 02	0.14454E 03	-0.19659E 03	-0.	0.	0.70
0.14414E 02	-0.24988E 02	0.12994E 03	-0.23148E 03	-0.	0.	0.80
0.13110E 02	-0.30516E 02	0.11527E 03	-0.28129E 03	-0.	0.	0.90
0.11560E 02	-0.35160E 02	0.95733E 02	-0.48798E 03	-0.	0.	1.00
0.27358E 01	-0.10740E 03	0.19277E 01	-0.87974E 03	0.	0.	1.20
0.52650E 02	-0.67373E 02	-0.53971E 03	-0.48338E 03	0.	-0.	1.34
0.16984E 03	0.64663E 02	-0.14183E 04	0.57092E 03	0.	-0.	1.40
0.15108E 03	0.88052E 02	-0.11797E 04	0.71232E 03	-0.	-0.	1.45
0.10705E 03	0.87309E 02	-0.81032E 03	0.69746E 03	-0.	-0.	1.47
0.73389E 02	0.74190E 02	-0.53794E 03	0.56075E 03	-0.	0.	1.50
0.35002E 02	0.61309E 02	-0.24171E 03	0.43993E 03	-0.	0.	1.55
0.17479E 02	0.51894E 02	-0.11333E 03	0.35272E 03	-0.	0.	1.60
0.29786E 01	0.36582E 02	-0.49315E 02	0.20549E 03	-0.	0.	1.65
0.50940E 01	0.31911E 02	0.21134E 02	0.15407E 03	0.	0.	1.80
0.10253E 02	0.29268E 02	0.34051E 02	0.11825E 03	0.	0.	1.90
0.15644E 02	0.27914E 02	0.40075E 02	0.92350E 02	0.	0.	2.00
0.22764E 02	0.26517E 02	0.41811E 02	0.72440E 02	0.	0.	2.10
0.36808E 02	0.94275E 01	0.40475E 02	0.56396E 02	0.	0.	2.20
0.53559E 02	0.45630E 01	0.34447E 02	0.51100E 02	0.	0.	2.30
0.64134E 02	-0.43307E 01	0.27818E 02	0.52137E 02	0.	-0.	2.35
0.88686E 02	-0.19572E 02	0.17387E 02	0.60084E 02	0.	-0.	2.40
0.76136E 02	-0.24579E 02	0.12239E 02	0.65774E 02	0.	-0.	2.45
0.76535E 02	-0.45843E 02	0.12245E 02	0.77513E 02	0.	-0.	2.44
0.62110E 02	-0.51142E 02	0.21597E 02	0.77895E 02	0.	-0.	2.47
0.57580E 02	-0.57243E 02	0.37918E 02	0.65424E 02	0.	-0.	2.50
0.60545E 02	-0.89034E 02	0.50817E 02	0.52722E 02	0.	-0.	2.54
0.65453E 02	-0.13867E 03	0.53041E 02	0.42978E 02	0.	-0.	2.58
0.36550E 02	-0.76594E 02	0.46435E 02	0.41489E 02	-0.	-0.	2.65
0.79343E 02	-0.19388E 02	0.47278E 02	0.34508E 02	-0.	-0.	2.70
0.63379E 02	0.83818E 01	0.50012E 02	0.23272E 02	-0.	0.	2.80
0.40623E 02	0.11793E 02	0.55563E 02	0.17957E 02	-0.	0.	3.00
0.36675E 02	0.17682E 02	0.53675E 02	0.39528E 01	-0.	-0.	3.10
0.38364E 02	0.28034E 02	0.83038E 02	-0.28418E 02	-0.	0.	3.20
0.44807E 02	0.41799E 02	0.97795E 02	-0.40647E 02	-0.	0.	3.25
0.46513E 02	0.65188E 02	0.89130E 02	-0.79020E 02	-0.	0.	3.29
0.29038E 02	0.76584E 02	0.32785E 02	-0.55299E 02	-0.	0.	3.35
0.50423E 01	0.66771E 02	0.54033E 01	-0.22451E 02	-0.	0.	3.40
0.02511E 02	-0.13010E 02	0.15965E 01	-0.18227E 02	0.	0.	3.52
0.87112E 02	-0.37044E 02	0.51983E 01	-0.17092E 02	0.	-0.	3.56
0.51333E 02	-0.26962E 02	0.74714E 01	-0.16233E 02	-0.	-0.	3.60
0.75382E 01	-0.12034E 02	0.89110E 01	-0.16208E 02	-0.	-0.	3.70
0.44484E 01	-0.48194E 01	0.85739E 01	-0.17249E 02	-0.	-0.	3.85
0.66777E 01	-0.43381E 01	0.73476E 01	-0.19498E 02	-0.	-0.	4.00
0.61765E 01	0.34503E 01	0.35870E 01	-0.24566E 02	-0.	0.	4.20
0.42946E 01	0.46577E 01	-0.66257E 01	-0.28632E 02	-0.	0.	4.50
0.26847E 01	0.49974E 01	-0.24182E 02	-0.26476E 02	0.	0.	4.70
0.17184E 01	0.43015E 01	-0.43973E 02	0.47680E 02	0.	-0.	4.80
0.80055E 01	0.39811E 01	-0.77695E 02	0.74716E 02	0.	-0.	4.96
0.17928E 00	0.43676E 01	-0.49663E 02	0.47178E 02	-0.	-0.	5.00
0.27377E 00	0.46820E 01	0.19753E 02	0.21278E 02	-0.	-0.	5.15
0.71562E 00	0.45639E 01	0.24317E 02	0.81841E 01	-0.	-0.	5.30
0.21844E 01	0.39001E 01	0.22361E 02	0.12734E 01	-0.	-0.	5.40
0.43044E 01	0.25347E 01	0.27294E 02	-0.42829E 01	-0.	0.	5.70
0.62112E 01	-0.36439E 01	0.25235E 02	-0.23540E 02	-0.	0.	5.85
0.84988E 01	-0.60269E 01	0.30381E 02	-0.30782E 02	0.	0.	6.00
0.83389E 01	-0.84920E 01	0.28237E 02	-0.38291E 02	0.	0.	6.03
0.65789E 01	-0.10106E 02	0.22464E 02	-0.43221E 02	0.	-0.	6.06
0.34691E 01	-0.29170E 01	0.12595E 02	-0.21261E 02	-0.	0.	6.08
0.47896E 01	0.17150E 01	-0.14458E 02	-0.62814E 01	-0.	0.	6.20
0.17082E 01	0.20988E 01	-0.73176E 01	-0.38321E 01	-0.	0.	6.46
0.54244E 02	0.15313E 01	-0.45498E 01	-0.24362E 01	0.	0.	6.60
0.14117E 01	0.76594E 00	-0.28232E 01	-0.15298E 01	0.	0.	7.00
0.18612E 01	-0.48085E 00	-0.26229E 01	0.37409E 01	0.	-0.	7.40
0.16892E 01	-0.10970E 01	-0.20682E 01	0.83313E 00	0.	-0.	8.20
0.97924E 00	-0.11866E 01	-0.10853E 01	0.80100E 00	0.	-0.	9.00
0.16306E 00	0.	-0.16779E 00	0.	-0.	0.	10.00

