

QC
Arrow
C-105
7-0400-34
Iss. 21

QCX
Arrow
CF105
R-7-0400-34
Iss-21

FILE IN VAULT

Arrow 2	Report: 7-0400-34
Prod. A/C	Issue : 21
UNCLASSIFIED SUMMARY	
UNCLASSIFIED	
1 July/58	



DEPARTMENT OF NATIONAL DEFENCE

ROYAL CANADIAN AIR FORCE

Malton Ont
31 Jul 58

The Director
National Aeronautical Establishment
Montreal Rd
Ottawa Ont

Arrow Weight and CG Data

1 Please find enclosed one copy each of the Weight and CG Summary reports dated 1 Jul 58 as follows:

- 7-0400-34 Issue 21 - Arrow 2 Production Aircraft Weight and CG Summary
- 7-0400-63 Issue 2 - Arrow 1, Aircraft 25204 and 25205
- 7-0400-64 Issue 3 - Arrow 1, Aircraft 25202 and 25203

2 The Arrow 2 report is submitted with some reservations, since it is incorrect in respect of trapped fuel weight and "Equipment" weight. An explanation of the unusable fuel question was given in Mr. JC Floyd's letter of 16 Jul 58 to G/C HR Footitt. The undercarriage door sequencing described in the "Equipment Group" will not be embodied owing to the weight penalty involved. These items will be corrected in the next issue of the report.

JD Young (me)
(JD Young) F/L
for Det Cmdr 1202 TSD
Avro Aircraft Ltd

No.	File	
To:	1	<i>[Signature]</i>
	2	<i>[Signature]</i>
	3	<i>[Signature]</i>
Action	Initials	Date
Direct reply		
Draft reply		
Note	<i>A</i>	11.8.58
Comment		
Record		
Action taken		

RCAF G32 (REV. 8-57)

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

Date: Dec. 7, 1992

R. Auger
Signature



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Mechanical

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Report no.: QCX-AVR0-CF105- R-7-0400-34-155-21

has been ☐ downgraded to: _____

☒ de-classified

by (Name): Michel W. Drapeau

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

Date: Dec. 7, 1992

R. Drapeau
Signature

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S E C
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AVRO AIRCRAFT LIMITED
INTER-DEPARTMENTAL MEMORANDUM

Ref: 1644/11/J
Date: 1 July, 1958
To: See Distribution
From: E.F. Burnett - Weight Supervisor
Subject: Arrow 2 Production A/C Weight and C.G. Summary - Report 7-0400-34
Issue 21

Attached is a copy of Weight and C.G. Summary Report 7-0400-34
Issue 21 dated June 1st, 1958, for your retention.

This report is revised monthly and is issued complete on the 1st
of each month.

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

E.F. Burnett
E.F. Burnett

EFB/ag

cc: Messrs. J.C. Floyd J.P. Booth A.J. Crust
R.N. Lindley F. Brame (6 copies for
R. Marshall W. Czerwinski R.C.A.F.)
C.V. Lindow J. Lucas D. Inglis
J.W. Ames S. Kwiatkowski D. Moore
B.C. Alford A. Cornish R.B. Cairns
D. Wade T. Roberts D. Brownridge
D.N. Scard C. Marshall
A.R. Buley J. Zurakowski



55864

Aircraft: Arrow 2
Prod. A/C
Date: 1 July, 1958

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I N E D X

<u>Sheet</u>	<u>Content</u>
1-1 to 1-5	Introductory notes and explanation of weight changes
2-1 to 2-3	Weight and C.G. Summary
3	Horizontal C.G. Plot showing basic fixed points on flight envelope. The possible variations of C.G. with fuel used has been omitted until such time as fully approved fuel sequencing is established
4-1 to 4-15	I.B.M. Detail sheet of Weight and C.G.s.

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Introduction & Weight Changes

The following is a Weight & C.G. of the Arrow 2 Production Aircraft based on the latest weight estimates available.

All weight & C.G. changes are relative to Issue 20 of June 1st, 1958.

Some early Arrow 2 Aircraft, serial numbers in the group 25206 to 25236, will not be as this summary designates, but will be Flight Test Aircraft with Instrumentation, "Astra Minus", or preproduction Astra I Radar, Missile pack trials and various test installations etc. Appropriate weight statements will be issued at a later date.

