

QC
AVRO
Rept
7-0400-05
ISS 22

C-105 With J75 Report # 7-0400-05
Production Engines ISSUE 22

WEIGHT SUMMARY & C.G. POSITION

N.A.E.'s Copy.

Jan. 1/56



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DATE

JAN 07 1993

Report no.: QCX-AVRO-CF105-R-7-0400-05-ESS-22

has been ☐ downgraded to : _____

☒ de-classified

by (Name): Michel W. Drapeau

(Dept.): A/DND Coordinator, Access to Information

Date: Dec. 7, 1992

R. Anger
Signature

Classification cancelled / changed to: UNCLASSIFIED

By authority of: DRDA 7/DARET 5-8/DAS Eng 6-4-5

Date: 5 Nov 1992

Signature: B Aubrey

Unit / Rank / Appointment: DS/S 3, Secretary CRAD HQ DRP

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Date: 1st. January, 1956
Aircraft: C-105 With J75 Engines
As Interim Power Plant

Report # 7-0400-05
Sheet # 001-1 Issue 22
Prepared By: K. Griffin
Checked By: E. Burnett

INTRODUCTION

This summary is a revised Weight & C.G. summary for the C-105 Aircraft, based on the latest weight estimates available on December 30th, 1955. All Weight and C.G. changes are relative to Issue 21.

GENERAL

- (a) As in Issue 21 Pratt & Whitney J75 Engines ~~comprise~~ the Interim Power Plant (6,175 lb each.)
- (b) The weight of Radio and Radar carried in this issue is 2,908 lb. The system is described as "Integrated Electronic System, for C-105 Aircraft, with certain deviations". The breakdown into items is given in Weight Summary Issue 14.
- (c) As in issues subsequent to 15, the extended leading edge is recorded here.

1. STRUCTURE

WEIGHT (lb)

(a) Wing:

I/W Joints - Production Drawing Estimates of strut pick-ups	+ 3
I/W M/S to R/S Structure - Gauge changes to Rib # 1.	- 29
Redesign of Engine Mtg. Brackets	- 8
I/W Elevator Control Box - no previous allowance for I/B rib	+ 4
O/W Leading Edge - complete re-estimate to latest design	+ 55
Weight Change Increase	+ 25

Ref. 002-1

(b) Fin & Rudder

No Weight Change

(c) Fuselage to Sta. 255"

Navigator's Canopy - estimated to Production Drawings	+ 7
Radome - redesign of Mg. Attach ring	- 3
Radar Nose Access Doors - redesigned	+ 21
Crew's Bulkheads and Nose U/C Structure - completely re-estimated to current design information.	+ 3
Weight Change Increase	+ 28

Ref. 002-1 & 2



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Date: 1st, January, 1956
Aircraft: C-105 With J75 Engines
as Interim Power Plant

Report # 7-0400-05
Sheet # 001-2 Issue 22
Prepared By: K. Griffin
Checked By: E. Burnett

INTRODUCTION

1. STRUCTURE

WEIGHT (lb.)

(d) Fuselage Sta. 255" to 485"

Miscellaneous minor changes to beam at Sta. 292"
and Air Conditioning Mounting Tray

+ 2
+ 2

Weight Change Increase

Ref. 002-2

(e) Fuselage Sta. 485" Aft.

Access Doors D.B. - redesign; Production Drawing estimates + 10
Engine Tunnel, E.B. - complete re-estimate to current design - 2
Rear Fuselage - due to temperature changes titanium replaces
all 'Inconel X' - refined estimates of centre
Structure, Stinger etc. - 6
Miscellaneous other changes. + 1

Weight Change Increase

+ 3

Ref. 002-2 & 3

TOTAL STRUCTURE WEIGHT INCREASE

+ 58

2. LANDING GEAR

Nose U/C Hydraulics - estimate to Production Drawings of
piping ect.

- 13

TOTAL LANDING GEAR DECREASE

- 13

Ref. 002-3

3. POWER PLANT & SERVICES

Engines - 1st scheme drawing estimate of adaptor ring + 14
Engine Mts. - complete re-estimate to current design - 17
Engine Anti-Icing - re-estimate to current scheme of Nose Bullet + 4

TOTAL POWER PLANT & SERVICES INCREASE

+ 1

Ref. 002-4

4. FLYING CONTROLS GROUP

No Weight Change.

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INTRODUCTION

5. EQUIPMENT

WEIGHT (lb)

Instruments - generally refined estimate
Some C.G. changes to Radio & Radar items

+ 4

Ref. 002-4

TOTAL EQUIPMENT INCREASE

+ 4

6. OPERATIONAL LOADS

Residual Fuel - C.G. changes also 7.8 not 7.85 lb/gal.

