

QCX
AVRO
CF105
MISC-
43

Prologue
Tom Dugelby
Productions

AVRO ARROW

GENERAL INFORMATION

NRC - CISTI
J. H. PARKIN
BRANCH

JUN 29 1995

ANNEXE
J. H. PARKIN
CNRC - ICIST



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TO THE PARTIAL LIBRARY
WITH MY BEST WISHES.

Love Duggerby
1995

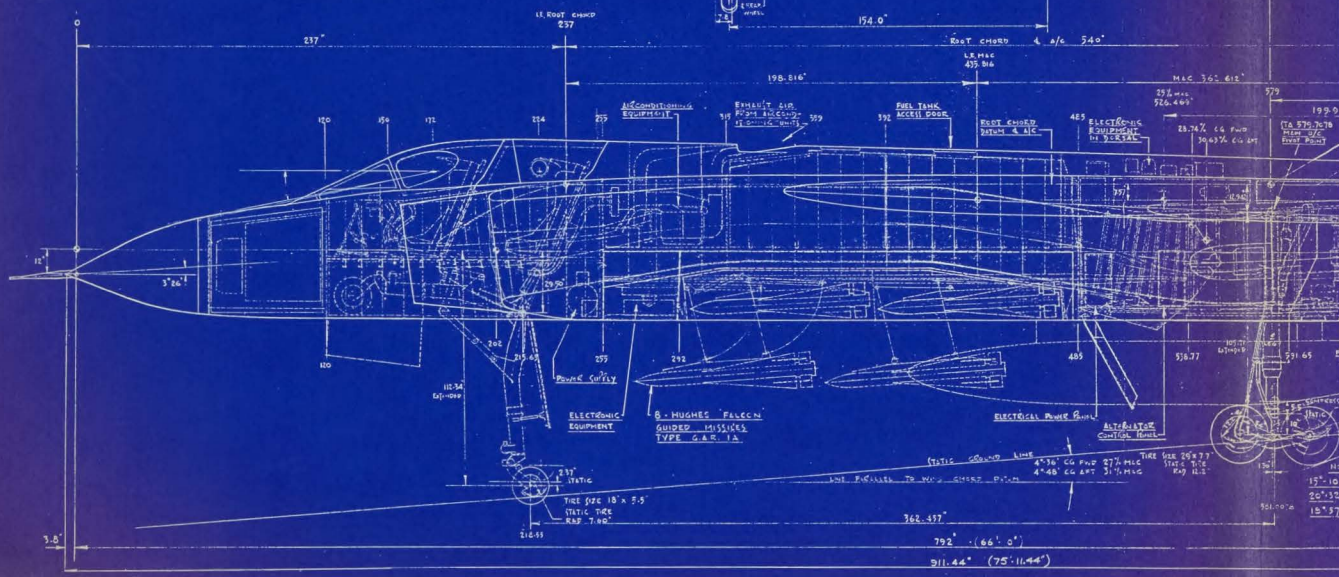
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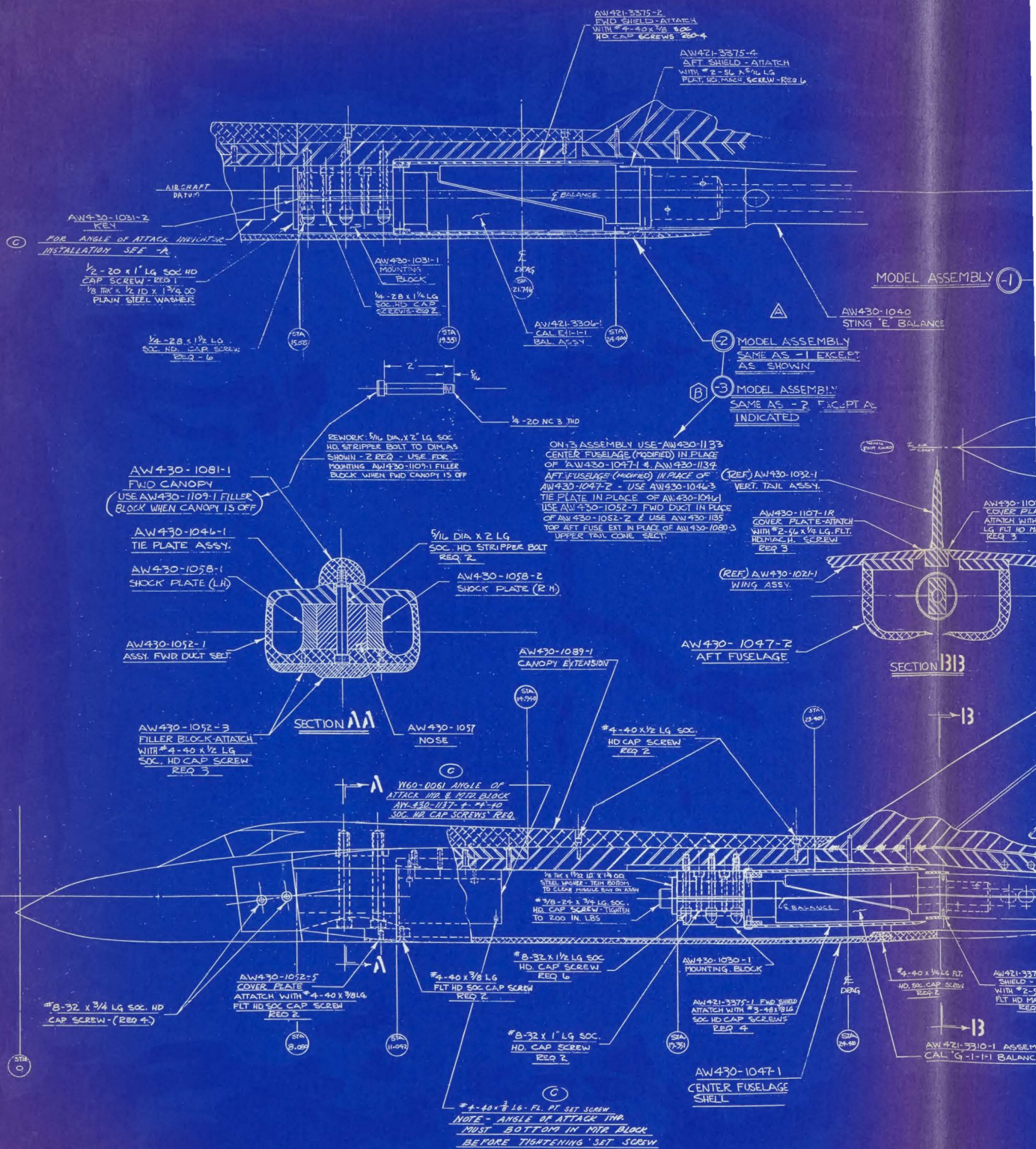
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Fig (ID 4)

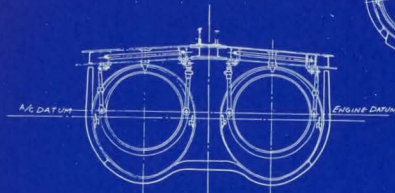
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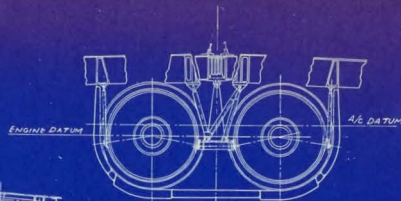