General:

- a) Orenda PS13 Engines comprise the Power Plant (4,500 lb each, brochure weight, excluding Nose bullet and Input frame. An actual weight of an appropriate PS13 engine should soon be available).
- b) A package containing 4 "semi-submerged" Sparrow II missiles (432 lb each) froms the current Armament.
- c) The R.C.A. Astra I Radar system is installed. The basis of the unit weight and C.G. breakdown is a weight statement received from R.C.A. April 21st, 1958. Some relevant ammendments have been made to this list.

The Infra Red Tracker system seeker head is installed in its fin pod location.

(Total weight of the installed system is 3,325 lb. including missile actuation and firing systems).

In addition to the above, Minneapolis-Honeywell MH 64 Damping System is installed.

Arrow 2 Aircraft 25205 to 25208, and some later serial numbers will have the "Astra Minus" system (Navigational and Communication Equipment only).

- d) Where actual weights of Arrow I parts that apply to Arrow 2 Aircraft have been obtained, these weights have been recorded in the Arrow 2 records. Some weights of Arrow 2 parts have also been obtained.

On I.B.M. sheets in the report, immediately preceeding the item title will be found a number varying from 0 to 100. This is the percentage actual weight recorded in the relevant item.

- e) To increase the long range capabilities of the Aircraft a tailcone plug has been introduced to restrict the exhaust area. This plug will be used for ferrying missions only and its weight is recorded with the Max. Gross Weight see Sheet 2-2.

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<u>1. Structure</u>	<u>Weight lb</u>
a) <u>Wings</u>	
I/W Struct F/S to M/Spar - Additional stiffening elements in U/C Bay	+ 4.75
Fuselage Hinge Joints - Mk 2 prod. drgs estimated. Actual weights obtained of all available applicable parts	- 9.89
<u>Wing Weight Decrease</u>	- 5.14
b) <u>Fin & Rudder</u>	
No weight change	
c) <u>Fuselage Fwd Sta 255 ins</u>	
Bulkhead Sta. 120 ins - doublers added for additional Air-Conditioning holes	+ 0.85
Misc. other equip. bracketry changes etc.	+ 0.45
Cockpit Floor - bracketry changes for equip. etc.	+ 0.17
Lower Shear Panel - misc. minor prod. drg. changes	+ 0.05
<u>Front Fuselage Increase</u>	+ 1.52
d) <u>Centre Fuselage Sta. 255 - 485 ins</u>	
Skin - minor changes to all wing seal clips	+ 0.07
Armament Bay Roof - Additional Services requirements	+ 0.14
Electronics Bay - latches replace Camlocs on side access doors	+ 2.29
Radar Access Door - misc. bracketry changes	+ 0.20
addition of struts to hold door open	+ 0.40
Equip. Bay Structure - Max. venting requirements Air Conditioning bay to electronics bay, tray modified	- 0.47
Misc. Items C.F. - addition of nylon guide strips and seal retainers along lower longeron	+ 8.42
<u>Centre Fuselage Increase</u>	+ 11.05
e) <u>Duct Bay Sta. 485 - 591.65 ins</u>	
No weight change.	
f) <u>Engine Bay Sta 591.65 - 742.5 ins</u>	
No weight change.	
g) <u>Rear Fuselage Sta 742.5 ins aft</u>	
No weight change.	

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<u>h) Fuselage Joints</u>	<u>Weight lb</u>
Joint at Sta 742.5 ins - first estimate to MK 2 Prod. drgs.	+ 0.94
<u>Fuselage Joints Increase</u>	+ 0.94
<u>Total Structural Increase</u>	+ 8.37

2. Landing Gear

Main Landing Gear - proposals for the wheel, tyre, and brake assys are being considered from both Goodrich and Goodyear. Indications are that an assembly will NOT weigh LESS than 170 lb. Previously 165 lb each assy was allowed based on MK 1 A/C. It should be noted that the U/C leg is not stressed for this additional weight and possible changes could occur here also.

