

QC
Avro
C-105
Report
7-0400-44
Iss-4

QCX
Avro
CF105
R-7-0400-44
Iss-4

FILE IN VAULT

C-105 MK 1 Report # 7-0400-44
J75 P3 Engines Issue 4

WEIGHT SUMMARY & C.G. POSITION 35

N.A.E. April 1/57

SECRET

UNCLASSIFIED



National Research Council

Canada

C.I.S.T.I.

Aeronautical and

Mechanical

Engineering Library

Conseil national de recherches

Canada

I.C.I.S.T.I.

Bibliothèque

d'aéronautique

et de génie mécanique

TO
A

DATE

JAN 07 1993

Report no.: QCX-AVRO-CF105-R-7-0400-44-Iss-4

has been ☐ downgraded to : _____

☒ de-classified

by (Name): Michel W. Drapeau

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

Date: Dec. 7, 1992

R. Auger
Signature

Classification cancelled / changed to: UNCLASSIFIED

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

Date: 5 Nov 1992

Signature: B. Aubrey

Unit / Rank / Appointment: DSIS 3, Secretary CRAD HQ DRP

Date: April 1st, 1957
Aircraft: C-105 MK 1 with
J75 P3 Engines
1st A/C.



Report # 7-0400-44 Iss. 4
Sheet # 1-1
Prepared By: K. Griffin
Checked By: E. Burnett

INTRODUCTION

The following is a Weight & C.G. Summary for the 1st C-105 MK 1 Aircraft with J75 P3 Engines, based on the latest weight estimates available on March 31st 1957. All Weight and C. G. changes are relative to Issue 3 of March 1st 1957.

Note: This summary does NOT apply for the 2nd and subsequent MK 1 Aircraft see context below.

GENERAL

- a) Pratt & Whitney J75 P3 Engines comprise the Power Plant for the 1st Aircraft. J75 P5 Engines, which are partially redesigned versions of the P3 Engines, are to be installed on the 2nd and subsequent MK 1 Aircraft.
(J75 P3 Engines = 6,175 lb each; J75 P5 Engines = 5,950 lb each)
- b) An Instrument Package carrying Flight Test Instrumentation is installed, this also varies between first and subsequent aircraft. It should be noted that no allowance is yet made for other Flight Test installations throughout the aircraft, these will be introduced as information becomes available. A very preliminary check has been made on the Flight Test wiring and equipment installations, other than that housed within the pack and it is felt that the weight involved may well be in excess of 500 lb. A more accurate evaluation will be introduced on May 1st, 1957.
- c) Emergency jettison for the pack, emergency lowering for the Undercarriages and addition emergency fire protection, all to be installed on the 1st aircraft, are allowed for in this summary.
- d) An Interim Radio & Radar system is installed.
- e) It should be noted that due to material substitutions and shop variations introduced by planning or production departments there is a weight penalty to the structure to-date of 198 lb. This is all recorded in the structural weight breakdown. No account has been taken of concessions on machinings etc. since it is impossible to assess these.
- f) Pending Flight Test requirements a "Buzz Damping" system may be installed on the first aircraft. Provisions for this installation are already included in the Structure group. The "Buzz Damper" system weights are not currently recorded, but they incur a weight penalty of 134 lb if necessary.

1. STRUCTURE

UNCLASSIFIED
NON CLASSIFIED

WEIGHT -(lb.)

a) Wing

I/W complete - no weight change.

Actual weights of Spars, Rib # 10 etc.	-	9
Machined panels replace honeycomb ones on Centre T/Edge	+	15
Miscellaneous other changes to I/Wing	-	6
Ailerons - Actual weights	-	13
Aileron Control Box - some actual weights, some re-estimates	-	7

SECRET

45698

continued.

Date: April 1st, 1957
Aircraft: C-105 MK 1 with
J75 P3 Engines
1st A/C

SECRET

Report # 7-0400-44 Iss. 4
Sheet # 1-2
Prepared By: K. Griffin
Checked By: E. Burnett

INTRODUCTION

UNCLASSIFIED
NON CLASSIFIED

1. STRUCTURE: (Cont'd.)

a) Wing: (Cont'd)

WEIGHT (lb)

O/Wing - miscellaneous changes etc. Actual weights of
F/Spar & C/A/Spar

- 9

Weight Change Decrease

- 29

Ref. 2-1

b) Fin & Rudder

No weight change, although actual weight of Rudder now obtained.

c) Fuselage Fwd. Sta. 255"

Miscellaneous changes to re-issues of production drawings of
Formers, Bulkheads, Canopy Arches, Lower
Longerons etc.

+ 10

Air Intakes - redesigned ramp estimate to production drawings
(see weight change sheets for full details)

+ 26

Weight Change Increase

+ 36

Ref. 2-2

d) Centre Fuselage Sta. 255-485"

Miscellaneous production drawing changes

- 2

Weight change Decrease

- 2

Ref. 2-3

e) Duct Bay Sta. 485"-591.65"

No weight change.

f) Engine Bay Sta. 591.65-742.5"

No weight change

g) Rear Fuselage Aft Sta. 742.5"

Tail Cones - Shop variation on material used on Inner Angles
formers Sta. 822.75 & 840.75" .025 Steel used in
error (.018 & .016 resp. correct gauges)

+ 2

Weight Change Increase

+ 2

Ref. 2-3

TOTAL STRUCTURAL WEIGHT INCREASE

+ 7

SECRET

Date: April 1st, 1957
Aircraft: C-105 MK 1 with
J75 P3 Engines
1st A/C

Report # 7-0400-44 Iss. 4
Sheet # 1-3
Prepared By: K. Griffin
Checked By: E. Burnett

INTRODUCTION

2. LANDING GEAR

No Weight Change

WEIGHT (lb)

3. POWER PLANT & SERVICES

Fuel System - Estimates revised to latest drawings in Fuselage
Actual weights of proportioners in Wings

+ 10

+ 21

TOTAL POWER PLANT & SERVICES INCREASE

+ 31

N. B. J75 P3 Engines on 1st A/C only, 2nd and subsequent A/C have
J75 P5 Engines which are 225 lb/engine lighter than the P3
version.

Ref. 2-3

4. FLYING CONTROLS GROUP

No Weight Change.

5. EQUIPMENT GROUP

Interim Radio & Radar - deletion of some relays & duplication of
J2 compass flux valve.

- 6

Electrics - Fire detection wire added in Engine Bay

+ 7

Cockpit Insulation - Production drawing estimates

+ 2

Probe - re-estimated, this may be again redesigned

+ 4

Low Pressure Pneumatics - Piping changes etc.

+ 3

TOTAL EQUIPMENT GROUP INCREASE

+ 10

Ref. 2-3

6. OPERATIONAL LOAD

No Weight Change

SUMMARY

Weight Change - Aircraft Weight Empty

Structure	+ 7 lb
Power Plant & Services	+ 31 lb
Equipment	+ 10 lb
	<u>+ 48 lb</u>

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

Issue 3

Issue 4

45,192 lb

45,240 lb

+ 48 lb.