SECTION THRU ARMAMENT BAY



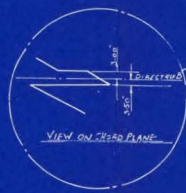
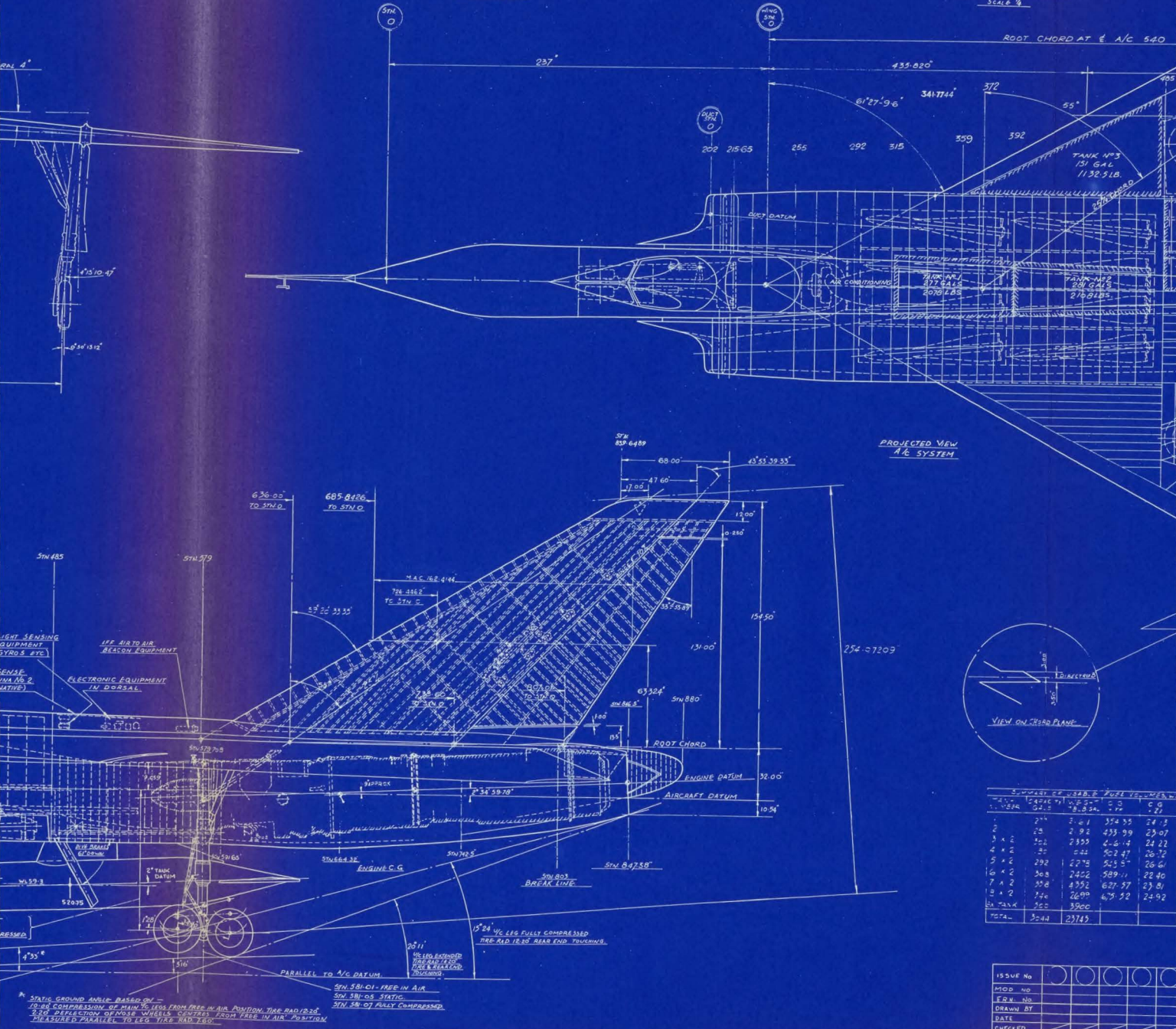
SECTION THRU ENGINE BAY
VIEW LOOKING FWD



SECTION THRU FWD ENGINE BAY
VIEW LOOKING AFT



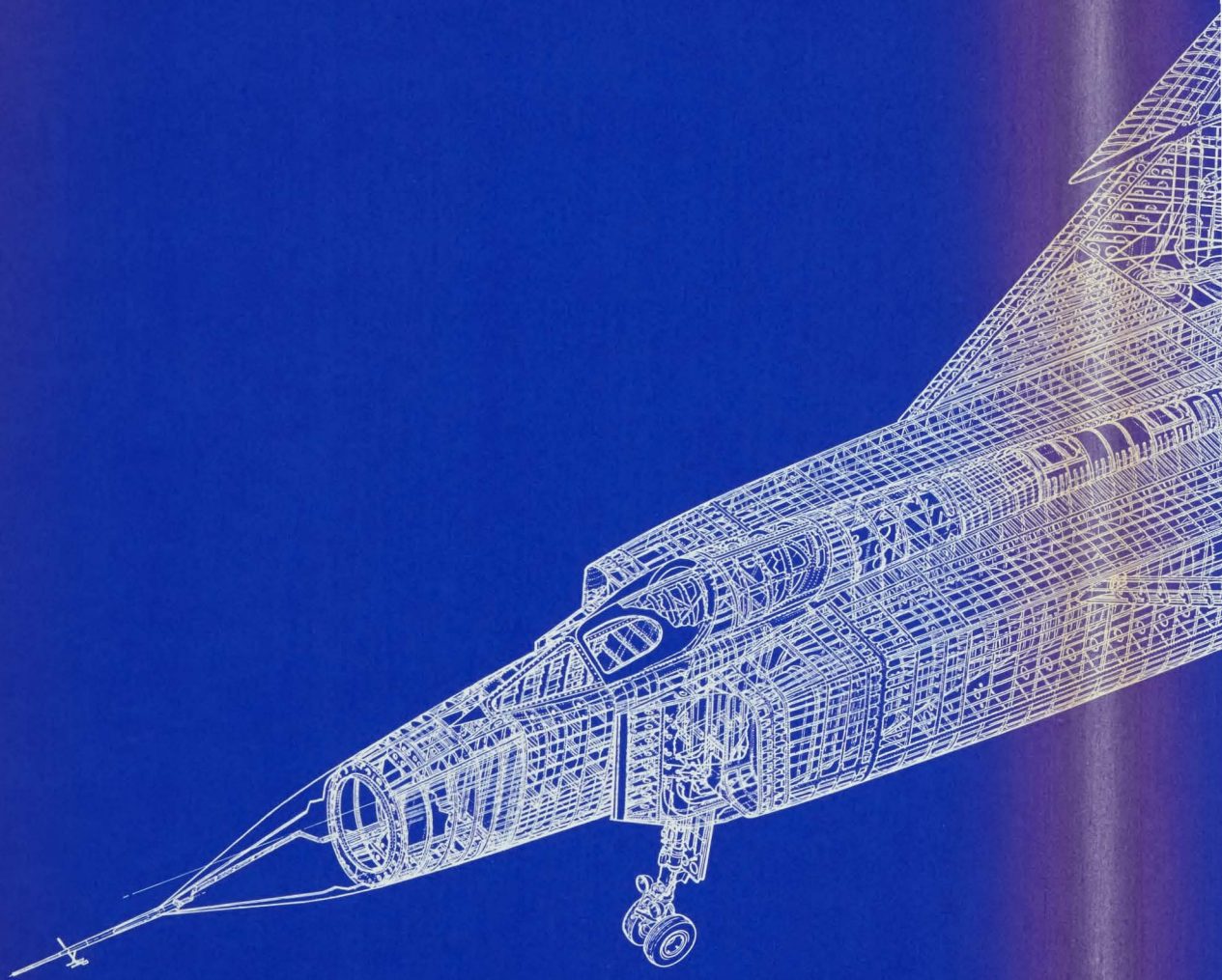
VIEW LOOKING AFT
SHOWING PARACHUTE DOOR & BOX
SCALE 1/4



