

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

7L113-58/04

AVRO AIRCRAFT LIMITED
INTER-DEPARTMENTAL MEMORANDUM

UNCLASSIFIED

Ref: 8387/11/J
Date: 22 April, 1958
To: Mr. C.V. Lindow
From: E.F. Burnett
Subject: Weight & Balance Summary 8th Flight

W-1750

Herewith Weight and Balance data for Arrow 1 # 25201 8th
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: WSIS 3, Secretary CRAD HQ DRP

E.F. Burnett
E.F. Burnett
Weights Supervisor

EF/ag

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



53969

124066311

ARROW 1
Aircraft 25201
Date: 22 April, 1958

Report: 7-0400-71
Issue : 7
Sheet : 1

SECRET

WEIGHT & BALANCE SUMMARY FLIGHT #8

	<u>WEIGHT (lb)</u>	<u>H. ARM</u>	<u>% M.A.C.</u>	
1. Conditionat start up - ONE for #3 flight plus fuel as indicated on pack fuel gauges	67380 67380	545.97 544.51	30.38 29.97	U/C Down U/C Up
2. Engine Run Up, Checks Taxi				
3. Weight at take off (estimated)	66380 66380	546.06 544.54	30.40 29.98	U/C Down U/C Up
4. Weight at Landing (estimated fuel distribution).	52500 52500	547.55 545.68	30.81 30.29	U/C Down U/C Up
5. Weight at landing (actual fuel distribution)	52420 52520	548.99 547.12	31.21 30.69	U/C Down U/C Up

UNCLASSIFIED
NON CLASSIFIED

BEFORE FLIGHT

ARROW 1
AIRCRAFT 25201
FLIGHT 8

DATE: 22 April, 1958
REPORT: 7-0400-71-7
SHEET: 2

~~RESTRICTED~~

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					

	<u>WT. (lbs)</u>	<u>H. ARM (ins)</u>	<u>% M.A.C.</u>
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	-		
Gross Wt	<u>67380</u>	<u>545.97</u>	<u>30.3</u> U/C Down
Gross Wt	<u>67380</u>	<u>544.51</u>	<u>29.97</u> U/C Up
Less Fuel (see Chart 1 below)	<u>18784</u>	<u>541.39</u>	
Operational Wt Empty (See sheet 2 of weighing for flight #3)	<u>48596</u>	<u>547.74</u>	<u>30.87</u> U/C Down
Operational Wt Empty	<u>48596</u>	<u>545.72</u>	<u>30.31</u> U/C Up

**UNCLASSIFIED
NON CLASSIFIED**

Before Flight
#1 Chart - Fuel Gauge Reading ~~theoretical~~

Tanks	L.H. Deg.	R.H. Deg.	Total Deg.	Total lbs	H. ARM INS
1	-	242	242	1936	354.59
2	248	-	248	1984	435.23
3	141	140	281	2248	446.14
4	84	70	154	1232	502.57
5	154	118	272	2176	548.87
6	154	142	296	2368	589.11
7	282	272	554	4432	627.57
8	174	127	301	2408	675.52
Total				<u>18784</u>	<u>541.39</u>

Cockpit Gauges L.H. 10000
 R.H. 9000

After Flight
#2 Chart - Fuel Gauge Readings ~~theoretical~~

Tanks	L.H. Deg.	R.H. Deg.	Total Deg.	Total Lbs.	H. ARM INS
1	-	12	12	96	354.59
2	4	-	4	32	435.23
3	10	0	10	80	446.14
4	10	0	10	80	502.47
5	167	140	307	2456	548.87
6	12	20	32	256	589.11
7	32	18	50	1400	627.57
8	50	3	53	424	675.52
Total				<u>3824</u>	<u>564.89</u>

Cockpit Gages L.H. 2600
 R.H. 1200

Date: 22 April, 1958
 Report: 7-0400-71-7
 Sheet: 3

WEIGHT AND BALANCE CLEARANCE FOR AIRCRAFT 1

SECRET

Serial No. <u>25201</u>	C.G. Limits <u>28" - 31"</u>	Crew <u>1</u>
Flight No. <u>8</u>	Gross Wt. <u>67380</u>	Fuel Load <u>10784</u> lb

