

85
Avro
CF105
R-7-0400-34
Iss-7

QCX
Avro
CF105
R-7-0400-34
Iss-7

FILE IN VAULT

C-105 MK 2 Report # 7-0400-34
Production A/C Iss. 7

WEIGHT SUMMARY & C.G. POSITION

R.C.A.F. **UNCLASSIFIED** May 1/57 15



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JAN 07 1993

Report no.: QCX - AVRO - CF105 - R-7-0400-34 - Iss. 7

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~~ ^{confirmed as} changed to: UNCLASSIFIED

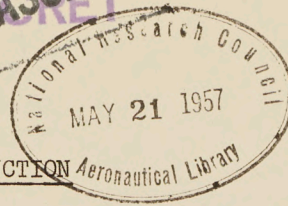
By authority of: DRDA 7/DARFT 5-8/DAS Eng 6-4-5

Date: 5 Nov 1992

Signature: *B. Aubrey*
Unit / Rank / Appointment: DSIS 3, Secretary CRAD HQ DRP

Date: May 1st, 1957
Aircraft: C-105 MK 2
Production A/C

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Report # 7-0400-34 Iss 7
Sheet # 1-1
Prepared By: K. Griffin
Checked By: E. Burnett

INTRODUCTION Aeronautical Library

The following is a Weight & C.G. Summary of the C-105 MK 2 Production Aircraft. Of necessity some of the figures quoted herein are only of a preliminary nature, especially some systems. e.g. Air Conditioning and Fuel System which have been extensively redesigned but new weight estimates are not yet available.

Weight estimates have been based on the MK 1 Aircraft with relevant changes made to MK 2 Aircraft scheme drawings or to verbally received information. Where no details are available, allowances have been retained as in the MK 1 Aircraft.

GENERAL:

- a) Orenda PS 13 Engines comprise the Power Plant (4,500 lb each).
- b) A package containing 4 "semi-submerged" Sparrow II Missiles (432 lb each) is currently carried.
- c) The R.C.A. Radar Astra I System is installed - Weight & C.G. location being to the latest breakdown received from them, dated January 11th, 1957. However, the Sparrow III Auxiliaries and the Infra-red Tracker System included in the above breakdown have been deleted and some Avro installed antennae added (Total Weight = 2,614.5 lb).
- d) A considerable number of MK 1 parts and assemblies have now been weighed. There have only been very insignificant weight deviations between calculated and actual weights of Structural items, however, bought-out equipment has been fairly consistently in the order of 11% above the manufacturer's estimates or Avro Specification weight requirements. Where these weights apply to the MK 2 Aircraft, they have been incorporated into the MK 2 Aircraft weight records.
On the I.B.M. sheets, in this report, immediately preceding the item title, will be found a number varying from 0 to 100. This is the percentage actual weight recorded in that particular report.

N.B. It should be noted that the first MK 2 Aircraft will probably not be as this summary designates, but will be a Flight Test version with Instrumentation replacing the Missile Package etc.

1. STRUCTURE

WEIGHT (lb)

I/W - Alterations to skins, etc. and new items for redesign front centre Engine mounting (this includes 16 lb transferred from Engine group)	+ 71
I/W Ribs - Actual weights etc. based on MK 1 ribs, some redesign for MK 2 A/C and further reductions are expected.	- 14
I/W Spars - Main Spars - modifications to MK 2 schemes C/F/Spar - production drawing estimates, web gauge decrease etc.	- 5 - 11
O/Wing - MK 1 O/Wing less Leading Edge & Aileron control Box was weighed - this checked with the calculated weight and is applicable to MK 2 Aircraft.	
Weight Change Increase	+ 41
Ref. 2-1	

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Date: May 1st, 1957
Aircraft: C-105 MK 2
Production A/C

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Prepared By: K. Griffin
Checked By: E. Burnett

INTRODUCTION

1. STRUCTURE

WEIGHT (lb)

(b) Fin & Rudder

No Weight Change

(c) Fuselage Fwd. Sta. 255"

Miscellaneous production drawing changes to MK 1 A/C Longerons,
Shear Panel, Nose U/C Structure etc. incl. some actual weights + 13
Weight Change Increase + 13
Ref. 2-2

(d) Centre Fuselage Sta. 255"-485"

No Weight Change

(e) Duct Bay Sta. 485"-591"

Minor Changes based on MK 1 , mostly actual weights of Dive
Brakes, Beams etc.

Weight Change Increase + 3
Ref. 2-2 + 3

The Floating Duct is being extensively redesigned with an articulated adaptor between floating duct & engine, to include gills. No drawings are yet released and it is felt that the weight currently recorded for the duct, together with the Adaptor ring (see Engine Group) will be adequate. An estimate will be made at the earliest opportunity.

(f) Engine Bay Sta. 591.65-742.5"

No Weight Change

(g) Rear Fuselage Aft. Sta. 742.5"

No Weight Change

There is no definite scheme yet for the Tailcones and Stinger structure. The weight currently recorded is as for MK 1 in Titanium, allowances having been made for the increased length of the tailcone, but no other account taken of lines changing or design alterations.

(h) Fuselage Joints

No Weight Change

TOTAL STRUCTURAL INCREASE

+ 57

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Date: May 1st, 1957
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Production A/C

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INTRODUCTION

<u>2. LANDING GEAR</u>	<u>WEIGHT (lb)</u>
Main U/C Doors & Fairings - door & mechanism estimates revised	- 3
<u>Ref. 2-2</u>	<u> </u>
<u>TOTAL LANDING GEAR DECREASE</u>	<u>- 3</u>
<u>3. POWER PLANT & SERVICES</u>	
Engine Mounts - some items now in Wing Group	- 16
<u>Ref. 2-2</u>	<u> </u>
<u>TOTAL POWER PLANT & SERVICES DECREASE</u>	<u>- 16</u>
<u>4. FLYING CONTROLS</u>	
No Weight Change	
<u>5. EQUIPMENT GROUP</u>	
Cockpit Insulation - first drawings available	+ 2
<u>Ref. 2-</u>	<u> </u>
<u>TOTAL EQUIPMENT GROUP - INCREASE</u>	<u>+ 2</u>
<u>6. OPERATIONAL LOAD</u>	
No Weight Change	

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SUMMARY

Weight Change - Aircraft Basic Weight

Structure	+ 57
Landing Gear	- 3
Power Plant	- 16
Equipment	+ 2
	<u>+ 40</u>

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

<u>Issue 6</u>	<u>Issue 7</u>	
<u>44,125</u>	<u>44,165</u>	<u>+ 40 lb</u>

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Checked By: E. Burnett

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

WEIGHT CHANGES

WEIGHT (lb)

Wing:

+ 12.42	I/W Skins - skin thickening etc. around forward centre Engine Mounting	
- 15.20	I/W Centre Line Joints - allowance for centre forward Engine Mounting deleted (see Fus. pick-ups) Rear Centre Engine Strut pick-up added	- 16.60 + 1.40 - 15.20
+ 91.95	Fuselage Strut Pick-ups - redesign of structure for forward centre Engine Mounting (includes 9.97 lb for outer sleeve deleted from Engine mounts - see Engine Group)	
- 16.10	Structure Aft R/Spar - introduction of honeycomb panels and redesign of engine mounting requirements (includes 6.49 lb deleted from Engine Mounts see Engine Group)	
- 18.66	I/W Spars - Production drawing estimates of Centre Spar Fwd., web .072 was .102 in MK 1 A/C etc. Modifications to Main Spar Mods to C/aft Spar for centre forward Engine Mounting	- 11.19 - 4.67 - 2.80 - 18.66
- 13.92	I/W Ribs# 1 to 9 - changes due to actual weights etc. in accordance with MK 1 drawings. The ribs are mostly being re-designed for MK 2 A/C and a further reduction is expected, this should be recorded for June 1st, 1957.	
+ 0.21	O/W Skins - Access panel added R.H. only Actual weight bottom main panel Actual weight top aft panel Design changes hardware skin to spar Joints etc.	+ 1.43 + 3.34 + 0.15 - 4.71 + 0.21

N. B. A complete Outer Wing less Leading Edge and Aileron Control Box was weighed for MK 1 A/C. After adjustments had been made for wiring already installed there, the structural weight was identical with that calculated. This also applies to MK 2 A/C.