# Contrails

Table XIX --- Continued

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.50

PERCENT SEMI SPAN: 27      SEGMENT NUMBER 14

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS		FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY	
-0.21833F 01	0.26386F -00	-0.69995E 01	0.51093E 01	0.
0.10816F 03	-0.25679E 02	0.28955E 03	-0.66482E 02	-0.
0.00268F 02	-0.37185F 02	0.23841F 03	-0.99592F 02	0.
0.70408E 02	-0.42091F 02	0.19235E 03	-0.11423E 03	0.
0.62333F 02	-0.48514E 02	0.14981E 03	-0.13356F 03	0.
0.53893E 02	-0.55296E 02	0.14692E 03	-0.15376E 03	0.
0.48263E 02	-0.63688F 02	0.13125E 03	-0.17840F 03	0.
0.43655E 02	-0.74639E 02	0.11792E 03	-0.21006E 03	0.
0.39241F 02	-0.90522E 02	0.10463E 03	-0.25527E 03	0.
0.33896F 02	-0.15825F 03	0.87783F 02	-0.44283F 03	0.
0.57526E 01	-0.29303F 03	0.13864E 01	-0.79834E 03	0.
-0.16681F 03	-0.17307E 03	-0.48977E 03	-0.43865E 03	0.
-0.46096F 03	0.17790F 03	-0.12871E 04	0.51810F 03	0.
-0.39543F 03	0.22946F 03	-0.10705E 04	0.64641F 03	0.
-0.27505F 03	0.22827E 03	-0.73577E 03	0.63293F 03	0.
-0.18493F 03	0.18740F 03	-0.48817F 03	0.50887E 03	0.
-0.04974E 02	0.14983F 03	-0.21935E 03	0.39923E 03	0.
-0.40377E 02	0.17243E 03	-0.10255E 03	0.32008F 03	0.
-0.17441E 02	0.76512F 02	-0.44752F 02	0.18648F 03	0.
0.10491F 02	0.60980F 02	0.18244E 02	0.13981F 03	0.
0.18802E 02	0.50621E 02	0.30901E 02	0.10731F 03	0.
0.25724E 02	0.43500F 02	0.36357E 02	0.83805E 02	0.
0.33551F 02	0.37342F 02	0.37942E 02	0.65738E 02	0.
0.45887E 02	0.15884E 02	0.35733E 02	0.51178E 02	0.
0.64105F 02	0.92765F 01	0.31262E 02	0.46372E 02	0.
0.43985E 02	-0.63501E 00	0.25244E 02	0.47313E 02	0.
0.77034F 02	-0.15186F 02	0.15778E 02	0.54525E 02	0.
0.83656F 02	-0.23420F 02	0.11105E 02	0.59689F 02	0.
0.88088E 02	-0.38899E 02	0.11113E 02	0.70341E 02	0.
0.77779E 02	-0.44857E 02	0.19599E 02	0.70688F 02	0.
0.71673F 02	-0.56681F 02	0.34410E 02	0.59370F 02	0.
0.79282E 02	-0.98629F 02	0.45115E 02	0.47844E 02	0.
0.87134F 02	-0.16053E 03	0.48134E 02	0.39002E 02	0.
-0.36834E 02	-0.88548E 02	0.42137E 02	0.37650E 02	0.
-0.86276E 02	-0.24379F 02	0.42904E 02	0.31316F 02	0.
-0.70264F 02	0.57482E 00	0.45385F 02	0.21118E 02	0.
-0.50714E 02	0.54289F 01	0.50422E 02	0.16296F 02	0.
-0.54192F 02	0.17434F 02	0.57784E 02	0.35871F 01	0.
-0.73360E 02	0.50536E 02	0.75355E 02	-0.23789F 02	0.
-0.46908E 02	0.89906E 02	0.88747E 02	-0.55036E 02	0.
-0.92331F 02	0.13375E 03	0.80858E 02	-0.71709F 02	0.
-0.32908F 02	0.12794E 03	0.29753E 02	-0.50183F 02	0.
0.15367E 03	0.67727F 02	0.50821E 01	-0.20374F 02	0.
0.13261E 03	-0.69254F 01	0.14489E 01	-0.16540F 02	0.
0.12549E 03	-0.38263F 02	0.45543E 01	-0.15510E 02	0.
0.81114F 02	-0.31244E 02	0.67401E 01	-0.14731F 02	0.
0.26273F 02	-0.17925F 02	0.80873E 01	-0.14708E 02	0.
0.86407F 01	-0.12462F 02	0.77850E 01	-0.15653F 02	0.
0.4201F 01	-0.99908F 01	0.63954E 01	-0.17694F 02	0.
-0.23006F -00	-0.10458E 02	0.32551E 01	-0.22311F 02	0.
-0.58186F 01	-0.12122F 02	-0.60127E 01	-0.25983F 02	0.
-0.15305F 02	-0.10692F 02	-0.21945E 02	-0.24026E 02	0.
-0.26437F 02	0.32696E 02	-0.39902E 02	0.43269F 02	0.
-0.45451F 02	0.48479F 02	-0.70507E 02	0.67803F 02	0.
-0.28911E 02	0.32326F 02	-0.45068E 02	0.42813F 02	0.
0.12220F 02	0.17012F 02	0.17926E 02	0.19309E 02	0.
0.15489E 02	0.85862E 01	0.22067E 02	0.74269E 01	0.
0.15103E 02	0.43865E 01	0.20294E 02	0.11556E 01	0.
0.15908E 02	0.45885E -00	0.20231E 02	-0.38866F 01	0.
0.18419F 02	-0.13037F 02	0.22901E 02	-0.21362E 02	0.
0.22433F 02	-0.18089F 02	0.27570E 02	-0.27934F 02	0.
0.21033F 02	-0.23339F 02	0.25624E 02	-0.36749F 02	0.
0.17123F 02	-0.26870E 02	0.20385E 02	-0.39222F 02	0.
0.10373F 02	-0.11940E 02	0.11430E 02	-0.19294F 02	0.
-0.81683F 01	-0.19474E 01	-0.13120F 02	-0.57002F 01	0.
-0.32929F 01	-0.43878F 01	-0.70143E 01	-0.36775F 01	0.
-0.92626F -00	-0.42851F -00	-0.41389F 01	-0.22108E 01	0.
0.35355F -00	-0.46400E -00	-0.78501F 01	-0.13882E 01	0.
0.49692E -00	-0.32562E -00	-0.23872E 01	0.33948F -01	0.
0.37053E -00	-0.13061E -00	-0.18758E 01	0.75605E 00	0.
0.41144E -00	-0.20479E -00	-0.98485E 00	0.72689F 00	0.
0.69694F 00	0.	-0.15226F -00	0.	0.

