

CANADIAN FORCES



**WEIGHT AND BALANCE DATA
EXPEDITOR**

RCAF REGISTRATION NO. _____

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1 JUN 57

Revised 4 Oct 68

LIST OF REVISIONS

DATE	PAGE NO	DATE	PAGE NO
3 Feb 60	iii		
3 Feb 60	24 (Deleted)		
3 Feb 60	25		
15 Feb 61	12		
15 Feb 61	17		
15 Feb 61	18		
15 Feb 61	18A		
28 Apr 61	18B		
28 Apr 61	18C		
28 Apr 61	18D		
22 Nov 62	16		
22 Nov 62	18		
22 Nov 62	18D		
22 Nov 62	20		
22 Nov 62	21		
12 Jun 64	iii		
12 Jun 64	22		
12 Jun 64	22A		
12 Jun 64	22B		
12 Jun 64	23		
12 Jun 64	24		
17 Apr 67	16		
17 Apr 67	17		
17 Apr 67	18		
17 Apr 67	18A		
17 Apr 67	18B		
17 Apr 67	18C		
17 Apr 67	18D		
17 Apr 67	18E		
28 May 68	14		
28 May 68	18		
28 May 68	18C		
28 May 68	19		
28 May 68	22		
4 Oct 68	iii		
4 Oct 68	22C		
4 Oct 68	22D		
4 Oct 68	22E		

FOREWORD

It is mandatory that the orders contained in EO 05-1-8 be carried out prior to weighing the aircraft.

TABLE OF CONTENTS

TITLE	PAGE
MAXIMUM WEIGHTS	1
BASIC WEIGHT CHECK LIST	1
REACTION POINTS	1
LEVELLING LUGS	1
DATUM POINT	1
REFERENCE DATUM	2
MEAN AERODYNAMIC CHORD	2
CENTRE OF GRAVITY LIMITS	2
UNDERCARRIAGE RETRACTION MOMENT	2
LOADING	2
FUEL DATA	2
OIL DATA	2
ANTI-ICER DATA	2
TRAPPED FUEL AND OIL	2
RESIDUAL FUEL	2
INSTRUCTIONS FOR USE OF LOADING SCHEDULE	12
COMPUTING A LOADING	12
USE OF TABLES	12
TYPICAL SAMPLE LOADING	12
SPECIAL LOADING REQUIREMENTS	13

LIST OF ILLUSTRATIONS

FIGURE	TITLE	PAGE
1	Aircraft Diagram, Navigational Trainer 3N, 3NM	3
2	Aircraft Diagram, Passenger Transport 3TM	4
3	Aircraft Diagram, Pilot Trainer 3T	5
4	Compartment Loading Limitations	7
5	Sample Copy RCAF Form L38	13
6	Basic Weight Check List, Navigational Trainer 3N, 3NM (Sheet 1 of 3)	14
6	Basic Weight Check List, Navigational Trainer 3N, 3NM (Sheet 2 of 3)	15
6	Basic Weight Check List, Navigational Trainer 3N, 3NM (Sheet 3 of 3)	16
7	Basic Weight Check List, Passenger Transport 3TM (Sheet 1 of 2)	17
7	Basic Weight Check List, Passenger Transport 3TM (Sheet 2 of 2)	18
8	Basic Weight Check List, Pilot Trainer, 3T (Sheet 1 of 3)	19
8	Basic Weight Check List, Pilot Trainer, 3T (Sheet 2 of 3)	20
8	Basic Weight Check List, Pilot Trainer, 3T (Sheet 3 of 3)	21
8A	Basic Weight Check List, Expeditor 3TM (Serial Nos. 1521, 1527, 1533, 1566 only) (Sheet 1 of 3)	22
8A	Basic Weight Check List, Expeditor 3TM (Serial Nos. 1521, 1527, 1533, 1566 only) (Sheet 2 of 3)	22A
8A	Basic Weight Check List, Expeditor 3TM (Serial Nos. 1521, 1527, 1533, 1566 only) (Sheet 3 of 3)	22B
8B	Basic Weight Check List, Expeditor 3NMT with TACAN (Sheet 1 of 3)	22C
8B	Basic Weight Check List, Expeditor 3NMT with TACAN (Sheet 2 of 3)	22D
8B	Basic Weight Check List, Expeditor 3NMT with TACAN (Sheet 3 of 3)	22E
9	RCAF Form L36, Aircraft Weighing Record (Sheet 1 of 2)	23
9	RCAF Form L36, Aircraft Weighing Record (Sheet 2 of 2)	24
10	RCAF Form L38, Aircraft Basic Weight Change Record	25

LIST OF TABLES

TABLE	TITLE	PAGE
1	Standard Weights (Fuel, Oil and Anti-icer Fluid)	6
2	Standard Weights of Personnel and Equipment	6
3	Fuel Data	6
4	Oil Data	6
5	Anti-icer Data	6
6	Centre of Gravity Table	8
7	Operational Load Schedule, 3N and 3NM	9
8	Operational Load Schedule, 3TM	10
9	Operational Load Schedule, 3T	11



WEIGHT AND BALANCE DATA

EXPEDITOR 3

MAXIMUM WEIGHTS

1 The maximum weights for the aircraft are as follows:-

- (a) The maximum gross weight for take-off is 9300 lbs.
- (b) The maximum gross weight for landing must not exceed 9000 lbs.
- (c) The design gross weight is 9000 lbs.

BASIC WEIGHT CHECK LIST

2 Record discrepancies in Columns 1 and 2 of Form L36. The weight, average arm and moment of items, where such information is not tabled, are to be entered in the basic weight check list for the individual aircraft by operating units. Items that are no longer required in the aircraft for its role are to be deleted from the basic weight check list when removed from the aircraft.

- (a) For basic weight check list pertaining to Expeditor 3N and 3NM Navigational Trainers, modified to Specifications AIR 11-25 and AIR 11-26 respectively, See Figure 6.
- (b) For basic weight check list pertaining to Expeditor 3TM Passenger Transport, modified to Specification AIR 22-2, See Figure 7.
- (c) For basic weight check list pertaining to Expeditor 3T Pilot Trainer, modified to Specification RM1-29, see Figure 8.

REACTION POINTS

3 The measurements quoted hereunder are approximate and serve only as a guide. The actual dimensions for individual aircraft are to be determined by measurement, with the aircraft in the horizontal position, immediately after each weighing. The reaction points, i.e., jacking points or wheel centre lines, are located aft of the reference datum, as follows:-

- (a) Centre line of the main wheel axle - 87.0 inches.
- (b) Centre line of the wing centre section jacking point located on the bottom of the main spar inboard of the nacelle - 104.1 inches.
- (c) Centre line of the tail wheel axle - 361.2 inches.
- (d) Centre line of the tail jacking point - 380.4 inches.

LEVELLING LUGS

4 Points for longitudinal levelling are located on the top of the fuselage just forward of the cabin door. The lateral levelling points are located on the underside of the fuselage at the centre section truss.

DATUM POINT

5 The datum point is located on the underside of the fuselage and is marked by a placard.

REFERENCE DATUM.

6 The reference datum is 102.0 inches forward of the datum point.

MEAN AERODYNAMIC CHORD

7 The leading edge of the mean aerodynamic chord is 91.5 inches aft of the reference datum. The length of the mean aerodynamic chord is 96.6 inches.

CENTRE OF GRAVITY LIMITS

8 The centre of gravity limits are 109.8 inches aft of the reference datum (18.9% of MAC) to 117.7 inches aft of reference datum (27.1% of MAC).

UNDERCARRIAGE RETRACTION MOMENT

9 The undercarriage retraction moment is +11,783 inch-lbs. (i.e., when the undercarriage is retracted, the aircraft moment is increased by 11,783 inch-lbs.).