+ 40.70

Date: May 1st, 1957
Aircraft: G-105 MK 2
Production A/C

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

WEIGHT CHANGES

WEIGHT (lb)

Fuselage Fwd. Sta. 255"

+	0.30	Lower Shear Panel - minor MK 1 Production drawing changes	
+	5.52	Miscellaneous Items F.F.,-- Installations of various brackets, internal assy. hardware etc. as MK 1	
+	4.75	Nose U/C Support Structure - some re-estimates, re-design and actual weights as MK 1.	
+	2.14	Top Longerons - Actual weights of welded assys., end fittings, some pressings etc.	
		Re-estimate of Mg. packing etc.	- 1.03
		Addition of bracketry	+ 2.85
			+ 0.32
			+ 2.14
<hr/>			
+	12.71		

Duct Bay Sta. 485"-591.65"

+	2.28	Dive Brakes - Actual weights of brakes	+ 0.88
		Re-estimate of Marry-up hardware	+ 1.40
			+ 2.28
+	0.14	Frame Sta. 538.77" - Actual Weights of all machinings	
+	2.28	Longitudinal Beams - Actual weights of I/B & O/B D/B Beams	
-	1.89	Top Longeron - some joint items at Sta. 485" duplicated	
+	2.81		

Landing Gear Group

-	2.56	Main U/C Doors & Fairings - addition of bumper pads	+ 3.64
		Miscellaneous redesign on door	+ 2.83
		Re-estimate of springs, housings etc. earlier allowances too high	- 9.03
			- 2.56
<hr/>			
-	2.56		

Power Plant & Services

-	16.46	Engine Mounts - Outer sleeve forward centre Engine Mounting now with Fuselage pick-ups (see Wing Group)	- 9.97
		some rear Engine Mounting items now with Structure Aft R/Spar (Wing)	- 6.49
			- 16.46
<hr/>			
-	16.46		

Date: May 1st, 1957
Aircraft: C-105 MK 2
Production A/C

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

WEIGHT CHANGES

WEIGHT (lb)

Equipment Fixed & Removable

+ 2.40 Cockpit Insulation - first information available

+ 2.40

+ 39.60 TOTAL WEIGHT CHANGES

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Date: May 1st, 1957
 Aircraft: C-105 MK 2
 Production A/C

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 Sheet # 3-1
 Prepared 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	18,327.19	564.51	137.60
Wing	9,970.65	642.88	142.17
Fin & Rudder	1,020.70	754.06	209.27
Fuselage: fwd. Sta. 255"	2,466.44	186.67	128.71
Sta. 255"-485"	1,681.78	379.07	129.47
Sta. 485"-591.65	952.35	533.07	103.64
Sta. 591.65"-742.5"	1,490.70	661.10	109.12
Sta. 742.5 Aft.	691.99	795.69	128.15
"Marry Up"	52.58	468.91	103.89
UNDERCARRIAGE - Retracted	2,551.77	487.22	134.79
Main Undercarriage	1,901.62	539.31	141.00
Main U/C Doors & Fairings	291.80	537.10	138.40
Nose Undercarriage	333.81	170.80	99.70
Nose U/C Door & Fairing	24.54	162.24	88.23
POWER PLANT & SERVICES	10,757.88	673.94	121.47
Engines & Accessories PSL3	9,090.12	690.98	121.17
Gear Box & Drives on Fuselage	281.84	601.70	102.49
Engine Controls	32.43	375.76	118.61
Gear Box, Starter & Drives on Engine	315.45	609.12	105.24
Engine Nose Bullet	70.00	587.17	116.00
Fire Extinguisher System	70.46	702.44	134.83
Engine Mountings	140.07	665.17	135.82
Fuel System	757.51	543.10	135.69
FLYING CONTROLS GROUP	1,793.94	686.84	140.05
Mechanical Flying Controls	942.92	688.24	148.66
Hydraulic Flying Controls	851.02	685.29	130.52
EQUIPMENT FIXED & REMOVABLE	7,897.85	326.73	111.79
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	227.71	142.18
Air Conditioning System	897.00	331.77	133.38
Hydraulic Main System	597.49	498.76	116.66
Cabin Insulation	14.31	187.48	132.00
Brake Parachute	62.38	769.41	143.24
Electrical System	1,224.03	428.64	112.65
Low Pressure Pneumatics	49.30	444.29	125.94
Surface Finish	100.00	591.52	140.20
Intake De-icing Boots	51.84	197.02	118.00
Radome Anti-icing	8.88	51.49	125.00
Canopy Actuation	62.05	222.11	154.47
Cabin Consoles	17.45	174.76	124.34
Radar Door Actuation	10.00	268.00	95.00
Ejector Seats	186.00	201.10	136.25
Radio & Radar Removable	1,850.50	178.50	104.46
Radio & Radar Fixed	621.00	234.04	116.15

continued

DATE: May 1st, 1957
 Aircraft: C-105 MK 2
 Production Aircraft

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Report # 7-0400-34 Iss. 7
 Sheet # 3-2
 Prepared 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>	<u>M.A.C.</u> <u>%</u>	
<u>Equipment (Fixed & Removable)(Cont'd)</u>					
Sparrow Pack Structure	850.00	390.84	96.00		
Sparrow Pack Mechanisms	625.32	376.67	99.22		
Sparrow Pack Hydraulics	350.19	368.83	99.00		
Sparrow Pack Electronics	143.00	332.00	100.00		
Sparrow Pack Electrics	64.10	362.29	95.00		
AIRCRAFT BASIC WEIGHT	41,328.63	548.09	128.40		
USEFUL LOAD (Normal Combat)	18,635.76	516.40	136.67		
Crew	430.00	194.00	136.50		
Oil	138.97	636.92	110.57		
Alcohol	22.00	93.00	138.00		
Engine Fire Extinguisher Fluid	25.00	730.00	129.00		
Residual Fuel	218.40	553.98	134.04		
Missiles	1,728.00	389.29	88.30		
Oxygen Charge	13.39	259.69	159.91		
Water for Air Conditioning	260.00	268.00	132.00		
Fuel For Combat Mission	15,800.00	542.05	142.30		
Normal Combat Mission		U/C Up	538.25	130.97	28.25
	59,964.40	U/C Down	539.85	128.33	28.69
Half Combat Mission Fuel (1,013 gals. @ 7.8 lb/gal.)	7,900.00		543.20	139.55	
Combat Weight (Half Combat Mission Fuel)		U/C Up	537.85	128.84	28.14
	52,064.40	U/C Down	539.68	125.80	28.64
Operational Weight Empty		U/C Up	536.89	126.92	27.87
	44,164.40	U/C Down	539.06	123.34	28.47
Operational Weight Empty Less Missiles		U/C Up	542.90	128.49	29.53
	42,436.40	U/C Down	545.15	124.76	30.15
Max. Internal Fuel (2,492 gals. @ 7.8 lb/gal.)					
	19,438.00	U/C Up	541.85	144.16	
A.U.W. Max. Internal Fuel		U/C Down	538.41	132.19	28.29
	63,602.40	U/C Down	539.91	129.70	28.71
Max. External Fuel (500 gal. @ 7.8 lb/gal + Drop Tank)					
	4,226.00	U/C Up	522.34	60.64	
A.U.W. Max. Internal and External Fuel		U/C Down	537.41	127.73	28.02
	67,828.40	U/C Down	538.82	125.40	28.41

N.B. 1) Aircraft Datum = 120" above arbitrarily chosen ground line.

