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FILE IN VAULT
UNCLASSIFIED
ANALYZED

Arrow 2 Report: 7-0400-85
A/C 25207 Issue : 1
WEIGHT & C. G. [REDACTED]
Mr. A. Crust 1 Nov/58

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AVRO AIRCRAFT LIMITED
INTER-DEPARTMENTAL MEMORANDUM

ANALYZED

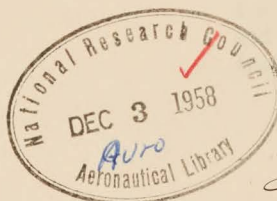
Classification cancelled / changed to.....Unclassified
By authority of..... AVRO Arrow Declassif. Board
Date..... 28 Jul 87
Signature..... *B. Bulrey*....., Co-Chairperson
Unit / Rank / Appointment..... DSIS 3

Ref: 5320/11/J
Date: 1 November, 1958
To: See Distribution
From: E.F. Burnett - Weight Supervisor
Subject: Arrow 2 A/C 25207 - Weight and C.G. Summary Report 7-0400-85 Issue 1

Attached is a copy of Weight and C.G. Summary Report 7-0400-85 Issue 1 dated, November 1st, 1958, covering the engine test A/C 25207.

The report defines the aircraft with full Orenda instrumentation installed. An appendix covers early flights of the aircraft before Orenda installation are effected.

This report will be issued monthly until the actual weighing of the aircraft has been obtained.



E.F. Burnett
E.F. Burnett

EFB/ag

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58800

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Aircraft: Arrow 2
A/C 25207
Date : 1 November, 1958

Classification cancelled / changed to.....Unclassified
By authority of.....AVRO Arrow Declassif. Board
Date.....28 Jul 87
Signature.....*Bailey*.....Co-Chairperson
Unit / Rank / Appointment.....DSIS-3

I N D E X

<u>Sheet</u>	<u>Content</u>
1-1 to 1-2	Introduction
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3-1 to 3-3	Appendix 1 - Aircraft 25207
	for initial flight prior to installation of Orenda Instrumentation
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4-2	Horizontal C.G. Envelope for A/C with Orenda Instrumentation being installed.
5-1 to 5-15	I.B.M. Detail Sheets of Weight and C.G. of A/C with Orenda Instrumentation installed.

Aircraft: Arrow 2
A/C 25207
Date : 1 November, 1958

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Sheet : 1-1

Introduction and Weight Changes

The following is the initial issue of a Weight & C.G. Summary for Arrow 2 A/C 25207 based on the latest information available.

In subsequent issues of this report all changes will be quoted relative to the preceeding issue.

Note:

This Summary is for the Aircraft in the completed stage i.e. with full Orenda Instrumentation fitted, for an estimate of the Aircraft for initial flights see Appendix 1.

General:

The primary role of A/C 25207 is that of a Flight Test Vehicle for Orenda Engines Ltd, the engine installed in the right hand nacelle being heavily instrumentated.

- a) Power Plant will consist of two prototype - instrumentated PS 13 engines with weights as follows:-

1. Left Hand 5245 lb) Basic engine weight 4799 lb.
2. Right Hand 5346 lb)

The above weights are based on Orenda-Avro letter AWS/SAW Dated October 7th, 1958.

- b) Landing Gear Arrow 2A Main Landing Gear is fitted.
- c) Electrical System will consist of only one alternator and drive consequently the constant speed drive together with piping and wiring and alternator have been removed from the R.H. Engine.
- d) Partial Electronics System as defined in report 72/AIREQ/13/2-7 of October 1958 is installed.
- e) Damping System MH 64 is fitted.
- f) Flight Test Instrumentation can be considered as two parts viz.
1. Orenda Equipment comprising Pressure Logger, compensators etc. in Radar Nose; Control Panels and instruments in cockpits; Transducer hot-box, amplifiers, oxygen bottle etc. in C.F.
 2. Avro Installations consisting of structural provisions for mounting the above equipment; piping from R.H. Engine to Radar Nose; and thermo-couple, instrumentation and control wiring from forward areas to R.H. Engine disconnect at Sta. 591.65 in.

The estimated weight of the complete system is 1786 lb.

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General: (Cont'd)

f) Cont'd

It should be noted that for the initial flights the Orenda Equipment (793 lb) will not be fitted.

- g) Pack Instrumentation The weight of equipment and wiring is estimated to be 1142 lb. Assuming the empty pack weight to be 692 lb it will be necessary to ballast the pack with 2060 lb so that the pack complete is 3894 lb. This is necessary since the Orenda Equipment installed in the Radar Nose precludes the mounting in that area of ballast required to maintain the C.G. of the A/C within the defined limits.
- h) The Additional Fire Protection as installed in A/C 25206 is not required.
- i) Provision for Tailcone Plugs are installed.
- j) Where actual weights of Arrow 1 parts that apply to Arrow 2 Aircraft have been obtained, these weights have been recorded in Arrow 2 records. Some weights of Arrow 2 Parts have also been obtained on the I.B.M. sheets contained in this report, preceeding the item will be found a number varying from 0 -100. This is the percentage actual weight recorded in the relevant item.

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Aircraft: Arrow 2
A/C 25207
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Weight & C_g Summary for Orenda Flight Testing