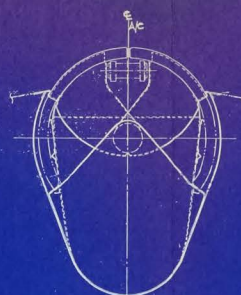
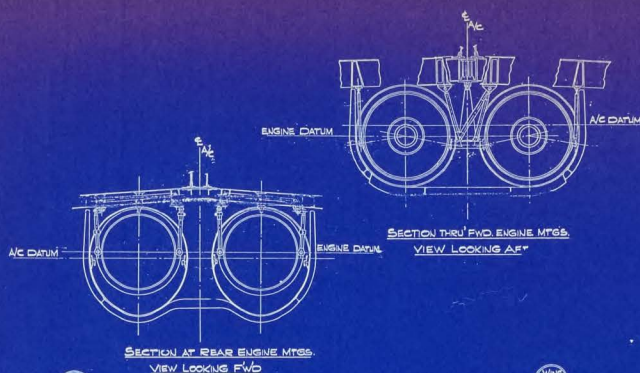
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ISSUE NO.	
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REV. NO.	
DRAWN BY	
DATE	
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CONTRACT APP.	

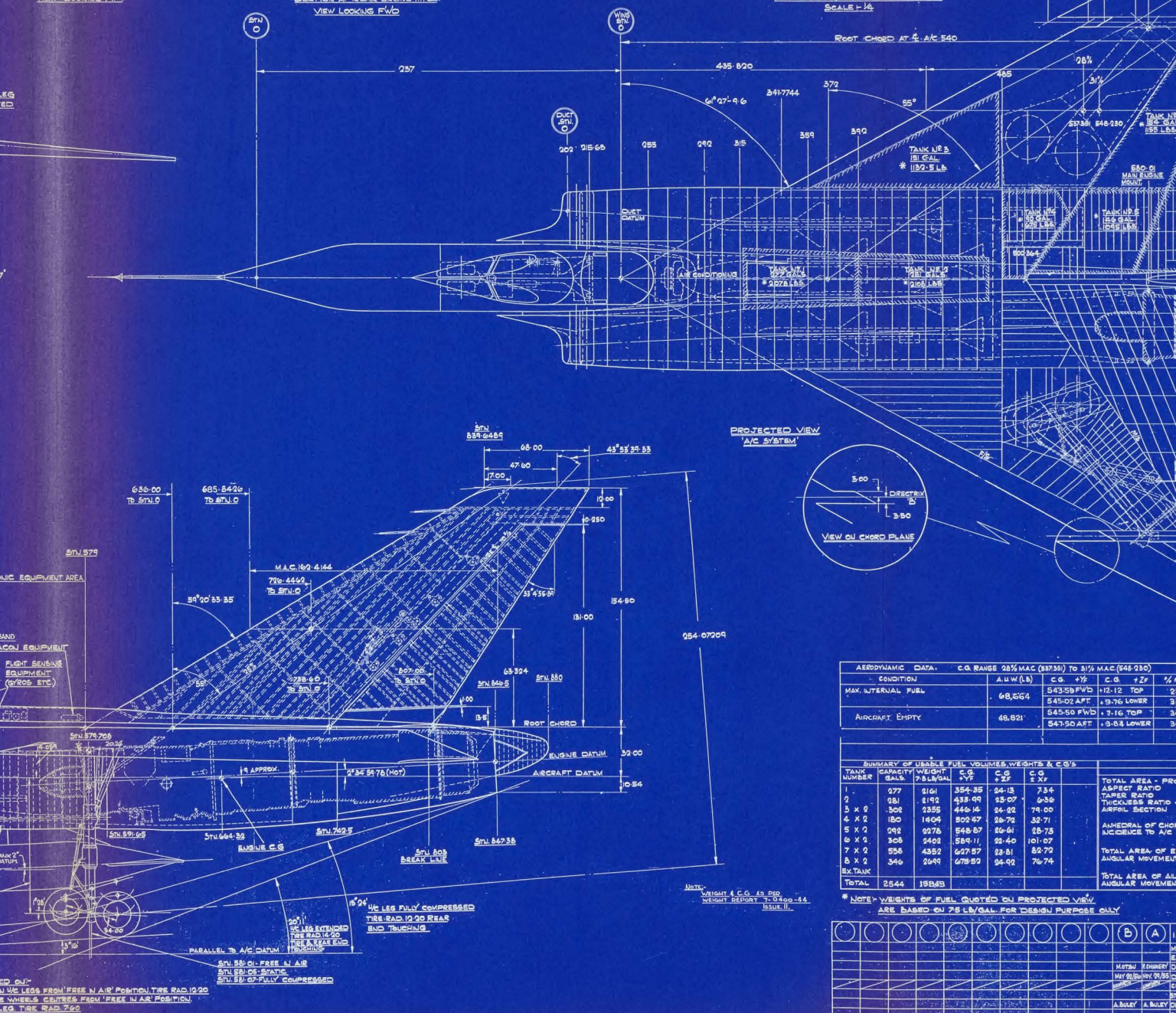
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VIEW LOOKING AFT
SHOWING PARACHUTE DOORS & BOX
SCALE - 1/4

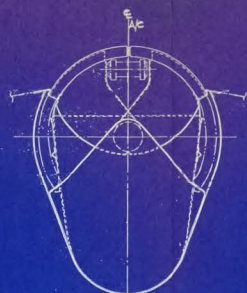


AERODYNAMIC DATA. C.G. RANGE 28% MAC (83735) TO 31% MAC (548280)					
CONDITION	A.W.W.(Lb)	C.G. +Y%	C.G. +Z%	%	
MAX. INTERNAL FUEL	68,664	543.59 FWD	+12.12 TOP	2	3
		545.02 AFT	+9.76 LOWER	2	3
AIRCRAFT EMPTY	48,821	545.50 FWD	+7.16 TOP	2	3
		547.50 AFT	+9.84 LOWER	2	3

SUMMARY OF AVAILABLE FUEL VOLUMES, WEIGHTS & C/S'S						
TANK NUMBER	CAPACITY GALS.	WEIGHT LBS.	C/S #	WTS.	C/S #	WTS.
1	977	9161	354-35	54-03	7334	TOTAL AREA - 1700
2	081	8192	348-93	54-07	6036	ASPECT RATIO
3 x 4	150	1355	440-14	54-02	7500	THICKNESS RATIO
4 x 2	181	1470	440-14	54-02	7500	REFUEL SECTION
5	082	8278	348-93	54-06	6123	ANNUAL OF CHOICE
6 x 4	308	2402	588-11	52-40	101-07	ACCESSES TO AIR
7 x 2	355	4352	527-07	52-43	82-72	TOTAL AREA OF EACH
8 x 4	364	2944	678-52	54-02	76-74	ANNUAL OF CHOICE
EX TOTAL						
TOTAL	2544	19043				