**Table XIX -- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.50  
 PERCENT SEMISPAN: 40.06    SEGMENT NUMBER 8

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS				FREQ. CPS
REAL	IMAGINARY	REAL	IMAGINARY			
-0.14710F 01	0.52593F -01	-0.80154E 01	0.63507F 01	-0.	-0.	0.10
0.70249F 02	-0.16871F 02	0.30785E 03	-0.70698E 02	-0.	-0.	0.30
0.57464F 02	-0.24492F 02	0.25388F 03	-0.10686E 03	0.	-0.	0.36
0.46242E 02	-0.27939E 02	0.20492F 03	-0.12303E 03	0.	-0.	0.44
0.40847E 02	-0.32356F 02	0.18074F 03	-0.14436F 03	0.	-0.	0.50
0.35507E 02	-0.37249E 02	0.15593E 03	-0.16652F 03	0.	-0.	0.60
0.32002F 02	-0.43414E 02	0.13857E 03	-0.19334E 03	0.	-0.	0.70
0.29147E 02	-0.51583E 02	0.12372E 03	-0.22759F 03	0.	-0.	0.80
0.26383F 02	-0.63587E 02	0.10861E 03	-0.27625F 03	0.	-0.	0.90
0.22855E 02	-0.11561F 03	0.89475E 02	-0.47702E 03	0.	-0.	1.00
0.21663F 01	-0.22054F 03	-0.48694E 01	-0.85297F 03	0.	-0.	1.20
-0.13033F 03	0.12838F 03	-0.53999E 03	-0.45666E 03	-0.	-0.	1.34
-0.35900E 03	0.14473E 03	-0.13924E 04	0.56884E 03	-0.	0.	1.40
-0.30922F 03	0.18534F 03	-0.11448E 04	0.70288E 03	-0.	0.	1.45
-0.21585E 03	0.18493E 03	-0.79639E 03	0.68524F 03	-0.	0.	1.47
-0.14564E 03	0.15387F 03	-0.52206E 03	0.54881E 03	-0.	0.	1.50
-0.47565E 02	0.12500E 03	-0.23513E 03	0.42975F 03	-0.	0.	1.55
-0.32408E 02	0.10401E 03	-0.11146E 03	0.36421E 03	-0.	0.	1.60
-0.14189E 02	0.69042E 02	-0.50436E 02	0.20069F 03	-0.	0.	1.65
0.87405F 01	0.57439F 02	0.13503E 02	0.15105F 03	0.	0.	1.80
0.15979F 02	0.49827E 02	0.25243E 02	0.11684F 03	0.	0.	1.90
0.22107F 02	0.44704E 02	0.28921E 02	0.92463E 02	0.	0.	2.00
0.28696F 02	0.40613F 02	0.27423E 02	0.74897F 02	0.	0.	2.10
0.37573F 02	0.33864F 02	0.19547E 02	0.80825F 02	0.	0.	2.20
0.50709F 02	0.29847E 02	0.50910F 01	0.79115E 02	0.	0.	2.30
0.40494F 02	0.17839F 02	0.13479E 02	0.76368E 02	0.	0.	2.35
0.75666F 02	0.29372F 01	0.54794E 01	0.82839F 02	0.	-0.	2.40
0.82313F 02	-0.54733F 01	0.15951E 01	0.87641E 02	0.	-0.	2.45
0.82587E 02	-0.21377F 02	0.14839E 01	0.97311E 02	0.	-0.	2.48
0.74838F 02	-0.26266E 02	0.81071F 01	0.98473E 02	0.	-0.	2.47
0.65045F 02	-0.30817F 02	0.18085E 02	0.95793F 02	0.	-0.	2.50
0.66533F 02	-0.55500E 02	0.21229E 02	0.10511F 03	0.	-0.	2.54
0.71114F 02	-0.52137E 02	0.19649E 02	0.12387E 03	0.	-0.	2.58
-0.86452F 01	-0.42823E 02	0.66269F 02	0.94439E 02	-0.	-0.	2.65
-0.38193F 02	0.14516E 01	0.87731E 02	0.65462E 02	-0.	-0.	2.70
-0.20628E 02	0.20395E 02	0.85771E 02	0.52252E 02	-0.	-0.	2.80
0.16551F 02	0.21542E 02	0.10034E 03	0.47167E 02	0.	0.	3.00
0.42221F 02	0.34990E 01	0.12872E 03	0.14235E 02	0.	0.	3.10
0.91730F 02	-0.58302E 02	0.19547E 03	-0.82723E 02	0.	-0.	3.20
0.13273F 03	-0.12699F 03	0.24814E 03	-0.18378E 03	0.	-0.	3.26
0.12326F 03	-0.17948F 03	0.22422E 03	-0.24092E 03	0.	-0.	3.29
0.10842F 02	-0.14006F 03	0.47543E 02	-0.16023E 03	0.	-0.	3.35
-0.54359F 02	-0.57208F 02	-0.35619E 02	-0.57533F 02	-0.	-0.	3.40
-0.12058F 03	-0.81974F 01	-0.26150F 02	-0.55510E 02	-0.	-0.	3.52
-0.11277F 03	0.14323F 02	-0.18941F 02	-0.52328E 02	-0.	0.	3.56
-0.84540F 02	0.18320F 02	-0.20957F 02	-0.36603F 02	-0.	0.	3.60
-0.47076F 02	0.16891F 02	-0.22794E 02	-0.22059F 02	-0.	0.	3.70
-0.29987E 02	0.17094E 02	-0.18939F 02	-0.13689E 02	-0.	0.	3.85
-0.21406F 02	0.17883F 02	-0.15238F 02	-0.68018F 01	-0.	0.	4.00
-0.13956F 02	0.19200F 02	-0.11489E 02	0.79393F 00	-0.	0.	4.20
-0.46393F 01	0.19948E 02	-0.54252E 01	0.52423F 01	-0.	0.	4.50
0.37647F 01	0.18976E 02	0.29759E 01	0.55050F 01	0.	0.	4.70
0.11098F 02	-0.45013F 01	0.12072E 02	-0.25587E 02	0.	-0.	4.80
0.22996F 02	-0.12861E 02	0.28051E 02	-0.37370E 02	0.	-0.	4.96
0.14742F 02	0.47917F 01	0.15950F 02	-0.24338F 02	0.	-0.	5.00
-0.50277F 01	0.24309F 01	-0.14372E 02	-0.11730F 02	-0.	-0.	5.13
-0.50032F 01	0.53625E 01	-0.15703E 02	-0.47366E 01	-0.	0.	5.30
-0.27882F 01	0.61498F 01	-0.13354E 02	-0.11845F 01	-0.	0.	5.57
-0.11371F 01	0.64852F 01	0.10746E 02	0.08607E -01	-0.	0.	5.70
-0.62599F 00	0.86119F 01	0.87790F 01	-0.69476E 00	-0.	0.	5.85
-0.54117F 00	0.95252F 01	-0.68281F 01	-0.12824E 01	-0.	0.	6.00
-0.10430F -00	0.10467E 02	-0.69394E 01	-0.18571F 01	-0.	0.	6.03
0.84755F 00	0.11031E 02	-0.74163F 01	-0.20857F 01	-0.	0.	6.06
0.23759F 01	0.22579F 01	-0.83570F 01	0.15486F 01	-0.	0.	6.08
0.86255F 01	0.41398F 01	-0.99717F 01	0.39618F 01	0.	0.	6.20
0.61338F 01	0.27863F 01	-0.72257E 01	0.46345F 01	0.	0.	6.40
0.59680F 01	0.65931E 00	-0.52140F 01	0.44206F 01	0.	0.	6.60
0.57753F 01	-0.11220F 01	-0.27534E 01	0.42198F 01	0.	-0.	7.00
0.52070F 01	0.34494F 01	0.14084F -00	0.19333F 01	0.	-0.	7.40
0.29862F 01	-0.39543F 01	0.21454E 01	-0.57253F 00	0.	-0.	8.20
0.24469F -00	-0.24656F 01	0.22519F 01	-0.23255F 01	0.	-0.	9.00
-0.20721F 01	0.	0.19179E -00	0.	-0.	0.	10.00