2) Revised Fuel Tank capacities in Centre Fuselage tanks for MK 2 A/C are incorporated.

C105 MK2 PRODUCTION AIRCRAFT
 HORIZONTAL C.G. ENVELOPE FOR
 1/2 FLIGHT CONDITIONS

REPORT NO. 7-0400-24-7

BY: Kottmann, Ruffalo

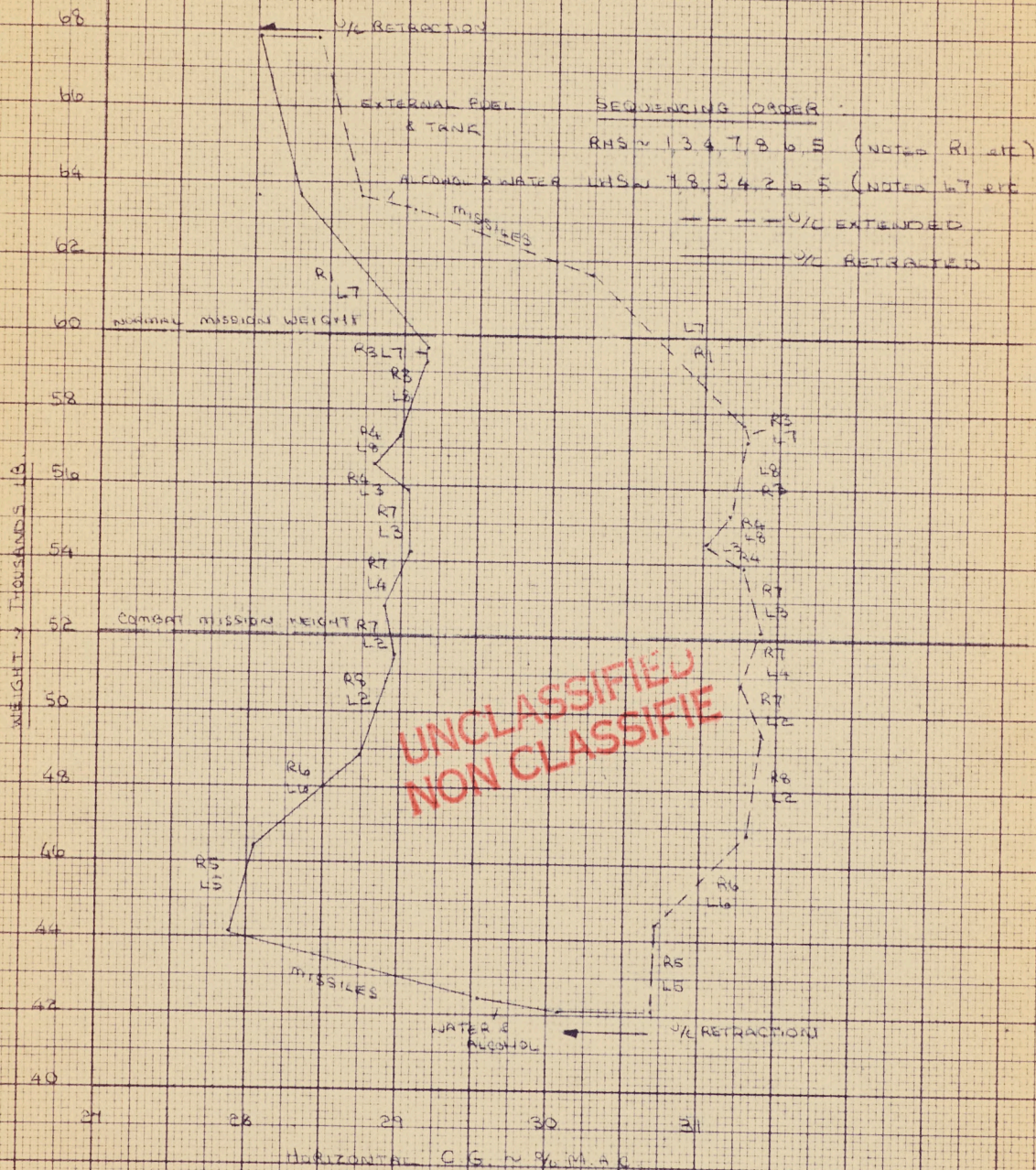
DATE: May 15, 1954

SHEET 4-1

USING FUEL SEQUENCING ORDER AS SUPPLIED

TO MINNEAPOLIS HOUSHELD (REF AERO CORP 8503)