- 1

Ref. 002-4

TOTAL OPERATIONAL LOAD DECREASE

- 1

SUMMARY

Weight Change - Aircraft Weight Empty

Structure	+	58 lb.
Landing Gear	-	13 lb.
Power Plant	+	1 lb.
Equipment	+	4 lb.
	+	50 lb.

Weight Change Operational Load Less Usable Fuel

Residual Fuel - 1 lb.

Weight Change - Operational Weight Empty (A/C less Fuel)

Issue 21

Issue 22

43,873 lb.

43,922 lb. = + 49 lb.

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Sheet # 002-1 Issue 22
Prepared By: K. Griffin
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WEIGHT CHANGES TO 7-0400-05 ISSUE 21

WEIGHT CHANGES

+ 3.58	I/W Joints - Estimate to Production Drawings strut. pick-up at Sta. 538.7"	- 1.60
	Estimate to Production Drawings strut. pick-up at Sta. 697.96"	+ 2.58
	No previous allowance fitting sta. 663.0"	+ 2.00
	No previous allowance fitting sta. 714.85"	+ 0.60
		+ 3.58
- 37.28	I/W M/S to R/S Structure - rib # 1 fwd. web gauge inc.	+ 6.22
	Rib # 1 centre web reduced from .15 to .10	- 25.20
	Rib # 1 aft web reduced from .15 to .085	- 10.30
	Engine Mounting Brackets - redesign	- 8.00
		- 37.28
+ 3.80	I/W Elevator Control Box - no previous allowance for rib & shear fittings at I/B end.	
+ 55.26	O/W Leading Edge - re-estimated to latest design	
	Skin I/B to rib # 6 .064" to .102")	+ 40.26
	Skin rib # 6 to rib # 24 .064" to .081")	
	Intercostals added fwd. end	+ 3.00
	Ribs fwd. end inc. allowance	+ 2.00
	Doublers - redesign	+ 10.00
		+ 55.26
-	Wing Fairings - C.G. changes for Aileron Link fairings.	
+ 25.36		
<u>Front Fuselage (Fwd. Sta. 255")</u>		
+ 6.08	Pilot's and Navigator's Bulkheads - completely re-estimated mostly to Production Drawings	
	Pilot's Bulkhead - changes to stiffeners etc.	+ 7.97
	Pilot's Bulkhead Top Beam - redesigned	+ 2.49
	Pilot's Lower Seat Fitting redesigned	- 1.16
	Nav. Bulkhead - addition retraction jack fitting	+ 2.80
	Navigator's Seat Fitting - redesigned	- 0.21
	Deletion of Allowance for Top Beam (part of top shear panel)	- 4.00
	Nav. Bulkhead web .051 was .072 & .091, alterations to stiffeners etc.	- 1.81
		+ 6.08
- 2.21	Nose U/C Structure - Retraction jack pick-up with Nav. Bulkhead see above	- 3.21
	Estimate to Production Drawing of cross beam etc.	+ 1.00
		+ 2.21

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WEIGHT CHANGES TO 7-0400-05 ISSUE 21

WEIGHT CHANGES

Front Fuselage (Fwd. Sta. 255") (Continued).

+ 16.47	Navigator's Canopy - estimated to Production Drawings	+ 6.73
	Addition of lower half hinge	+ 9.74
		+ 16.47
+ 9.40	Pilot's Canopy - Addition of lower half hinge on Production Drawings	
- 19.14	Top Longerons F.F. - Deletion of lower half of Pilot's and Navigator's Canopy hinges called up on Canopy Production Drawings - see above	
- 3.47	Radome - New design (scheme only) for Mg. Mounting Ring	
+ 20.71	Radar Nose Access Doors - door completely redesigned.	
	Addition of side latches (6/door)	+ 7.80
	Addition of Intercostals	+ 7.48
	Addition of Vertical Channels at Sta. 87 & 98	+ 3.53
	Deletion of I/Skin butt straps	- 2.01
	Addition of side stays (for open door)	+ 2.00
	Miscellaneous other changes	+ 1.91
		+ 20.71
+ 27.84		

Centre Fuselage (Sta. 255" to 485")

+ 0.57	Equipment Bay Structure - Production Drawing estimate of Air-Conditioning Mounting Tray.	
	Alterations to cross beams etc.	
+ 1.64	Armament Provisions - Stress Alterations to cross beam at Sta. 292".	
+ 2.21		

Aft Fuselage (Sta. 485" aft.)

+ 10.31	Access Doors D.B. - redesign of doors, heavy .125" Al. doublers replace .081 edge strips, skins .032 Al. were .04 Mg. etc.	
	Hydraulics Access Door Sta. 553.1 to 572.3	+ 2.54
	Electrical Access Doors Sta. 499.7 to 524.2	+ 5.51
	Air Conditioning and Hyd. Panels Sta. 524.2 to 534.0	+ 2.05
	Mounting External Supply - minor changes	- 0.09
		+ 10.31
+ 1.42	Dive Brake Accommodations - Production Drawings estimate of decking, stiffeners and gussets added.	

continued.