LOADING

10 Instructions for using the charts to compute operational loads are set forth on Pages 12 and 13.

FUEL DATA

11 Weight and moment for full tanks of fuel are shown in Table 3.

OIL DATA

12 Weight and moment for full tanks of oil are shown in Table 4.

ANTI-ICER DATA

13 Weight and moment for full tank of anti-icer fluid are shown in Table 5.

TRAPPED FUEL AND OIL

14 The weight and arm of trapped fuel and oil is 58 pounds and 73.6 inches.

RESIDUAL FUEL

15 The weight of residual fuel present in this aircraft is considered to be negligible.

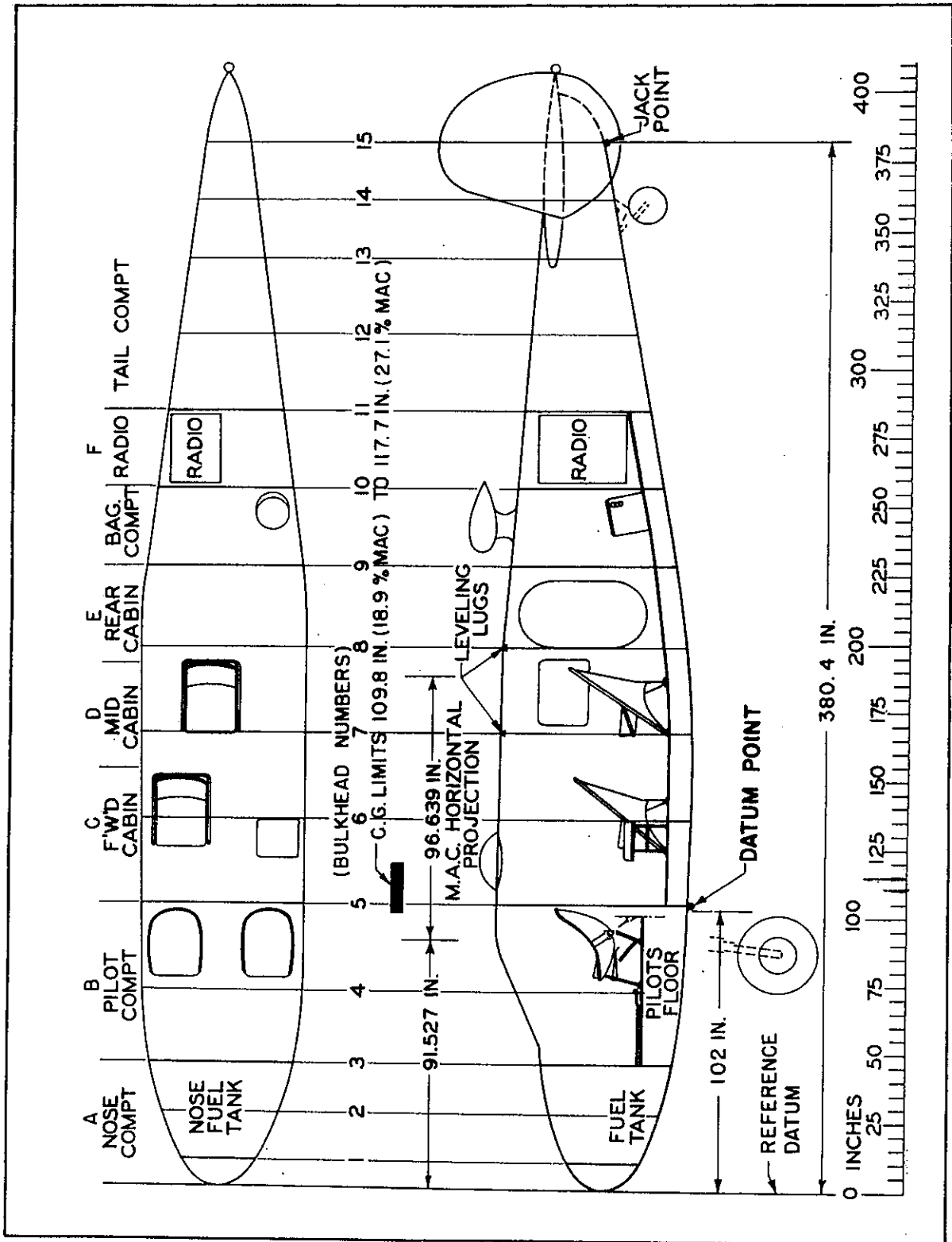


Figure 1 Aircraft Diagram, Navigational Trainer, 3N, 3NM

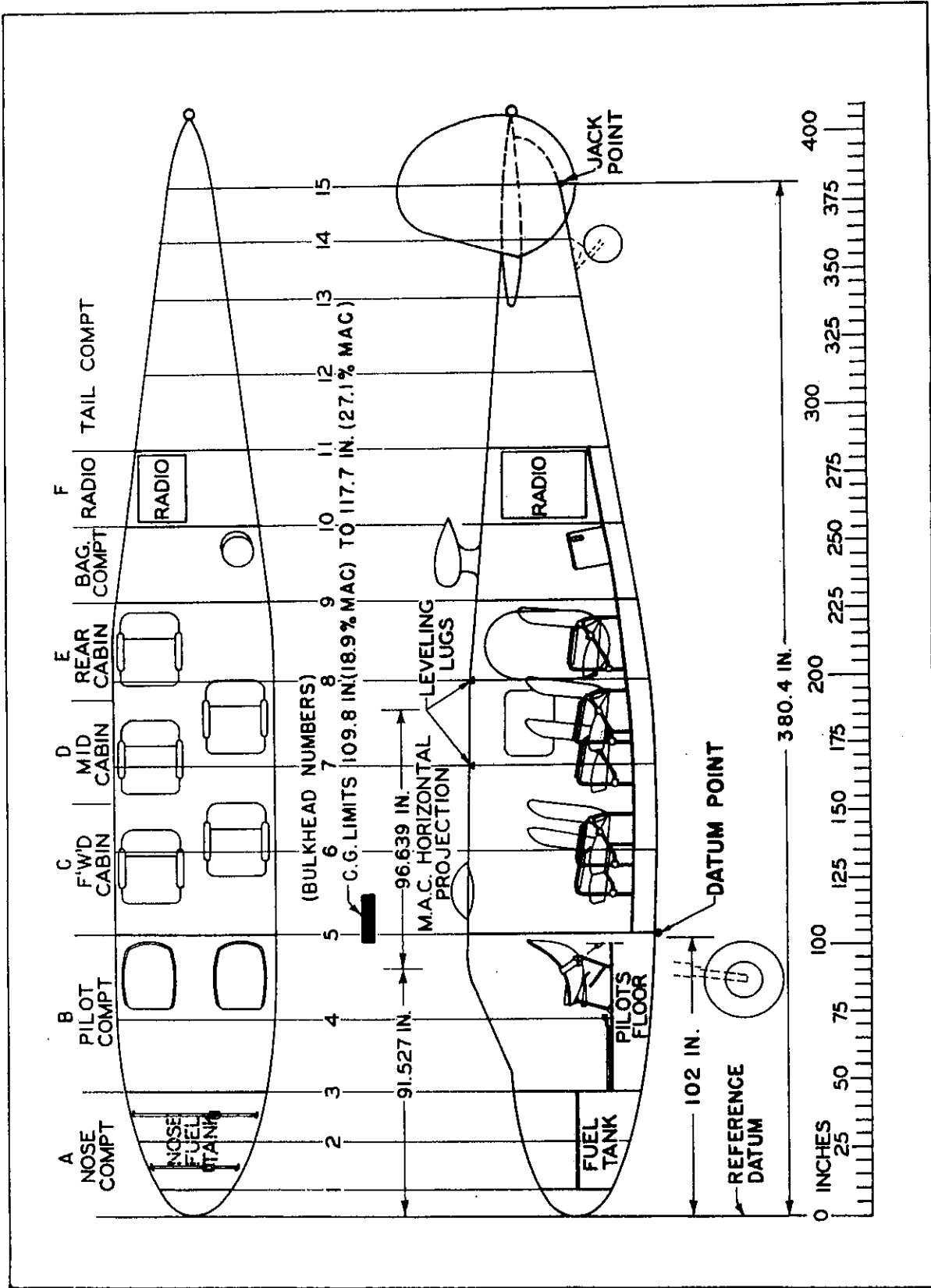


Figure 2 Aircraft Diagram, Passenger Transport 3TM

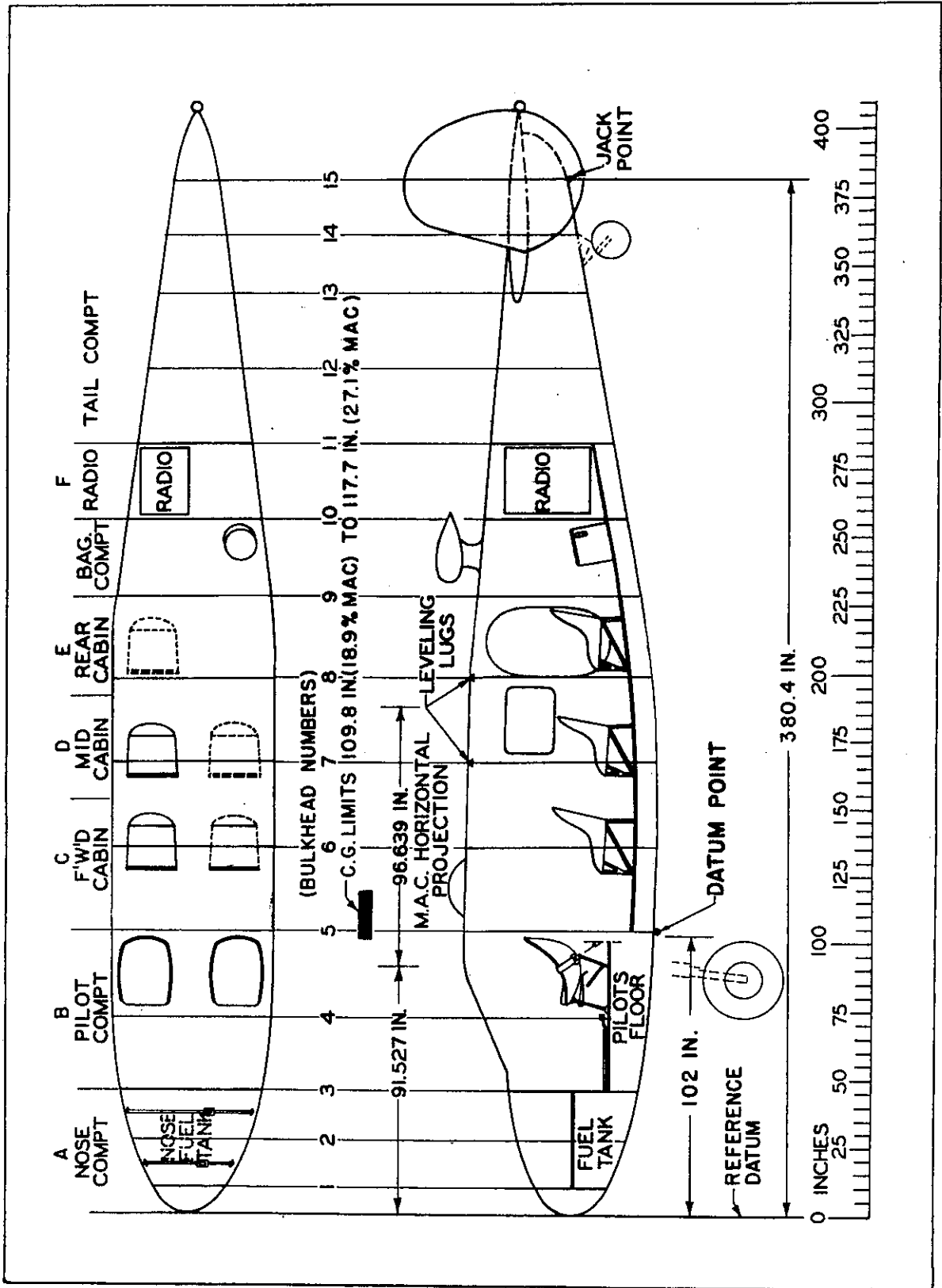


Figure 3 Aircraft Diagram, Pilot Trainer 3T

Gasoline		7.2 pounds
Anti-icer Fluid	3-GP-525	7.9 pounds
Engine Lubricating Oil		9.0 pounds