	+ 20.0
N.B. For Bendix anti-skid control system - see equip group.	
<u>Total Landing Gear Increase</u>	+ 20.0

3. Power Plant & Services

Accessories Gear Boxes on Fus. - expected increase for separate oil system for Constant Speed Drive units

	+ 5.00
--	--------

Fire Extinguishing System - redesigned for MK 2 A/C - Mk 1 A/C weight estimates were previously recorded - considerable additional piping in the Duct Bay around Air-Oil heat exchangers. Supply unit is similar to that in MK 1 A/C

	+ 7.41
<u>Total Power Plant Increase</u>	+ 12.41

4. Flying Controls Group

Mechanical Flying Controls - Prod. drg reissues, including redesign of rear aileron quadrant, installation of rotary actuator for aileron pitch-trim etc.

	+ 5.75
<u>Total Flying Controls Increase</u>	+ 5.75

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<u>5. Equipment Group</u>	<u>Weight lb</u>
Utility Hydraulics C.F. - first est. to Mk 2 prod. drgs	+ 0.90
Utility Hydraulics I/W - Some piping changes etc - first est to Mk 2 prod. drgs	+ 9.30
Sequencing U/C Doors - a mechanically operated system is being introduced on Mk 2 A/C for both the Nose and the Main U/C Doors. N.B. The Nose Door on Mk 1 A/C was electrically operated. It will now be possible to close doors with U/C extended.	+ 51.10
Anti-Skid System - A.T.I. of a Bendix system is to be made on Mk 1 A/C. An anti-skid system is a basic requirement for a Mk 2 A/C and Wt estimates here have been based on the Mk 1 A/C T.I.	+ 37.68
Radio & Radar Remov - estimates quoted to latest R.C.A. Wt Statement (see General Note d))	- 0.20
Sparrow Pack Electronics Remov - Latest R.C.A. weights of missile auxiliaries	+ 4.30
Sparrow Pack Electronics Fixed - Firing box MPR3 deleted for a prod. aircraft and box MPR2 is increased by approx 20%	- 28.38
<u>Equipment Group Increase</u>	<u>+ 74.70</u>

N.B. Items 6 & 7 Below

Since the tank configuration for Mk 1 and Mk 2 are similar Mk 1 A/C figures quoted below will be considered applicable to MK 2 A/C.

6. Trapped Fuel

Trapped Fuel - Aircraft 25201 was weighed dry and then drained thus establishing a weight of fuel trapped within the system	* + 372.00
<u>Total Trapped Fuel</u>	<u>+ 372.00</u>

7. Operational Load

Residual Fuel - this is the fuel that is drainable, but unusable, the figure has also been established experimentally. Previously this report contained both trapped and residual fuel, which were theoretically underestimated	+ 66.60
<u>Total Operational Load Increase</u>	<u>* + 66.60</u>

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N.B. * This has not influenced the Gross Weight of the Aircraft,
though it has increased the effective Combat Weight;
see also note following Wt. and C.G. summaries Shts 2-2 & 2-3.

Summary

Weight Change - Aircraft Basic Weight

Structure	8.37
Landing Gear	20.00
Power Plant	12.41
Flying Controls	5.75
Equipment	74.70
Trapped fuel	+ 372.00
	<u>+ 493.23</u>