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Report # 7-0400-05
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WEIGHT CHANGES TO 7-0400-05 ISSUE 21

WEIGHT CHANGES

Aft. Fuselage (Sta. 485" aft.) (Continued)

- 1.95	Engine Tunnel E.B. - Re-estimate to current design information	
	Shroud - predicted increases did not materialize	- 10.66
	Thermal Insulation - foil .003 was .004 St. Steel	- 8.25
	Insulation - allowance for fasteners etc.	+ 11.51
	Beams - re-estimated to latest design	- 6.00
	Engine Firewall - redesigned	+ 4.60
	Airflow restrictor - redesigned	- 4.00
	Fibreglass insulation sta. 624 - 656 added	+ 10.85
		- 1.95
+ 11.52	Centre Structure & Stringer R.F. - 1st detailed estimate, stinger is now titanium was 'Inconel X', 'chute box heavier, doors sealed etc.	+ 5.36
	Titanium 'Slitters' added	+ 6.16
		+ 11.52
+ 0.64	Tunnel fixed R.F. - foil on insulation .003 was .004 St. Steel	- 4.21
	Addition of insulation fasteners	+ 4.50
	Revision to estimate of joint at 742"	+ 1.83
	Stiffeners .02 Al. were Titanium	- 3.69
	Addition of Butt Straps etc.	+ 2.21
		+ 0.64
- 19.09	Nacelles Removable R.F. - Structure of Titanium was 'Inconel X'	
+ 0.72	Engine Access Doors Fixed R.F. - Foil on insulation .003 was .004 St. Steel	- 1.40
	Addition of insulation fasteners	+ 1.50
	Insulation edge members fibreglass were Titanium	- 0.44
	Addition of doublers at hinges	+ 1.06
		+ 0.72
+ 3.57		

Undercarriage:

- 13.47	Nose U/C Hydraulics - Production Drawing estimates - gauge and Dia. reductions in tubing etc.	
- 13.47		

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Date: 1st January, 1959
Aircraft: C-105 With J75 Engines
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Report # 7-0400-05
Sheet # 002-4 Issue 22
Prepared By: K. Griffin
Checked By: E. Burnett

WEIGHT CHANGES TO 7-0400-05 ISSUE 21

WEIGHT CHANGES

Power Plant & Services

+ 14.00	Engines - estimate to first scheme drawings of adaptor ring previous allowance based on J67 Engines	
- 16.71	Engine Mounts - completely re-estimated to current design schemes	
	Front Engine Mounts	+ 11.15
	Rear Engine Mounts	- 19.00
	Engine rollers and fittings	- 5.63
	Rail supports *	- 3.23
	* including estimated Stress increase.	
+ 3.60	Engine Anti-icing - re-estimated to current scheme of fairing	+ 0.35
	Struts added to carry piping and wiring	+ 3.25
		<u>+ 3.60</u>
+ 0.89		

Equipment Fixed and Removable

+ 4.00	Instruments - Increase in panel gauge etc.	+ 1.85
	Improved information on instruments	+ 2.15
		<u>+ 4.00</u>
-	I.F.F. - C.G. alterations in Radar Nose	
-	Radar Removable - C.G. alterations in Radar Nose	
-	Radio & Radar fixed - C.G. alterations in Radar Nose.	
+ 4.00		

Operational Load

- 1.40	Residual fuel - C.G. Changes also 7.8 not 7.85 lb/gal. used.	
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+ 49.00	<u>TOTAL WEIGHT CHANGES</u>	
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S E C R E T

Date: 1st. January, 1956
 Aircraft: C-105 With J75 Engines
 as Interim Power Plant

Report # 7-0400-05
 Sheet # 003-1 Issue 22
 Prepared By: J. Murphy
 Checked By: E. Burnett

