



FAA APPROVED

Airplane Flight Manual Supplement No. 1

FOR

MAULE MX-7-160C

Reg. No. _____

Ser. No. _____

This Supplement must be attached to the FAA Approved Airplane Flight Manual dated **12 March 1999** when a Maule Model **MX-7-160C** aircraft is registered in **Canada**.

The information contained herein supplements the information of the basic Airplane Flight Manual; for limitations, procedures and performance information consult the basic Airplane Flight Manual.

FAA APPROVED: Eugene L. Bolin
for Manager, Aircraft Certification Office
Federal Aviation Administration
Atlanta, Georgia USA

DATE: SEP 03 1999

Page 1 of 6

ITS PERFORMANCE THAT COUNTS!
2099 Georgia Hwy. 133 South~Moultrie, GA 31768
Tel: 912-985-2045~Fax: 912-890-2402

MAULE AEROSPACE TECHNOLOGY, INC.
AFM SUPPLEMENT No. 1
FOR MAULE *MX-7-160C*

The following Conversion Charts facilitate conversions between metric, imperial and U.S. units.

1. WEIGHT CONVERSIONS:

(Kilograms x 2.205 = Pounds) ~ (Pounds x .454 = Kilograms)

KILOGRAMS INTO POUNDS
KILOGRAMMES EN LIVRES

kg	0	1	2	3	4	5	6	7	8	9
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
0	..	2.205	4.409	6.614	8.819	11.023	13.228	15.432	17.637	19.842
10	22.046	24.251	26.456	28.660	30.865	33.069	35.274	37.479	39.633	41.828
20	44.093	46.297	48.502	50.706	52.911	55.116	57.320	59.525	61.729	63.934
30	66.139	68.343	70.548	72.753	74.957	77.162	79.366	81.571	83.776	85.980
40	88.185	90.390	92.594	94.799	97.003	99.208	101.41	103.62	105.82	108.03
50	110.23	112.44	114.64	116.85	119.05	121.25	123.46	125.66	127.87	130.07
60	132.28	134.48	136.69	138.89	141.10	143.30	145.51	147.71	149.91	152.12
70	154.32	156.53	158.73	160.94	163.14	165.35	167.55	169.76	171.96	174.17
80	176.37	178.57	180.78	182.98	185.19	187.39	189.60	191.80	194.01	196.21
90	198.42	200.62	202.83	205.03	207.24	209.44	211.64	213.85	216.05	218.26
100	220.46	222.67	224.87	227.08	229.28	231.49	233.69	235.90	238.10	240.30

POUNDS KILOGRAMS

220	100
210	95
200	90
190	85
180	80
170	75
160	70
150	65
140	60
130	55
120	50
110	50
100	45
90	40
80	35
70	30
60	25
50	20
40	15
30	10
20	5
10	5
0	0

POUNDS INTO KILOGRAMS
LIVRES EN KILOGRAMMES

lb.	0	1	2	3	4	5	6	7	8	9
	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg
0	..	0.454	0.907	1.361	1.814	2.268	2.722	3.175	3.629	4.082
10	4.536	4.990	5.443	5.897	6.350	6.804	7.257	7.711	8.165	8.618
20	9.072	9.525	9.979	10.433	10.886	11.340	11.793	12.247	12.701	13.154
30	13.608	14.061	14.515	14.969	15.422	15.876	16.329	16.783	17.237	17.690
40	18.144	18.597	19.051	19.504	19.958	20.412	20.865	21.319	21.772	22.226
50	22.680	23.133	23.587	24.040	24.494	24.948	25.401	25.855	26.308	26.762
60	27.216	27.669	28.123	28.576	29.030	29.484	29.937	30.391	30.844	31.298
70	31.752	32.205	32.659	33.112	33.566	34.019	34.473	34.927	35.380	35.834
80	36.287	36.741	37.195	37.648	38.102	38.555	39.009	39.463	39.916	40.370
90	40.823	41.277	41.731	42.184	42.638	43.091	43.545	43.999	44.452	44.906
100	45.359	45.813	46.266	46.720	47.174	47.627	48.081	48.534	48.988	49.442

Units x 10, 100, etc

FAA APPROVED
 DATE: SEP 03 1999

MAULE AEROSPACE TECHNOLOGY, INC.
AFM SUPPLEMENT No. 1
FOR MAULE **MX-7-160C**

2. LENGTH CONVERSIONS:

(Meters x 3.281 = Feet) ~ (Feet x .305 = Meters)