# Contrails

Table XIX --- Continued

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.50

PERCENT SEMISPAN: 40.06      SEGMENT NUMBER 107

INCREMENTAL SHEAR STRESS		INCREMENTAL AXIAL STRESS		FREQUENCY CPS
REAL	IMAGINARY	REAL	IMAGINARY	
-0.13665F 01	-0.10457E-01	0.	0.	0.10
0.67248F 02	-0.16107E 02	0.	0.	0.30
0.54918F 02	-0.21292E 02	0.	0.	0.36
0.44170E 02	-0.26419E 02	0.	0.	0.44
0.39016F 02	-0.30630E 02	0.	0.	0.50
0.33936F 02	-0.35198E 02	0.	0.	0.60
0.30625E 02	-0.40968F 02	0.	0.	0.70
0.27953F 02	-0.46867F 02	0.	0.	0.80
0.25390E 02	-0.52900E 02	0.	0.	0.90
0.22139F 02	-0.10885F 03	0.	0.	1.00
0.31662F 01	-0.20811E 03	0.	0.	1.20
-0.12059E 03	-0.12243F 03	0.	0.	1.34
-0.33618F 03	0.13434E 03	0.	0.	1.40
-0.29057E 03	0.17293F 03	0.	0.	1.45
-0.20303F 03	0.17281F 03	0.	0.	1.47
-0.13710F 03	0.14395F 03	0.	0.	1.50
-0.63540F 02	0.11695E 03	0.	0.	1.55
-0.30357E 02	0.97285F 02	0.	0.	1.60
-0.13120F 02	0.64455E 02	0.	0.	1.65
0.86775F 01	0.53474F 02	0.	0.	1.80
0.15609E 02	0.46227E 02	0.	0.	1.90
0.21497E 02	0.41279E 02	0.	0.	2.00
0.27835E 02	0.37241F 02	0.	0.	2.10
0.36381E 02	0.30197E 02	0.	0.	2.20
0.48971E 02	0.26248F 02	0.	0.	2.30
0.57718F 02	0.14497E 02	0.	0.	2.35
0.71740F 02	0.11992E 01	0.	0.	2.40
0.77887F 02	-0.65290E 01	0.	0.	2.43
0.78143F 02	-0.21062E 02	0.	0.	2.44
0.71296F 02	-0.25715E 02	0.	0.	2.47
0.63013F 02	-0.31136F 02	0.	0.	2.50
0.65579E 02	-0.56598E 02	0.	0.	2.54
0.70274F 02	-0.93762F 02	0.	0.	2.58
-0.97309E 01	-0.44742E 02	0.	0.	2.65
-0.39305F 02	-0.11581E 01	0.	0.	2.70
-0.22688E 02	0.16751F 02	0.	0.	2.80
-0.12423E 02	0.17724F 02	0.	0.	3.00
-0.35251E 02	0.19343E 01	0.	0.	3.10
-0.78724E 02	-0.51994E 02	0.	0.	3.20
-0.11498F 03	-0.11228E 03	0.	0.	3.26
-0.10730F 03	-0.16001E 03	0.	0.	3.29
0.94986F 01	-0.12751F 03	0.	0.	3.35
-0.48799F 02	-0.53179F 02	0.	0.	3.40
-0.11667F 03	-0.40481F 01	0.	0.	3.52
-0.10933F 03	0.18149F 02	0.	0.	3.56
-0.80686F 02	0.20362E 02	0.	0.	3.60
-0.43023F 02	0.17244F 02	0.	0.	3.70
-0.26571F 02	0.16379F 02	0.	0.	3.85
-0.18701F 02	0.14149F 02	0.	0.	4.00
-0.12177F 02	0.16086E 02	0.	0.	4.20
-0.48090F 01	0.15921E 02	0.	0.	4.50
0.61803F 00	0.15140F 02	0.	0.	4.70
0.46778F 01	0.36237E 01	0.	0.	4.80
0.10977F 02	0.36042E-00	0.	0.	4.96
0.72540F 01	0.31355F 01	0.	0.	5.00
-0.17913F 01	0.60459E 01	0.	0.	5.15
-0.61687E 00	0.67482E 01	0.	0.	5.30
0.11132F 01	0.63839F 01	0.	0.	5.70
0.24817E 01	0.59507F 01	0.	0.	5.70
0.31352F 01	0.59110F 01	0.	0.	5.85
0.36236F 01	0.60362F 01	0.	0.	6.00
0.38169F 01	0.61581E 01	0.	0.	6.03
0.41421F 01	0.61688F 01	0.	0.	6.06
0.446071E 01	0.46187E 01	0.	0.	6.08
0.58486F 01	0.30282F 01	0.	0.	6.20
0.58752F 01	0.19066F 01	0.	0.	6.40
0.58863F 01	-0.58629F-01	0.	0.	6.60
0.56081F 01	-0.16618F 01	0.	0.	7.00
0.48862F 01	-0.36287F 01	0.	0.	7.40
0.25490F 01	-0.37856F 01	0.	0.	8.20
-0.58005F-01	-0.21899F 01	0.	0.	9.00
-0.20821F 01	0.	0.	0.	10.00
0.68494E 01	-0.54762E 01	0.68494E 01	-0.54762E 01	0.10
-0.26303E 03	0.60407E 02	-0.26303E 03	0.60407E 02	0.30
-0.21692E 03	0.91302E 02	-0.21692E 03	0.91302E 02	0.36
-0.17509E 03	0.10512E 03	-0.17509E 03	0.10512E 03	0.44
-0.15443E 03	0.12335E 03	-0.15443E 03	0.12335E 03	0.50
-0.13373E 03	0.14228E 03	-0.13373E 03	0.14228E 03	0.60
-0.11849E 03	0.16519E 03	-0.11849E 03	0.16519E 03	0.70
-0.10571E 03	0.19446E 03	-0.10571E 03	0.19446E 03	0.80
-0.92801E 02	0.23603E 03	-0.92801E 02	0.23603E 03	0.90
-0.76450E 02	0.40758E 03	-0.76450E 02	0.40758E 03	1.00
0.58694E 01	0.72880E 03	0.58694E 01	0.72880E 03	1.20
0.46138E 03	0.39018E 03	0.46138E 03	0.39018E 03	1.34
0.11900E 04	-0.48604E 03	0.11900E 04	-0.48604E 03	1.40
0.98161E 03	-0.60039E 03	0.98161E 03	-0.60039E 03	1.45
0.67243E 03	-0.58549E 03	0.67243E 03	-0.58549E 03	1.47
0.44606E 03	-0.46892E 03	0.44606E 03	-0.46892E 03	1.50
0.20095E 03	-0.36719E 03	0.20095E 03	-0.36719E 03	1.55
0.95236E 02	-0.29411E 03	0.95236E 02	-0.29411E 03	1.60
0.43410E 02	-0.17148E 03	0.43410E 02	-0.17148E 03	1.65
-0.11623E 02	-0.12906E 03	-0.11623E 02	-0.12906E 03	1.80
-0.21602E 02	-0.99828E 02	-0.21602E 02	-0.99828E 02	1.90
-0.24711E 02	-0.79004E 02	-0.24711E 02	-0.79004E 02	2.00
-0.23431E 02	-0.63994F 02	-0.23431E 02	-0.63994F 02	2.10
-0.16701E 02	-0.69059E 02	-0.16701E 02	-0.69059E 02	2.20
-0.43499E 01	-0.67598E 02	-0.43499E 01	-0.67598E 02	2.30
-0.11517E 02	-0.65251E 02	-0.11517E 02	-0.65251E 02	2.35
-0.55362E 01	-0.70780E 02	-0.55362E 01	-0.70780E 02	2.40
-0.14492E 01	-0.76883E 02	-0.14492E 01	-0.76883E 02	2.43
-0.12679E 01	-0.83145E 02	-0.12679E 01	-0.83145E 02	2.44
-0.69269E 01	-0.86139E 02	-0.69269E 01	-0.86139E 02	2.47
-0.15452E 02	-0.81849E 02	-0.15452E 02	-0.81849E 02	2.50
-0.18138E 02	-0.89809E 02	-0.18138E 02	-0.89809E 02	2.54
-0.16789E 02	-0.10584E 03	-0.16789E 02	-0.10584E 03	2.58
-0.56623E 02	-0.80691E 02	-0.56623E 02	-0.80691E 02	2.65
-0.74960E 02	-0.55933E 02	-0.74960E 02	-0.55933E 02	2.70
-0.74140E 02	-0.44646E 02	-0.74140E 02	-0.44646E 02	2.80
-0.89737E 02	-0.40301E 02	-0.89737E 02	-0.40301E 02	3.00
-0.10998E 03	-0.12163E 02	-0.10998E 03	-0.12163E 02	3.10
-0.16701E 03	0.70681E 02	-0.16701E 03	0.70681E 02	3.20
-0.21202E 03	0.15703E 03	-0.21202E 03	0.15703E 03	3.26
-0.19158E 03	0.20585E 03	-0.19158E 03	0.20585E 03	3.29
-0.40619E 02	0.13691E 03	-0.40619E 02	0.13691E 03	3.35
0.31288E 02	0.49158E 02	0.31288E 02	0.49158E 02	3.40
0.22352E 02	0.47430E 02	0.22352E 02	0.47430E 02	3.52
0.16183E 02	0.44711E 02	0.16183E 02	0.44711E 02	3.56
0.17906E 02	0.31274E 02	0.17906E 02	0.31274E 02	3.60
0.19476E 02	0.18848E 02	0.19476E 02	0.18848E 02	3.70
0.14182E 02	0.11697E 02	0.14182E 02	0.11697E 02	3.85
0.13020E 02	0.58116E 01	0.13020E 02	0.58116E 01	4.00
0.98169E 01	-0.67836E 00	0.98169E 01	-0.67836E 00	4.20
0.46355E 01	-0.44792E 01	0.46355E 01	-0.44792E 01	4.50
-0.25436F 01	-0.47037E 01	-0.25436F 01	-0.47037E 01	4.70
-0.10315E 02	0.21862E 02	-0.10315E 02	0.21862E 02	4.80
-0.23967E 02	0.31930E 02	-0.23967E 02	0.31930E 02	4.96
-0.13628E 02	0.20795E 02	-0.13628E 02	0.20795E 02	5.00
0.12280E 02	0.10022E 02	0.12280E 02	0.10022E 02	5.15
0.13414E 02	0.40471E 01	0.13414E 02	0.40471E 01	5.30
0.11410E 02	0.10121E 01	0.11410E 02	0.10121E 01	5.70
0.91819E 01	-0.86253E-01	0.91819E 01	-0.86253E-01	5.70
0.75002E 01	0.59363F 00	0.75002E 01	0.59363F 00	5.85
0.58298E 01	0.10958E 01	0.58298E 01	0.10958E 01	6.00
0.59027E 01	0.15668F 01	0.59027E 01	0.15668F 01	6.03
0.63367E 01	0.17821E 01	0.63367E 01	0.17821E 01	6.06
0.71405E 01	-0.13232E 01	0.71405E 01	-0.13232E 01	6.08
0.85201E 01	-0.33851E 01	0.85201E 01	-0.33851E 01	6.20
0.61738E 01	-0.39599F 01	0.61738E 01	-0.39599F 01	6.40
0.44550E 01	-0.41189F 01	0.44550E 01	-0.41189F 01	6.60
0.19254F 01	-0.36056E 01	0.19254F 01	-0.36056E 01	7.00
0.12034E-00	-0.16519F 01	0.12034E-00	-0.16519F 01	7.40
-0.18340E 01	0.48919E-00	-0.18340E 01	0.48919E-00	8.20
-0.19241E 01	0.19870E 01	-0.19241E 01	0.19870E 01	9.00
-0.16247E-00	0.	-0.16247E-00	0.	10.00