WEIGHT AND C. G. SUMMARY

REF. No.	DESCRIPTION	WEIGHT lb.	H. ARM ins.	V. ARM ins.
	STRUCTURE	17,021.13	563.36	138.52
1000000	Wing	9,647.33	641.85	142.29
2000000	Fin and Rudder	912.02	756.74	211.22
3000000	Fuselage Structure Fwd. 255"	2,220.08	181.37	129.79
	255" to 485"	1,533.67	369.22	131.63
	Aft. 485"	2,708.03	641.74	111.65
4000000	UNDERCARRIAGE - Up Position	2,868.35	483.63	133.67
4010100	Main Undercarriage	1,839.60	540.47	141.00
4010200	Main U/C Doors & Fairings	287.32	539.21	136.40
4010300	Main U/C Hydraulics	295.56	535.95	135.20
4020100	Nose Wheel Undercarriage	314.47	168.91	99.82
4020200	Nose U/C Doors & Fairings	25.92	163.71	89.22
4020300	Nose U/C Hydraulics	105.48	211.35	105.92
5000000	POWER PLANT & SERVICES	13,931.47	654.17	118.64
5010000	Engines J75	12,703.00	662.45	117.86
5020000	Gear Box & Drive	150.00	606.00	94.66
5030000	Engine Controls	25.10	356.68	119.39
5040000	Pneumatic Starting System	70.00	610.00	94.75
5050000	Engine De-icing	69.35	565.60	115.95
5060000	Fire Extinguishing System	64.27	700.07	123.00
5070000	Engine Mtgs. & Brackets	204.40	644.09	125.23
5080000	Fuel System	645.35	526.86	139.92
6000000	FLYING CONTROLS GROUP	1,723.76	646.81	139.24
6010000	Mechanical Flying Controls	784.89	671.88	145.39
6030000	Flying Controls Electronics	108.00	222.33	131.43
6000000	Flying Controls Hydraulics	830.87	678.31	134.44
	EQUIPMENT FIXED & REMOVABLE	6,540.54	306.19	114.67
7010000	Instruments	61.30	141.72	136.06
7010003	Probe	15.00	-18.00	108.00
7030000	Oxygen System	46.12	220.36	138.15
7040000	Air Conditioning System	624.95	326.22	134.63
7050000	Hydraulic Main System	215.66	591.04	117.41
7080000	Brake Parachute	69.69	784.88	131.17
7090000	Electrical System	767.74	416.24	119.43
7100000	Low Pressure Pneumatics	16.60	217.17	133.41
7110000	Oil & Hydraulic Fluid Cooling	119.80	567.91	104.22
7120000	Intake De-Icing	101.72	210.14	118.95
7000000	Radio & Radar Fixed, Power Supplies	921.10	220.87	111.00
7160000	Canopy Actuation	47.00	223.43	156.83
7170000	Cabin Consoles	20.65	177.37	125.23
7180000	Radar Door Actuation	10.00	268.00	95.00
7190000	Radome - Anti-Icing	16.80	66.35	124.40
7200000	Cabin Insulation	11.91	179.24	130.00
7210000	Cockpit Pressure Sealing	20.00	186.01	130.00

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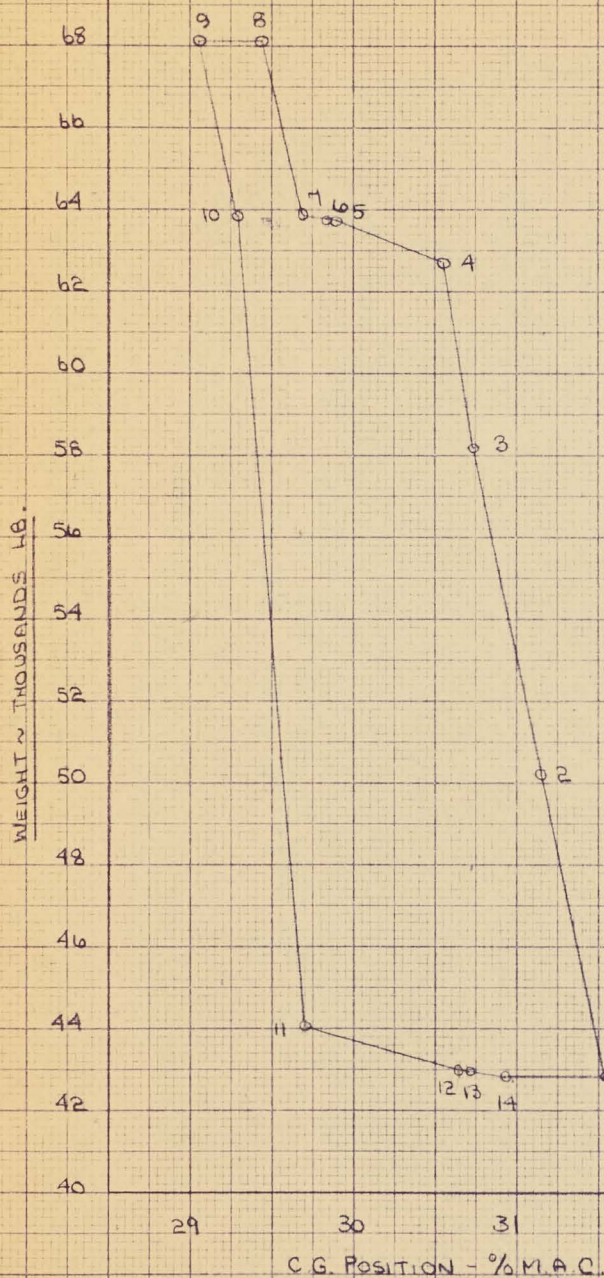
WEIGHT AND C.G. SUMMARY

