C-105 With J67 Engines
Preproduction & Production

Report # 7-0400-05

WEIGHT SUMMARY

SECRET

A. V. ROE CANADA LIMITED
MALTON - ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT NO 7-0400-05
SHEET NO 001 Issue 2

AIRCRAFT:		PREPARED BY	DATE
C-105 With J67 Engines	INTRODUCTION	P. Kubicki	May 1954
	SECRET	CHECKED BY	DATE

This Weight Summary represents a revised Weight Estimate of the C-105 Aircraft based on all drawings and stress information in being on the 5th May 1954.

NOTES ON ESTIMATES:-

1. STRUCTURE AND LANDING GEAR:-

   These weights are based on the latest design ideas under consideration by the Design Office with sizes derived from preliminary stressing.

2. ENGINE AND EQUIPMENT SYSTEMS

   These figures are based on actual layout proposals by the Design Office and on lists of Equipment prepared by AVRO Specialist Engineer. Weights for piping, wiring and mountings based on statistical information have been added.

FORM-319A

A. V. ROE CANADA LIMITED
MALTON - ONTARIO

TECHNICAL DEPARTMENT (Aircraft)

REPORT NO.	7-C400-05
SHEET NO.	002 Issue 2
PREPARED BY	P. Kubicki
DATE	May 1954
CHECKED BY	
DATE	

AIRCRAFT: C-105 With J67 Engines PRODUCTION

WEIGHT AND C. G. SUMMARY

PAGE No.	DESCRIPTION	WEIGHT lb	H. ARM X ins. (wt. per brochure)	V. ARM Z ins. (ΔWt)	WEIGHT CHANGES
	STRUCTURE	16,111.0	15,605	+ 506	
10	Wing	9,560.0	8557	+ 1,003	
20	Fin & Rudder	791.0	900	− 109	
30	Body	5,760.0	6,148	− 388	
40	LANDING GEAR	2,105.0	2,109	− 4	
41	Main Undercarriage	1,780.0			
42	Nose Wheel	325.0			
50	POWER PLANT AND SERVICE	11,616.0	10,322	+ 1,294	
51	Engines	10,464.0			
52	Pneumatic Engine Starting System	70.0	9502		
53	Engine Mountings	125.0			
54	Engine Controls	20.0	20		
55	Accessory Gear & Drive	150.0	15		
56	Fuel Tanks	177.0	720		
57	Fuel Systems	545.0			
58	Fire Extinguishers	65.0	65		
60	EQUIPMENT	6,522.5	5,632	+ 890.5	
61	Instruments	49.0	50		
62	Probe	15.0	50		
63	Surface Controls	750.0	700		
64	Hydraulic Systems	1,295.0	680		
65	Electrical System	781.2	700		
66	Radar and Electronics	2,112.0	1,800		
67	Armament Provisions	184.0	410		
68	Ejector Seats	221.0	132		
69	Emergency Provisions	16.8	15		
610	Oxygen System	53.5	20		
611	Air Conditioning	605.0	625		
612	Anti-Icing System	300.0	300		
613	Brake Parachute	65.0	75		
615	Furnishings	75.0	—		
	Ext. Finish	—	75		
	AIRCRAFT WEIGHT EMPTY	36,354.5	33,668	+ 2,686.5	

A. V ROE CANADA LIMITED
MALTON · ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No. 7-0400-05
SHEET No 10-1 Issue 2

AIRCRAFT		PREPARED BY	DATE
C105 With J67 Engines	WING	J. Daniels	May 1954
		CHECKED BY	DATE
		P. Kubicki	May 1954

WING WEIGHT SUMMARY (BOTH SIDES)