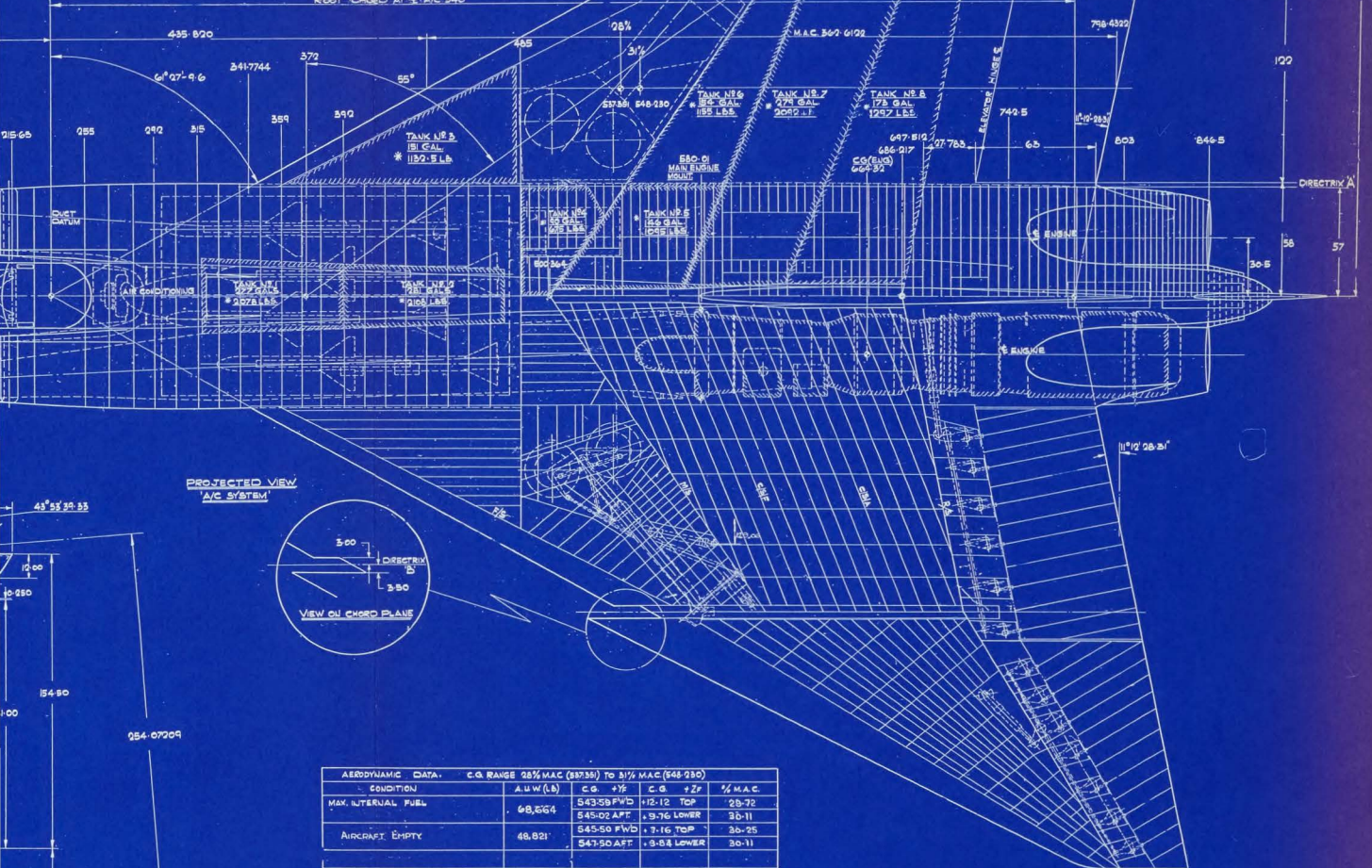
* NOTE: WEIGHTS OF FUEL QUOTED ON PROJECTED VIEW
ARE BASED ON 7.5 LB/GAL. FOR DESIGN PURPOSE ONLY

[illegible]



VIEW LOOKING AFT
SHOWING PARACHUTE DOORS & BOX
SCALE 1/4"

ROOT CHORD AT 4 A/C 540




AERODYNAMIC DATA		C.G. RANGE 28% MAC (53735) TO 31% MAC (54528)			
CONDITION	A.U.W.(LB)	C.G. +Y%	C.G. +Z%	% MAC	
MAX. INTERNAL FUEL	68,554	543-38FWT 545-02 AFT	+12-12 TOP -9-76 LOWER	28-72 28-11	
AIRCRAFT EMPTY	48,821	545-50 FWD 547-50 AFT	+7-16 TOP -8-84 LOWER	28-25 28-11	

TANK		USABLE FUEL		VOLUME WEIGHTS & CGS	
SUMMARY	CAPACITY	WEIGHT	CG	CG	CG
NUMBER	GALL	7.8 LBS/GAL	+YF	+ZF	±ZF
1	977	1616	354.85	64-3	7.54
2	981	1612	433.09	15-07	6.96
3	304	1855	449.34	24-22	70.50
4	180	1104	202.87	38-73	32.71
5	292	2078	548.85	32-40	28.75
6	308	2406	584.11	32-40	101.07
7	356	4352	627.87	22-81	82.70
8	346	2649	675.92	24-22	76.74
EX TOTAL	2544	19243			

AERODYNAMIC DATA			
WING		FIN & RUDDER	
TOTAL AREA - PROJECTED - BASIC WING	1056.5	TOTAL AREA (ROOT CHORD ON WING ROOT CHORD)	18.7419'
ASPECT RATIO	9.6468	ASPECT RATIO	1.6639
THICKNESS RATIO - PARALLEL TO & AC	0.285	THICKNESS RATIO (PARALLEL TO AC DATUM)	0.282
AIRFOIL SECTION	NACA - 0008-6-3-7 WING CAMBER 0078 MOOD	AIRFOIL SECTION	NACA 0005-6-3-7 MOOD
ADDED CHORD PLANE	NACA - 0003-8-6-3-7 MOOD CAMBER 0078 MOOD	TOTAL AREA RUDDER (APT OF HINGE E)	36.1079'
INCIDENCE TO AC DATUM		ANGULAR MOVEMENT OF RUDDER LTD HINGE E	+30° - 30°
TOTAL AREA OF ELEVATORS (APT OF HINGE E) PROJECTED	106.2012'		
ANGULAR MOVEMENT OF ELEVATORS LTD HINGE E	UP 30° DOWN 30°		
TOTAL AREA OF ALERONS (APT OF HINGE E) PROJECTED	30.0851'		
ANGULAR MOVEMENT OF ALERONS	UP 30° DOWN 15°		

NOTE:-
WEIGHT & C.G. AS PER
WEIGHT REPORT 7-0400-44
Issue II.