Ref. No.	DESCRIPTION	WEIGHT lb.	H. ARM ins.	V. ARM ins.	C.G. POSITION % M.A.C.
	Equipment (Fixed & Remov.) Cont'd.)				
8010100	Ejector Seats	204.00	200.10	136.25	
8010200	Emergency Provisions	16.95	166.01	130.65	
8020000	Radar Removable	1,259.70	151.30	114.53	
8000000	Radio Removable & I.F.F.	276.20	285.72	123.98	
8050100	Missile Pack Structure	676.17	385.26	95.61	
8050200	Missile Pack Mechanisms	410.48	373.88	102.86	
8050300	Missile Pack Hydraulics	293.00	366.29	101.00	
8050400	Missile Pack Electronics	318.00	389.15	101.22	
	AIRCRAFT WEIGHT EMPTY	42,085.25	551.44	127.93	
9000000	USEFUL LOAD	17,172.27	522.14	138.95	
9010000	Crew	430.00	194.00	136.50	
9020000	Oil	85.08	611.71	135.00	
9050000	Alcohol for Radome De-Icing	22.00	93.00	138.00	
9060000	Engine Fire Extinguisher Fluid	25.00	730.00	129.00	
9070000	Residual Fuel	218.40	554.44	134.04	
9090000	Fuel for Combat Mission	15,336.00	539.25	142.06	
9030000	Missiles (Armament)	1,042.40	399.12	95.60	
9040000	Oxygen Charge	13.39	259.69	159.91	
	U/C Up Normal Combat Mission	59,257.52	542.95	131.13	29.54
	U/C Down		544.53	128.98	29.98
	Half Combat Mission Fuel 983 gals. @ 7.8 lb/gal.	7,668.00	540.92	139.53	
	U/C Up Combat Weight (Half Combat Mission Fuel)	51,589.52	543.75	129.13	29.76
	U/C Down		545.57	126.66	30.27
	U/C Up Operational Weight Empty	43,921.52	544.24	127.31	29.90
	U/C Down		546.38	124.41	30.49
	U/C Up Operational Weight Empty (Less Missiles)	42,879.12	547.77	128.08	30.87
	U/C Down		549.96	125.11	31.48
	Maximum Internal Fuel 2,544 gals. @ 7.8 lb/gal. Water (Air-Conditioning System)	19,843.00 125.00	538.88 268.00	144.32 95.00	
	U/C Up A.U.W. Max. Internal Fuel	63,889.52	542.03	132.53	29.29
	U/C Down		543.51	130.54	29.70
	Max. External Fuel, 500 gals. @ 7.8 lb./gal. and Drop Tank	4,210.00	528.88	62.00	
	U/C Up A.U.W. Max. Internal & External Fuel	68,099.52	541.22	128.17	29.07
	U/C Down		542.61	126.30	29.45

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REPORT NO. 1-0400-05 ISSUE 22
BY: Kathleen Griffin
DATE: Dec 30th 1955

C105 A/C C.G. ENVELOPE
FOR A/C FLIGHT CONDITIONS
WITH J75 A25 ENGINES



CONDITION	COMBAT MISSION FUEL	NORMAL MISSION FUEL	MAX INTERNAL FUEL	EXT. FUEL TANK & MISSILES	DEICING FLUID	WATER	1/2 UP	1/2 DOWN
1								*
2	*							*
3		*						*
4			*					*
5			*		*			*
6			*		*	*		*
7			*		*	*	*	*
8			*	*	*	*	*	*
9			*	*	*	*	*	*
10			*	*	*	*	*	*
11				*	*	*	*	*
12					*	*	*	*
13					*	*	*	*
14							*	*

N.B. IN ORDER TO BRING POINT ① TO THE AFT LIMIT i.e. 31% MAC 196 LB BALLAST MUST BE INSTALLED AT STA 120 INS

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MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL COMPONENT

PROJECT C-105

DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT	
TOTAL WING GROUP		1000000			
OUTER WING		1010000			
14	SKIN O W	1010001	64	798	0064
14	STRINGERS AND POSTS O W	1010002	64	125	2064
14	SPARS O W	1010003	64	397	8470
14	RIBS O W	1010004	64	133	3464
14	AILERON CONTROL BOX O W	1010006	64	477	0077
3	WING JOINTS O W	1010007	64	116	5064
16	FAIRINGS AT AILERON LINKS	1010008	64	878	7878
				2056	66
AILERON		1020000			
17	AILERON STRUCTURE	1020001	74	333	8479
17	AILERON MARRY UP ITEMS	1020002		886	78
16	FAIRINGS AT AILERON LINKS	1020003	74	802	78
				350	72
20 ELEVATOR STRUCTURE		1030000	82	435	6779
				435	67
INNER WING		1040000			
12	MAIN U C STRUCTURE	1040001	62	234	5857
12	FRONT SPAR I W	1040002	62	180	0045
12	MAIN SPAR I W	1040003	62	158	0056
12	FWD CENTRE SPAR I W	1040004	62	56	2660
12	AFT CENTRE SPAR I W	1040005	62	40	1465
12	REAR SPAR I W	1040006	62	90	0070
12	I W STRUCTURE F S TO M S	1040007	62	891	3048
12	I W STRUCTURE M S TO R S	1040008	62	273	9862
12	STRUCTURE AFT OF REAR SPAR	1040009	62	321	5271
12	ELEVATOR CONTROL BOX I W	1040010	62	422	3372
16	FAIRINGS MARRY UP	1040011		927	062
12	WING JOINTS I W	1040012	62	1002	5964
				6229	40
12 LEADING EDGE I W		1050000	63	282	3045
				282	30
14 LEADING EDGE O W		1060000	65	292	5864
				292	58