Table 1 Standard Weights Per Imperial Gallon

Crew member or passenger	180 pounds
Crew member or passenger and parachute	200 pounds
Parachute	20 pounds

Table 2 Standard Weights for Personnel and Equipment

Location of Tank	Arm in Inches	Fuel Tank Capacity (7.2 lb/gal)			Moment 1000
		Imp. Gallons	US Gallons	Lbs.	
Right Front Wing	126	63	76	454	57
Left Front Wing	126	63	76	454	57
Right Rear Wing	155	21	25	151	23
Left Rear Wing	155	21	25	151	23
Nose	32	67	81	482	15

Table 3 Fuel Data

Oil Tank Capacity (9 lb/gal)			Arm in Inches	Moment 1000
Imp. Gallons	US Gallons	Lbs.		
13.2 (6.6 each tank)	16	119	93	11

Table 4 Oil Data

Anti-icer Tank Capacity (7.9 lb/gal)			Arm in Inches	Moment 1000
Imp. Gallons	US Gallons	Lbs.		
2.5	3	20	97	2

Table 5 Anti-Icer Data

COMPARTMENT DATA

COMPARTMENT	LIMITS IN INCHES	CENTROID IN INCHES	CAPACITY IN POUNDS
A-1 — Nose	0-46	28	606
B — Pilot	46-102	87	500
C — Fwd. Cabin	102-150	134	500
D — Mid Cabin	150-190	174	500
E — Rear Cabin	190-229	214	400
F — Radio	229-257	243	300

COMPARTMENT LOADING TABLE

COMPARTMENT	A	B	C	D	E	F	COMPARTMENT	A	B	C	D	E	F
ARM	28	87	134	174	214	243	ARM	28	87	134	174	214	243
WEIGHT LBS	MOMENT/1000 FOR COMPT'S AT CENTROIDS NOTED						WEIGHT LBS	MOMENT/1000 FOR COMPT'S AT CENTROIDS NOTED					
10	0	1	1	2	2	2	310	9	27	42	54	66	
20	1	2	3	3	4	5	320	9	28	43	56	68	
30	1	3	4	5	6	7	330	9	29	44	57	71	
40	1	3	5	7	9	10	340	10	30	46	59	73	
50	1	4	7	9	11	12	350	10	30	47	61	75	
60	2	5	8	10	13	15	360	10	31	48	63	77	
70	2	6	9	12	15	17	370	10	32	50	64	79	
80	2	7	11	14	17	19	380	11	33	51	66	81	
90	3	8	12	16	19	22	390	11	34	52	68	83	
100	3	9	13	17	21	24	400	11	35	54	70	86	
110	3	10	15	19	24	27	410	11	36	55	71		
120	3	10	16	21	26	29	420	12	37	56	73		
130	4	11	17	23	28	32	430	12	37	58	75		
140	4	12	19	24	30	34	440	12	38	59	77		
150	4	13	20	26	32	36	450	13	39	60	78		
160	4	14	21	28	34	39	460	13	40	62	80		
170	5	15	23	30	36	41	470	13	41	63	82		
180	5	16	24	31	39	44	480	13	42	64	84		
190	5	17	25	33	41	46	490	14	43	66	85		
200	6	17	27	35	43	49	500	14	44	67	87		
210	6	18	28	37	45	51	510	14					
220	6	19	29	38	47	53	520	15					
230	6	20	31	40	49	56	530	15					
240	7	21	32	42	51	58	540	15					
250	7	22	33	44	54	61	550	15					
260	7	23	35	45	56	63	560	16					
270	8	23	36	47	58	66	570	16					
280	8	24	38	49	60	68	580	16					
290	8	25	39	50	62	70	590	17					
300	8	26	40	52	64	73	600	17					

Figure 4 Compartment Loading Limitations

Gross Weight	Minimum Moment 1000	Maximum Moment 1000	Gross Weight	Minimum Moment 1000	Maximum Moment 1000	Gross Weight	Minimum Moment 1000	Maximum Moment 1000	Gross Weight	Minimum Moment 1000	Maximum Moment 1000
8100	670	718	6900	758	812	7700	845	906	8500	933	1000
8110	671	719	6910	759	813	7710	847	907	8510	934	1002
8120	672	720	6920	760	814	7720	848	909	8520	935	1003
8130	673	722	6930	761	816	7730	849	910	8530	937	1004
8140	674	723	6940	762	817	7740	850	911	8540	938	1005
8150	675	724	6950	763	818	7750	851	912	8550	939	1006
8160	676	725	6960	764	819	7760	852	913	8560	940	1008
8170	677	726	6970	765	820	7770	853	915	8570	941	1009
8180	679	727	6980	766	822	7780	854	916	8580	942	1010
8190	680	729	6990	768	823	7790	855	917	8590	943	1011
8200	681	730	7000	769	824	7800	856	918	8600	944	1012
8210	682	731	7010	770	825	7810	858	919	8610	945	1013
8220	683	732	7020	771	826	7820	859	920	8620	946	1015
8230	684	733	7030	772	827	7830	860	922	8630	948	1016
8240	685	734	7040	773	829	7840	861	923	8640	949	1017
8250	686	736	7050	774	830	7850	862	924	8650	950	1018
8260	687	737	7060	775	831	7860	863	925	8660	951	1019
8270	688	738	7070	776	832	7870	864	926	8670	952	1020
8280	690	739	7080	777	833	7880	865	927	8680	953	1022
8290	691	740	7090	778	834	7890	866	929	8690	954	1023
8300	692	742	7100	780	836	7900	867	930	8700	955	1024
8310	693	743	7110	781	837	7910	869	931	8710	956	1025
8320	694	744	7120	782	838	7920	870	932	8720	957	1026
8330	695	745	7130	783	839	7930	871	933	8730	959	1028
8340	696	746	7140	784	840	7940	872	935	8740	960	1029
8350	697	747	7150	785	842	7950	873	936	8750	961	1030
8360	698	749	7160	786	843	7960	874	937	8760	962	1031
8370	699	750	7170	787	844	7970	875	938	8770	963	1032
8380	701	751	7180	788	845	7980	876	939	8780	964	1033
8390	702	752	7190	789	846	7990	877	940	8790	965	1035
8400	703	753	7200	791	847	8000	878	942	8800	966	1036
8410	704	754	7210	792	849	8010	879	943	8810	967	1037
8420	705	756	7220	793	850	8020	881	944	8820	968	1038
8430	706	757	7230	794	851	8030	882	945	8830	970	1039
8440	707	758	7240	795	852	8040	883	946	8840	971	1040
8450	708	759	7250	796	853	8050	884	947	8850	972	1042
8460	709	760	7260	797	855	8060	885	948	8860	973	1043
8470	710	762	7270	798	856	8070	886	950	8870	974	1044
8480	712	763	7280	799	857	8080	887	951	8880	975	1045
8490	713	764	7290	800	858	8090	888	952	8890	976	1046
8500	714	765	7300	802	859	8100	889	953	8900	977	1048
8510	715	766	7310	803	860	8110	890	955	8910	978	1049
8520	716	767	7320	804	862	8120	892	956	8920	979	1050
8530	717	769	7330	805	863	8130	893	957	8930	981	1051
8540	718	770	7340	806	864	8140	894	958	8940	982	1052
8550	719	771	7350	807	865	8150	895	959	8950	983	1053
8560	720	772	7360	808	866	8160	896	960	8960	984	1055
8570	721	773	7370	809	867	8170	897	962	8970	985	1056
8580	722	774	7380	810	869	8180	898	963	8980	986	1057
8590	724	776	7390	811	870	8190	899	964	8990	987	1058
8600	725	777	7400	813	871	8200	900	965	9000	988	1059
8610	726	778	7410	814	872	8210	901	966	9010	989	1060
8620	727	779	7420	815	873	8220	903	967	9020	990	1062
8630	728	780	7430	816	875	8230	904	969	9030	991	1063
8640	729	782	7440	817	876	8240	905	970	9040	993	1064
8650	730	783	7450	818	877	8250	906	971	9050	994	1065
8660	731	784	7460	819	878	8260	907	972	9060	995	1066
8670	732	785	7470	820	879	8270	908	973	9070	996	1068
8680	733	786	7480	821	880	8280	909	975	9080	997	1069
8690	735	787	7490	822	882	8290	910	976	9090	998	1070
8700	736	789	7500	824	883	8300	911	977	9100	999	1071
8710	737	790	7510	825	884	8310	912	978	9110	1000	1072
8720	738	791	7520	826	885	8320	914	979	9120	1001	1073
8730	739	792	7530	827	886	8330	915	980	9130	1002	1075
8740	740	793	7540	828	887	8340	916	982	9140	1004	1076
8750	741	794	7550	829	889	8350	917	983	9150	1005	1077
8760	742	796	7560	830	890	8360	918	984	9160	1006	1078
8770	743	797	7570	831	891	8370	919	985	9170	1007	1079
8780	744	798	7580	832	892	8380	920	986	9180	1008	1080
8790	745	799	7590	833	893	8390	921	988	9190	1009	1082
8800	747	800	7600	834	895	8400	922	989	9200	1010	1083
8810	748	802	7610	836	896	8410	923	990	9210	1011	1084
8820	749	803	7620	837	897	8420	925	991	9220	1012	1085
8830	750	804	7630	838	898	8430	926	992	9230	1013	1086
8840	751	805	7640	839	899	8440	927	993	9240	1015	1088
8850	752	806	7650	840	900	8450	928	995	9250	1016	1089
8860	753	807	7660	841	902	8460	929	996	9260	1017	1090
8870	754	809	7670	842	903	8470	930	997	9270	1018	1091
8880	755	810	7680	843	904	8480	931	998	9280	1019	1092
8890	757	811	7690	844	905	8490	932	999	9290	1020	1093
									9300	1021	1095

1. Find weight of total loading in Table. 2. To be within balance limits the moment/1000 must be between the limits shown for the weight.
3. The minimum and maximum moments/1000 are such that when landing gear down condition falls between them, the landing gear up condition is satisfactory.

