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CHASE AIRCRAFT CO., INC., WEST TRENTON, N.J. (REPORT NO. 7017C-1)

WING AXIAL LOADS AND STRESSES - AND APPENDIX A

J. HENRY PETACH NOV '49 - REVISION "A" 4 OCT '50
76PP. DIAGRS, GRAPHS, CHARTS

USAF CONTR. NO. W33-038-AC-17025

STRUCTURES (7)
DESIGN AND DETAILS (3)

WINGS - STRESS ANALYSIS
C-122 - STRESS ANALYSIS
C-122C

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CHASE AIRCRAFT CO., INC.

WEST TRENTON



NEW JERSEY

REPORT NO. . . 70170-1 .

TITLE

WING AXIAL LOADS AND STRESSES

CHASE MODEL . . MS-70

USAF DESIGNATION . . YO-122C . .

CONTRACT NO . W33-038-a0-17025

DESIGNER AND CHIEF ENGINEER
MICHAEL STROUKOFF

NO. OF PAGES . 159 .

DATE OF ISSUE Nov. 1949 .

REVISION . a . DATE Oct. 4, 1950

PREPARED BY *J. Henry Petach*

CHECKED BY *C. d. Mayerson* . . .

APPROVED BY *J. B. Barfield* . . .

APPROVED BY *M. Stroukoff*

PREP. S.R.P. ON 10-2-50

CHKD. M.R. ON 10-3-50

REVISED _____



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE _____

REPORT NO. 70170-Y

MODEL YC-122C MS-

SUBJECT _____

REVISIONS

REV. LTH.	DESCRIPTION	PREP. BY	CHK'D BY	APPR. BY	APPR. BY
a	Load factor in flap conditions changed to: PG+P - 1.86 was 1.50 } See p. 36 NG+P - 0.13 was 0.10 } Loads stresses and margins of safety changed accordingly. The outer panel rear spar capstrip mat'l. corrected to 14ST. Was 24ST. Allowable stress and margins changed to conform. (Ref. p. 15) Error made in noting tension allowable for stringers 608-2 in center section. Corrected to 51.9(10³). Was 70.5(10³). New margins determined. (Ref. p. 111) Corrected A₁ to .708 on p. 67 et. al. Was .335. Changed figures on pp. 13 and 14 to YC-122B. Were YC-122C. Added Appendix "A" covering change in stringers effective on the YC-122C. Title page and table of contents changed accordingly.	SRP 10/5/50	Mar 10/5/50	JEB 10.9	

PREP. _____ ON _____
CHKD. _____ ON _____
REVISED S.R.P. ON 10-9-50



CHASE AIRCRAFT CO., INC.
WEST TRENTON, N.J.

PAGE A
REPORT NO. 70170-I
MODEL MS

SUBJECT _____

This report is a final analysis of the YC-122C
Wing Axial Loads and Stresses.

As the YC-122C loads are greater than the YC-122B
load (because of increased gross weight) and as the wings
are almost structurally identical, this analysis is applic-
able and conservative for the YC-122B Airplane.

The YC-122B wing structure differs from the YC-122C wing
only in the location of the lower wing surface fuel tank doors.
An investigation of the effect of this difference was made in
Appendix A of Chase Report 70170-I. The resultant changes were
found to be small enough to be neglected.

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CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE A-1

REPORT NO. 70170 -I

MODEL Y0-1220 MS-70

SUBJECT

Appendix A

PURPOSE:

The purpose of this appendix is to show that structural changes (Ref. sketch p. A-3) made on the Y0-1220 wing result in negligible differences from the results obtained before change was incorporated. Thus no changes need be made in the wing axial load report, wing shear stress report, wing rib and wing detail reports. (Report Nos. 70170-0-1, 70170-II A and B, 70170-III A and B respectively. Two typical examples of the changes are:

	Station	Item and Cond.	Load	M.S.	Ref. Page
Original	69.45	5 PHAA	-19.5	.02	116
New	69.45	5 PHAA	-19.5	.03	A-18
Original	125.45	7 PHAA	-16.6	.20	121
New	125.45	7 PHAA	-16.7	.19	A-20

INTRODUCTION:

Several changes are made in the primary structure of the wing. This necessitates a reinvestigation of the wing load - carrying abilities. Refer to pp. 17 - 19, 58 et-al, for method of analysis and for other information not otherwise supplied here.

DESCRIPTION OF STRUCTURE AND MATERIALS:

The following changes have been made: (Ref. sketch p. A-3)

- Center section removable underside door chordwise width reduced. Did include stringers No. 12 thru No. 17; now includes stringers No. 12 thru No. 15.
- Stringer No. 16 changed to CDS No. 614 in center section. Was CDS No. 1608-2.
- Stringer No. 18 changed to CDS No. 608-2 in center section. Was CDS No. 614.
- Stringers Nos. 1 and 24 partially removed from center section and are not considered effective in bending.

PROCEDURE:

Computations have been made of only the highly loaded conditions at several stations. These results are indicative of the general effect of the structural changes incorporated.

The stations for which new section properties and/or stresses have

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CHKD. _____ ON _____
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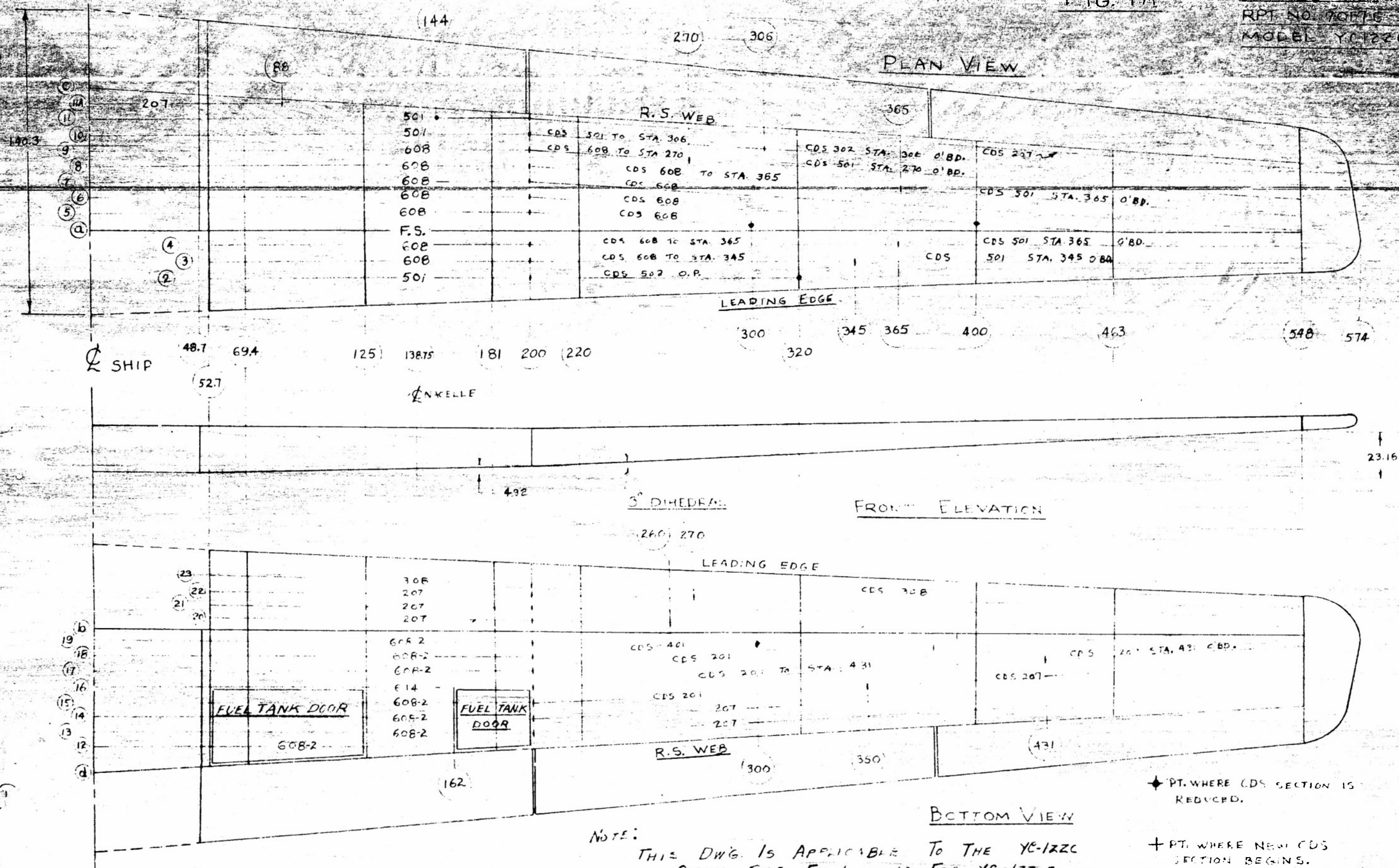
WEST TRENTON, N.J.

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REPORT NO. 70170-I
MODEL YC-122C MS-7C

SUBJECT Appendix A

PROCEDURE: (Cont'd.)

been calculated are stations 69.45, 125.40 and 181.35. The tabular results are given in the following pages.



PREP. 10-2-40
CHKD. 10-2-40
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PAGE 1
RPT. NO. 7017C-1
MODEL YC123C

WING SKIN DIAGRAM

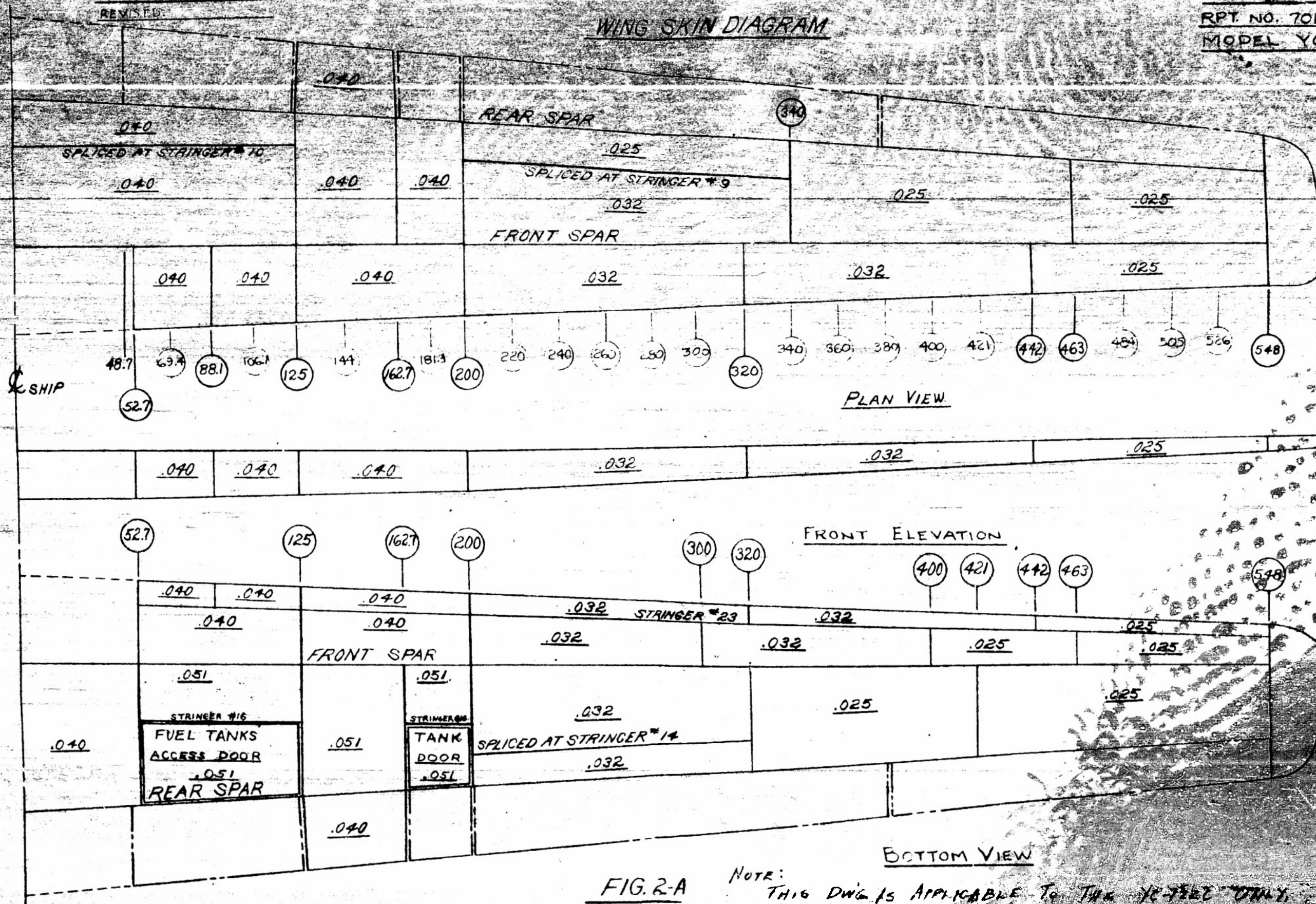


FIG. 2-A

NOTE:

THIS DWG. IS APPLICABLE TO THE YC-122C ONLY.
SEE FIG. 2, p. 1A FOR YC-122B.

PREP FAS ON 10-4-50
 CHKD MRP ON 10-5-50
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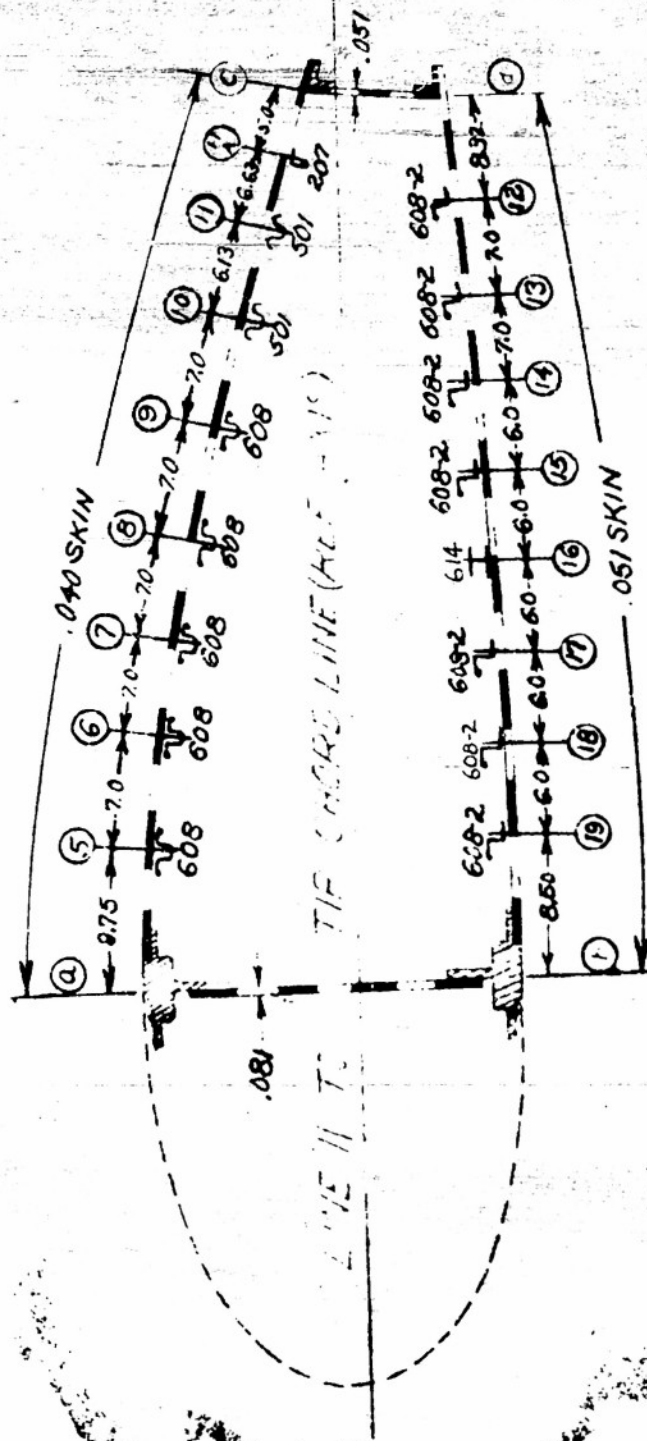
BEST TACITON, N.J.

PAGE A-5
 REPORT NO. 70770-1
 MODEL YC-119 MS-76

SUBJECT WING SECTION PROPERTIES

DETERMINATION OF CONSTANTS

WING STA 48.75
 FAR WLB-44074 ALIN



~ STA. 48.75 ~

PREP FAS ON 8-5-50
 CHKD JAP ON 10-5-50
 REVISED _____



CHASE AIRCRAFT CO. INC.

WEST-TRIMMONT

PAGE A-6
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 MODEL YC-122C MS 70

SUBJECT WING SECTION PROPERTIES

DETERMINATION OF CONSTANTS

WING SKIN-24 ST ALCLAD
SPAR WEB-24 ST AL ALLOY



NOTE STRINGER #15 INEFFECTIVE.
 STRINGERS #12 THRU 14, 50%
 INEFFECTIVE IN COMPRESSION
 DUE TO TANK DOORS.

~STA 69.45~

PREP. T.A.B. ON 9-1-50
 CORR. S.B.P. ON 9-29-50
 REVISED



CHASE AIRCRAFT CO. INC.

WEST TRENTON, N.J.

PAGE 1
 REPORT NO. 10170-1
 MODEL 10-1220 MS10

SUBJECT: WIND SECTION PROPERTIES
 DETERMINATION OF CONSTANTS

STATION 69.45

SECTION ON BOTTOM

σ

.21

.35

.50

.80

.45

.25

.10

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
ITEM	A_s	x	$A_s x$	z^2	Δz	z	$A_s z$	x_0	z_0	a	b	ITEM
REF.			②③			⑤⑥	②⑦	③⑧	④⑨	$x \times 10^3$	$z \times 10^3$	REF.
1												1
2	.076	-22.92	-1.74	12.05	.26	11.79	0.90	-34.81	10.85	-2.86	3.08	2
3	.164	-16.00	-2.62	13.02	.33	12.69	2.08	-27.89	11.75	-3.61	2.31	3
4	.234	-9.00	-2.11	13.25	.33	12.92	3.02	-20.89	11.98	-4.07	1.56	4
5	.469	0	0	12.96	.68	12.28	98.62	-11.89	11.34	-4.26	0.65	5
6	.469	9.71	4.55	12.0	.33	11.67	5.74	-2.18	10.73	-4.51	-0.33	6
7	.469	16.68	7.82	11.11	.33	10.78	5.06	4.79	9.84	-4.49	-1.01	7
8	.469	23.52	11.03	10.01	.33	9.68	4.54	11.63	8.74	-4.37	-1.67	8
9	.469	30.44	14.28	8.88	.33	8.47	3.97	18.55	7.53	-4.21	-2.33	9
10	.469	37.31	17.50	7.50	.33	7.17	3.36	25.42	6.23	-4.01	-2.99	10
11	.364	44.17	16.08	6.11	.26	5.85	2.13	32.28	4.91	-3.88	-3.64	11
12	.364	50.20	18.27	4.80	.26	4.54	1.65	38.31	3.60	-3.54	-4.20	12
11A	.139	56.30	7.83	3.42	.22	3.20	0.44	44.41	2.26	-3.29	-4.27	11A
13	.659	60.85	40.10	2.30	.54	1.76	1.16	48.96	0.82	-2.90	-5.17	13
14												14
15												15
16												16
17												17
18												18
19												19
20												20
21												21
22												22
23												23
24												24
Σ UPPER	12.311		131.01				132.40					Σ UPPER
25	.797	60.00	47.82	-9.71	-.39	-9.32	-7.43	48.11	-10.26	1.87	-4.48	25
26	.577	52.15	30.09	-10.00	-.14	9.86	-5.69	40.26	-10.80	2.55	-3.65	26
27	.570	45.15	25.74	-10.19	-.14	-10.05	-5.73	33.26	-10.99	3.00	-2.91	27
28	.698	38.16	26.64	-10.25	-.11	-10.14	-7.08	26.27	-11.08	3.40	-2.17	28
29												29
30	.713	26.18	18.67	-10.22	-.21	-10.01	-7.14	14.29	-11.04	4.01	-0.92	30
31	.519	20.16	10.46	-10.09	-.15	-9.94	-5.16	8.27	-10.88	4.25	-0.10	31
32	.519	14.12	7.33	-9.85	-.12	-9.73	-5.05	2.23	-10.58	4.44	0.32	32
33	.583	8.14	4.75	-9.50	-.13	-9.37	-5.46	-3.75	-10.31	4.61	0.93	33
34	6.955	0	0	-8.83	-.71	-8.12	-56.47	-11.89	-9.06	4.52	1.72	34
35	.305	-8.30	-2.53	-7.65	-.07	-7.53	-2.30	-20.19	-8.47	4.70	2.45	35
36	.149	-14.12	-2.10	-6.52	-.08	-6.44	-0.96	-26.01	-7.38	4.53	3.11	36
37	.084	-19.96	-1.68	-5.20	-.08	-5.12	-0.43	-31.85	-6.06	4.21	3.65	37
38	.036	-26.10	-0.94	-3.42	-.04	-3.38	-0.12	-37.99	-4.32	3.84	4.20	38
39												39
Σ LOWER	12.505		164.25				109.01					Σ LOWER
Σ TOTAL	24.816		295.26				23.37					Σ TOTAL

PREP. E.A.B. ONS-7-50
 CRKD. S.B.P. ONS-28-50
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CHASE AIRCRAFT CO. INC.
 WEST TROY, N.Y.

PAGE 2-8
 REPORT NO. 7017C-1
 MODEL 70-122C MS-70

SUBJECT WING SECTION PROPERTIES
 DETERMINATION OF CONSTANTS

STATION 69.45

SECTION ON TOP

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
ITEM	Δ_s	x	$\Delta_s x$	x^2	Δ_s^2	s	Δ_s^2	x_0	s_0	α	β		ITEM
REF.			②③			⑤⑥	②⑦	③⑧	⑦⑨	$\times 10^3$	$\times 10^3$		REF.
1													1
.21 2	.111	-22.92	-2.54	12.05	.17	11.88	1.32	-33.02	8.97	-3.26	3.32		2
.35 3	.229	-16.00	-3.66	13.02	.23	12.79	2.93	-26.99	9.88	-3.85	2.65		3
.50 4	.346	-9.00	-3.11	13.25	.22	13.03	4.51	-19.98	10.12	-4.16	1.88		4
a	8.155	0	0	12.96	.67	12.29	100.22	-10.99	9.31	-4.03	0.70		a
5	.708	9.71	6.87	12.00	.21	11.79	8.35	-2.28	8.88	-4.10	-0.11		5
6	.653	16.68	10.89	11.11	.23	10.88	7.10	5.69	7.97	-3.87	-0.84		6
7	.653	23.52	15.36	10.01	.23	9.78	6.39	12.53	6.87	-3.55	-3.55		7
8	.653	30.44	19.88	8.80	.23	8.57	5.60	19.45	5.66	-3.17	-2.26		8
9	.653	37.31	24.36	7.50	.23	7.27	4.75	26.32	4.36	-2.76	-0.97		9
10	.531	44.17	23.45	6.11	.17	5.94	3.15	33.18	3.03	-2.33	-3.17		10
11	.581	50.20	26.15	4.82	.17	4.63	2.41	39.21	1.72	-1.89	-4.29		11
11A	.303	56.30	17.06	3.42	.09	3.33	1.02	45.31	0.42	-1.45	-4.91		11A
b	.693	60.85	24.17	2.30	.52	1.78	1.23	49.86	-1.13	-0.86	-5.36		b

PREP. F.A.S. ON 9-7-50
 CHKD. S.R.P. ON 9-29-50
 REVISED _____



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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 REPORT NO. 7017-B-I
 MODEL YO-1120ms-18

SUBJECT WING SECTION PROPERTIES

DETERMINATION OF CONSTANTS - STATION 69.45

TENSION ON TOP

$$\begin{aligned}\Sigma A_s x^2 &= \Sigma \text{col. } (3) \times (4) = 12249 \\ \Sigma A_s y^2 &= \Sigma \text{col. } (7) \times (8) = 2383 \\ \Sigma A_s xy &= \Sigma \text{col. } (4) \times (7) = 201\end{aligned}$$

$$\begin{aligned}\bar{x} &= \frac{\Sigma A_s x}{\Sigma A_s} \\ &= \frac{\Sigma \text{col. } (4)}{\Sigma \text{col. } (2)} = \frac{261.29}{23.758} = 10.99\end{aligned}$$

$$\begin{aligned}\bar{y} &= \frac{\Sigma A_s y}{\Sigma A_s} \\ &= \frac{\Sigma \text{col. } (8)}{\Sigma \text{col. } (2)} = \frac{69.34}{23.758} = 2.91\end{aligned}$$

$$\begin{aligned}I_{x_0} &= \Sigma A_s y^2 - (\Sigma A_s) \bar{y}^2 \\ &= \Sigma A_s y^2 - \Sigma \text{col. } (2) \bar{y}^2 = 2181\end{aligned}$$

$$\begin{aligned}I_{z_0} &= \Sigma A_s x^2 - (\Sigma A_s) \bar{x}^2 \\ &= \Sigma A_s x^2 - \Sigma \text{col. } (2) \bar{x}^2 = 9380\end{aligned}$$

$$\begin{aligned}I_{x_0 y_0} &= \Sigma A_s xy - (\Sigma A_s) \bar{x} \bar{y} \\ &= \Sigma A_s xy - \Sigma \text{col. } (2) \bar{x} \bar{y} = -359\end{aligned}$$

$$K = I_{x_0} I_{z_0} - (I_{x_0 y_0})^2 = 20.15 \times 10^6$$

$$C_1 = \frac{I_{x_0 y_0}}{K} = \frac{-359}{20.15 \times 10^6} = -27.74 \times 10^{-6}$$

$$C_2 = \frac{I_{z_0}}{K} = \frac{9380}{20.15 \times 10^6} = 108.2 \times 10^{-6}$$

$$C_3 = \frac{I_{x_0}}{K} = \frac{2181}{20.15 \times 10^6} = 465.5 \times 10^{-6}$$

TENSION ON BOTTOM

$$= 13672$$

$$= 2493$$

$$= -952$$

$$\frac{295.26}{24.816} = 11.89$$

$$\frac{23.37}{24.816} = 0.94$$

$$= 2471$$

$$= 10164$$

$$= -1229$$

$$= 23.60 \times 10^6$$

$$\frac{-1229}{23.60 \times 10^6} = -52.07 \times 10^{-6}$$

$$\frac{2471}{23.60 \times 10^6} = 104.7 \times 10^{-6}$$

$$\frac{10164}{23.60 \times 10^6} = 430.6 \times 10^{-6}$$

PREP FAS ON 10-5-50
CHKD. ~~WFO~~ ON 10-5-50
REVISED _____



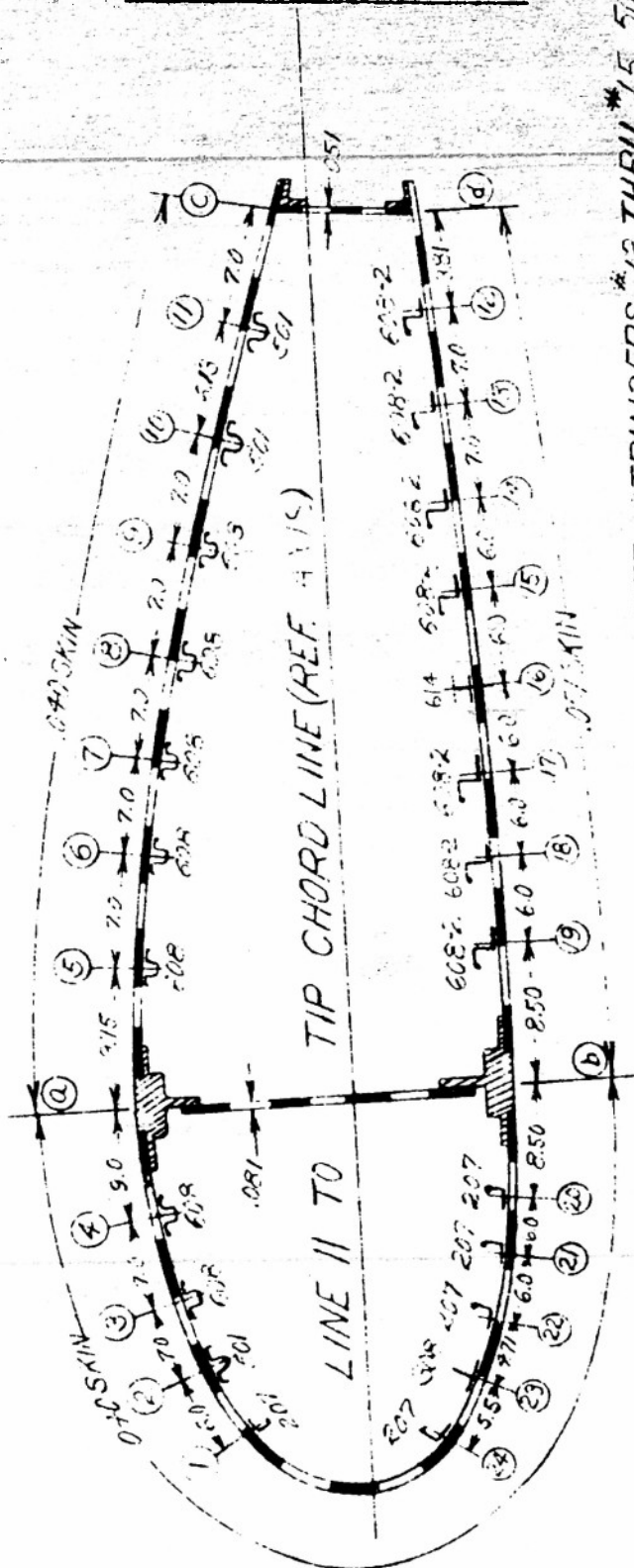
CHASE AIRCRAFT CO., INC.
WEST TRENTON, N.J.