* NOTE: WEIGHTS OF FUEL QUOTED ON PROJECTED VIEW
ARE BASED ON 75 LB/GAL. FOR DESIGN PURPOSE ONLY

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INCHES

310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0

200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200

INCHES

1180-103-1

100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430

FUSELAGE DATUM SCALE (INCHES)

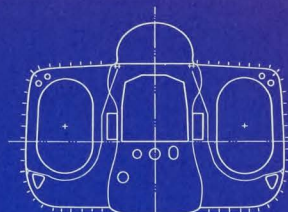
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DATA DRAWINGS

WING DATA		FUSELAGE DATA	
INNER WING		RADAR NOSE	7-4351-1
MAIN TORQUE BOX	7-4362-2	FRONT FUSELAGE	7-4352-1
FORWARD PORTION	7-4362-4	CENTRE FUSELAGE	7-4354-1
LEADING EDGE	7-4362-4	DUCT BAY	7-4356-1
INNER TRAILING EDGE	7-4362-7	ENGINE BAY	7-4358-1
OUTER TRAILING EDGE	7-4362-1	REAR FUSELAGE	7-4359-1
ELEVATOR	7-4382-1	INTAKE	7-4355-1
CENTRE BOX	7-4362-3	DUCT	7-4354-1
OUTER WING		WINDSCREEN	7-4352-5
OUTER WING	7-4364-1	PILOTS CANOPY	7-4353-1
LEADING EDGE	7-4365-1	NAVIGATORS CANOPY	7-4353-2
TRAILING EDGE	7-4364-2	DIVE BRAKE	7-4372-1
AILERON	7-4374-1	NOSE UNDERCARRIAGE	7-4391-1
FIN DATA		MAIN UNDERCARRIAGE	7-4392-1
FIN	7-4383-1		
FIN T.E.	7-4383-2		
RUDDER	7-4384-1		
		COMPLETE AIRCRAFT	7-4300-3



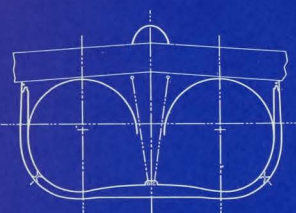
STA. 120



STA. 255



STA. 380



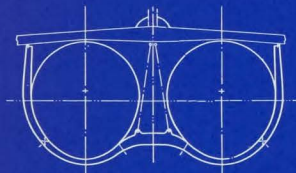
STA. 591.65



DIRECTRIX 'A'

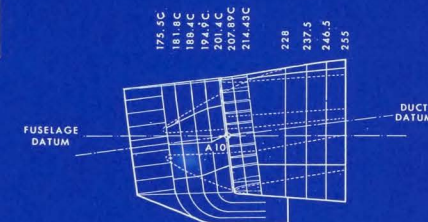
TOP R/H

BOTTOM R/H



STA. 742.5

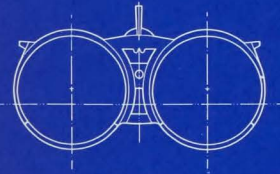
NOTE:
ALL MEASUREMENTS
TAKEN FROM ZERO
POINT ON SCALES



INTAKE AND RAMP

POINTS OF ORIGIN

- A1 FUSELAGE
- A2 WING
- A3 FIN
- A4 MAIN U.C.
- A5 NOSE U.C.
- A6 DIVE BRAKE
- A7 ELEVATOR
- A8 AILERON
- A9 RUDDER
- A10 NACELLE
- A11 OUTER W.
- A12 RADOME