Table 6 Centre of Gravity Table

LOADING SCHEDULE

NOTE

The combined maximum weight of baggage and fuel in nose compartment is 600 pounds.

NOTE

The maximum permissible weight of baggage in nose compartment when nose fuel tank is full is 118 pounds.

WEIGHTS & MOMENTS/1000 OF OCCUPANTS		Location	Weight	Moment 1000
		Pilot	180	16
		Co-pilot	180	16
		Seat 1	180	25
		Seat 2	180	33

For aircraft with or without 67 gallon nose fuel tank.

NOTE

All capacities are in Imperial gallons.

WEIGHTS & MOMENTS/1000 OF PARACHUTE PACKS		
Location	Weight	Moment 1000
Front cabin	20	2.2
Side cabin (1st)	20	3.5
Side cabin (2nd)	20	3.8
Back of rear seat	20	3.8

WEIGHT & MOMENT/1000 OF OIL		
Gallons	Weight	Moment 1000
4	36	3
8	72	7
10	90	8
Full Tanks 13.2	119	11

WEIGHT & MOMENT/1000 OF BAGGAGE			
NOSE COMPARTMENT		REAR COMPARTMENT	
Weight	Moment 1000	Weight	Moment 1000
20	1	10	2
40	1	20	5
60	2	30	7
80	2	40	10
100	3	50	12
120	3	60	15
140	4	70	17
160	4	80	19
180	5	90	22
200	6	100	24
220	6	110	27
240	7	120	29
260	7	130	32
280	8	140	34
300	8	150	36
320	9	160	39
340	10	170	41
360	10	180	44
380	11	190	46
400	11	200	49
420	12	210	51
440	12	220	53
460	13	230	56
480	13	240	58
500	14	250	61
520	15	260	63
540	15	270	66
560	16	280	68
580	16	290	70
600	17	300	73

WEIGHT & MOMENT/1000 OF FUEL					
FRONT WING TANKS			NOSE TANK		
Gallons	Weight	Moment 1000	Gallons	Weight	Moment 1000
5	36	5	5	36	1
10	72	9	10	72	3
15	108	14	15	108	4
20	144	18	20	144	5
25	180	23	25	180	6
30	216	27	30	216	7
35	252	32	35	252	8
40	288	36	40	288	10
45	324	41	45	324	11
50	360	45	50	360	12
55	396	50	55	396	13
60	432	54	60	432	14
One Tank Full → 63	454	57	Full Tank → 67	468	15
				482	15
REAR WING TANKS			FULL TANK COMBINATIONS		
5	36	6	BOTH FRONT WING TANKS 908 114		
10	72	11			
15	108	17	1 FRONT AND 1 REAR TANK 605 81		
20	144	22			
25	180	28	4 WING TANKS 1210 161		
30	216	33			
35	252	39	4 WING AND NOSE TANK 1692 177		
40	288	45			
42	302	47			

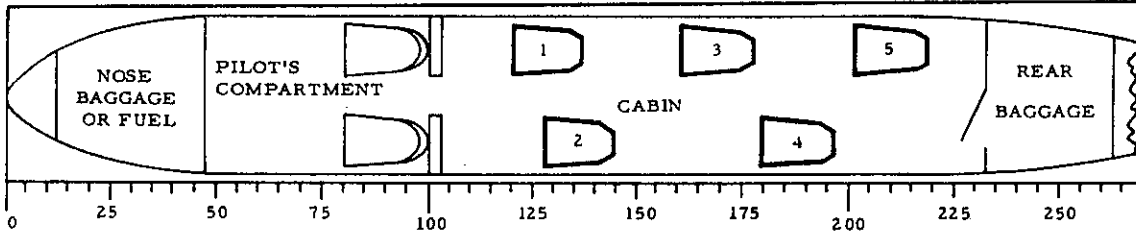
→ BOTH REAR TANKS FULL

Table 7 Operational Load Schedule, 3N, 3NM

LOADING SCHEDULE

For aircraft with or without 67 gallon nose fuel tank.

NOTE
All capacities are in Imperial gallons.



WEIGHTS & MOMENTS/1000 OF OCCUPANTS		
Location	Weight	Moment 1000
Pilot	180	16
Co-pilot	180	16
Seat 1	180	23
Seat 2	180	24
Seat 3	180	30
Seat 4	180	33
Seat 5	180	37

WEIGHT & MOMENT/1000 OF OIL	Gallons	Weight	Moment 1000
	4	36	3
	8	72	7
	10	90	8
	Full Tanks 13.2	119	11

NOTE
The combined maximum weight of baggage and fuel in nose compartment is 600 pounds.

NOTE
The maximum permissible weight of baggage in nose compartment when nose fuel tank is full is 118 pounds.

WEIGHT & MOMENT/1000 OF BAGGAGE			
NOSE COMPARTMENT		REAR COMPARTMENT	
Weight	Moment 1000	Weight	Moment 1000
20	1	10	2
40	1	20	5
60	2	30	7
80	2	40	10
100	3	50	12
120	3	60	15
140	4	70	17
160	4	80	19
180	5	90	22
200	6	100	24
220	6	110	27
240	7	120	29
260	7	130	32
280	8	140	34
300	8	150	36
320	9	160	39
340	10	170	41
360	10	180	44
380	11	190	46
400	11	200	49
420	12	210	51
440	12	220	53
460	13	230	56
480	13	240	58
500	14	250	61
520	15	260	63
540	15	270	66
560	16	280	68
580	16	290	70
600	17	300	73

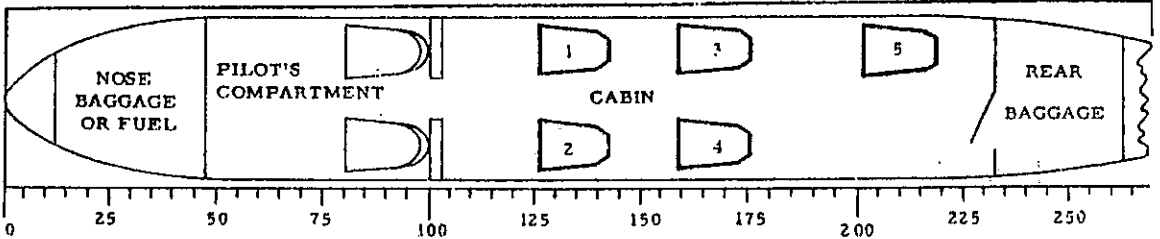
WEIGHT AND MOMENT/1000 OF FUEL					
FRONT WING TANKS			NOSE TANK		
Gallons	Weight	Moment 1000	Gallons	Weight	Moment 1000
5	36	5	5	36	1
10	72	9	10	72	3
15	108	14	15	108	4
20	144	18	20	144	5
25	180	23	25	180	6
30	216	27	30	216	7
35	252	32	35	252	8
40	288	36	40	288	10
45	324	41	45	324	11
50	360	45	50	360	12
55	396	50	55	396	13
60	432	54	60	432	14
One Tank Full → 63	454	57	Full Tank → 67	468	15
				482	15
REAR WING TANKS			FULL TANK COMBINATIONS		
5	36	6	BOTH FRONT WING TANKS	908	114
10	72	11	1 FRONT AND 1 REAR TANK	605	81
15	108	17	4 WING TANKS	1210	161
20	144	22	4 WING AND NOSE TANK	1692	177
25	180	28			
30	216	33			
35	252	39			
40	288	45			
42	302	47			
BOTH REAR TANKS FULL					

Table 8 Operational Load Schedule 3TM

LOADING SCHEDULE

For aircraft with or without 67 gallon nose fuel tank.

NOTE
All capacities are in Imperial gallons.



WEIGHTS & MOMENTS/1000 OF OCCUPANTS		
Location	Weight	Moment 1000
Pilot	180	16
Co-pilot	180	16
Seat 1	180	23
Seat 2	180	23
Seat 3	180	30
Seat 4	180	30
Seat 5	180	37

WEIGHT & MOMENT/1000 OF OIL		
Gallons	Weight	Moment 1000
4	36	3
8	72	7
10	90	8
Full Tanks 13.2	119	11

WEIGHT & MOMENT/1000 OF BAGGAGE			
NOSE COMPARTMENT		REAR COMPARTMENT	
Weight	Moment 1000	Weight	Moment 1000
20	1	10	2
40	1	20	5
60	2	30	7
80	2	40	10
100	3	50	12
120	3	60	15
140	4	70	17
160	4	80	19
180	5	90	22
200	6	100	24
220	6	110	27
240	7	120	29
260	7	130	32
280	8	140	34
300	8	150	36
320	9	160	39
340	10	170	41
360	10	180	44
380	11	170	46
400	11	200	49
420	12	210	51
440	12	220	53
460	13	230	56
480	13	240	58
500	14	250	61
520	15	260	63
540	15	270	66
560	16	280	68
580	16	290	70
600	17	300	73

NOTE
The combined maximum weight of baggage and fuel in nose compartment is 600 pounds.

NOTE
The maximum permissible weight of baggage in nose compartment when nose fuel tank is full is 118 pounds.