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REPORT NO 7017C-I
MODEL YC-122C MS 7C

SUBJECT WING SECTION PROPERTIES

WING SKIN-24ST AL CLAD
SPAR WEB-24ST AL ALLOY

DETERMINATION OF CONSTANTS



NOTE: TRINGERS *12 THRU *15, 50%
INEFFECTIVE IN COMPRESSIVE DUE
TO TANK LOCKS.

~ STA 125.40 ~



CHASE AIRCRAFT CO. INC.

BEST THEATRICAL

STATION 125.40

EMISION ON BOTTOM

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(1)
ITEM	A _s	x	A _s x	x'	Δx	z	A _s ²	x ₀	A ₀	a	β	ITEM
REF.			(2)(3)			(5)(6)	(2)(7)(3)-E	(7)-E		X10 ⁵	X10 ⁵	REF.
1												1
2	.364	-22.88	-8.33	10.73	.26	10.47	3.83	-32.65	9.67	-3.17	2.37	2
3	.469	-15.98	-7.49	11.86	.33	11.53	5.43	-25.75	10.73	-4.09	2.01	3
4	.469	-8.98	-4.21	12.18	.33	11.85	5.56	-18.75	11.05	-4.64	1.46	4
a	7.413	0	0	11.89	.69	11.20	83.03	-94.77	10.40	-4.80	0.50	a
5	.469	9.71	4.55	11.00	.33	10.67	5.00	-0.06	9.87	-5.06	-0.54	5
6	.469	16.63	7.80	10.09	.33	9.76	4.58	6.86	8.96	-4.97	-1.19	6
7	.469	23.56	11.09	9.06	.33	8.73	4.09	13.79	7.93	-4.82	-2.83	7
8	.469	30.54	14.28	7.86	.33	7.55	3.54	20.48	6.75	-4.59	-2.44	8
9	.469	37.35	17.52	6.62	.33	6.29	2.95	27.58	5.49	-4.33	-3.09	9
10	.346	44.20	16.09	5.24	.26	4.98	1.81	34.43	4.18	-4.03	-3.71	10
11	.346	50.17	18.26	3.96	.26	3.72	1.35	40.40	2.92	-3.72	-4.24	11
11A												11A
c	.659	57.54	37.92	2.26	.54	1.72	1.13	47.77	0.92	-3.10	-4.88	c
E UPPER	12.447		107.44				122.26					E UPPER
d	.709	56.76	40.24	-8.67	-.45	-8.22	-5.83	46.99	-9.02	2.04	-4.26	d
12	.489	52.20	25.53	-8.88	-.17	-8.71	-4.26	42.43	-9.51	2.55	-3.77	12
13	.570	45.20	25.76	-9.09	-.14	-8.95	-5.10	35.43	-9.75	3.05	-3.05	13
14	.545	38.22	20.83	-9.23	-.15	-9.08	-4.95	28.45	-9.88	3.50	-2.33	14
15	.519	32.22	16.72	-9.26	-.15	-9.11	-4.73	22.45	-9.91	3.85	-1.73	15
16	.559	26.22	14.66	-9.25	-.21	-9.04	-5.05	16.45	-9.84	4.14	-1.12	16
17	.519	20.22	10.49	-9.16	-.15	-9.01	-4.68	10.45	-9.81	4.46	-0.52	17
18	.519	14.22	7.38	-8.97	-.15	-8.82	-4.57	4.45	-9.62	4.69	0.08	18
19	.583	8.22	4.79	-8.66	-.13	-8.53	-4.97	-1.55	-9.33	4.87	0.67	19
b	6.955	0	0	-7.96	-.71	-7.25	-50.42	-9.77	-8.05	4.66	1.43	b
20	.381	-8.19	-3.12	-6.89	-.07	-6.82	-2.60	-17.96	-7.62	4.89	2.23	20
21	.331	-14.09	-4.66	-5.84	-.08	-5.76	-1.91	-23.86	-6.56	4.67	2.77	21
22	.305	-19.95	-6.08	-4.50	-.09	-4.41	-1.34	-29.72	-5.21	4.30	3.29	22
23	.330	-24.74	-8.16	-3.17	-.04	-3.13	-1.03	-34.51	-3.93	3.91	3.70	23
24												24
Σ LOW	3.314		144.38				+101.46					Σ LOW
Σ TOTAL	25.761		251.82				20.80					Σ TOTAL



PAGE ~~1-2~~
REPORT NO. 70170-1
MODEL YC-122C MsIC

CHASE AIRCRAFT CO., INC.

WEST TRENTON, NJ

SUBJECT WING SECTION PROPERTIES

STATION 125.40

DETERMINATION OF CONSTANTS

CRUSION ON TOP

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(1)
ITEM	A _s	x	A _s x	a'	Δa	a	A _s z	x ₀	a ₀	α	β	ITEM
REF.			(2)(3)			(5)(6)	(2)-(7)	(3)-x̄	(7)-ā	x10 ³	x10 ³	REF.
1												1
2	.528	-22.88	-12.08	10.73	.17	10.56	5.58	-31.88	7.93	-3.04	3.05	2
3	.653	-15.98	-10.43	11.86	.23	11.63	7.59	-24.96	9.00	-3.92	2.27	3
4	.693	-8.98	-6.22	12.18	.22	11.96	8.29	-17.96	9.33	-4.38	1.52	4
a	7.537	0	0	11.89	.68	11.21	84.49	-8.98	8.58	-4.30	0.60	a
5	.708	9.71	6.87	11.00	.21	10.79	7.64	-0.73	8.16	-4.40	-0.25	5
6	.653	16.63	10.86	10.09	.23	9.86	6.44	7.65	7.23	-4.27	-1.10	6
7	.653	23.56	15.38	9.06	.23	8.83	5.77	14.58	6.20	-3.98	-1.80	7
8	.653	30.45	19.88	7.88	.23	7.65	4.99	21.47	5.02	-4.62	-2.48	8
9	.653	37.35	24.39	6.62	.23	6.39	4.17	28.37	3.76	-3.21	-3.16	9
10	.531	44.20	23.47	5.24	.17	5.07	2.69	35.22	2.44	-2.76	-3.83	10
11	.531	50.17	26.64	3.98	.17	3.81	2.02	41.17	1.18	-2.31	-4.41	11
11A												11A
c	.751	57.54	43.21	2.26	.48	1.78	1.34	48.56	-0.85	-2.43	-5.11	c
E UPPER	14.544	X	141.97	X			141.01	X				E UPPER
d	.690	56.76	39.16	-8.67	-.46	-8.21	-5.66	47.78-10.84	4.00	-4.62		d
12	.185	52.20	9.66	-8.88	-.23	-8.65	-1.60	43.22-11.27	4.42	-4.12		12
13	.185	45.20	8.36	-9.09	-.23	-8.86	-1.56	36.22-11.49	4.82	-3.37		13
14	.185	38.22	7.07	-9.23	-.23	-9.00	-1.67	29.34-11.63	5.18	-2.63		14
15	.185	32.22	5.96	-9.26	-.23	-9.03	-1.67	23.24-11.66	5.44	-1.99		15
16	.331	26.22	8.68	-9.25	-.38	-8.87	-2.94	17.24-11.50	5.60	-1.36		16
17	.291	20.22	5.88	-9.16	-.23	-8.93	-2.60	11.24-11.56	5.87	-0.72		17
18	.291	14.22	4.14	-8.97	-.23	-8.74	-2.54	5.24-11.37	6.01	-0.09		18
19	.291	8.22	2.39	-8.66	-.30	-8.36	-2.43	0.76-10.99	5.98	0.36		19
b	6.870	0	0	-7.96	-.72	-7.24	-49.74	-8.96	-5.87	5.77	1.35	b
20	.139	-8.19	-1.14	-6.89	-.22	-6.67	-.93	-17.17	-9.30	5.79	2.20	20
21	.139	-14.09	-1.96	-5.94	-.22	-5.62	-.78	-23.07	-8.15	5.39	2.77	21
22	.139	-19.95	-2.77	-4.50	-.22	-4.28	-.59	-28.93	-6.91	4.95	3.34	22
23	.222	-24.74	-5.49	-3.17	-.07	-3.10	-.69	-33.76	-5.73	4.50	3.83	23
24												24
Σ LOW	20.143	X	79.92	X			-76.08	X				Σ LOW
Σ TOTAL	64.687	X	221.89	X			64.93	X				Σ TOTAL

PREP. P.A.S. ON 9-8-50
 CHKD. S.R.P. ON 9-29-50
 REVISED _____



CHASE AIRCRAFT CO., INC.
 WEST TRENTON, N.J.

PAGE A-19
 REPORT NO. 7017-1
 MODEL XD-125-1

SUBJECT WING SECTION PROPERTIES

DETERMINATION OF CONSTANTS - STATION 125.40

TENSION ON TOP

$$\sum A_s x^2 = \sum \text{col. } (3) \times (4) = 11705$$

$$\sum A_s s^2 = \sum \text{col. } (7) \times (8) = 2051$$

$$\sum A_s xs = \sum \text{col. } (4) \times (7) = -136$$

$$\bar{x} = \frac{\sum A_s x}{\sum A_s}$$

$$= \frac{\sum \text{col. } (4)}{\sum \text{col. } (2)} = \frac{221.89}{24.637} = 8.98$$

$$\bar{s} = \frac{\sum A_s s}{\sum A_s}$$

$$= \frac{\sum \text{col. } (8)}{\sum \text{col. } (2)} = \frac{64.93}{24.689} = 2.63$$

$$I_{x_0} = \sum A_s x^2 - (\sum A_s) \bar{x}^2$$

$$= \sum A_s x^2 - \sum \text{col. } (2) \bar{x}^2 = 1880$$

$$I_{s_0} = \sum A_s s^2 - (\sum A_s) \bar{s}^2$$

$$= \sum A_s s^2 - \sum \text{col. } (2) \bar{s}^2 = 9715$$

$$I_{x_0 s_0} = \sum A_s xs - (\sum A_s) \bar{x} \bar{s}$$

$$= \sum A_s xs - \sum \text{col. } (2) \bar{x} \bar{s} = -719$$

$$K = I_{x_0} I_{s_0} - (I_{x_0 s_0})^2 = 17.75 \times 10^6$$

$$C_1 = \frac{I_{x_0 s_0}}{K} = \frac{-719}{17.75 \times 10^6} = -40.50 \times 10^{-6}$$

$$C_2 = \frac{I_{x_0}}{K} = \frac{1880}{17.75 \times 10^6} = 105.9 \times 10^{-6}$$

$$C_3 = \frac{I_{s_0}}{K} = \frac{9715}{17.75 \times 10^6} = 547.3 \times 10^{-6}$$

TENSION ON BOTTOM

$$= 12952$$

$$= 2086$$

$$= -923$$

$$\frac{251.82}{25.761} = 9.77$$

$$\frac{20.80}{25.761} = 0.80$$

$$= 2070$$

$$= 10493$$

$$= -1124$$

$$= 20.46 \times 10^6$$

$$\frac{-1124}{20.46 \times 10^6} = 54.93 \times 10^{-6}$$

$$\frac{2070}{20.46 \times 10^6} = 101.1 \times 10^{-6}$$

$$\frac{10493}{20.46 \times 10^6} = 512.8 \times 10^{-6}$$

PREP. F.A.S. ON 9-7-50
CHKD. S.H.P. ON 9-29-50
REVIEWED



CHASE AIRCRAFT CO., INC.

WEST TNEPTON, N.J.

PAGE 1-15
REPORT NO. 70170-1
MODEL YC-1220 MS7C

PRODUCT WIRE SECTION PROPERTIES

STATION 181.35

DETERMINATION OF CONSTANTS

THE SIGN ON BOTTOM

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
ITEM	A_0	x	$A_0 x$	x^2	Δx	z	$A_0 z$	x_0	x_0	a	β	ITEM
REF.			②③			⑤⑥	②⑦	③⑧	④⑨	$\times 10^3$	$\times 10^3$	REF.
1												1
2	.364	-22.86	-8.32	9.39	.26	9.13	3.32	-31.79	8.48	-3.59	3.28	2
3	.469	-15.98	-7.49	10.72	.33	10.39	4.87	-26.91	9.72	-4.73	2.62	3
4	.469	-8.98	-4.21	11.12	.33	10.79	5.06	-17.91	10.12	-5.59	1.51	4
a	6.843	0	0	10.84	.72	10.12	69.25	-8.93	9.45	-5.72	0.47	a
5	.469	9.71	4.55	10.02	.33	9.69	4.54	0.78	9.02	-6.05	-0.67	5
6	.469	16.63	7.80	9.16	.33	8.83	4.14	7.70	8.16	-5.93	-1.45	6
7	.469	23.56	11.05	8.12	.33	7.79	3.65	12.63	7.12	-5.55	-1.98	7
8	.469	30.45	14.28	7.00	.33	6.67	3.13	21.52	6.00	-5.37	-2.98	8
9	.469	37.35	17.52	5.75	.33	5.42	2.54	28.42	4.75	-4.98	-3.73	9
10	.364	44.20	16.09	4.39	.26	4.13	1.50	35.27	3.46	-4.57	-4.47	10
11	.182	49.01	8.92	3.41	.26	3.15	0.57	40.08	2.49	-4.23	-4.99	11
11A												11A
e	.659	54.11	15.66	2.24	.54	1.70	1.12	45.18	1.03	-3.58	-5.51	e
Σ UPPER	11.695		95.85				103.69					Σ UPPER
a	.802	53.40	42.83	-7.70	-.39	7.31	-5.86	44.47	-7.98	2.46	-4.84	a
12												12
13	.583	45.20	26.35	-8.07	-.16	-7.91	-4.61	36.27	-8.58	3.38	-3.82	13
14	.545	38.22	20.83	-8.22	-.15	-8.07	-4.40	29.29	-8.75	3.95	-2.97	14
15	.519	32.22	16.72	-8.28	-.15	-8.13	-4.22	23.29	-8.80	4.36	-2.24	15
16	.559	26.22	14.66	-8.32	-.21	-8.11	-4.53	17.29	-8.78	4.73	-1.52	16
17	.519	20.22	10.49	-8.22	-.15	-8.07	-4.19	11.29	-8.74	5.09	-0.80	17
18	.519	14.22	7.38	-8.07	-.15	-7.92	-4.11	5.29	-8.59	5.38	-0.09	18
19	.583	8.22	4.79	-7.82	-.13	-7.69	-4.48	-0.71	-8.36	5.61	0.62	19
b	6.955	0	0	-7.17	-.71	-6.46	-4.93	-8.93	-7.13	5.32	1.53	b
20	.381	-8.19	-3.12	-6.14	-.07	-6.07	-2.31	-17.32	-6.74	5.58	2.49	20
21	.331	-14.09	-4.66	-5.11	-.08	-5.03	-1.66	-23.02	-5.60	5.20	3.13	21
22	.275	-19.95	-5.49	-3.80	-.10	-3.70	-1.02	-28.88	-4.37	4.76	3.76	22
23	.304	-23.28	-7.08	-2.87	-.05	-2.82	-0.86	-32.21	-3.49	4.39	4.10	23
24												24
Σ LOWER	12.875		123.71				-87.18					Σ LOWER
Σ TOTAL	24.570		219.56				16.51					Σ TOTAL

CHASE AIRCRAFT CO., INC.

WEST TREATMENT PLANT

STATION 181.35

TRANSITION ON TOP

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(1)
ITEM	A ₀	x	A ₀ x	z'	Δz	z	A ₀ z	x ₀	-x ₀	a	β	ITEM
REF.			(2)(3)			(5)(6)	(2)-(7)	(3)-E	(7)-E	x10 ³	β10 ³	REF.
1												1
2	.528	-22.84	-12.07	9.39	.17	9.22	4.87	-32.03	6.92	-3.38	3.49	2
3	.653	-15.98	-10.43	10.72	.23	10.49	6.85	-24.15	8.19	-4.64	2.35	3
4	.693	-8.56	-6.22	11.12	.22	10.90	7.55	-17.15	8.60	-5.29	1.69	4
a	6.967	0	0	10.84	.71	10.13	70.58	-6.17	7.83	-5.19	8.62	a
5	.708	9.71	6.87	10.02	.21	9.81	6.95	1.00	7.51	-5.42	-0.58	5
6	.653	16.63	10.86	9.16	.23	8.93	5.83	8.46	6.63	-5.17	-1.38	6
7	.653	23.56	15.38	8.12	.23	7.89	5.15	15.39	5.59	-4.78	-2.19	7
8	.653	30.45	19.88	7.00	.23	6.77	4.42	22.28	4.47	-4.33	-2.98	8
9	.653	27.35	24.39	5.75	.23	5.52	3.60	29.18	3.22	-3.78	-1.76	9
10	.515	44.20	22.76	4.39	.18	4.21	2.17	36.03	1.91	-3.10	-2.61	10
11	.326	49.01	15.98	3.41	.14	3.27	1.06	40.84	0.97	-2.76	-5.11	11
11A												11A
b	.696	54.11	37.66	2.24	.51	1.73	1.20	46.94	-0.57	-1.97	-5.78	b
E UPPER	13.698	X	125.06	X	X	120.24	X	X	X	X	X	E UPPER
12	.690	53.40	36.85	-7.70	-.46	-7.24	-5.00	45.23	-9.54	4.34	-5.12	12
13	.185	45.20	8.36	-8.07	-.23	-7.84	-1.45	37.03	-10.14	5.38	-4.07	13
14	.185	38.29	7.07	-8.22	-.23	-7.99	-1.48	30.05	-10.29	5.84	-3.20	14
15	.185	32.22	5.96	-8.28	-.23	-8.05	-1.49	24.05	-10.35	6.19	-2.45	15
16	.331	26.22	8.68	-8.33	-.38	-7.95	-3.63	18.05	-10.25	6.82	-1.72	16
17	.291	20.22	5.88	-8.22	-.23	-7.99	-2.33	12.05	-10.29	6.75	-0.97	17
18	.291	14.22	4.14	-8.07	-.23	-7.84	-2.28	6.05	-10.14	6.95	-0.24	18
19	.291	8.22	2.39	-7.82	-.30	-7.52	-2.19	0.05	-9.82	7.02	0.49	19
b	6.870	0	0	-7.17	-.72	-6.45	-44.31	-8.17	-8.75	6.67	1.46	b
20	.139	-8.19	-1.14	-6.14	-.22	-4.92	-0.82	-16.36	-8.22	6.71	2.44	20
21	.139	-14.09	-1.96	-5.11	-.22	-4.89	-0.68	-22.26	-7.19	6.27	3.12	21
22	.139	-19.95	-2.77	-3.80	-.22	-3.58	-0.50	-28.12	-5.88	5.63	3.79	22
23	.222	-23.28	-5.17	-2.87	-.07	-2.80	-0.62	-31.45	-8.10	5.24	4.35	23
24												24
E LOWER	9.958	X	68.29	X	X	65.78	X	X	X	X	X	E LOWER
Σ TOTAL	23.656	X	193.35	X	X	54.46	X	X	X	X	X	Σ TOTAL

PREP. E.A.S. ON 9-7-50
 CHD. S.R.P. ON 9-29-50
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CHASE AIRCRAFT CO., INC.
 WEST TRENTON, N.J.