Description	Weight lb	H. Arm ins	V. Arm ins
Structure	19,257.74	566.95	137.20
Wings	10,032.41	642.79	142.18
Fin and Rudder	1,030.94	754.65	209.00
Fuselage Fwd Sta. 255 ins	2,605.34	184.49	128.61
Sta. 255 - 485 ins	1,715.90	375.75	129.89
Sta. 485 - 591.65 ins	1,169.60	538.70	105.52
Sta. 591.65 - 742.5 ins	1,576.20	659.72	110.61
Sta. 742.5 in - Aft	1,084.25	807.90	129.11
"Marry-Up"	43.10	468.39	109.67
Landing Gear - Retracted	2,807.98	491.66	135.31
Main Landing Gear	2,158.67	539.23	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	11,979.20	676.46	121.81
Engine Bare (PS13) (Instrumented prototype)	9,598.00	690.47	121.21
Engine Accessories (Inlet Frame etc)	405.05	684.30	121.70
Engine Instrumentation	663.00	690.00	121.25
Engine Controls	32.32	379.90	117.49
Gear Box & Drives on Fuselage	291.87	608.57	103.28
Gear Box & Starter on Engine	76.73	601.97	113.57
Fire Extinguisher System - Basic	73.58	686.35	131.21
Engine Mountings	75.39	671.91	141.52
Fuel System	763.26	529.78	135.19
Flying Controls Group	1,965.94	652.84	138.24
Mechanical Flying Controls	958.44	677.70	147.62
Hydraulic Flying Controls	1,007.50	629.19	129.32
Equipment Fixed & Removable	9,905.17	353.18	112.14
Instruments	34.61	167.52	138.92
Probe	14.86	-34.07	108.00
Cockpit Pressure Sealing	5.00	186.00	130.00
Oxygen System	21.16	259.40	156.88
Cabin Consoles	17.68	175.29	124.49
Ejector Seats	342.94	204.50	134.11
Air Conditioning System	874.00	339.80	135.32
Cockpit Insulation	14.31	187.48	132.00
Hydraulic Utility System	641.33	498.85	118.15
Mechanical Door Stops Main U/C Doors	3.02	516.00	120.00
Drag Chute	91.07	786.68	143.19
Electrical System	1,149.69	422.12	112.84
Low Pressure Pneumatics	50.08	394.66	126.02
Surface Finish	100.00	591.52	140.20
Intake De-icing Boots	88.00	195.82	118.00
Canopy Actuation	64.92	221.99	154.35
MH 64 Damping System	99.08	450.83	140.34
Partial Electronics System	613.40	348.11	120.48
Instrument Pack Structure	692.00	384.86	93.56
Pack Instrumentation (+ ballast)	3,202.00	370.99	98.00
Flight Test Installations	1,786.02	230.82	115.37

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Aircraft: Arrow 2
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Description	Weight lb	H. Arm ins	V. Arm ins	M.A.C. %
Trapped Fuel	213.80	548.26	141.79	
Ballast	-	-	-	
U/C Up		548.48	127.78	
Aircraft Basic Weight	46,129.83			
U/C Down		550.79	123.96	
Useful Load (less usable fuel)	1,099.52	368.51	131.59	
Crew	390.00	194.00	136.50	
Engine Fire Ext Fluid	25.00	730.00	129.00	
Oil	159.13	638.98	110.86	
Residual Fuel	287.00	508.14	135.33	
Oxygen	13.39	259.68	159.91	
Water for Air Conditioning	225.00	267.91	131.56	
U/C Up		544.29	127.87	29.91
Operational Weight Empty	47,229.35			
U/C Down		546.54	124.14	30.53
Max. Int. Fuel (2455 gals @ 7.8 lb/gal)	19,146.00	542.36	144.29	
U/C Up		543.73	132.60	29.75
Gross Weight (Max. Int. Fuel)	66,375.35			
U/C Down		545.32	129.95	30.20
Max. Ext. Fuel (500 gals @ 7.8 lb gal + drop tank)	4,242.36	520.32	60.79	
U/C Up		542.32	128.29	29.37
Max. Gross Weight (Int + Ext Fuel)	70,617.71			
U/C Down		543.83	125.81	29.79

N.B. Aircraft Datum = 120 ins above an arbitrary chosen ground line

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Appendix 1

Introduction

This appendix is to cover the condition of A/C 25207 for initial flights. All weight changes are quoted relative to the completed aircraft as defined in the main text of this report.

Changes Applicable for Initial Flights of A/C 25207

1. Structure No weight change.

2. Landing Gear No weight change.

3. Power Plant & Services

<u>Engine Instrumentation</u>	deletion of vibration slip ring, wiring and piping aft of Sta 591.65 on R.H. Engine	-101.00
Constant Speed Drives on Engine R.H. C.S.U. fitted		+ 76.72

Total Power Plant Decrease - 24.28

4. Flying Controls Group No weight change.

5. Equipment Fixed and Removable

Electrics Engine Bay R.H. Alternator Added	+ 87.00
Flight Test Installations Orenda supplied units not installed	-793.37
Pack Instrumentation Telemetry and ballast plus empty pack maintained at approx. 3900 lb by	+ 6.00

Total Equipment Group Decrease -700.37

6. Trapped Fuel No weight change.

7. Ballast +887.00

8. Useful Load

Engine & Access. Gear Box Oil Trapped add oil for R.H. C.S.U.	+ 2.87
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Total Useful Load Increase + 2.87

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Aircraft: Arrow 2
A/C 25207
Date : 1 November, 1958

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Summary

Weight Change - Aircraft Basic Weight

Power Plant	- 24.28
Equipment	- 700.37
Ballast	+ 887.00
Total	+ 162.35

Weight Change Operational Weight Empty

Completed A/C

47,229.35

Early Flights

47,394.57

+ 165.22 lb

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Description	Weight lb	H. Arm ins	V. Arm ins	M.A.C. %
Trapped Fuel	213.80	548.26	141.79	
Ballast	887.00	100.00	111.00	
U/C Up				
Aircraft Basic Weight	46,292.18	548.83	127.65	
U/C Down				
Useful Load (less usable fuel)	1,102.39	369.12	131.54	
Crew	390.00	194.00	136.50	
Engine Fire Ext. Fluid	25.00	730.00	129.00	
Oil	162.00	638.31	110.89	
Residual Fuel	287.00	508.14	135.33	
Oxygen	13.39	259.68	159.91	
Water for Air Conditioning	225.00	267.91	131.56	
U/C Up				
Operational Weight Empty	47,394.57	544.65	127.74	30.01
U/C Down				
Max. Int Fuel (2455 gals @ 7.8 lb/gal)	19,146.00	546.92	124.03	30.64
U/C Up				
Gross Weight (Max. Int. Fuel)	66,540.57	543.99	132.50	29.83
U/C Down				
Max. Ext. Fuel (500 gal @ 7.8 lb/gal + drop tank)	4,242.36	545.61	129.86	30.28
U/C Up				
Max. Gross Weight (Int + Ext. Fuel)	70,782.93	520.32	60.79	29.44
U/C Down				
		542.57	128.20	29.44
		544.09	125.72	29.86

N.B. 1. Aircraft Datum = 120 ins above an arbitrarily chosen ground line.

2. Aircraft is ballasted with 887 lb at H.A. = 100 ins such that the aft C.G. on a typical flight envelope, excluding any effects of fuel sequencing (see note on sheet 4-2) does not exceed 31% M.A.C.