ALTERNATE SEQUENCING UNTIL NECESSITY OF DAMPING SYSTEM PROVEN



G9-12
 10 X 10 TO THE 1/8 INCH
 MADE IN CANADA

REPORT NO. T-0400-34-7

BY: Kathleen Lyngby

DATE: May 15, 1954

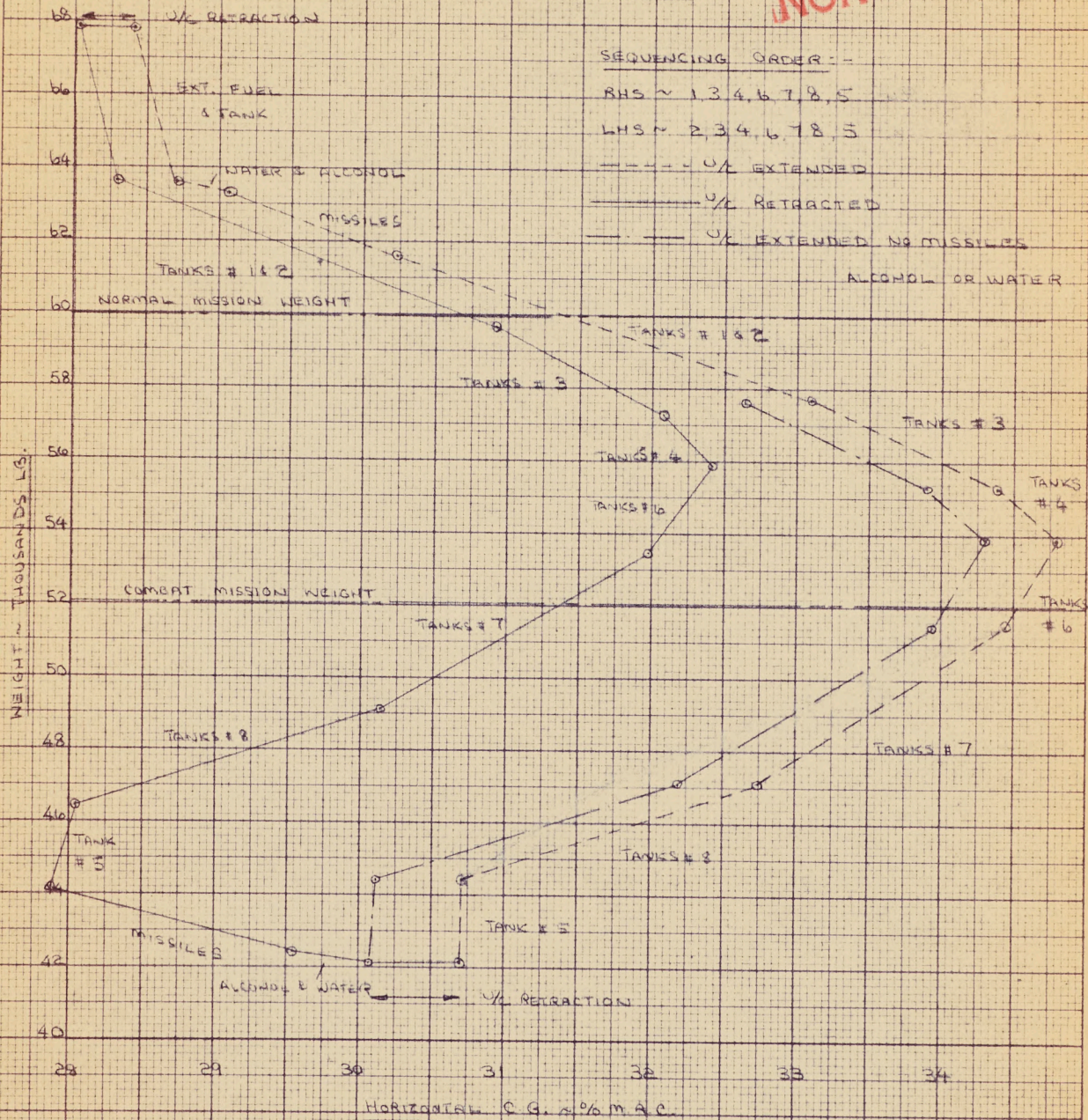
SHEET: 4-2

C108 MK2 PRODUCTION AIRCRAFT
HORIZONTAL C.G. ENVELOPE FOR
MC FLIGHT CONDITIONS

USING ALTERNATE FUEL SEQUENCING

AS SUPPLIED TO MINNEAPOLIS HOMEWELL (W/AVRO SPECIOS)
 TO ACHIEVE REQUIRED 34% M.A.C. AT COMBAT

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G9-12
 10 X 10 TO THE 1/2 INCH
 MADE IN CANADA

PROJECT C-105 MK 2

DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT
TOTAL WING GROUP		1000000		
OUTER WING		1010000		
100	OUTER WING SKINS	1010001	64	929.107
100	POSTS AND INTERCOSTALS	1010002	64	243.67
100	OUTER WING SPARS	1010003	64	392.587
100	OUTER WING RIBS	1010004	64	134.56
18	AILERON CONTROL BOX	1010006	64	379.207
100	RIB 12	1010007	64	7.26
100	O W AILERON JACK FITTING	1010009	64	10.467
	AILERON JOINTS AND FAIRING	1010010		329.37
				1979.45
AILERON		1020000		
100	AILERON STRUCTURE	1020001	74	336.007
				336.00
97	ELEVATOR MARRY UP	1030000		1597.77
97	ELEVATOR	1030000	62	449.007
				464.97
INNER WING		1040000		
55	MAIN U C STRUCTURE	1040001	62	338.235
27	FRONT SPAR I W	1040002	62	111.104
27	MAIN SPAR I W	1040003	62	14.395
27	FWD CENTRE SPAR I W	1040004	62	42.45
27	AFT CENTRE SPAR I W	1040005	62	33.86
27	REAR SPAR	1040006	62	7.677
21	I W STRUCTURE F S TO M S	1040007	62	1041.854
	I W STRUCTURE M S TO R S	1040008	62	149.79
	STRUCTURE AFT OF REAR SPAR	1040009	62	303.747
11	ELEVATOR CONTROL BOX I W	1040010	62	427.177
	TRANSPORT JOINT MARRY UP	1040011		70.65
	CENTRE LINE JOINTS	1040012	62	590.36
	INNER WING SKINS	1040013	62	2197.92
	STRUT PICK UP FITTINGS	1040014	62	14.17
31	RIBS 1 TO 9 INNER WING	1040016	62	512.04
	DORSAL FAIRING	1040017	62	95.4
100	RIB 10	1040018	62	108.00
	FUSELAGE HINGE JOINT I W	1040019	62	138.12
	TRANSPORT JOINT	1040020	62	131.00
	FUSELAGE HINGE JOINT	1040021		37.405
	DORSAL FAIRINGS I W	1040023		5.295
				6660.15

HEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

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SHEET 5-1

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	1000000						
						UNCLASSIFIED NON CLASSIFIED	
	1010000						
	1010001	64	929.10	706.46	135.97	656371.99	126329.73
	1010002	64	24.36	732.07	134.10	17833.23	3266.68
	1010003	64	392.58	701.18	136.36	275269.24	53532.21
	1010004	64	134.56	950.6	136.50	93527.27	18367.44
	1010006	64	379.20	774.09	135.08	293534.93	51222.34
	1010007	64	7.26	48.73	138.32	49472.15	10548.28
NG	1010009	64	10.46	727.91	136.70	7613.94	1429.88
RING	1010010		32.93	787.26	132.24	25924.47	4354.66
			1979.45			1419547.22	269051.22
	1020000						
	1020001	74	336.00	792.13	135.56	266155.68	45548.16
			336.00			266155.68	45548.16
	1030000		15.97	738.10	142.60	11787.46	2277.32
	1030000	82	449.00	755.23	142.60	339098.27	64027.40
			464.97			350885.73	66304.72
	1040000						
	1040001	62	338.23	577.82	139.84	195436.06	47298.08
	1040002	62	111.10	484.28	142.60	53803.51	15842.86
	1040003	62	14.39	565.70	142.80	8281.282	2090.449
	1040004	62	42.45	604.17	143.17	25647.02	6077.57
	1040005	62	33.86	549.4	144.46	22176.27	4891.42
	1040006	62	7.67	703.74	144.20	5395.75	1105.81
S	1040007	62	1041.85	498.56	143.95	519424.74	149974.31
S	1040008	62	149.79	609.64	145.72	91317.98	21827.40
SPAR	1040009	62	303.74	721.48	149.06	219142.34	45275.48
UP	1040010	62	427.17	725.00	143.27	309698.25	61200.65
	1040011		70.65	636.21	138.76	44948.24	9803.39
	1040012	62	590.36	604.1	150.18	389879.65	88660.26
	1040013	62	2197.92	246.8	144.65	1372996.67	317929.13
	1040014	62	14.17	618.65	145.97	90428.07	21336.43
	1040016	62	512.04	612.87	144.99	313813.95	74240.68
	1040017	62	95.48	280.1	150.0	458.66	153.43
	1040018	62	108.00	636.83	138.35	68777.64	14941.80
W	1040019	62	138.12	210.4	137.90	85778.04	19046.75
	1040020	62	131.00	630.71	137.10	82623.01	17960.10
	1040021		37.40	527.96	143.09	19745.70	5351.57
	1040023		5.29	572.49	160.26	3222.546	902.104
			6660.15			4075089.83	962792.65

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0400-34 Iss 7

SHEET 5-2

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
G	1050000	62	221.38	468.41	144.23	103696.61	31929.64
			221.38			103696.61	31929.64
	1060000	65	308.70	630.13	135.61	194521.13	41862.81
			308.70			194521.13	41862.81
						UNCLASSIFIED	
						NON CLASSIFIED	

REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
2010000	83	85170	74957	21170	63840877	18030489
2010002		4830	8538	15355	3310385	741647
		90000			67151262	18772136
2020000	84	12070	81324	21438	9815807	2587567
		12070			9815807	2587567

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AVRO AIRCRAFT LTD.