# Contrails

**Table XIX --- Continued**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.50

BODY BALANCE STATION: 540      SEGMENT NUMBER 17

INCREMENTAL SHEAR STRESS						FREQUENCY	
REAL	IMAGINARY					CPS	
-0.41367F-00	0.21885E 01	0.	-0.	0.	-0.	0.10	
-0.17055F 02	0.47625E 01	0.	-0.	0.	-0.	0.30	
-0.12353F 02	0.51044E 01	0.	-0.	0.	-0.	0.36	
-0.10176F 02	0.50192E 01	0.	-0.	0.	-0.	0.44	
-0.91232F 01	0.45988E 01	0.	-0.	0.	-0.	0.50	
-0.84287E 01	0.52631F 01	0.	-0.	0.	-0.	0.60	
-0.82977E 01	0.58699E 01	0.	-0.	0.	-0.	0.70	
-0.84312E 01	0.68783F 01	0.	-0.	0.	-0.	0.80	
-0.86822E 01	0.84763F 01	0.	-0.	0.	-0.	0.90	
-0.89332E 01	0.15061E 02	0.	-0.	0.	-0.	1.00	
-0.81770E 01	0.27250E 02	0.	-0.	0.	-0.	1.20	
0.39487E 01	0.19591E 02	-0.	-0.	-0.	-0.	1.34	
0.26588E 02	-0.68750F 01	-0.	-0.	-0.	-0.	1.40	
0.27325E 02	-0.10930E 02	-0.	-0.	-0.	-0.	1.45	
0.13154E 02	-0.10640E 02	-0.	-0.	-0.	-0.	1.47	
0.61609E 01	-0.70438E 01	-0.	-0.	-0.	-0.	1.50	
-0.17455E 01	-0.34872E 01	0.	-0.	0.	-0.	1.55	
-0.53592E 01	-0.61082E 00	0.	-0.	0.	-0.	1.60	
-0.72371E 01	0.45509E 01	0.	-0.	0.	-0.	1.65	
-0.93286E 01	0.93075E 01	0.	-0.	0.	-0.	1.80	
-0.96131E 01	0.12024E 02	0.	-0.	0.	-0.	1.90	
-0.94967E 01	0.15111E 02	0.	-0.	0.	-0.	2.00	
-0.91309E 01	0.18391E 02	0.	-0.	0.	-0.	2.10	
-0.87259E 01	0.23142E 02	0.	-0.	0.	-0.	2.20	
-0.81113E 01	0.25315E 02	0.	-0.	0.	-0.	2.30	
-0.69002E 01	0.27670E 02	0.	-0.	0.	-0.	2.35	
-0.62726E 01	0.29245E 02	0.	-0.	0.	-0.	2.40	
-0.57700E 01	0.29919E 02	0.	-0.	0.	-0.	2.43	
-0.45043E 01	0.31197E 02	0.	-0.	0.	-0.	2.44	
-0.51902E 01	0.32935E 02	0.	-0.	0.	-0.	2.47	
-0.48220E 01	0.38028E 02	0.	-0.	0.	-0.	2.50	
-0.75716E 01	0.48406E 02	0.	-0.	0.	-0.	2.54	
-0.72868E 01	0.62709E 02	0.	-0.	0.	-0.	2.58	
0.19133E 02	0.42247E 02	-0.	-0.	-0.	-0.	2.65	
0.31120E 02	0.45945E 02	-0.	-0.	-0.	-0.	2.70	
0.36949E 02	0.42187E 02	-0.	-0.	-0.	-0.	2.80	
0.68421E 02	0.52702E 02	-0.	-0.	-0.	-0.	3.00	
0.10874E 03	0.18364E 02	-0.	-0.	-0.	-0.	3.10	
0.19631E 03	-0.97535E 02	-0.	-0.	-0.	-0.	3.20	
0.26641E 03	-0.22137E 03	-0.	-0.	-0.	-0.	3.26	
0.24127E 03	-0.29703E 03	-0.	-0.	-0.	-0.	3.29	
0.27296E 02	-0.20064E 03	-0.	-0.	-0.	-0.	3.35	
-0.78287E 02	-0.68254E 02	0.	-0.	0.	-0.	3.40	
-0.78618E 02	-0.65149E 02	0.	-0.	0.	-0.	3.52	
-0.67986E 02	-0.46448E 02	0.	-0.	0.	-0.	3.56	
-0.63341E 02	-0.27072E 02	0.	-0.	0.	-0.	3.60	
-0.55173E 02	-0.10165E 02	0.	-0.	0.	-0.	3.70	
-0.43915E 02	-0.48793E-00	0.	-0.	0.	-0.	3.85	
-0.36768E 02	0.65648E 01	0.	-0.	0.	-0.	4.00	
-0.25670E 02	0.11495E 02	0.	-0.	0.	-0.	4.20	
-0.15601E 02	0.12651E 02	0.	-0.	0.	-0.	4.30	
-0.11071E 02	0.13170E 02	0.	-0.	0.	-0.	4.40	
-0.10124E 02	0.20275E 02	0.	-0.	0.	-0.	4.50	
-0.91879E 01	0.22814E 02	0.	-0.	0.	-0.	4.60	
-0.54981E 01	0.19939E 02	0.	-0.	0.	-0.	4.80	
0.50463E 01	0.16698E 02	-0.	-0.	-0.	-0.	5.00	
0.47395E 01	0.13537E 02	-0.	-0.	-0.	-0.	5.15	
0.15819E 02	0.87449E 01	-0.	-0.	-0.	-0.	5.30	
0.25085E 02	0.88655E-01	-0.	-0.	-0.	-0.	5.40	
0.36795E 02	-0.39881E 02	-0.	-0.	-0.	-0.	5.70	
0.52429E 02	-0.55355E 02	-0.	-0.	-0.	-0.	5.85	
0.49409E 02	-0.71386E 02	-0.	-0.	-0.	-0.	6.00	
0.36502E 02	-0.61800E 02	-0.	-0.	-0.	-0.	6.05	
0.15736E 02	-0.33593E 02	-0.	-0.	-0.	-0.	6.06	
0.39733E 02	-0.16074E 01	0.	-0.	0.	-0.	6.08	
-0.21146E 02	0.26640E 01	0.	-0.	0.	-0.	6.20	
-0.11265E 02	0.27559E 01	0.	-0.	0.	-0.	6.40	
-0.18270E 01	0.15949E 01	0.	-0.	0.	-0.	6.60	
-0.14589E 01	0.22640E-00	-0.	-0.	-0.	-0.	7.00	
-0.40630E 00	0.33779E-01	-0.	-0.	-0.	-0.	7.40	
-0.61647E 00	-0.20941E-01	-0.	-0.	-0.	-0.	8.20	
-0.47690E-00	0.	-0.	-0.	-0.	-0.	9.00	
						10.00	