STA. 803



STA. 848.1

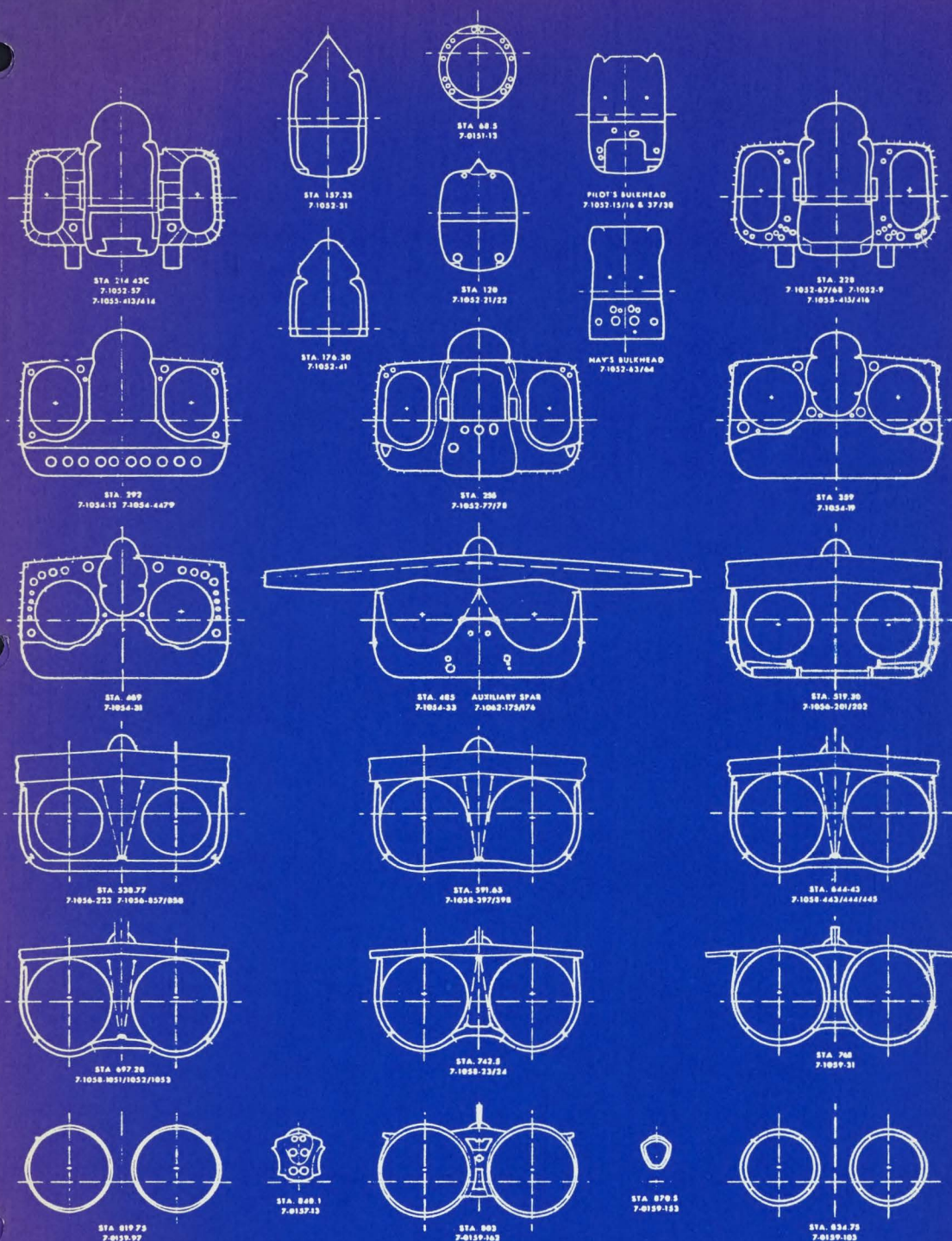
RADAR NOSE

FRONT FUSELAGE

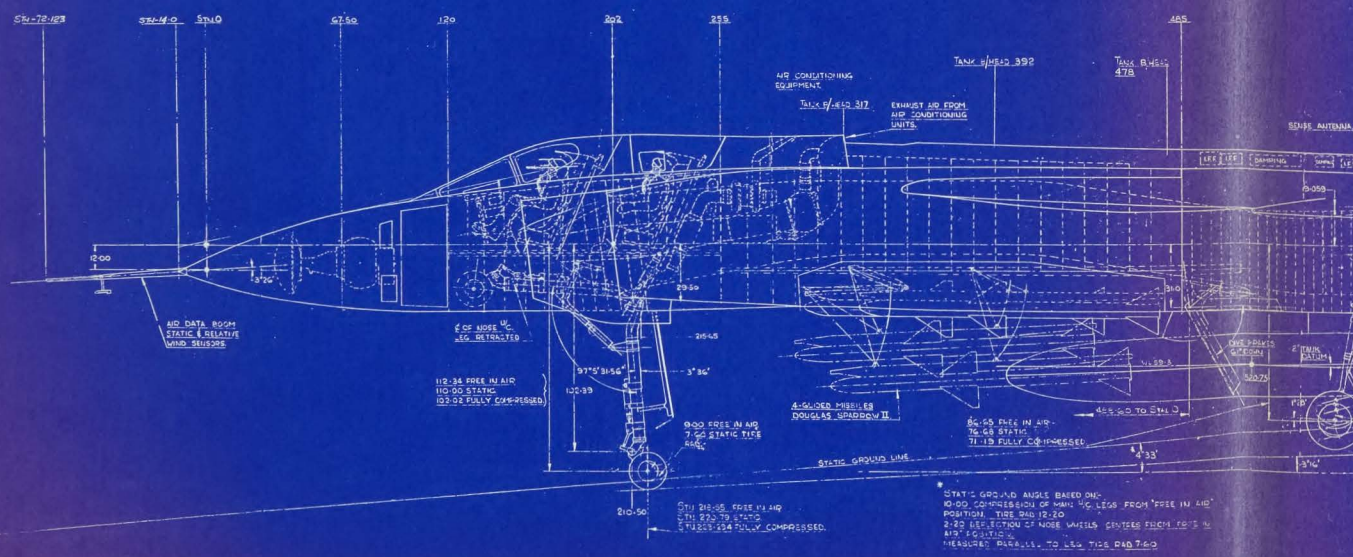
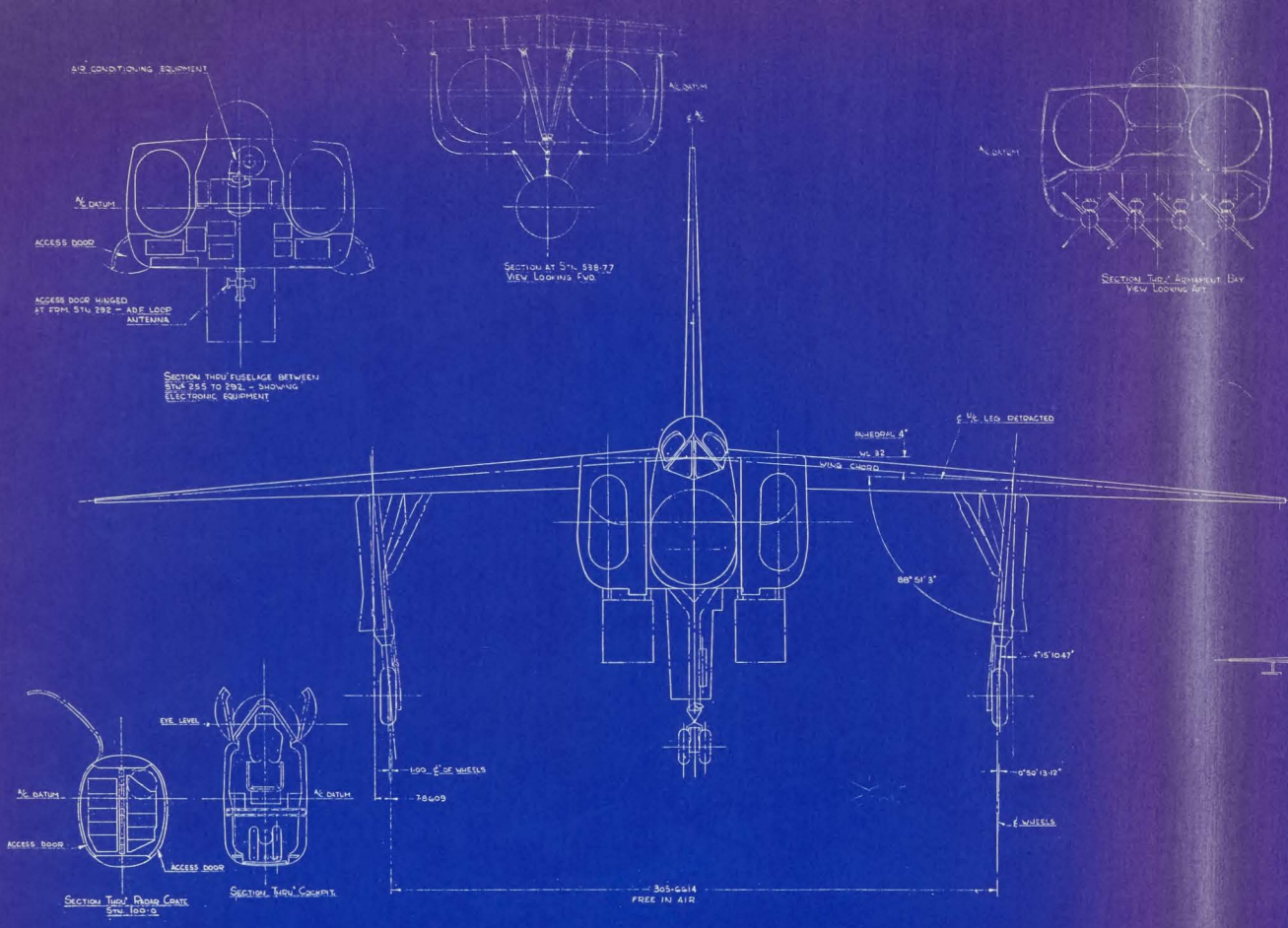
CENTRE FUSELAGE

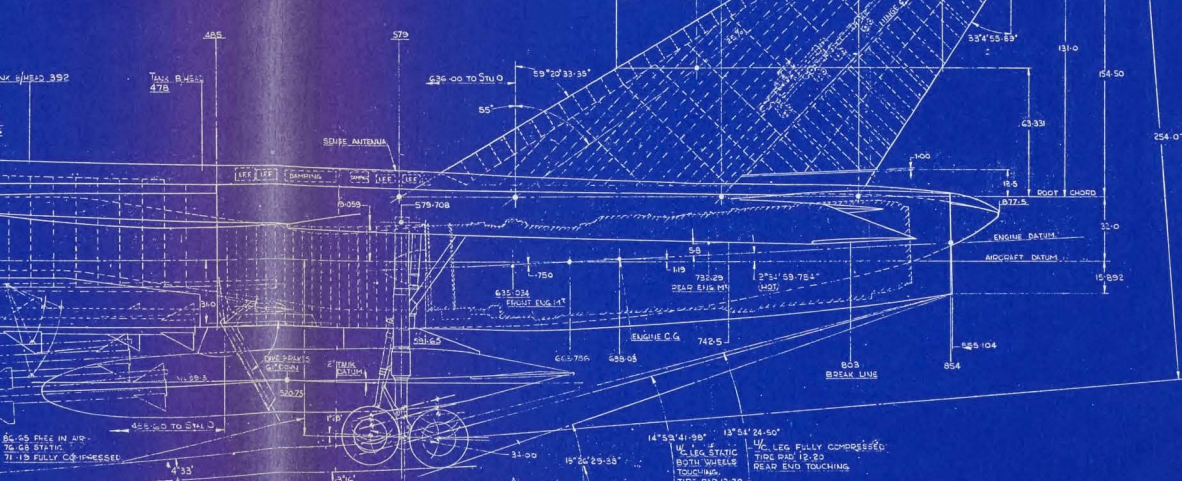
FUSELAGE DATUM SCALE (INCHES)