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Aircraft: Arrow 2
A/C 25207
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Weight & C.G. Summary for Initial Flight (Orenda Units not Installed)

Description	Weight lb	H. Arm ins	V. Arm ins
Structure	19,257.74	566.95	137.20
Wings	10,032.41	642.79	142.18
Fin and Rudder	1,030.94	754.65	209.00
Fuselage Fwd. Sta. 255 ins	2,605.34	184.49	128.61
Sta. 255 - 485 ins	1,715.90	375.75	129.89
Sta. 485 - 591.65 ins	1,169.60	538.70	105.52
Sta. 591.65 - 742.5 ins	1,576.20	659.72	110.61
Sta. 742.5 in - Aft	1,084.25	807.90	129.11
"Marry-Up"	43.10	468.39	109.67
Landing Gear - Retracted	2,807.98	491.66	135.31
Main Landing Gear	2,158.67	539.23	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	11,954.92	675.87	121.75
Engine Bare (PS13) (Instrumentated prototype)	9,598.00	690.47	121.21
Engine Accessories (Inlet Frame etc)	405.05	684.30	121.70
Engine Instrumentation	562.00	690.00	121.25
Engine Controls	32.32	379.90	117.49
Gear Box & Drives on Fuselage	291.87	608.57	103.28
Gear Box & Starter on Engine	153.45	601.97	113.57
Fire Extinguisher System - basic	73.58	686.35	131.21
Engine Mountings	75.39	671.91	141.52
Fuel System	763.26	529.78	135.19
Flying Controls Group	1,965.94	652.84	138.24
Mechanical Flying Controls	958.44	677.70	147.62
Hydraulic Flying Controls	1,007.50	629.19	129.32
Equipment Fixed & Removable	9,204.80	384.36	111.70
Instruments	34.61	167.52	138.92
Probe	14.86	-34.07	108.00
Cockpit Pressure Sealing	5.00	186.00	130.00
Oxygen System	21.16	259.40	156.88
Cabin Consoles	17.68	175.29	124.49
Ejector Seats	342.94	204.50	134.11
Air Conditioning System	874.00	339.80	135.32
Cockpit Insulation	14.31	187.48	132.00
Hydraulic Utility System	641.33	498.85	118.15
Mechanical Door Stops Main U/C Doors	3.02	516.00	120.00
Drag Chute	91.07	786.68	143.19
Electrical System	1,236.69	433.67	113.06
Low Pressure Pneumatics	50.08	394.66	126.02
Surface Finish	100.00	591.52	140.20
Intake-De-Icing Boots	88.00	195.82	118.00
Canopy Actuation	64.92	221.99	154.35
MH 64 Damping System	99.08	450.83	140.34
Partial Electronics System	613.40	348.11	120.48
Instrument Pack Structure	692.00	384.86	93.56
Pack Instrumentation (+ ballast)	3,208.00	389.50	98.00
Flight Test Installations	992.65	341.83	113.63

HORIZONTAL C.G. PLOT OF FIXED POINTS
ON ARROW 2 A/C 25207

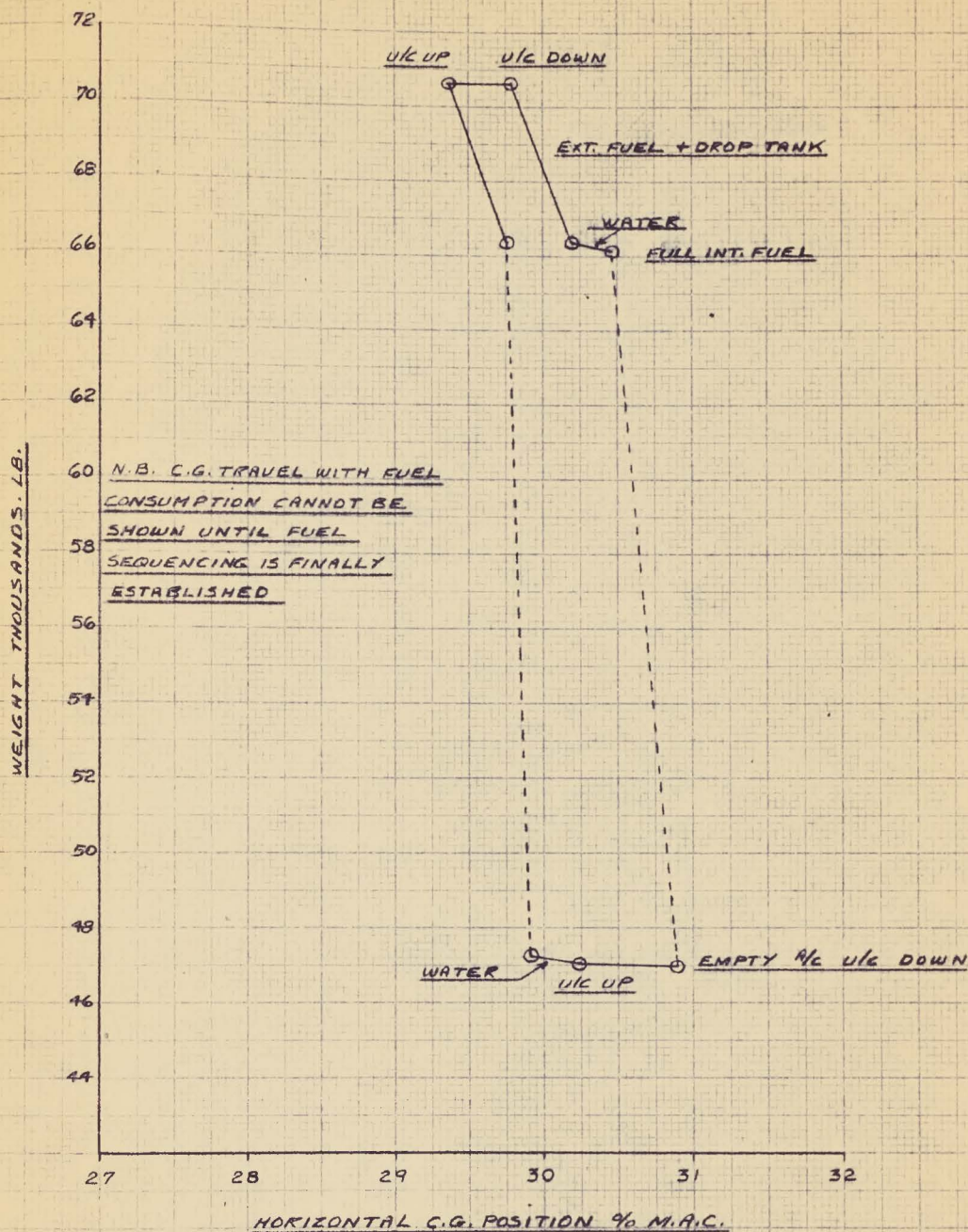
REPORT 7-0400-85 ISS. 1

DATE 1 ST. NOV. 58

SHEET 4-1

BY J. MacLean

A/C IN COMPLETED STATE FOR ORENDA FLIGHT TESTING



AVRO AIRCRAFT LTD.