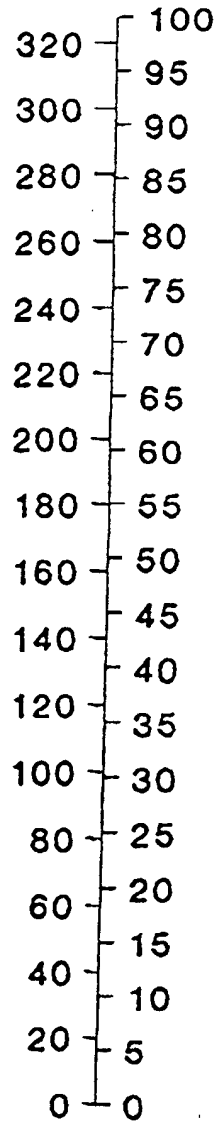
**METRES INTO FEET
METRES EN PIEDS**

m	0	1	2	3	4	5	6	7	8	9
	feet	feet	feet	feet	feet	feet	feet	feet	feet	feet
0		3.281	6.562	9.842	13.123	16.404	19.685	22.966	26.247	29.528
10	32.808	36.089	39.370	42.651	45.932	49.212	52.493	55.774	59.055	62.336
20	65.617	68.897	72.178	75.459	78.740	82.021	85.302	88.582	91.863	95.144
30	98.425	101.71	104.99	108.27	111.55	114.83	118.11	121.39	124.67	127.95
40	131.23	134.51	137.79	141.08	144.36	147.64	150.92	154.20	157.48	160.76
50	164.04	167.32	170.60	173.88	177.16	180.45	183.73	187.01	190.29	193.57
60	196.85	200.13	203.41	206.69	209.97	213.25	216.53	219.82	223.10	226.38
70	229.66	232.94	236.22	239.50	242.78	246.06	249.34	252.62	255.90	259.19
80	262.47	265.75	269.03	272.31	275.59	278.87	282.15	285.43	288.71	291.99
90	295.27	298.56	301.84	305.12	308.40	311.68	314.96	318.24	321.52	324.80
100	328.08	331.36	334.64	337.93	341.21	344.49	347.77	351.05	354.33	357.61

**FEET INTO METRES
PIEDS EN METRES**

feet	0	1	2	3	4	5	6	7	8	9
	metres	metres	metres	metres	metres	metres	metres	metres	metres	metres
0		0.305	0.610	0.914	1.219	1.524	1.829	2.134	2.438	2.743
10	3.048	3.353	3.658	3.962	4.267	4.572	4.877	5.182	5.486	5.791
20	6.096	6.401	6.706	7.010	7.315	7.620	7.925	8.230	8.534	8.839
30	9.144	9.449	9.754	10.058	10.363	10.668	10.973	11.278	11.582	11.887
40	12.192	12.497	12.802	13.106	13.411	13.716	14.021	14.326	14.630	14.935
50	15.240	15.545	15.850	16.154	16.459	16.764	17.069	17.374	17.678	17.983
60	18.288	18.593	18.898	19.202	19.507	19.812	20.117	20.422	20.726	21.031
70	21.336	21.641	21.946	22.250	22.555	22.860	23.165	23.470	23.774	24.079
80	24.384	24.689	24.994	25.298	25.603	25.908	26.213	26.518	26.822	27.127
90	27.432	27.737	28.042	28.346	28.651	28.956	29.261	29.566	29.870	30.175
100	30.480	30.785	31.090	31.394	31.699	32.004	32.309	32.614	32.918	33.223

FEET METRES



Units x 10, 100, etc.