Weight Change - Operational Load

Residual Fuel . + 66.60

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

<u>Issue 20</u>	<u>Issue 21</u>	
46,353.04	46,912.87	<u>+ 559.83</u>

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Description	Weight lb	H. Arm ins	V. Arm ins
Structure	19,162.72	566.47	137.23
Wings	10,024.75	642.89	142.20
Fin & Rudder	1,039.01	753.84	208.90
Fuselage Fwd Sta 255 ins	2,589.54	184.40	128.66
Sta 255 - 485 ins	1,711.98	375.85	129.94
Sta 485 - 591.65 ins	1,161.25	538.59	105.63
Sta 591.65 - 742.5 ins	1,574.07	659.68	110.72
Sta 742.5 ins aft.	1,019.48	806.57	127.46
"Marry - Up"	42.64	466.91	109.85
Landing Gear - Retracted	2,658.41	488.57	134.99
Main Landing Gear	2,009.10	538.68	141.00
Main Gear Doors & Fairings	287.98	538.52	138.40
Nose Landing Gear	333.81	170.81	99.70
Nose Gear Door & Fairing	27.52	162.22	88.66
Power Plant & Services	10,813.78	671.38	121.33
Engines & Accessories PS13	9,186.78	687.95	121.16
Engine Nose Bullets (Orenda Supplied)	70.00	587.17	116.00
Engine Controls	32.32	379.90	117.49
Gear Box & Drives on Fuselage	286.84	603.28	102.50
Gear Box, Starter & Drives on Engines	315.45	615.98	105.24
Fire Extinguisher System	72.87	686.42	131.67
Engine Mountings	132.38	666.82	136.52
Fuel System	717.14	531.46	134.96
Flying Controls Group	1,932.31	651.62	138.20
Mechanical Flying Controls	958.49	677.65	147.69
Hydraulic Flying Controls	973.82	626.00	128.86
Equipment Fixed & Removable	9,108.29	332.60	113.91
Instruments	46.07	163.68	138.70
Probe	15.25	-23.71	108.00
Cockpit Pressure Sealing	5.00	186.00	130.00
Oxygen System	26.07	240.54	156.70
Cockpit Equipment	6.00	187.50	145.00
Ejector Seats	342.94	204.50	134.11
Air Conditioning System	864.09	341.68	135.33
Cockpit Insulation	14.31	187.48	132.00
Hydraulic Utilities System	657.53	505.29	118.04
Sequencing of U/C Doors	51.10	346.00	116.00
Anti-skid Control System	37.68	480.00	113.97
Drag Chute	91.07	786.68	143.19
Electrical System	1,268.41	434.75	112.77
Low Pressure Pneumatics	56.94	421.96	128.47
Surface Finish	100.00	591.52	140.20
Intake Deicing boots	88.00	195.82	118.00
Canopy Actuation	64.92	221.99	154.35
Cabin Consoles	17.28	174.66	124.33
Radar Door Actuation	10.00	268.00	95.00
MH64 Damping System	184.72	464.22	135.05
Radio & Radar Removable	2,095.00	212.03	107.09
Radio & Radar Fixed	841.53	212.52	107.09

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Description	Weight lb	H. Arm ins	V. Arm ins	% M.A.C.
Sparrow Pack Structure	897.36	383.98	98.77	
Sparrow Pack Mechanisms	553.32	372.85	99.13	
Sparrow Pack Hydraulics	365.51	378.03	103.89	
Sparrow Pack Electronics Remov.	189.80	326.10	100.00	
Sparrow Pack Electronics & Electrics Fixed	188.73	336.09	110.00	
Sparrow Pack Air Conditioning	5.21	305.50	102.50	
Sparrow Pack L.P. Pneumatics	24.45	386.92	103.50	
Trapped Fuel	372.00	560.00	136.00	
Aircraft Basic Weight U/C Up	44,047.51	542.84	128.40	
U/C Down		545.15	124.58	
Useful Load (Less usable Fuel)	2,865.36	381.78	105.68	
Crew	390.00	194.00	136.50	
Engine Fire Ext. Fluid	25.00	730.00	129.00	
Missiles	1,728.00	389.29	88.30	
Oxygen Charge	13.39	259.68	159.91	
Water for Air Conditioning	285.00	267.91	131.56	
Oil	138.97	636.92	110.57	
Residual Fuel	285.00	557.84	136.07	
Operational Weight Empty U/C Up	46,912.87	533.00	127.01	26.80
U/C Down		535.17	123.43	27.40
Op Wt. Empty Less Missiles U/C Up	45,184.87	538.50	128.49	28.31
U/C Down		540.75	124.77	27.94
Normal Combat Mission Fuel Φ (200 Naut Miles - 2276 gal at 7.8 lb/gal)	17,750.00	-	-	
Normal Gross Weight	64,662.87	-	-	
Half Combat Mission Fuel (1138 gals at 7.8 lb/gal)	8,875.00	-	-	
Combat Weight (Half mission fuel)	55,787.87	-	-	
Max Internal Fuel *	19,000.00	541.85	144.16	
Gross Weight (Max Int. Fuel) U/C Up	65,912.87	535.55	131.95	27.50
U/C Down		537.09	129.40	27.93
Max. External Fuel (500 gal @ 7.8 lb/gal + drop tank)	4,242.36	520.32	60.79	
Tailcone Plugs	252.00	857.07	128.60	
Max Gross Weight (Int + Ext Fuel) U/C Up	70,407.23	535.78	127.65	27.57
U/C Down		537.22	125.26	27.96

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N.B.

- 1) Aircraft Datum = 120 ins above an arbitrarily chosen ground line
- 2) Φ Fuel weights in accordance with latest data issued by Performance group dated Nov. 19th, 1957. Centres of gravity have temporarily been omitted until a fuel sequencing system is finally established.
- 3) * The trapped and residual fuel within the Aircraft was determined experimentally by actual weighings in the dry and drained conditions etc for A/C 25201.