MALTON, ONT.

PROJECT Arrow 2 A/C 25207

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
TOTAL WING GROUP	1000000				
OUTER WING	1010000				
100 OUTER WING SKINS	1010001	64	92910	70646	13597
100 POSTS AND INTERCOSTALS	1010002	64	2436	73207	13410
100 OUTER WING SPARS	1010003	64	39258	70608	13579
100 OUTER WING RIBS	1010004	64	13456	69506	13650
18 AILERON CONTROL BOX	1010006	64	37920	77409	13508
100 RIB 12	1010007	64	7626	64873	13832
100 O W AILERON JACK FITTING	1010009	64	1046	72791	13670
AILERON JOINTS AND FAIRING	1010010		3293	78726	13224
			197945		
100 AILERON	1020000	74	33600	79213	13556
			33600		
20 ELEVATOR	1030000	82	44638	75618	14260
20 ELEVATOR MARRY UP	1030001		1597	73810	14260
			46235		
INNER WING	1040000				
81 MAIN U C STRUCTURE	1040001	62	33217	57748	13984
95 INNER WING SPARS	1040002	62	41917	57902	14321
5 I W STRUCTURE F S TO M S	1040007	62	109730	49924	14391
I W STRUCTURE M S TO R S	1040008	62	15130	60868	14563
STRUCT AFT OF REAR SPAR	1040009	62	31603	72041	14887
40 ELEVATOR CONTROL BOX I W	1040010	62	42838	72470	14328
25 TRANSP JOINT MARRY UP	1040011		7065	63621	13876
61 CENTRE LINE JOINTS	1040012	62	58264	66233	15028
INNER WING SKINS	1040013	62	25107	62727	14469
63 STRUC PICK UP FITTINGS	1040014	62	12316	61654	14580
62 RIBS 1 TO 9	1040016	62	48516	61133	14513
DORSAL FAIRING I W	1040017	62	113	48270	16150
100 RIB 10	1040018	62	10706	63683	13835
49 FUSELAGE HINGE JOINT I W	1040019	62	12628	61688	13790
25 TRANSP JOINT	1040020	62	12942	63071	13710
49 FUSELAGE HINGE JOINT	1040021		3935	53234	14364
DORSAL FAIRING C A	1040023		5913	56740	15963
SHUT OFF VALVE OPERAT MECH	1040024	62	513	54965	14180
LEADING EDGE I W	1040025	62	22138	46841	14423
			694591		
LEADING EDGE O W	1050000	65	30870	63013	13561
			30870		

AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
FIN AND RUDDER GROUP	2000000				
FIN	2010000	83	855177	5003	211
FIN TO WING MARRY UP	2010001		49436	8510	153
			90460		
94 RUDDER	2020000	84	126348	1316	213
			12634		

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. _____

SHEET _____

REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
2000000						
201000083		8551775003	21150		64140316	18086846
2010001		494368510	15356		3386449	759047
		90460			67526765	18845893
202000084		1263481316	21374		10273463	2700391
		12634			10273463	2700391

AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

PROJECT _____

	DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
	SKIN D B	30400001	56	6227	53483	112
5	FORMERS D B	30400002	56	7335	53530	111
	TOP LONGERONS	30400003	56	498	53899	133
	MTG BRKTS SIDE PANEL	30400004	56	190	51866	130
	LOWER LONGERONS	30400005	56	10301	52236	99
72	MAIN FRAME STA 538 77	30400006	56	5980	53877	103
	ACCESS PANELS	30400007	56	3874	52818	99
	LOWER PANEL ASSY	30400008	56	217	54557	89
	DROP TANK MTG STRUCTURE	30400009	56	841	58554	88
20	LOWER SIDE PANELS FWD	30400010	56	10756	50854	92
	LOWER CENTRE PANEL FWD	30400011	56	2686	51389	88
16	LOWER SIDE PANELS AFT	30400012	56	6990	56790	88
	LOWER CENTRE PANEL AFT	30400013	56	2609	56600	87
	FLOATING DUCT D B	30400014	56	4555	55363	117
	HEAT EXCHANGER MTG	30400015	56	705	57950	90
				104764		
	ENGINE BAY	30500000				
100	TOP LONGERONS	30500001	58	674	66778	139
84	BOTTOM LONGERONS	30500002	58	8432	65911	99
	ENGINE ACCESS DOORS	30500003	58	13604	64040	90
	ENGINE TUNNEL	30500004	58	61324	65622	121
71	ENG RAILS ATTACH TO FORM	30500005	58	2906	68763	113
	PANELS AT ENG ACCESS DOORS	30500006	58	11117	65021	92
	BOTTOM CTR PANEL FWD	30500007	58	4610	61780	89
	BOTTOM CTR PANEL CENTRE	30500008	58	4120	67078	92
	BOTTOM CTR PANEL AFT	30500009	58	7666	72063	95
5	SIDE PANEL FRONT	30500010	58	8605	61609	116
5	SIDE PANEL CENTRE	30500011	58	7474	67063	119
32	SIDE PANEL AFT	30500012	58	7453	72146	121
41	HEAVY FORMERS	30500013	58	19635	66058	109
				157620		
	REAR FUSELAGE	30600000				
	OUTER SKINS FIXED	30600001	59	5658	77270	137
	FORMERS FIXED R F	30600002	59	10509	77990	137
	LONGERONS FIXED R F	30600003	59	2519	77159	128
	TUNNEL FIXED R F	30600004	59	10994	77552	132
	ENGINE ACCESS DOORS R F	30600005	59	9023	77505	98
	FAIRING UNDER RUDDER FIXED	30600006	59	2839	78214	155
	REMOV TAILCONES	30600007	59	5594	88263	127
	CENTRE STRUC AND STING REM	30600008	59	10935	83325	139
				108425		
	DIVE BRAKES	30700001	72	11790	50884	90
	D B JOINT TO FUSELAGE	30700002		4064	48794	93
				12196		

AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL GROUP
COMPONENT

PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
TOTAL FUSELAGE GROUP	3000000				
RADAR NOSE STRUCTURE	3010000				
RADOME	3010001	51	159.58	399.2	110
RADAR NOSE STRUCTURE C A	3010002		270	12000	112
RADAR NOSE STRUCTURE R N	3010003	51	162.59	951.7	113
			324.87		
FRONT FUSELAGE STRUCTURE	3020000				
SKIN F F	3020001	52	82.64	192.96	123
COCKPIT FORMERS	3020002	52	107.24	182.59	120
LOWER LONGERONS F F	3020003	52	68.37	184.60	90
31 TOP LONGERONS F F	3020004	52	189.47	194.30	147
66 NOSE U C SUPPORT STRUCT	3020005	52	33.43	210.49	91
CREW BULKHEADS	3020006	52	132.24	205.28	123
BULKHEAD STA 120	3020007	52	31.10	1200.00	114
BULKHEAD STA 255	3020008	52	109.21	2550.00	119
COCKPIT FLOOR	3020009	52	58.81	176.95	115
SHEAR PANEL BELOW NAV ARCH	3020010	52	20.57	257.06	153
3 MISC STRUCTURE F F	3020011	52	16.00	188.21	120
LOWER SHEAR PANEL	3020012	52	31.41	234.23	89
22 CANOPY ARCHES	3020013	52	85.53	225.94	160
58 WIND SCREEN	3020014	52	132.85	138.28	150
			1098.87		
CENTRE FUSELAGE STRUCTURE	3030000				
SKIN C F	3030001	54	221.12	367.36	144
FORMERS C F	3030002	54	287.49	375.20	133
5 BULKHEAD STA 485	3030003	54	128.15	485.00	103
66 LONGERONS C F	3030004	54	144.53	410.38	121
STR BELOW LOWER LONGERONS	3030005	54	48.87	274.66	93
RADAR ACCESS DOOR	3030006	54	24.18	279.08	90
FWD DORSAL FAIRING	3030008	54	29.69	289.27	164
DEFLECTOR SHIELD	3030009	54	20.45	337.39	164
DORSAL OVER FUEL TANK	3030010	54	41.85	412.68	142
PACK MTG STRUCTURE	3030011	54	22.80	292.89	102
SEALING MISSILE BAY	3030012	54	5.59	296.16	110
MISC ITEMS C F	3030013	54	12.16	370.00	125
ARAMENT BAY ROOF	3030014	54	124.32	383.70	114
FUSELAGE FUEL TANK	3030015	54	226.44	394.54	145
DUCT C F	3030016	54	318.67	358.98	129
EQUIPMENT BAY STRUCTURE	3030017	54	59.59	285.06	135
			1715.90		
DUCT BAY STRUCTURE	3040000				

WEIGHT AND C. OF G BY

REPORT NO.

SHEET

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	3000000						
	3010000						
C A	30100001	51	15958	3992	11070	637043	1766551
R N	30100002		270	12000	11200	32400	30240
	30100003	51	16259	9517	11318	1547369	1840194
			32487			2216812	3636985
TURE	3020000						
	30200001	52	8264	19296	12301	1594621	1016555
	30200002	52	10724	18259	12024	1958095	1289454
	30200003	52	6837	18460	9045	1262110	618407
UCT	30200004	52	18947	19430	14763	3681402	2797146
	30200005	52	3343	21049	9186	703668	307088
	30200006	52	13224	20528	12377	2714623	1636734
	30200007	52	3110	12000	11477	373200	356935
	30200008	52	10921	25500	11927	2784855	1302548
V ARCH	30200009	52	5881	17695	11569	1040643	680373
	30200010	52	2057	25706	15352	528772	315791
	30200011	52	1600	18821	12072	301136	193152
	30200012	52	3141	23423	8900	735716	279549
	30200013	52	8553	22594	16023	1932465	1370447
	30200014	52	13285	13828	15000	1837050	1992750
			109887			21448356	14156929
CTURE	3030000						
	30300001	54	22112	36736	14420	8123064	3188550
	30300002	54	28749	37520	13317	10786625	3828504
	30300003	54	12815	48500	10337	6215275	1324687
ERONS	30300004	54	14453	41038	12144	5931222	1755172
	30300005	54	4887	27466	9322	1342263	455566
	30300006	54	2418	27908	9016	674815	218007
	30300008	54	2969	28927	16400	858843	486916
	30300009	54	2045	33739	16400	689963	335380
K	30300010	54	4185	41268	14208	1727066	594605
	30300011	54	2280	29289	10280	667789	234384
	30300012	54	559	29616	11074	165553	61904
	30300013	54	1216	37000	12500	449920	152000
	30300014	54	12432	38370	11428	4770158	1420729
	30300015	54	22644	39454	14535	8933964	3291305
	30300016	54	31867	35898	12969	11439616	4132831
URE	30300017	54	5959	28506	13549	1698673	807385
			171590			64474809	22287925
	3040000						

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

PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
AIR INTAKES	3080001	55	770392	1132	1182
			77039		
FUSELAGE JOINTS	3090000				
JOINT AIR INTAKES TO F F	3090001		6632	2200	01200
JOINT F F TO C F	3090002		10282	5711	11225
JOINT D B TO C F	3090003		4284	7940	1159
JOINT D B TO E B	3090004		14675	8957	915
JOINT AT STA 742 50	3090005		7247	4250	1150
			4310		
CANOPIES	3100000				
28 PILOTS CANOPY	3100001	53	24484	17693	1591
NAVIGATORS CANOPY	3100002	53	16637	23248	1625
			41121		

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. _____

SHEET _____

		REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
		3080001	55	7703921132	11827		16279881	9111403
				77039			16279881	9111403
		3090000						
F	F	3090001		66322000	12000		145860	79560
		3090002		102825711	12250		264309	125930
		3090003		42847940	11590		205183	49605
		3090004		146758957	9157		864899	134333
		3090005		72474250	11500		537570	83260
				4310			2017821	472688
		3100000						
		3100001	53	2448417693	15915		4331954	3896629
		3100002	53	1663723248	16256		3867770	2704511
				41121			8199724	6601140

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
UNDERCARRIAGE UP POSITION	4000000				
MAIN UNDERCARRIAGE GROUP	4010000				
MAIN UNDERCARRIAGE	401010092		215867539231410		
80 MAIN U C DOORS FAIRINGS	401020062		215867		
			28798538521384		
			28798		
NOSE UNDERCARRIAGE GROUP	4020000				
100 NOSE UNDERCARRIAGE	402010091		3338117080	997	
			33381		
NOSE U C DOOR AND FAIRING	402020052		275216222	886	
			2752		