WEIGHT AND MOMENT/1000 OF FUEL					
FRONT WING TANKS			NOSE TANK		
Gallons	Weight	Moment 1000	Gallons	Weight	Moment 1000
5	36	5	5	36	1
10	72	9	10	72	3
15	108	14	15	108	4
20	144	18	20	144	5
25	180	23	25	180	6
30	216	27	30	216	7
35	252	32	35	252	8
40	288	36	40	288	10
45	324	41	45	324	11
50	360	45	50	360	12
55	396	50	55	396	13
60	432	54	60	432	14
One Tank Full → 63	454	57	Full Tank → 67	468	15
				482	15
REAR WING TANKS			FULL TANK COMBINATIONS		
5	36	6	BOTH FRONT WING TANKS	908	114
10	72	11	1 FRONT AND 1 REAR TANK	605	81
15	108	17	4 WING TANKS	1210	161
20	144	22	4 WING AND NOSE TANK	1692	177
25	180	28			
30	216	33			
35	252	39			
40	288	45			
42	302	47			

Table 9 Operational Load Schedule, 3T

INSTRUCTIONS FOR USING THE EXPEDITOR 3 LOADING SCHEDULE

16 The purpose of the schedule is to record the basic weight and centre of gravity of the empty aircraft. Its second and equally important function, is to provide a quick, accurate method of obtaining the total weight of a loading and for checking the balance to ascertain that it is within the established centre of gravity limits. Form L36 shows the results obtained when the aircraft was weighed. That is the wheel weights, horizontal arms of the wheels, and the total basic weight and centre of gravity of the aircraft. Tables 7 and 8 are composed of charts whose purpose is to give the moment/1000 of the items to be loaded. Table 6 is the Centre of Gravity table. The purpose of this table is to provide a means of checking each loading to be sure it is properly balanced, i.e., that the centre of gravity of the loaded aircraft is in the balance range.

COMPUTING A LOADING

17 To compute a loading and determine that its balance is satisfactory, proceed as follows:

(a) Record the basic weight and moment divided by 1000 obtained from the L38.

(b) Add the weight of each item to be carried to the aircraft's basic weight. Obtain weights of fuel, oil, and anti-icer fluid from Tables 3, 4 and 5.

(c) Add the moment/1000 for each item to be carried to the basic moment/1000. These values come from the Tables and Figures.

(d) In the gross weight column on Table 6 find the weight nearest the weight of the loading. Compare the total moment/1000 of your loading with the minimum and maximum values shown for that weight. If it is between them the loading is balanced properly. If it is outside the minimum or maximum values shown on the table some of the items in the loading will have to be shifted to bring the C.G. of the loaded aircraft within the limits.

USE OF TABLES

18 To find the moment/1000 of 285 lbs. of baggage in the rear baggage compartment. Referring to the Baggage section, Table 7:
280 lbs. has a moment/1000 of 68
290 lbs. has a moment/1000 of 70
Therefore 285 lbs. has a moment/1000 of 69.

TYPICAL SAMPLE LOADING

19 Referring to RCAF Form L38 (Figure 5) and Table 7:

	Pounds	Moment 1000
Basic Weight	6480	723
Anti-icer Fluid	20	2
Full Oil (13.2 gal)	119	11
Pilot	180	16
Co-pilot	180	16
Baggage (Nose Compartment)	160	4
Baggage (Rear Compartment)	285	69
1st. Parachute (side)	20	3.5
2nd Parachute (cabin)	20	3.8
Loading with no fuel:	7464	848.3

Check totals in Table 6: 7460 gives limits of 819 and 878. Therefore 848 is within limits.

Addition of Fuel

Front wing tanks (full 126 gal)	908	114	2
Total (1 + 2)	8372	962	3

Check totals in Table 6: 8370 gives limits of 919 and 985. Therefore 962 is within limits.

Rear wing tanks (full 42 gal)	302	47	4
Total (3 + 4)	8674	1009	5

Check totals in Table 6: 8670 gives limits of 952 and 1020. Therefore 1009 is within limits.

Nose tank (full 67 gal)	482	15	6
Total (3 + 6)	8854	977	

Check totals in Table 6: 8850 gives limits of 972 and 1042. Therefore 977 is within limits.

Total Loading
 (5 + 6) 9156 1024

Check totals in Table 6: 9150 gives limits of 1005 and 1077. Therefore 1024 is within limits.

The sample loading is checked on Table 6, Centre of Gravity Table, and found to be satisfactory at take-off and with all the fuel used.

- (a) Fuel may not be considered as ballast.
- (b) Two load conditions must be checked - Zero fuel and actual fuel in tanks at start.
- (c) If fuselage nose tank is installed fill the tanks in this order: front wing tanks first, fuselage nose tank second, rear wing tanks last.
- (d) Check loading with zero fuel.
- (e) Check loading with fuel in front wing tanks only.
- (f) Check loading with fuel in front wing tanks and nose tank.
- (g) Check loading with fuel in all five tanks.

SPECIAL REQUIREMENTS

20 Due reference must be made to the following conditions when computing a loading:

ROYAL CANADIAN AIR FORCE										
Basic Weight (as weighed) <u>6460</u>										RCAF-L38 10M-6-49 AMC-1885-L38
Basic Moment (as weighed) <u>723,511</u> AIRCRAFT BASIC WEIGHT CHANGE RECORD										
Basic C of G (Ins. from Datum) <u>111.653</u>										
Basic Index _____										
ITEM (+ or -)	WEIGHT	ARM	MOMENT	REVISED A/C WT	REVISED A/C MOMENT	REVISED C of G INDEX	DATE	UNIT	JOB ORDER NO.	SIGNATURE - WT & BAL SECTION

NB: 1. This form to be completed by the Weight and Balance Section immediately following each weight change made during maintenance.

2. When an aircraft is re-weighed, used sheets are to be removed and a new set of records commenced. New weighing forms are to be compared by Unit Engineering Officers to existing Record of Daily Wt & C of G changes to ensure that unaccountable variations are investigated.

Figure 5 RCAF Form L38 Used in Sample Loading

BASIC WEIGHT CHECK LIST

AIRCRAFT MODEL - EXPEDITION 3N & 3NM - SPECIFICATION AIR 11-25 & 11-26
REGISTRATION NO.

COMPARTMENT AND ITEM NUMBER	ITEMS AND LOCATION (GROUPED BY COMPARTMENTS)	WEIGHT (POUNDS)	ARM (INCHES)	MOMENT/1000 (INCH-POUNDS)	DELIVERY EQUIPMENT
A	NOSE COMPARTMENT 0" TO 46"				
A-1	27-Gallon Nose Fuel Tank	23	36	.8	
B	PILOT COMPARTMENT 46" TO 102"				
B-1	Control Lock	2	59	.1	
B-2	Radio Control Boxes and Rack	12	36	1.0	
B-3	Control Unit	1	93	.1	
B-4	Headsets and Microphones (2)	4	95	.4	
B-5	R-89-B Glide Path Receiver	27	95	2.6	
B-6	D E L E T E D				
B-7	Cabin Speakers (2)	2	100	.2	
B-8	Crash Axe	3	102	.3	
B-9	Hand Fire Extinguisher	7	102	.7	
C	FORWARD CABIN COMPARTMENT 102" TO 150"				
C-1	Air Position Indicator MK-1	17	107	1.8	
C-2	Navigator Instrument Panel	11	108	1.2	
*C-3	Parachute Pack (Stowage)	20	108	2.2	
C-4	Air Mileage Unit MARK 1	17	110	1.9	
C-5	Headset and Microphone	2	110	.2	
C-6	Navigator's Table - First	8	115	.9	
C-7	Navigator's Light	1	115	.1	
C-8	Astrodome with Compass Mount	11	120	1.3	
C-9	Folding Jump Seat	5	129	.6	

CHECK

1	IN AIRCRAFT	L36 ENTRY	IN AIRCRAFT	L36 ENTRY	IN AIRCRAFT	L36 ENTRY	IN AIRCRAFT	L36 ENTRY	IN AIRCRAFT	L36 ENTRY	IN AIRCRAFT	L36 ENTRY	IN AIRCRAFT	L36 ENTRY	IN AIRCRAFT	L36 ENTRY	IN AIRCRAFT	L36 ENTRY	IN AIRCRAFT
---	-------------	-----------	-------------	-----------	-------------	-----------	-------------	-----------	-------------	-----------	-------------	-----------	-------------	-----------	-------------	-----------	-------------	-----------	-------------

FOR USE IN EO 05-45B-8

RECORD OF CHECKING (ENTER DATE)

(* These items not normally carried as part of aircraft equipment. Figures are given for reference only.)

Figure 6 (Issue 1) Basic Weight Check List, Navigational Trainer (Sheet 1 of 4)

BASIC WEIGHT CHECK LIST

AIRCRAFT MODEL - EXPEDITOR 3N & 3NM - SPECIFICATION AIR 11-25 & 11-26 REGISTRATION NO.		ITEMS AND LOCATION (GROUPED BY COMPARTMENTS)		WEIGHT POUNDS	ARM INCHES	MOMENT 1000 INCH - POUNDS	CHECK <input checked="" type="checkbox"/>								
COMPARTMENT AND ITEM NUMBER							1	2	3	4	5	6	7	8	
C-10	Navigator's Data Case						2	135	.3	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT
C-11	Right Front Chair with Safety Belt and shoulder Harness (20G Type)						22	138	3.0	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT
C-12	Headset and Microphone						2	141	.3	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT
D	MIDDLE CABIN COMPARTMENT 150" TO 190"														
D-1	Floatlight Bracket						3	152	.5						
*D-2	Floatlight AN-MK (6# at 3.5 ea.)						21	152	3.2						
*D-3	Navigator's Data Case						2	152	.3						
D-4	Navigator's Table - 2nd						7	156	1.1						
D-5	Navigator's Light						1	156	.2						
D-6	Navigator's Instrument Panel						9	167	1.5						
D-7	Driftmeter and Mount (Type B-3)						23	170	3.9						
*D-8	Parachute Pack (Stowage)						20	174	3.5						
D-9	Headset and Microphone						2	180	.4						
D-10	BC-733D Receiver						22	181	4.0						
D-11	Right rear chair with Safety Belt and Shoulder Harness (20G Type)						22	182	4.0						
D-12	Navigator's Shelf						6	184	1.1						
D-13	Astro Compass Box						2.5	184	.5						
*D-14	Parachute Pack (Stowage)						20	190	3.8						
*D-15	Parachute Pack (Stowage)						20	190	3.8						
DELIVERY EQUIPMENT															

FOR USE IN EO 05-45B-8

RECORD OF CHECKING (ENTER DATE)

(* These items not normally carried as part of aircraft equipment. Figures are given for reference only.)