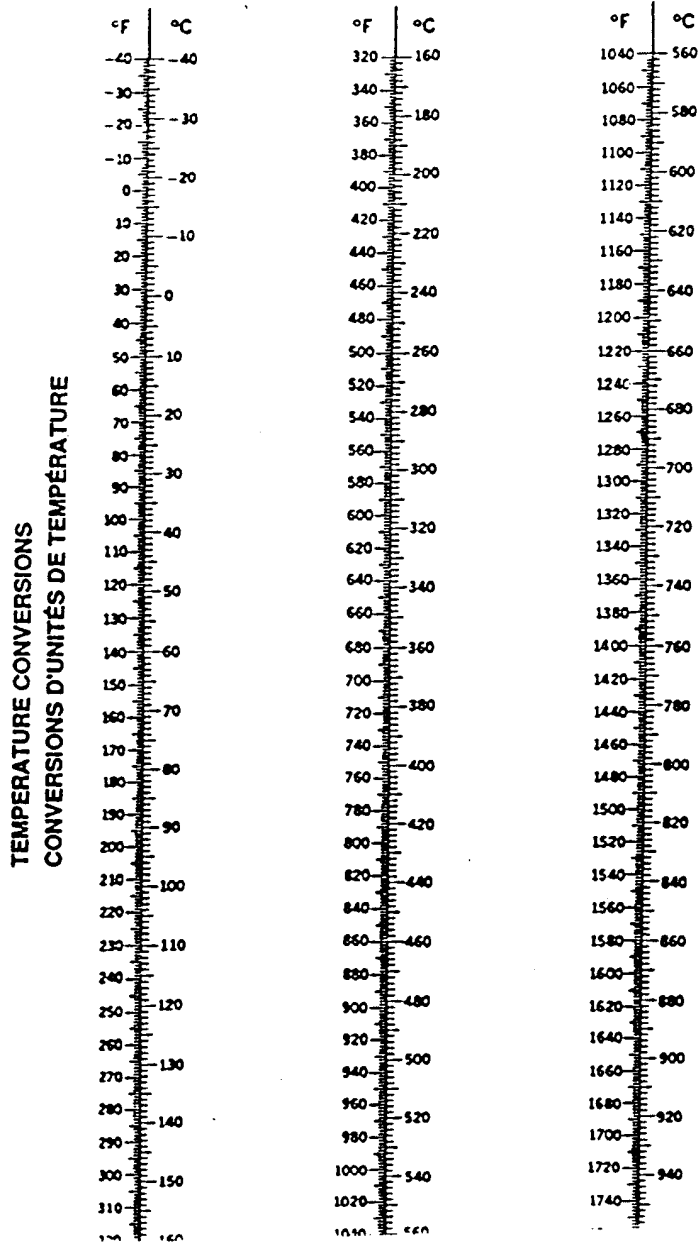
FAA APPROVED
DATE: SEP 03 1999

MAULE AEROSPACE TECHNOLOGY, INC.
AFM SUPPLEMENT No. 1
FOR MAULE **MX-7-160C**

3. TEMPERATURE CONVERSIONS:

$$(^{\circ}\text{F} - 32) \times 5/9 = ^{\circ}\text{C} \times 9/5 + 32 = ^{\circ}\text{F}$$

TEMPERATURE CONVERSIONS



FAA APPROVED
DATE: SEP 03 1999

MAULE AEROSPACE TECHNOLOGY, INC.
 AFM SUPPLEMENT No. 1
 FOR MAULE **MX-7-160C**

4. VOLUME CONVERSIONS:

(Imperial Gallons x 1.2 = US Gallons) ~ (US Gallons x .833 = US Gallons)
 (US Gallons x 3.785 = Liters) ~ (Liters x .264 = US Gallons)

IMPERIAL GALLONS	US GALLONS	US GALLONS	LITRES
100	120	100	
95	115	95	360
90	110	90	340
85	105	85	320
80	100	80	300
75	95	75	280
70	90	70	260
65	85	65	240
60	80	60	220
55	75	55	200
50	70	50	180
45	65	45	160
40	60	40	140
35	55	35	120
30	50	30	100
25	45	25	80
20	40	20	60
15	35	15	40
10	30	10	20
5	25	5	0
0	20	0	0

Units x 10, 100, 1000, etc.