CONDITION	WEIGHT lb	H. AL. ins.	F.A.C. %	
<u>START UP</u>				
Gross Wt (from Sheet 2)	67380	545.97	30.38	U/C Down
Gross Wt (from Sheet 2)	67380	544.51	29.97	U/C Up
<u>TAKE-OFF</u>				
Gross Wt U/C Down (above)	67380	545.97		
Less Fuel - Start Up Taxi, Take-off	1000	539.96		
Gross Wt. - Take off	66380	546.06	30.40	U/C Down
Less Moment 97,969 lb/in				
Gross Wt. Take off	66380	544.54	29.98	U/C Up
<u>MID-FLIGHT</u>				
Operational Wt empty U/C Up (from sheet)	48596	545.72		
Tanks				
1	1069	354.59		
2	1095	435.23		
3 x 2	1242	446.14		
4 x 2	680	502.47		
5 x 2	2176	548.87		
6 x 2	1307	589.11		
7 x 2	2447	627.57		
8 x 2	1330	675.52		
Total Fuel	21345	542.03		
Gross Wt. - Mid Flight	59941	545.02	30.11	U/C Up
<u>LANDING</u>				
Operational Wt. Empty - U/C Down (from sheet)	48596	547.74		
Tanks				
1	201	354.59		
2	206	435.23		
3 x 2	234	446.14		
4 x 2	128	502.47		
5 x 2	2176	548.87		
6 x 2	246	539.11		
7 x 2	461	627.57		
8 x 2	251	675.52		
Total Fuel	3904	545.16		
Gross Wt. - Landing	52500	547.55	30.81	U/C Down
Less Moment 97,969 lb/in				
Gross Wt Landing	52500	545.68	30.29	U/C Up

UNCLASSIFIED
NON CLASSIFIED

Loading Conditions and C.G. Travel Approved _____

Envelope attained - based on Fuel Gauge
readings after flight

Date: 22 April, 1958
Sheet: 7-0100-71-7
4

WEIGHT AND BALANCE CLEARANCE FOR ALCON 1

SECRET

Serial No. <u>25201</u>	C.G. Limits <u>28% - 33%</u>	Crew <u>1</u>
Flight No. <u>8</u>	Gross Wt. <u>67380</u>	Fuel Load <u>18784</u>
<u>CONDITION</u>	<u>WEIGHT</u> <u>lb</u>	<u>H. AL</u> <u>ins.</u>
<u>TAXI</u>		
Gross Wt (from Sheet 2)	67380	545.97
Gross Wt (from Sheet 2)	67380	544.51
<u>TAKE-OFF</u>		
Gross Wt U/C Down (above)	67380	545.97
Less Fuel - Start Up, Taxi, Take-off	-1000	539.96
Gross Wt. - Take off	66380	546.06
Less Moment 97,969 lb/in		30.40
Gross Wt. Take off	66380	544.54
<u>MID-FLIGHT</u>		
Operational Wt Empty U/C Up (from sheet)		
Tanks		
1		354.59
2		435.23
3 x 2		446.14
4 x 2		502.47
5 x 2		548.87
6 x 2		589.11
7 x 2		627.57
8 x 2		675.52
Total Fuel		
Gross Wt. - Mid Flight		
<u>LANDING</u>		
Operational Wt. Empty = U/C Down (from sheet)	48596	517.74
Tanks		
1	96	354.59
2	32	435.23
3 x 2	30	446.14
4 x 2	80	502.47
5 x 2	2456	548.87
6 x 2	256	589.11
7 x 2	400	627.57
8 x 2	424	675.52
Total Fuel	3824	544.89
Gross Wt. - Landing	52420	548.99
Less Moment 97,969 lb/in		31.21
Gross Wt Landing	52420	547.12
		30.69

UNCLASSIFIED
NON CLASSIFIED

Loading Conditions and C.G. Travel Approved