Figure 6 Basic Weight Check List, Navigational Trainer (Sheet 2 of 4)

BASIC WEIGHT CHECK LIST

COMPARTMENT AND ITEM NUMBER		ITEMS AND LOCATION (GROUPED BY COMPARTMENT)	WEIGHT POUNDS	ARM: INCHES	MOMENT/1000 INCH-POUNDS	WT CHECK								
AIRCRAFT MODEL - EXPEDITOR 3N & 3NM - SPECIFICATION AIR 11-25 & 11-26 REGISTRATION NO.						1	2	3	4	5	6	7	8	
E		REAR CABIN COMPARTMENT 190" TO 229"												
*E-1		Sextant and box	11	196	2.2									
E-2		Driftmeter and Mount (Type B-5)	5	211	1.1									
E-3		Hand Fire Extinguisher	7	227	1.6									
E-4		First Aid Kit	10	226	2.2									
F		BAGGAGE COMPARTMENT 229" TO 257"												
F-1		First Aid Kit	3	231	0.7									
F-2		Loop Antenna and Dehydrator	14	244	3.4									
F-3		Chemical Toilet	5	248	1.2									
F-4		Data Case	6	255	1.5									
G		TAIL 257" AFT												
G-1		Junction Box	4	257	1.0									
G-2		T5015 Transmitter with Mount	22.8	263	6.0									
G-3		Amplifier	2	263	.5									
G-4		Dynamotor	4	263	1.1									
G-5		AN/ARN-7 ADF Receiver	53	265	14.0									
G-6		MG-149F Inverter	24	265	6.4									
G-7		R5009 Receiver with Mount	22.1	275	6.1									
G-8		J5007 Junction box with Mount and Dynamotors	21.1	275	5.8									
G-9		BC453 Receiver with Rack and Mount	10.7	268	2.9									

(*These items not normally carried as part of aircraft equipment. Figures are given for reference only.)
Figure 6 (Issue 1) Basic Weight Check List, Navigational Trainer (Sheet 3 of 4)

BASIC WEIGHT CHECK LIST

Aircraft Model - Expeditor 3TM and 3NMT - Specification Air 22-2 Registration No.		WEIGHT POUNDS	ARM INCHES	MOMENT/1000 INCH-POUNDS	DELIVERY EQUIPMENT	WT CHECK								
Compartment and Item Number	ITEMS AND LOCATION (GROUPED BY COMPARTMENT)				IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT
A	NOSE COMPARTMENT 0" TO 46"													
A-1	67 Gallon Nose Fuel Tank	23	36	.8										
B	PILOT COMPARTMENT 46" TO 102"													
B-1	Control Lock	2	59	.1										
B-2	Radio Control Boxes and Rack	12	86	1.0										
B-3	Control Unit	1	93	.1										
B-4	Headsets and Microphones (2)	4	95	.4										
B-5	R-89-B Glide Path Receiver	27	95	2.6										
B-6	DELETED													
B-7	Cabin Speakers (2)	2	100	.2										
B-8	Cockpit Extension Light	1	101	.1										
B-9	Crash Axe	3	102	.3										
B-10	Hand Fire Extinguisher	7	102	.7										
C	FORWARD CABIN COMPARTMENT 102" TO 150"													
C-1	Right Front Reclining Chair	27	129	3.5										
C-2	Left Front Reclining Chair	27	135	3.6										

(*These items not normally carried as part of aircraft equipment. Figures are given for reference only.)
 Figure 7 (Issue 2) Basic Weight Check List, Passenger Transport (Sheet 1 of 3)

BASIC WEIGHT CHECK LIST		FOR USE IN EO 05-45B-8							
		RECORD DISCREPANCIES (ENTER DATE)							
Aircraft Model - Expeditor 3TM and 3NMT - Specification Air 22-2 Registration No.		WT CHECK							
		1	2	3	4	5	6	7	8
Compartment and Item Number	ITEMS AND LOCATION (GROUPED BY COMPARTMENT)	WEIGHT POUNDS	ARM INCHES	MOMENT/1000 INCH-POUNDS	DELIVERY EQUIPMENT				
G	TAIL 257" AFT				IN AIRCRAFT				
G-1	Junction Box	4	257	1.0	L36 ENTRY IN AIRCRAFT				
G-2	T5015 Transmitter with Mount	22.8	263	6.0	L36 ENTRY IN AIRCRAFT				
G-3	Amplifier	2	263	.5	L36 ENTRY IN AIRCRAFT				
G-4	Dynamotor	4	263	1.1	L36 ENTRY IN AIRCRAFT				
G-5	AN/ARN-7 ADF Receiver	53	265	14.0	L36 ENTRY IN AIRCRAFT				
G-6	R5009 Receiver with Mount	22.1	275	6.1	L36 ENTRY IN AIRCRAFT				
G-7	MG-149F Inverter	24	265	6.4	L36 ENTRY IN AIRCRAFT				
G-8	J5007 Junction Box with Mount and Dynamotors	21.1	275	5.8	L36 ENTRY IN AIRCRAFT				
G-9	BC-453 Receiver with Rack, Mount and Dynamotors				L36 ENTRY IN AIRCRAFT				
G-10	Isolation Amplifier	10.7	268	2.9	L36 ENTRY IN AIRCRAFT				
G-11	Deleted	9	278	2.2	L36 ENTRY IN AIRCRAFT				
G-12	MN-53B Marker Beacon Receiver	17	291	4.9	L36 ENTRY IN AIRCRAFT				
H	MISCELLANEOUS EQUIPMENT				L36 ENTRY IN AIRCRAFT				
H-1	Carpet (cabin passenger) 3TM only	34.5	168	5.8	L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				
					L36 ENTRY IN AIRCRAFT				

(*These items not normally carried as part of aircraft equipment. Figures are given for reference only.)
Figure 7 (Issue 1) Basic Weight Check List, Passenger Transport (Sheet 3 of 3)

For Use in EO 05-45B-8

Basic Weight Check List

Aircraft Model - Expeditor 3NMT (Special) - Specification
Air 22-2 Registration No.

Delivery Equipment							
1	In Aircraft						
2	In Aircraft						
3	In Aircraft						
4	In Aircraft						
5	In Aircraft						
6	In Aircraft						
7	In Aircraft						
8	In Aircraft						

Compartment and Item Number	Items and Location (Grouped by Compartments)	Weight (Pounds)	ARM (Inches)	Moment/1000 Inch-Pounds
C (Cont'd)				
C-4	Navigator's light	1	115	.1
C-5	Astrodome with compass mount	11	120	1.3
C-6	Left front reclining chair	27	135	3.6
C-7	Navigator's data case	2	135	.3
C-8	Right front chair with safety belt and shoulder harness (20G Type)	22	138	3.0
C-9	Headset and microphone (1st Nav.)	2	141	.3
D	MIDDLE CABIN COMPARTMENT			
	150" to 190"			
D-1	Right middle reclining chair	27	169	4.6
D-2	BC-733D Receiver	22	169	3.7
D-3	Headset and microphone (RM chair)	2	176	.3
D-4	Left rear reclining chair	27	181	4.9
E	REAR CABIN COMPARTMENT 190" TO 229"			
E-1	Driftmeter and Mount (Type B-5)	5	211	1.1
E-2	Hand fire extinguisher	7	227	1.6
E-3	First Aid Kit	10	226	2.2

Basic Weight Check List		For Use in EO 05-45B-8											
Record of Checking (Enter Date)		Delivery Equipment											
		1	2	3	4	5	6	7	8	Check			
Compartment and Index Number	Items and Location (Grouped by Compartments)	Weight (Pounds)	ARM (Inches)	Moment/1000 Inch-pounds	Aircraft Model - Expeditor 3NMT (Special) - Specification Air 22-2 Registration No.								
F	BAGGAGE COMPARTMENT 229" to 257"												
F-1	First Aid Kit	3	231	.7	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
F-2	Loop antenna and dehydrator	14	244	3.4	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
F-3	Chemical toilet	5	248	1.2	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
F-4	Data case	6	255	1.5	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G	TAIL 257" AFT												
G-1	Junction box	4	257	1.0	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-2	T5015 Transmitter with Mount	22.8	263	6.0	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-3	Amplifier	2	263	.5	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-4	Dynamotor	4	263	1.1	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-5	AN/ARN-7 ADF Receiver	53	265	14.0	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-6	MG-149F Inverter	24	265	6.4	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-7	R5009 Receiver with Mount	22.1	275	6.1	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-8	J5007 Junction box with mount and Dynamotors	21.1	275	5.8	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-9	BC453 Receiver with Rack and Mount	10.7	268	2.9	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-10	Isolation amplifiers	9	278	2.2	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft
G-11	Deleted												
G-12	MN-53B Marker Beacon receiver	17	291	4.9									



BASIC WEIGHT CHECK LIST

COMPARTMENT AND ITEM NUMBER		ITEMS AND LOCATION (GROUPED BY COMPARTMENTS)		WEIGHT (POUNDS)	ARM (INCHES)	MOMENT/1000 (INCH-POUNDS)	CHECK <input checked="" type="checkbox"/>													
							1	2	3	4	5	6	7	8						
AIRCRAFT MODEL - EXPEDITOR 3T - SPECIFICATION RM1-29 REGISTRATION NO.							FOR USE IN EO 05-45B-8													
RECORD OF CHECKING (ENTER DATE)							RECORD OF CHECKING (ENTER DATE)													
DELIVERY EQUIPMENT							IN AIRCRAFT													
A		NOSE COMPARTMENT 0" TO 46"																		
A-1		67 Gallon Nose Fuel Tank				23	36	.8												
B							IN AIRCRAFT													
B-1		Control Lock				2	59	.1												
B-2		Control Unit				1	93	.1												
B-3		Radio Control Boxes and Rack				11	86	9.5												
B-4		Headsets & Microphones				4	95	.4												
B-5		R-89-B Glide Path Receiver				27	95	2.6												
B-6		DELETED:																		
B-7		Cabin Speakers (2)				2	100	.2												
B-8		Shoulder Strap Installation				9	102	.9												
B-9		F-16 Inverter				18.3	88	1.6												
B-10		Hand Fire Extinguisher				7	81	.6												
C							IN AIRCRAFT													
C-1		Blind Flying Goggles				.5	106	.05												
C-2		Headset & Microphone				2	110	.2												
C-3		Blind Flying Kit				9	120	1.0												
C-4		Right Front Chair with Safety Belt				20	136	2.7												
*C-5		Left Front Chair with Safety Belt				20	136	2.7												
C-6		BC-733D Receiver				22	110	2.4												
C-7		Axe Crash (21F/1)				2.5	105	.3												

(* These items not normally carried as part of aircraft equipment. Figures are given for reference only.)