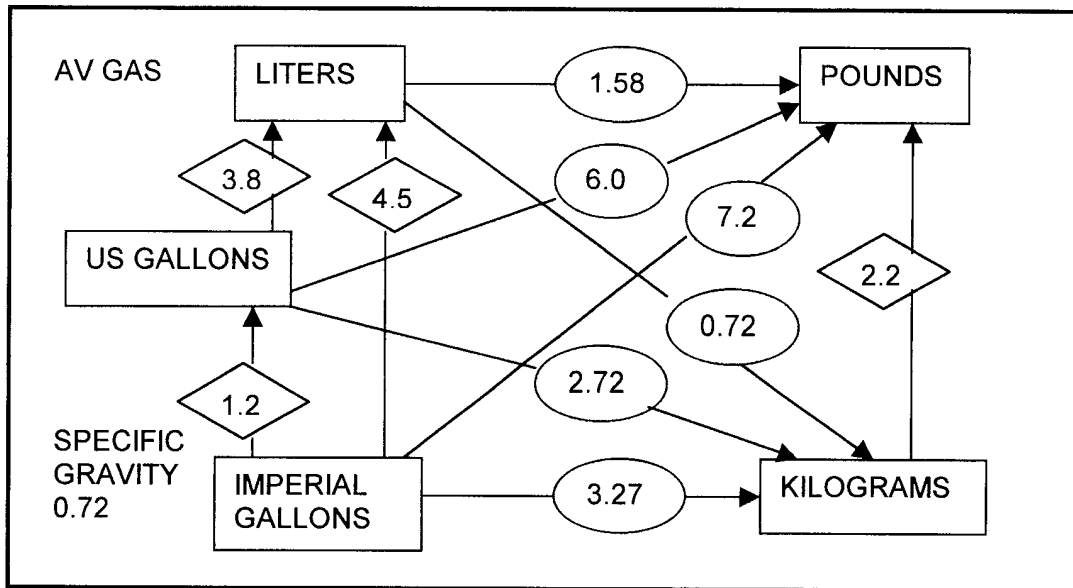
FAA APPROVED
 DATE: SEP 03 1999

Page 5 of 6

MAULE AEROSPACE TECHNOLOGY, INC.
AFM SUPPLEMENT No. 1
FOR MAULE **MX-7-160C**

5. **QUICK CONVERSIONS:**

In a world of US, Imperial and metric measures, below is a quick way to convert from one system to another. Follow arrow and multiply; backtrack the arrow and divide. Bear in mind that these figures are approximations for quick reference but with enough accuracy to eliminate gross errors.



FAA APPROVED
DATE: SEP 03 1999

Page 6 of 6



FAA APPROVED

Airplane Flight Manual Supplement No. 2

FOR

MAULE MX-7-160C


Reg. No. _____

Ser. No. _____

This Supplement must be attached to the FAA Approved Airplane Flight Manual dated **March 12, 1999** when **AQUA Model 2200 Floats** are installed in accordance with **Maule Drawing 9225A**.

The information contained herein supersedes and supplements the information of the basic Airplane Flight Manual; for limitation, procedures and performance information not contained in this Supplement, consult the basic Airplane Flight Manual.

FAA APPROVED:



Manager, Aircraft Certification Office
Federal Aviation Administration
Atlanta, Georgia

DATE: **OCT 29 2002**

Page 1 of 9

ITS PERFORMANCE THAT COUNTS!
2099 Georgia Hwy. 133 South~Moultrie, GA 31768
Tel: 229-985-2045~Fax: 229-890-2402

MAULE AEROSPACE TECHNOLOGY, INC.
AFM SUPPLEMENT NO. 2
FOR **MAULE MX-7-160C**
on AQUA 2200 FLOATS

LOG OF REVISIONS

REV.	TO PAGES	DESCRIPTION	APPROVAL AND DATE

MAULE AEROSPACE TECHNOLOGY, INC.
AFM SUPPLEMENT NO. 2
FOR **MAULE MX-7-160C**
on AQUA 2200 FLOATS

SECTION I

GENERAL: NORMAL CATEGORY OPERATION

- 1.1 **MAXIMUM WEIGHT:** 2200 lbs.
- 1.2 **CENTER OF GRAVITY LIMITS:** +14.6 to +20.5 inches @ 2200 lbs.
+13.5 to +20.5 inches @ 1600 lbs. or less

Straight line variation between points given
Datum: Wing leading edge

SECTION II

LIMITATIONS

- 2.1 **AIRSPPEED LIMITS:** (IAS)
- A. AIRSPPEED INDICATOR MARKINGS:
Red Radial – VNE 142 K (164 MPH)
- B. EXPLANATION OF AIRSPPEED INDICATOR MARKINGS:
Red Radial Line - Never Exceed Speed (V_{NE}) (Seaplane), 142 K (164 mph):
Maximum safe speed smooth air.

- 2.4 **PLACARDS:**

The following placards are in the cockpit in clear view of the pilot:

RETRACT WATER RUDDER FOR FAST TAXI, TAKEOFF AND LANDING.

SEAPLANE FLAP LIMITATIONS
TAKEOFF - 24° (2ND NOTCH) MAX.
LANDING - 40° (3RD NOTCH) MAX.