PAGE A-17
 REPORT NO. 7017-1-1
 MODEL YO-122-1

SUBJECT _____

DETERMINATION OF CONSTANTS - STATION 181.35

TENSION ON TOP

$$\sum A_y x^2 = \Sigma \text{col. } (3) \times (4) = 9897$$

$$\sum A_y y^2 = \Sigma \text{col. } (7) \times (8) = 1582$$

$$\sum A_y xy = \Sigma \text{col. } (4) \times (7) = -151$$

$$\bar{x} = \frac{\sum A_y x}{\sum A_y}$$

$$= \frac{\Sigma \text{col. } (4)}{\Sigma \text{col. } (2)} = \frac{193.35}{23.656} = 8.17$$

$$\bar{y} = \frac{\sum A_y y}{\sum A_y}$$

$$= \frac{\Sigma \text{col. } (8)}{\Sigma \text{col. } (2)} = \frac{54.46}{23.656} = 2.30$$

$$I_{x_0} = \sum A_y y^2 - (\sum A_y) \bar{y}^2$$

$$= \sum A_y y^2 - \Sigma \text{col. } (2) \bar{y}^2 = 1460$$

$$I_{x_0} = \sum A_y x^2 - (\sum A_y) \bar{x}^2$$

$$= \sum A_y x^2 - \Sigma \text{col. } (2) \bar{x}^2 = 8318$$

$$I_{x_0 y_0} = \sum A_y xy - (\sum A_y) \bar{x} \bar{y}$$

$$= \sum A_y xy - \Sigma \text{col. } (2) \bar{x} \bar{y} = -596$$

$$K = I_{x_0} I_{y_0} - (I_{x_0 y_0})^2 = 11.79 \times 10^6$$

$$C_1 = \frac{I_{y_0}}{K} = \frac{-596}{11.79 \times 10^6} = -50.60 \times 10^{-6}$$

$$C_2 = \frac{I_{x_0}}{K} = \frac{1460}{11.79 \times 10^6} = 123.8 \times 10^{-6}$$

$$C_3 = \frac{I_{x_0 y_0}}{K} = \frac{8318}{11.79 \times 10^6} = 713.6 \times 10^{-6}$$

TENSION ON BOTTOM

$$= 10706$$

$$= 1595$$

$$= -696$$

$$\frac{219.56}{24.570} = 8.93$$

$$\frac{16.51}{24.570} = 0.67$$

$$= 1383$$

$$= 8747$$

$$= -843$$

$$= 13.14 \times 10^6$$

$$\frac{-843}{13.14 \times 10^6} = 64.14 \times 10^{-6}$$

$$\frac{1583}{13.14 \times 10^6} = 120.4 \times 10^{-6}$$

$$\frac{8747}{13.14 \times 10^6} = 665.6 \times 10^{-6}$$

PREP. F.A.S. ON 9-8-50
CHKD. S.R.P. ON 9-29-50
REVISED



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE A-10
REPORT NO. 70170-I
MODEL YC-122C MS 7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 69.45

		CONDITION PHAA						CONDITION				
①	⑬	⑭	⑮	⑯	⑰	⑱	⑭	⑮	⑯	⑰	⑱	
Item	F _{all}	L · α	N · β	f _{act}	P	M.S.	L · α	N · β	f _{act}	P	M.S.	
	Pg.	* · ⑪	* · ⑫	⑭ + ⑮	⑯ · ⑰	⑱ / ⑲	* · ⑪	* · ⑫	⑭ + ⑮	⑯ · ⑰	⑱ / ⑲	
1												
.21	2	-44.8	5.66	- 1.64	- 7.30	- 2.6	L					
.35	3	-71.5	11.90	- 2.05	-13.95	- 6.5	L					
.50	4	-71.5	19.17	- 1.98	-21.15	- 9.9	L					
	a	-60.0	40.13	- 1.65	-41.78	-335.5	.43					
	5	-42.7	42.48	0.84	-41.64	-19.5	.03					
	6	-42.7	42.30	2.57	-39.73	-18.6	.07					
	7	-42.7	41.17	4.24	-36.93	-17.3	.16					
	8	-42.7	39.66	5.92	-33.74	-15.8	.29					
	9	-42.7	37.77	7.59	-30.18	-14.2	.41					
	10	-33.3	35.80	9.25	-26.55	- 9.7	.25					
	11	-33.3	33.35	10.67	-22.68	- 8.3	.47					
	11a	-29.5	30.99	12.12	- 18.87	- 2.6	.56					
	c	-37.1	27.32	13.13	-14.19	- 9.4	A					
	d	51.9	17.62	11.43	29.05	23.2	A					
	12	51.9	24.02	9.27	33.29	19.2	.55					
	13	51.9	28.26	7.39	35.65	20.3	.45					
	14	51.9	32.03	5.51	37.54	26.2	.38					
	15											
	16	51.9	37.77	2.34	40.11	28.6	.29					
	17	51.9	40.04	0.76	40.80	21.2	.27					
	18	51.9	41.82	- 0.81	41.01	21.3	.26					
	19	51.9	43.61	- 2.36	41.25	24.0	.25					
	b	61.2	42.59	- 4.37	38.22	265.8	.60					
.80	20	51.9	35.42	- 5.18	30.24	11.5	.72					
.45	21	51.9	19.20	- 3.55	15.65	5.2	L					
.25	22	51.9	10.08	- 2.32	7.74	2.6	L					
.10	23	51.9	3.62	- 1.07	2.55	0.7	L					
	24											

* L and N from page 37
α and β from section property table

Note: All values in thousands

PREP. F.A.S. ON 9-8-50
 CHKD. S.R.P. ON 9-29-50
 REVISED _____



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE A-19
 REPORT NO. 7017C-1
 MODEL YC-12C MS-7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 69.45

		CONDITION NO and F						CONDITION				
(1)	(13)	(14)	(15)	(16)	(17)	(18)		(14)	(15)	(16)	(17)	(18)
Item	F _{all}	L · α	N · β	f _{act}	P	M.S.		L · α	N · β	f _{act}	P	M.S.
Pg.		* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)		* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)
1												
.21 2	58.7	0.5	0.2	0.7	.4	L						
.35 3	57.8	1.0	0.2	1.2	.8							
.50 4	70.5	1.5	0.2	1.7	1.2							
a	70.5	2.94	0.18	3.12	25.44							
5	61.2	2.99	-0.03	2.96	2.1							
6	70.5	2.83	-0.21	2.62	1.7							
7	70.5	2.59	-0.39	2.20	1.4							
8	70.5	2.31	-0.57	1.74	1.1							
9	70.5	2.01	-0.74	1.27	0.8							
10	57.8	1.70	-0.92	0.78	0.4							
11	57.8	1.38	-1.08	0.30	0.2							
11a	51.9	1.06	-1.25	-0.19	-0.1							
c	51.9	0.63	-1.34	-0.71	-0.5							
d	-37.0	-3.14	-1.24	-4.38	-3.0							
12	-34.8	-1.72	-0.51	-2.23	-0.8							
13	-34.8	-1.84	-0.42	-2.26	-0.8							
14	-34.8	-1.92	-0.32	-2.24	-0.8							
15												
16	-37.2	-4.02	-0.32	-4.34	-1.4							
17	-34.8	-4.15	-0.16	-4.31	-1.3							
18	-34.8	-4.20	0	-4.20	-1.2							
19	-34.8	-4.06	0.01	-4.05	-1.2							
b	-60.0	-3.96	0.37	-3.59	-24.7							
.80 20	-36.8	-3.11	0.50	-2.61	-0.4							
.45 21	-36.8	-1.62	0.33	-1.29	-0.2							
.25 22	-36.8	-0.83	0.22	-0.61	-0.1							
.10 23	-31.5	-0.29	0.11	-0.18	0	L						
24												

* L and N from page 38
 α and β from section property table

Note: All values in thousands

PREP. P.A.S. ON 9-8-50
CHKD. S.R.P. ON 9-29-50
REVISED



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 1-29
REPORT NO. 7017C-I
MODEL YC-122C MS-7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 125.45

CONDITION PHAA							CONDITION				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	F _{all}	L · α	N · β	f _{act}	P	M.S.	L · α	N · β	f _{act}	P	M.S.
	Pg.	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)
1											
2	-44.8	-25.80	-5.46	-31.26	-11.4	.43					
3	-71.5	-33.29	-3.96	-37.25	-17.5	.92					
4	-71.5	-37.77	-2.88	-40.65	-19.1	.76					
a	-60.6	-39.07	-0.98	-40.05	-296.9	.51					
5	-42.7	-41.18	1.06	-40.12	-18.8	.06					
6	-42.7	-40.46	2.34	-38.12	-17.9	.12					
7	-42.7	-39.23	3.60	-35.63	-16.7	.19					
8	-42.7	-37.36	4.80	-32.56	-15.3	.31					
9	-42.7	-35.25	6.09	-29.16	-13.3	.46					
10	-33.3	-32.80	7.31	-25.49	-9.3	.30					
11	-33.3	-30.28	8.35	-21.93	-8.0	.51					
11a											
c	-37.1	-25.23	9.61	-15.62	-10.3	A					
d	51.9	16.61	8.39	25.00	17.7	A					
12	51.9	20.76	7.43	28.19	13.8	.84					
13	51.9	24.83	6.01	30.84	17.6	.68					
14	51.9	28.49	4.59	33.08	18.0	.57					
15	51.9	31.34	3.41	34.75	18.0	.49					
16	51.9	33.70	2.20	35.90	20.1	.44					
17	51.9	36.30	1.02	37.32	19.4	.39					
18	51.9	38.18	-0.16	38.02	19.7	.36					
19	51.9	39.64	-1.32	38.32	22.3	.35					
b	61.2	37.93	-2.82	35.11	244.2	.74					
20	51.9	39.80	-4.39	35.41	13.5	.46					
21	51.9	38.01	-5.46	32.55	10.8	.59					
22	51.9	35.00	-6.48	28.52	8.7	.81					
23	51.9	31.82	-7.29	24.53	8.1	A					
24											

* L and N from page 37
α and β from section property table

Note: All values in thousands

PREP. J.H.P. ON 7-20-49

CHKD. ON

REVISED S.H.P. 10-2-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 1

REPORT NO. 70170-Y

MODEL Y0-1220ms Y0

SUBJECT

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PREP. J.H.P. ON 5-24-49CHKD. ON REVISED P.A.S.8-16-50 @

CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 7REPORT NO. 7017C-TMODEL YC-122C MS-7CSUBJECT SUMMARY OF MINIMUM MARGINS OF SAFETY
(See Pages 110 Through 159 .)

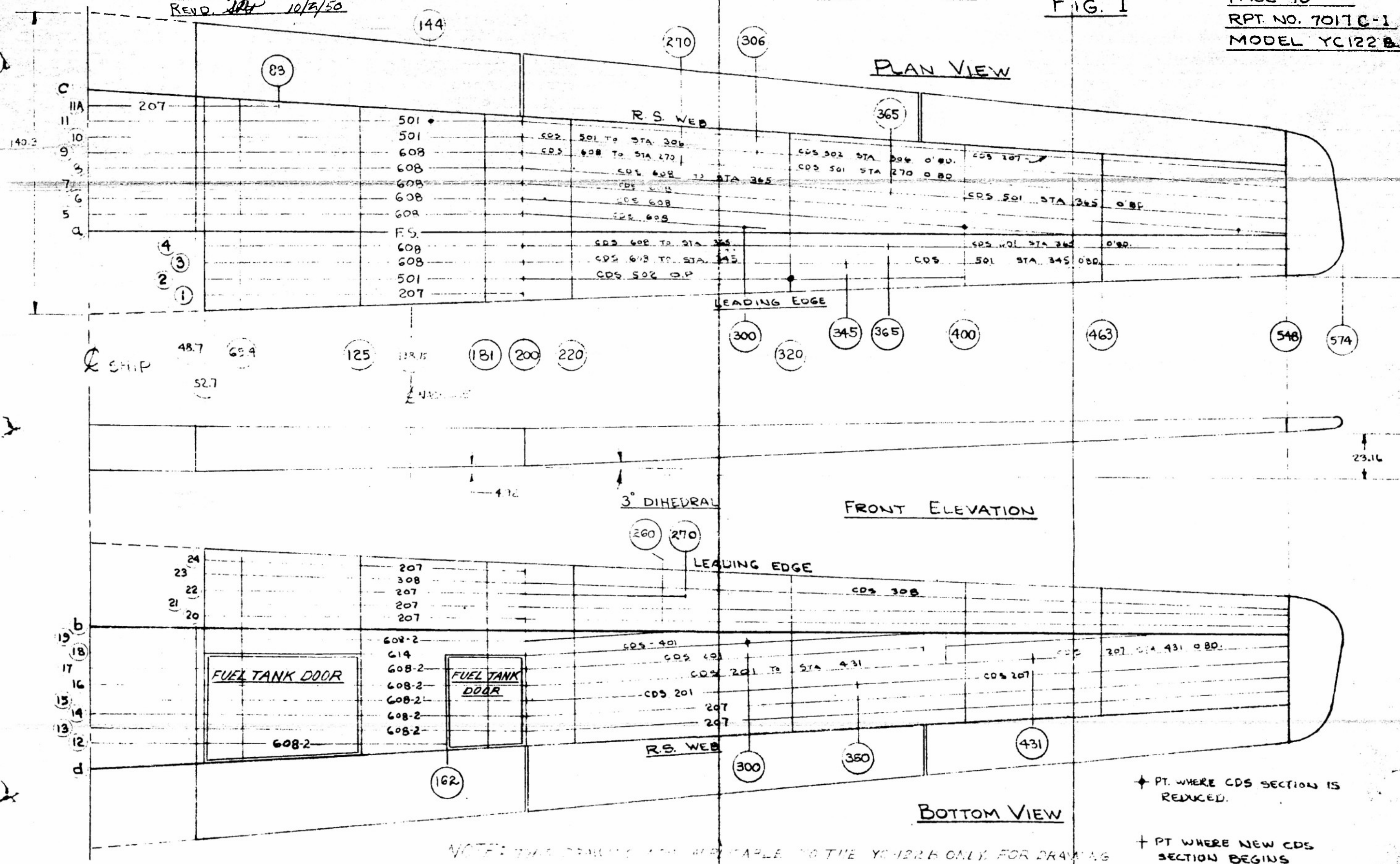
Stringer	M.S.	Station	Condition
1	.73	125.40	PHAA
2	.13	220.00	PHAA
3	.92	220.00	PHAA
4	.76	220.00	PHAA
a	.43	69.45	PHAA
5	0	220.00	PHAA
6	.05	220.00	PHAA
7	.15	69.45	PHAA
8	.22	69.45	PLAA
9	.31	69.45	PLAA
10	.09	69.45	PLAA
11	.19	69.45	PLAA
11A	.16	69.45	PLAA
c	.70	69.45	PLAA
d	.70	220.00	PHAA TO
12	.73	69.45	NLAA
13	.13	220.00	NLAA
14	.03	220.00	NLAA
15	.12	220.00	NLAA
16	.06	220.00	NLAA
17	.01	220.00	NLAA
18	.03	48.75	NLAA
19	0	220.00	NLAA
b	.43	48.75	PHAA PLAA
20	.15	220.00	NLAA
21	.23	220.00	NLAA
22	.35	{ 125.40 } 220.00	NLAA
23	.19	220.00	NLAA
24	.80	125.40	NLAA

PREP J.H.P. 5-24-49
 CHKD. *[Signature]* 6/7/49
 REV'D. *[Signature]* 10/2/50

CHASE AIRCRAFT CO. INC.

FIG. 1

PAGE 13
 RPT. NO. 7017C-1
 MODEL YC122B



NOTE: THIS DRAWING NOW APPLICABLE TO THE YC-122A ONLY. FOR
DRAWINGS FOR THE YC-122C, SEE APPENDIX p. A-4.

PREP. J.H.P. ON 5-25-49
 CHKD. ON
 REVISED J.H. 8-1-50

CHASE AIRCRAFT CO., INC.

PAGE 15
 REPORT NO. T-101-1
 MODEL T-101-1

SUBJECT

DESCRIPTION OF WING MATERIALS

The following design data was obtained from the Chase Design Standard Book (CDS) and the ANC-5, Reference 1.

Item	Material	Section	F_{tu} psi $\times 10^{-3}$	F_{cy} psi $\times 10^{-3}$	A in ²	I_{xx} in ⁴	P_{xx} in
Skin	24ST Alclad	$t < .064$	60	38			
		$t \geq .064$	62	39			
Web	24ST Alum.	$t < .250$	68	42			
CDS-118	24ST Extrus.		61	41	.526	.147	.530
CDS-119	24ST Extrus.		61	41	.658	.213	.568
CDS-120	24ST Extrus.		61	41	.699	.252	.618
CDS-201	24ST Extrus.		61	41	.124	.0161	.361
CDS-207	24ST Extrus.		61	41	.091	.0095	.323
CDS-308	24ST Extrus.		61	41	.126	.00449	.189
CDS-310	14ST Extrus.		68	60	Varies	From Sta. to Sta.	
CDS-401	24ST Extrus.		61	41	.130	.0206	.398
CDS-501	24ST Sheet		68	42	.268	.0273	.319
CDS-502	24ST Sheet		68	42	.1411	.01384	.313
CDS-608	75ST Extrus.		83	75	.373	.0430	.339
CDS-608-2	24ST Extrus.		61	41	.2134	.0293	.344
*CDS-614	24ST Extrus.		61	41	.253	.0399	.398

The above values are from the "B" column of ANC-5 (lowest value for 90% material). Also the longitudinal values "L" are used since stringers are with grain.

*CDS-614 is used in this wing has two legs removed resulting in either a "Z" Section or "C" Section, therefore in this analysis reduced section properties are employed.

PREP. J.H.P. ON 5-25-49
CHKD. _____ ON _____
REVISED PAS 8-1-50 (a)



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 15
REPORT NO. 7017C-1
MODEL TC-122C MS. 7C

SUBJECT _____

DESCRIPTION OF WING MATERIALS

The following design data was obtained from the Chase Design Standard Book (CDS) and the ANC-5, Reference b.

Item	Material	Section	F_{tu} psi $\times 10^{-3}$	F_{cy} psi $\times 10^{-3}$	A in ²	I_{xx} in ⁴	P_{xx} in
Skin	24ST Alclad	$t < .064$	60	38			
		$t \geq .064$	62	39			
Web	24ST Alum.	$t < .250$	68	42			
CDS-118	24ST Extrus.		61	41	.526	.147	.530
CDS-119	24ST Extrus.		61	41	.658	.213	.568
CDS-120	24ST Extrus.		61	41	.659	.252	.618
CDS-201	24ST Extrus.		61	41	.124	.0161	.361
CDS-207	24ST Extrus.		61	41	.091	.0095	.323
CDS-308	24ST Extrus.		61	41	.126	.00449	.189
CDS-310	14ST Extrus.		68	60	Varies	From Sta.	to Sta.
CDS-401	24ST Extrus.		61	41	.130	.0206	.398
CDS-501	24ST Sheet		68	42	.268	.0273	.319
CDS-502	24ST Sheet		68	42	.1411	.01384	.313
CDS-608	75ST Extrus.		83	75	.373	.0430	.339
CDS-608-2	24ST Extrus.		61	41	.2134	.0253	.344
*CDS-614	24ST Extrus.		61	41	.253	.0399	.398

The above values are from the "B" column of ANC-5 (lowest value for 90% material). Also the longitudinal values "L" are used since stringers are with grain.

*CDS-614 is used in this wing has two legs removed resulting in either a "Z" Section or "C" Section, therefore in this analysis reduced section properties are employed.

PREP J.E.P. ON 5-26-49

CHKD Y.G.P. ON 9-26-49

REVISED PAS 8-1-50



CHASE AIRCRAFT CO. INC.

WEST TRENTON, N.J.

PAGE 16

REPORT NO. 7017C-I

MODEL XC-122C MS-7C

SUBJECT _____

WING DESIGN CONDITIONS

The design conditions for an airplane (transport) are noted in A.F. Specification C-1803-B, R-1803-2B and R-1803-3A. Wing span-wise air loadings were computed for these conditions in Report 7011B-I. As noted in R-1803-1B para. E-2e, the design conditions can be represented graphically on a velocity-load factor diagram (V-n). The load factors shown below were obtained from such a diagram appearing on page B-5 of Report No. 7009 B.

Wing design conditions are noted below. The symbols in the left hand column will be used throughout this report.

- PHAA Positive high angle of attack. Upper left corner of V-n diagram. Velocity = 163 MPH. Limit load factor = 3.00 Up.
- PLAA Positive low angle of attack. Upper right corner of V-n diagram. Velocity = 232 MPH. Limit load factor = 3.00 Up.
- NHAA Negative high angle of attack. Lower left corner of V-n diagram. Velocity = 143 MPH. Limit load factor = -1.50 Down.
- NLAA Negative low angle of attack. Lower right corner of V-n diagram. Velocity = 232 MPH. Limit load factor = -1.50 Down.
- PG+F Flaps deflected plus positive gust velocity = 130 MPH
Limit load factor = 2.00 Up.
- NG+F Flaps deflected plus negative gust velocity = 130 MPH
Limit load factor = 0.13 Up.
- LC Landing limit load factor = 2.67 (Reference ANC-2A)
- TO Take off - limit load factor = 2.00 (Reference A)
- $\delta = 15^\circ$ Aileron deflected 15° up. Limit load factor = 2.00
- $\delta = -20^\circ$ Aileron deflected -20° down. Limit load factor = 2.00

For reasons noted on page 110 some of the above design conditions will not be critical for wing bending.

Design gross weight for all flight conditions above is 33 000 lbs.

PREP. J.H.P. ON 6-27-49

CHKD. C.D.M. ON 10-17-49

REVISED FAS 8-1-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 36

REPORT NO. 70170-X

MODEL XC-1220 MS-70

SUBJECT DETERMINATION OF WING MOMENTSCOMBINED AIR AND INERTIA MOMENTS, L AND N

The resultant spanwise bending moments on the wing is equal to the sum of the air load moment and inertia moment, i.e.:

$$L = L_a + nL_v + a_x L_a$$

$$N = N_a + n_o N_v$$

where n = ultimate vertical load factor (positive down)

n_o = ultimate chordwise load factor (positive aft)

Values of n limit are tabulated on page 16. Ultimate values, the above times 1.50, are shown below:

Condition	n (Limit)	n (Ultimate)
PHAA	3.00	4.50
PLAA	3.00	4.50
NHAA	- 1.50	- 2.25
NLAA	- 1.50	- 2.25
PG+F	1.86	2.79
NG+F	0.13	0.20
LC	2.67	4.00
TO	2.00	3.00
All $\delta=15^\circ$	2.00	3.00
All $\delta=20^\circ$	2.00	3.00

Since n_o is dependent upon the altitude of the airplane, type of maneuver and other variables, n_o is taken to be equal to zero for this analysis.

a_x is zero for all above conditions except aileron maneuvers. Its value is computed on page 41.

L_a , N_a and L_v are obtained from charts on pages 20, 21, 31

Values of L and N are computed on the following pages for various selected wing stations.

PREP. S.R.P. ON 6-28-49

CHKD. V.C.P. ON 6-29-49

REVISED P.A.S. 8-2-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 38

REPORT NO. 70170-I

MODEL 10-1220-70

SUBJECT DETERMINATION OF WING MOMENTS

COMBINED AIR AND INERTIA MOMENTS, L AND N

Condition N1AA (All Values in inch-pounds)

Station	L_a $\times 10^{-6}$	N_a $\times 10^{-6}$	nLw $\times 10^{-6}$	L $\times 10^{-6}$	N $\times 10^{-6}$
48.75	- 7.90	- .82	1.80	- 6.10	- .82
69.40	- 7.30	- .75	1.49	- 5.81	- .75
125.40	- 5.70	- .58	0.61	- 5.09	- .58
181.35	- 4.30	- .42	0.27	- 4.03	- .42
200.00	- 3.85	- .36	0.25	- 3.60	- .36
220.00	- 3.42	- .32	0.20	- 3.22	- .32
320.00	- 1.65	- .16	0.09	- 1.56	- .16
400.00	- 0.70	- .08	0.04	- 0.66	- .08
463.00	- 0.27	- .04	0.02	- 0.25	- .04

Condition PG+F

48.75	8.15	- .09	-2.23	5.98	- .09
69.40	7.36	- .11	-2.89	5.51	- .11
125.40	5.35	- .14	-0.76	4.59	- .14
181.35	3.70	- .15	-0.23	3.37	- .15
200.00	3.25	- .15	-0.31	2.94	- .15
220.00	2.78	- .14	-0.29	2.53	- .14
320.00	1.10	- .10	-0.21	0.99	- .10
400.00	0.40	- .05	-0.09	0.35	- .05
463.00	0.10	- .02	-0.02	0.09	- .02

Condition NG+F

48.75	- 0.52	.30	-0.18	-0.08	.30
69.40	- 0.60	.25	-0.13	-0.07	.25
125.40	- 0.68	.12	-0.05	-0.03	.12
181.35	- 0.67	.06	-0.03	-0.02	.06
200.00	- 0.65	.03	-0.02	-0.01	.03
220.00	- 0.62	.02	-0.01	-0.01	.02
320.00	- 0.42	.04	-0.02	-0.02	.04
400.00	- 0.23	.04	-	-0.23	.04
463.00	- 0.10	.01	-	-0.10	.01

PREP. V.G.A. ON 6-30-49
 CHKD. S.R.A. ON 6-30-49
 REVISED F.A.S. © 10/5/50



PAGE 42
 REPORT NO. 70175-1
 MODEL YC-122B NO. 7

COMBINED AIR & INERTIA MOMENTS ("L") vs SEMI-SPAN
 BEAMWISE — ULTIMATE VALUES

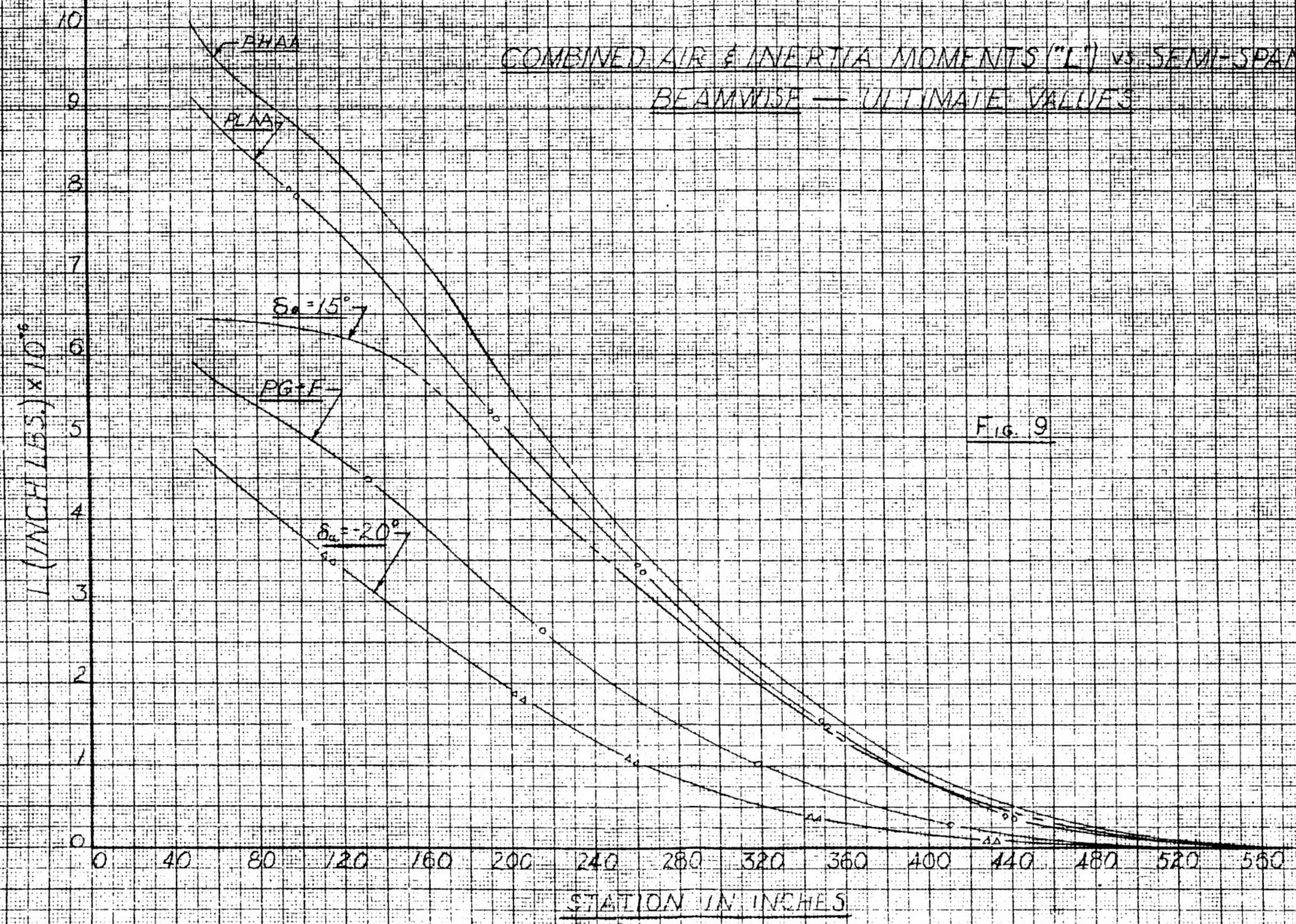


Fig. 9

PREP. ON 7-1-50 BY V.G.A. & S.R.A.
 CHKD. ON 7-1-50 BY S.R.A.
 REVISED ON 10-5-50 BY F.A.S.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(1)
ITEM	A _S	x	A _S x	z'	Δx	z	A _B z	x ₀	z ₀	a	β	ITEM
REF.			(2)·(3)			(5)·(6)	(2)·(7)	(3) - x̄	(7) - z̄	x10 ³	x10 ³	REF.
1												1
2												2
3												3
4												4
a	10.065	0	0	13.30	.50	12.80	28.83	-11.35	9.08	-3.48	+0.93	a
5	.708	9.72	36.88	12.38	.21	12.17	8.62	-1.63	8.45	-3.56	-0.12	5
6	.653	16.65	10.87	11.47	.23	11.24	7.34	+5.30	7.52	-3.41	-0.85	6
7	.653	23.56	15.38	10.38	.23	10.15	6.63	12.21	6.43	-3.18	-1.58	7
8	.653	30.48	19.90	9.13	.23	8.90	5.81	19.31	5.18	-2.90	-2.32	8
9	.653	37.35	24.39	7.84	.23	7.61	4.97	26.00	3.89	-2.59	-3.01	9
10	.530	44.20	23.43	6.45	.17	6.28	3.33	32.85	2.56	-2.26	-3.72	10
11	.523	50.22	26.27	5.13	.17	4.96	2.59	38.87	1.24	-1.91	-4.34	11
11A	.323	56.38	18.21	3.74	.09	3.65	1.18	45.03	-0.07	-1.57	-4.97	11A
c	.711	62.12	44.17	2.32	.50	1.82	1.29	50.77	-1.90	-0.99	-5.54	c
E UPPER	15.472		189.50				170.59					E UPPER
d	.690	61.20	42.23	-10.10	-.46	-9.64	-6.65	49.85	-13.36	3.95	-5.03	d
12	.185	52.10	9.64	-10.41	-.23	-10.18	-1.88	40.75	-13.90	4.51	-4.01	12
13	.185	45.14	8.35	-10.55	-.23	-10.32	-1.91	33.79	-14.04	4.81	-3.23	13
14	.185	38.12	7.05	-10.61	-.23	-10.38	-1.92	26.77	-14.10	5.09	-2.46	14
15	.185	32.12	5.94	-10.61	-.23	-10.38	-1.92	20.77	-14.10	5.30	-1.79	15
16	.185	26.18	4.84	-10.58	-.23	-10.35	-1.91	14.83	-14.07	5.50	-1.14	16
17	.185	20.18	3.73	-10.42	-.23	-10.19	-1.89	8.83	-13.91	5.64	-0.48	17
18	.331	14.13	4.68	-10.17	-.38	-9.79	-3.24	+2.78	-13.51	5.68	+0.17	18
19	.291	8.18	2.38	-9.81	-.30	-9.51	-2.77	-3.17	-13.23	5.77	0.82	19
b	6.637	0	0	-9.08	-.74	-8.34	-55.35	-11.35	-12.06	5.56	1.68	b
20												20
21												21
22												22
23												23
24												24
E LOWER	9.059		88.84				-79.44					E LOWER
E TOTAL	24.532		278.34				91.15					E TOTAL

PREP S.R.P. ON 5-11-49

CHKD. V.G.P. ON 5-19-49

REVISED A.A.S. 8-2-50 © CHASE AIRCRAFT CO., INC.