ITEMS	WEIGHT lb	H. ARM ins.	V. ARM ins.
Inner Wing			
Leading Edge	332.40		
Main Undercarriage Doors	219.88		
Main Undercarriage Mountings	104.00		
Front Spar to Main Spar Structure	690.50		
Front Spar	199.20		
Main Spar to Rear Spar			
a) Skin	2,120.00		
b) Stringers	487.30		
c) Spars	437.00		
d) Ribs	403.00		
Transverse Spar	129.00		
Re-inforcement of skin 57.4 Station Rib	67.00		
Elevator Control Box	405.10		
Elevators	436.00		
Structure after Rear Spar inside Fuselage	346.70		
Outer Wing			
Leading Edge	100.60		
Skin	906.53		
Stringers	207.56		
Spars	217.10		
Ribs	65.41		
Ailerons Control Box	244.86		
Ailerons	252.00		
Fuselage Fairing (dorsal)	75.00		
Wing Jointing	1,063.20		
Engine Mounting Brackets	50.00		
	9,559.40	637.5	+ 22.2

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MALTON ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No 7-0400-05
SHEET No 20-2 3

AIRCRAFT		PREPARED BY	DATE
C105 With J67 Engines	RUDDER	P.J.C. King	April 1954
		CHECKED BY	DATE
		P. Kubicki	April 1954

The following set of calculations is based on drawing No. 7-0184-0001 correct to the latest issue. i.e. To information available to May 1st.

This weight of 101 lb. can be considered to be pessimistic.
All hinges, bolts etc. for mating with Fin are included in Fin figures.

ITEM	WEIGHT lb	H. ARM X ins.	H. MOMENT ins. lb.	V. ARM Z ins.	V. MOMENT ins. lb.
Skins	45.89	809.0	37,125.01	91.0	4,175.99
Root Rib.	1.05	773.8	812.49	45.0	47.25
Outer Rib.	0.20	859.0	171.80	158.0	31.60
Intermediate Ribs	8.80	809.0	7,119.20	91.0	800.80
Control No. 1	3.26	777.6	2,534.98	67.0	218.42
Control No. 2	2.50	794.0	1,985.00	87.0	217.50
Control No. 3	1.99	817.0	1,625.83	115.5	229.85
Main Spar	3.70	815.5	3,017.35	99.8	369.26
T/E Extrusion	6.38	838.0	5,346.44	96.0	612.48
L/E Extrusion	25.62	796.0	20,393.52	96.0	2,459.52
Allowance for bolts & Misc. Brackets.	1.61	806.2	1,297.98	92.2	148.44
	101.00	806.2	81,429.60	92.2	9,311.11

A. V. ROE CANADA LIMITED
MALTON ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT NO. 7-0400-05
SHEET NO. 30-2 Issue 2

AIRCRAFT		PREPARED BY	DATE
C-105 With J67 Engine	FRONT FUSELAGE	D. Gildea	May 1954
		CHECKED BY	DATE
		P. Kubicki	May 1954

Front Fuselage Structure Complete from Nose to Transport Joint (Station 564)

ITEMS	WEIGHT LB.	H. ARM X ins.	V. ARM Z ins.
Skins	462		
Stringers	111		
Longerons	216		
Formers and Bulkheads	794		
Cockpit Decking and Flooring	107		
Missile Bay Flooring	110		
Nose Wheel Pick Up and Doors	87		
Equipment Doors (front fuselage)	62		
Misc. Structure	64		
Air Ducts Arrangement	1,067		
Windscreen	150		
Pilot Canopy and Support Structure	252		
Navigator Canopy and Support Structure	148		
Radar Nose	74		
Sealing Compound (Cockpit)	20		
Missile Bay Structure and Doors	599		
Joint and Strap Plates	50		
Dive Brakes	110		
Structure to Accommodate Dive Brakes	20		
FRONT FUSELAGE TOTAL	4,500		

A. V. ROE CANADA LIMITED
MALTON - ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No. 7-0400-05
SHEET No. 30-3 Issue 2

AIRCRAFT		PREPARED BY	DATE
C-105 With J67 Engine	REAR FUSELAGE		
		CHECKED BY	DATE
		P. Kubicki	May 1954

Based on actual design and stress sizes.