Date: April 1st, 1957
Aircraft C-105 MK 1 with
J.75 P3 Engines
1st A/C

Report # 7-0400-44 Iss 4
Sheet # 2-1
Prepared By: K. Griffin
Checked By: E. Burnett

DETAILED WEIGHT CHANGES TO I.B.M.
TABULATED DETAILS OF MAR. 1st 1957.

WEIGHT CHANGES

UNCLASSIFIED
NON CLASSIFIED

WEIGHT (lb)

Wing:

-	6.23	I/W Spars - Actual Weight of Main Spars	-	3.50
		Actual Weight of machinings of Rear Spar etc.	-	3.80
		F/Spar I/B end design change	+	1.25
		Miscellaneous items.	-	0.18
			-	6.23
-	2.44	Rib # 10 - Actual Weight obtained		
+	3.28	Centre Trailing Edge - Machined panels replace honeycomb panels in early aircraft	+	15.34
		Fire Extinguisher brackets already in centre box assy.	-	0.72
		Engine pick ups no longer needed with redesigned rear engine mounting	-	5.06
		Miscellaneous production drawing estimates	-	6.28
			+	3.28
+	5.70	Skins M/S to R/S - addition of brackets & angles for dorsal fairing etc.	+	13.23
		hardware overestimated	-	7.53
			+	5.70
-	0.40	Dorsal Fairing I/W - complete redesign from early scheme drawing estimates now fully on production drawings		
-	12.66	Ailerons - Actual Weight of production Aileron, less buzz damping structural provisions, was obtained		
+	1.60	Rib # 12 - Design changes to hardware including addition of nut plates	+	1.86
		Miscellaneous alterations	-	0.26
			+	1.60
-	0.57	O/Wing Posts and Intercostals - completely checked and re-estimated.		
-	6.74	Aileron Control Box - Actual Weights of hinge spar and ribs # 2,5,6A and 8	-	3.59
		Addition of nut plates to ribs	+	1.95
		Control box to O/Wing joint		
		hardware was overestimated	-	4.53
		Miscellaneous changes	-	0.57
			-	6.74
-	10.35	O/W Spars - Actual weight of Front Spar	-	3.38
		Actual weight of Centre Spar Aft	-	6.38
		Miscellaneous changes to drawings	-	0.59
			-	10.35
-	28.81			

Date: April 1st, 1957
Aircraft: C-105 MK 1 with
J75 P3 Engines

Report # 7-0400-44 Issue 4
Sheet # 2-2
Prepared By: K. Griffin
Checked By: E. Burnett

DETAILED WEIGHT CHANGES TO I.B.M.
TABULATED DETAILS OF MAR. 1st, 1957

WEIGHT CHANGES

WEIGHT (lb)

Fin & Rudder:

0.00 Rudder - Actual weight obtained.

0.00

UNCLASSIFIED
NON CLASSIFIED

Fuselage Fwd. Sta. 255"

+	0.80	Canopy Arches - minor design changes on production drawing re-issues	
+	0.55	Lower Longerons F.F. - minor design changes, production drawing re-issues.	
+	0.11	Bulkhead Sta. 255" - Angles added to marry-up assy.	+ 1.45
		Details of hardware estimated	- 1.34
			+ 0.11
+	1.92	Bulkhead Sta. 120" - Addition of 6 shear pin fittings, lipped angles etc. for Radome attach.	
+	1.48	Pilot & Navigator's Bulkheads - Actual weight of seat fittings	+ 0.35
		Addition brackets for systems and canopy emergency operation	+ 3.39
		Uplock mounting - already included elsewhere and duplicated here	- 2.26
			+ 1.48
+	4.38	Formers F.F. - repair scheme to lower formers 188.4" and 194.9 as Stress Office requirement to cater to re-designed Intake Ramp	
+	26.36	Air Intakes - re-design structure first estimate to production drawings	
		Formers Sta. 228, 237.5 & 246 miscellaneous brackets etc.	+ 3.10
		Heat Exchanger and Boundary Layer Duct.	+ 3.51
		Former Sta. 201.4 addition of heavy extruded angles	+ 6.38
		Former Sta. 214.43, brackets added	+ 3.06
		Duct side skins .04 were .032 Al.	+ 2.62
		Conduit added	+ 1.20
		Former Sta. 207.93-brackets etc. added	+ 3.19
		Former Sta. 175.5 - lighter, smaller cross sectional area	- 3.43
		Miscellaneous changes mainly due to increase in dias. of posts etc. in truss structure	+ 6.73
			+ 26.36
+	35.60		
		<u>Centre Fuselage Sta. 255"-485"</u>	
+	0.89	Miscellaneous items C.F. - Alterations to marry-up hardware of component 54 items	
-	2.92	Pack Mounting Structure - Receptacles now included with skins	- 2.54
		Miscellaneous changes on production drawings, was estimated to scheme drawings	- 0.38
			- 2.92

Date: April 1st, 1957
Aircraft: C-105 MK 1 with
J75 P3 Engines

Report # 7-0400-44 Iss 4
Sheet # 2-3
Prepared By: K. Griffin
Checked By: E. Burnett

DETAILED WEIGHT CHANGES TO I.B.M.
TABULATED DETAILS OF MARCH 1st, 1957

WEIGHT CHANGES

WEIGHT (lb)

Centre Fuselage (Cont'd)

+ 0.27 Armament Bay Roof - clips added for pack pick-ups
- 1.76

Rear Fuselage Sta. 742.5" Aft.

+ 2.44 Tail Cones removable R.F. - Variation from shops on I/B
angles of Formers 822 and 840 made in .025 steel
by mistake, should be .018 & .016 respectively.
+ 2.44

Joints Fuselage

+ 0.41 Joint F.F. to C.F. - straps increased to .04 were .032 due
to skin dimpling difficulties.
+ 0.41

Engine Group

+ 2.21 Engine Mountings - production drawing estimates of redesigned
Rear Engine Mounting
- 2.78 Engine Mounting Accessories - redesign locating block also
now in Steel was in Inconel X.
+ 31.05 Fuel System - Actual Weight of proportioner units in I/W Wing
obtained - weight recorded was early estimate + 21.76
Addition of regulators and switches at
Sta. 485" in C.F. + 8.47
Miscellaneous changes due to entire re-estimate
of Fuselage portion of system. + 0.82
+ 31.05
+ 30.48

Equipment Fixed and Removable:

- 4.20 Interim Radio & Radar - deletion of 6 relays from junction
box R 2.
- 1.30 J2 Compass - flux valve already included above.
+ 7.18 Electrics E.B. - Installation of Fire Detection Wiring in
the Duct Bay and Engine Bay.
+ 2.40 Cock-pit Insulation - first estimate to drawings
+ 10.29 Low Pressure Pneumatics - Piping for machmeter, altimeter,
rate of climb indicator and forward pitot
piping added (see below)
- 4.50 Probe - Low Pressure Pneumatics included above - 8.00
Probe & sensor re-estimate to scheme drawings + 3.50
- 4.50
+ 9.87
+ 48.23 TOTAL WEIGHT CHANGES