# Contrails

**Table XIX --- Concluded**

(PSI/FPS SINUSOIDAL GUST)

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.50

BODY BALANCE STATION: 820    SEGMENT NUMBER 1

INCREMENTAL AXIAL STRESS				FREQUENCY		
		REAL	IMAGINARY	CPS		
-0.	-0.	-0.64502E 00	-0.37354E 01	-0.	-0.	0.10
0.	-0.	0.11110E 03	-0.27342E 02	0.	-0.	0.30
0.	-0.	0.89432E 02	-0.36570E 02	0.	-0.	0.36
0.	-0.	0.72761E 02	-0.40361E 02	0.	-0.	0.44
0.	-0.	0.66755E 02	-0.45965E 02	0.	-0.	0.50
0.	-0.	0.58275E 02	-0.52830E 02	0.	-0.	0.60
0.	-0.	0.54931E 02	-0.62109E 02	0.	-0.	0.70
0.	-0.	0.52477E 02	-0.74731E 02	0.	-0.	0.80
0.	-0.	0.50185E 02	-0.93173E 02	0.	-0.	0.90
0.	-0.	0.46603E 02	-0.16879E 03	0.	-0.	1.00
0.	-0.	0.18702E 02	-0.30810E 03	0.	-0.	1.20
-0.	-0.	-0.16453E 03	-0.17367E 03	-0.	-0.	1.34
-0.	-0.	-0.46566E 03	0.18689E 03	-0.	0.	1.40
-0.	-0.	-0.38233E 03	0.23427E 03	-0.	0.	1.45
-0.	-0.	-0.25472E 03	0.22788E 03	-0.	0.	1.47
-0.	-0.	-0.16091E 03	0.17824E 03	-0.	0.	1.50
-0.	-0.	-0.58449E 02	0.13400E 03	-0.	0.	1.55
-0.	-0.	-0.13917E 02	0.10121E 03	-0.	0.	1.60
0.	0.	0.40951E 01	0.41327E 02	0.	0.	1.65
0.	0.	0.31133E 02	0.16867E 02	0.	0.	1.80
0.	-0.	0.34133E 02	-0.29920E 01	0.	-0.	1.90
0.	-0.	0.33107E 02	-0.27064E 02	0.	-0.	2.00
0.	-0.	0.28805E 02	-0.35515E 02	0.	-0.	2.10
0.	-0.	0.29227E 02	-0.43678E 02	0.	-0.	2.20
0.	-0.	0.53397E 01	-0.48643E 02	0.	-0.	2.30
-0.	-0.	-0.79045E 01	-0.49504E 02	-0.	-0.	2.35
-0.	-0.	-0.14035E 02	-0.41674E 02	-0.	-0.	2.40
-0.	-0.	-0.21589E 02	-0.35922E 02	-0.	-0.	2.43
-0.	-0.	-0.22418E 02	-0.24630E 02	-0.	-0.	2.44
-0.	-0.	-0.14258E 02	-0.26219E 02	-0.	-0.	2.47
0.	-0.	0.58410E 00	-0.42131E 02	0.	-0.	2.50
0.	-0.	0.94810E 01	-0.57721E 02	0.	-0.	2.54
0.	-0.	0.65033E 01	-0.73309E 02	0.	-0.	2.58
-0.	-0.	-0.17011E 02	-0.80101E 02	-0.	-0.	2.65
-0.	-0.	-0.19747E 02	-0.97217E 02	-0.	-0.	2.70
-0.	-0.	-0.41649E 02	-0.13161E 03	-0.	-0.	2.80
-0.	-0.	-0.13463E 03	-0.13753E 03	-0.	-0.	3.00
-0.	-0.	-0.23902E 03	-0.55736E 02	-0.	-0.	3.10
0.	-0.	0.45855E 03	0.22871E 03	-0.	-0.	3.20
-0.	0.	-0.63035E 03	0.53228E 03	-0.	0.	3.26
-0.	0.	-0.56655E 03	0.70544E 03	-0.	0.	3.29
-0.	0.	-0.40299E 02	0.45755E 03	-0.	0.	3.35
0.	0.	0.20993E 03	0.14242E 03	0.	0.	3.40
0.	0.	0.15711E 03	0.14095E 03	0.	0.	3.52
0.	0.	0.13369E 03	0.13076E 03	0.	0.	3.56
0.	0.	0.14129E 03	0.75164E 02	0.	0.	3.60
0.	0.	0.14248E 03	0.23699E 02	0.	0.	3.70
0.	-0.	0.11837E 03	-0.51825E 01	0.	-0.	3.85
0.	-0.	0.94373E 02	-0.26377E 02	0.	-0.	4.00
0.	-0.	0.68555E 02	-0.42644E 02	0.	-0.	4.20
0.	-0.	0.36013E 02	-0.47946E 02	0.	-0.	4.50
0.	-0.	0.13154E 02	-0.47551E 02	0.	-0.	4.70
-0.	-0.	-0.22403E 01	-0.14263E 02	-0.	-0.	4.80
-0.	-0.	-0.26637E 02	-0.21199E 01	-0.	-0.	4.96
-0.	-0.	-0.16455E 02	-0.13338E 02	-0.	-0.	5.00
0.	-0.	0.62812E 01	-0.22628E 02	0.	-0.	5.15
0.	-0.	0.17488E 00	0.24166E 02	0.	-0.	5.30
-0.	-0.	-0.11474E 02	-0.19803E 02	-0.	-0.	5.50
-0.	-0.	-0.25564E 02	-0.10033E 02	-0.	-0.	5.70
-0.	0.	-0.40302E 02	0.33682E 02	-0.	0.	5.85
-0.	0.	-0.58517E 02	0.50360E 02	-0.	0.	6.00
-0.	0.	-0.54344E 02	0.67572E 02	-0.	0.	6.03
-0.	0.	-0.41729E 02	0.78710E 02	-0.	0.	6.06
-0.	0.	-0.19679E 02	0.27564E 02	-0.	0.	6.08
0.	-0.	0.38311E 02	-0.50559E 01	0.	-0.	6.20
0.	-0.	0.17174E 02	-0.81817E 01	0.	-0.	6.40
0.	-0.	0.67349E 01	-0.60403E 01	0.	-0.	6.60
-0.	-0.	-0.20734E 01	-0.34171E 01	-0.	-0.	7.00
-0.	-0.	-0.41696E 01	-0.85236E 00	-0.	-0.	7.40
-0.	-0.	-0.42651E 01	-0.76482E 00	-0.	-0.	8.20
-0.	0.	-0.41453E 01	0.13460E 01	-0.	0.	9.00
-0.	0.	-0.38280E 01	0.	-0.	0.	10.00

## APPENDIX VI STRESS RESPONSE PARAMETERS AND ZERO-CROSSING RATES

**Table XX. Stress Response Parameters and Zero-Crossing Rates (Analysis Condition 1)**

GROSS WEIGHT: 297,000 LB  
MACH NUMBER: 0.85  
ALTITUDE: 24,000 FT

Location		Segment number	Axial stress		Shear stress	
Body station	Percent semispan		A (psi)	N <sub>0</sub> (Zero crossings per second)	A (psi)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY 10 CPS

---	27	10	421	1.02	62	1.81
---	27	14	382	1.02	152	1.25
---	40.06	8	397	1.06	111	1.32
---	40.06	107	339	1.06	106	1.30
540	---	S-17	0	0	31.17	2.64
820	---	S-1	159	1.38	0	0

SCALE OF TURBULENCE: 3,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	339	0.886	47.5	1.64
---	27	14	308	0.886	122	1.09
---	40.06	8	318	0.921	87.6	1.16
---	40.06	107	272	0.921	84.1	1.15
540	---	S-17	0	0	24.09	2.37
820	---	S-1	128	1.19	0	0

SCALE OF TURBULENCE: 5,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	293	0.863	40.7	1.62
---	27	14	266	0.863	105	1.06
---	40.06	8	274	0.903	75.4	1.14
---	40.06	107	234	0.903	72.4	1.12
540	---	S-17	0	0	20.67	2.33
820	---	S-1	111	1.16	0	0