Since MK 1 and MK 2 A/C tank configurations are similar Mk 1 figures are considered applicable to Mk 2 A/C until such time as an experimental check can be made on a MK 2 A/C.

The figures obtained on A/C 25201 were considerably in excess of those originally calculated.

Experimentally determined figure	= 657 lb
Calculated figure	= <u>218 lb</u>

Increase in trapped + residual fuel = +439 lb

Now actual weighings of MK 1 A/C in a fully fuelled condition have indicated that it would not be desirable to alter the total estimated fuel within the Aircraft. Hence since the unusable fuel has been increased by 439 lb, the usable fuel has been decreased by a similar amount.

An experimental determination of the tank volumes is expected in the near future.

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HORIZONTAL C.G. PLOT OF
FIXED POINTS ON ARROW 2
FLIGHT ENVELOPE

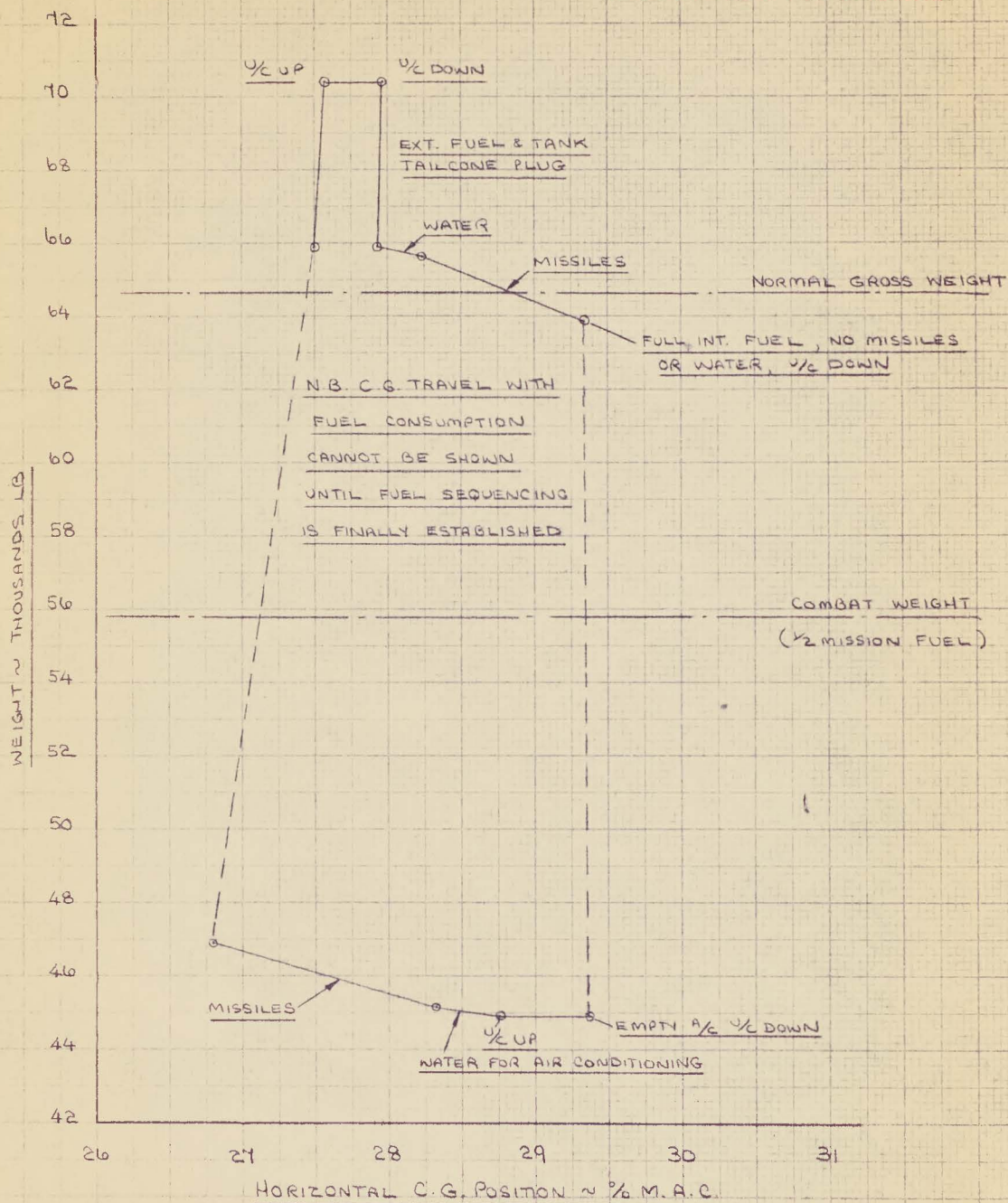
REPORT NO: 7-0400-34 ISSUE 21

DATE: July 1st 1958

SHEET: 3

BY: Kathleen Goffin

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WEIGHT AND C. OF G BY FUNCTIONAL COMPONENTS

PROJECT_____

[illegible]

AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL COMPONENT

PROJECT _____

	DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H.
	TOTAL FUSELAGE GROUP	30000000			
	RADAR NOSE STRUCTURE	30100000			
	RADOME	30100001	51	15958	3