MALTON, ONT.

FUNCTIONAL COMPONENTS

PROJECT C-105

DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT	H
TOTAL FUSELAGE GROUP		3 000 000			
FUSELAGE BASIC STRUCTURE		3 010 000			
3	RADOME	3 010 000 151		139 21	4
3	RADAR NOSE ACCESS DOORS	3 010 000 251		86 21	9
3	NOSE STRUCTURE FWD 120	3 010 000 351		97 72	9
3	SKIN F F	3 010 000 452		67 41	19
4	SKIN C F	3 010 000 554		130 59	37
5	SKIN D B	3 010 000 656		83 17	53
5	SKIN E B	3 010 000 758		116 39	67
3	STRINGERS F F	3 010 000 852		12 80	18
4	STRINGERS C F	3 010 000 954		51 73	36
5	STRINGERS D B	3 010 001 056		5 00	50
3	FORMERS F F	3 010 001 152		87 85	18
4	FORMERS C F	3 010 001 254		274 41	37
5	FORMERS D B	3 010 001 356		123 81	53
5	LIGHT FORMERS E B	3 010 001 458		106 63	66
5	HEAVY FORMERS E B	3 010 001 558		154 55	66
3	LONGERONS F F	3 010 001 652		53 11	18
5	LONGERON E B	3 010 001 858		75 80	65
5	TOP LONGERONS E B	3 010 001 958		32 05	66
5	TOP WING LONGERONS D B	3 010 002 156		18 90	53
3	LONGERONS 255 485 F F	3 010 002 252		53 25	
4	LONGERONS 255 485 C F	3 010 002 354		142 51	41
4	DUCT BAY LONGERONS C F	3 010 002 456		46 54	8
5	DUCT BAY LONGERONS D B	3 010 002 556		91 93	52
4	STR BELOW BOTTOM LONGERON	3 010 002 654		40 53	27
5	LONGITUDINAL BEAMS D B	3 010 002 756		50 08	51
4	RADAR ACCESS DOOR	3 010 002 854		23 10	27
5	MAIN FRAME AT STN 53877	3 010 002 956		51 78	53
5	DIVE BRAKE ACCOM STRUCTURE	3 010 003 056		27 77	50
3	COCKPIT DECKING	3 010 003 152		144 25	19
4	DUCT C F	3 010 003 254		335 12	37
5	DUCT D B	3 010 003 356		276 39	54
3	CANOPY ARCH F F	3 010 003 452		58 06	21
3	CANOPY ARCH C F	3 010 003 552		15 98	26
5	ACCESS PANEL STIFFNERS	3 010 003 656		29 79	53
3	NOSE U C SUPPORT STRUCTURE	3 010 003 752		34 59	20
3	CREW BULKHEADS	3 010 003 852		111 39	20
4	EQUIP BAY STRUCTURE	3 010 003 954		58 03	28
3	WINDSCREEN R N	3 010 004 051		15 15	11
3	WINDSCREEN F F	3 010 004 152		115 24	14
5	SERV ACCESS DOORS AND PNLS	3 010 004 258		43 16	66
6	FAIRING UNDER RUDDER R F	3 010 004 359		12 50	77
4	DORSAL FAIRING AIR OUTLET	3 010 004 454		21 10	29
5	INTERMEDIATE FORMERS E B	3 010 004 558		34 61	69
5	ENGINE ACCESS DOORS E B	3 010 004 658		74 67	62
4	SEAL IN MISSILE BAY	3 010 004 754		61 8	29
4	JOINT STRAPS AND MISC	3 010 004 854		15 53	33
4	FLOOR C F	3 010 004 954		114 98	37
3	BULKHEAD AT STN 120	3 010 005 052		28 39	12

RIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-05 Issue 22

Jan. 1/56

SHEET 004-3

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	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	3 0 0 0 0 0 0						
URE	3 0 1 0 0 0 0						
	3 0 1 0 0 0 1 51		1 3 9 2 1	4 3 6 1	1 1 0 6 4	6 0 7 0 9 5	1 5 4 0 2 1 9
RS	3 0 1 0 0 0 2 51		8 6 2 1	9 3 2 3	1 1 4 3 9	8 0 3 7 3 6	9 8 6 1 5 6
O	3 0 1 0 0 0 3 51		9 7 7 2	9 1 5 0	1 1 5 6 4	8 9 4 1 3 8	1 1 3 0 0 3 4
	3 0 1 0 0 0 4 52		6 7 4 1	1 9 2 8 0	1 1 5 3 5	1 2 9 9 6 6 5	7 7 7 5 7 4
	3 0 1 0 0 0 5 54		1 3 0 5 9	3 7 0 5 0	1 4 2 4 0	4 8 3 8 3 6 0	1 8 5 9 6 0 2
	3 0 1 0 0 0 6 56		8 3 1 7	5 3 8 3 2	1 0 3 7 3	4 4 7 7 2 0 7	8 6 2 7 2 2
	3 0 1 0 0 0 7 58		1 1 6 3 9	6 7 1 5 2	1 0 9 1 1	7 8 1 5 8 2 1	1 2 6 9 9 3 1
	3 0 1 0 0 0 8 52		1 2 8 0	1 8 5 6 9	1 1 8 0 0	2 3 7 6 8 3	1 5 1 0 4 0
	3 0 1 0 0 0 9 54		5 1 7 3	3 6 5 8 2	1 4 1 6 2	1 8 9 2 3 8 7	7 3 2 6 0 0
	3 0 1 0 0 1 0 56		5 0 0 5	5 0 5 8 2	1 0 0 1 5	2 5 2 9 1 0	5 0 0 7 5
	3 0 1 0 0 1 1 52		8 7 8 5	1 8 0 9 4	1 2 1 2 0	1 5 8 9 5 5 8	1 0 6 4 7 4 2
	3 0 1 0 0 1 2 54		2 7 4 4	1 3 7 4 3	1 3 2 9 5	1 0 2 7 3 3 6 2	3 6 4 8 2 8 1
	3 0 1 0 0 1 3 56		1 2 3 8	1 5 3 8 3	1 1 0 0 3 4	6 6 6 4 8 1 6	1 2 4 2 3 1 0
	3 0 1 0 0 1 4 58		1 0 6 6	3 6 6 9 3	2 1 0 7 6 1	7 1 3 6 9 5 9	1 1 4 7 4 4 5
	3 0 1 0 0 1 5 58		1 5 4 5	5 5 6 6 0	9 8 1 0 8 5 9	1 0 2 1 5 4 4 6	1 6 7 8 2 5 8
	3 0 1 0 0 1 6 52		5 3 1 1	1 1 8 3 4	7 8 6 2 2	9 7 4 4 0 9	4 5 7 9 1 4
	3 0 1 0 0 1 8 58		7 5 8 0	6 5 0 0 9	9 7 5 0	4 9 2 7 6 8 2	7 3 9 0 5 0
	3 0 1 0 0 1 9 58		3 2 0 5	6 6 9 6 0	1 3 9 1 0	2 1 4 6 0 6 8	4 4 5 8 1 6
B	3 0 1 0 0 2 1 56		1 8 9 0	5 3 3 6 3	1 3 4 1 5	1 0 0 8 5 6 1	2 5 3 5 4 4
	3 0 1 0 0 2 2 52		5 3 2 5	2 9 5 1 5	2 5 0	1 3 4 0 6	8 0 8 3
	3 0 1 0 0 2 3 54		1 4 2 5	1 4 1 1 1	1 1 2 2 1 1	5 8 5 8 7 2 9	1 7 4 0 1 9 0
F	3 0 1 0 0 2 4 56		4 6 5 4	8 1 0 4	1 0 7 0 0	2 2 3 6 8 4	4 9 7 5 5
B	3 0 1 0 0 2 5 56		9 1 9 3	5 2 5 9 0	9 8 6 3	4 8 3 4 5 9 9	9 0 6 7 0 6
ERON	3 0 1 0 0 2 6 54		4 0 5 3	2 7 4 0 7	9 2 3 2	1 1 1 0 8 0 6	3 7 4 1 7 3
B	3 0 1 0 0 2 7 56		5 0 0 8	5 1 5 8 4	9 1 0 2	2 5 8 3 3 2 7	4 5 5 8 2 8
	3 0 1 0 0 2 8 54		2 3 1 0	2 7 4 0 6	8 9 7 0	6 3 3 0 7 9	2 0 7 2 0 7
77	3 0 1 0 0 2 9 56		5 1 7 8	5 3 8 7 4	1 0 4 5 4	2 7 8 9 5 9 6	5 4 1 3 0 8
CTURE	3 0 1 0 0 3 0 56		2 7 7 7	5 0 5 6 1	9 3 3 7	1 4 0 4 0 7 9	2 5 9 2 8 8