REAR FUSELAGE
(From Station 564 to Station 742.65)

ITEMS	WEIGHT lb	H. ARM X ins.	V. ARM Z ins.
Outer Skin .051 & .032 thick	168.0		
Light Formers .04 & .032 thick	167.0		
Strong Frames Angles	103.0		
" " Webs	26.0		
Wing Aft. Fittings	16.0		
" " Struts	12.0		
Top Wing Member	25.0		
Longerons & Stringers	70.0		
Titanium Tunnels Skin	145.0		
Top Re-inforcing Rings	33.0		
Access Doors Allowances	80.0		
Engine Duct (564 St. to Engine Entry)	40.0		
Structure to Accommodate Bumper	35.0		
REAR FUSELAGE	920.0		

DETACHABLE FUSELAGE END
(From Station 742.65)

ITEMS	WEIGHT lb	H. ARM X ins.	V. ARM Z ins.
Outer Skin .032 thick	65.0		
Frames & Stringers	115.0		
Inner Skin Titanium	82.0		
Detachable Joint Arrangement.	28.0		
Structure to Accommodate Parachute	25.0		
DETACHABLE FUSELAGE END	315.0		

FORM 1319A

A. V. ROE CANADA LIMITED
MALTON ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No. 7-0400-05
SHEET No. 41-2 Issue 2

AIRCRAFT:		PREPARED BY	DATE
C105 With J67 Engines	NOSE WHEEL		
		CHECKED BY	DATE
		P. Kubicki	May 1954

NOSE WHEEL WEIGHT SUMMARY

ITEMS	WEIGHT lb	H. ARM X ins.	V. ARM Z ins.
Nose Wheel Body	65.0		
Steering Member	45.0		
Lever	30.0		
Shock Absorber	25.0		
Steering Motor Assy.	25.0		
Wheel Assy. Couples	55.0		
Axle	12.0		
Struts	24.0		
Bearings	10.0		
Bolts	12.0		
Fairing	22.0		
U/C Up		168.0	- 20.0
NOSE WHEEL TOTAL	325.0		
U/C Down		216.0	- 77.4

FORM 1319A

A. V ROE CANADA LIMITED
MALTON - ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT NO. 7-C400-5
SHEET NO. 53-1

AIRCRAFT:		PREPARED BY	DATE
C105 With J67 Engines	ENGINE MOUNTINGS	P.J.C. King	April 1954
		CHECKED BY	DATE

The following summary is the result of a Preliminary Investigation of the J67 Engine Mountings.

It incorporates the latest information available up to May 1st.

ITEM	WEIGHT lb	H. ARM X ins.	H. MOMENT ins. lb	V. ARM Z ins.	V. MOMENT ins. lb.
Rear Engine Mountings	22.50	706.26	15,890.85	+ 21.0	+ 472.50
Front Engine Mountings	16.00	626.0	10,016.00	+ 14.0	+ 224.00
Main Engine Mounting	43.00	626.0	26,918.00	+ 19.5	+ 838.50
Guide Rails	40.00	666.0	26,640.00	+ 21.0	+ 840.00
Rollers and Mounting	3.50	666.0	2,331.00	+ 19.0	+ 66.50
TOTAL ENGINE MOUNTINGS	125.00	654.40	81,795.85	+ 19.50	+ 2,441.50

It is possible that the Guide Rails might be charged to the Wing Weight at a later date.

An allowance has been made in the Wing Weight of 50 lb for Engine Mounting Brackets.

A. V ROE CANADA LIMITED
MALTON - ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No 7-0400-05
SHEET No 56-1 Issue 3

AIRCRAFT		PREPARED BY	DATE
C105 With J67 Engines	FUEL TANKS	D. Waltman	May 1954
		CHECKED BY	DATE
		P. Kubicki	May 1954

WEIGHT SUMMARY OF TANKS

ITEMS	WEIGHT lb	H. ARM X ins.	V. ARM Z-ins.
Fuselage Tanks Structure	140.0	389.13	24.00
Fuselage Tanks Fittings	17.0	393.84	23.46
Tank Seal (Scotch Weld)	20.0	594.58	27.95
TOTAL TANKS	177.0	412.80	24.39