Date: April 1st, 1957
Aircraft: C-105 MK 1 with
J75 P3 Engines
1st A/C

UNCLASSIFIED
NON CLASSIFIE

Report # 7-0400-44-4
Sheet # 3-1
Prepared By: J. Struik
Checked By: K. Griffin

WEIGHT & C.G. SUMMARY

<u>DESCRIPTION</u>	<u>WEIGHT</u> <u>lb.</u>	<u>H. ARM</u> <u>ins.</u>	<u>V. ARM</u> <u>ins.</u>
STRUCTURE	18,487.74	562.77	137.53
Wing	9,996.13	643.15	142.13
Fin & Rudder	1,029.70	754.74	209.56
Fuselage: Fwd. Sta. 255"	2,583.44	181.20	128.09
Sta. 255"-485"	1,650.42	379.43	130.03
Sta. 485"-591.65"	1,001.05	533.92	104.67
Sta. 591.65"-742.5"	1,402.24	660.72	107.45
Sta. 742.5 Aft.	772.18	800.51	129.11
Marr-up	52.58	468.91	103.89
UNDERCARRIAGE - Retracted	2,612.33	488.81	134.66
Main Undercarriage	1,959.62	539.48	141.00
Main U/C Doors & Fairings	294.36	539.29	136.01
Nose Undercarriage	333.81	170.81	99.70
Nose U/C Door & Fairing	24.54	162.24	88.23
POWER PLANT & SERVICES	14,261.69	654.19	120.22
Engines & Accessories	12,557.91	664.92	119.80
Gear Box Installation on Fuselage	280.14	601.46	102.53
Gear Box & Starter on Engine	263.07	591.77	104.40
Engine Controls	32.43	375.76	118.62
Engine De-Icing	70.37	562.80	115.09
Fire Extinguishing System	70.46	702.44	134.83
Engine Mountings	198.75	635.50	127.97
Fuel System	788.56	542.92	135.65
FLYING CONTROLS GROUP	1,819.56	687.03	139.99
Mechanical Flying Controls	942.92	688.24	148.66
Hydraulic Flying Controls	876.64	685.72	130.67
EQUIPMENT FIXED & REMOVABLE	7,090.44	385.48	110.64
Instruments	46.07	163.68	138.70
Probe	18.50	-40.00	108.00
Cockpit Pressure Sealing	5.00	186.00	130.00
Oxygen System	43.44	227.72	142.18
Air Conditioning System	738.02	336.49	134.76
Surface Finish	100.00	591.52	140.20
Hydraulics Main System	587.49	498.76	116.66
Cabin Insulation	14.31	187.48	132.00
Brake Parachute	62.38	769.41	143.24
Electrical System	1,105.89	419.52	112.93
Low Pressure Pneumatics	49.30	444.28	125.94
Intake De-icing Boots	51.84	197.02	118.00
Canopy Actuation	62.05	222.11	154.47
Cabin Consoles	17.45	174.76	124.34
Ejector Seats	186.00	201.10	136.25
Interim Radio & Radar	699.13	322.30	123.46
Instrument Pack Structure	670.61	385.90	94.71
Instrumentation - 1st A/C	2,447.00	389.50	95.00
Additional Fire Protection 1st A/C	154.17	425.05	102.89
Emergency Landing Gear Lowering	12.91	458.83	128.60

continued.

Date: April 1st, 1957
Aircraft: C-105 MK 1 with
J75 P3 Engines
1st. A/C

UNCLASSIFIED
NON CLASSIFIED

Report # 7-0400-44 Iss. 4
Sheet # 3-2
Prepared By: J. Struik
Checked By: K. Griffin

WEIGHT & C.G. SUMMARY

DESCRIPTION	WEIGHT lb.	H. ARM ins.	V. ARM [*] ins.	M.A.C. %
<u>Equipment (Fixed & Removable)(Cont'd.)</u>				
Radome Anti-Icing	8.88	51.49	125.00	
AIRCRAFT WEIGHT EMPTY	44,271.76	564.57	127.57	
USEFUL LOAD (less Fuel)	968.02	354.76	132.64	
Crew	430.00	194.00	136.50	
Oil	134.23	608.92	115.68	
Alcohol - radome de-icing	22.00	93.00	138.00	
Engine Fire Extinguisher Fluid	25.00	730.00	129.00	
Residual Fuel	218.40	553.98	134.04	
Oxygen Charge	13.39	259.69	159.91	
Water for Air Conditioning	125.00	268.00	132.00	
Operational Weight Empty U/C Up		560.08	127.68	34.27
U/C Down	45,239.78	562.24	124.10	34.86
Max. Internal Fuel (2,544 gals. @ 7.8 lb/gal.)	19,843.00	538.88	144.32	
A.U.W. Max. Internal Fuel U/C Up		553.62	132.75	32.49
U/C Down	65,082.78	555.12	130.26	32.90

* A/C datum is considered to be 120" above an arbitrary ground line.

Above figures are for the Aircraft in the unballasted condition.

If the most Aft point on the C.G. Envelope is to be ballasted to 31% M.A.C. then the 1,382 lb of ballast at Sta. 89.16", as currently provided for on Former Sta. 68.5" and the shear panel, is necessary, plus a further 96 lb on the shear panel (i.e. Total 1,478 lb)