WEST TRENTON, N.J.

PAGE 67

REPORT NO. 7017-1

MODEL YO-122C-1

SUBJECT WING SECTION PROPERTIES STATION 69.45

DETERMINATION OF CONSTANTS

TENSION ON TOP

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
ITEM	A_B	x	$A_B x$	z'	Δ_B	z	$A_B z$	x_0	z_0	a	β		ITEM
REF.			②-③			⑤-⑥	②-⑦	③-⑧	⑦-⑩	$\times 10^3$	$\times 10^6$		REF.
.08 1	.026	-28.82	-0.75	10.25	.08	10.17	0.26	-39.66	7.31	-2.32	4.09	1	
.21 2	.111	-28.92	-2.54	12.05	.17	11.88	1.32	-33.76	9.02	-3.29	3.40	2	
.35 3	.229	-16.00	-3.66	13.02	.23	12.79	-2.93	-26.84	9.93	-3.92	2.63	3	
.50 4	.346	-9.00	-3.11	13.25	.22	13.03	4.51	-19.84	10.17	-4.23	1.86	4	
5	8.155	0	0	12.96	.67	12.29	100.22	-10.84	9.43	-4.13	0.91	5	
6	.708	9.71	6.87	12.00	.21	11.79	8.38	-7.11	8.89	-4.18	-0.13	6	
7	.653	16.68	10.89	11.11	.23	10.88	7.10	-5.84	8.02	-3.96	-0.86	7	
8	.653	23.52	15.36	10.01	.23	9.78	6.39	12.68	6.92	-3.61	-1.97	8	
9	.653	30.44	19.88	8.80	.23	8.57	5.60	19.60	5.71	-3.28	-2.29	9	
10	.653	37.31	24.36	7.50	.23	7.27	4.75	26.47	4.41	-2.82	-3.00	10	
11	.531	44.17	23.45	6.11	.17	5.94	3.15	33.33	3.08	-2.39	-3.70	11	
11A	.521	50.20	26.15	4.80	.17	4.63	2.41	39.36	1.77	-1.95	-4.38	11A	
a	.303	56.30	17.06	3.42	.09	3.33	1.01	45.46	0.47	-1.41	-4.95	a	
c	.693	60.85	42.17	2.30	.52	1.78	1.23	50.01	-1.08	-0.91	-5.40	c	
E UPPER	22.24		136.13				149.14						E UPPER
d	.690	60.00	41.40	-9.71	.46	-9.25	-6.38	49.16	-12.31	8.33	-4.99	d	
12	.185	52.15	9.65	-10.00	.23	-9.77	-1.83	43.31	-12.63	4.78	-4.12	12	
13	.185	48.15	8.98	-10.29	.23	-10.06	-1.85	38.32	-12.88	4.07	-3.84	13	
14	.185	38.16	7.06	-10.25	.23	-10.02	-1.85	27.32	-12.88	3.29	-2.60	14	
15												15	
16	.185	26.18	4.84	-10.22	.23	-9.99	-1.85	15.34	-12.85	2.62	-1.30	16	
17	.185	20.16	3.73	-10.09	.23	-9.86	-1.82	9.32	-12.72	1.73	-0.65	17	
18	.331	14.12	4.67	-9.85	.38	-9.47	-3.13	3.28	-12.33	4.71	0.00	18	
19	.291	8.14	2.37	-9.50	.30	-9.20	-2.68	-2.70	-12.06	3.80	0.64	19	
b	6.870	0	0	-8.83	.72	-8.11	-55.72	-10.84	-10.97	4.47	1.49	b	
.80 20	.111	-8.30	-0.92	-7.60	.22	-7.38	-0.82	-19.14	-10.24	3.36	2.37	20	
.45 21	.062	-14.12	-0.88	-6.52	.22	-6.30	-0.39	-24.96	-9.16	2.02	2.97	21	
.25 22	.035	-19.96	-0.70	-5.20	.22	-4.98	-0.17	-30.80	-7.84	1.46	3.57	22	
.10 23	.022	-26.10	-0.57	-3.42	.07	-1.35	-0.07	-36.94	-6.21	1.97	4.19	23	
0 24												24	
Σ LOWER	9.337		79.00				-78.53						Σ LOWER
Σ TOTAL	3.518		255.13				70.61						Σ TOTAL

PREP. S.R.P. ON 5-17-49
 CHKD. V.G.P. ON 5-25-49
 REVISED F.A.S. 8-2-50



CHASE AIRCRAFT CO., INC.

BEST THERMOLITE

PAGE 68
 REPORT NO. 7017-8-1
 MODEL YO-1120-10

SUBJECT: WING SECTION PROPERTIES

DETERMINATION OF CONSTANTS - STATION 69.45

TENSION ON TOP

$$\begin{aligned}\sum A_s x^2 &= \sum \text{col. } (3) \times (4) = 12135 \\ \sum A_s x^2 &= \sum \text{col. } (7) \times (8) = 2368 \\ \sum A_s x &= \sum \text{col. } (4) \times (7) = 200\end{aligned}$$

$$\begin{aligned}\bar{x} &= \frac{\sum A_s x}{\sum A_s} \\ &= \frac{\sum \text{col. } (4)}{\sum \text{col. } (2)} = \frac{255.13}{23.572} = 10.82\end{aligned}$$

$$\begin{aligned}\bar{z} &= \frac{\sum A_s z}{\sum A_s} \\ &= \frac{\sum \text{col. } (8)}{\sum \text{col. } (2)} = \frac{78.61}{23.572} = 2.99\end{aligned}$$

$$\begin{aligned}I_{x_0} &= \sum A_s x^2 - (\sum A_s) \bar{x}^2 \\ &= \sum A_s x^2 - \sum \text{col. } (2) \bar{x}^2 = 2157\end{aligned}$$

$$\begin{aligned}I_{z_0} &= \sum A_s z^2 - (\sum A_s) \bar{z}^2 \\ &= \sum A_s z^2 - \sum \text{col. } (2) \bar{z}^2 = 9377\end{aligned}$$

$$\begin{aligned}I_{x_0 z_0} &= \sum A_s xz - (\sum A_s) \bar{x} \bar{z} \\ &= \sum A_s xz - \sum \text{col. } (2) \bar{x} \bar{z} = -563\end{aligned}$$

$$K = I_{x_0} I_{z_0} - (I_{x_0 z_0})^2 = 19.91 \times 10^6$$

$$C_1 = \frac{I_{x_0 z_0}}{K} = \frac{-563}{19.91(10^6)} = -28.27 \times 10^{-6}$$

$$C_2 = \frac{I_{z_0}}{K} = \frac{2157}{19.91(10^6)} = 108.3 \times 10^{-6}$$

$$C_3 = \frac{I_{x_0}}{K} = \frac{9377}{19.91(10^6)} = 470.9 \times 10^{-6}$$

TENSION ON BOTTOM

$$\begin{aligned}&= 1368 \\ &= 2494 \\ &= 951\end{aligned}$$

$$\frac{292.50}{24.891} = 11.83$$

$$\frac{23.51}{24.891} = 0.94$$

$$= 2470$$

$$= 10210$$

$$= 1290$$

$$= 23.71 \times 10^6$$

$$\frac{-1220}{23.71(10^6)} = -51.88 \times 10^{-6}$$

$$\frac{2391(10^6)}{23.71(10^6)} = 104.2 \times 10^{-6}$$

$$\frac{10210}{23.71(10^6)} = 430.6 \times 10^{-6}$$

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
ITEM	A _B	x	A _B x	x ²	Δx	x	A _B x ²	x ³	x ⁴	a	B	ITEM
REF.			②-③			⑤-⑥	②-⑦	③-⑧	④-⑨	x10 ³	x10 ³	REF.
1	.331	-28.50	-9.43	6.83	.08	6.75	3.73	-35.80	4.71	-61.54	3.84	1
2	.528	-22.84	-12.07	9.39	.17	9.21	7.87	-30.74	6.78	-3.54	-3.79	2
3	.653	-15.98	-10.43	10.72	.23	10.49	6.85	-23.28	4.85	-4.73	2.34	3
4	.893	-8.98	-6.22	11.12	.22	10.90	7.55	-16.38	5.44	-5.32	1.82	4
a	6.967	0	0	10.84	.71	10.13	70.58	-7.88	7.49	-1.15	0.12	
5	.708	9.71	6.87	10.02	.21	9.81	6.95	2.11	7.37	15.24	-8.39	5
6	.653	16.83	11.06	9.16	.23	8.93	5.81	9.38	6.49	-5.01	1.85	6
7	.653	23.96	15.38	8.12	.23	7.89	5.15	16.36	5.45	-6.56	-2.11	7
8	.693	28.45	19.88	7.00	.23	6.77	4.42	23.18	4.33	-4.06	-2.88	8
9	.653	32.35	22.39	5.75	.23	5.52	3.88	35.68	3.03	-5.68	-1.60	9
10	.515	44.20	22.78	4.39	.18	4.28	2.16	36.97	1.78	-8.82	-4.13	10
11	.326	49.01	15.98	3.61	.14	3.37	1.07	41.71	1.08	-10.88	-4.84	11
11A												11A
c	.696	54.11	27.66	2.24	.51	1.73	1.20	46.81	-4.71	-3.48	-5.37	c
E UPPER												
d	.699	53.48	26.83	-7.70	-.46	-7.24	-1.03	46.10	-8.68	4.92	-1.90	d
12												12
13	.185	45.20	8.36	-8.07	-.23	-7.84	-1.45	37.90	-10.28	1.09	-3.91	13
14	.185	38.22	7.07	-8.22	-.23	-7.99	-1.48	30.82	-10.43	6.18	-3.18	14
15	.185	32.22	3.96	-8.28	-.23	-8.05	-1.49	24.82	-10.49	6.79	-2.43	15
16	.185	26.22	4.81	-8.33	-.23	-8.10	-1.50	18.82	-10.54	6.64	-1.71	16
17	.185	20.22	1.74	-8.28	-.23	-7.95	-1.48	12.82	-10.43	6.86	-1.03	17
18	.331	14.22	4.71	-8.07	-.38	-7.69	-2.55	6.92	-10.13	6.99	-0.37	18
19	.708	8.22	2.39	-7.62	-.30	-7.32	-2.19	0.92	-9.36	7.03	10.32	19
b	6.878	0	0	-7.17	-.72	-6.45	-4.71	-7.30	8.89	8.68	1.23	b
20	.139	-8.19	-1.14	-6.14	-.22	-5.92	-0.82	-15.49	-5.36	8.59	2.34	20
21	.139	-11.08	-1.96	-5.11	-.22	-4.89	-0.68	-21.39	-7.23	9.11	2.78	21
22	.139	-19.35	-2.77	-3.80	-.22	-3.58	-0.50	-27.25	-5.82	5.43	5.67	22
23	.222	-23.28	-5.17	-2.87	-.07	-2.80	-0.62	-30.36	-4.24	4.02	5.71	23
24	.139	-28.70	-3.99	-0.94	-.22	-0.72	-0.10	-36.81	-5.16	1.77	2.88	24
E LOWER												
E TOTAL	21.914		174.53				58.30					E TOTAL

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PREP. J.A.P. ON 5-12-49
CHKD. Y.G.P. ON 5-20-49
REVISED J.A.S. 8-1-50



CHASE AIRCRAFT CO. INC.

WEST TRENTON, N.J.

PAGE 100
REPORT NO. 7017C-I
MODEL YC-122C MS-7C

SUBJECT

DETERMINATION OF ALLOWABLE STRESSES

TENSION ALLOWABLES

The allowable tensile stresses for all the sections used are tabulated on page 15. In computing wing section properties, etc., no account was taken of the fact that all tension members are punched with rivet holes. These holes effectively reduce the allowable stress that the stringer can take. Hence, the following conservative assumptions are made:

- (a) 15% of all stringer and rear spar cap areas are removed by rivets:

$$F_t \text{ allow.} = F_{tu} (1 - .15) = .85 F_{tu}$$

- (b) 10% of the front spar cap area is removed by rivet holes:

$$F_t \text{ allow.} = .90 F_{tu}$$

- (c) 15% of the front spar cap area is removed from station 184 to station 216 because of rivet holes and splice bolt holes:

$$F_t \text{ allow.} = .85 F_{tu}$$

Therefore, for extruded stringers CDS 201, 207, 308, 401, 401M, 614, 608-2

$$F_t \text{ allow.} = 61\ 000 (.85) = 51\ 900 \text{ psi}$$

For rolled sections CDS 501, 502, 501M, 502M

$$F_t \text{ allow.} = 68\ 000 (.85) = 57\ 800 \text{ psi}$$

For extruded stringers CDS-608

$$F_t \text{ allow.} = 83\ 000 (.85) = 70\ 500 \text{ psi}$$

For rear spar caps CDS-119, 120 (Center Section)

$$F_t \text{ allow.} = 61\ 000 (.85) = 51\ 900$$

For rear spar cap CDS-118 (Outer Panel)

$$F_t \text{ allow.} = 61\ 000 (.85) = 51\ 900 \text{ psi}$$

For front spar cap CDS-310

$$F_t \text{ allow.} = 68\ 000 (.90) = 61\ 200 \text{ psi}$$

For front spar cap CDS-310 at stations 181.35 and 220:

$$F_t \text{ allow.} = 68\ 000 (.85) = 57\ 800 \text{ psi}$$

PREP S.R.P. ON 7-5-49

CHKD J.H.P. ON 7-6-49

REVISED F.A.S. 8-3-50 (A)



CHASE AIRCRAFT CO., INC.

BEST TRETTON, N.J.

PAGE 105

REPORT NO. 7017C-1

MODEL YC-122C MSIC

SUBJECT DETERMINATION OF ALLOWABLE STRESSES

COMPRESSION ALLOWABLES

Rear Spar Cap

The rear spar caps are also supported by the wing skin, ribs, spar web and stiffeners. The trailing edge, however, is fairing and does not give complete support against the cap bending forward. Hence, the cap is considered to act as a column with a fixity coefficient, $c = 2.00$.

The rear spar cap is made from 24ST extrusion. Using the column formulas of AWS-9a, Table 3.21.

$$F_c = F_{\infty} \left[\frac{1 - 0.385 (L'/\rho)}{\pi \sqrt{E/F_{\infty}}} \right]$$

$$F_{\infty} = F_{cy} \left[1 + \frac{F_{cy}}{200\,000} \right]$$

$$F_{cy} = 41\,000 \quad \text{Ref. Pg. 15}$$

$$F_{\infty} = 41\,000 \left[1 + \frac{41\,000}{200\,000} \right] = 49\,400 \text{ psi}$$

$$F_c = 49\,400 - 29\% L/\rho$$

PREP. S.R.F. ON 7-5-49

CHKD. J.H.P. ON 7-6-49

REVISED T.A.S. 8-3-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 106

REPORT NO. 70070-1

MODEL VC-122C MS-7C

SUBJECT: DETERMINATION OF ALLOWABLE STRESSES

COMPRESSION ALLOWABLESRear Spar Cap

Upper Cap

Station	L*	ρ^{**}	L/ ρ	296 (L/ ρ)	49 400-296(L/ ρ)
48.75	14.75	.450	32.80	9 700	39 700
69.40	18.65	↑	41.40	12 300	37 100
125.40	18.65	↓	41.40	12 300	37 100
181.35	18.65	.450	41.40	12 300	37 100

Lower Cap

48.75	14.75	.444	33.20	9 800	39 600
69.40	18.65	↑	42.00	12 400	37 000
125.40	18.65	↓	42.00	12 400	37 000
181.35	18.65	.444	42.00	12 400	37 000

Upper and Lower Caps

Station	L*	ρ^{**}	L/ ρ	296 (L/ ρ)	49 400-296(L/ ρ)
220	20.00	.448	44.6	13 200	36 200
320	20.00	.392	51.0	15 100	34 300
400	21.00	.347	60.5	17 900	31 500
463	21.00	.312	67.3	19 900	29 500

* Reference Pg. 102

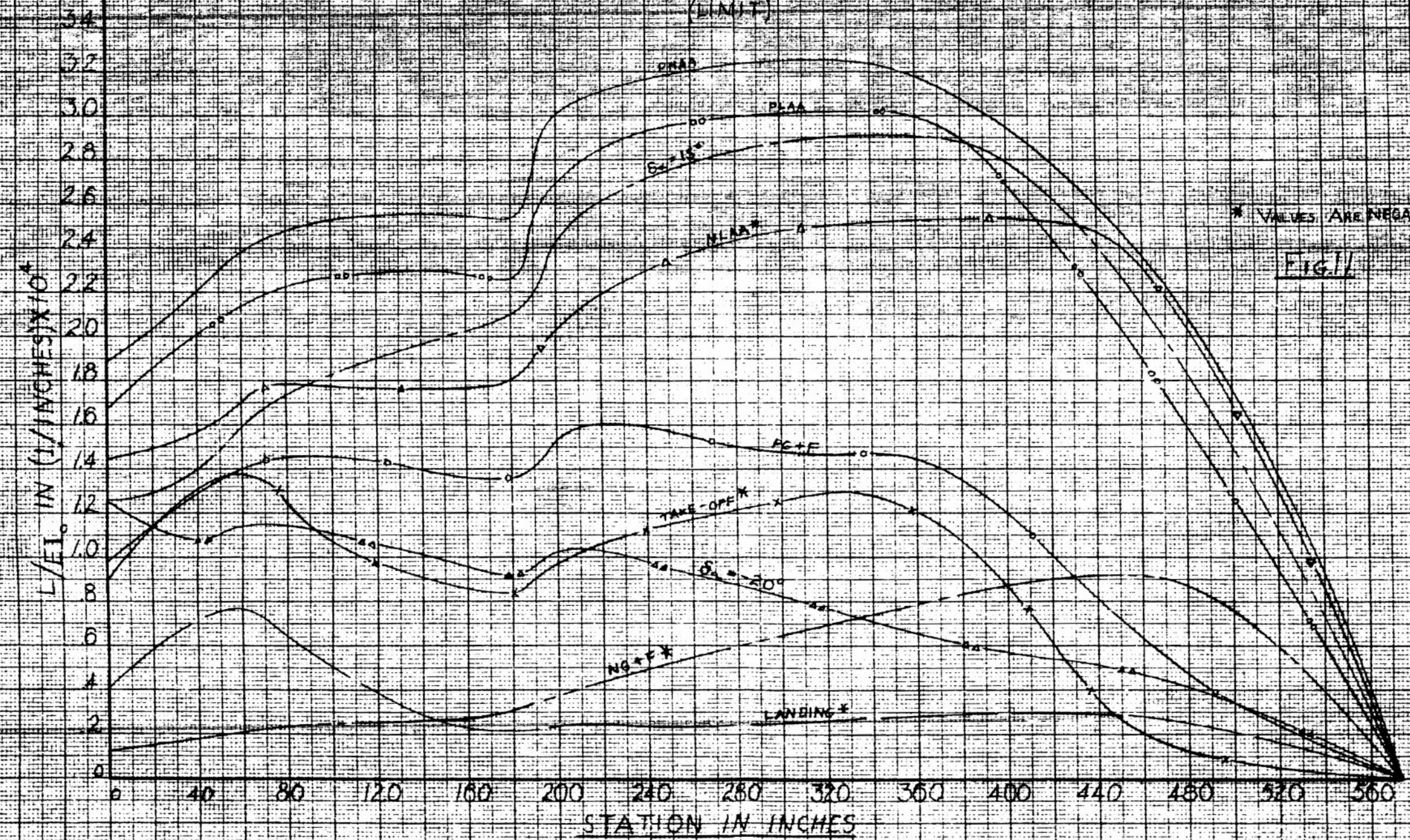
** Reference Pg. 54 & 57

PREP. V.G.P. DATE 11-15-45
 CHAS. S.R.P. DATE 1-12-46
 REVISED F.A.S. © 11-15-45

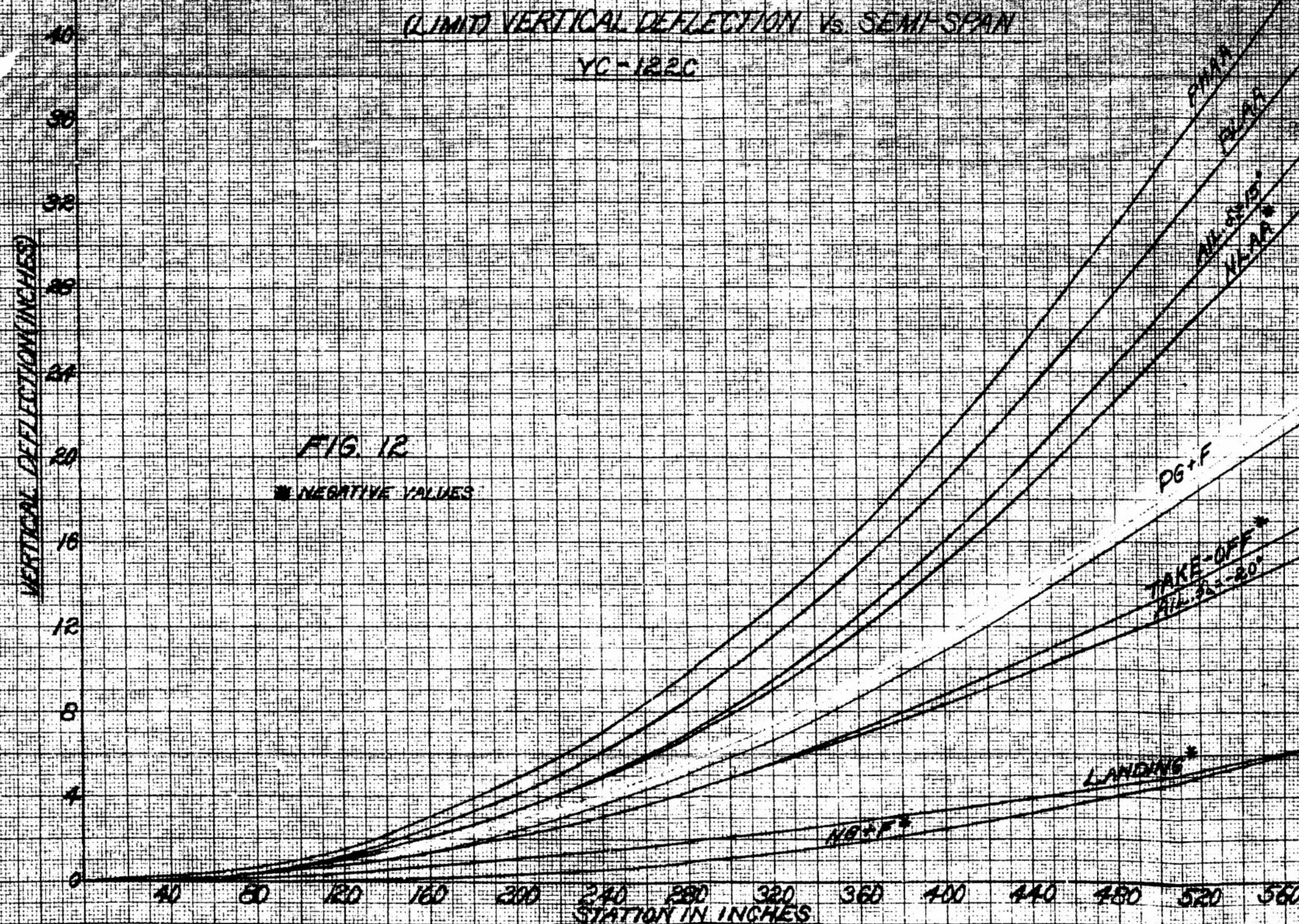

CHASE AIRCRAFT CO. INC.
 NEW HAVEN, CT.