Located adjacent to Airspeed Indicator:

SEAPLANE V_{NE} 142 KTS (Airspeed Indicator calibrated in Knots)

SEAPLANE V_{NE} 164 MPH (Airspeed Indicator calibrated in MPH)

FAA APPROVED
DATE: OCT 29 2002

Page 3 of 9

SECTION III

NORMAL PROCEDURES

3.1 PREFLIGHT INSPECTION:

B. EXTERIOR:

- | | |
|--|---|
| 1. Airplane Flight Manual and Approved Flight Manual Supplement..... | AVAILABLE IN THE AIRPLANE |
| 31. Floats..... | CHECK FOR ATTACHMENT AND WATER RUDDER RIGGING |
| 32. Float Compartments..... | INSPECT FOR WATER ACCUMULATION |

3.2 OPERATION CHECK LIST:

D. BEFORE TAKEOFF:

- | | |
|------------------------|---|
| 2. Wing Flaps..... | 2 ND NOTCH FOR T.O.
(MAXIMUM 24°) |
| 16. Water Rudders..... | RETRACT |

E. BEFORE LANDING:

- | | |
|-----------------------|--|
| 5. Flaps..... | 3 RD NOTCH FOR LANDING
(MAXIMUM 40°) |
| 6. Water Rudders..... | RETRACT |

3.3 NORMAL FLIGHT OPERATIONS:

B. RECOMMENDED FLAP SETTINGS:

Flap settings are given in number of notches above the fully retracted position which is handle full down (Normal -7°).

Normal Takeoff - Use Second Notch (24°) for takeoff. When clear of obstacles and above 65 K (75 mph), retract to First Notch (0°) and climb at 78 K (90 mph).

SECTION V

5.1 WEIGHT AND BALANCE DATA:

Weight and Balance Data pages 5 through 9 of this supplement are in effect for this modification, with exception, new Basic Empty Weight for entry on the following page 5 may be computed using Equipment Change page 25 in Weight and Balance Data of the Airplane Flight Manual in lieu of reweighing Floatplane per pages 6, 7 and 8 of this supplement.

FAA APPROVED
DATE: **OCT 29 2002**

Page 4 of 9

SECTION V

5.1 **WEIGHT AND BALANCE:**

Serial Number _____ Registration Number _____

It is the responsibility of the airplane owner and the pilot to insure that the airplane is loaded properly. The empty weight, empty weight center of gravity and useful load are listed below for this airplane. If the airplane has been altered, refer to the aircraft log and/or aircraft records for this information.

WEIGHT AND BALANCE DATA SUMMARY:

Basic Empty Weight (including engine oil)..... _____ Lbs.
Gross Weight..... 2200 _____ Lbs.
Useful Load..... _____ Lbs.
Empty Center of Gravity..... _____ Inches
Empty Weight Moment..... _____ Inch Lbs.

CENTER OF GRAVITY RANGE:

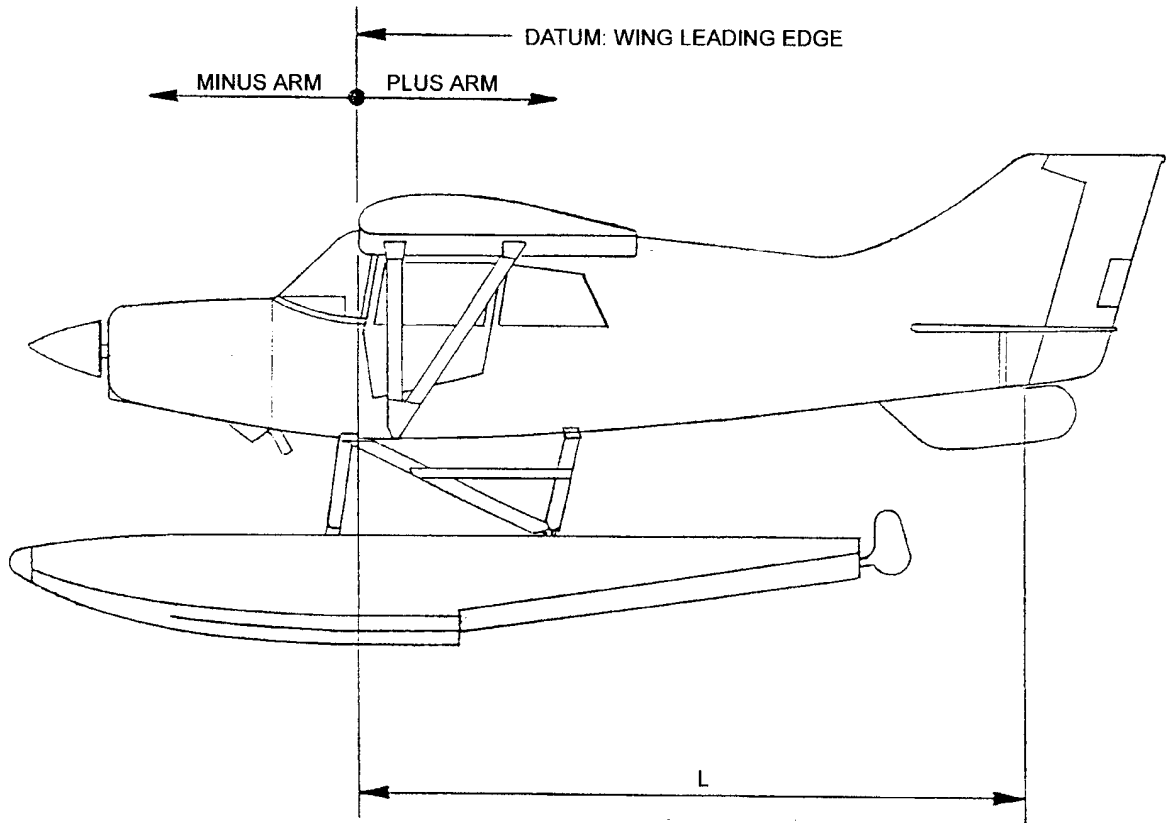
<u>Center of Gravity Range</u>	<u>At Weight of</u>
+14.6 to +20.5 inches	2200 lbs.
+13.5 to +20.5 inches	1600 lbs. or less

