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ANALYZED

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TO

DATE
JAN 0 7 1993

Report no.: QCX - AVRO - CF105- R-7-0400-71-Iss-5

has been downgraded to: _____

de-classified

by (Name): Michel W. Drapeau

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

Date: Dec. 7, 1992

R. Auger
Signature

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By
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Uni

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
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 indicated on instrument pack gauges.	67516	545.73	30.31	U/C Down
	67516	544.28	29.91	U/C Up
2. Engine run up, checks, taxi				
3. Weight at take off (estimated)	66516	545.82	30.34	U/C Down
	66516	544.35	29.93	U/C Up
4. Weight at landing (estimated fuel distribution)	54000	547.32	30.75	U/C Down
	54000	545.51	30.25	U/C Up
5. Weight at landing (actual fuel distribution)	53836	548.62	31.10	U/C Down
	53836	546.80	30.61	U/C Up

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BEFORE FLIGHT

ARROW 1
 AIRCRAFT 25201
 FLIGHT 6

DATE: April 18, 1950
 REPORT: 7-0400-71-5
 SHEET: 2

~~XXXXXXXXXXXXXXXXXXXX~~

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) % M.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 0
 Less Intake Blanks 0
 Less Tailcone Blanks 0
 Less U/C Down Locks 0

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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) 18920 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 ~~before flight~~

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	202	271	553	4424	627.57
8	173	127	300	2400	675.52
Total				18920	540.50

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	502.47
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

Coor. it 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% - 31"</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>H.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)	<u>67516</u>	<u>545.73</u>		
Less Fuel - Start Up Taxi, Take-off	<u>-1000</u>	<u>539.96</u>		
Gross Wt. - Take off	<u>66516</u>	<u>545.82</u>	30.24	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)	<u>48596</u>	<u>545.72</u>		
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	<u>12162</u>	<u>543.25</u>		
Gross Wt. - Mid Flight	60758	544.83	30.06	U/C Up
<u>LANDING</u>				
Operational Wt. Empty - U/C Down (from sheet 2)	<u>48596</u>	<u>547.74</u>		
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	<u>5404</u>	<u>543.52</u>		
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 _____

Date: April 18, 1958
 Report: 7-0400-71-5
 Sheet: 4

WEIGHT AND BALANCE CLEARANCE FOR ARROW 1

SECRET

Serial No. 25201 C.G. Limits 28' - 33' Crew 1
 Flight No. 6 Gross Wt. 67516 Fuel Load 13920 lb

<u>CONDITION</u>	<u>WEIGHT</u> lb	<u>II. ARM.</u> ins.	<u>M.A.C.</u> %	
<u>START UP</u>				
Gross Wt (from Sheet <u>3</u>)	67516	545.73	30.31	U/C Down
Gross Wt (from Sheet <u>4</u>)	67516	544.23	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	<u>-1000</u>	<u>539.96</u>		
Gross Wt. = Take off	<u>66516</u>	<u>545.82</u>	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)	-----	-----		
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/C Up
<u>LANDING</u>				
Operational Wt. Empty = U/C Down (from sheet)	<u>48596</u>	<u>547.74</u>		
Tanks				
1	176	354.59		
2	352	435.23		
3 x 2	128	446.14		
4 x 2	208	502.47		
5 x 2	2456	548.87		
6 x 2	928	589.11		
7 x 2	512	627.57		
8 x 2	480	675.52		
Total Fuel	<u>5240</u>	<u>556.78</u>		
Gross Wt. = Landing	<u>53836</u>	<u>543.62</u>	31.10	U/C Down
Less Moment 97,969 lb/in				
Gross Wt Landing	53836	546.80	30.61	U/C Up

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Loading Conditions and C.G. Travel Approved _____