BY: Kathleen Lyfflin

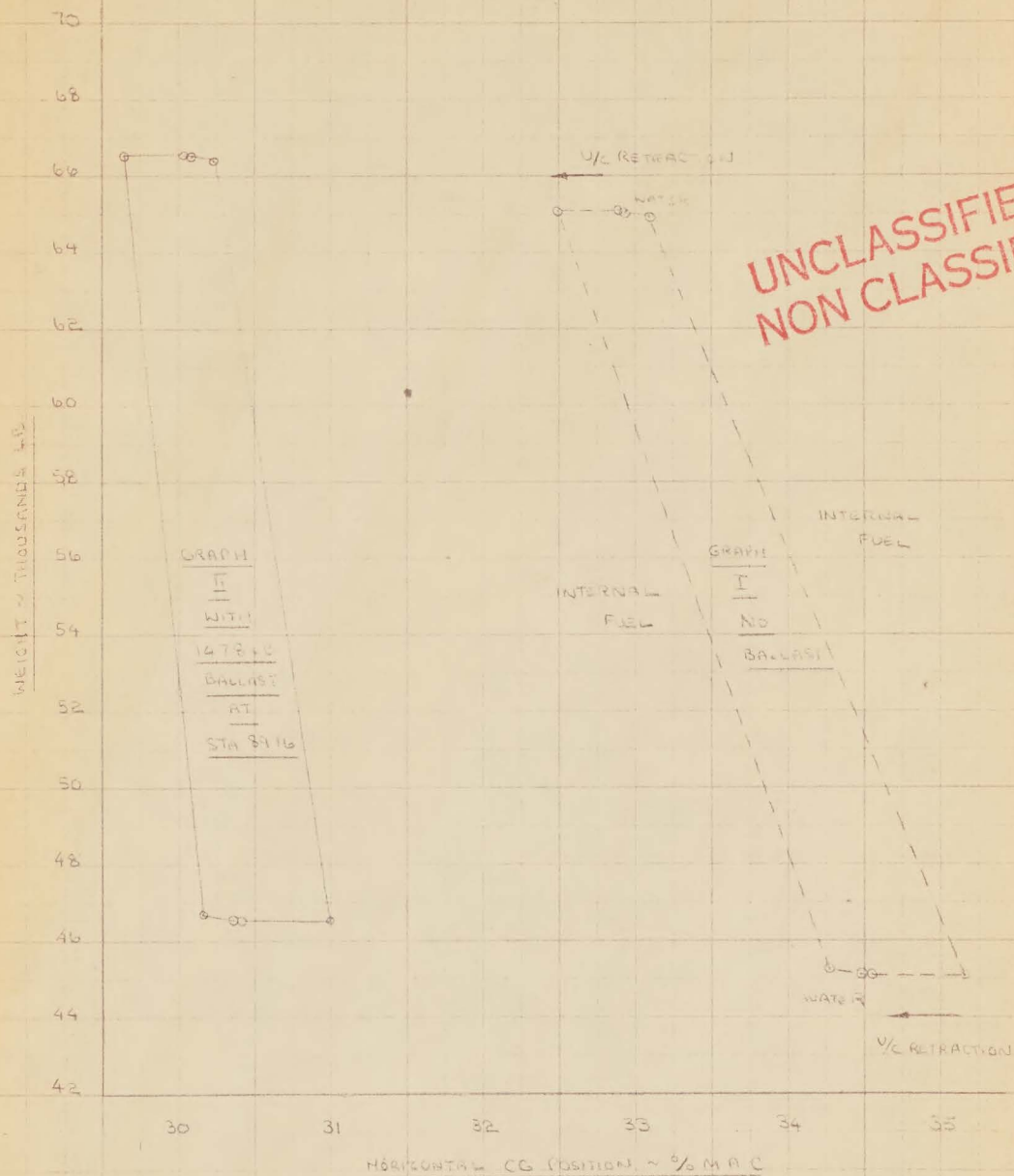
DATE: April 26 1954

HORIZONTAL C.G. ENVELOPE

CIDRANK 1st 1/2 FLIGHT CONDITIONS

WITH J7513 ENGINES (2nd 1/2 SUBSEQUENT 1/2 HAVE J7513 ENGINES)

- a) INTERIM RADAR & RADAR
- b) FUEL SYSTEM PROPORTIONERS
- c) INSTRUMENT PACKAGE



UNCLASSIFIED
NON CLASSIFIED

REPORT NO: 7-0400-44-4

By: Kathleen J. Giffen

DATE: April 1st 1957

HORIZONTAL C.G. ENVELOPE
C105 MKI 1st A/C FLIGHT CONDITIONS

WITH

PROPOSED FUEL SYSTEM SEQUENCING

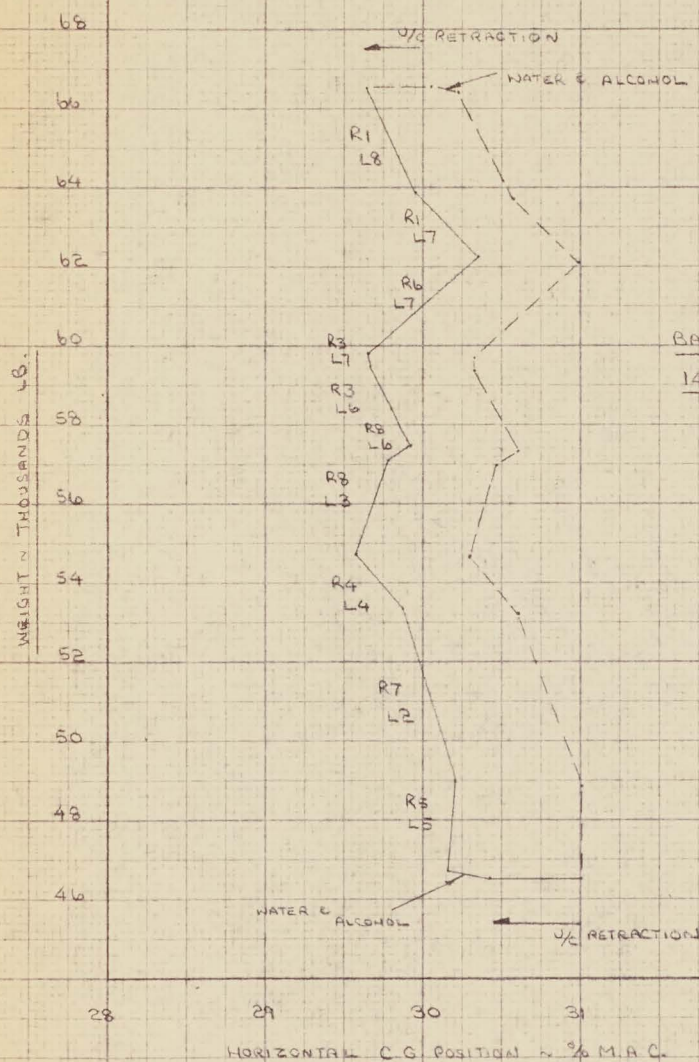
SEQUENCING ORDER:- (by also P/WTS/121)

R.H.S. ~ 1, 6, 3, 8, 4, 7, 5 (DENOTED R₁, R₆ etc)

L.H.S. ~ 8, 7, 6, 3, 4, 2, 5 (DENOTED L₈, L₇ etc)