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL
COMPON

PROJECT C-105 MK 2

DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT
TOTAL FUSELAGE GROUP		3000000		
FUSELAGE BASIC STRUCTURE		3010000		
	RADOME	3010001	51	9840
	RADAR NOSE STRUCTURE	3010003	51	18000
	SKIN F F	3010004	52	80941
	SKIN C F	3010005	54	210483
	SKIN D B	3010006	56	58805
	SKIN E B	3010007	58	16489
4	FORMERS F F	3010011	52	105311
	FORMERS C F	3010012	54	277863
	FORMER D B	3010013	56	74575
	LIGHT FORMERS E B	3010014	58	10370
	HEAVY FORMERS E B	3010015	58	186586
	LOWER LONGERONS F F	3010016	52	68461
	INNER LONGERON E B	3010017	58	71846
	LONGERON E B	3010018	58	69056
	TOP LONGERONS E B	3010019	58	6386
	LOWER SHEAR PANEL	3010020	52	29882
	TOP WING LONGERONS D B	3010021	56	4985
	LONGERONS C F	3010022	52	532
	LONGERONS C F	3010023	54	138134
	LONGERONS D H	3010025	56	105695
	ELECTRONICS BAY STRUCTURE	3010026	54	45232
59	LONGITUDINAL BEAMS D B	3010027	56	65705
	RADAR ACCESS DOOR C F	3010028	54	21082
72	MAIN FRAME AT STN 538 77	3010029	56	59805
	DIVE BRAKE ACCOM STRUCTURE	3010030	56	3345
20	TOP LONGERONS F F	3010031	52	181961
100	DUCT C F	3010032	54	332863
	DUCT D B	3010033	56	255005
	CANOPY ARCHES	3010034	52	85352
4	ACCESS PANEL STIFFNERS	3010036	56	38655
6	NOSE U C SUPPORT STRUCTURE	3010037	52	33432
3	CREW BULKHEADS	3010038	52	122722
	EQUIPMENT BAY STRUCTURE	3010039	54	71112
60	WINDSCREEN	3010041	52	127541
	SERV ACCESS DOORS AND PNLS	3010042	58	60876
	DORSAL FAIRING AIR OUTLET	3010044	54	20612
	INTERMEDIATE FORMERS E B	3010045	58	48737
	ENGINE ACCESS DOORS E B	3010046	58	119006
	SEALING MISSILE BAY	3010047	54	973
	MISCELLANEOUS ITEMS C F	3010048	54	3923
	ARMAMENT BAY ROOF	3010049	54	132163
	BULKHEAD AT STA 120	3010050	52	30601
	BULKHEAD AT STA 255	3010051	52	104292
	BULKHEAD STA 485	3010052	54	123514
	ENG TUNNEL E B	3010054	58	550316
	INTEGRAL FUS FUEL TANK	3010055	54	203593
	COCKPIT FLOOR	3010056	52	57431
	DORSAL OVER FUEL TANK	3010061	54	50974

HEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

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	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	3000000						
						UNCLASSIFIED NON CLASSIFIED	
RE	3010000						
	3010001	51	9840	4232	11045	416429	1086828
	3010003	51	18000	9450	11400	1701000	2052000
	3010004	52	8094	19000	12079	1537860	977674
	3010005	54	21048	37610	14296	7916153	3009022
	3010006	56	5880	53407	11155	3140332	655914
	3010007	58	16489	6905	11036	11031965	1819726
	3010011	52	10531	18330	12018	1930332	1265616
	3010012	54	27786	37474	13307	10412526	3697483
	3010013	56	7457	53710	11315	4005155	843760
	3010014	58	10379	65593	11699	6905694	1213186
	3010015	58	1858	65947	10967	12304391	2046223
	3010016	52	6846	18430	9044	1261718	619152
	3010017	58	7184	5234	9213	4686411	661862
	3010018	58	6905	65809	9781	4544111	675378
	3010019	58	638	6605	13911	424940	88752
	3010020	52	2988	23420	8900	699790	265932
	3010021	56	498	53899	13550	268417	67479
	3010022	52	53	25295	15250	13406	8083
	3010023	54	138	13411	12289	5678801	1697480
	3010025	56	105	69523	629879	5534140	1044112
URE	3010026	54	45	23274	439164	1241247	414488
	3010027	56	65	70520	079125	3416860	599513
	3010028	54	21	08274	488976	578604	189214
77 TURE	3010029	56	59	80538	7710383	3221845	620903
	3010030	56	3	34503	999299	1831500	337926
	3010031	52	181	96193	0314750	3512374	2683910
	3010032	54	332	86372	5612919	12401032	4300218
	3010033	56	255	00539	5211850	13757760	3021750
	3010034	52	85	35227	9816050	1945809	1369868
	3010036	56	38	65539	1810294	2083931	397863
TURE	3010037	52	33	43210	499186	703668	307088
	3010038	52	122	72205	8912284	2526682	1507492
E	3010039	54	71	11283	6313518	2016893	961265
	3010041	52	127	54138	1415014	1761838	1914886
PNLS LET	3010042	58	60	87670	739293	4082734	565665
	3010044	54	20	61291	9516400	601709	338004
B	3010045	58	48	73729	7611295	3556120	550405
B	3010046	58	119	00644	798931	7673001	1062789
	3010047	54	97	32148	10900	224072	75973
F	3010048	54	392	370	0012500	145040	49000
	3010049	54	132	16384	3811427	5079966	1510192
	3010050	52	30	60120	0012280	367200	375768
	3010051	52	104	29255	0012027	2659395	1254296
	3010052	54	123	51485	0010396	5990235	1284010
	3010054	58	550	31657	0211799	36156468	6493108
	3010055	54	203	59393	3914536	8009027	2959384
	3010056	52	57	43176	4011575	1013065	664752
	3010061	54	50	97413	5214205	2107711	724029

