

QC
Auro
C-105
7-0400-71
Iss. 8

AVRO AIRCRAFT LIMITED
INTER-DEPARTMENTAL MEMORANDUM

UNCLASSIFIED
SECRET

Ref: 8433/11/J
Date: 23 April, 1958
To: Mr. C.V. Lindow
From: E.F. Burnett
Subject: Arrow 1 - Weight & Balance 9th Flight

Herewith Weight and Balance data for Arrow 1 # 25201
9th 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

E.F. Burnett
E.F. Burnett
Weight Supervisor

EFB/ag

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



53970

12491611

Aircraft: ARROW 1
A/C 25201
Date: 23 April, 1958

Report: 7-0400-71
Issue : 8
Sheet : 1

SECRET

WEIGHT AND BALANCE SUMMARY FLIGHT #9

	<u>WEIGHT (lb)</u>	<u>H. ARM</u>	<u>% M.A.C.</u>	
1. Condition at start up - OWE for 3 Flight plus fuel indicated on pack fuel gauges.	57700 67700	545.75 544.30	30.32 29.92	U/C Down U/C Up
2. Engine Run up, Checks, Taxi.				
3. Weight at take off (estimated)	66700 66700	545.84 544.37	30.34 29.94	U/C Down U/C Up
4. Weight at landing (estimated fuel Distribution)	53500 53500	547.40 545.57	30.77 30.27	U/C Down U/C Up
5. Weight at landing (actual fuel distribution)	53308 53308	548.18 546.34	30.99 30.48	U/C Down U/C Up

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REPORT FORM

ARROW 1
AIRCRAFT 25201
FLIGHT 9

DATE: 23 April, 1958
REPORT: 7-0400-71-8
SHEET: 2

SECRET

~~XXXXXXXXXXXXXXXXXXXX~~

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) % M.A.C.

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

U/C Dow

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

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Gross Wt 67700 545.75 30.32 U/C Dow

Gross Wt 67700 544.30 29.92 U/C Up

Less Fuel (see Chart 1 below) 19104 540.70

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

Operational Wt Empty 3) 48596 545.72 30.31 U/C Up

Before flight

After flight

#1 Chart - Fuel Gauge Reading ~~when weighed~~

#2 Chart - Fuel Gauge Readings ~~when weighed~~

Tanks	L.H. Deg.	R.H. Deg.	Total Deg.	Total lbs	M. ARM INS
1	-	243	243	1944	354.59
2	256	-	256	2048	435.23
3	143	144	287	2296	446.14
4	86	73	159	1272	502.57
5	159	138	297	2376	548.87
6	153	134	287	2296	589.11
7	284	273	557	4456	627.57
8	174	128	302	2416	675.52
Total				19104	540.70

L.H. 10200
R.H. 9000

Cockpit Gauges

Tanks	L.H. Deg.	R.H. Deg.	Total Deg.	Total lbs.	H. ARM INS
1	-	20	20	160	354.59
2	50	-	50	400	435.23
3	10	0	10	80	446.14
4	32	10	42	336	502.47
5	168	140	308	2464	548.87
6	15	2	17	136	589.11
7	61	19	80	640	627.57
8	53	9	62	496	675.52
Total				4712	552.76

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SECRET

Serial No.	25201	C.I. Limits	287 - 315	Crew	1
Flight No.	9	Gross Wt.	67700	Flight Date	19101
COMBINE					
Gross Wt. (from sheet 2)		67700	545.75	30.32	U/C Down
Gross Wt. (from sheet 2)		67700	544.30	29.92	U/C
TAKE-OFF					
Gross wt. U/C Down (above)		67700	545.75		
Less Fuel - Start in Taxi, Take-off		-1000	539.26		
Gross wt. = Take off		66700	543.84	30.34	U/C Down
Less Weight 97,900 lb/in					
Gross wt. Take off		66700	544.37	29.94	U/C
FLIGHT					
Operational & Empty U/C J.		48596	545.72		
(from sheet)					
Tanks					
1		1119	354.59		
2		1179	435.23		
3 x 2		1322	446.14		
4 x 2		732	502.47		
5 x 2		2376	548.87		
6 x 2		1322	589.11		
7 x 2		2565	627.57		
8 x 2		1391	675.52		
Total Fuel		12006	541.38		
Gross wt. = Mid Flight		60602	544.86	30.07	U/C
LANDING					
Operational wt. Empty = U/C Down		48596	547.74		
(from sheet)					
Tanks					
1		294	354.59		
2		310	435.23		
3 x 2		347	446.14		
4 x 2		192	502.47		
5 x 2		2376	548.87		
6 x 2		347	589.11		
7 x 2		673	627.57		
8 x 2		365	675.52		
Total Fuel		4904	544.03		
Gross wt. = Landing		53500	547.40	30.77	U/C Down
Less weight 97,909 lb/in					
Gross wt. Landing		53500	545.57	30.27	U/C

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Envelope attained - based on fuel gauge
readings after flight

Date:
Sheet:

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WEIGHT AND BALANCE CLEARANCE FOR APPROVAL

SECRET

Serial No.	25201	C.G. Limits	28% - 31%	Crew	1
Flight No.	9	Gross Wt.	67700	Fuel Load	1970 lb
CONDITION	WEIGHT lb	W. AL lbs.	L.A.C.		
START					
Gross Wt (from Sheet)	2	67700	545.75	30.32	U/C Down
Gross Wt (from Sheet)	2	67700	544.30	29.92	U/C Up
TAKE-OFF					
Gross Wt U/C Down (above)		67700	545.75		
Less Fuel - Start Up Taxi, Take-off		-1000	539.96		
Gross Wt - Take off		66700	545.84	30.34	U/C Down
Less Moment 97,969 lb/in					
Gross Wt. Take off		66700	544.37	29.94	U/C Up
MID-FLIGHT					
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			539.11		
7 x 2			627.57		
8 x 2			675.52		
Total Fuel					
Gross Wt. - Mid Flight					U/C Up
LANDING					
Operational Wt. Empty - U/C Down (from sheet)		48596	547.74		
Tanks					
1		160	354.59		
2		400	435.23		
3 x 2		80	446.14		
4 x 2		336	502.47		
5 x 2		2464	548.87		
6 x 2		136	539.11		
7 x 2		640	627.57		
8 x 2		496	675.52		
Total Fuel		4712	552.76		
Gross Wt. - Landing		53308	548.18	30.99	U/C Down
Less Moment 97,969 lb/in					
Gross Wt Landing		53308	546.34	30.48	U/C Up

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Loading Conditions and C.G. Travel Approved