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WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
ENGINE GROUP	5000000				
PS 13 ENGINES	5010000		1000000	69023	12123
ENGINE INSTRUMENTATION	5010001		66300	69000	12125
PS 13 ENGINES	5010002		305	65853	10306
			1066605		
ACC GEAR BOX ON FUS D B	5020001	56	3676	57768	9442
ACC GEAR BOX ON FUS E B	5020002	58	23533	61295	10307
ACC GEAR BOX ON FUS C A	5020003		800	61550	9700
ACC GEAR BOX ON FUS I W	5020004	62	1178	61270	13950
			29187		
ENGINE CONTROLS	5030000				
ENGINE CONTROLS F F	5030001	52	1576	16723	12368
ENGINE CONTROLS C F	5030002	54	1092	6444	11800
ENGINE CONTROLS E B	5030004	58	889	66633	9904
ENGINE CONTROLS I W	5030005	62	658	52142	12751
			3232		
STARTER AND GEARBOX	5040000				
STARTER AND GEARBOX ENG	5040001		7323	60197	11357
			7323		
FIRE EXT SYSTEM	5060000				
ENG FIRE EXT SYSTEM E B	5060001	58	5985	71074	13583
ENG FIRE EXT SYSTEM D B	5060002	56	1231	56856	11237
ENG FIRE EXT SYSTEM ENG	5060003		142	67960	9970
			7358		
ENGINE MTGS AND BRACKETS	5070000				
ENGINE MOUNTS	5070001		7539	67191	14152
			7539		
FUEL SYSTEM	5080000				
17 FUEL SYSTEM C F	5080001	54	11280	39995	14090
18 FUEL SYSTEM D B	5080002	56	15735	53738	10957
4 FUEL SYSTEM E B	5080003	58	1836	61392	11024
39 FUEL SYSTEM I W	5080004	62	47280	55432	14346

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

PROJECT_____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
FUEL SYSTEM C A	5080005		195	68630	992
			76326		
MECHANICAL CONTROLS	5010000				
MECHANICAL CONTROLS B F	5010000				
MECHANICAL CONTROLS F H	5010000				
MECHANICAL CONTROLS I K	5010000				
MECHANICAL CONTROLS B H	5010000				
MECHANICAL CONTROLS C A	5010000				
FLYING CONTROLS HYDRAULICS	5020000				
FLYING CONT HYDRAULICS D B	5020000				
FLYING CONT HYDRAULICS E B	5020000				
FLYING CONT HYDRAULICS B E	5020000				
FLYING CONT HYDRAULICS I B	5020000				
FLYING CONT HYDRAULICS B E	5020000				
FLYING CONT HYDRAULICS F H	5020000				
FLYING CONT HYDRAULICS A H	5020000				
FLYING CONT HYDRAULICS F I	5020000				
FLYING CONT HYDRAULICS C F	5020000				

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

PROJECT _____

DESCRIPTION		REFERENCE NO.			COMP. NO.	WEIGHT	H. ARM	V. ARM
FLYING CONTROLS GROUP		6000000						
MECHANICAL CONTROLS		6010000						
60	MECHANICAL CONTROLS F F	6010001	52			10694	16454	1141
	MECHANICAL CONTROLS C F	6010002	54			1290	39654	1172
70	MECHANICAL CONTROLS FIN	6010005	83			12443	78819	2215
71	MECHANICAL CONTROLS I W	6010006	62			40234	71800	1438
80	MECHANICAL CONTROLS O W	6010007	64			30520	77053	1356
	MECHANICAL CONTROLS C A	6010008				663	70984	1431
						95844		
FLYING CONTROLS HYDRAULICS		6020000						
	FLYING CONT HYDRAULICS D B	6020001	56			3184	56630	1011
	FLYING CONT HYDRAULICS E B	6020002	58			39853	64788	1116
	FLYING CONT HYDRAULICS R F	6020003	59			487	5875	1082
73	FLYING CONT HYDRAULICS I W	6020004	62			27988	70369	1471
66	FLYING CONT HYDRAULICS O W	6020005	64			13170	74034	1358
63	FLYING CONT HYDRAULICS FIN	6020006	83			5581	76008	2079
	FLYING CONT HYDRAULICS R N	6020007	51			3500	11309	1051
	FLYING CONT HYDRAULICS F F	6020008	52			5506	16928	1100
	FLYING CONT HYDRAULICS C F	6020009	54			1920	37329	1100
						100750		
HYDRAULICS MAIN SYSTEM		7030000						
22	UTILITY HYDRAULICS F F	7030001	52			2500	10000	1000
4	UTILITY HYDRAULICS C F	7030002	54			1000	10000	1000
12	UTILITY HYDRAULICS D B	7030003	56			1000	10000	1000
48	UTILITY HYDRAULICS E B	7030004	58			1000	10000	1000
30	UTILITY HYDRAULICS R F	7030005	59			1000	10000	1000
25	UTILITY HYDRAULICS I W	7030006	62			1000	10000	1000
30	UTILITY HYDRAULICS O W	7030007	64			1000	10000	1000
ANTI-SKID SYSTEM		7040000						
ANTI-SKID SYSTEM C F		7040001						
ANTI-SKID SYSTEM D B		7040002						
ANTI-SKID SYSTEM E B		7040003						
ANTI-SKID SYSTEM R F		7040004						
ANTI-SKID SYSTEM I W		7040005						
ANTI-SKID SYSTEM O W		7040006						
ANTI-SKID SYSTEM FIN		7040007						
ANTI-SKID SYSTEM R N		7040008						
ANTI-SKID SYSTEM F F		7040009						
ANTI-SKID SYSTEM C F		7040010						
ANTI-SKID SYSTEM D B		7040011						
ANTI-SKID SYSTEM E B		7040012						
ANTI-SKID SYSTEM R F		7040013						
ANTI-SKID SYSTEM I W		7040014						
ANTI-SKID SYSTEM O W		7040015						
ANTI-SKID SYSTEM FIN		7040016						
ANTI-SKID SYSTEM R N		7040017						
ANTI-SKID SYSTEM F F		7040018						
ANTI-SKID SYSTEM C F		7040019						
ANTI-SKID SYSTEM D B		7040020						
ANTI-SKID SYSTEM E B		7040021						
ANTI-SKID SYSTEM R F		7040022						
ANTI-SKID SYSTEM I W		7040023						
ANTI-SKID SYSTEM O W		7040024						
ANTI-SKID SYSTEM FIN		7040025						
ANTI-SKID SYSTEM R N		7040026						
ANTI-SKID SYSTEM F F		7040027						
ANTI-SKID SYSTEM C F		7040028						
ANTI-SKID SYSTEM D B		7040029						
ANTI-SKID SYSTEM E B		7040030						
ANTI-SKID SYSTEM R F		7040031						
ANTI-SKID SYSTEM I W		7040032						
ANTI-SKID SYSTEM O W		7040033						
ANTI-SKID SYSTEM FIN		7040034						
ANTI-SKID SYSTEM R N		7040035						
ANTI-SKID SYSTEM F F		7040036						
ANTI-SKID SYSTEM C F		7040037						
ANTI-SKID SYSTEM D B		7040038						
ANTI-SKID SYSTEM E B		7040039						
ANTI-SKID SYSTEM R F		7040040						
ANTI-SKID SYSTEM I W		7040041						
ANTI-SKID SYSTEM O W		7040042						
ANTI-SKID SYSTEM FIN		7040043						
ANTI-SKID SYSTEM R N		7040044						
ANTI-SKID SYSTEM F F		7040045						
ANTI-SKID SYSTEM C F		7040046						
ANTI-SKID SYSTEM D B		7040047						
ANTI-SKID SYSTEM E B		7040048						
ANTI-SKID SYSTEM R F		7040049						
ANTI-SKID SYSTEM I W		7040050						
ANTI-SKID SYSTEM O W		7040051						
ANTI-SKID SYSTEM FIN		7040052						
ANTI-SKID SYSTEM R N		7040053						
ANTI-SKID SYSTEM F F		7040054						
ANTI-SKID SYSTEM C F		7040055						
ANTI-SKID SYSTEM D B		7040056						
ANTI-SKID SYSTEM E B		7040057						
ANTI-SKID SYSTEM R F		7040058						
ANTI-SKID SYSTEM I W		7040059						
ANTI-SKID SYSTEM O W		7040060						
ANTI-SKID SYSTEM FIN		7040061						
ANTI-SKID SYSTEM R N		7040062						
ANTI-SKID SYSTEM F F		7040063						
ANTI-SKID SYSTEM C F		7040064						
ANTI-SKID SYSTEM D B		7040065						
ANTI-SKID SYSTEM E B		7040066						
ANTI-SKID SYSTEM R F		7040067						
ANTI-SKID SYSTEM I W		7040068						
ANTI-SKID SYSTEM O W		7040069						
ANTI-SKID SYSTEM FIN		7040070						
ANTI-SKID SYSTEM R N		7040071						
ANTI-SKID SYSTEM F F		7040072						
ANTI-SKID SYSTEM C F		7040073						
ANTI-SKID SYSTEM D B		7040074						
ANTI-SKID SYSTEM E B		7040075						
ANTI-SKID SYSTEM R F		7040076						
ANTI-SKID SYSTEM I W		7040077						
ANTI-SKID SYSTEM O W		7040078						
ANTI-SKID SYSTEM FIN		7040079						
ANTI-SKID SYSTEM R N		7040080						
ANTI-SKID SYSTEM F F		7040081						
ANTI-SKID SYSTEM C F		7040082						
ANTI-SKID SYSTEM D B		7040083						
ANTI-SKID SYSTEM E B		7040084						
ANTI-SKID SYSTEM R F		7040085						
ANTI-SKID SYSTEM I W		7040086						
ANTI-SKID SYSTEM O W		7040087						
ANTI-SKID SYSTEM FIN		7040088						
ANTI-SKID SYSTEM R N		7040089						
ANTI-SKID SYSTEM F F		7040090						
ANTI-SKID SYSTEM C F		7040091						
ANTI-SKID SYSTEM D B		7040092						
ANTI-SKID SYSTEM E B		7040093						
ANTI-SKID SYSTEM R F		7040094						
ANTI-SKID SYSTEM I W		7040095						
ANTI-SKID SYSTEM O W		7040096						
ANTI-SKID SYSTEM FIN		7040097						
ANTI-SKID SYSTEM R N		7040098						
ANTI-SKID SYSTEM F F		7040099						
ANTI-SKID SYSTEM C F		7040100						