# Contrails

**Table XX --- Concluded**

GROSS WEIGHT: 297,000 LB  
MACH NUMBER: 0.85  
ALTITUDE: 24,000 FT

Location		Segment number	Axial stress		Shear stress	
Body station	Percent semispan		A (psi)	N <sub>0</sub> (Zero crossings per second)	A (psi)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000  
CUTOFF FREQUENCY: 15 CPS

---	27	10	421	1.02	62	1.82
---	27	14	382	1.02	152	1.25
---	40.06	8	397	1.06	111	1.33
---	40.06	107	339	1.06	106	1.31
540	---	S-17	0	0	31.17	2.64
820	---	S-1	159	1.38	0	0

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY: 20 CPS

---	27	10	421	1.04	62	1.82
---	27	14	382	1.04	152	1.22
---	40.06	8	397	1.04	111	1.30
---	40.06	107	339	1.04	106	1.30
540	---	S-17	0	0	31.17	2.61
820	---	S-1	159	1.39	0	0



**Table XXI. Stress Response Parameters and Zero-Crossing Rates (Analysis Condition 2)**

GROSS WEIGHT: 268,000 LB  
MACH NUMBER: 0.85  
ALTITUDE: 24,000 FT

Location		Segment number	Axial stress		Shear stress	
Body station	Percent semispan		A (psi)	N <sub>0</sub> (Zero crossings per second)	A (psi)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	377	1.03	71	2.21
---	27	14	342	1.03	152	1.50
---	40.06	8	342	1.03	111	1.79
---	40.06	107	293	1.03	107	1.75
540	---	S-17	0	0	43.56	3
820	---	S-1	179	2.02	0	0

SCALE OF TURBULENCE: 3,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	312	0.868	52.9	2.06
---	27	14	283	0.868	121	1.30
---	40.06	8	283	0.863	86.6	1.59
---	40.06	107	242	0.863	83.6	1.55
540	---	S-17	0	0	32.44	2.80
820	---	S-1	143	1.76	0	0

SCALE OF TURBULENCE: 5,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	270	0.846	45.1	2.03
---	27	14	245	0.846	105	1.28
---	40.06	8	245	0.841	74.3	1.56
---	40.06	107	210	0.841	71.9	1.52
540	---	S-17	0	0	27.69	2.76
820	---	S-1	123	1.73	0	0

**Table XXII. Stress Response Parameters and Zero-Crossing Rates (Analysis Condition 3)**

GROSS WEIGHT: 190,590 LB  
MACH NUMBER: 0.85  
ALTITUDE: 24,000 FT

Location		Segment number	Axial stress		Shear stress	
Body station	Percent semispan		A (psi)	N <sub>0</sub> (Zero crossings per second)	A (psi)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	304	1.15	58.1	2.34
---	27	14	276	1.15	121	1.62
---	40.06	8	274	1.22	95.2	2.09
---	40.06	107	234	1.22	91.6	2.08
540	---	S-17	0	0	51.4	2.55
820	---	S-1	177	2.07	0	0

SCALE OF TURBULENCE: 3,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	239	1.02	41.5	2.28
---	27	14	217	1.02	92.1	1.48
---	40.06	8	215	1.09	70.3	1.97
---	40.06	107	183	1.09	68	1.95
540	---	S-17	0	0	39.2	2.32
820	---	S-1	138	1.85	0	0

SCALE OF TURBULENCE: 5,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	206	1	35.1	2.27
---	27	14	187	1	78.8	1.45
---	40.06	8	184	1.07	59.9	1.95
---	40.06	107	157	1.07	58	1.92
540	---	S-17	0	0	33.6	2.28
820	---	S-1	118	1.82	0	0

**Table XXIII Stress Response Parameters and Zero-Crossing Rates (Analysis Condition 4)**

GROSS WEIGHT: 107,260 LB  
MACH NUMBER: 0.85  
ALTITUDE: 24,000 FT

Location		Segment number	Axial stress		Shear stress	
Body station	Percent semispan		A (psi)	N <sub>0</sub> (Zero crossings per second)	A (psi)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	177	1.39	58.1	3.14
---	27	14	161	1.39	77.9	2.89
---	40.06	8	169	1.50	63.2	2.93
---	40.06	107	145	1.50	60.5	2.91
540	---	S-17	0	0	31.25	3.46
820	---	S-1	116	2.90	0	0

SCALE OF TURBULENCE: 3,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	135	1.27	40.5	3.12
---	27	14	122	1.27	54.8	2.85
---	40.06	8	128	1.37	44.8	2.86
---	40.06	107	110	1.37	43.1	2.84
540	---	S-17	0	0	22.39	3.34
820	---	S-1	85.8	2.73	0	0

SCALE OF TURBULENCE: 5,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	115	1.25	34.2	3.12
---	27	14	105	1.25	46.3	2.85
---	40.06	8	110	1.36	38	2.85
---	40.06	107	93.8	1.36	36.5	2.82
540	---	S-17	0	0	18.99	3.33
820	---	S-1	73.1	2.70	0	0

**Table XXIV. Stress Response Parameters and Zero-Crossing Rates (Analysis Condition 5)**

GROSS WEIGHT: 297,000 LB  
MACH NUMBER: 0.50  
ALTITUDE: 24,000 FT

Location		Segment number	Axial stress		Shear stress	
Body station	Percent semispan		A (psi)	N <sub>0</sub> (Zero crossings per second)	A (psi)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	226	1.08	29.5	1.53
---	27	14	205	1.08	76.7	1.21
---	40.06	8	221	1.10	56.6	1.34
---	40.06	107	189	1.10	53.3	1.33
540	---	S-17	0	0	21.1	3.08
820	---	S-1	88.1	1.87	0	0

SCALE OF TURBULENCE: 3,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	158	1.08	20.6	1.54
---	27	14	144	1.08	53.6	1.18
---	40.06	8	154	1.08	39.5	1.34
---	40.06	107	132	1.08	37.2	1.34
540	---	S-17	0	0	14.68	3.08
820	---	S-1	61.5	1.85	0	0

SCALE OF TURBULENCE: 5,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	10	133	1.07	17.3	1.52
---	27	14	121	1.07	45.3	1.20
---	40.06	8	130	1.10	33.3	1.34
---	40.06	107	111	1.10	31.4	1.31
540	---	S-17	0	0	12.4	3.06
820	---	S-1	59.9	1.86	0	0



**APPENDIX VII  
INCREMENTAL LIMIT ALLOWABLE STRESSES**

**Table XXV. Incremental Limit Allowable Stresses**

Location		Segment number	Analysis condition									
			1		2		3		4		5	
Body station	Percent semispan		Gross wt: 297,000 lb Mach number: 0.85		Gross wt: 268,000 lb Mach number: 0.85		Gross wt: 190,590 lb Mach number: 0.85		Gross wt: 107,000 lb Mach number: 0.85		Gross wt: 297,000 lb Mach number: 0.50	
			Axial stress (psi)	Shear stress (psi)	Axial stress (psi)	Shear stress (psi)	Axial stress (psi)	Shear stress (psi)	Axial stress (psi)	Shear stress (psi)	Axial stress (psi)	Shear stress (psi)
<b>SCALE OF TURBULENCE: 1,000 FEET</b>												
---	---	---	24,700	3,800	24,400	4,500	29,400	5,600	33,500	10,300	23,500	3,000
---	---	27	24,100	9,500	23,600	10,500	27,200	12,500	31,000	15,100	23,500	9,000
---	---	40.06	24,100	6,600	23,600	7,600	27,700	10,000	32,400	11,100	22,300	5,700
---	---	40.06	18,000	5,800	17,500	6,500	20,400	7,900	23,200	9,900	18,200	5,300
540	---	S-17	---	4,190	---	4,190	---	4,190	---	5,635	---	4,190
820	---	S-1	22,100	---	21,900	---	23,400	---	27,700	---	25,700	---
<b>SCALE OF TURBULENCE: 3,000 FEET</b>												
---	---	---	24,800	3,500	24,500	4,100	29,600	4,900	34,300	9,000	23,500	3,000
---	---	27	24,000	9,500	23,400	10,500	27,400	12,400	31,100	15,100	23,500	9,000
---	---	40.06	24,000	6,700	23,600	7,300	27,800	9,600	32,300	11,300	22,300	5,900
---	---	40.06	18,300	5,700	17,800	6,100	20,900	7,500	24,200	9,300	18,200	5,300
540	---	S-17	---	4,190	---	4,190	---	4,190	---	5,635	---	4,190
820	---	S-1	22,100	---	21,900	---	23,400	---	27,700	---	25,700	---
<b>SCALE OF TURBULENCE: 5,000 FEET</b>												
---	---	---	24,700	3,800	24,500	4,200	29,500	5,100	34,100	9,100	23,500	3,100
---	---	27	24,100	9,500	23,800	10,100	27,900	11,600	31,500	14,400	23,600	8,600
---	---	40.06	24,300	5,300	23,700	7,300	28,200	9,100	32,600	10,700	22,300	5,800
---	---	40.06	18,300	5,500	17,900	6,000	21,100	7,300	24,300	9,000	18,200	5,100
540	---	S-17	---	4,190	---	4,190	---	4,190	---	5,635	---	4,190
820	---	S-1	22,100	---	21,900	---	23,400	---	27,700	---	25,700	---