	RADAR NOSE STRUCTURE C A	30100002		270	12
	RADAR NOSE STRUCTURE R N	30100003	51	17032	9
				33260	
	FRONT FUSELAGE STRUCTURE	30200000			
	SKIN F F	30200001	52	8264	19
	COCKPIT FORMERS	30200002	52	10426	18
	LOWER LONGERONS F F	30200003	52	6772	18
38	TOP LONGERONS F F	30200004	52	18746	19
66	NOSE U C SUPPORT STRUCT	30200005	52	3343	21
	CREW BULKHEADS	30200006	52	12609	20
	BULKHEAD STA 120	30200007	52	3110	12
	BULKHEAD STA 255	30200008	52	10921	25
	COCKPIT FLOOR	30200009	52	5881	17
	SHEAT PANEL BELOW NAV ARC	30200010	52	20012	5
	MISC STRUCTURE F F	30200011	52	552	18
	LOWER SHEAR PANEL	30200012	52	3141	23
	CANOPY ARCHES	30200013	52	8663	22
58	WINDSCREEN	30200014	52	13139	13
				107568	
	CENTRE FUSELAGE STRUCTURE	30300000			
	SKIN C F	30300001	54	22112	36
	FORMERS C F	30300002	54	28749	37
5	BULKHEAD STA 485	30300003	54	12740	48
66	LONGERONS C F	30300004	54	14453	41
	STR BELOW LOWER LONGERONS	30300005	54	4650	27
	RADAR ACCESS DOOR	30300006	54	2418	27
	FWD DORSAL FAIRING	30300008	54	2969	28
	DEFLECTOR SHIELD	30300009	54	2045	33
	DORSAL OVER FUEL TANK	30300010	54	4138	41
	PACK MTG STRUCTURE	30300011	54	2280	29
	SEALING MISSILE BAY	30300012	54	5592	9
	MISC ITEMS C F	30300013	54	1216	37
	ARAMENT BAY ROOF	30300014	54	12432	38
	FUSELAGE FUEL TANK	30300015	54	22665	39
	DUCT C F	30300016	54	31867	35
	EQUIPMENT BAY STRUCTURE	30300017	54	5959	28
				171252	
	DUCT BAY STRUCTURE	30400000			

AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL COMPONENT

PROJECT _____

	DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H.
	SKIN D B	3040000156		622751	
5	FORMERS D B	3040000256		733551	
	TOP LONGERONS	3040000356		49851	
	MTG BRKTS SIDE PANEL	3040000456		19051	
	LOWER LONGERONS	3040000556		1030152	
72	MAIN FRAME STA 538 77	3040000656		598051	
	ACCESS PANELS	3040000756		395952	
	LOWER PANEL ASSY	3040000856		21754	
	DROP TANK MTG STRUCTURE	3040000956		113358	
20	LOWER SIDE PANELS FWD	304001056		1071250	
	LOWER CENTRE PANEL FWD	304001156		256151	
	LOWER SIDE PANELS AFT	304001256		669856	
	LOWER CENTRE PANEL AFT	304001356		256356	
	FLOATING DUCT D B	304001456		4555555	
				103929	
	ENGINE BAY	30500000			
	TOP LONGERONS	3050000158		66166	
	BOTTOM LONGERONS	3050000258		857765	
	ENGINE ACCESS DOORS	3050000358		1360464	
	ENGINE TUNNEL	3050000458		6132465	
	ENG RAILS ATTACH TO FORM	3050000558		284568	
	PANELS AT ENG ACCESS DOOR	3050000658		1108365	
	BOTTOM CTR PANEL FWD	3050000758		461061	
	BOTTOM CTR PANEL CENTRE	3050000858		412067	
	BOTTOM CTR PANEL AFT	3050000958		742272	
	SIDE PANEL FRONT	305001058		860261	
	SIDE PANEL CENTRE	305001158		748267	
	SIDE PANEL AFT	305001258		745472	
4	HEAVY FORMERS	305001358		1962366	
				157407	
	REAR FUSELAGE	30600000			
	SKIN OUTER FIXED R F	3060000159		557977	
	FORMERS FIXED R F	3060000259		1050977	
	LONGERONS FIXED R F	3060000359		251977	
	TUNNEL FIXED R F	3060000459		1067077	
	ENGINE ACCESS DOORS R F	3060000559		886177	
	FAIRING UNDER RUDDER FIXE	3060000659		283978	
	REMOV TAILCONES	3060000759		5047782	
	CENTRE STRUC STING REM R	3060000859		1049483	
				101948	
	DIVE BRAKES	3070000172		1179050	
	D B JOINT TO FUSELAGE	30700002		40648	
				12196	

WEIGHT AND C. OF G BY FUNCTIONAL
COMPON[illegible]

WEIGHT AND C. OF G BY FUNCTIONAL COMPONENT

[illegible]

AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL COMPONENTS

PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H.
ENGINE GROUP	5000000			
PS 13 ENGINES	5010000		91722868	
			917228	
PS 13 ENGINES SERV ACCESS	5010100		145063	
			1450	
ACC GEAR BOX ON FUS D B	502000156		452457	
ACC GEAR BOX ON FUS E B	502000258		2336060	
ACC GEAR BOX ON FUS C A	5020003		80061	
			28684	
ENGINE CONTROLS	5030000			
ENGINE CONTROLS F F	503000152		157616	
ENGINE CONTROLS C F	503000254		10926	
ENGINE CONTROLS E B	503000458		88966	
ENGINE CONTROLS I W	503000562		65852	
			3232	
STARTER AND ENG GEAR BOX	5040000		3154561	
			31545	
ENGINE ANTI ICING	5050000		700058	
			7000	
FIRE EXT SYSTEM	5060000			
ENG FIRE EXT SYSTEM E B	506000158		598571	
ENG FIRE EXT SYSTEM D B	506000256		123156	
ENG FIRE EXT SYSTEM ENG	5060003		7167	
			7287	
ENGINE MTGS AND BRACKETS	5070000			
ENGINE MOUNTS	5070001		842167	
ENGINE MTG ACCESSORIES	5070002		481764	
			13238	

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COMPONE

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UNCLASSIFIED / NON CLASSIFIÉ

REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
50800000						
50800001	54	9923	40102	13994	3979321	1388625
50800002	56	15302	53836	10895	8237985	1667153
50800003	58	1765	61468	11077	1084910	195509
50800004	62	44574	55430	14385	24707368	6411970
50800005		150	69000	10000	103500	15000
		71714			38113084	9678257

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DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT	H
FLYING CONTROLS GROUP		6000000			
MECHANICAL CONTROLS		6010000			
60	MECHANICAL CONTROLS F F	6010001	52	10713	1
	MECHANICAL CONTROLS C F	6010002	54	12903	
70	MECHANICAL CONTROLS F IN	6010005	83	12528	7
71	MECHANICAL CONTROLS I W	6010006	62	40135	7
80	MECHANICAL CONTROLS O W	6010007	64	30520	7
	MECHANICAL CONTROLS C A	6010008		6637	
				95849	
FLYING CONTROLS HYDRAULIC		6020000			
	FLYING CONT HYDRAULICS D	6020001	56	31845	
	FLYING CONT HYDRAULICS E	6020002	58	39853	6
	FLYING CONT HYDRAULICS R	6020003	59	487	
80	FLYING CONT HYDRAULICS I	6020004	62	26264	7
74	FLYING CONT HYDRAULICS O	6020005	64	11701	7
60	FLYING CONT HYDRAULICS FI	6020006	83	54067	
	FLYING CONT HYDRAULICS R	6020007	51	35001	
	FLYING CONT HYDRAULICS F	6020008	52	55061	
	FLYING CONT HYDRAULICS C	6020009	54	19203	
				97382	