FORM 1394

A. V ROE CANADA LIMITED
MALTON - ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No. 7-0400-05
SHEET No. 57-1 Issue 3

AIRCRAFT:		PREPARED BY	DATE
C105 With J67 Engines	FUEL SYSTEMS	D. Waltman	May 1954
		CHECKED BY	DATE
		P. Kubicki	May 1954

SUMMARY OF SYSTEM

ITEMS	WEIGHT lb	H. ARM ins.	V. Arm ins.
Equipment in Wing	237.75	572.00	24.44
Piping in Wing	122.25	594.96	25.39
Equipment in Fuselage	72.75	507.82	24.96
Piping in Fuselage	112.25	527.13	27.74
TOTAL FUEL SYSTEM	545.00	559.34	25.40

FORM 1318A

A. V ROE CANADA LIMITED
MALTON ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No. 7-0400-05
SHEET No. 57-2 Issue 2

AIRCRAFT		PREPARED BY	DATE
C-105 With J67 Engine	FUEL SYSTEM	D. Waltman	May 1954
		CHECKED BY	DATE
		P. Kubicki	May 1954

EQUIPMENT SUMMARY

	WEIGHT lb		
	WING	FUSELAGE	TOTAL
SUPPLY & TRANSFER:			
Slide Valves	-	28.50	28.50
Check Valves (Include in Fuel-No-Foam Valves)			
Fuel-No-Foam Valves	37.60	9.40	47.00
Fuel Booster Pumps	96.00		96.00
Flow-Proportioning Valves	9.00		9.00
REFUELING:			
Refueling Adaptor, Cap & Tee Equip		3.50	3.50
Servo-Operated Shut-Off Valve	14.28	4.76	19.04
Servo-Valves	21.60	7.20	28.80
Refueling-By-Pass Valves	3.00		3.00
Gravity Filler Cap	3.00		3.00
PRESSURIZATION:			
Automatic Restrictors	5.00	2.00	7.00
Pressure Reducing Valves		3.20	3.20
Float Operated Vent Valve	4.50		4.50
MISCELLANEOUS			
Access Doors, Clamp, Brackets, Gaskets, Mountings, Seal	28.77	8.94	37.71
Bolts, Nuts, Rivets, etc.	11.00	4.00	15.00
DEVELOPMENT ALLOWANCE	4.00	1.25	5.25
TOTAL EQUIPMENT	237.75	72.75	310.50

A V ROE CANADA LIMITED
MALTON ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No 7-0400-05
SHEET No 61-1

AIRCRAFT		PREPARED BY	DATE
C-105 With J 67 Engines	INSTRUMENTS	P.E. French	Jan. 15/54
		CHECKED BY	DATE
		P. Kubicki	Jan. 19/54

	WEIGHT lb	H. ARM Ins.	V. ARM Ins.
MAIN INSTRUMENT PANEL			
Trim Indicator	1.0		
Altimeter	1.3		
Air Speed Indicator	1.2		
Rate of Climb Indicator	1.2		
Canopy Lock Indicator	0.6		
Machmeter	1.8		
Radar Control Indicators	1.0		
Accelerometer	0.7		
Cross-Point Indicator	1.2		
Turn and Bank Indicator	1.6		
Clock	0.8		
Tachometer (2)	1.8		
Oil Temperature Indicator (2)	1.2		
Oil Pressure Indicator (2)	1.2		
Fuel Contents	1.5		
Exhaust Temperature (2)	1.5		
Fuel Pressure Indicator	1.2		
Fuel Booster Pumps Indicators	1.0		
Main Panel and Fittings	3.0		
Sub-Total	24.8	143.0	+ 21
L. H. Console			
Hydraulic, Pneumatic Pressured	3.6		
Panel and Fittings	2.5		
Sub-Total	6.1	150.0	+ 16
R. H. Console			
Electrical Power Indicators	1.0		
Cabin Pressure Indicator	1.0		
Panel and Fittings	2.5		
Sub-Total	4.5	150.0	+ 16
Navigators Panel			
Altimeter	1.3		
Outside Air Temperature Indicator	0.8		
Panel and Fittings	3.5		
Sub-Total	5.6	200.0	+ 21
Pitot System	4.0	48.0	- 12
Contingency Allowance	4.0	150.0	+ 16
INSTRUMENTS TOTAL	49.0	143.8	+ 16.8
H. MOMENT 7,048.4 in. lb.			
V. MOMENT 824.0 in. lb.			