Figure 8 (Issue 1) Basic Weight Check List, Pilot Trainer (Sheet 1 of 3)

BASIC WEIGHT CHECK LIST

AIRCRAFT MODEL - EXPEDITOR 3T - SPECIFICATION RM 1-29
REGISTRATION NO.

COMPARTMENT AND ITEM NUMBER	ITEMS AND LOCATION (GROUPED BY COMPARTMENTS)	WEIGHT (POUNDS)	ARM (INCHES)	MOMENT/1000 (INCH-POUNDS)	CHECK <input checked="" type="checkbox"/>															
					1	2	3	4	5	6	7	8								
D	MIDDLE CABIN COMPARTMENT 150" TO 190"				IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT
D-1	Right Middle Chair with Safety Belt	20	169	3.3																
D-2	Middle Left Chair with Safety Belt	20	169	3.3																
E	REAR CABIN COMPARTMENT 190" TO 229"																			
E-1	Rear Right Chair with Safety Belt	20	206	4.1																
E-2	Hand Fire Extinguisher	7	227	1.6																
F	BAGGAGE COMPARTMENT 229" TO 257"																			
F-1	First Aid Kit	3	231	.7																
F-2	Loop Antenna and Dehydrator	14	244	3.4																
F-3	Chemical Toilet	5	248	1.2																
F-4	Data Case	2	255	.5																
F-5	Junction Box	6	230	1.4																
G	TAIL SECTION 257" TO AFT																			
G-1	Junction Box	4	257	1.0																
G-2	T5015 Transmitter with Mount	22.8	263	6.0																
G-3	Interphone Amplifier	2	263	.5																
G-4	Interphone Dynamotor	4	263	1.1																
G-5	AN/ARN-7 ADF Receiver	53	265	14.																
G-6	Inverter Model 778	13	265	3.5																
G-7	R5009 Receiver with Mount	22.1	275	6.1																
G-8	J5007 Junction box with Mount and Dynamotors	21.1	275	5.8																
G-9	BC453 Receiver with Rack and Mount	10.7	268	2.9																

(* These items not normally carried as part of aircraft equipment. Figures are given for reference only.)

Figure 8 (Issue 1) Basic Weight Check List, Pilot Trainer (Sheet 2 of 3)

BASIC WEIGHT CHECK LIST						For Use In EO 05-45B-8											
Aircraft Model - Expeditor 3TM (Serial No.'s 1521, 1527, 1533, 1566 Only)						Record Of Checking (Enter Date)											
						1	2	3	4	5	6	7					
Compartment And Item Number	Registration NO:	Items and Location (Grouped By Compartments)	Weight Pounds	Arm Inches	Moment 1000 Inch/Pounds	Check											
A		Nose Compartment 0" to 46"				In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry	In Aircraft	L36 Entry
A-1		67-Gallon Nose Fuel Tank	23.0	36	.8												
B		Pilot Compartment 46" to 102"															
B-1		Control Lock	2.0	59	.1												
B-2		Control Unit (C2 Gyrosyn Compass)	1.0	93	.1												
B-3		Heat Set and Microphones (ea. 2)	4.0	95	.4												
B-4		DELETED															
C		Forward Cabin Compartment 102" to 150"															
C-1		Crash Axe	3.0	102	.3												
C-2		Fire Extinguisher (CO2)	11.5	102	1.3												
C-3		Right Front Reclining Chair	27.0	129	3.5												
C-4		Left Front Reclining Chair	27.0	135	3.6												
D		Middle Cabin Compartment 150" to 190"															
D-1		Right Middle Reclining Chair	27.0	169	4.6												
D-2		Left Middle Reclining Chair	27.0	181	4.9												

(*These items not normally carried as part of aircraft equipment. Figures are given for reference only).

Figure 8A (Issue 1) Basic Weight Check List Expeditor 3TM (Serial Nos. 1521, 1527, 1533, 1566 only) (Sheet 1 of 3)

BASIC WEIGHT CHECK LIST

Aircraft Model - Expeditor 3TM (Serial Nos. 1521, 1527, 1533, 1566 Only)		Check						
Registration No.:		1	2	3	4	5	6	7
Compartment And Item Number	Items and Locations (Grouped By Compartments)	Weight Pounds	Arm Inches	Moment 1000 Inch/Pounds	In Aircraft	In Aircraft	In Aircraft	In Aircraft
E	Rear Cabin Compartment 190" to 229"							
E-1	Fire Extinguisher A20	7.0	227	1.6	In Aircraft	In Aircraft	In Aircraft	In Aircraft
E-2	Entrance Ladder	9.0	207	1.9	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F	Baggage Compartment 229" to 257"							
F-1	First Aid Kit	3.0	231	1.7	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-2	Chemical Toilet	5.0	248	1.2	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-3	MT 274/ARN6 Shock Mount	5.2	236	1.2	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-4	R101A/ARN6 Radio Compass Unit	35.0	236	8.3	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-5	MTA-8A Shock Mount	1.6	246	.4	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-6	GSA-8A Glide Slope Receiver	7.8	246	1.9	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-7	MTA-21C Shock Mount	2.1	251.5	.5	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-8	RA-21A VHF Receiver	8.4	250	2.1	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-9	NVA-21A VHF Navigation Unit	10.0	253	2.5	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-10	F20-4 Inverter	24.0	234	5.6	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-11	FT486 Shock Mount	2.0	239	.5	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-12	BC-347 Interphone Amplifier	2.0	239	.5	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-13	PE-86 Dynamotor	4.0	239	1.0	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-14	MT1477/ARC Shock Mount	3.7	249.6	.9	In Aircraft	In Aircraft	In Aircraft	In Aircraft

For Use In EO 05-45B-8

Record of Checking (Enter Date)

Delivery Equipment

(*These items not normally carried as part of aircraft equipment. Figures are given for reference only).

Figure 8A Basic Weight Check List Expeditor 3TM (Serial Nos. 1521, 1527, 1533, 1566 only) (Sheet 2 of 3)

BASIC WEIGHT CHECK LIST		For Use In EO 05-45B-8										
		Record of Checking (Enter Date)										
		1	2	3	4	5	6	7				
Aircraft Model - Expeditor 3TM (Serial Nos. 1521, 1527, 1533, 1566 Only)		Delivery Equipment										
Registration No.:		Check										
Compartment And Item Number	Items and Location (Grouped by Compartments)	Weight Pounds	Arm Inches	Moment 1000 Inch/Pounds	In Aircraft	In Aircraft	In Aircraft	In Aircraft	In Aircraft	In Aircraft	In Aircraft	In Aircraft
F-15	RT5011/ARC552 Transceiver	53.0	249.6	13.2								
G	Tail 257" Aft											
G-1	CU5038/ARC552 Directional Coupler	.5	259.0	.1								
G-2	MTA21D Shock Mount	2.6	264.3	.7								
G-3	TA21A VHF Transmitter	14.3	265.6	3.8								
G-4	RA21A VHF Receiver	8.4	262.3	2.2								
G-5	FT231A Shock Mount	1.0	276.6	.3								
G-6	OA5002/ARR Isolation Amplifier	10.0	276.6	3.0								
G-7	34-999 Transformer	2.0	267.3	.5								
G-8	237EAU Relay	.5	263.6	.1								
G-9	237EAU Relay	.5	263.6	.1								
G-10	28018 Transformer	3.0	260.3	.7								
G-11	MR64A Shock Mount	2.0	274.3	.5								
G-12	MN53B Receiver Unit	17.0	274.3	4.7								

(*These items not normally carried as part of aircraft equipment. Figures are given for reference only).

Figure 8A Basic Weight Check List Expeditor 3TM (Serial Nos. 1521, 1527, 1533, 1566 only) (Sheet 3 of 3)

FOR USE IN EO 05-45B-8										
RECORD DISCREPANCIES (ENTER DATE)										
DELIVERY EQUIPMENT										
WT CHECK										
1	2	3	4	5	6	7	8			
IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	
L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	
<p style="text-align: center;">BASIC WEIGHT CHECK LIST</p> <p style="text-align: center;">Aircraft Model - Expeditor 3NMT with TACAN Specification Air 22-2 Registration No.</p>										
Compartment and Item Number	ITEMS AND LOCATION (GROUPED BY COMPARTMENT)		WEIGHT POUNDS	ARM INCHES	MOMENT/1000 INCH-POUNDS					
A	NOSE COMPARTMENT 0" to 46"									
A-1	67 Nose Fuel Tank		23	36	.8					
B	PILOT COMPARTMENT 46" to 102"									
B-1	Control Lock		2	59	.1					
B-2	Radio Control Boxes and Rack		12	86	1.0					
B-3	Control Unit		1	93	0.1					
B-4	H-89B Glidepath Receiver		27	95	2.6					
B-5	Cockpit Extension Light		1	101	.1					
B-6	Crash Axe		3	102	.3					
B-7	Hand Fire Extinguisher		7	102	.7					
C	FORWARD CABIN COMPARTMENT 102" to 150"									
C-1	Supp de-icer tank - 05-45-6A/218		38	106.6	4.1					
C-2	Right Front Reclining Chair		27	129	3.5					
C-3	Left Front Reclining Chair		27	135	3.6					

Figure 8B Basic Weight Check List, Expeditor 3NMT with TACAN (Sheet 1 of 3)