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. _____

SHEET _____

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
P	6000000						
	6010000						
F F	6010001	52	10694	16454	11411	1759591	1220292
C F	6010002	54	1290	39654	11727	511537	151278
FIN	6010005	83	12443	78819	22157	9807448	2756996
I W	6010006	62	40234	71800	14382	28888012	5786454
O W	6010007	64	30520	77053	13561	23516576	4138817
C A	6010008		663	70984	14338	470624	95061
			95844			64953788	14148898
AULICS	6020000						
CS D B	6020001	56	3184	56630	10114	1803099	322030
CS E B	6020002	58	39853	64788	11161	25819962	4447993
CS R F	6020003	59	48758	75108	24	36420	5196
CS I W	6020004	62	27988	70369	14716	19694876	4118714
CS O W	6020005	64	13170	74034	13586	9750278	1789276
CS FIN	6020006	83	5581	76008	20795	4242006	1160569
CS R N	6020007	51	3500	11309	10513	395815	367955
CS F F	6020008	52	5506	16928	11000	932056	605660
CS C F	6020009	54	1920	37329	11000	716717	211200
			100750			63391229	13028593

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

PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
FIXED EQUIPMENT GROUP	7000000				
INSTRUMENTS	7010000				
INSTRUMENTS	7010001	52	3261	16430	13947
NAVIG TABLE AND STOWAGE	7010004	52	2002	20000	13000
			3461		
COCKPIT SEALING	7020000	52	500	18600	13000
			500		
OXYGEN SYSTEM	7030000				
OXYGEN SYSTEM	7030001	52	2116	25940	15688
			2116		
AIR CONDITIONING SYSTEM	7040000				
AIRCONDITIONING F F	7040001	52	4106	17798	11308
AIRCONDITIONING C F	7040002	54	52410	28838	13567
AIRCONDITIONING D B	7040003	56	10345	17621	12492
AIRCONDITIONING C A	7040005		28326	43447	13798
AIRCONDITIONING ENG	7040006		1453	67100	14000
AIRCONDITIONING I W	7040007	62	71	52247	15728
			87400		
HYDRAULICS MAIN SYSTEM	7050000				
28 UTILITY HYDRAULICS F F	7050001	52	9602	20241	10816
4 UTILITY HYDRAULICS C F	7050002	54	4362	43003	10395
19 UTILITY HYDRAULICS D B	7050003	56	21795	54920	10950
68 UTILITY HYDRAULICS E B	7050004	58	10839	60754	11157
30 UTILITY HYDRAULICS I W	7050005	62	14441	55240	14254
28 UTILITY HYDR NOSE U C	7050006	91	114	18860	9320
30 UTILITY HYDR MAIN U C	7050007	92	2980	54325	14100
ANTI SKID SYSTEM C F	7050008	54	3134	47200	10800
ANTI SKID SYSTEM MUC	7050009	92	634	51500	14000
			67901		
MUC DOOR STOPS	7060000	56	302	51600	12000
			302		
CABIN INSULATION	7070000	52	1431	18748	13200
			1431		