A. V ROE CANADA LIMITED
MALTON ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No. 7-0400-05
SHEET NO 63-1 Issue 2

AIRCRAFT		PREPARED BY	DATE
C-105 With J67 Engines	FLYING CONTROLS	P. Kubicki	May 1954
		CHECKED BY	DATE

Flying Controls from Pilot, Cockpit to Jacks.

ITEM	WEIGHT lb.	H. ARM X ins.	V. ARM Z ins.
Control Column and Pedals	27.0		
Quadrants in Pilot's Cockpit	28.0		
Cables	22.0		
Pulleys & Brackets & Bolts	26.0		
Quadrants at Jacks	31.0		
Sub-Total	134.0		

Feeling System

ITEMS	WEIGHT lb	H. ARM X ins.	V. ARM Z ins.
Feel Units Assy.	12.0		
Trim Actuator & Wiring	11.0		
Trim Actuator Assy. Brackets	4.0		
Sub-Total	27.0		

Total Flying Controls System Less Jacks

ITEMS	WEIGHT lb	H. ARM X ins.	V. ARM Z ins.
Flying Controls from Pilot's Cockpit to Jacks	134.0		
Feeling Systems	27.0		
Mechanical Linkage between Jacks and Control Surfaces	589.0		
TOTAL	750.0		

A. V ROE CANADA LIMITED
MALTON - ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No. 7-0400-05
SHEET No. 64-1

AIRCRAFT		PREPARED BY	DATE
C105 With J67 Engine	HYDRAULIC SYSTEM	P.J.C. King	May. 1954
		CHECKED BY	DATE
		P. Kubicki	

The following summary embodies all information available up to May 1st. 1954

All the Jacks are included with the exception of the Steering Motor for the Nose-Wheel.

The Brake Units are not included.

	WEIGHT lb.
1. Total Fuselage Hydraulics	601.5
2. Total Wing Hydraulics	650.5
3. Hydraulics in Fin	48.0

A. V ROE CANADA LIMITED
MALTON - ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No 7-C400-05
SHEET No 64-2 Issue 2

AIRCRAFT		PREPARED BY	DATE
C105 With J67 Engines	HYDRAULICS	P.J.C. King	May 1954
		CHECKED BY	DATE

1. Fuselage Hydraulics 601.5 lb
Comprising:-

ITEMS		WEIGHT lb
Nose Wheel Undercarriage Jack	(1 off)	12.5
Canopy Jacks	(2 Off)	11.0
Tail Bumper Jack	(1 off)	6.5
Missile Jacks	(8 off)	66.0
Dive Brake	(2 off)	30.0
Total Jacks in Fuselage	(14 off)	126.0
Pumps for Flying Controls	(4 off)	88.0
Pump for Missiles	(1 off)	20.5
Pump for Utilities	(1 off)	20.5
Total Pumps	(6 off)	129.0
Total Equipment in Fuselage		212.0
Total Piping (inc. Fittings & Fluid) In Fuselage		134.5

2. Wing Hydraulics 650.5 lb.
Comprising:-

ITEMS		WEIGHT lb
Main Undercarriage Jacks	(2 off)	50.0
Main Undercarriage Door Jacks	(4 off)	40.0
Aileron Jacks	(2 off)	120.0
Elevator Jacks	(2 off)	150.0
Total Jacks in Wing	(10 off)	360.0
Total Equipment in Wing		49.5
Total Piping (Inc. Fittings & Fluid) in Wing		241.0