BASIC WEIGHT CHECK LIST		FOR USE IN EO 05-45B-8																
		RECORD DISCREPANCIES (ENTER DATE)																
Aircraft Model - Expeditor 3NMT with TACAN Specification Air 22-2 Registration No.		WT CHECK																
		1	2	3	4	5	6	7	8									
Compartment and Item Number	ITEMS AND LOCATION (GROUPED BY COMPARTMENT)	WEIGHT POUNDS	ARM INCHES	MOMENT/1000 INCH-POUNDS	DELIVERY EQUIPMENT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT	IN AIRCRAFT
F-7	Chemical Toilet	5	248	0.7		L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY	L36 ENTRY
F-8	MG-149F Inverter	24	249	6.0														
F-9	RT-5011/ARC-552 Transceiver	52	250	8.0														
F-10	OA-5047-ARN-501 Receiver	44	250	11.0														
F-11	Data Case	6	257	1.5														
G	TAIL 257" AFT																	
G-1	F-20-4 Inverter	24	264	6.3														
G-2	AF/UTA/68 VHF Transceiver	27.25	266.5	7.3														
G-3	28018 Transformer	2	268.5	0.5														
G-4	MS24187D1 Relay	1.5	272.5	0.4														
G-5	34999 Transformer X3	9	275	2.5														
G-6	MN-53 Marker Beacon Receiver	17	275	4.7														
G-7	OA-5002/ARR Amplifier	9	276	2.5														

Figure 8B Basic Weight Check List, Expeditor 3NMT with TACAN (Sheet 3 of 3)



RCAF L36 (Rev.)
12m - 10 - 53 (7037)

ROYAL CANADIAN AIR FORCE

AIRCRAFT WEIGHING RECORD

DATE WEIGHED _____ TYPE AND MARK _____ NO. _____

PLACE WEIGHED _____ WEIGHING OFFICER _____

WHEEL	SCALE READING	TARE	NET WEIGHT	ARM (Inches)	MOMENT
LEFT MAIN				X	X
RIGHT MAIN				X	X
SUB-TOTAL (Both Main)					
NOSE OR TAIL					
TOTAL (As Weighed)				H(C of G)	

MEASUREMENTS

l = _____ inches, the distance from the reference datum to some accessible exterior jig point or frame of the aircraft from which a plumb bob can be dropped to the ground. Obtain from the diagram on the balance computer or relevant EO.

E = _____ inches, the distance from the reference datum to the centre line of the main wheels.

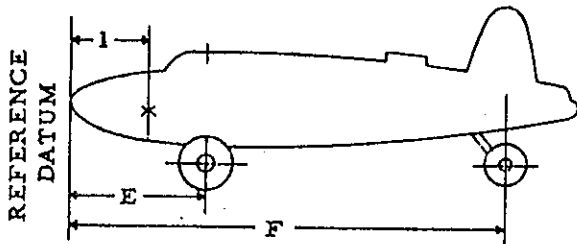
F = _____ inches, the distance from the reference datum to the centre line of the nose or tail wheel.

BALLAST

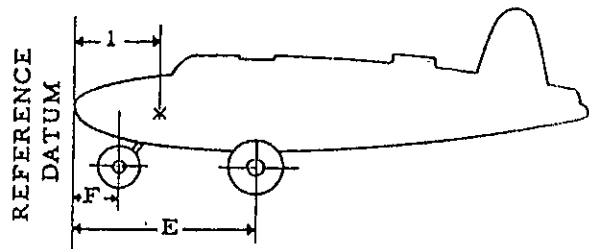
Weight, Arm and Moment of all Ballast installed is to be given

WEIGHT	ARM	MOMENT

TAIL WHEEL AIRCRAFT



NOSE WHEEL AIRCRAFT



DIAGRAMS FOR MEASURING VARIOUS TYPES OF AIRCRAFT TO DETERMINE ARM OF SUPPORT POINTS

Figure 9 RCAF Form L36, Aircraft Weighing Record (Sheet 1 of 2)
Revised 12 Jun 64

AIRCRAFT WEIGHING RECORD (CONT'D)							
DESCRIPTION	NET WEIGHT	ARM	MOMENT	MOMENT 1000			
TOTAL (As Weighed)				X			
OIL IN AIRCRAFT	-		-	X			
TOTAL OF ITEMS WEIGHED BUT NOT PART OF BASIC WEIGHT (From Col. 1 Below)	-		-	X			
TOTAL OF BASIC ITEMS NOT IN AIRCRAFT WHEN WEIGHED (From Col. 2 Below)	+		+	X			
BASIC AIRCRAFT		C of G		X			
COLUMN 1				COLUMN 2			
ITEMS WEIGHED BUT NOT PART OF BASIC WEIGHT	WEIGHT	ARM	MOMENT	BASIC ITEMS NOT IN AIRCRAFT WHEN WEIGHED	WEIGHT	ARM	MOMENT
TOTAL		X		TOTAL		X	
<p>Remarks: Type of Scales used _____</p> <p>Method of Support _____</p> <p>Attitude (Level-Normal) _____</p> <p>Whenever possible aircraft are to be weighed with all and only basic equipment installed. If any item of basic equipment is missing, it must be recorded in Column 2. Items weighed, but not part of the basic equipment, must be noted in Column 1. Items listed in column 1 and/or column 2 must be considered when finding the CG of the Basic Aircraft.</p>							

Figure 9 RCAF Form L36, Aircraft Weighing Record (Sheet 2 of 2)
 Revised 12 Jun 64

ROYAL CANADIAN AIR FORCE

RCAF-L38
10M-6-49
AMC-1885-L38

Basic Weight (as weighed) _____
 Basic Moment (as weighed) _____ **AIRCRAFT BASIC WEIGHT CHANGE RECORD**
 Basic C of G (ins. from Datum) _____
 Basic Index _____

ITEM (+ or -)	WEIGHT	ARM	MOMENT	REVISED A/C WT	REVISED A/C MOMENT	REVISED C of G INDEX	DATE	UNIT	JOB ORDER NO.	SIGNATURE - WT & BAL SECTION

NB 1. This form to be completed by the Weight and Balance Section immediately following each weight change made during maintenance.
 2. New weighing records are to be compared, by unit Engineering Officers, to existing record of Daily WT and C of G changes to ensure that unaccountable variations are investigated.

Figure 10 (Issue 1) RCAF Form L38, Aircraft Basic Weight Change Record



ROYAL CANADIAN AIR FORCE

AIRCRAFT WEIGHING RECORD

DATE WEIGHED 12 Feb 63

TYPE AND MARK Exp 3M

R. C. A. F. NO. 1426

PLACE WEIGHED AFHQ FT/FLR Rockcliffe

WEIGHING OFFICER

M Short
(M Short) Sgt

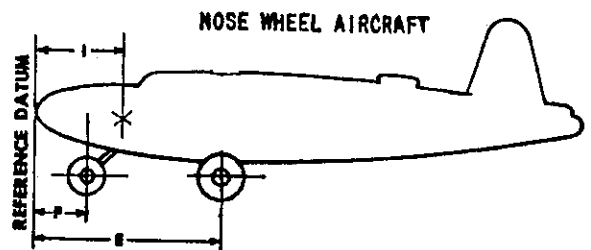
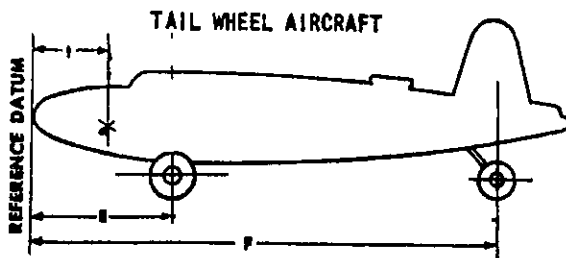
WHEEL	SCALE READING	TARE	NET WEIGHT	ARM (Inches)	MOMENT
LEFT MAIN	2997	/ 10 - 5	3002		
RIGHT MAIN	3040	/ 11	3051		
SUB-TOTAL (Both Main)			6053	E 88.2	533,874.6
NOSE OR TAIL	548	/ 3	551	F 381.2	210,041.2
TOTAL (As Weighed)			6604	H(C of G) 112.6	743,915.8

MEASUREMENTS

I = 102 inches, the distance from the reference datum to some accessible exterior jig point or frame of the aircraft from which a plumb bob can be dropped to the ground. Obtain from the diagram on the balance computer or relevant E0.

E = 88.2 inches, the distance from the reference datum to the center line of the main wheels.

F = 381.2 inches, the distance from the reference datum to the center line of the nose or tail wheel.



DIAGRAMS FOR MEASURING VARIOUS TYPES OF AIRCRAFT TO DETERMINE ARM OF SUPPORT POINTS

AIRCRAFT WEIGHING RECORD (CONT'D)

DESCRIPTION	NET WEIGHT	ARM	MOMENT	MOMENT/1000
TOTAL (As Weighed)	6604		743,915.8	X
OIL IN AIRCRAFT	- 119	93	- 11,067	X
TOTAL OF ITEMS WEIGHED BUT NOT PART OF BASIC WEIGHT (From Col. 1 Below)	-		-	X
TOTAL OF BASIC ITEMS NOT IN AIRPLANE WHEN WEIGHED (From Col. 2 Below)	+		+	X
BASIC AIRCRAFT	6485	C. of G 113.0	732,848.8	733

COLUMN 1				COLUMN 2			
ITEMS WEIGHED BUT NOT PART OF BASIC WT	WEIGHT	ARM	MOMENT	BASIC ITEMS NOT IN AIRCRAFT WHEN WEIGHED	WEIGHT	ARM	MOMENT
TOTAL		X		TOTAL		X	

Remarks: Type of Scales used Cox & Stevens Electronic Scale
 Method of Support Main U/C wheels and tail jack point
 Attitude (Level-Normal) Level

Whenever possible aircraft are to be weighed with all and only basic equipment installed. If any item of basic equipment is missing, it must be recorded in Column 2. Items weighed, but not part of the basic equipment, must be noted in Column 1. Items listed in column 1 and/or column 2 must be considered when finding the CG of the Basic Aircraft.