----- U/C EXTENDED

————— U/C RETRACTED



UNCLASSIFIED
NON CLASSIFIED

BALLAST INSTALLED

1478 LB AT STA 89.16

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL GR COMPONENT

PROJECT C-105 MK 1

DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT	H. AIR
TOTAL WING GROUP		1000000			
OUTER WING		1010000			
14	OUTER WING SKINS	1010000164		928897064	
	POSTS AND INTERCOSTALS	1010000264		2436732	
	OUTER WING SPARS	1010000364		39258701	
14	OUTER WING RIBS	1010000464		13456698	
	AILERON CONTROL BOX	1010000664		37920774	
	RIB 12	1010000764		7626648	
14	O W AILERON JACK FITTING	1010000964		1046727	
14	AILERON JOINTS AND FAIRING	10100010		3293787	
75	BUZZ DAMP STRUC PROV O W	1010001164		870757	
				198794	
AILERON		1020000			
	AILERON STRUCTURE	1020000174		33600792	
75	BUZZ DAMP STRUC PROV AIL	1020000274		630731	
				34230	
ELEVATOR		1030000			
20	ELEVATOR MARRY UP	1030000		44900755	
20	ELEVATOR MARRY UP	1030000		1597738	
75	BUZZ DAMP STRUC PROV ELEV	1030000182		740744	
				47237	
INNER WING		1040000			
	MAIN U C STRUCTURE	1040000162		33823577	
	FRONT SPAR I W	1040000262		11110484	
	MAIN SPAR I W	1040000362		15106565	
	FWD CENTRE SPAR I W	1040000462		5364600	
	AFT CENTRE SPAR I W	1040000562		3666654	
	REAR SPAR I W	1040000662		7667703	
	I W STRUCTURE F S TO M S	1040000762	1	104185498	
	I W STRUCTURE M S TO R S	1040000862		14979609	
	STRUCTURE AFT OF REAR SPAR	1040000962		32312718	
12	ELEVATOR CONTROL BOX I W	1040001062		42717725	
16	TRANSP JOINT MARRY UP	10400011		7065636	
	CENTRE LINE JOINTS	1040001262		63746661	
	INNER WING SKINS	1040001362	2	18550624	
	STRUT PICK UP FITTINGS I W	1040001462		5422567	
	RIBS 1 TO 9 INNER WING	1040001662		52596612	
	DORSAL FAIRINGS I W	1040001762		95482	
	RIB 10	1040001862		10800636	
	FUSELAGE HINGE JOINT I W	1040001962		13812621	
16	TRANSP JOINT	1040002062		13100630	
	FUSELAGE HINGE JOINT	10400021		3740527	

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

April 1/57
SHEET 4-1

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	1000000						
						UNCLASSIFIED NON CLASSIFIE	
	1010000						
	1010000164		92889	70647	13598	65623292	12631046
LS	1010000264		2436	73207	13410	1783323	3266668
	1010000364		39258	70118	13636	27526924	5353221
	1010000464		13456	69506	13650	9352727	1836744
	1010000664		37920	77409	13508	29353493	5122234
	1010000764		7626	64873	13832	4947215	1054828
TING	1010000964		1046	72791	13670	761394	142988
AIRING	10100010		3293	78726	13224	2592447	435466
O W	1010001164		870	75700	13810	658590	120147
			198794			142599405	27023342
	1020000						
	1020000174		33600	79213	13556	26615568	4554816
AIL	1020000274		63073	139	1381	460776	8700
			34230			27076344	4563516
	1030000082		44900	75523	14260	33909827	6402740
	1030000		15977	73810	14260	1178746	227732
ELEV	1030000182		740	74450	14200	550930	105080
			47237			35639503	6735552
	1040000						
	1040000162		33823	57782	13984	19543606	4729808
	1040000262		11110	48428	14260	5380351	1584286
	1040000362		15106	56570	14280	8545464	2157137
	1040000462		5364	60098	14415	3223657	773221
	1040000562		3666	65492	14450	2400937	529737
	1040000662		7667	70374	14420	5395575	1105581
M S	1040000762	1	10418	54985	14395	51942474	14997431
R S	1040000862		14979	60964	14572	9131798	2182740
R SPAR	1040000962		32312	71847	15020	23215203	4853262
W	1040001062		42717	72500	14327	30969825	6120065
P	10400011		7065	63621	13876	4494824	980339
	1040001262		6374	66611	15006	42146305	9565725
	1040001362	2	18550	62462	14463	136510701	31608887
GS I W	1040001462		5422	56793	14330	3079316	776973
NG	1040001662		5259	66120	14521	32189804	7637465
	1040001762		9548	2801	16150	45866	15343
	1040001862		10800	63683	13835	6877764	1494180
I W	1040001962		13812	62104	13790	8577804	1904675
	1040002062		13100	63071	13710	8262301	1796010
	10400021		3740	52796	14309	1974570	535157

PROJECT C-105 MK 1

[illegible]

WEIGHT AND C. OF G BY

REPORT NO. 7-0400-44 Iss 4

SHEET 4-2[illegible]

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL G COMPONENT

PROJECT C-105 MK 1

[illegible]

WEIGHT AND C. OF G BY

REPORT NO.

7-0400-44 Iss 4

SHEET 4-3

UNCLASSIFIED
NON CLASSIFIE

AVRO AIRCRAFT LTD.

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

PROJECT C-105 MK 1

	DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. A.
	TOTAL FUSELAGE GROUP	30000000			
	FUSELAGE BASIC STRUCTURE	30100000			
	RADOME	3010000151		17728	57
3	RADAR NOSE ACCESS DOORS	3010000251		8002	95
3	RADAR NOSE STRUCTURE	3010000351		12225	94
3	SKIN F F	3010000452		10949	189
4	SKIN C F	3010000554		21048	376
5	SKIN D B	3010000656		5880	534
5	SKIN E B	3010000758		17406	669
	FORMERS F F	3010001152		10531	183
4	FORMERS C F	3010001254		27786	374
5	FORMER D B	3010001356		7457	537
5	LIGHT FORMERS E B	3010001458		13435	667
5	HEAVY FORMERS E B	3010001558		21159	662
	LOWER LONGERONS F F	3010001652		6846	184
5	LONGITUDINAL MEMBERS E B	3010001758		11047	08
	LONGERON E B	3010001858		6905	658
5	TOP LONGERONS E B	3010001958		638	666
3	LOWER SHEAR PANEL F F	3010002052		2958	234
5	TOP WING LONGERONS D B	3010002156		6875	24
3	LONGERONS C F	3010002252		5325	2
3	LONGERONS C F	3010002354		1381	3411
5	LONGERONS D B	3010002556		10569	523
4	ELECTRONICS BAY STRUCTURE	3010002654		3570	273
5	LONGITUDINAL BEAMS D B	3010002756		6342	520
4	RADAR ACCESS DOOR C F	3010002854		2108	274
5	MAIN FRAME AT STN 538 77	3010002956		5966	538
5	DIVE BRAKE ACCOM STRUCTURE	3010003056		3634	503
3	COCKPIT DECKING	3010003152		17982	192
4	DUCT C F	3010003254		3328	6372
5	DUCT D B	3010003356		3150	4544
	CANOPY ARCHES	3010003452		853	5227
5	ACCESS PANEL STIFFNERS	3010003656		3865	539
3	NOSE U C SUPPORT STRUCTURE	3010003752		2868	213
	CREW BULKHEADS	3010003852		12272	205
4	EQUIPMENT BAY STRUCTURE	3010003954		6150	283
3	WINDSCREEN	3010004152		12754	138
5	SERV ACCESS DOORS AND PNLS	3010004258		6454	664
5	TORSION BOX E B	3010004358		5766	618
4	DORSAL FAIRING AIR OUTLET	3010004454		2061	1291
5	INTERMEDIATE FORMERS E B	3010004558		5224	693
5	ENGINE ACCESS DOORS E B	3010004658		14579	628
4	SEALING MISSILE BAY	3010004754		6977	321
	MISCELLANEOUS ITEMS C F	3010004854		392	370
	ARMAMENT BAY ROOF	3010004954		13216	384
	BULKHEAD AT STA 120	3010005052		3060	0120
	BULKHEAD AT STA 255	3010005152		10429	255
4	BULKHEAD AT STA 485	3010005254		11129	485
5	ENG TUNNEL E B	3010005458		46128	664
4	INTEGRAL FUS FUEL TANK	3010005554		20359	393

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

SHEET 44[illegible]

MALTON, ONT.