3. Hydraulics in Fin 43.0 lb.
Comprising:-

ITEMS		WEIGHT lb
Rudder Jack	(1 off)	30.0
Total Piping (Inc. Fittings & Fluid)		13.0

A. V ROE CANADA LIMITED
MALTON · ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT NO 7-C400-05
SHEET NO 65-2 Issue 2

AIRCRAFT:		PREPARED BY	DATE
C105 With J67 Engine	ELECTRICS	P. E. French	May 1954
		CHECKED BY	DATE
		P. Kubicki	May 1954

GROUP	WEIGHT lb	H. ARM ins.	H. MOMENT ins. lb.	V. ARM ins.	V. MOMENT ins. lb.
AIR CONDITIONING					
a) General	20.0	285.0	5,700.0	+ 4.0	
b) Cabin Pressure Warning	3.0	165.0	495.0	+ 6.0	
JUNCTION BOXES	62.5	284.0	17,750.0	+ 12.0	
PANELS (Cockpit)	10.0	163.0	1,630.0	0	
STRUCTURE CONTINGENCY					
a)	20.0	340.0	6,800.0	+ 24.0	
b)	20.0	512.0	10,240.0	+ 6.0	
	781.3	449.96	351,559.4	+ 0.65	509.22

Notes:

Afterburner Controls considered as included in J67 Engine Weight.

Alternator System (40 KVA + 5 KVA) Located by J67 Engine Installation.

FORM 1119A

A. V ROE CANADA LIMITED
MALTON · ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT NO. 7-C4-00-05
SHEET NO 65-3 Issue 2

AIRCRAFT		PREPARED BY	DATE
C105 2 Crew with J 67 Engine	ELECTRICS	P. E. French	April 1954
		CHECKED BY	DATE
		P. Kubicki	April 1954

ALTERNATOR SYSTEM FOR J67 Engine

UNIT	WEIGHT lb	H. ARM ins.	H. MOMENT ins. lb.	V. ARM ins.	V. MOMENT ins. lb.
Alternator 40 K.V.A.	90.0	577.0		- 6.0	
Sundstrand Drive	90.0	577.0		- 6.0	
1.5 gal. Oil Reservoir & Piping	15.0	591.0		- 25.5	
Alternator 5 K.V.A.	30.0	577.0		- 6.0	
Sundstrand Drive	30.0	577.0		- 6.0	
.75 gal. Oil Reservoir & Piping	11.0	591.0		- 25.5	
Balance of Control Equip.	261.9	419.21	109,791.0	- 1.97	
Totals	527.9	499.41	263,637.1	- 4.96	- 2,618.9

A. V. ROE CANADA LIMITED
MALTON ONTARIO

TECHNICAL DEPARTMENT (Aircraft)

REPORT No. 7-0400-05
SHEET No 66-1 Issue 2

AIRCRAFT		PREPARED BY	DATE
C-105 With J67 Engine	RADIO AND RADAR	P. E. French	May 1954
		CHECKED BY	DATE
		P. Kubicki	May 1954

GROUP			WEIGHT	
RADAR AND FIRE CONTROL				
a) Radar			322.0	
b) Computer & Fire Control			153.3	
c) Missile Equipment (054)		1)	293.7	
		2)	200.0	
d) Auto-Pilot Tie-In			67.0	
e) Power Supplies			114.0	
f) Control & Display				
1. Front Cockpit			25.8	
2. Rear Cockpit			28.5	
g) Optical Fire Control			42.1	
h) Misc. Components			15.0	
IDENTIFICATION SYSTEMS				
a) Air to Air Interrogator			43.5	
b) Air to Air Transpondor			46.0	
c) Air to Ground Transpondor			58.7	
NAVIGATION / COMMUNICATION				
ARC 34	a) U.H.F.		60.0	
AIC 10	b) Interphone		15.0	
	c) Data Link		34.0	
ARN 21	d) OMNI DME		39.0)	Alteratives
	h) RΘ & Doppler		135.0)	
	e) Flare Out Altimeter		15.5	
ARN 6	f) Radio Compass		76.5	
	j) Auto Pilot		65.5	
EQUIPMENT TOTAL				
a) With RΘ & Doppler			1,831.7	
b) With ARN 21			1,735.7	
SYSTEM TOTALS				
a) With RΘ & Doppler				
Fuselage Door & Rack			50.0	
Equipment			1,831.7	
Cable & Structure			326.0	
			20.0	
			2,227.7	
b) With ARN 21				
Fuselage Door & Rack			50.0	
Equipment			1,735.0	
Cable & Structure			326.0	
			20.0	
			2,112.0	

