

51
FILE IN VAULT.

ANALYZED

QC
Avro
C-105
7-0400-71
Iss. 5

AVRO AIRCRAFT LIMITED
INTER-DEPARTMENTAL MEMORANDUM

UNCLASSIFIED
SECRET

Ref: 8282/11/J
Date: 18 April, 1958
To: Mr. C.V. Lindow
From: E.F. Burnett
Subject: Arrow 1 - Weight & Balance 6th Flight

ANALYZED

Herewith Weight and Balance data for Arrow 1 # 25201
6th flight.

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

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E.F. Burnett
Weights Supervisor

EFB/ag

cc: Messrs. J.C. Floyd
R.N. Lindley
F.P. Mitchell
D.N. Scard
G. Hake
T. Roberts
J. Thorne
J. Lucas
A. Crust (7 copies for R.C.A.F.)
Central Files



53968
12496552

ARROW 1
Aircraft 25201
Date April, 18, 1958

Report 7-0400-71
Issue 5
Sheet 1

SECRET

WEIGHT & BALANCE SUMMARY FLIGHT # 6

	<u>WT. (lbs)</u>	<u>H. ARM</u>	<u>% M.A.C.</u>	
1. Condition at startup - OWE				
for #3 flight plus fuel as	67516	545.73	30.31	U/C Down
indicated on instrument pack	67516	544.28	29.91	U/C Up
gauges.				
2. Engine run up, checks, taxi				
3. Weight at take off	66516	545.82	30.34	U/C Down
(estimated)	66516	544.35	29.93	U/C Up
4. Weight at landing	54000	547.32	30.75	U/C Down
(estimated fuel distribution)	54000	545.51	30.25	U/C Up
5. Weight at landing	53836	548.62	31.10	U/C Down
(actual fuel distribution)	53836	546.80	30.61	U/C Up

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BEFORE FLIGHT

ARROW 1
AIRCRAFT 25201
FLIGHT 6

DATE: April 18, 1958
REPORT: 7-0400-71-5
SHEET: 2

~~TOP SECRET ROCKET ENGINE~~

SECRET

THE AIRCRAFT WAS NOT WEIGHED BEFORE FLIGHT

SCALE	KIT	CELL	LOAD	CORRECTION	WEIGHT
Wing Jacking Point - Port					
Wing Jacking Point - Stbd					
Nose Jacking Point					
TOTAL					

WT. (lbs) H. ARM (ins) % H.A.C.

Total Wt. Fwd Jacking Point
Total Wt. Aft Jacking Points
TOTAL as Weighed

U/C Down

Plus Pilot +
Plus Observer +
Less Elevator Uplocks =
Less Intake Blanks =
Less Tailcone Blanks =
Less U/C Down Locks =

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Gross Wt 67516 545.73 30.31 U/C Down

Gross Wt 67516 544.28 29.91 U/C Up

Less Fuel (see Chart 1 below) 13920 540.58

Operational Wt Empty (See sheet 2 of weighing for flight 3) 48596 547.74 30.87 U/C Down

Operational Wt Empty 48596 545.72 30.31 U/C Up

Before flight

After flight

#1 Chart - Fuel Gauge Reading when weighed

#2 Chart - Fuel Gauge Readings ~~in excess of~~

Tanks	L.H. Deg.	R.H. Deg.	Total Deg.	Total lbs	H. ARM INS
1	-	244	244	1952	354.59
2	253	-	253	2024	435.23
3	144	140	284	2272	446.14
4	84	70	154	1232	502.57
5	157	138	295	2360	548.87
6	148	134	282	2256	589.11
7	282	271	553	4424	627.57
8	173	127	300	2400	675.52
Total				13920	540.58

Tanks	L.H. Deg.	R.H. Deg.	Total Deg.	Total lbs.	H. ARM INS
1	-	22	22	176	354.59
2	44	-	44	352	435.23
3	16	0	16	128	446.14
4	22	4	26	208	502.57
5	167	140	307	2456	548.87
6	13	103	116	928	589.11
7	48	16	64	512	627.57
8	50	10	60	480	675.52
Total				5240	556.78

Cockpit Gauges L.H. 10000
R.H. 8850

Date: April 18, 1958
 Report: 7-0400-71-5
 Sheet: 3

WEIGHT AND BALANCE CLEARANCE FOR AIRCRAFT

SECRET

Serial No. <u>25201</u>	C.G. Limits <u>20% - 33%</u>	Crew <u>1</u>
Flight No. <u>6</u>	Gross Wt. <u>67516</u>	Fuel Load <u>10920</u> lb

<u>CONDITION</u>	<u>WEIGHT</u> lb	<u>H. ARM.</u> ins.	<u>F.A.C.</u> %	
<u>START UP</u>				
Gross Wt (from Sheet 2)	67516	545.73	30.31	U/C Down
Gross Wt (from Sheet 2)	67516	544.28	29.91	U/C Up
<u>TAKE-OFF</u>				
Gross Wt U/C Down (above)	67516	545.73		
Less Fuel - Start Up Taxi, Take-off	-1000	539.96		
Gross Wt. - Take off	66516	545.82	30.34	U/C Down
Less Moment 97,969 lb/in				
Gross Wt. Take off	66516	544.35	29.93	U/C Up
<u>MID-FLIGHT</u>				
Operational Wt Empty U/C Up (from sheet)	48596	545.72		
Tanks				
1	1155	354.59		
2	1198	435.23		
3 x 2	1345	446.14		
4 x 2	729	502.47		
5 x 2	2360	548.87		
6 x 2	1335	589.11		
7 x 2	2619	627.57		
8 x 2	1421	675.52		
Total Fuel	12162	541.25		
Gross Wt. - Mid Flight	60758	544.83	30.06	U/C Up
<u>LANDING</u>				
Operational Wt. Empty - U/C Down (from sheet 2)	48596	547.74		
Tanks				
1	359	354.59		
2	372	435.23		
3 x 2	418	446.14		
4 x 2	226	502.47		
5 x 2	2360	548.87		
6 x 2	415	589.11		
7 x 2	813	627.57		
8 x 2	1441	675.52		
Total Fuel	5404	543.52		
Gross Wt. - Landing	54000	547.32	30.75	U/C Down
Less Moment 97,969 lb/in				
Gross Wt Landing	54000	545.51	30.25	U/C Up

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Loading Conditions and C.G. Travel Approved _____