AVRO AIRCRAFT LTD.
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WEIGHT AND C. OF G BY FUNCTIONAL
COMPONENT

PROJECT: C-105 MK 2

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT
SHIELD EXHAUST DEFLECTOR	301006254		19.65
SHEAR PANEL BELOW NAV ARCH	301006352		20.74
PACK MOUNTING STRUCTURE	301006454		23.65
ENG ACCESS DOORS R F	301006559		87.94
TUNNEL FIXED R F	301006659		117.88
SKIN AND INTERCOSTAL R F	301006759		51.55
FAIRING UNDER RUDDER R F	301006859		2.06
FORMERS FIXED R F	301006959		92.90
LONGERONS C BEAM FIXED R F	301007059		27.99
NACELLES REMOVABLE R F	301007159		195.00
CNTR STRUC STING REMOV R F	301007259		92.67
MISC ITEMS STRUCTURE E B	301007358		9.12
MTG BRKTS SIDE PANEL D B	301007556		2.13
FORMERS LOWER PANEL D B	301007656		7.06
LOWER PANEL D B	301007756		50.54
JOINT F F TO C F	3010078		8.55
JOINT AIR INTAKES TO F F	3010079		9.52
JOINT C F TO D B	3010080		5.00
JOINT D B TO E B	3010081		25.08
FUSE JOINT AT STA 742 50	3010082		4.43
DROP TANK MTG STRUCT D B	301008356		8.53
ENG RAILS ATTACHM TO FORM	301008458		34.81
STRUCT AT ENG ACCESS DOORS	301008558		65.42
MISC STRUCTURE F F	301008652		5.52
			608.94
96 DIVE BRAKES	302000072		111.50
			111.50
96 DIVE BRAKES C A	3020100		4.06
			4.06
AIR INTAKES	3030000		
AIR INTAKES	303010055		758.28
			758.28
PILOTS AND NAVIG CANOPIES	3040000		
PILOTS CANOPY	304010053		237.25
			237.25
NAVIGATORS CANOPY	304020053		137.82
			137.82

HEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

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	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
OR	3010062	54	1965	33441	16400	657116	322260
ARCH	3010063	52	2074	25702	15350	533059	318359
E	3010064	54	2365	29226	10254	691195	242507
	3010065	59	8794	77289	9904	6796795	870958
	3010066	59	11788	77028	12800	9080061	1508864
F	3010067	59	5155	76878	13672	3963061	704792
F	3010068	59	2606	78130	15380	2036068	400803
	3010069	59	9290	77920	13630	7238768	1266227
R F	3010070	59	2799	77170	12570	2159988	351834
	3010071	59	19500	82450	12900	16077750	2515500
R F	3010072	59	9267	83186	13483	7708847	1249470
B	3010073	58	9126	64011	10278	605577	93735
B	3010075	56	2135	24021	13330	111616	28393
B	3010076	56	7606	54565	9005	4150214	684920
	3010077	56	5054	55457	8790	2802797	444247
	3010078		8552	25500	12000	218025	102600
F	3010079		9522	22000	12000	209440	114240
	3010080		5004	8500	9800	242500	49000
	3010081		2508	58478	9150	1466628	229482
SO	3010082		4437	74250	11500	328928	50945
B	3010083	56	8536	7428	8825	575161	75277
FORM	3010084	58	3481	8518	11206	2385112	390081
DOORS	3010085	58	6542	4120	9259	4194730	605724
	3010086	52	552	18750	11500	103500	63480
			6086	94		287416293	73013119
	3020000	72	11150	50846	9062	5669329	1010413
			11150			5669329	1010413
	3020100		406	48794	9374	198104	38058
			406			198104	38058
	3030000						
	3030100	55	75828	21086	11872	15989092	9002300
			75828			15989092	9002300
IES	3040000						
	3040100	53	23725	17543	15906	4162077	3773699
			23725			4162077	3773699
	3040200	53	13782	23258	16214	3205418	2234613
			13782			3205418	2234613

AVRO AIRCRAFT LTD.

MALTON, ONT.

WEIGHT AND C. OF G BY

FUNCTIONAL COMPONENTS

PROJECT C-105 MK 2

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT
UNDERCARRIAGE UP POSITION	4000000		
MAIN UNDERCARRIAGE GROUP	4010000		
MAIN UNDERCARRIAGE	401010092		190162
			190162
MAIN U C DOORS FAIRINGS	401020062		29180
			29180
NOSE UNDERCARRIAGE GROUP	4020000		
100 NOSE UNDERCARRIAGE	402010091		33381
			33381
NOSE U C DOOR AND FAIRING	402020052		2454
			2454

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

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SHEET 5-6

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
ION	4000000						
UP	4010000						
	401010092		190162	53931	14100	102556268	26812842
			190162			102556268	26812842
S	401020062		29180	53710	13840	15672578	4038512
			29180			15672578	4038512
UP	4020000						
	402010091		33381	17080	9970	5701475	3328086
			33381			5701475	3328086
ING	402020052		2454	16224	8823	398137	216516
			2454			398137	216516

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WEIGHT AND C. OF G BY FUNCTIONAL COMPONENT

PROJECT C-105 MK 2

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT
ENGINE GROUP	5000000		
PS 13 ENGINES	5010000		9075.62
			9075.62
PS 13 ENGINES SERV ACCESS	5010100		14.50
			14.50
ACC GEAR BOX ON FUS D B	502000156		45.24
ACC GEAR BOX ON FUS E B	502000258		23.60
			281.84
ENGINE CONTROLS	5030000		
ENGINE CONTROLS F F	503000152		14.58
ENGINE CONTROLS C F	503000254		2.64
ENGINE CONTROLS D B	503000356		5.08
ENGINE CONTROLS E B	503000458		10.13
			32.43
STARTER AND ENG GEAR BOXES	5040000		315.45
			315.45
ENGINE ANTI ICING	5050000		70.00
			70.00
FIRE EXT SYSTEM	5060000		
ENG FIRE EXT SYSTEM ENG	5060001		69.00
ENG FIRE EXT SYSTEM D B	506000256		1.46
			70.46
ENGINE MTGS AND BRACKETS	5070000		
ENGINE MTG	5070001		88.07
ENGINE MTG ACCESSORIES	5070002		52.00
			140.07
FUEL SYSTEM	5080000		

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SHEET 5-7

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	5000000						
						UNCLASSIFIED NON CLASSIFIED	
	5010000		9075.62	691.06	121.20	6271797.96	1099965.14
			9075.62			6271797.96	1099965.14
ESS	5010100		1450.	638.19	103.90	9253.76	1506.55
			1450.			9253.76	1506.55
B	5020001	56	4524.	578.75	96.07	26182.65	4346.21
B	5020002	58	236.60	606.09	103.72	143400.89	24540.15
			281.84			169583.54	28886.36
	5030000						
	5030001	52	1458.	161.29	124.76	2351.61	1819.00
	5030002	54	264.	308.13	117.89	813.46	311.23
	5030003	56	508.	499.91	134.59	2539.54	683.72
	5030004	58	1013.	639.82	101.94	6481.38	1032.65
			32.43			12185.99	3846.60
OXES	5040000		315.45	609.12	105.24	192146.90	33197.96
			315.45			192146.90	33197.96
	5050000		70.00	587.17	116.00	41101.90	8120.00
			70.00			41101.90	8120.00
G	5060000						
B	5060001		69.00	705.60	134.77	48686.40	9299.13
	5060002	56	146.	553.18	137.49	807.64	200.74
			70.46			49494.04	9499.87
T S	5070000						
	5070001		88.07	76.56	140.20	59584.64	12347.41
	5070002		52.00	645.89	128.40	33586.28	6676.80
			140.07			93170.92	19024.21
	5080000						

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

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SHEET 5-8

REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
5080001	54	12114	40225	14187	4872857	1718613
5080002	56	14210	53710	10984	7632191	1560826
5080003	58	438	5604	12071	3042714	559853
5080004	62	44187	57024	14443	25197195	6381928
5080005		02	5704	9592	395538	57744
		75751			41140495	10278964

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MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL COMPONENT

PROJECT C-105 MK 2

DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT
FLYING CONTROLS GROUP		6000000		
MECHANICAL CONTROLS		6010000		
3	MECHANICAL CONTROLS F F	6010001	52	8.51
3	MECHANICAL CONTROLS C F	6010002	54	8.85
3	MECHANICAL CONTROLS D B	6010003	56	3.50
3	MECHANICAL CONTROLS FIN	6010005	83	12.88
3	MECHANICAL CONTROLS I W	6010006	62	408.84
3	MECHANICAL CONTROLS O W	6010007	64	301.88
3	MECHANICAL CONTROLS C A	6010008		4.6
				942.92
FLYING CONTROLS HYDRAULICS		6020000		
FLYING CONT HYDRAULICS D B		6020001	56	25.92
FLYING CONT HYDRAULICS E B		6020002	58	408.97
FLYING CONT HYDRAULICS R F		6020003	59	4.8
				435.37
FLYING CONT HYDRAULICS I W		6050000	62	240.86
				240.86
FLYING CONT HYDRAULICS O W		6060000	64	121.81
				121.81
FLYING CONT HYDRAULICS FIN		6070000	83	52.98
				52.98

AVRO AIRCRAFT LTD.