Note:
This estimate based on allowance of Cables & Mountings as 20% of Equipment Weight

Allowance for Cables Connectors and Mountings =
20% of (Equipment Total - 200 lb for Missile Equipment (054) on Missile)
+ 20 lb = 10% of 200 lb for wiring on 054 Units.

FUSELAGE DOOR & RACK 50 lb.

A. V ROE CANADA LIMITED
MALTON ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No. 7-04-00-05
SHEET No 67-1

AIRCRAFT		PREPARED BY	DATE
C-105 2 Crew WithJ67 Engines	ARMAMENT PROVISIONS.	P. E. French	Jan./54
		CHECKED BY	DATE
		P. Kubicki	Jan./54

ITEM	WEIGHT lb.	H. ARM ins.	H. MOMENT ins. lb	V. ARM ins.	V.MOMENT ins.lb.
Levers	52.0	383.9	14,462.8	- 13.5	- 702.0
Struts	8.0	350.6	2,804.8	- 17.5	- 140.0
Bolts	22.0	368.2	8,100.4	- 16.3	- 358.6
Door Actuations	36.0	350.6	12,621.6	- 17.5	- 630.0
Brackets	40.0	328.1	13,524.0	- 14.6	- 584.0
Misc.	26.0	360.8	9,380.0	- 15.2	- 395.2
	184.0	360.8	66,394.4	- 15.2	-2,809.8

A. V ROE CANADA LIMITED
MALTON · ONTARIO
TECHNICAL DEPARTMENT (Aircraft)

REPORT No 7-0400-05
SHEET No 611-1 Issue 2

AIRCRAFT		PREPARED BY	DATE
C-105 With J67 Engine	AIR CONDITIONING & LOW PRESSURE PNEUMATICS	P.E. French	May 1954
		CHECKED BY	DATE
		P. Kubicki	May 1954

Case 1.

Normal Mission

UNIT	WEIGHT lb	H. ARM ins.	H. MOMENT ins. lb.	V. ARM ins.	V. MOMENT ins. lb.
Air Conditioning					
Equipment	255.0	293.0	7,471.5	+ 9.22	2,352.0
Valves	55.0	327.2	17,955.0	0	0
Temp. Controls	5.0	190.0	950.0	+ 15.0	75.0
Ruober Fittings	5.0	290.0	1,450.0	0	0
Piping	85.0	380.6	32,351.0	- 6.0	- 510.0
Mountings	40.0	295.5	11,820.0	+ 7.7	+ 308.0
Clamps	25.0	380.6	9,515.0	- 6.0	- 150.0
L. P. Pneumatics					
Canopy Seal	20.0	190.0	3,800.0	+ 30.0	+ 600.0
Anti. G	10.0	190.0	1,900.0	+ 12.0	+ 120.0
Misc. Piping	20.0	230.0	4,600.0	0	0
Windscreen, Demist	10.0	125.0	1,250.0	+ 18.0	+ 180.0
Cooling Equipment For Fuel, Oil, Pneumatics	75.0	550.0	41,250.0	0	0
TOTAL	605.0	333.2	201,575.0	+ 4.28	2,696.9

Case 2

For Mission assuming 20 min. at 70,000 ft. Requiring 6 lb Water/min.
Add:

Water	130.0	300.0	39,000.0	+ 5.0	+ 6,500
TOTAL	735.0	327.3	240,570.0	+ 4.55	3,347.0

For Landing Condition in Case 2, assume all water as expendable and discharged from aircraft, therefore, use figures for Case 1.