PAGE 10-B
 REPORT NO. 1220
 MODEL YC-122C

$\frac{L}{EI}$ VS SEMI-SPAN
 YC-122C
 (LIMIT)



REPRODUCED FROM THE ORIGINAL DRAWING BY THE CHASE AIRCRAFT CO. INC. NEW HAVEN, CT.



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PREP JP ON 7-11-49
 CHKD VOP ON 7-18-49
 REVISED PAS 8-3-50



CHASE AIRCRAFT CO. INC.

WEST TRENTON, N.J.

PAGE 111
 REPORT NO. TOL-10
 MODEL TOL-1222-44

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 48.75

CONDITION PRAA							CONDITION PLAA				
①	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓
Item	all	L · α	M · β	F _{act}	P	M.S.	L · α	M · β	F _{act}	P	M.S.
Pg.	* ⑬	* ⑭	* ⑮	* ⑯	* ⑰	* ⑱	* ⑲	* ⑳	* ㉑	* ㉒	* ㉓
1	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-
5	-60.0	-35.18	-2.82	-37.00	-369.8	.62	-32.07	-0.47	-32.54	-325.0	.62
6	-57.0	-38.50	0.99	-37.51	-17.6	.52	-35.10	0.25	-34.85	-16.4	.52
6	-57.0	-39.41	2.92	-36.49	-17.1	.56	-35.93	0.75	-35.18	-16.5	.62
7	-57.0	-39.51	4.80	-34.71	-16.3	.64	-36.02	1.23	-34.79	-16.3	.64
8	-57.0	-39.11	6.68	-32.43	-15.2	.75	-35.66	1.72	-33.84	-15.9	.75
9	-57.0	-38.40	8.53	-29.87	-14.0	.90	-35.01	2.19	-32.82	-15.4	.90
10	-39.2	-37.60	10.38	-27.22	-9.9	.44	-34.28	2.67	-31.61	-11.5	.44
11	-39.2	-36.29	11.95	-24.34	-8.88	.61	-33.08	3.07	-30.02	-10.9	.61
12	-35.8	-34.98	13.58	-21.40	-3.0	.67	-31.89	3.49	-28.12	-10.2	.67
13	-39.7	-31.75	15.01	-16.74	-11.0	.4	-28.95	3.86	-25.09	-14.6	.4
14	51.9	14.21	12.70	26.91	22.2	.93	12.96	3.26	16.22	13.4	.93
15	51.9	22.38	9.85	32.23	19.4	.61	20.40	2.53	22.53	13.8	.61
16	51.9	27.42	7.73	35.15	20.0	.48	25.00	1.99	26.99	15.4	.48
17	51.9	32.05	5.60	37.65	20.5	.38	29.22	1.44	30.66	16.7	.38
18	51.9	35.98	3.78	39.76	20.6	.30	32.80	0.97	33.71	17.5	.30
19	51.9	39.71	1.99	41.70	21.6	.24	36.21	0.51	36.72	19.1	.24
20	51.9	42.94	0.19	43.23	22.4	.20	39.15	0.05	39.20	20.4	.20
21	51.9	45.66	-2.57	44.09	24.6	.11	41.63	-0.48	41.23	23.1	.11
22	51.9	48.38	-3.31	45.07	26.3	.15	44.11	-0.85	43.26	24.2	.15
23	61.2	48.28	-5.55	42.73	285.3	.43	41.02	-1.43	42.59	24.6	.43
24	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-

* L and B from page 37

Note: All values in thousands

α and β from section property table

PREP JP
CHKD VGP
REVISED PAS

ON 7-13-49
ON 6-19-49



8-4-50 @ CHASE AIRCRAFT CO., INC.

WEST BROMFORD, OH

PAGE 112
REPORT NO 7017C-I
MODEL VC-122C MS 7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 48.75

CONDITION AILERON $\delta = 15^\circ$							CONDITION AILERON $\delta = -20^\circ$				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	P_{all}	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.
	Pg.	* . (11)	* . (12)	(14) + (15)	(2) . (16)	(13) / (16)	* . (11)	* . (12)	(14) + (15)	(2) . (16)	(13) / (16)
1											
2											
3											
4											
a	-60.0	-22.54	-0.38	-22.92	-229.0	A	-17.0	-0.10	-17.1	-171.0	L
5	-57.0	-24.68	0.21	-24.47	-11.5	A	-18.6	0.06	-18.5	-8.7	L
6	-57.0	-25.26	0.61	-24.65	-11.6	A	-19.0	0.17	-18.8	-8.8	L
7	-57.0	-25.32	1.01	-24.31	-11.4	A	-19.0	0.28	-18.8	-8.8	L
8	-57.0	-25.06	1.40	-23.66	-11.1	A	-18.9	0.39	-18.5	-8.7	L
9	-57.0	-24.61	1.79	-22.82	-10.7	A	-18.5	0.49	-18.0	-8.5	L
10	-39.2	-24.09	2.18	-21.91	-8.0	.79	-18.1	0.60	-17.5	-6.4	A
11	-39.2	-23.26	2.51	-20.75	-7.6	.89	-17.5	0.69	-16.8	-6.1	A
11a	-35.8	-22.41	2.85	-19.56	-2.7	.83	-16.9	0.79	-16.1	-2.2	A
a	-39.7	-20.35	3.15	-17.20	-11.3	A	-15.3	0.87	-14.4	-9.5	A
d	51.9	9.11	2.67	11.78	9.7	L	6.8	0.74	7.6	6.3	L
12	51.9	14.34	2.07	16.41	9.9	L	10.8	0.57	11.4	6.9	L
13	51.9	17.57	1.62	19.19	10.9	A	13.2	0.45	13.6	7.8	L
14	51.9	20.54	1.18	21.72	11.8	A	15.4	0.32	15.7	8.6	L
15	51.9	23.06	0.79	23.85	12.4	A	17.4	0.22	17.6	9.1	A
16	51.9	25.45	0.42	25.87	13.4	A	19.1	0.11	19.2	10.0	A
17	51.9	27.52	0.04	27.56	14.3	.88	20.7	0.01	20.7	10.7	A
18	50.4	29.26	-0.33	28.93	16.2	.79	22.0	-0.09	21.9	12.3	A
19	51.9	31.01	-0.69	30.32	17.7	.71	23.3	-0.19	23.1	13.5	A
b	61.2	30.94	-1.16	29.78	199.0	A	23.3	-0.32	23.0	153.5	A
20											
21											
22											
23											
24											

* L and N from page 37, 38, 39 & 41
a and β from section property table

Note: All values in thousands

PREP. J.P. ON 7-13-49

CHKD. V.G.P. ON 7-19-49

REVISED F.A.S. 8-4-50 @



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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REPORT NO. 7017C-I

MODEL YC-122C MS-7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 48.75

① Item	⑬ F _{all}	CONDITION PG + F					CONDITION				
		⑭ L · α	⑮ N · β	⑯ f _{act}	⑰ P	⑱ M.S.	⑭ L · α	⑮ N · β	⑯ f _{act}	⑰ P	⑱ M.S.
	Pg.	* · ⑪	* · ⑫	⑭ + ⑮	⑰ · ⑱	⑲ / ⑳	* · ⑪	* · ⑫	⑭ + ⑮	⑰ · ⑱	⑲ / ⑳
1											
2											
3											
4											
a	-60.0	-20.66	0.06	-20.60	-205.9	A					
5	-57.0	-22.61	- 0.03	-22.64	- 10.6	A					
6	-57.0	-23.15	- 0.09	-23.24	- 10.9	A					
7	-57.0	-23.20	- 0.16	-23.36	- 11.0	A					
8	-57.0	-22.97	- 0.22	-23.19	- 10.9	A					
9	-57.0	-22.56	- 0.28	-22.84	- 10.7	A					
10	-39.2	-22.08	- 0.34	-22.42	- 8.2	.75					
11	-39.2	-21.31	- 0.39	-21.70	- 7.9	.81					
11a	-35.8	-20.54	- 0.44	-20.98	- 2.9	.70					
c	-39.7	-18.65	- 0.49	-19.14	- 12.6	A					
d	51.9	8.35	- 0.41	7.94	6.5	L					
12	51.9	13.14	- 0.32	12.82	7.7	L					
13	51.9	16.10	- 0.25	15.85	9.0	L					
14	51.9	18.83	- 0.18	18.65	10.2	A					
15	51.9	21.13	- 0.12	21.01	10.9	A					
16	51.9	23.32	- 0.06	23.26	12.1	A					
17	51.9	25.22	-	25.22	13.1	A					
18	51.9	26.82	0.05	26.87	15.0	.95					
19	51.9	28.42	0.11	28.53	16.6	.85					
b	61.2	28.36	0.18	28.54	190.6	A					
20											
21											
22											
23											
24											

* L and N from page 38

α and β from section property table

Note: All values in thousands

PREP JP ON 7-13-49
 CHKD. VGP ON 7-19-49
 REVISED FAS 8-4-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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 MODEL XC-122C MS- 70

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 48.75

CONDITION LANDING							CONDITION NG & F				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	f_{all}	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.
Pg.	* (11)	* (12)	(14) + (15)	(2) (16)	(3) (16)	(13) (16)	* (11)	* (12)	(14) + (15)	(2) (16)	(3) (16)
1											
2											
3											
4											
5	61.2	9.99	0		101.0	L	2.37	0.28	2.65	26.4	L
6	70.5	10.22			7.2	L	2.42	-0.04	2.38	2.4	L
7	70.5	9.79			6.4	L	2.32	-0.25	2.07	1.4	L
8	70.5	9.13			6.0	L	2.16	-0.47	1.69	1.1	L
9	70.5	8.32			5.4	L	1.97	-0.70	1.27	.8	L
10	70.5	7.43			4.9	L	1.76	-0.90	0.86	.6	L
11	57.8	6.49			3.4	L	1.54	-1.11	0.43	.2	L
12	57.8	5.48			2.9	L	1.30	-1.30	0.0	0	L
13	51.9	4.50			1.5	L	1.07	-1.49	-0.42	-.1	L
14	51.9	2.84			2.0	L	0.67	-1.66	-0.99	-.7	L
15	-39.6	-11.34			-7.8	L	-2.69	-1.51	-4.20	-2.9	L
16	-39.5	-6.4			-2.4	L	-1.53	-0.60	-2.13	-.8	L
17	-39.5	-6.9			-2.6	L	-1.63	-0.50	-2.13	-.8	L
18	-39.5	-7.3			-2.7	L	-1.73	-0.4	-2.13	-.8	L
19	-39.5	-7.6			-2.8	L	-1.80	-0.3	-2.10	-.8	L
20	-39.5	-7.9			-2.9	L	-1.87	-0.2	-2.07	-.8	L
21	-39.5	-8.1			-3.0	L	-1.92	-0.1	-1.93	-.7	L
22	-35.8	-16.30			-5.4	A	-3.86	0.05	-3.81	-1.3	L
23	-39.5	-16.56			-4.8	A	-3.92	0.24	-3.68	-1.1	L
24	-60.0	-15.96	0		-106.0	L	-3.79	0.50	-3.29	-21.8	L
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											

* L and N from pages 38, 39

α and β from section property table

Note: All values in thousands

PREP JP 7-13-49
 CHKD VOP ON 7-21-49
 REVISED PAS



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WEST TRENTON, N. J.

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 MODEL YC-122C MS-7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 69.45

		PHAA					PLAA				
		CONDITION					CONDITION				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Item	P _{all}	L · α	N · β	f _{act}	P ·	M.S.	L · α	N · β	f _{act}	P ·	M.S.
	Pg.	* · (1)	* · (2)	(4) + (5)	(2) · (6)	(3) / (6)	* · (1)	* · (2)	(4) + (5)	(2) · (6)	(3) / (6)
.08 1	-36.8	-1.36	-0.76	-21.12	-0.3	L	-1.25	-0.19	-1.44	-0.2	L
.21 2	-44.8	-5.68	-1.63	-7.31	-2.6	L	-5.20	-0.40	-5.60	-2.0	L
.35 3	-71.5	-11.95	-2.04	-15.00	-6.5	L	-10.90	-0.51	-11.41	-5.4	L
.50 4	-71.5	-19.21	-1.97	-21.18	-9.9	L	-17.60	-0.49	-18.09	-8.4	L
a	-60.0	-40.22	-1.62	-41.84	-336.0	.43	-36.85	-0.40	-37.25	-299.0	.61
5	-42.7	-42.48	0.86	-41.62	-19.5	.02	-38.92	0.21	-38.71	-18.2	.10
6	-42.7	-42.29	2.59	-39.70	-18.6	.07	-38.75	0.64	-38.11	-17.9	.12
7	-42.7	-41.16	4.24	-36.92	-17.3	.15	-37.71	1.05	-36.66	-17.2	.16
8	-42.7	-39.66	5.92	-33.74	-15.8	.26	-36.33	1.47	-34.86	-16.3	.22
9	-42.7	-37.68	7.57	-30.11	-14.1	.42	-34.52	1.88	-32.64	-15.3	.31
10	-33.3	-35.70	9.19	-26.51	-9.6	.25	-32.71	2.28	-30.43	-11.1	.09
11	-33.3	-33.35	10.62	-22.73	-8.3	.46	-30.55	2.63	-27.92	-10.2	.19
11a	-29.5	-30.90	12.06	-18.84	-2.6	.56	-28.31	2.99	-25.32	-3.5	.16
c	-37.1	-27.32	13.08	-14.24	-9.4	A	-25.03	3.24	-21.79	-14.4	.70
d	51.9	18.09	11.40	29.49	23.5	.76	16.57	2.83	19.40	15.5	A
12	51.9	24.11	9.24	33.35	19.2	.55	22.09	2.29	24.38	14.1	A
13	51.9	28.26	7.37	35.63	20.3	.45	25.89	1.83	27.72	15.8	.87
14	51.9	32.12	5.51	37.63	26.3	.37	29.43	1.37	30.80	21.5	.68
15											
16	51.9	37.77	2.34	40.11	27.0	.29	34.61	0.58	35.19	23.6	.47
17	51.9	40.03	0.76	40.79	21.2	.27	36.68	0.19	36.87	19.1	.40
18	51.9	41.82	-0.79	41.03	22.9	.24	38.32	-0.19	38.13	21.3	.36
19	51.9	43.61	-2.34	41.27	24.7	.23	39.96	-0.58	39.38	23.0	.32
h	61.2	42.48	-4.32	38.16	265.0	.60	38.92	-1.07	37.85	263.0	.61
.80 20	51.9	35.34	-5.16	39.18	11.5	.72	32.38	-1.28	31.10	11.8	.67
.45 21	51.9	19.16	-3.53	15.63	5.2	L	17.55	-0.88	16.67	5.6	L
.25 22	51.9	10.03	-2.30	7.73	2.6	L	9.19	-0.57	8.62	2.9	L
.10 23	51.9	3.61	-1.06	2.55	.9	L	3.31	-0.26	3.05	1.1	L
0 24	51.9										

* L and N from page 37

α and β from section property table

Note: All values in thousands

PREP JP
CHKD VGP
REVISED WAS

ON 7-13-49
ON 7-21-49



8-6-50 @ CHASE AIRCRAFT CO., INC.
WEST TRENTON, NJ

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REPORT NO. 7017C-I
MODEL YC-122C MS- 7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 69.45

		CONDITION AILERON $\delta = 15^\circ$					CONDITION AILERON $\delta = -20^\circ$					
Item	Fall	L · α	N · β	f_{act}	P	M.S.	L · α	N · β	f_{act}	P	M.S.	
		* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)	
.08	1	-36.8	-0.93	-0.15	-1.1	-0.2	L	-0.64	-0.04	-0.68	-0.1	L
.21	2	-44.8	-3.86	-0.33	-4.2	-1.5	L	-2.67	-0.1	-2.8	-1.0	L
.35	3	-71.5	-8.10	-0.40	-8.5	-4.0	L	-5.6	-0.1	-5.7	-2.7	L
.50	4	-71.5	-13.07	-0.40	-13.5	-6.3	L	-9.05	-0.10	-9.1	-4.3	L
	5	-60.0	-27.37	-0.33	-27.7	-222.0	A	-18.96	-0.08	-19.0	-153.0	L
	6	-42.7	-28.91	0.18	-28.7	-13.5	.49	-20.02	0.04	-20.0	-9.4	A
	6	-42.7	-28.78	0.53	-28.3	-13.3	.51	-19.93	0.13	-19.8	-9.3	A
	7	-42.7	-28.01	0.87	-27.1	-12.7	.57	-19.40	0.22	-19.2	-9.0	A
	8	-42.7	-26.99	1.21	-25.8	-12.1	.65	-18.69	0.30	-18.4	-8.6	A
	9	-42.7	-25.64	1.55	-24.1	-11.3	.77	-17.76	0.39	-17.4	-8.2	A
	10	-33.3	-21.29	1.88	-22.4	-8.2	.48	-16.83	0.47	-16.4	-6.0	A
	11	-33.3	-22.69	2.17	-20.5	-7.5	.62	-15.72	0.54	-15.2	-5.5	A
	11a	-29.5	-21.02	2.47	-19.5	-2.6	.59	-14.56	0.62	-13.9	-1.9	A
	a	-37.1	-18.59	2.68	-15.9	-10.5	A	-12.88	0.67	-12.2	-8.0	L
	d	51.9	12.31	2.33	14.6	11.6	L	8.52	0.58	9.1	7.2	L
	12	51.9	16.41	1.89	18.3	10.6	A	11.37	0.47	11.8	6.8	L
	13	51.9	19.23	1.51	20.7	11.8	A	13.32	0.38	13.7	7.8	L
	14	51.9	21.86	1.13	23.0	16.0	A	15.14	0.28	15.4	10.7	L
	15											
	16	51.9	25.70	0.48	26.2	12.6	.97	17.80	0.12	17.9	12.0	A
	17	51.9	27.24	0.16	27.4	14.2	.89	18.87	0.04	18.9	9.8	A
	18	51.9	28.46	-0.16	28.3	15.8	.82	19.71	-0.04	19.7	11.0	A
	19	51.9	29.68	-0.48	29.2	17.0	.77	20.56	-0.12	20.4	11.9	A
	h	61.2	28.91	-0.88	28.0	195.0	A	20.02	-0.22	19.8	138.0	L
.80	20	51.9	24.05	-1.05	23.0	8.8	A	16.66	-0.26	16.4	6.2	L
.45	21	51.9	13.04	-0.72	12.3	4.1	L	9.03	-0.18	8.8	2.9	L
.25	22	51.9	6.83	-0.47	6.4	2.1	L	4.73	-0.12	4.6	1.6	L
.10	23	51.9	2.45	-0.22	2.2	0.8	L	1.7	-0.05	1.7	0.6	L
0	24	51.9										

* L and N from page 41

α and β from section property table

Note: All values in thousands

PREP JP ON 7-13-49
 CHKD. VGP ON 7-21-49
 REVISED PAS 8-6-50 ©



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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 MODEL YC-122C MS. 7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 69.45

		CONDITION					CONDITION					
	(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
	Item	P_{all}	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.
		Pg.	* . (11)	* . (12)	(14) + (15)	(2) . (16)	(13) / (16)	* . (11)	* . (12)	(14) + (15)	(2) . (16)	(13) / (16)
.08	1	-36.8	- 0.8	0	- 0.8	- 0.1	L					
.21	2	-44.8	- 3.32	-0.1	- 3.42	- 1.2	L					
.35	3	-71.5	- 7.0	-0.1	- 7.1	- 3.3	L					
.50	4	-71.5	-11.24	-0.1	-11.34	- 5.3	L					
	a	-60.0	-23.53	-0.87	-23.60	-189.5	A					
	5	-42.7	-24.85	0.04	-24.81	-11.6	.72					
	6	-42.7	-24.74	0.11	-24.63	-11.6	.73					
	7	-42.7	-24.08	0.18	-23.90	-11.2	.78					
	8	-42.7	-23.20	0.26	-22.94	-10.8	.86					
	9	-42.7	-22.04	0.33	-21.71	-10.2	.96					
	10	-33.3	-20.88	0.40	-20.48	- 7.5	.62					
	11	-33.3	-19.51	0.46	-19.05	- 6.9	.74					
	11a	-29.5	-18.07	0.52	-17.55	- 2.4	.68					
	c	-37.1	-15.98	0.57	-15.41	- 10.2	A					
	d	51.9	10.58	0.49	11.07	8.8	L					
	12	51.9	14.81	0.40	14.51	8.4	L					
	13	51.9	16.53	0.32	16.85	9.6	L					
	14	51.9	18.79	0.24	19.03	13.3	A					
	15											
	16	51.9	22.10	0.10	22.20	14.9	A					
	17	51.9	23.42	0.03	23.45	12.2	A					
	18	51.9	24.46	-0.03	24.43	13.7	A					
	19	51.9	25.51	-0.10	25.41	14.8	A					
	b	61.2	24.85	-0.19	24.66	171.5	A					
.80	20	51.9	20.67	-0.22	20.45	8.0	A					
.45	21	51.9	11.21	-0.15	11.06	3.7	L					
.25	22	51.9	5.87	-0.10	5.77	1.9	L					
.10	23	51.9	2.11	-0.04	2.07	0.7	L					
0	24	51.9										

* L and N from page 38
 a and β from section property table

Note: All values in thousands

PREP. JP ON 7-13-49

CHKD. VGP ON 7-21-49

REVISED EAS 8-7-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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REPORT NO. 7017C-I

MODEL YC-127C MS-7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 69.45

CONDITION NLAA							CONDITION TO				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	F _{all}	L · α	N · β	f _{act}	P	M.S.	L · α	N · β	f _{act}	P	M.S.
	Pg.	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)
.08 1	51.9	1.08	-0.24	0.8	.3	L	0.8	0		.3	L
.21 2	57.8	4.0	-0.5	3.5	1.9	L	3.1	↑		1.6	L
.35 3	70.5	8.0	-0.7	7.3	4.7	L	6.1			3.9	L
.50 4	70.5	12.3	-0.7	11.6	8.0	L	9.5			6.6	L
a	61.2	24.29	-0.68	23.3	190.2	A	18.5			150.9	L
5	70.5	24.29	0.10	24.4	17.3	A	18.68			13.22	L
6	70.5	22.89	0.64	23.5	15.4	A	17.6			11.5	L
7	70.5	20.97	1.18	22.1	13.7	L	16.1			10.5	L
8	70.5	18.82	1.72	20.5	13.4	L	14.5			9.5	L
9	70.5	16.38	2.25	18.6	12.2	L	12.6			8.2	L
10	57.8	13.89	2.77	16.7	8.9	L	10.7		(11) INFLUENCE STRESS	5.7	L
11	57.8	11.33	3.24	14.6	7.6	L	8.7			4.5	L
11a	57.9	8.77	3.71	12.5	3.8	L	6.7			2.0	L
c	57.9	5.29	4.05	9.3	6.5	L	4.1			2.8	L
d	-37.0	-25.40	3.84	-22.3	-15.4	.71	-19.3			-13.3	.91
.50 12	-34.8	-13.88	1.5	-12.4	-4.6	A	-10.7			4.0	L
.50 13	-34.8	-14.73	1.2	-13.5	-5.0	A	-11.3			-4.2	L
.50 14	-34.8	-15.37	1.0	-14.4	-5.3	A	-12.5			-4.4	A
.50 15	-34.8										
.50 16	-34.8	-16.32	0.4	-15.9	-5.9	A	-12.5			-4.6	A
.50 17	-34.8	-16.65	0.2	-16.5	-6.1	A	-12.8			-4.7	A
18	-37.2	-33.18	0	-33.1	-11.0	.11	-25.5			-8.4	.44
19	-34.8	-33.70	-0.48	-34.1	-9.9	.07	-25.9			-7.5	.34
b	-60.0	-31.78	-1.12	-32.9	-226.0	.80	-24.5			-168.3	A
.80 20	-36.8	-24.91	-1.4	-26.3	-3.6	.38	-19.2			-2.1	.90
.45 21	-36.8	-13.13	-1.00	-14.1	-1.9	A	-10.1			-1.4	L
.25 22	-36.8	6.8	-0.7	-7.3	-1.0	L	-5.1			-.7	L
.10 23	-31.5	2.3	-0.3	-2.6	-0.8	L	-1.8	0		-.4	L
0 24	-36.8										

* L and N from page 38-39

α and β from section property table

Note: All values in thousands

PREP. JP ON 7-23-49

CHKD. VOP ON 7-21-49

REVISED JAS 8-8-50 @



CHASE AIRCRAFT CO., INC.

WEST TREMONT, N.J.