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COMPON

PROJECT C-105 MK 2

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT
FIXED EQUIPMENT GROUP	7000000		
INSTRUMENTS	7010000		
INSTRUMENTS	7010001	52	44071
NAVIG TABLE AND STOWAGE	7010004	52	2000
			4607
COCKPIT PRESSURE SEALING	7020000	52	5001
			500
OXYGEN SYSTEM	7030000		
OXYGEN SYSTEM F F	7030001	52	22791
OXYGEN SYSTEM C F	7030002	54	20652
			4344
AIR CONDITIONING SYSTEM	7040000		
AIR CONDITIONING SYST F F	7040001	52	131932
AIR CONDITIONING SYST C F	7040002	54	630581
AIR CONDITIONING SYST D B	7040003	56	67635
65 AIR CONDITIONING SYST E B	7040004	58	66866
			89700
HYDRAULICS MAIN SYSTEM	7050000		
14 UTILITY HYDRAULICS F F	7050001	52	84152
5 UTILITY HYDRAULICS C F	7050002	54	41624
3 UTILITY HYDRAULICS D B	7050003	56	233165
21 UTILITY HYDRAULICS E B	7050004	58	72406
23 UTILITY HYDRAULICS I W	7050005	62	133115
14 UTILITY HYDR NOSE U C	7050006	91	3251
23 UTILITY HYDR MAIN U C	7050007	92	29805
			59749
CABIN INSULATION	7070000	52	14311
			1431
BRAKE PARACHUTE	7080000		
BRAKE PARACHUTE F F	7080001	52	4551
BRAKE PARACHUTE R F	7080005	59	56598
BRAKE PARACHUTE I W	7080006	62	1246
			6238

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SHEET 5-10

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	7000000						
	7010000						
	7010000152		4407	16112	13909	710056	612970
E	7010000452		200	22000	13000	44000	26000
			4607			754056	638970
	702000052		500	18600	13000	93000	65000
NG			500			93000	65000
	7030000						
	7030000152		2279	19625	12578	447254	286653
	7030000254		2065	26242	16027	541897	330958
			4344			989151	617611
	7040000						
M	7040000152		13193	22361	11950	2950087	1576564
F F	7040000254		63058	30120	13750	18993070	8670475
C F	7040000356		6763	53183	11950	3596766	808179
D B	7040000458		6686	63111	13600	4219601	909296
E B			89700			29759524	11964514
	7050000						
	7050000152		8415	20016	10853	1684346	913280
	7050000254		4162	43384	10420	1805642	433680
	7050000356		2331	655198	10686	12869966	2491548
	7050000458		7240	60647	10852	4390843	785685
	7050000562		1331	155360	14235	7368970	1894821
	7050000691		3251	19033	9521	61857	30943
	7050000792		2980	54325	14100	1618885	420180
			59749			29800509	6970137
	707000052		1431	18748	13200	268284	188892
			1431			268284	188892
	7080000						
	7080000152		455	16913	12869	76954	58554
	7080000559		5659	82094	14437	4645699	816990
	7080000662		1246	2022	14500	76907	17980
			6238			4799560	893524

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AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL
COMPON

PROJECT C-105 MK 2

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT
ELECTRICAL SYSTEM	7090000		
ELECTRICAL WIRING	7091400		
ELECTRICAL WIRING R N	7091401	51	129
ELECTRICAL WIRING F F	7091402	52	29661
ELECTRICAL WIRING C F	7091403	54	23543
ELECTRICAL WIRING A I	7091404	55	12742
ELECTRICAL WIRING D B	7091405	56	90155
ELECTRICAL WIRING E B	7091406	58	645
ELECTRICAL WIRING I W	7091408	62	89095
ELECTRICAL WIRING FIN	7091409	63	3527
ELECTRICAL WIRING N U C	7091410	91	3301
60 ELECTRICAL WIRING ENG	7091411		2002
ELECTRICAL WIRING C A	7091412		137463
			41141
30 ELECTRICS F F	7091500	52	152481
			15248
26 ELECTRICS C F	7091600	54	73594
			7359
85 ELECTRICS E R	7091700	58	670
ELECTRICS ENG	7091701		134325
85 ELECTRICS C A	7091702		718
			14820
ELECTRICS FIN	7091800	83	838
			83
ELECTRICS I W	7091900	62	23366
ELECTRICS C A	7091901		112
ELECTRICS M U C	7091902	92	745
			2522
ELECTRICS A I	7092000	55	50902
			5090
ELECTRICS D B	7092100	56	317895
			31789
WINDSCREEN DEMISTING	7092200	52	25512
			2551

WGT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

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SHEET 5-11

REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
7090000						
NON CLASSIFIED						
7091400						
7091401	51	129	9285	12000	11978	15480
7091402	52	2966	19977	11200	592518	332192
7091403	54	2354	39703	11000	934609	258940
7091404	55	1274	21984	12000	280076	152880
7091405	56	9015	52769	9921	4757125	894378
7091406	58	6459	500	9200	38080	5388
7091408	62	8909	54111	13900	4820749	1238351
7091409	83	3527	9754	30000	280734	105600
7091410	91	3301	8600	9800	61380	32340
7091411		2002	60683	10000	1214874	200200
7091412		13746	33473	11234	4601199	1544226
		41141			17593322	4780475
7091500	52	15248	15464	11095	2357951	1691766
		15248			2357951	1691766
7091600	54	7359	45491	10717	3347683	788664
		7359			3347683	788664
7091700	58	6706	7944	11597	455225	77700
7091701		13432	57531	11489	7727564	1543202
7091702		7186	1350	12000	440493	86160
		14820			8623282	1707062
7091800	83	8389	5502	28840	74327	23937
		83			74327	23937
7091900	62	2336	62053	14500	1449558	338720
7091901		1126	2946	13561	70500	15188
7091902	92	7451	6001	13700	38184	10138
		2522			1558242	364046
7092000	55	5090	22059	13832	1122803	704049
		5090			1122803	704049
7092100	56	31789	51897	10270	16497537	3264730
		31789			16497537	3264730
7092200	52	2551	20102	10400	512802	265304
		2551			512802	265304

AVRO AIRCRAFT LTD.