# *Contrails*

## APPENDIX VIII CORRELATION COEFFICIENTS BETWEEN AXIAL AND SHEAR STRESSES

**Table XXVI. Correlation Coefficients Between Axial and Shear Stresses**

Location		$W_c = 10$ cps			$W_c = 15$ cps	$W_c = 20$ cps
Percent wing semispan	Segment number	L = 1,000 ft	L = 3,000 ft	L = 5,000 ft	L = 1,000 ft	L = 1,000 ft

### ANALYSIS CONDITION 1

27	10	0.835	0.866	0.871	-0.835	-0.835
27	14	0.961	0.971	0.972	0.961	0.961
40.06	8	0.962	0.971	0.972	0.962	0.962
40.06	107	-0.962	-0.971	-0.972	-0.962	-0.962

### ANALYSIS CONDITION 2

27	10	0.746	0.780	0.786	---
27	14	0.941	0.956	0.958	
40.06	8	0.887	0.910	0.913	
40.06	107	-0.894	-0.916	-0.919	

### ANALYSIS CONDITION 3

27	10	0.673	0.687	0.689	---
27	14	0.922	0.935	0.937	
40.06	8	0.831	0.851	0.854	
40.06	107	-0.837	-0.859	-0.862	

### ANALYSIS CONDITION 4

27	10	-0.0127	-0.0499	-0.0558	---
27	14	0.475	0.493	0.495	
40.06	8	0.575	0.598	0.602	
40.06	107	-0.585	-0.611	-0.615	

### ANALYSIS CONDITION 5

27	10	0.904	0.905	0.905	---
27	14	0.975	0.975	0.975	
40.06	8	0.972	0.972	0.972	
40.06	107	-0.972	-0.972	-0.972	

# *Contrails*



APPENDIX IX  
STRESS INFLUENCE COEFFICIENTS

(a) 27 PERCENT WING SEMISPAN, SEGMENT NUMBER 10

$$\begin{Bmatrix} \text{Skin Stress} \\ \text{Shear Stress} \end{Bmatrix} = \begin{bmatrix} 0.00107 \frac{\text{PSI}}{\text{In-Lb}} & 0 & 0 \\ 77 \times 10^{-6} \frac{\text{PSI}}{\text{In-Lb}} & 0.0228 \frac{\text{PSI}}{\text{Lb}} & 865 \times 10^{-6} \frac{\text{PSI}}{\text{In-Lb}} \end{bmatrix} \begin{Bmatrix} \text{Bending Moment} \\ \text{Shear} \\ \text{Torsion} \end{Bmatrix}$$

(b) 27 PERCENT WING SEMISPAN, SEGMENT NUMBER 14

$$\begin{Bmatrix} \text{Skin Stress} \\ \text{Shear Stress} \end{Bmatrix} = \begin{bmatrix} 0.000971 \frac{\text{PSI}}{\text{In-Lb}} & 0 & 0 \\ 188 \times 10^{-6} \frac{\text{PSI}}{\text{In-Lb}} & 0.0655 \frac{\text{PSI}}{\text{Lb}} & 865 \times 10^{-6} \frac{\text{PSI}}{\text{In-Lb}} \end{bmatrix} \begin{Bmatrix} \text{Bending Moment} \\ \text{Shear} \\ \text{Torsion} \end{Bmatrix}$$

(c) 40.06 PERCENT SEMISPAN, SEGMENT NUMBER 8

$$\begin{Bmatrix} \text{Skin Stress} \\ \text{Shear Stress} \end{Bmatrix} = \begin{bmatrix} 0.00158 \frac{\text{PSI}}{\text{In-Lb}} & 0 & 0 \\ 123 \times 10^{-6} \frac{\text{PSI}}{\text{In-Lb}} & 0.0359 \frac{\text{PSI}}{\text{Lb}} & 1370 \times 10^{-6} \frac{\text{PSI}}{\text{In-Lb}} \end{bmatrix} \begin{Bmatrix} \text{Bending Moment} \\ \text{Shear} \\ \text{Torsion} \end{Bmatrix}$$

(d) 40.06 PERCENT SEMISPAN, SEGMENT NUMBER 107

$$\begin{Bmatrix} \text{Segment Stress} \\ \text{Shear Stress} \end{Bmatrix} = \begin{bmatrix} -0.00135 \frac{\text{PSI}}{\text{In-Lb}} & 0 & 0 \\ 43.4 \times 10^{-6} \frac{\text{PSI}}{\text{In-Lb}} & 0.0525 \frac{\text{PSI}}{\text{Lb}} & 1286 \times 10^{-6} \frac{\text{PSI}}{\text{In-Lb}} \end{bmatrix} \begin{Bmatrix} \text{Bending Moment} \\ \text{Shear} \\ \text{Torsion} \end{Bmatrix}$$

## APPENDIX IX --- CONCLUDED

(e) BODY BALANCE STATION 540, STRINGER S-7

$$\begin{Bmatrix} \text{Axial Stress} \\ \text{Shear Stress} \end{Bmatrix} = \begin{bmatrix} 0 & 0 \\ 0 & 0.0516 \frac{\text{PSI}}{\text{Lb}} \end{bmatrix} \begin{Bmatrix} \text{Bending Moment} \\ \text{Shear} \end{Bmatrix}$$

(f) BODY BALANCE STATION 820, STRINGER S-1

$$\begin{Bmatrix} \text{Axial Stress} \\ \text{Shear Stress} \end{Bmatrix} = \begin{bmatrix} 0.000302 \frac{\text{PSI}}{\text{In-Lb}} & 0 \\ 0 & 0 \end{bmatrix} \begin{Bmatrix} \text{Bending Moment} \\ \text{Shear} \end{Bmatrix}$$

### Sign Convention

- + Segment Stress - Tension
- + Bending Moment - Tension in lower skin
- + Shear - Outboard wing sheared up relative to inboard wing
- + Torsion - Leading edge up

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13. ABSTRACT  <b>This report presents the results of an analysis to obtain the stress response parameters (level of stress per level of turbulence) and zero-crossing rates at two wing stations and two body stations of the KC-135 airplane where the margins of safety for gusts are minimum. Five combinations of gross weight, speed, and altitude were selected. The results of the computer analysis present the effects of changes in scale of turbulence and upper cutoff frequency on the response parameters and zero-crossing rates. Results indicate a large reduction in stress response parameter and small reduction in zero-crossing rate with increasing scale of turbulence. Variations of upper cutoff frequency above the highest modal frequency used in the analysis indicate negligible change in either stress response parameter or zero-crossing rates. The ratios of incremental limit allowable stress to stress response parameter obtained over a wide range of gross weight, speed, and scale of turbulence result in a minimum value of 53. This document (volume I) presents the analyses and specific results described above. Volume II presents response parameters, zero-crossing rates, frequency response functions, and power spectra of bending moment, shear, and torsion.</b>			

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