COMPONENTS

DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT	H. A.
3	COCKPIT FLOOR	301005652		5743	176
5	CENTRE BEAM 697 28 717 36	301005958		5097	171
4	DORSAL OVER FUEL TANK	301006154		5097	413
4	SHIELD EXHAUST DEFLECTOR	301006254		1965	334
3	SHEAR PANEL BELOW NAV ARCH	301006352		2074	251
	PACK MOUNTING STRUCTURE	301006454		2365	292
	ENG ACCESS DOORS R F	301006559		8284	777
	TUNNEL FIXED R F	301006659		9789	777
	SKIN AND STIFFENERS R F	301006759		5122	777
	FAIRING UNDER RUDDER R F	301006859		2606	781
	FORMERS FIXED R F	301006959		9290	779
	LONGERONS C BEAM FIXED R F	301007059		2799	777
	NACELLES REMOVABLE R F	301007159		2798	982
59	CNTR STRUC STING REMOV R F	301007259		1133	983
5	MISC ITEMS STRUCTURE E B	301007358		9176	664
5	MTG BRKTS SIDE PANEL D B	301007556		2135	524
5	FORMERS LOWER PANEL D B	301007656		7606	545
	LOWER PANEL D B	301007756		5054	554
	JOINT F F TO C F	3010078		8552	553
	JOINT AIR INTAKES TO F F	3010079		9522	220
	JOINT C F TO D B	3010080		5004	851
	JOINT D B TO E B	3010081		2508	584
	FUS JOINT AT STA 742 50	3010082		4437	742
				6215	228
9	DIVE BRAKES	302000072		1132	850
				1132	8
	AIR INTAKES	30300000			
	AIR INTAKES	303010055		7582	8210
				7582	8
	PILOTS AND NAVIG CANOPIES	30400000			
3	PILOTS CANOPY	304010053		2372	5175
				2372	5
3	NAVIGATORS CANOPY	304020053		1378	2232
				1378	2

EIGHT AND C. OF G BY

REPORT NO. 7-0400-44 Iss 4

SHEET 4-5

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	301005652		5743	17640	11575	1013065	664752
17 36	301005958		509	71350	11435	363172	58204
K	301006154		5097	41352	14205	2107711	724029
TOR	301006254		1965	33441	16400	657116	322260
V ARCH	301006352		2074	25702	15350	533059	318359
URE	301006454		2365	29226	10254	691195	242507
	301006559		8284	77280	9910	6401875	820944
	301006659		9789	77150	13100	7552214	1282359
R F	301006759		5122	77160	13790	3952135	706384
R F	301006859		2606	78130	15380	2036068	400803
	301006959		9290	77920	13630	7238768	1266227
D R F	301007059		2799	77170	12570	2159988	351834
F	301007159		2798	82163	12868	22996602	3601625
O V R F	301007259		1133	98357	313578	9476342	1539609
E B	301007358		917	66419	10272	609062	94194
D B	301007556		2135	2402	13330	111616	28393
B	301007656		7606	54565	9005	4150214	684920
	301007756		5054	55457	8790	2802797	444247
	3010078		855	25500	12000	218025	102600
F F	3010079		952	22000	12000	209440	114240
	3010080		500	48500	9800	242500	49000
	3010081		2508	58478	9150	1466628	229482
50	3010082		443	74250	11500	328928	50945
			621528			290697834	74572766
	302000072		11328	50799	9082	5754511	1028809
			11328			5754511	1028809
	3030000						
	303010055		75828	21086	11872	15989092	9002300
			75828			15989092	9002300
COPIES	3040000						
	304010053		23725	17543	15906	4162077	3773699
			23725			4162077	3773699
	304020053		13782	23258	16214	3205418	2234613
			13782			3205418	2234613

PROJECT C-105 MK 1

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

[illegible]

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

SHEET 4-6

[illegible]

AVRO AIRCRAFT LTD.

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

PROJECT C-105 MK 1

	DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. A.
	ENGINE GROUP	5000000			
41	ENGINE J 75	5010000		1252426	665
				1252426	
	J 75 ENGINES SERV ACCESS	5010100		3365	631
				3365	
	ACC GEAR BOXES ON FUS D B	5020001	56	4524	578
	ACC GEAR BOXES ON FUS E B	5020002	58	23490	605
				28014	
	ENGINE CONTROLS	5030000			
	ENGINE CONTROLS F F	5030001	52	1458	161
	ENGINE CONTROLS C F	5030002	54	264	308
	ENGINE CONTROLS D B	5030003	56	508	499
	ENGINE CONTROLS E B	5030004	58	1013	639
				3243	
	GEARBOX AND STARTER ON ENG	5040000		26307	591
				26307	
66	ENGINE ANTI ICING	5050000		7037	562
				7037	
	FIRE EXT SYSTEM	5060000			
	FIRE EXT SYST ENG	5060001		6900	705
	FIRE EXT SYST E B	5060002	56	146	553
				7046	
	ENGINE MTGS AND BRACKETS	5070000			
	ENGINE MTGS AND BRACKETS	5070001		14098	626
	ENGINE MTGS ACCESSORIES	5070002		5777	657
				19875	
	FUEL SYSTEM	5080000			

WEIGHT AND C. OF G BY

REPORT NO. 7-0400-44 Iss 4

SHEET 4-7

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	5000000						
	5010000		1252426	66501	11983	832875814	150078208
			1252426			832875814	150078208
ACCESS	5010100		3365	63171	10382	2125704	349354
			3365			2125704	349354
US D B	502000156		4524	57875	9607	2618265	434621
US E B	502000258		23490	60583	10378	14230947	2437792
			28014			16849212	2872413
	5030000						
	503000152		1458	16129	12476	235161	181900
	503000254		264	30813	11798	81346	31147
	503000356		508	49991	13459	253954	68372
	503000458		1013	63982	10194	648138	103265
			3243			1218599	384684
ON ENG	5040000		26307	59177	10440	15567693	2746451
			26307			15567693	2746451
	5050000		7037	56280	11509	3960424	809888
			7037			3960424	809888
	5060000						
	5060001		6900	70560	13477	4868640	929913
	506000256		146553	1813749		80764	20074
			7046			4949404	949987
CKETS	5070000						
CKETS	5070001		14098	62634	12972	8830141	1828793
RIES	5070002		5777	65785	12371	3800399	714673
			19875			12630540	2543466
	5080000						

MALTON, ONT.