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PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
BRAKE PARACHUTE	70800000				
BRAKE PARACHUTE F F	70800001	52	455	16913	128
BRAKE PARACHUTE R F	70800005	59	852882205	143	
BRAKE PARACHUTE I W	70800006	62	12462022	145	
			9107		
ELECTRICAL SYSTEM	70900000				
ELECTRICAL WIRING R N	70900001	51	129	9285	120
ELECTRICAL WIRING F F	70900002	52	2966	19977	112
ELECTRICAL WIRING C F	70900003	54	235439703	110	
ELECTRICAL WIRING A I	70900004	55	127421984	120	
ELECTRICAL WIRING D B	70900005	56	901552769	99	
ELECTRICAL WIRING E B	70900006	58	6459500	92	
ELECTRICAL WIRING I W	70900008	62	923653995	139	
ELECTRICAL WIRING FIN	70900009	83	35279754	300	
ELECTRICAL WIRING NUC	70900010	91	33018600	98	
ELECTRICAL WIRING ENG	70900011		200260683	100	
ELECTRICAL WIRING C A	70900012		1374633473	112	
ELECTRICS F F	70900013	52	1524015765	113	
ELECTRICS C F	70900014	54	787745178	101	
ELECTRICS E B	70900015	58	102064774	114	
ELECTRICS ENG	70900016		1007259157	114	
ELECTRICS C A	70900017		71861350	120	
ELECTRICS FIN	70900018	83	4489050	288	
ELECTRICS I W	70900019	62	227562053	145	
ELECTRICS CAW	70900020		12067488	136	
ELECTRICS MUC	70900021	92	7451600	137	
20 ELECTRICS A I	70900022	55	490022079	139	
ELECTRICS D B	70900023	56	2671051734	102	
ELECTRICS R F	70900024	59	17680759	116	
55 WINDSCREEN DEMISTING	70900025	52	346619954	106	
ELECTRICS TAILC PLUG JETT	70900026		80955200	110	
			114969		
L P PNEUMATICS	71000000				
L P PNEUMATICS F F	71000001	52	1993	19586	122
L P PNEUMATICS C F	71000002	54	79632397	116	
L P PNEUMATICS FIN	71000005	83	41474966	252	
L P PNEUMATICS R N	71000006	51	199	7067	92
L P PNEUMATICS ENG	71000008		140363897	99	
L P PNEUMATICS I W	71000009	62	20352880	159	
			5008		
INTAKE DE ICING	71200000	55	8800	19582	118
			8800		
29 CANOPY ACTUATION	71600000	52	6492	22199	154
			6492		

WEIGHT AND C. OF G BY

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

PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
REMOVABLE EQUIPMENT GROUP	8000000				
94 EJECTOR SEATS	8010100	52	34294	20450	134
			34294		
RADIO RADAR PART ELECT R N	8020101	51	118	10510	91
RADIO RADAR PART ELECT F F	8020102	52	13446	18164	116
RADIO RADAR PART ELECT C F	8020103	54	21484	27005	96
RADIO RADAR PART ELECT D B	8020104	56	3694	51681	114
RADIO RADAR PART ELECT F I N	8020105	83	3249	76179	251
RADIO RADAR PART ELECT C A	8020106		15505	40534	123
RADIO RADAR PART ELECT I W	8020108	62	2795	58836	154
RADIO RADAR PART ELECT O W	8020109	64	1049	74642	137
			61340		
DAMPING SYSTEM F F	8030101	52	784	17201	120
DAMPING SYSTEM C F	8030102	54	2303	32213	109
DAMPING SYSTEM E B	8030103	58	369	63242	134
DAMPING SYSTEM I W	8030104	62	6070	53781	157
DAMPING SYSTEM O W	8030105	64	95	74855	140
DAMPING SYSTEM R N	8030106	51	287	7350	93
			9908		
INSTRUMENTATION	8050900	94	320200	37099	98
			320200		
INSTRUMENT PACK STRUCTURE	8051000	54	69200	38486	93
			69200		

AVRO AIRCRAFT LTD.
MALTON, ONT.

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

PROJECT _____

DESCRIPTION	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM
OPERATIONAL LOAD	9000000				
CREW MEMBERS	9010000	52	39000	19400	13650
			39000		
ENGINE OIL	9020000				
ENGINE OIL DRAINABLE ENG	9020001		9290	64000	11940
ENGINE OIL DRAINABLE E B	9020002	58	4110	65640	9769
ENGINE OIL TRAPPED D B	9020003	56	753	58176	9677
ENGINE OIL TRAPPED E B	9020004	58	1760	61736	10261
			15913		
OXYGEN CHARGE	9050000				
OXYGEN CHARGE F F	9050001	52	72	20493	13200
OXYGEN CHARGE C F	9050002	54	1267	26280	16150
			1339		
ENGINE FIRE EXT FLUID	9060000		2500	73000	12900
			2500		
TRAPPED FUEL	9080000				
TRAPPED FUEL C F	9080001	54	2430	41426	13106
TRAPPED FUEL D B	9080002	56	690	49400	13350
TRAPPED FUEL I W	9080003	62	18260	56814	14353
			21380		
WATER FOR AIR CONDITIONING	9100000	54	26000	26800	13200
UNUSABLE WATER FOR AIRCOND	9100001	54	2500	26700	12700
			28500		

WEIGHT AND C. OF G BY FUNCTIONAL GROUP COMPONENT

REPORT NO. _____

SHEET _____

	REFERENCE NO.	COMP. NO.	WEIGHT	H. ARM	V. ARM	H. MOMENT	V. MOMENT
	9000000						
	9010000	52	39000	19400	13650	7566000	5323500
			39000			7566000	5323500
	9020000						
ENG	9020001		9290	64000	11940	5945600	1109226
E B	9020002	58	4110	65640	9769	2697804	401506
B	9020003	56	753	58176	9677	438065	72868
B	9020004	58	1760	61736	10261	1086554	180594
			15913			10168023	1764194
	9050000						
	9050001	52		7220	4931	14755	9504
	9050002	54	1267	26280	16150	332968	204621
			1339			347723	214125
ID	9060000		2500	73000	12900	1825000	322500
			2500			1825000	322500
	9080000						
	9080001	54	2430	41426	13106	1006652	318476
	9080002	56	690	49400	13350	340860	92115
	9080003	62	18260	56814	14353	10374236	2620858
			21380			11721748	3031449
TIONING	9100000	54	26000	26800	13200	6968000	3432000
AIRCOND	9100001	54	2500	26700	12700	667500	317500
			28500			7635500	3749500

By authority of: AVRO Arrow Declassif. Board

Signature B. B. B. B. B., Co-Chairperson

Unit / Rank / Appointment..... DSIS 3