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REPORT NO. 7017C-I

MODEL YC-122C MS 7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 69.45

CONDITION LANDING							CONDITION NG + Y					
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)	
Item	P _{all}	L · α	N · β	f _{act}	P	M.S.	L · α	N · β	f _{act}	P	M.S.	
	Pg.	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)	
.08	1	51.9	0.4	0		0.1	L	0.1	0.1	0.2	0.1	L
.21	2	57.8	1.6			0.8		0.5	0.2	0.7	.4	
.35	3	70.5	3.2			2.2		1.0	0.2	1.2	.8	
.50	4	70.5	5.0			3.4		1.5	0.2	1.7	1.2	
	a	61.2	9.75			79.5		3.01	0.23	3.24	26.4	
	5	70.5	9.86			7.0		3.05	- 0.03	3.02	2.1	
	6	70.5	9.30			6.1		2.87	- 0.21	2.66	1.7	
	7	70.5	8.52			5.6		2.62	- 0.39	2.23	1.4	
	8	70.5	7.65			5.1		2.37	- 0.57	1.80	1.1	
	9	70.5	6.66			4.4		2.06	- 0.75	1.31	.8	
	10	57.8	5.64			3.0		1.74	- 0.92	0.82	.4	
	11	57.8	4.60			2.4		1.42	- 1.08	.34	.2	
	11a	51.9	3.56			1.1		1.10	- 1.24	- .14	- .1	
	c	51.9	2.14			1.5		0.66	- 1.35	- .69	- .5	
	d	-37.0	-10.17			- 7.1		- 3.15	- 1.25	- 4.40	- 3.0	
.50	12	-34.8	- 5.64			- 2.1		- 1.75	- 0.5	- 2.25	- .8	
.50	13	-34.8	- 5.99			- 2.2		- 1.8	- 0.4	- 2.25	- .8	
.50	14	-34.8	- 6.24			- 2.3		- 1.8	- 0.4	- 2.38	- .8	
.50	15	-34.8				--		--	--	--	--	
.50	16	-34.8	- 6.63			- 2.5		- 2.0	- 0.1	- 2.15	- .8	
.50	17	-34.8	- 6.76			- 2.5	L	- 2.0	- 0.1	- 2.19	- .8	
	18	-37.2	-13.48			- 4.5	A	- 4.17	0	- 4.17	- 1.3	
	19	-34.8	-13.69			- 4.0	A	- 4.23	.16	- 4.07	- 0.1	
	b	-60.0	-12.91			-88.7	L	- 3.94	0.37	- 3.57	-24.1	
.80	20	-36.8	-10.12			- 1.4		- 3.0	0.5	- 2.45	- .4	
.45	21	-36.8	- 5.3			- .7		- 1.6	0.3	- 1.4	- .2	
.25	22	-36.8	- 2.7			- .4		- 0.8	0.2	- 0.6	-0.1	
.10	23	-31.5	- 0.9	0		- .2	L	- 0.3	0.1	- 0.2	-0	L
0	24	-36.8										

* L and N from page 38 - 39

α and β from section property table

Note: All values in thousands

PREP JP ON 7-13-49
CHKD. VGP ON 7-22-49
REVISED PAS 8-8-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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REPORT NO 7017C-I
MODEL YC-122C MS- 7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 125.40

CONDITION PHAA							CONDITION PLAA				
①	⑬	⑭	⑮	⑯	⑰	⑱	⑭	⑮	⑯	⑰	⑱
Item	all	L · α	N · β	f _{act}	P	M.S.	L · α	N · β	f _{act}	P	M.S.
	Pg.	* · ⑪	* · ⑫	⑭ + ⑰	⑱ · ⑲	⑳ / ⑲	* · ⑪	* · ⑫	⑭ + ⑰	⑱ · ⑲	⑳ / ⑲
1	-36.8	-14.90	-6.30	-21.2	-2.9	.73	-13.4	-1.4	-14.8	-2.1	A
2	-44.8	-26.37	-4.98	-31.4	-11.4	.43	-23.7	-1.1	-24.8	-9.0	.80
3	-71.5	-33.70	-3.58	-37.3	-17.5	.92	-30.3	-0.8	-31.1	-14.6	A
4	-71.5	-38.01	-2.24	-40.2	-18.9	.78	-34.1	-0.5	-34.6	-16.2	A
5	-60.0	-39.15	-0.63	-39.8	-295.0	.51	-35.2	-0.1	-35.3	-262.0	.70
6	-42.7	-41.11	1.14	-40.0	-18.8	.07	-36.9	0.3	-36.6	-17.2	.17
7	-42.7	-40.29	2.34	-38.0	-17.8	.12	-36.2	0.5	-35.7	-16.7	.20
8	-42.7	-38.99	3.52	-35.5	-16.6	.20	-35.0	0.8	-34.2	-16.0	.25
9	-42.7	-37.04	4.69	-32.4	-15.2	.32	-33.3	1.1	-32.2	-15.1	.33
10	-33.3	-32.23	6.99	-25.2	-9.2	.32	-29.0	1.6	-27.4	-10.7	.22
11	-33.3	-29.55	7.98	-21.6	-7.9	.54	-26.5	1.8	-24.7	-9.0	.35
11a	-	-	-	-	-	-	-	-	-	-	-
c	-37.1	-24.42	9.16	-15.3	-10.1	A	-21.9	2.1	-19.8	-13.0	.87
d	51.9	17.17	7.98	25.2	17.9	A	15.4	1.8	17.2	12.2	L
12	51.9	21.16	7.07	28.2	13.8	.84	19.0	1.6	20.6	10.1	A
13	51.9	25.15	5.75	30.9	17.6	.68	22.6	1.3	23.9	13.6	A
14	51.9	28.65	4.43	33.1	19.0	.56	25.7	1.0	26.7	14.6	.94
15	51.9	31.34	3.29	34.6	18.0	.50	28.1	0.8	28.9	15.0	.79
16	51.9	33.86	2.19	36.0	18.7	.44	30.4	0.5	30.9	16.0	.67
17	51.9	36.06	1.06	37.1	19.3	.40	32.4	0.2	32.6	16.9	.59
18	51.9	37.61	-0.04	37.6	21.0	.38	33.8	-0.0	33.8	18.9	.53
19	51.9	39.23	-1.12	38.1	22.2	.36	35.2	-0.2	35.0	20.4	.48
h	61.2	37.44	-2.54	34.9	243.0	.75	33.6	-0.6	33.0	230.0	.85
20	51.9	39.15	-4.02	35.1	13.4	.48	35.2	-0.9	34.3	13.1	.52
21	51.9	37.28	-5.02	32.3	10.7	.61	33.5	-1.2	32.3	10.7	.61
22	51.9	34.19	-5.97	28.2	8.6	.84	30.7	-1.4	29.3	8.9	.77
23	51.9	30.8	-6.7	24.1	8.0	A	27.7	-1.5	26.2	8.6	.98
24	51.9	24.6	-7.5	17.1	5.3	L	22.1	-1.7	20.4	6.3	A

* L and N from page 37

α and β from section property table

Note: All values in thousands

PREP JP
CHKD VGP
REVISED PAS

ON 7-12-49
ON 7-22-49
8-8-50



CHASE AIRCRAFT CO. INC.
WEST TRENTON, N.J.

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REPORT NO 7017C-I
MODEL YC-122C MS 7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 125.40

AILERON = 15°							AILERON = -20°				
Item	COND	COND	COND	COND	COND	COND	COND	COND	COND	COND	M.S.
	Fall	L. a	N. β	f _{act}	P	M.S.	L. a	N. β	f _{act}	P	
	Pg.	*.11	*.12	14 + 15	2.16	13.16	*.11	*.12	14 + 15	2.16	13.16
1	-36.8	-11.29	-1.25	-12.5	-1.7	A	-6.07	-0.22	-6.3	-0.9	L
2	-44.8	-19.99	-0.99	-21.0	-7.6	A	-10.76	-0.18	-10.9	-4.0	L
3	-71.5	-25.54	-0.71	-26.2	-12.3	A	-13.74	-0.13	-13.9	-6.5	L
4	-71.5	-28.81	-0.44	-29.2	-13.7	A	-15.50	-0.08	-15.6	-7.3	L
a	-60.0	-29.68	-0.12	-29.80	-221.0	A	-15.97	-0.02	-15.99	-119.0	L
5	-42.7	-31.16	0.22	-30.94	-14.5	.38	-16.77	0.04	-16.73	-7.8	A
6	-42.7	-30.54	0.46	-30.08	-14.1	.42	-16.43	0.08	-16.35	-7.7	A
7	-42.7	-29.55	0.70	-28.85	-13.5	.48	-15.90	0.12	-15.78	-7.4	A
8	-42.7	-28.07	0.93	-27.14	-12.7	.57	-15.10	0.17	-14.93	-7.0	A
9	-42.7	-26.34	1.16	-25.18	-11.8	.70	-14.18	0.21	-13.97	-6.6	L
10	-33.3	-24.43	1.38	-23.05	-8.4	.44	-13.15	0.25	-12.90	-4.7	A
11	-33.3	-22.40	1.58	-20.82	-7.6	.60	-12.05	0.28	-11.77	-4.3	A
11a											
c	-37.1	-18.51	1.81	-16.70	-11.0	A	-9.96	0.32	-9.64	-6.4	L
d	51.9	13.02	1.58	14.60	10.4	L	7.00	0.28	7.28	5.2	L
12	51.9	16.04	1.40	17.44	8.5	A	8.63	0.25	8.88	4.3	L
13	51.9	19.06	1.14	20.20	11.5	A	10.26	0.20	10.46	6.0	L
14	51.9	21.72	0.88	22.60	12.3	A	11.69	0.16	11.85	6.5	L
15	51.9	23.75	0.65	24.40	12.7	A	12.78	0.12	12.90	6.7	L
16	51.9	25.67	0.43	26.10	13.5	.98	13.81	0.08	13.89	7.2	L
17	51.9	27.33	0.21	27.54	14.3	.88	14.71	0.04	14.75	7.7	L
18	51.9	28.50	.01	28.51	15.9	.84	15.34	0	15.34	8.6	L
19	51.9	29.74	-0.22	29.52	17.2	.76	16.00	-0.04	15.96	9.3	L
b	61.2	28.38	-0.50	27.88	194.0	A	15.27	-0.09	15.18	106.0	L
20	51.9	29.68	-0.79	28.89	11.0	.80	15.97	-0.14	15.83	6.0	L
21	51.9	28.26	-0.99	27.27	9.0	.90	15.20	-0.18	15.02	5.0	L
22	51.9	25.91	-1.18	24.73	7.5	A	13.94	-0.21	13.73	4.2	L
23	51.9	23.38	-1.33	22.05	7.3	A	12.58	-0.24	12.34	4.1	L
24	51.9	18.69	-1.49	17.20	5.3	L	10.06	-0.27	9.79	3.0	L

* L and N from page 41
a and β from section property table

Note: All values in thousands

PREP JP ON 7-13-40
CHKD VGP ON 7-22-49
REVISED PAS 8-8-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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MODEL YC-122C MS-7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 125.40

CONDITION PG + F							CONDITION				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	F _{all}	L · α	N · β	f _{act}	P	M.S.	L · α	N · β	f _{act}	P	M.S.
	Pg.	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)
1	- 36.8	- 8.4	- 0.4	- 8.8	- 1.2	L					
2	- 44.8	-14.9	- 0.3	-15.2	- 5.5	A					
3	- 71.5	-19.0	- 0.3	-19.9	- 9.3	L					
4	- 71.5	-21.4	- 0.2	-21.3	-10.0	L					
a	- 60.0	-22.1	- 0.0	-22.1	-163.8	A					
5	- 42.7	-23.2	0.1	-23.1	-10.8	.84					
6	- 42.7	-22.7	0.2	-23.5	-11.0	.81					
7	- 42.7	-22.0	0.2	-21.8	-10.2	.95					
8	- 42.7	-20.9	0.3	-20.6	- 9.7	A					
9	- 42.7	-19.6	0.4	-19.2	- 9.0	A					
10	- 33.3	-18.2	0.5	-17.7	- 6.4	.88					
11	- 33.3	-16.7	0.6	-16.1	- 5.9	A					
11a											
c	- 37.1	-13.8	0.6	-13.2	- 8.7	A					
d	51.9	9.7	0.6	10.3	7.3	L					
12	51.9	11.9	0.5	12.4	6.1	L					
13	51.9	14.2	0.4	14.6	8.3	L					
14	51.9	16.2	0.3	16.5	9.0	L					
15	51.9	17.7	0.2	17.9	9.3	A					
16	51.9	19.1	0.2	19.3	10.0	A					
17	51.9	20.3	0.1	20.4	10.6	A					
18	51.9	21.2	0	21.2	11.9	A					
19	51.9	22.1	- 0.1	22.0	12.8	A					
b	61.2	21.1	- 0.2	20.9	145.4	A					
20	51.9	22.1	- 0.3	21.8	8.3	A					
21	51.9	21.0	- 0.4	20.6	7.8	A					
22	51.9	19.3	- 0.4	18.9	5.8	A					
23	51.9	17.4	- 0.5	16.9	5.6	A					
24	51.9	13.9	- 0.5	13.4	4.2	L					

* L and N from page 38
α and β from section property table

Note: All values in thousands

PREP JP ON 7-11-49
CHKD SRP ON 7-15-49
REVISED PAS 8-8-50



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REPORT NO 7017C-I
MODEL VC-12C MS 7C

CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 181.35

CONDITION PHAA							CONDITION PLAA				
①	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓
Item	P _{all}	L · α	N · β	f _{act}	P	M.S.	L · α	N · β	f _{act}	P	M.S.
	Pg.	* · ⑪	* · ⑫	⑬ + ⑭	⑮ · ⑯	⑰ · ⑱	* · ⑲	* · ㉑	㉒ + ㉓	㉔ · ㉕	⑶ · ⑷
1	-36.8	-10.95	-5.36	-16.3	-2.3	A	-9.76	-1.15	-10.9	-1.5	A
2	-44.8	-23.47	-4.25	-27.7	-10.1	.62	-20.92	-0.91	-21.8	-7.9	A
3	-71.5	-31.17	-3.04	-34.2	+16.0	A	-27.79	-0.65	-28.4	-13.3	A
4	-71.5	-35.43	-1.88	-37.3	-17.5	.91	-31.58	-0.40	-32.0	-15.0	A
a	-60.0	-35.99	-0.51	-36.5	-250.0	.64	-32.08	-0.11	-32.2	-220.0	.86
5	-42.7	-37.81	1.00	-36.8	-17.3	.16	-33.70	0.21	-33.5	-15.7	.27
6	-42.7	-36.75	2.04	-34.7	-16.3	.23	-32.75	0.44	-32.3	-15.1	.32
7	-42.7	-35.06	3.06	-32.0	-15.0	.33	-31.25	0.65	-30.6	-14.3	.39
8	-42.7	-32.93	4.06	-28.8	-13.5	.48	-29.35	0.87	-28.5	-13.4	.50
9	-42.7	-30.30	5.06	-25.2	-11.8	.69	-27.01	1.08	-25.9	-12.1	.65
10	-33.3	-27.48	6.05	-21.4	-7.8	.55	-24.50	1.29	-23.2	-8.4	.43
11	-27.9	-25.23	6.73	-18.5	-3.4	.51	-22.49	1.44	-21.0	-3.8	.32
11a	-	-	-	-	-	-	-	-	-	-	-
a	-37.1	-21.10	7.42	-13.7	-9.0	A	-18.80	1.59	-17.2	-11.3	A
d	51.9	16.40	6.54	22.9	18.4	A	14.62	1.40	16.0	12.8	L
12	-	-	-	-	-	-	-	-	-	-	-
13	51.9	21.91	5.18	27.1	15.8	.91	19.53	1.11	20.6	12.0	A
14	51.9	25.16	4.04	29.2	15.9	.88	22.43	0.86	23.3	12.7	A
15	51.9	27.61	3.09	30.7	15.9	.69	24.61	0.66	25.3	13.1	A
16	51.9	30.05	2.12	32.2	16.7	.61	26.78	0.45	27.2	14.1	.91
17	51.9	31.80	1.17	33.0	17.1	.57	28.35	0.25	28.6	14.8	.82
18	51.9	33.18	0.23	33.4	18.7	.55	29.57	0.05	29.6	16.5	.75
19	51.9	34.68	-0.72	34.0	19.8	.53	30.91	-0.15	30.7	17.9	.69
b	57.8	32.61	-1.93	30.7	213.0	.88	29.07	-0.41	28.7	200.0	A
20	51.9	34.05	-3.20	30.8	11.7	.68	30.36	-0.68	29.7	11.3	.75
21	51.9	31.93	-4.06	27.8	9.2	.86	28.46	-0.87	27.6	9.1	.88
22	51.9	28.54	-4.89	23.6	6.5	A	25.44	-1.04	24.4	6.7	A
23	51.9	26.17	-5.34	20.9	6.4	A	23.32	-1.14	22.2	6.7	A
24	51.9	19.97	-6.03	14.0	4.5	L	17.80	-1.29	16.5	5.3	L

* L and N from page 37
α and β from section property table

Note: All values in thousands

PREP JP
CHKD SRP
REVISED **WLS**

ON 7-11-49
ON 7-15-49
8-8-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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MODEL YC-122C MS-70

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION

181.35

AILERON $\delta = 15^\circ$							AILERON $\delta = -20^\circ$				
Item	COND. 13	COND. 14	COND. 15	COND. 16	COND. 17	COND. 18	COND. 19	COND. 20	COND. 21	COND. 22	M.S.
	F_{all}	$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.
	Pg.	* . 11	* . 12	14 + 15	2 . 16	13/16	* . 11	* . 12	14 + 15	2 . 16	13/16
1	-36.8	-8.96	-0.96	-9.9	-1.4	L	-3.94	-0.07	-4.0	-8.5	L
2	-44.8	-19.20	-0.76	-20.0	-7.3	A	-8.44	-0.06	-8.5	-3.1	L
3	-71.5	-25.50	-0.55	-26.0	-12.2	A	-11.20	-0.04	-11.2	-5.2	L
4	-60.0	-28.98	-0.34	-29.3	-13.7	A	-12.73	-0.03	-12.7	-5.9	L
a	-42.7	-29.44	-0.09	-29.5	-202.0	.45	-12.94	-0.01	-12.9	-88.3	L
5	-42.7	-30.92	0.18	-30.7	-14.4	.39	-13.59	0.01	-13.6	-6.4	L
6	-42.7	-30.05	0.37	-29.7	-13.9	.44	-13.21	0.03	-13.2	-6.2	L
7	-42.7	-28.67	0.55	-28.2	-13.2	.51	-12.60	0.04	-12.6	-5.9	
8	-42.7	-26.93	0.73	-26.2	-12.3	.63	-11.83	0.06	-11.7	-5.5	
9	-42.7	-24.78	0.91	-23.9	-11.2	.79	-10.89	0.07	-10.8	-5.1	
10	-33.3	-22.48	1.08	-22.4	-8.1	.48	-9.88	0.08	-9.8	-3.6	
11	-27.9	-20.63	1.21	-19.4	-3.5	.44	-9.07	0.09	-9.0	-1.6	
11a	-	-	-	-	-	-	-	-	-	-	
a	-37.1	-17.25	1.33	-15.9	-10.5	A	-7.58	0.10	-7.5	-4.9	L
a	51.9	13.41	1.17	13.6	10.9	L	5.89	0.09	6.0	4.8	L
12	-	-	-	-	-	-	-	-	-	-	
13	51.9	17.92	0.93	18.8	11.0	A	7.87	0.07	7.9	4.6	L
14	51.9	20.58	0.72	21.3	11.6	A	9.04	0.05	9.1	4.9	
15	51.9	22.58	0.55	23.1	12.0	A	9.92	0.04	9.9	5.1	
16	51.9	24.58	0.38	25.0	13.0	A	10.80	0.03	10.8	5.6	
17	51.9	26.01	0.21	26.2	13.6	.98	11.43	0.02	11.4	5.9	
18	51.9	27.14	0.04	27.2	15.2	.84	11.92	-	11.9	6.6	
19	51.9	28.36	-0.13	28.2	16.4	.84	12.46	-0.01	12.5	7.3	
a	57.8	26.67	-0.34	26.3	183.0	A	11.72	-0.03	11.7	81.4	
20	51.9	27.85	-0.57	27.3	10.4	.90	12.24	-0.04	12.2	4.6	
21	51.9	-26.11	-0.73	25.4	8.4	A	11.47	-0.06	11.4	3.8	
22	51.9	23.35	-0.88	22.4	6.2	A	10.26	-0.07	10.2	2.8	
23	51.9	21.40	-0.96	20.4	6.2	A	9.40	-0.07	9.3	2.8	
24	51.9	16.33	-1.08	15.2	4.8	L	7.28	-0.08	7.1	2.3	L

* L and N from page 41
a and β from section property table

Note: All values in thousands

PREP JP ON 7-11-49

CHKD SRP ON 7-15-49

REVISED PAS 8-8-50 (B)



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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REPORT NO. 70170-1

MODEL VC-122C MS-7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 181.35

		CONDITION PG + F					CONDITION				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	F _{all}	L · α	N · β	f _{act}	P	M.S.	L · α	N · β	f _{act}	P	M.S.
	Pg.	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)	* · (11)	* · (12)	(14) + (15)	(2) · (16)	(13) / (16)
1	-36.8	-5.90	-0.55	-6.5	-0.9	L					
2	-44.8	-12.64	-0.44	-13.1	-4.8	L					
3	-71.5	-16.78	-0.31	-17.1	-8.0	L					
4	-60.0	-19.07	-0.19	-19.3	-9.0	L					
a	-42.7	-19.38	-0.05	-19.4	-133.0	A					
5	-42.7	-20.35	0.10	-20.3	-9.5	A					
6	-42.7	-19.78	0.21	-19.6	-9.2	A					
7	-42.7	-18.87	0.31	-18.6	-8.7	A					
8	-42.7	-17.73	0.42	-17.3	-8.1	A					
9	-42.7	-16.31	0.52	-15.8	-7.4	A					
10	-33.3	-14.79	0.62	-14.2	-5.2	A					
11	-27.9	-13.58	0.70	-12.9	-2.3	A					
11a											
c	-37.1	-11.36	0.77	-10.6	-7.0	L					
d	51.9	8.83	0.68	9.5	7.6	L					
12											
13	51.9	11.80	0.53	12.3	7.2	L					
14	51.9	13.55	0.42	14.0	7.6						
15	51.9	14.86	0.32	15.2	7.9						
16	51.9	16.18	0.22	16.4	8.5						
17	51.9	17.22	0.12	17.2	8.9	L					
18	51.9	17.86	0.02	17.9	10.0	A					
19	51.9	18.64	-0.07	18.6	10.8	A					
b	57.8	17.56	-0.20	17.4	120.7	L					
20	51.9	18.33	-0.33	18.0	6.9	A					
21	51.9	17.19	-0.42	16.8	5.6	L					
22	51.9	15.37	-0.50	16.9	4.6						
23	51.9	14.09	-0.55	13.5	4.1						
24	51.9	10.75	-0.62	10.1	3.2	L					

* L and N from page 38
α and β from section property table

Note: All values in thousands

PREP JP ON 7-11-49
 CHKD SRP ON 7-15-49
 REVISED PAS 8-8-50 @



CHASE AIRCRAFT CO., INC.
 WEST TRENTON, N.J.

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 REPORT NO. 7017C-1
 MODEL YC-122C MS 7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 181.35

CONDITION PG + F							CONDITION				
①	③	④	⑤	⑥	⑦	⑧	④	⑤	⑥	⑦	⑧
Item	P_{all}	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.
	Pg.	* - ⑪	* - ⑫	⑭ + ⑮	② - ⑬	⑬/⑭	* - ⑪	* - ⑫	⑭ + ⑮	② - ⑬	⑬/⑭
1	-36.8	-5.90	-0.55	-6.5	-0.9	L					
2	-44.8	-12.64	-0.44	-13.1	-4.8	L					
3	-71.5	-16.78	-0.31	-17.1	-8.0	L					
4	-60.0	-19.07	-0.19	-19.3	-9.0	L					
a	-42.7	-19.38	-0.05	-19.4	-133.0	A					
5	-42.7	-20.35	0.10	-20.3	-9.5	A					
6	-42.7	-19.78	0.21	-19.6	-9.2	A					
7	-42.7	-18.87	0.31	-18.6	-8.7	A					
8	-42.7	-17.73	0.42	-17.3	-8.1	A					
9	-42.7	-16.31	0.52	-15.8	-7.4	A					
10	-33.3	-14.79	0.62	-14.2	-5.2	A					
11	-27.9	-13.58	0.70	-12.9	-2.3	A					
11a											
c	-37.1	-11.36	0.77	-10.6	-7.0	L					
d	51.9	8.83	0.68	9.5	7.6	L					
12											
13	51.9	11.80	0.53	12.3	7.2	L					
14	51.9	13.55	0.42	14.0	7.6						
15	51.9	14.86	0.32	15.2	7.9						
16	51.9	16.18	0.22	16.4	8.5						
17	51.9	17.22	0.12	17.2	8.9	L					
18	51.9	17.86	0.02	17.9	10.0	A					
19	51.9	18.64	-0.07	18.6	10.8	A					
b	57.8	17.56	-0.20	17.4	120.7	L					
20	51.9	18.33	-0.33	18.0	6.9	A					
21	51.9	17.19	-0.42	16.8	5.6	L					
22	51.9	15.37	-0.50	16.9	4.6						
23	51.9	14.09	-0.55	13.5	4.1						
24	51.9	10.75	-0.62	10.1	3.2	L					

* L and N from page 38
 a and β from section property table

Note: All values in thousands

PREP YGP ON7-14-49
CHKD BHP ON7-15-49
REVISED PAS 8-8-50 @



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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REPORT NO. 7017C-I
MODEL YC-122C MS-78

SUBJECT: DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 200

(EXTRAPOLATED)

(INTERPOLATED)

Item	Pg.	CONDITION					CONDITION				
		L. a	H. β	f_{act}	P	M.S.	L. a	H. β	f_{act}	P	M.S.
		* (11)	* (12)	(14) + (15)	(2) (16)	(13) (19)	* (11)	* (12)	(14) + (15)	(2) (16)	(13) (19)
1											
2		-12.11	-.60	-12.71	-2.6		-12.97	-.62	-13.59	-2.7	
3		-16.32	-.45	-16.77	-7.3		-17.58	-.45	-18.03	-7.8	
4		-18.49	-.28	-18.77	-8.1		-19.93	-.29	-20.22	-8.8	
a		-18.70	-.09	-18.79	-127.9		-20.32	-.10	-20.42	-123.8	
5		-19.35	.12	-19.23	-8.3		-20.90	.11	-20.79	-8.0	
6		-18.55	.26	-18.29	-7.9		-20.05	.26	-19.79	-8.6	
7		-17.32	.41	-16.91	-7.3		-17.86	.40	-17.46	-7.6	
8		-15.93	.55	-15.38	-6.7		-17.29	.55	-16.74	-7.3	
9		-14.20	.69	-13.51	-5.7		-15.41	.69	-14.72	-6.2	
10		-12.44	.83	-11.61	-3.6		-13.49	.83	-12.66	-3.9	
11		-10.79	.93	-9.86	-1.1		-11.73	.93	-10.80	-1.2	
11a											
a		-9.03	1.00	-8.03	-5.1		-9.82	1.00	-8.82	-5.6	
d		11.05	.90	11.95	8.5		12.02	.90	12.92	9.2	
12											
13		13.82	.75	14.57	4.4		15.05	.74	15.79	4.8	
14		15.49	.59	16.08	4.8		16.88	.58	17.46	5.2	
15		16.55	.46	17.01	5.4		18.05	.45	18.50	5.8	
16		17.70	.33	18.03	5.7		19.32	.31	19.63	6.2	
17		18.70	.20	18.90	6.0		20.40	.18	20.58	6.5	
18		19.29	.07	19.36	6.2		21.08	.05	21.13	6.8	
19		19.70	-.06	19.64	8.7		21.52	-.08	21.44	9.5	
a		18.32	-.23	18.09	124.7		20.23	-.26	19.97	119.8	
20		18.90	-.41	18.49	6.0		20.70	-.43	20.27	6.5	
21		17.55	-.53	17.02	4.8		19.26	-.56	18.70	5.3	
22		15.44	-.64	14.80	3.4		16.96	-.67	16.29	3.8	
23		14.32	-.70	13.53	2.9		15.67	-.73	14.94	3.2	
24											

* L and H from page 38
a and β from section property table

Note: All values in thousands

PREP SRP
CHKD VCP
REVISED PAS

ON 7-13-49
ON 7-19-49



8-9-50 @ CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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MODEL XC-122C ms 7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 220

CONDITION PHAA							CONDITION PLAA				
①	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓
Item	P_{all}	$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.
	Pg.	* ⑪	* ⑫	⑭ + ⑮	⑰ + ⑱	⑲ + ⑳	* ⑪	* ⑫	⑭ + ⑮	⑰ + ⑱	⑲ + ⑳
1											
2	-32.2	-23.18	- 5.29	-28.47	-5.73	.13	-21.19	-1.13	-22.32	- 4.53	.41
3	-70.0	-32.65	- 3.85	-36.50	-15.84	.92	-29.86	-0.83	-30.69	-13.32	A
4	-70.0	-37.37	- 2.49	-39.86	-17.30	.76	-34.17	-0.53	-34.70	-15.06	A
a	-60.0	-38.35	- 0.84	-39.19	-206	.53	-35.07	-0.18	-35.25	-185	.70
5	-37.6	-39.23	0.75	-38.48	-16.70	** 0	-35.88	0.16	-35.72	-15.50	.06
6	-37.6	-37.81	2.00	-35.81	-15.54	.05	-34.57	0.43	-34.14	-14.82	.10
7	-37.6	-35.45	3.24	-32.21	-13.98	.17	-32.42	0.69	-31.73	-13.77	.18
8	-37.6	-32.55	4.46	-28.09	-12.19	.34	-29.77	0.96	-28.81	-12.50	.30
9	-37.6	-27.12	5.67	-23.45	- 9.90	.60	-26.63	1.21	-25.42	-10.73	.48
10	-30.8	-25.43	6.87	-18.56	- 5.68	.66	-23.26	1.47	-21.79	- 6.67	.41
11	-28.0	-22.54	7.67	-14.87	- 1.64	.89	-20.61	1.64	-18.97	- 2.09	.48
11a											
c	-36.2	-18.80	8.32	-10.58	- 5.60	L	-17.29	1.78	-15.51	- 8.20	L
d	+51.9	22.98	7.48	30.46	18.61	.70	21.01	1.60	22.61	13.81	A
12											
13	51.9	28.82	6.88	34.91	10.61	.49	26.36	1.31	27.67	8.41	.88
14	51.9	32.41	4.75	37.16	11.15	.40	29.63	1.02	30.65	9.20	.69
15	51.9	34.81	3.61	38.42	12.14	.35	31.83	0.77	32.60	10.30	.59
16	51.9	37.27	2.46	37.73	12.55	.31	34.08	0.53	34.61	10.94	.50
17	51.9	39.28	1.32	40.60	12.83	.28	35.92	0.28	36.20	11.44	.43
18	51.9	40.56	0.20	40.76	13.12	.27	37.09	0.04	37.13	11.96	.40
19	70.5	41.29	- 0.90	40.39	17.21	.75	37.76	-0.19	37.57	16.00	.88
b	57.8	32.33	-2.17	37.16	186	.55	35.96	-0.47	35.49	178	.63
20	51.9	39.92	-3.65	36.27	11.64	.43	36.50	-0.78	35.72	11.47	.45
21	51.9	37.07	-4.69	32.38	9.16	.60	33.90	-1.01	32.89	9.31	.58
22	51.9	33.09	-5.70	27.39	6.16	.90	30.26	-1.22	29.04	6.53	.79
23	51.9	30.44	-6.12	24.32	4.91	A	27.84	-1.31	26.53	5.36	.85
24											

** THIS STRINGER WAS NOT CHANGED DUE TO THE HIGH M.S. OF F.S. ADJACENT TO IT
* L and N from page 37
Note: All values in thousands
a and β from section property table

PREP SRP ON 7-13-49
CHKD VOP ON 7-19-49
REVISED PAS 8-2-50



CHASE AIRCRAFT CO., INC.