PROJECT C-105 MK 1

[illegible]

WEIGHT AND C. OF G BY

FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

SHEET 4-8

UNCLASSIFIED
NON CLASSIFIED

MALTON, ONT.

PROJECT C-105 MK 1

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

[illegible]

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

SHEET 4-9

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
P	60000000						
	60100000						
F F	6010000152		8651	15807	11520	1367464	996595
C F	6010000254		885	33920	11526	300192	102005
D B	6010000356		350	48699	11880	170447	41580
F IN	6010000583		12688	78781	32176	9995733	2813691
I W	6010000662		40884	71751	14375	29334679	5877075
O W	6010000764		30188	77078	13561	23268307	4093795
C A	60100008		646	70982	14338	458544	92623
			94292			64895366	14017364
AULICS	60200000						
CS D B	6020000156		2651	157443	9616	1522814	254920
CS E B	6020000258		41650	65555	11120	27303658	4631480
CS R F	6020000359		48758	7510824		36420	5196
			44349			28862892	4891596
NT I W	6050000062		25266	70362	14714	17777663	3717639
			25266			17777663	3717639
NT O W	6060000064		12560	74060	13579	9301936	1705522
			12560			9301936	1705522
	6070000083		5489	75977	20776	4170378	1140395
			5489			4170378	1140395

UNCLASSIFIED
NON CLASSIFIED

AVRO AIRCRAFT LTD.

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

PROJECT C-105 MK 1

DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT	H. A.
FIXED EQUIPMENT GROUP		7000000			
INSTRUMENTS		7010000			
69	INSTRUMENTS F F	7010001	52	4407	161
106	NAVIG TABLE AND STOWAGE	7010004	52	200	220
				4607	
3 COCKPIT PRESSURE SEALING		7020000	52	500	186
				500	
OXYGEN SYSTEM		7030000			
63	OXYGEN SYSTEM F F	7030001	52	2279	196
63	OXYGEN SYSTEM C F	7030002	54	2065	262
				4344	
AIR CONDITIONING SYSTEM		7040000			
65	AIRCONDITIONING F F	7040001	52	9415	219
65	AIRCONDITIONING C F	7040002	54	5370	2310
65	AIRCONDITIONING D B	7040003	56	7430	541
65	AIRCONDITIONING E B	7040004	58	1619	630
65	AIRCONDITIONING ENG	7040006		1556	640
12	AIRCONDITIONING I W	7040007	62	80	515
				73802	
HYDRAULICS MAIN SYSTEM		7050000			
	UTILITY HYDRAULICS F F	7050001	52	8415	200
	UTILITY HYDRAULICS C F	7050002	54	4162	433
	UTILITY HYDR NOSE D B	7050003	56	2331	6551
	UTILITY HYDRAULICS E B	7050004	58	7240	608
	UTILITY HYDRAULICS I W	7050005	62	1331	1553
	UTILITY HYDR NOSE U C	7050006	91	325	190
	UTILITY HYDR MAIN U C	7050007	92	2980	543
	EMERGENCY LOWERING M U C	7050008	62	853	584
	EMERGENCY LOWERING N U C	7050009	52	438	214
				61040	
CABIN INSULATION		7070000	52	1431	187
				1431	
BRAKE PARACHUTE		7080000			

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. ~~7-0400-44~~ 7-0400-44 Iss 4

SHEET 4-10

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
TP	70000000						
	70100000						
	70100001	52	4407	16112	13909	710056	612970
AGE	70100004	52	2002	20000	13000	44000	26000
			4607			754056	638970
ILING	70200000	52	500	18600	13000	93000	65000
			500			93000	65000
	70300000						
	70300001	52	2279	19625	12578	447254	286653
	70300002	54	2065	26242	16027	541897	330958
			4344			989151	617611
TEM	70400000						
	70400001	52	9415	21970	11849	2068476	1115583
	70400002	54	5370	231062	13788	16680915	7404432
	70400003	56	7430	54185	13163	4025946	978011
	70400004	58	1619	63063	13506	1020990	218662
	70400006		1556	64017	13900	996105	216284
	70400007	62	80	51500	15950	41200	12760
			73802			24833632	9945732
EM	70500000						
F	70500001	52	8415	20016	10853	1684346	913280
F	70500002	54	4162	43384	10420	1805642	433680
B	70500003	56	2331	655198	10686	12869966	2491548
B	70500004	58	7240	60647	10852	4390843	785685
W	70500005	62	1331	155360	14235	7368970	1894821
C	70500006	91	325	19033	9521	61857	30943
C	70500007	92	2980	54325	14100	1618885	420180
U C	70500008	62	853	58436	14188	498459	121024
U C	70500009	52	438	21435	10275	93885	45005
			61040			30392853	7136166
	70700000	52	1431	18748	13200	268284	188892
			1431			268284	188892
	70800000						

UNCLASSIFIED
NON CLASSIFIED

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL G COMPONENT

PROJECT C-105 MK 1

DESCRIPTION						REFERENCE NO.			COMP. NO.	WEIGHT	H. A
	BRAKE	PARACHUTE	F	F		708000	0152			455169	
	BRAKE	PARACHUTE	R	F		708000	0559			5659820	
	BRAKE	PARACHUTE	I	W		708000	0662			124620	
										6238	
	ELECTRICAL	SYSTEM				7090000					
	ELECTRICAL	WIRING				7091400					
60	ELECTRICAL	WIRING	R	N		7091401	151			12992	
60	ELECTRICAL	WIRING	F	F		7091402	52			2966199	
60	ELECTRICAL	WIRING	C	F		7091403	54			1304418	
60	ELECTRICAL	WIRING	A	I		7091404	55			1274219	
60	ELECTRICAL	WIRING	D	B		7091405	56			6515532	
60	ELECTRICAL	WIRING	E	B		7091406	58			64595	
60	ELECTRICAL	WIRING	FIN			7091409	83			352797	
60	ELECTRICAL	WIRING	I	W		7091408	62			8909541	
60	ELECTRICAL	WIRING	N	U C		7091410	91			330286	
60	ELECTRICAL	WIRING	ENG			7091411				2002585	
60	ELECTRICAL	WIRING	C	A		7091412				13746334	
										37591	
60	ELECTRICS	F	F			7091500	52			15248154	
										15248	
60	ELECTRICS	C	F			7091600	54			7359454	
										7359	
	ELECTRICS	E	B			7091700	58			670679	
	ELECTRICS	ENG				7091701				11632562	
	ELECTRICS	C	A			7091702				718613	
										13020	
60	ELECTRICS	FIN				7091800	83			83895	
										83	
60	ELECTRICS	I	W			7091900	62			2336620	
60	ELECTRICS	C	A			7091901				112629	
60	ELECTRICS	M	U C			7091902	92			74518	
										2522	
60	ELECTRICS	A	I			7092000	55			5090220	
										5090	
	ELECTRICS	D	B			7092100	56			26989518	
										26989	