WING DATUM SCALE (INCHES)



CF-105 FUSELAGE FORMERS J-75 ENGINE

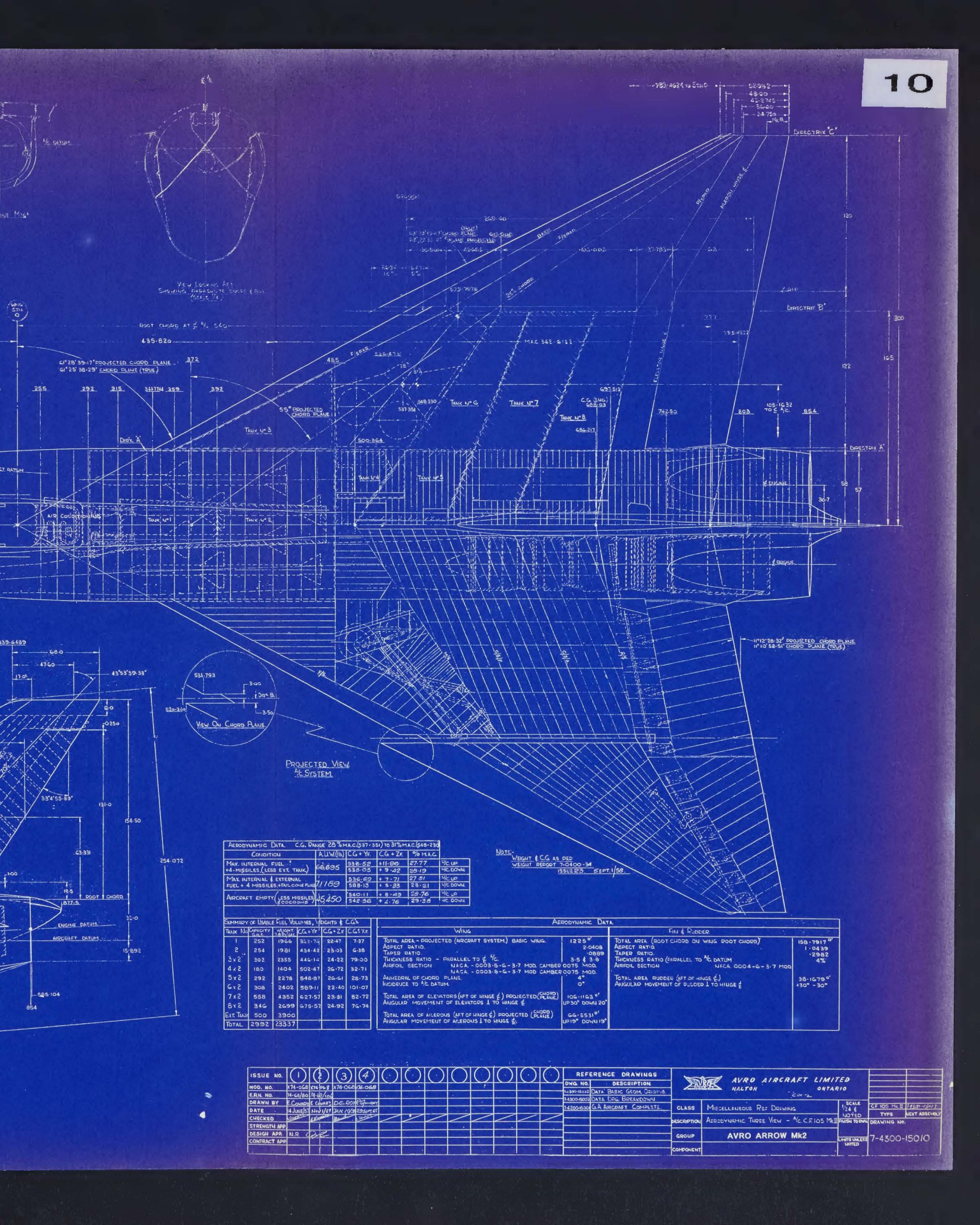




AERODROME DATA		C.G. PAUSE 28 M.A.C (571-30) TO 37%			
CONDITION		A.W.U.(H)		C.G. + Y6	
MAX. INTERNAL FUEL + 4 MISSILES (LESS EXT. TANK)		56695	538-59	511-05	
				51-92	
MAX. INTERNAL + EXTERNAL FUEL + 4 MISSILES (LESS EXT. TANK) PAUSE		71169	538-69	57-71	
			58-10	5-23	
AIRCRAFT EMPTY (LESS MISSILES)		55450	540-11	4-76	
			542-55	4-76	