WEST BROMFIELD

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SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION

220

CONDITION AILERON $\delta = 15^\circ$							CONDITION AILERON $\delta = -20^\circ$					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Item	F_{all}	$L \cdot a$	$N \cdot b$	F_{act}	P	$M.S.$	$L \cdot a$	$N \cdot b$	F_{act}	P	$M.S.$	
	Pg.	* (1)	* (2)	(4) + (5)	(2) - (6)	(3) - (7)	* (1)	* (2)	(4) + (5)	(2) - (6)	(3) - (7)	
1												
2	-32.2	-32.25	-0.90	-20.25	-4.11	.59	-7.50	0		-1.52	L	
3	-70.0	-27.27	-0.65	-27.92	-12.12	A	-10.57			-1.59		
4	-70.0	-31.20	-0.42	-31.62	-13.72	A	-12.10			-5.25		
5	-60.0	-32.02	-0.14	-32.16	-169	.87	-12.12			-5.3		
6	-37.6	-32.76	0.13	-32.63	-14.16	.15	-12.70			-5.51		
7	-37.6	-31.57	0.34	-31.23	-13.55	.20	-12.24			-5.31		
8	-37.6	-29.60	0.55	-29.05	-12.61	.29	-11.48			-4.98		
9	-37.6	-27.18	0.76	-26.42	-11.47	.42	-10.54			-4.57		
10	-37.6	-24.31	0.96	-23.35	-9.85	.61	-9.43			-3.98		
11	-30.8	-21.24	1.16	-20.08	-6.14	.53	-8.24			-2.52		
11a	-28.0	-18.82	1.30	-17.52	-1.93	.60	-7.30			-0.80		
12												
a	-36.2	-15.79	1.41	-14.38	-7.61	A	-6.12			-3.24		
d	+51.9	19.19	1.27	20.46	12.50	A	7.44			4.55		
13	51.9	24.07	1.03	25.10	7.63	A	9.33			2.84		
14	51.9	27.06	0.81	27.87	8.36	.86	10.49			3.15		
15	51.9	29.07	0.61	29.68	9.38	.75	11.27			3.56		
16	51.9	31.12	0.42	31.54	9.97	.65	12.07			3.81		
17	51.9	32.80	0.22	33.02	10.43	.57	12.72			4.02		
18	51.9	33.87	0.03	33.90	10.92	.53	13.13			4.23		
19	70.5	34.48	-0.15	34.33	14.62	A	13.37			5.70		
b	57.8	32.84	-0.37	32.47	163	.78	12.74			63.9		
20	51.9	33.33	-0.62	32.71	10.50	.59	12.93			4.15		
21	51.9	30.96	-0.79	30.17	8.54	.72	12.00			3.40		
22	51.9	27.63	-0.97	26.66	6.00	.95	10.72			2.41		
23	51.9	25.42	-1.04	24.38	4.92	A	9.86	0		1.99	L	
24												

* L and N from page 41

a and b from section property table

Note: All values in thousands

PREP SEP ON 7-13-49
CHKD YSP ON 7-20-49
REVISED PAS 8-9-50



CHASE AIRCRAFT CO. INC.

WEST TRENTON, N.J.

PAGE 142
REPORT NO. 70170-3
MODEL TC-122C MS 75

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 220

CONDITION PG + F							CONDITION				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Item	P_{all}	$L \cdot a$	$E \cdot \beta$	P_{act}	P	M.S.	$L \cdot a$	$E \cdot \beta$	P_{act}	P	M.S.
	Pg.	* (11)	* (12)	(14) + (15)	(2) (16)	(3) (16)	* (11)	* (12)	(14) + (15)	(2) (16)	(3) (16)
1											
2	-32.8	-11.94	-0.66	-12.60	-2.6	A					
3	-70.0	-16.82	-0.48	-17.30	-7.5	L					
4	-70.0	-19.25	-0.31	-19.56	-8.5	L					
a	-60.0	-19.76	-0.11	-19.87	-104.5	L					
5	-37.6	-20.21	0.09	-20.12	-8.7	.86					
6	-37.6	-19.48	0.25	-19.23	-8.3	.95					
7	-37.6	-18.27	0.40	-17.87	-7.8	A					
8	-37.6	-16.77	0.56	-16.21	-7.0	A					
9	-37.6	-14.98	0.71	-14.27	-6.0	A					
10	-30.8	-13.10	0.86	-12.24	-3.7	A					
11	-28.0	-11.61	0.96	-10.65	-1.2	A					
11a											
a	-36.2	-9.74	1.04	-8.70	-4.6	L					
d	+51.9	11.84	0.94	12.78	7.8	L					
12											
13	51.9	14.85	0.76	15.61	4.7	L					
14	51.9	16.70	0.59	17.29	5.2	L					
15	51.9	17.94	0.45	18.39	5.8	A					
16	51.9	19.20	0.31	19.51	6.2	A					
17	51.9	20.24	0.17	20.41	6.4	A					
18	51.9	20.99	0.03	20.93	6.7	A					
19	70.5	21.28	-0.11	21.17	9.0	A					
a	57.8	20.27	-0.27	20.00	100.3	A					
20	51.9	20.57	-0.46	20.11	6.5	A					
21	51.9	19.10	-0.59	18.51	5.2	A					
22	51.9	17.05	-0.71	16.24	3.7	L					
23	51.9	15.60	-0.76	14.84	3.0	L					
24											

* L and β from page 75

c and β from section property table

Report all values in thousands

PREP. SRP ON 7-13-49
 CHKD. VGP ON 7-19-49
 REVISED FAS 8-9-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 143
 REPORT NO. 7017C-1
 MODEL XC-122C-MS-70

SUBJECT: DETERMINATION OF AXIAL STRESSES AND M.S. WIND STATION 220

CONDITION N1A4							CONDITION T0				
(1)	(3)	(14)	(15)	(16)	(17)	(18)	(4)	(15)	(16)	(17)	(18)
Item	Call	L. a	M. β	σ_{act}	P	M.S.	L. a	M. β	σ_{act}	P	M.S.
	Pa.	* (1)	* (2)	(4) + (1)	(2) - (16)	(3) - (14)	* (1)	* (2)	(4) + (1)	(2) - (16)	(3) - (14)
1											
2	57.8	13.75	-1.55	12.21	4.46	L	6.70	0		2.45	L
3	70.5	19.87	-1.14	18.73	11.18	L	9.69			5.78	
4	70.5	22.73	-0.76	21.97	13.80	L	11.08			6.26	
5	57.8	22.44	-0.29	22.15	13.8	A	10.94			58.6	
6	70.5	22.86	0.17	23.03	14.35	L	11.15			6.92	
6	70.5	21.35	0.53	21.88	13.06	L	10.41			6.21	
7	70.5	19.22	0.88	20.10	12.00		9.37			5.59	
8	70.5	16.78	1.23	18.01	10.75		8.18			4.88	
9	70.5	13.94	1.58	15.52	8.89		6.80			3.90	
10	57.8	10.88	1.93	12.81	5.34		5.31			2.21	
11	51.9	8.69	2.16	10.85	2.10		4.24			0.82	
11a									(14)		
a	+51.9	9.54	2.35	7.89	4.35	L	2.70			-1.49	
d	-34.5	-23.38	2.15	-21.23	-11.49	.70	-11.40			-6.17	L
12											
13	-28.0	-26.57	1.76	-24.81	-3.00	.13	-13.95			-1.57	A
14	-28.0	-28.59	1.38	-27.21	-3.29	.03	-13.94			-1.69	A
15	-32.2	-29.82	1.06	-28.76	-4.46	.12	-14.54			-2.25	
16	-32.2	-31.14	0.74	-30.40	-4.72	.06	-15.18			-2.35	
17	-32.2	-32.14	0.41	-31.73	-4.92	.01	-15.67			-2.43	
18	-36.7	-32.59	.09	-32.50	-5.23	.13	-15.89			-2.56	
19	-33.0	-32.75	-0.22	-32.57	-18.04	0	-15.97			-3.90	A
b	-60.0	-31.46	-0.59	-32.05	-259	.87	-15.34			-75.89	L
20	-36.5	-30.75	-1.00	-31.75	-3.84	.15	-14.99			-1.81	A
21	-36.5	-28.43	-1.31	-29.74	-3.60	.23	-13.86			-1.68	A
22	-36.5	-25.37	-1.60	-26.97	-3.26	.35	-12.37			-1.50	
23	-30.5	-23.80	-1.72	-25.52	-4.77	.19	-11.60	0		-2.17	A
24											

* L and B from page 38 39

a and β from section property table

Note: All values in thousands

PREP SRP ON 6-18-49
CHKD VOF ON 6-19-49
REVISED PAS 8-9-50



PAGE 144
REPORT NO. 7017C-I
MODEL TC-122C No. 7B

CHASE AIRCRAFT CO. INC.

WEST TRENTON, N.J.

SUBJECT: DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 220

CONDITION LANDING							CONDITION NG & F				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	P_{all}	L - a	M - β	F_{act}	P	M.S.	L - a	M - β	F_{act}	P	M.S.
	Pg.	* (21)	* (22)	(14) + (15)	(2) (16) (13) (16)		* (21)	* (22)	(14) + (15)	(2) (16) (13) (16)	
1											
2	57.8	1.54	0		0.56	L	2.69	.10	2.79	1.02	L
3	70.5	2.22			1.33		3.89	.07	3.96	2.36	
4	70.5	2.54			1.60		4.45	.05	4.50	2.83	
5	57.8	2.51			13.44		4.39	.02	4.41	23.62	
6	70.5	2.56			1.59		4.47	.001	4.46	2.78	
7	70.5	2.39			1.43		4.18	-.03	4.15	2.48	
8	70.5	2.15			1.28		3.76	-.06	3.70	2.21	
9	70.5	1.88			1.12		3.28	-.08	3.20	1.91	
10	70.5	1.56			0.89		2.73	-.10	2.63	1.51	
11	57.8	1.22			0.51		2.13	-.12	2.01	0.84	
11a	51.9	0.84			0.19		1.70	-.14	1.56	0.30	
12											
12a	51.9	0.62			0.34		1.08	-.15	0.93	0.51	
13	36.2	-2.61			-1.41		-4.57	-.13	-4.70	-2.54	
14	-28.0	-2.97			-0.36		-5.20	-.11	-5.31	-0.64	
15	-28.0	-3.20			-0.39		-5.59	-.09	-5.68	-0.69	
16	-32.2	-3.33			-0.52		-5.83	-.07	-5.90	-0.92	
17	-32.2	-3.48			-0.54		-6.09	-.05	-6.14	-0.95	
18	-32.2	-3.59			-0.56		-6.29	-.03	-6.32	-0.98	
19	-36.7	-3.64			-0.59		-6.38	-.01	-6.39	-1.03	
20	-33.0	-3.64			-0.89		-6.41	.01	-6.40	-1.56	
21	-60.0	-3.52			-17.41		-6.16	.04	-6.12	-30.28	
22	-36.5	-3.44			-0.42		-6.02	.06	-5.96	-0.72	
23	-36.5	-3.28			-0.38		-5.56	.08	-5.48	-0.66	
24	-36.5	-2.84			-0.34		-4.96	.10	-4.86	-0.79	
25	-30.5	-2.66	0		-0.50	L	-4.66	.11	-4.55	-0.85	
26											

* L and N from page 38, 39
a and β from section property table

Note: All values in thousands

PREP SRP ON 6-20-49
 CHKD. VGP ON 6-22-49
 REVISED PAS 8-9-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 145
 REPORT NO. 70170-1
 MODEL IN-182C MS-70

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 320

Item	CONDITION PHAA						CONDITION PLAA					
	all	L · a	H · β	f_{act}	P	M.S.	L · a	H · β	f_{act}	P	M.S.	
	Pg.	* (11)	* (12)	(14) + (15)	(2) · (16)	(13) / (16)	* (11)	* (12)	(14) + (15)	(2) · (16)	(13) / (16)	
1												
2												
3	-70.0	-26.00	-2.76	-28.76	-12.48	A	-24.00	-0.63	-24.63	-10.69	A	
4	-70.0	-31.24	-1.76	-33.00	-14.32	A	-28.84	-0.40	-29.24	-12.69	A	
5	-60.0	-32.59	-0.62	-33.21	-103.7	.81	-30.09	-0.14	-30.23	-94.4	.98	
6												
6	-37.6	-32.86	0.62	-32.24	-13.99	.17	-30.34	0.14	-30.20	-13.11	.25	
7	-37.6	-30.92	1.52	-29.40	-12.76	.28	-28.56	0.35	-28.21	-12.24	.33	
8	-37.6	-28.24	2.41	-25.83	-11.21	.46	-26.08	.55	-25.53	-11.08	.47	
9	-30.8	-25.33	3.29	-22.04	-6.99	.40	-23.39	.75	-22.64	-7.18	.36	
10	-25.2	-21.65	4.16	-17.49	-3.13	.44	-19.99	.95	-19.04	-3.41	.32	
11	-28.0	-18.49	4.74	-13.75	-1.51	A	-17.08	1.09	-15.99	-1.76	.75	
11a												
a	-34.3	-15.32	5.22	-10.10	-4.60	L	-14.15	1.20	-12.95	-5.89	A	
d	51.9	20.38	4.67	25.05	12.95	L	18.82	1.07	19.89	10.28	A	
12												
13	51.9	25.75	3.65	29.40	7.64	.77	23.78	.84	24.62	6.40	A	
14	51.9	29.15	2.67	31.82	8.05	.63	26.92	.61	27.53	6.97	.89	
15	51.9	31.19	1.84	33.03	9.05	.57	28.80	.42	29.22	8.01	.78	
16	51.9	33.19	1.02	34.21	9.37	.52	30.65	.23	30.88	8.46	.68	
17	51.9	34.68	0.20	34.88	9.56	.49	32.02	.05	32.07	8.79	.62	
18	51.9	21.59	-0.37	21.22	5.45	A	19.94	-.08	19.86	5.10	A	
19												
19	61.2	34.30	-1.51	32.79	97.12	.87	31.67	-.35	31.32	92.8	.95	
20	51.9	34.39	-2.48	31.91	9.86	.63	31.75	-.57	31.18	9.63	.66	
21	51.9	31.39	-3.24	28.15	8.16	.84	28.99	-.74	28.25	8.19	.84	
22												
23	51.9	26.62	-4.05	22.57	7.52	A	24.58	-.93	23.65	7.88	A	
24												

* L and H from page 37

Note: All values in thousands

a and β from section property table

PREP SRP ON 6-20-49
CHKD. WGP ON 6-22-49
REVISED FAS 8-9-50 (a)



CHASE AIRCRAFT CO. INC.
WEST TRENTON, N.J.

PAGE 146
REPORT NO. 7017C-1
MODEL XC-122C MS-7C

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 320

		CONDITION AIL. $\delta = 15^\circ$					CONDITION AIL. $\delta = 20^\circ$				
Item	ail	L - α	N - β	f_{act}	P	M.S.	L - α	N - β	f_{act}	P	M.S.
	Pg.	* (13)	* (12)	(14) + (15)	(2) (16)	(13) (16)	* (11)	* (12)	(14) + (15)	(2) (16)	(13) (16)
1											
2											
3	-70.0	-23.07	-.29	-23.36	-10.14	L	-6.09	0		-2.64	L
4	-70.0	-27.72	-.18	-27.90	-12.10	A	-7.32	4		-3.18	A
5	-60.0	-28.92	-.06	-28.98	-90.5	A	-7.63			-23.83	
6											
6	-37.6	-29.16	.06	-29.10	-12.63	.29	-7.70			-3.34	
7	-37.6	-27.44	.16	-27.28	-11.84	.38	-7.24			-3.14	
8	-37.6	-25.06	.25	-24.81	-10.77	.52	-6.61			-2.87	
9	-30.8	-22.48	.34	-22.14	-7.02	.39	-5.93		(11)	-1.88	
10	-25.2	-19.21	.43	-18.78	-3.36	.34	-5.07			-0.91	
11	-28.0	-16.41	.49	-15.92	-1.75	.76	-4.33			-0.58	
11a											
a	-34.3	-13.59	.54	-13.05	-5.94	A	-3.59			-1.63	
d	51.9	18.08	.49	18.57	9.60	A	4.77			2.47	
12											
13	51.9	22.85	.38	23.23	6.04	A	6.03			1.57	
14	51.9	25.87	.28	26.15	6.62	.98	6.83			1.73	
15	51.9	27.68	.19	27.87	7.64	.86	7.31			2.00	
16	51.9	29.45	.11	29.56	8.10	.76	7.77			2.13	
17	51.9	30.77	.02	30.79	8.44	.69	8.12			2.22	
18	51.9	19.16	-.04	19.12	4.89	A	5.00			1.28	
19											
19	61.2	30.44	-.16	30.28	89.7	A	8.03			23.78	
20	51.9	30.51	-.26	30.25	9.35	.72	8.06			2.49	
21	51.9	27.86	-.34	27.52	7.98	.89	7.35			2.13	
22											
23	51.9	23.62	-.42	23.20	7.73	A	6.23	0		2.07	L
24											

* L and N from page 41

a and β from section property table

Note: All values in thousands

PREP. EBP ON 6-20-49
CHKD. VGP ON 6-22-49
REVISED PAS 8-10-50



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

PAGE 147
REPORT NO. 70170-I
MODEL YC-122C MS 70

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 320

① Item	② all Pg.	CONDITION					CONDITION				
		③ L. a	④ H. β	⑤ f _{act}	⑥ P	⑦ M.S.	⑧ L. a	⑨ N. β	⑩ f _{act}	⑪ P	⑫ M.S.
		* ⑬	* ⑭	⑬ + ⑭	⑮	⑯	* ⑰	* ⑱	⑰ + ⑱	⑲	⑲ + ⑳
1											
2											
3	-70.0	-11.59	-.58	-12.17	-5.3	L					
4	-70.0	-13.93	-.37	-14.30	-6.2	L					
a	-60.0	-14.93	-.13	-14.66	-45.8	L					
5											
6	-37.6	-14.65	.13	-14.52	-6.3	A					
7	-37.6	-13.79	.32	-13.47	-5.8	A					
8	-37.6	-12.59	.50	-12.09	-5.2	L					
9	-30.8	-11.30	.69	-10.61	-3.4	A					
10	-25.2	-9.65	.87	-8.78	-1.6	A					
11	-28.0	-8.25	.99	-7.26	-0.8	L					
11a											
a	-34.3	-6.83	1.09	-5.74	-2.6	L					
d	51.9	9.09	.97	10.06	5.2						
12											
13	51.9	11.48	.76	12.24	3.2						
14	51.9	13.00	.56	13.56	3.4						
15	51.9	13.91	.38	14.29	3.9						
16	51.9	14.80	.21	15.01	4.1						
17	51.9	15.46	.04	15.50	4.2						
18	51.9	9.63	-.08	9.55	2.5						
19											
b	61.2	15.30	-.31	14.99	44.4						
20	51.9	15.34	-.52	14.82	4.6						
21	51.9	14.00	-.68	13.32	3.9						
22											
23	51.9	11.87	-.84	11.03	3.7	L					
24											

* L and N from page 38
a and β from section property table

Note: All values in thousands

PREP. SRP ON 6-20-49

CHKD. VGP ON 6-22-49

REVISED PAS 8-10-50 CHASE AIRCRAFT CO. INC.

WEST TRENTON, N.J.

PAGE 147

REPORT NO. 70-70-1

MODEL VC-12-C MS-70

SUBJECT: DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 320

		CONDITION					CONDITION				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Item	P_{all}	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.
	Pg.	* (11)	* (12)	(14) + (15)	(2) - (16)	(13) / (16)	* (11)	* (12)	(14) + (15)	(2) - (16)	(13) / (16)
1											
2											
3	-70.0	-11.59	-.58	-12.17	-5.3	L					
4	-70.0	-13.93	-.37	-14.30	-6.2	L					
a	-60.0	-14.93	-.13	-14.66	-45.8	L					
5											
6	-37.6	-14.65	.13	-14.52	-6.3	A					
7	-37.6	-13.79	.32	-13.47	-5.8	A					
8	-37.6	-12.59	.50	-12.09	-5.2	L					
9	-30.8	-11.30	.69	-10.61	-3.4	A					
10	-25.2	-9.65	.87	-8.78	-1.6	A					
11	-28.0	-8.25	.99	-7.26	-0.8	L					
11a											
a	-34.3	-6.83	1.09	-5.74	-2.6	L					
d	51.9	9.09	.97	10.06	5.2						
12											
13	51.9	11.48	.76	12.24	3.2						
14	51.9	13.00	.56	13.56	3.4						
15	51.9	13.91	.38	14.29	3.9						
16	51.9	14.80	.21	15.01	4.1						
17	51.9	15.46	.04	15.50	4.2						
18	51.9	9.63	-.08	9.55	2.5						
19											
b	61.2	15.30	-.31	14.99	44.4						
20	51.9	15.34	-.52	14.82	4.6						
21	51.9	14.00	-.68	13.32	3.9						
22											
23	51.9	11.87	-.84	11.03	3.7	L					
24											

* L and N from page 38
 α and β from section property table

Note: All values in thousands

PREP BRP ON 6-20-49
CHKD VGP ON 6-22-49
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CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 320

① Item	CONDITION NLAA						CONDITION TAKE-OFF				
	② F _{all}	③ L-α	④ N-β	⑤ F _{act}	⑥ P	⑦ M.S.	⑧ L-α	⑨ N-β	⑩ F _{act}	⑪ P	⑫ M.S.
	Pg.	* ⑬	* ⑭	⑮ + ⑯	⑰	⑱/⑲	* ⑳	* ㉑	㉒ + ㉓	㉔	㉕
1											
2											
3	70.5	15.46	-.99	14.47	8.64	L	8.03	0		4.79	L
4	70.5	19.20	-.66	18.54	11.49	L	9.97			8.18	L
a	61.2	19.48	-.27	19.21	62.76	L	10.12			33.06	
5											
6	70.5	19.72	.15	19.87	12.58	L	10.24			6.48	
7	70.5	17.91	.46	18.37	10.97	L	9.30			5.55	
8	70.5	15.63	.77	16.40	9.79	L	8.12			4.85	
9	57.8	13.18	1.00	14.25	6.67	L	6.84			3.20	
10	57.8	10.17	1.37	11.54	3.35	L	5.28			1.53	
11	51.9	7.69	1.57	9.26	1.80	L	3.99			.77	
11a											
a	51.9	4.74	1.73	6.47	3.09	L	2.46			1.17	L
6	-34.3	-21.92	1.56	-20.36	-9.26	.68	-11.38			-5.18	L
12											
13	-28.0	-25.13	1.22	-23.91	-2.63	.17	-13.05			-1.44	a
14	-28.0	-27.44	.89	-26.55	-2.92	.05	-14.25			-1.57	.96
15	-32.2	-28.75	.61	-28.14	-4.02	.14	-14.93			-2.13	A
16	-32.2	-30.01	.33	-29.68	-4.24	.08	-15.58			-2.23	A
17	-32.2	-30.90	.05	-30.85	-4.41	.04	-16.05			-2.30	A
18	-20.3	-19.09	-.14	-19.23	-2.15	.06	9.91			-1.10	A
19											
a	-60.0	-30.73	-.54	-31.27	-89.96	.92	-15.96			-45.89	L
20	-36.5	-29.87	-.86	-30.73	-3.72	.19	-15.51			-1.88	A
21	-36.5	-27.44	-1.12	-28.56	-3.46	.28	-14.25			-1.72	A
22											
23	-30.5	-24.04	-1.41	-25.45	-4.76	.20	-12.48	0		-2.33	A
24											

* L and N from page 38, 39
α and β from section property table

Note: All values in thousands

PREP. SRP ON 6-20-49
 CHKD. VGP ON 6-22-49
 REVISED FAS 8-10-50



CHASE AIRCRAFT CO. INC.