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL
COMPON

PROJECT C-105 MK 2

	DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT
	ELECTRICS R F	7092300	59	1368
				136
	SPARROW ELECTRICS F F	7092401	52	2541
	SPARROW ELECTRICS C F	7092402	54	602
				314
	L P PNEUMATICS	7100000		
11	L P PNEUMATICS F F	7100001	52	19631
11	L P PNEUMATICS C F	7100002	54	3684
11	L P PNEUMATICS D B	7100003	56	4565
11	L P PNEUMATICS E B	7100004	58	1557
11	L P PNEUMATICS FIN	7100005	83	5047
11	L P PNEUMATICS R N	7100006	51	82
				4930
	INTAKE DEICING	7120000	55	51841
				5184
	RADOME ANTI ICING	7130000	51	888
				888
	RADIO AND RADAR FIXED	7140000		
	RADIO AND RADAR FIXED R N	7140001	51	16500
	RADIO AND RADAR FIXED F F	7140002	52	50001
	RADIO AND RADAR FIXED C F	7140003	54	180002
	RADIO AND RADAR FIXED D B	7140004	56	18005
	RADIO AND RADAR FIXED FIN	7140005	83	32007
	RADIO AND RADAR FIXED C A	7140006		176002
				62100
10	CANOPY ACTUATION	7160000	52	62052
				6205
	CABIN CONSOLES	7170000	52	17451
				1745
	RADAR DOOR ACTUATION	7180000	54	10002
				1000

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. 7-0100-34 Iss 7

SHEET 5-12

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	7092300	59	136	80200	11360	109072	15450
			136			109072	15450
	7092401	52	254	18242	11255	46335	28588
	7092402	54	60	27300	11255	16380	6753
			314			62715	35341
	7100000						
	7100001	52	1963	19752	12519	387732	245748
	7100002	54	368	40463	12263	148904	45128
	7100003	56	456	55084	10296	251183	46950
	7100004	58	1557	65644	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
	7140000						
R N	7140001	51	16500	9755	10000	1609575	1650000
F F	7140002	52	5000	18160	12000	908000	600000
C F	7140003	54	18000	27059	10108	4870620	1819440
D B	7140004	56	18000	53000	10000	954000	1800000
F I N	7140005	83	3200	76180	24600	2437760	787200
C A	7140006		17000	21329	12364	3753904	2176064
			62100			14533859	7212704
	7160000	52	6205	2221	115447	1378193	958486
			6205			1378193	958486
	7170000	52	1745	17476	12434	304956	216973
			1745			304956	216973
	7180000	54	1000	26800	9500	268000	95000
			1000			268000	95000

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WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

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SHEET 5-13

REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
7190000152		363	18744	12200	68041	44286
7190000253		64	20218	15900	12940	10176
7190000354		1400	37197	12455	520758	174370
7190000455		408	22798	12020	93016	49042
7190000556		377	53828	11200	202932	42224
7190000658		443	66701	11200	295485	49616
7190000759		48	80362	13175	520746	85374
7190000862		3151	60144	14400	1895137	453744
7190000964		1067	70650	13590	753836	145005
7190001065		319	63948	13526	203994	43148
7190001174		353	79190	13556	279541	47853
7190001282		566	75523	14260	427460	80712
7190001383		639	74663	20837	477097	133148
7190001484		202	81279	21431	164184	43291
		19000			5915167	1401989

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AVRO AIRCRAFT LTD.

MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL
COMPO

PROJECT C-105 MK 2

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT
REMOVABLE EQUIPMENT GROUP	8000000		
EJECTOR SEATS	801010052		18600
			18600
RADAR REMOV GROUP	8020000		
RADAR REMOVABLE	8020100		
RADIO AND RADAR REM R N	802010151		98050
RADIO AND RADAR REM F F	802010252		18900
RADIO AND RADAR REM C F	802010354		59600
RADIO AND RADAR REM D B	802010456		4150
RADIO AND RADAR REM C A	8020106		4350
			185050
SPARROW PACK	8050000		
SPARROW PACK STRUCTURE	805010054		85000
			85000
SPARROW PACK MECHANISMS	805020054		62532
			62532
SPARROW PACK HYDRAULICS	805030054		35019
			35019
SPARROW PACK ELECTRONICS	805040094		14300
			14300
SPARROW PACK ELECTRICS	805050054		6410
			6410

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

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SHEET 5-14

GROUP	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	8000000						
	8010100	52	18600	20110	13625	3740460	2534250
			18600			3740460	2534250
	8020000						
	8020100						
	8020101	51	98050	9011	10100	8835286	9903050
	8020102	52	18900	18714	12000	3536946	2268000
	8020103	54	59600	26933	10147	16052068	6047612
	8020104	56	4150	52824	10000	2192196	415000
	8020106		4350	55522	16000	2415207	696000
			185050			33031703	19329662
	8050000						
	8050100	54	85000	39084	9600	33221400	8160000
			85000			33221400	8160000
	8050200	54	62532	37667	9922	23553928	6204425
			62532			23553928	6204425
	8050300	54	35019	36883	9900	12916058	3466881
			35019			12916058	3466881
	8050400	94	14300	33200	10000	4747600	1430000
			14300			4747600	1430000
	8050500	54	6410	36229	9500	2322279	608950
			6410			2322279	608950

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AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL
COMPONENT

PROJECT 6-105 MK 2

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT
OPERATIONAL LOAD	9000000		
CREW MEMBERS	9010000	52	430.00
			430.00
ENGINE OIL	9020000		
ENGINE OIL DRAINABLE	9020001		92.90
ENGINE OIL TRAPPED ENG	9020002		17.73
ENGINE OIL TRAPPED D B	9020003	56	19.25
ENGINE OIL TRAPPED E B	9020004	58	9.09
			138.97
SPARROW MISSILES	9030000	54	1728.00
			1728.00
OXYGEN CHARGE	9040000		
OXYGEN CHARGE F F	9040001	52	72
OXYGEN CHARGE C F	9040002	54	12.67
			13.39
ALCOHOL FOR RADOME DEICING	9050000	51	22.00
			22.00
ENGINE FIRE EXT FLUID	9060000		25.00
			25.00
RESIDUAL FUEL	9070000		
RESIDUAL FUEL C F	9070001	54	4.80
RESIDUAL FUEL I W	9070002	62	171.60
			218.40
WATER FOR AIR CONDITIONING	9100000	54	260.00
			260.00

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

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SHEET 5-15

REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
9000000						
					UNCLASSIFIED NON CLASSIFIE	
9010000	52	430.00	194.00	136.50	83420.00	58695.00
		430.00			83420.00	58695.00
9020000						
9020001		92.90	52.25	11.39	6059.40	1058.13
9020002		17.73	36.76	11.64	1128.97	206.37
9020003	56	19.25	58.08	9.55	1118.11	183.93
9020004	58	9.09	59.28	9.70	544.74	88.20
		138.97			885.12	153.66
9030000	54	1728.00	389.29	88.30	672693.12	152582.40
		1728.00			672693.12	152582.40
9040000						
9040001	52		72.20	49.31	147.55	95.04
9040002	54	12.67	26.28	16.15	332.96	204.62
		13.39			347.72	214.12
CING	9050000	22.00	93.00	138.00	2046.00	3036.00
		22.00			2046.00	3036.00
9060000		25.00	73.00	129.00	1825.00	3225.00
		25.00			1825.00	3225.00
9070000						
9070001	54	4.80	39.42	12.30	184.50	57.56
9070002	62	171.60	59.75	13.70	1025.39	235.17
		218.40			1209.90	292.74
NING	9100000	260.00	268.00	132.00	69680.00	34320.00
		260.00			69680.00	34320.00

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