SUMMARY OF MAXIMUM FUEL VOLUMES, WEIGHTS & C.G.					
TANK NO.	WEIGHT	WEIGHT	C.G. + Y6	C.G. + Y6	
1	254	1981	538-59	504-21	737
2	254	1981	538-59	504-21	737
3	254	1981	538-59	504-21	737
4	254	1981	538-59	504-21	737
5	254	1981	538-59	504-21	737
6	254	1981	538-59	504-21	737
7	254	1981	538-59	504-21	737
8	254	1981	538-59	504-21	737
9	254	1981	538-59	504-21	737
10	254	1981	538-59	504-21	737
11	254	1981	538-59	504-21	737
12	254	1981	538-59	504-21	737
13	254	1981	538-59	504-21	737
14	254	1981	538-59	504-21	737
15	254	1981	538-59	504-21	737
16	254	1981	538-59	504-21	737
17	254	1981	538-59	504-21	737
18	254	1981	538-59	504-21	737
19	254	1981	538-59	504-21	737
20	254	1981	538-59	504-21	737
21	254	1981	538-59	504-21	737
22	254	1981	538-59	504-21	737
23	254	1981	538-59	504-21	737
24	254	1981	538-59	504-21	737
25	254	1981	538-59	504-21	737
26	254	1981	538-59	504-21	737
27	254	1981	538-59	504-21	737
28	254	1981	538-59	504-21	737
29	254	1981	538-59	504-21	737
30	254	1981	538-59	504-21	737
31	254	1981	538-59	504-21	737
32	254	1981	538-59	504-21	737
33	254	1981	538-59	504-21	737
34	254	1981	538-59	504-21	737
35	254	1981	538-59	504-21	737
36	254	1981	538-59	504-21	737
37	254	1981	538-59	504-21	737
38	254	1981	538-59	504-21	737
39	254	1981	538-59	504-21	737
40	254	1981	538-59	504-21	737
41	254	1981	538-59	504-21	737
42	254	1981	538-59	504-21	737
43	254	1981	538-59	504-21	737
44	254	1981	538-59	504-21	737
45	254	1981	538-59	504-21	737
46	254	1981	538-59	504-21	737
47	254	1981	538-59	504-21	737
48	254	1981	538-59	504-21	737
49	254	1981	538-59	504-21	737
50	254	1981	538-59	504-21	737
51	254	1981	538-59	504-21	737
52	254	1981	538-59	504-21	737
53	254	1981	538-59	504-21	737
54	254	1981	538-59	504-21	737
55	254	1981	538-59	504-21	737
56	254	1981	538-59	504-21	737
57	254	1981	538-59	504-21	737
58	254	1981	538-59	504-21	737
59	254	1981	538-59	504-21	737
60	254	1981	538-59	504-21	737
61	254	1981	538-59	504-21	737
62	254	1981	538-59	504-21	737
63	254	1981	538-59	504-21	737
64	254	1981	538-59	504-21	737
65	254	1981	538-59	504-21	737
66	254	1981	538-59	504-21	737
67	254	1981	538-59	504-21	737
68	254	1981	538-59	504-21	737
69	254	1981	538-59	504-21	737
70	254	1981	538-59	504-21	737
71	254	1981	538-59	504-21	737
72	254	1981	538-59	504-21	737
73	254	1981	538-59	504-21	737
74	254	1981	538-59	504-21	737
75	254	1981	538-59	504-21	737
76	254	1981	538-59	504-21	737
77	254	1981	538-59	504-21	737
78	254	1981	538-59	504-21	737
79	254	1981	538-59	504-21	737
80	254	1981	538-59	504-21	737
81	254	1981	538-59	504-21	737
82	254	1981	538-59	504-21	737
83	254	1981	538-59	504-21	737
84	254	1981	538-59	504-21	737
85	254	1981	538-59	504-21	737
86	254	1981	538-59	504-21	737
87	254	1981	538-59	504-21	737
88	254	1981	538-59	504-21	737
89	254	1981	538-59	504-21	737
90	254	1981	538-59	504-21	737
91	254	1981	538-59	504-21	737
92	254	1981	538-59	504-21	737
93	254	1981	538-59	504-21	737
94	254	1981	538-59	504-21	737
95	254	1981	538-59	504-21	737
96	254	1981	538-59	504-21	737
97	254	1981	538-59	504-21	737
98	254	1981	538-59	504-21	737
99	254	1981	538-59	504-21	737
100	254	1981	538-59	504-21	737
TOTAL	29982	23337			

ISSUE NO.	1	2	3	4	5
MOD. NO.	174-68/80	174-68/8	174-068	174-068	
E.R.N. NO.	174-68/80	174-68/8			
DRAWN BY	E. COOPER	E. COOPER	D.G. ROY	W. J. ROY	
DATE	14 JUNE 67	14 JUNE 67	24 JUN 67	25 JUN 67	
CHECKED	14 JUNE 67	14 JUNE 67	24 JUN 67	25 JUN 67	
STRENGTH APP.					
DESIGN APP.	N.R.				
CONTRACT APP.					



Notes:
WEIGHT & CG AS PED
WEIGHT REPORT 7-0400-34
ISSUE 25 SEPT. 1/58

ASYNCHRONIC DATA		FIN & RUDDER	
125.5°	TOTAL AREA (SCOT CHORD ON WING FOOT CHORD)	158.7917°	
2.5408	AREA RATIO	1.0439	
.0889	TAPER RATIO	.5982	
3.5438	THICKNESS AT QUARTER CHORD (PARALLEL TO C_d DATUM)	.4%	
BER OOTS MOD.	AIRFOIL SECTION	WJCA, QOD-4-6-3-7 MOD	
BER OOTS MOD.	TOTAL AREA RUDDER (1/2 OF HINGE L)	38.1679°	
0°	ANGLED MOVEMENT OF RUDDER 1/2 TO HINGE L	+30° - 30°	
106.1551°			
WJ90° DOWN 30°			
55.5531°			
WJ90° DOWN 15°			

FILE		
ED		
WORKING		
UNLESS	CF 105 Mk II	14127-7503
ED	TYPE	NEXT ASSEMBLY
	DRAWING No.	
	7-4300-15010	

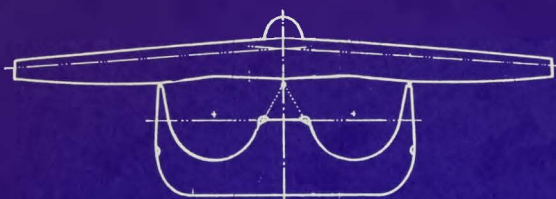
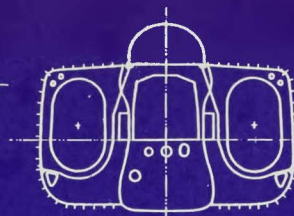
INCHES

310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
-60

200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120

INCHES

FUSELAGE DATUM SCALE (INCHES)

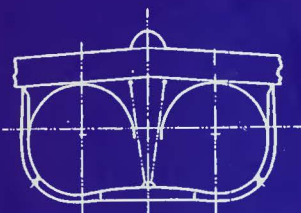
STA. 495 & AUXILIARY SPAR
'C'STA. 255
'B'STA. 120
'A'

* POINT

A1 FUSELAGE
A2 WING
A3 FIN
A4 MAIN U.C.
A5 NOSE U.C.
A6 DIVE BRAK

NOTE:

ALL MEASUREMENTS
TAKEN FROM ZERO
POINT ON SCALES

STA. 591.65
'D'

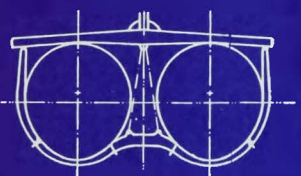
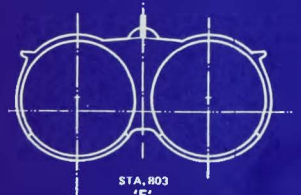
DIRECTRIX 'A'



DIRECTRIX 'B'



DIRECTRIX 'C'

STA. 742.5
'E'STA. 803
'F'

TOP R/H

BOTTOM R/H

FUSELAGE DATUM



INTAKE AND RAMP

DUCT DATUM

INTAKE AND RAMP

DATA DRAWINGS

WING DATA	INNER WING	FUSELAGE DATA
MAIN TORQUE BOX	7.4362.15002	RADAR NOSE
FORWARD PORTION	7.4362.15004	FRONT FUSELAGE
LEADING EDGE	7.4362.15004	CENTRE FUSELAGE
INNER TRAILING EDGE	7.4362.15005	DUCT BAY
OUTER TRAILING EDGE	7.4362.15001	ENGINE BAY
ELEVATOR	7.4362.15001	REAR FUSELAGE
CENTRE BOX	7.4362.15003	INTAKE
OUTER WING	7.4364.15001	WINDSCREEN
LEADING EDGE	7.4365.15001	PILOTS CANOPY
TRAILING EDGE	7.4364.15002	NAVIGATORS CANOPY
AILERON	7.4374.15001	DIVE BRAKE
FIN DATA		NOSE UNDERCARRIAGE
FIN	7.4383.15001	MAIN UNDERCARRIAGE
FIN T.E.	7.4383.15002	
RUDDER	7.4384.15001	

COMPLETE AIRCRAFT



RADAR NOSE

FRONT FUSELAGE

CENTRE FUSELAGE

STA. 849.5
'G'

FUSELAGE DATUM SCALE (INCHES)

100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000