	3 0 1 0 0 3 1 52		1 4 4 2	5 1 9 1 2	7 1 4 7 5 0	2 7 5 9 0 7 0	2 1 2 7 6 8 8
	3 0 1 0 0 3 2 54		3 3 5 1	2 3 7 2 5	6 1 2 9 1 9	1 2 4 8 5 2 3 1	4 3 2 9 4 1 5
	3 0 1 0 0 3 3 56		2 7 6 3	9 5 4 1 1	8 1 1 8 1 6	1 4 9 5 7 6 7 4	3 2 6 5 8 2 4
	3 0 1 0 0 3 4 52		5 8 0 6	2 1 7 8 7	1 5 9 9 2	1 2 6 4 9 5 3	9 2 8 4 9 6
	3 0 1 0 0 3 5 52		1 5 9 8	2 6 0 9 5	1 6 2 7 2	4 1 6 9 9 8	2 6 0 0 2 7
S	3 0 1 0 0 3 6 56		2 9 7 9	5 3 1 6 1	9 6 0 5	1 5 8 3 6 6 6	2 8 6 1 3 3
CTURE	3 0 1 0 0 3 7 52		3 4 5 9	2 0 9 8 3	9 1 3 1	7 2 5 8 0 2	3 1 5 8 4 1
	3 0 1 0 0 3 8 52		1 1 1 3	9 2 0 5 2	6 1 2 3 0 3	2 2 8 6 3 9 1	1 3 7 0 4 3 1
	3 0 1 0 0 3 9 54		5 8 0 3	2 8 3 3 8	1 3 7 0 7	1 6 4 4 4 5 4	7 9 5 4 1 7
	3 0 1 0 0 4 0 51		1 5 1 5	1 1 3 5 6	1 5 0 1 4	1 7 2 0 4 3	2 2 7 4 6 2
	3 0 1 0 0 4 1 52		1 1 5 2	4 1 4 1 3	1 5 0 1 4	1 6 2 8 4 5 6	1 7 3 0 2 1 3
P NLS	3 0 1 0 0 4 2 58		4 3 1 6	6 6 6 7 9	9 3 0 4	2 8 7 7 8 6 6	4 0 1 5 6 1
R F	3 0 1 0 0 4 3 59		1 2 5 0	7 7 3 5 9	1 5 8 0 0	9 6 6 9 8 8	1 9 7 5 0 0
TLET	3 0 1 0 0 4 4 54		2 1 1 0	2 9 2 9 6	1 6 4 0 7	6 1 8 1 4 6	3 4 6 1 8 8
E B	3 0 1 0 0 4 5 58		3 4 6 1	6 9 3 4 9	1 0 1 5 7	2 4 0 0 1 6 9	3 5 1 5 3 4
B	3 0 1 0 0 4 6 58		7 4 6 7	6 2 7 6 4	8 7 4 6	4 6 8 6 5 8 8	6 5 3 0 6 4
	3 0 1 0 0 4 7 54		6 1 8 2	9 4 0 0	1 1 1 5 1	1 8 1 6 9 2	6 8 9 1 3
	3 0 1 0 0 4 8 54		1 5 5 3	3 3 6 1 4	1 3 1 1 8	5 2 2 0 2 5	2 0 3 7 2 3
	3 0 1 0 0 4 9 54		1 1 4 9	8 3 7 8 3	0 1 1 4 3 0	4 3 4 9 6 9 3	1 3 1 4 2 2 1
	3 0 1 0 0 5 0 52		2 8 3 9	1 2 0 0 0	1 2 3 7 1	3 4 0 6 8 0	3 5 1 2 1 3

UNCLASSIFIED
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PROJECT C-105

WEIGHT AND C. OF G BY FUNCTIONAL
COMPONE

DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT	H
UNDERCARRIAGE UP POSITION		4000000			
MAIN UNDERCARRIAGE GROUP		4010000			
35	MAIN UNDERCARRIAGE	4010100	92	183960	54
				183960	
12	MAIN U C DOORS FAIRINGS	4010200	92	28732	5
				28732	
MAIN U C HYDRAULICS		4010300			
57	MAIN U C HYDRAULICS F F	4010301	52	7781	1
57	MAIN U C HYDRAULICS C F	4010302	54	2943	8
57	MAIN U C HYDRAULICS I W	4010303	62	28484	5
				29556	
NOSE UNDERCARRIAGE GROUP		4020000			
36 NOSE WHEEL UNDERCARRIAGE		4020100	91	31447	1
				31447	
3	NOSE U C DOOR AND FAIRING	4020200	91	2592	1
				2592	
NOSE U C HYDRAULICS		4020300			
57	NOSE U C HYDRAULICS F F	4020301	52	9708	2
57	NOSE U C HYDRAULICS C F	4020302	54	8403	8
				10548	