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DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT	H
FIXED EQUIPMENT GROUP		7000000			
INSTRUMENTS		7010000			
INSTRUMENTS		7010001	52	4407	1
NAVIG TABLE AND STOWAGE		7010004	52	2002	2
				4607	
COCKPIT SEALING		7020000	52	5001	1
				500	
OXYGEN SYSTEM		7030000			
OXYGEN SYSTEM		7030001	52	2607	2
				2607	
AIR CONDITIONING SYSTEM		7040000			
AIRCONDITIONING SYSTEM F		7040001	52	3115	1
AIRCONDITIONING SYSTEM C		7040002	54	5241	02
AIRCONDITIONING SYSTEM D		7040003	56	1034	5
AIRCONDITIONING SYSTEM C		7040005		2832	64
AIRCONDITIONING SYSTEM EN		7040006		1453	6
AIRCONDITIONING SYSTEM I		7040007	62	715	
				8640	9
HYDRAULICS MAIN SYSTEM		7050000			
14	UTILITY HYDRAULICS F F	7050001	52	8415	2
4	UTILITY HYDRAULICS C F	7050002	54	4362	4
20	UTILITY HYDRAULICS D B	7050003	56	2733	85
74	UTILITY HYDRAULICS E B	7050004	58	7892	6
30	UTILITY HYDRAULICS I W	7050005	62	1444	15
14	UTILITY HYDR NOSE U C	7050006	91	3251	
30	UTILITY HYDR MAIN U C	7050007	92	2980	5
ANTI SKID SYSTEM C F		7050008	54	3134	4
ANTI SKID SYSTEM MUC		7050009	92	6345	
NUC AND MUC DOOR SEQ MECH		7050010		5110	3
				7463	1
CABIN INSULATION		7070000	52	1431	1
				1431	
BRAKE PARACHUTE		7080000			

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DESCRIPTION		REFERENCE NO.	COMP. NO.	WEIGHT	H
BRAKE	PARACHUTE F F	708000152		4551	
BRAKE	PARACHUTE R F	708000559		85288	
BRAKE	PARACHUTE I W	708000662		1246	
				9107	
ELECTRICAL	SYSTEM	70900000			
ELECTRICAL	WIRING R N	709000151		129	
ELECTRICAL	WIRING F F	709000252		29661	
ELECTRICAL	WIRING C F	709000354		23543	
ELECTRICAL	WIRING A I	709000455		12742	
ELECTRICAL	WIRING D B	709000556		90155	
ELECTRICAL	WIRING E B	709000658		645	
ELECTRICAL	WIRING I W	709000862		92365	
ELECTRICAL	WIRING FIN	709000983		3527	
ELECTRICAL	WIRING NUC	709001091		3301	
ELECTRICAL	WIRING ENG	7090011		20026	
ELECTRICAL	WIRING C A	7090012		137463	
ELECTRICS	F F	709001352		152481	
ELECTRICS	C F	709001454		87094	
ELECTRICS	E B	709001558		6706	
ELECTRICS	ENG	7090016		187725	
ELECTRICS	C A	7090017		7186	
ELECTRICS	FIN	709001883		838	
ELECTRICS	I W	709001962		23366	
ELECTRICS	CAW	7090020		1126	
ELECTRICS	MUC	709002192		745	
20	ELECTRICS A I	709002255		49002	
	ELECTRICS D B	709002356		300515	
	ELECTRICS R F	709002459		1368	
	WINDSCREEN DEMISTING	709002552		35641	
				126841	
24	L P PNEUMATICS	71000000			
18	L P PNEUMATICS F F	7100000152		22551	
	L P PNEUMATICS C F	7100000254		6713	
	L P PNEUMATICS D B	7100000356		4185	
	L P PNEUMATICS E B	7100000458		15266	
	L P PNEUMATICS FIN	7100000583		6407	
	L P PNEUMATICS R N	7100000651		124	
	L P PNEUMATICS S P	7100000794		602	
				5694	
	INTAKE DE ICING	7120000055		88001	
				8800	
	RADIO AND RADAR FIXED	71400000			

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