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

SHEET 4-11

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	70800001	52	455	16913	12869	76954	58554
	70800005	59	5659	82094	14437	4645699	816990
	70800006	62	124	62022	14500	76907	17980
			6238			4799560	893524
	70900000						
	70914000						
N	70914015	1	129	9285	12000	11978	15480
F	70914025	2	2966	19977	11200	592518	332192
F	70914035	4	1304	41878	11000	546089	143440
I	70914045	5	1274	21984	12000	280076	152880
B	70914055	6	6515	53375	9200	3477381	599380
B	70914065	8	6459	500	9200	38080	5888
N	70914098	3	3527	9754	30000	280734	105600
W	70914086	2	8909	54111	13900	4820749	1238351
U	70914109	1	330	18600	9800	61380	32340
C	7091411		2002	58583	10000	1172832	200200
A	7091412		13746	33473	11234	4601199	1544226
			37591			15883016	4369977
	70915005	2	15248	15464	11095	2357951	1691766
			15248			2357951	1691766
	70916005	4	7359	45491	10717	3347683	788664
			7359			3347683	788664
	70917005	8	6706	7944	11597	455225	77700
	7091701		11632	56207	11472	6537998	1334423
	7091702		7186	1350	12000	440493	86160
			13020			7433716	1498283
	70918008	3	8389	550	28840	74327	23937
			83			74327	23937
	70919006	2	2336	62053	14500	1449558	338720
	7091901		1126	2946	13561	70500	15188
	7091902	92	7451	600	13700	38184	10138
			2522			1558242	364046
	70920005	5	5090	22059	13832	1122803	704049
			5090			1122803	704049
	70921005	6	26989	51855	10253	13995146	2767182
			26989			13995146	2767182

UNCLASSIFIED
NON CLASSIFIED

AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL COMPONENT

PROJECT ~~C-105 MK 1~~

	DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H.
66	WINDSCREEN DEMISTING	709220052		2551	20
				2551	
	ELECTRICS R F	709230059		136	80
				136	
	L P PNEUMATICS	71000000			
	L P PNEUMATICS F F	710000152		1963	19
	L P PNEUMATICS C F	710000254		368	40
	L P PNEUMATICS D B	710000356		456	55
	L P PNEUMATICS E B	710000458		1557	65
	L P PNEUMATICS F IN	710000583		504	74
	L P PNEUMATICS R N	710000651		82	7
				4930	
	INTAKE DEICING	712000055		5184	19
				5184	
65	RADOME ANTI ICING	713000051		888	5
				888	
	RADIO RADAR INT SYST R N	715000151		1979	10
	RADIO RADAR INT SYST F F	715000252		1045	18
	RADIO RADAR INT SYST C F	715000354		3220	27
	RADIO RADAR INT SYST I W	715000562		1039	754
	RADIO RADAR INT SYST O W	715000664		80	73
	RADIO RADAR INT SYST FIN	715000783		320	176
	RADIO RADAR INT SYST C A	7150008		1157	927
	RADIO RADAR INT SYST D B	715000959		13	74
				699	13
60	CANOPY ACTUATION	716000052		6205	22
				6205	
3	CABIN CONSOLES	717000052		1745	17
				1745	
62	SURFACE FINISH F F	719000152		363	18
62	SURFACE FINISH CANOPY	719000253		6420	

EIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

SHEET 4-12

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	7092200	52	2551	20102	10400	512802	265304
			2551			512802	265304
	7092300	59	136	80200	11360	109072	15450
			136			109072	15450
	7100000						
	7100001	52	1963	19752	12519	387771	245748
	7100002	54	368	40463	12263	148904	45128
	7100003	56	456	55084	10296	251183	46950
	7100004	58	155	765644	9739	1022077	151636
	7100005	83	504	74257	24452	374255	123238
	7100006	51	82	7540	9958	6183	8166
			4930			2190334	620866
	7120000	55	5184	19702	11800	1021352	611712
			5184			1021352	611712
	7130000	51	888	5149	12500	45723	111000
			888			45723	111000
R N	7150001	51	1979	10256	8873	202966	175597
F F	7150002	52	10458	18943	12465	1981059	1303590
C F	7150003	54	32206	27695	10372	8919452	3340406
I W	7150005	52	10397	54826	15610	5700259	1622972
O W	7150006	64	807	73904	13764	59123	11011
FIN	7150007	83	320	176212	25627	2439546	820320
C A	7150008		11579	27810	11484	3220120	1329732
D B	7150009	59	13745	50	15800	9692	2054
			69913			22532217	8605682
	7160000	52	6205	22211	15447	1378193	958486
			6205			1378193	958486
	7170000	52	1745	17476	12434	304956	216973
			1745			304956	216973
	7190001	52	363	18744	12200	68041	44286
	7190002	53	64	20218	15900	12940	10176

UNCLASSIFIED
NON CLASSIFIED

MALTON, ONT.

PROJECT C-105 MK 1

[illegible]

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

SHEET 4-13

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
S	719000354		1400	371.97	124.55	520758	174370
	719000455		408	227.98	120.20	93016	49042
	719000556		377	538.28	112.00	202932	42224
	719000658		443	667.01	112.00	295485	49616
	719000759		648	803.62	131.75	520746	85374
N OR	719001383		639	746.63	208.37	477097	133148
	719001484		202	812.79	214.31	164184	43291
	719001174		353	791.90	135.56	279541	47853
	719001282		566	755.23	142.60	427460	80712
	719000862		315	1601.44	144.00	1895137	453744
EDGE	719000964		106	770.65	135.90	753836	145005
	719001065		319	639.48	135.26	203994	43148
			10000			5915167	1401989

UNCLASSIFIED
 NON CLASSIFIED

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL COMPONENT

PROJECT C-105 MK 1

[illegible]

EIGHT AND C. OF G BY

FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

SHEET 4-14

GROUP	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	8000000						
	801010052		18600	20110	13625	3740460	2534250
			18600			3740460	2534250
	8020000						
						UNCLASSIFIED	NON CLASSIFIE
	805080054		67061	38590	9471	25878840	6351347
			67061			25878840	6351347
	805090054		244700	38950	9500	95310650	23246500
			244700			95310650	23246500
C CF	805100054		14029	40956	9982	5745717	1400375
			14029			5745717	1400375
C DB	805110056		806	54940	12883	442816	103837
			806			442816	103837
C EB	805120058		582	62634	14095	364530	82033
			582			364530	82033

PROJECT C-105 MK 1

WEIGHT AND C. OF G BY FUNCTIONAL COMPONENT

[illegible]

EIGHT AND C. OF G BY

FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-44 Iss 4

SHEET 4-15

UNCLASSIFIED
NON CLASSIFIED

1951
JANUARY
1951