WEST TRENTON, N.J.

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SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WIND STATION 120

CONDITION LANDING							CONDITION NO. 2 F				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	P_{all}	$L \cdot \alpha$	$H \cdot \beta$	F_{ant}	F	M.S.	$L \cdot \alpha$	$H \cdot \beta$	F_{ant}	F	M.S.
	P_R	* (1)	* (2)	(3) + (4)	(5) - (6)	(7) / (8)	* (1)	* (2)	(3) + (4)	(5) - (6)	(7) / (8)
1											
2											
3	70.5	1.59	0		-0.95	L	4.26	-.25	4.01	2.39	
4	70.5	1.97			1.22		5.29	-.16	5.13	3.18	
5	61.2	2.00			6.53		5.37	-.07	5.30	17.32	
6	70.5	2.02			1.28		5.44	.04	5.48	3.47	
7	70.5	1.84			1.10		4.94	.15	5.09	1.02	
8	70.5	1.60			.96		4.31	.19	4.50	2.69	
9	57.8	1.35			.63		3.63	.27	3.90	1.83	
10	57.8	1.04			.30		2.80	.34	3.14	.91	
11	51.9	.79		(2)	.15		2.12	.39	2.51	.49	
11a				SAME AS 20 IN 21							
a	51.9	.49			.23		1.31	.43	1.74	.83	
d	-34.3	-2.25			-1.02		-6.04	.39	-5.65	-2.57	
12											
13	-28.0	-2.58			-.28		-6.93	.31	-6.62	-.73	
14	-28.0	-2.81			-.31		-7.56	.22	-7.34	-.81	
15	-32.2	-2.95			-.42		-7.92	.15	-7.77	-1.11	
16	-32.2	-3.08			-.44		-8.27	.08	-8.19	-1.17	
17	-32.2	-3.17			-.45		-8.52	.01	-8.51	-1.24	
18	-20.3	-1.96			-.22		-5.26	-.04	-5.30	-.68	
19											
b	-60.0	-3.15			-.01		-8.47	-.13	-8.60	-2.73	
20	-36.5	-3.06			-.37		-7.23	-.22	-7.45	-1.02	
21	-36.5	-2.81			-.34		-7.56	-.28	-7.84	-.95	
22											
23	-30.5	-2.47	0		-.46	L	-6.63	-.35	-6.98	-1.21	L
24											

* L and H from page 38, 39

 α and β from section property table

Note: All values in thousands

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MODEL XC-122C MS- 70

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 400

CONDITION PHAA							CONDITION PLAA					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Item	all	L - α	H - β	σ_{act}	P	M.S.	L - α	H - β	σ_{act}	P	M.S.	
Fig.	* (1)	* (2)	(4) + (5)	(2) - (6)	(3) / (6)		* (1)	* (2)	(4) + (5)	(2) - (6)	(3) / (6)	
1												
2												
3	-43.8	-17.97	-1.52	-18.49	-6.1	Ample	-16.31	-.45	-16.76	-5.5	Ample	
4	-43.8	-22.96	-.97	-23.93	-7.9	.83	-20.85	-.28	-21.13	-7.0	Ample	
5	-60.0	-24.16	-.37	-24.53	-11.3	Ample	-21.94	-.11	-22.05	-37.1	Ample	
6												
6	-39.1	-24.24	-.06	-24.30	-5.0	.61	-22.01	-.02	-22.03	-4.5	.54	
7	-34.0	-23.39	.43	-22.96	-9.4	.48	-21.24	.13	-21.11	-8.7	.61	
8	-29.1	-21.92	.93	-20.99	-6.4	.39	-19.91	.27	-19.64	-6.0	.48	
9	-29.1	-19.69	1.41	-18.28	-5.6	.59	-17.88	.41	-17.47	-5.3	.67	
10	-24.3	-17.03	1.88	-15.15	-2.7	.60	-15.47	.55	-14.92	-2.7	.63	
11	-27.0	-14.49	2.20	-12.29	-1.4	Ample	-13.16	.65	-12.51	-1.4	Ample	
11a												
11b	-31.5	-12.03	2.45	-9.58	-3.8	Large	-10.93	.72	-10.21	-4.1	Large	
12	51.9	13.29	2.17	15.46	7.2	Large	12.07	.64	12.71	5.9	Large	
13	51.9	17.57	1.59	19.16	5.0	Ample	15.95	.47	16.42	4.3	Large	
14	51.9	20.25	1.06	21.31	5.4	Ample	18.39	.31	18.70	4.7	Ample	
15	51.9	22.29	.60	22.89	5.5	Ample	20.24	.18	20.42	4.9	Ample	
16	51.9	23.50	.15	23.65	6.5	Ample	21.34	.05	21.39	5.9	Ample	
17	51.9	24.58	-.22	24.29	7.3	Ample	22.32	.09	22.41	6.7	Ample	
18												
19												
19a	61.2	23.93	-.86	23.07	38.0	Ample	21.73	.25	21.98	36.2	Ample	
20	51.9	23.59	-1.34	22.25	5.7	Ample	21.42	.40	21.82	5.5	Ample	
21	51.9	21.26	-1.75	19.51	4.4	Ample	19.31	.52	19.83	4.5	Ample	
22												
23	51.9	18.64	-2.10	16.54	4.9	Large	16.93	.62	17.55	5.2	Ample	
24												

* L and H from page 37

Note: All values in thousands

α and β from section property table

PREP. VGP ON 6-14-49
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CHASE AIRCRAFT CO., INC.

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SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 400

		CONDITION AILERON $\delta = 15^\circ$						CONDITION AILERON $\delta = 20^\circ$					
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)		
Item	F_{all}	$L \cdot \alpha$	$N \cdot \beta$	F_{act}	P	M.S.	$L \cdot \alpha$	$N \cdot \beta$	F_{act}	P	M.S.		
	Pg.	* (11)	* (12)	(14) + (15)	(2) - (16)	(13) / (18)	* (11)	* (12)	(4) + (15)	(2) - (16)	(13) / (18)		
1													
2													
3	-43.8	-16.73	-.09	-16.82	-5.6	Ample	-3.51	0		-1.2	Large		
4	-43.8	-21.38	-.06	-21.44	-7.1	Ample	-4.49			-1.5			
5	-60.0	-22.49	-.02	-22.51	-37.9	Ample	-4.72			-7.9			
6	-37.1	-22.57	-0	-22.57	-4.6	.74	-4.74			-1.0			
7	-34.0	-21.77	.03	-21.74	-8.9	.56	-4.57			-1.9			
8	-29.1	-20.41	.05	-20.36	-6.2	.43	-4.28			-1.3			
9	-29.1	-18.33	.08	-18.25	-5.6	.59	-3.85			-1.2			
10	-24.3	-15.86	.11	-15.75	-2.8	.54	-3.33			-.6			
11	-27.0	-13.49	.13	-13.36	-1.5	Ample	-2.83			-.3			
11a													
a	-31.2	-11.20	.14	-11.06	-4.4	Ample	-2.35		(70) 1000000 8 1/2 1/2 1/2	-.9			
d	51.9	12.38	.13	12.51	-5.8	Large	2.60			1.2			
12													
13	51.9	16.35	.09	16.44	4.3	Large	3.43			.9			
14	51.9	18.86	.06	18.92	4.8	Ample	3.96			1.0			
15	51.9	20.75	.04	20.79	5.0	Ample	4.36			1.1			
16	51.9	21.88	.01	21.89	6.0	Ample	4.59			1.3			
17	51.9	22.88	-.02	22.86	6.9	Ample	4.80			1.4			
18													
19													
a	61.2	22.28	-.05	22.23	36.6	Ample	4.68			7.7			
20	51.9	21.97	-.08	21.89	5.6	Ample	4.61			1.2			
21	51.9	19.80	-.10	19.70	4.5	Ample	4.15			.9			
22													
23	51.9	17.36	-.12	17.24	5.1	Large	3.64	0		1.1	Large		
24													

* L and N from page 41

α and β from section property table

Note: All values in thousands

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CHKD. SRP ON 6-15-49
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CHASE AIRCRAFT CO., INC.

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SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 400

		CONDITION PG + P						CONDITION					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Item	P_{all}	$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.		$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.	
	Pg.	* (11)	* (12)	(14) + (15)	(2) (16)	(13) (16)		* (11)	* (12)	(14) + (15)	(2) (16)	(13) (16)	
1													
2													
3	- 43.8	-7.23	-.45	-4.68	-2.5	Large							
4	- 43.8	-9.24	-.28	-9.52	-3.1								
a	- 60.0	-9.72	-.11	-9.83	-16.6								
5													
6	- 19.1	-9.75	-.02	-9.77	-2.0								
7	- 34.0	-9.41	.13	-9.28	-3.8								
8	- 29.1	-8.82	.27	-8.55	-2.6								
9	- 29.1	-7.92	.41	-7.51	-2.3								
10	- 24.3	-6.85	.55	-6.30	-1.1								
11	- 27.0	-5.83	.65	-5.18	-0.6								
11a													
c	- 31.5	-4.84	.72	-4.12	-1.6								
d	51.9	5.35	.64	5.99	2.8								
12													
13	51.9	7.07	.47	7.54	2.0								
14	51.9	8.15	.31	8.46	2.1								
15	51.9	9.00	.18	9.18	2.2								
16	51.9	9.45	.05	9.50	2.6								
17	51.9	9.89	-.09	9.80	2.9								
18													
19													
b	61.2	9.63	-.25	9.38	15.4								
20	51.9	9.49	-.40	9.09	2.3								
21	51.9	8.55	-.52	8.03	1.8								
22													
23	51.9	7.50	-.62	6.88	2.0	Large							
24													

* L and N from page 30
a and β from section property table

Note: All values in thousands

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CHASE AIRCRAFT CO. INC.
WEST TRENTON, N.J.

SUBJECT: DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 400

		CONDITION NLAA					CONDITION TO				
①	③	④	⑤	⑥	⑦	⑧	④	⑤	⑥	⑦	⑧
Item	Cell	L · α	N · β	F _{act}	P	M.S.	L · α	N · β	F _{act}	P	M.S.
	Pg.	* ⑪	* ⑫	④ + ⑤	② - ⑥	③ / ⑧	* ⑪	* ⑫	④ + ⑤	② - ⑥	③ / ⑧
1											
2											
3	57.8	10.36	-.75	9.61	4.7	Large	3.61	0		1.8	Large
4	57.8	14.50	-.49	14.01	7.1	Large	5.05			2.6	
5	61.2	15.05	-.21	14.84	26.2	Ample	5.24			9.2	
6											
6	70.5	15.54	-.06	15.48	5.0	Large	5.41			1.8	
7	70.5	14.57	.18	14.75	8.1		5.08			2.8	
8	57.8	13.26	.41	13.67	6.1		4.62			2.0	
9	57.8	13.29	.64	11.97	5.3		3.93			1.7	
10	57.8	9.01	.87	9.88	2.9		3.14			.9	
11	51.9	6.90	1.02	7.92	1.5		2.40			.5	
11a											
a	51.9	4.34	1.14	5.48	2.3	Large	1.51			.6	
a	-31.5	-16.81	1.00	-15.81	-6.3	.99	-5.86			-2.3	
12											
13	-27.0	-19.79	.73	-19.06	-2.1	Large	-6.90			-.8	
14	-27.0	-21.99	.47	-21.52	-2.4		-7.66			-.8	
15	-27.0	-23.62	.25	-23.37	-2.6		-8.23			-.9	
16	-31.2	-24.57	.04	-24.53	-3.5		-8.56			-1.2	
17	-31.2	-25.32	-.17	-25.49	-3.6	Large	-8.82			-1.3	
18											
19											
b	-60.0	-25.34	-.44	-25.78	-39.5	Ample	28.83			-13.5	
20	-36.3	-24.37	-.67	-25.04	-2.8	Large	-8.49			-.9	
21	-36.3	-22.39	-.87	-23.26	-2.6		-7.80			-.9	Large
22											
23	-29.8	-20.59	-1.03	-21.62	-3.8	Large	-7.18	0		-1.3	
24											

* L and N from page 38, 39

α and β from section property table

Note: All values in thousands

PREP VOP
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SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 400

		CONDITION LANDING					CONDITION NG & F				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Item	F_{all}	$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.
	Pg.	* - (11)	* - (12)	(14) + (15)	(2) - (16)	(13) / (16)	* - (13)	* - (12)	(14) + (15)	(2) - (16)	(13) / (16)
1											
2											
3	57.8	1.26	0	1.26	.6	Large	3.61	-.38	3.23	1.6	Large
4	57.8	1.76		1.76	.9		5.05	-.24	4.81	2.5	
a	61.2	1.82		1.82	3.2		5.24	-.10	5.14	9.1	
5											
6	70.5	1.88		1.88	.6		5.41	-.03	5.38	1.7	
7	70.5	1.77		1.77	1.0		5.08	.09	5.17	2.8	
8	57.8	1.61		1.61	.7		4.62	.21	4.83	2.1	
9	57.8	1.37		1.37	.6		3.93	.32	4.25	1.9	
10	57.8	1.09		1.09	.3		3.14	.43	3.57	1.0	
11	51.9	.84		.84	.2		2.40	.51	2.91	.6	
11a											
a	51.9	.53		.53	.2		1.51	.57	2.08	.2	
d	-31.5	-2.04		-2.04	-.8		-5.86	.50	-5.36	-2.1	
12											
13	-27.0	-2.40		-2.40	-.3		-6.90	.36	-6.54	-.7	
14	-27.0	-2.67		-2.67	-.3		-7.66	.24	-7.42	-.8	
15	-27.0	-2.86		-2.86	-.3		-8.23	.13	-8.10	-.9	
16	-31.2	-2.98		-2.98	-.4		-8.56	.02	-8.54	-1.2	
17	-31.2	-3.07		-3.07	-.4		-8.82	-.09	-8.91	-1.3	
18											
19											
b	-60.0	-3.07		-3.07	-4.7		-8.83	-.22	-9.05	-19.9	
20	-36.3	-2.95		-2.95	-.3		-8.49	-.34	-8.83	-3.0	
21	-36.3	-2.71		-2.71	-.3		-7.80	-.43	-8.23	-.9	
22											
23	-29.8	-2.50	0	-2.50	-.4	Large	-7.28	-.52	-7.70	-1.3	Large
24											

* L and N from page 30, 31

a and β from section property table

Note: All values in thousands

PREP SRP ON 7-16-49
 CHKD VGP ON 7-18-49
 REVISED PAS 8-14-50 @



CHASE AIRCRAFT CO., INC.

WEST TRENTON, NJ

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 MODEL YC-122C MS- 70

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 463

CONDITION PHAA							CONDITION PLAA				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	f_{all}	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.
Pg.	* (11)	* (12)	(14) + (15)	(2) (16)	(13) (16)	(13) (16)	* (11)	* (12)	(14) + (15)	(2) (16)	(13) (16)
1											
2											
3	-43.8	-10.80	-.41	-11.21	-3.44	L	-8.64	-.13	-8.77	-2.68	L
4	-43.8	-14.74	-.26	-15.00	-4.60	A	-11.79	-.09	-11.88	-3.64	L
5	-60.0	-16.00	-.11	-16.11	-12.90	L	-12.80	-.04	-12.84	-10.28	L
6											
7	-34.0	-15.29	.02	-15.27	-6.28	A	-12.23	.01	-12.22	-5.03	A
8	-29.1	-14.44	.15	-14.29	-4.37	A	-11.55	.05	-11.50	-3.52	A
9	-29.1	-12.80	.27	-12.53	-3.84	A	-10.24	.09	-10.15	-3.10	A
10	-24.3	-10.97	.39	-10.58	-1.89	A	-8.77	.13	-8.64	-1.55	A
11	-27.0	-8.88	.47	-8.41	-0.92	L	-7.10	.16	-6.94	-0.76	L
11a											
a	-29.8	-7.45	.54	-6.91	-2.44	L	-5.96	.18	-5.78	-2.04	L
a	51.9	8.61	.48	9.09	3.80		66.89	.16	7.05	2.96	
12											
13	51.9	11.21	.33	11.54	3.04		8.97	.11	9.08	2.40	
14	51.9	13.01	.19	13.20	3.34		10.40	.06	10.46	2.64	
15	51.9	14.29	.08	14.37	3.46		11.43	.03	11.46	2.76	
16	51.9	15.20	-.04	15.16	4.44		12.16	-.01	12.15	3.56	
17											
18											
19											
b	61.2	15.19	-.22	14.97	14.00		12.15	-.07	12.08	11.27	
20	51.9	14.36	-.34	14.02	3.48		11.48	-.11	11.37	2.82	
21	51.9	12.58	-.44	12.14	2.59		10.07	-.19	9.92	2.11	
22											
23	51.9	11.58	-.51	11.07	2.44	L	9.27	-.17	9.10	2.00	L
24											

* L and N from page 37

α and β from section property table

Note: All values in thousands

PREP SRP ON 7-17-49
CHKD. VGP ON 7-18-49
REVISED PAS 8-14-50 (8)



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CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 463

		CONDITION AILERON $\delta = 15^\circ$					CONDITION AILERON $\delta = 20^\circ$				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Item	ail	L · α	M · β	f_{act}	P	M.S.	L · α	M · β	f_{act}	P	M.S.
	Pl.	* (1)	* (2)	(3) + (4)	(5) - (6)	(7) / (8)	* (1)	* (2)	(3) + (4)	(5) - (6)	(7) / (8)
1											
2											
3	-43.8	+9.72	0		-2.98	L	-2.16	0		-.66	L
4	-43.8	-13.27			-4.05	L	-2.95			-.90	
5	-60.0	-14.40			-11.50	L	-3.20			-2.56	
6											
7	-34.0	-13.76			-5.68	A	-3.06			-1.25	
8	-29.1	-13.00			-3.98	A	-2.89			-.89	
9	-29.1	-11.52			-3.52	A	-2.56			-.78	
10	-24.3	-9.87		(11)	-1.77	A	-2.19		(11)	-.39	
11	-27.0	-7.99			-0.88	L	-1.78			-.20	
11a											
a	-29.5	-6.71			-2.36	L	-1.49			-0.53	
d	51.9	7.75			3.24		1.72			0.72	
12											
13	51.9	10.09			2.66		2.24			0.59	
14	51.9	11.70			2.96		2.60			0.66	
15	51.9	12.86			3.10		2.86			0.69	
16	51.9	13.68			4.00		3.04			0.89	
17											
18											
19											
b	61.2	13.67			12.72		3.04			2.84	
20	51.9	12.92			3.20		2.87			0.71	
21	51.9	11.32			2.41		2.52			0.54	
22											
23	51.9	10.42	0		2.30	L	2.32	0		0.51	L
24											

* L and N from page 41

Note: All values in thousands

α and β from section property table

PREP. SRP ON 6-17-40CHKD. VGP ON 6-18-49REVISED PAS 8-15-50 (a)

CHASE AIRCRAFT CO., INC.

WEST TREMONT, N.J.

PAGE 15-7REPORT NO. 7017C-IMODEL YC-122C MS-7CSUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 463

		CONDITION					CONDITION				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	P_{all}	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot \alpha$	$N \cdot \beta$	f_{act}	P	M.S.
	Pg.	* (11)	* (12)	(14) + (15)	(2) (16)	(13) (16)	* (11)	* (12)	(14) + (15)	(2) (16)	(13) (16)
1											
2											
3	-43.8	-2.52	-.27	-2.79	-0.9	L					
4	-43.8	-3.43	-.17	-3.60	-1.1						
a	-60.0	-3.73	-.07	-3.80	-3.04						
5											
6											
7	-34.0	-3.57	.01	-3.56	-1.46						
8	-29.1	-3.37	.10	-3.27	-1.00						
9	-29.1	-2.99	.18	-2.81	-0.86						
10	-24.3	-2.54	.26	-2.28	-0.41						
11	-27.0	-2.07	.31	-1.96	-0.22						
11a											
a	-29.9	-1.74	.36	-1.38	-0.49						
d	51.9	2.01	.31	2.32	0.97						
12											
13	51.9	2.62	.21	2.83	0.75						
14	51.9	3.03	.13	3.16	0.80						
15	51.9	3.33	.05	3.38	0.81						
16	51.9	3.55	-.03	3.52	1.03						
17											
18											
19											
b	61.2	3.54	-.15	3.39	3.16						
20	51.9	3.45	-.22	3.23	0.80						
21	51.9	2.94	-.29	2.65	0.56						
22											
23	51.9	2.70	-.34	2.36	0.52	L					
24											

* L and N from page 38
 α and β from section property table

Note: All values in thousands

PREP SRP ON 6-16-49
CHKD VGP ON 6-18-49
REVISED PAS 8-16-50



CHASE AIRCRAFT CO., INC.

WEST JACKSON, ALA.

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MODEL VC-122C MS. 7B

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 463

CONDITION N/A							CONDITION TO				
①	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
Item	P _{all}	L · α	H · β	P _{act}	P	M.S.	L · α	H · β	P _{act}	P	M.S.
	Pg.	* · ⑪	* · ⑫	⑭ + ⑮	⑯ · ⑰	⑱ · ⑲	* · ⑪	* · ⑫	⑭ · ⑮	⑯ · ⑰	⑱ · ⑲
1											
2											
3	57.8	5.72	-.55	5.17	2.29	L	.46	0		.21	L
4	57.8	9.68	-.36	9.32	4.21		.77			.35	
a	61.2	10.80	-.16	10.64	9.90		.86			.80	
5											
6											
7	70.5	10.40	.02	10.42	5.71		.83			.46	
8	57.8	9.65	.19	9.84	4.35		.77			.34	
9	57.8	8.12	.35	8.47	3.75		.65			.29	
10	57.8	6.44	.52	8.96	2.02		.51			.15	
11	51.9	4.51	.62	5.13	1.00		.36			.07	
11a											
a	51.9	2.76	.71	3.47	1.30	L	.22			.08	
d	-29.8	-12.92	.60	-12.32	-4.35	A	-1.03			-.36	
12											
13	-27.0	-15.08	.40	-14.68	-1.61	.84	-1.20			-.13	
14	-27.0	-16.96	.22	-16.74	-1.84	.61	-1.36			-.15	
15	-27.0	-18.30	.06	-18.24	-2.00	.48	-1.46			-.16	
16	-27.0	-19.19	-.10	-19.29	-2.12	.40	-1.54			-.17	
17											
18											
19											
b	-60.0	-19.80	-.35	-20.15	-25.67	L	-1.58			-1.23	
20	-36.3	-18.62	-.50	-19.12	-2.10	.90	-1.49			-.16	
21	-36.3	-17.03	-.64	-17.67	-1.94	A	-1.36			-.15	
22											
23	-29.8	-16.57	-.73	-17.30	-2.84	.72	-1.33	0		-0.22	L
24											

* L and N from page 38, 39
α and β from section property table

Note: All values in thousands

PREP. SRP ON 6-16-49
CHKD. VGP ON 6-18-49
REVISED PAS 8-16-50 @



CHASE AIRCRAFT CO., INC.

WEST TRENTON, N.J.

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MODEL R-122E-10-71

SUBJECT DETERMINATION OF AXIAL STRESSES AND M.S. WING STATION 463

CONDITION LANDING							CONDITION NO. 6 F				
(1)	(13)	(14)	(15)	(16)	(17)	(18)	(14)	(15)	(16)	(17)	(18)
Item	P_{all}	$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.	$L \cdot a$	$N \cdot \beta$	f_{act}	P	M.S.
	Eq.	* (11)	* (12)	(14) + (15)	(2) (16)	(3) (18)	* (11)	* (12)	(14) + (15)	(2) (16)	(3) (18)
1											
2											
3	57.8	0.69	0		0.30	L	2.29	-.14	2.15	0.95	L
4	57.8	1.16			0.53		3.87	-.09	3.78	2.71	
5	61.2	1.30			1.21		4.32	-.04	4.28	3.98	
6	—										
7	70.5	1.25			0.69		4.15	.02	4.17	2.29	
8	57.8	1.16			0.51		3.86	.05	3.91	1.73	
9	57.8	0.97			0.43		3.25	.09	3.34	1.48	
10	57.8	0.77			0.22		2.58	.13	2.71	0.78	
11	51.9	0.54		(11)	0.11		1.81	.15	1.97	0.39	
11a				SAME AS COLUMN # 11							
11b	51.9	0.33			.12		1.10	.18	1.28	0.18	
11c	20.5	-1.55			-.55		-5.17	.15	-5.02	-2.77	
12											
13	-27.0	-1.81			-.20		-6.03	.10	-5.93	-.65	
14	-27.0	-2.04			-.22		-6.79	.05	-6.74	-.74	
15	-27.0	-2.20			-.24		-7.32	.01	-7.31	-.81	
16	-27.0	-2.30			-.25		-7.68	-.02	-7.70	-.85	
17											
18											
19											
20	-60.0	-2.38			-1.85		-7.92	-.08	-8.00	-6.21	
21	-36.3	-2.23			-.25		-7.65	.12	-7.57	-.83	
22	-36.3	-2.04			-.22		-6.81	-.16	-6.97	-.77	
23	-29.8	-1.99	0		-.33	L	-6.63	-.18	-6.81	-1.12	
24											

* L and N from page 32 39

α and β from section property table

Note: All values in thousands