NOTE: Straight line variation between given points
DATUM: Wing leading edge

CERTIFIED BY _____ DATE _____

5.1 WEIGHT AND BALANCE: (Cont'd)

DETAILED CALCULATIONS OF EMPTY WEIGHT AND EMPTY WEIGHT CENTER OF GRAVITY:



PROCEDURE:

1. Using a block and tackle, lift the airplane and place each float on a scale at approximately the datum.
2. Elevate the tail on a scale to the approximate flight attitude. The tail weight point is preferably directly beneath the rear fin attach point and a round metal rod should be placed between the fin and the tare of scale.
3. Place a level on the leveling mark and leveling lug on the bottom of the right wing near the root. Adjust the height of the tail until the level reads level. Be sure the aft end of the level is even with the aft leveling mark.

5.1 WEIGHT AND BALANCE: (Cont'd)

4. Using a plumb bob, mark the outsides of the floats at the datum. Raise the airplane off the scales and pass a string under the float keels between these marks. Mark the keels at the datum.
 5. Place a round rod between the keel and the scale at the datum mark and carefully lower the floats onto the scale, being sure the rod remains under the datum mark.
 6. Level the aircraft again per step 3.
 7. Insure that each main fuel tank has 2.3 gallons of fuel in it or if totally empty, place a 13.8 lb. weight over each main tank 24 inches aft of the wing leading edge. Check to be sure the engine has approximately 8 quarts of oil in it.
 8. Record the following weights:
 - a. Right Float, with tare, = _____ lbs., minus
tare of _____ lbs., = net Right Float weight of _____ lbs.
 - b. Left Float, with tare, = _____ lbs., minus
tare of _____ lbs., = net Left Float weight of _____ lbs.
 - c. Tail, with tare, = _____ lbs., minus
tare of _____ lbs., = net Tail weight (**T**) of _____ lbs.
- TOTAL EMPTY WEIGHT (**W**) = _____ lbs.
9. Measure the horizontal distance from the datum to the tail weight point, (L).

L = _____ inches

The above empty weight includes unusable fuel of 27.6 lbs. at 24 inches and 8 quarts of oil at minus 36.5 inches, plus all items of equipment as marked on the accompanying equipment lists. The certificated empty weight is the above weight less 16 lbs. drainable oil at a minus arm of 36.5 inches and for this airplane is _____ lbs. The corresponding empty weight center of gravity is _____ inches.

5.1 WEIGHT AND BALANCE: (Cont'd)

10. Calculations for determining weight, C.G. and moment:

a. Center of Gravity (inches) = $\frac{L \times T}{W}$

i.e., C.G. = _____ x _____ = _____ inches.

b. Moment (inch pounds) = **W** x C.G.

i.e., Moment = _____ x _____ = _____ inch lbs.

EXAMPLE OF WEIGHT AND BALANCE CALCULATION FOR LOADED AIRCRAFT:

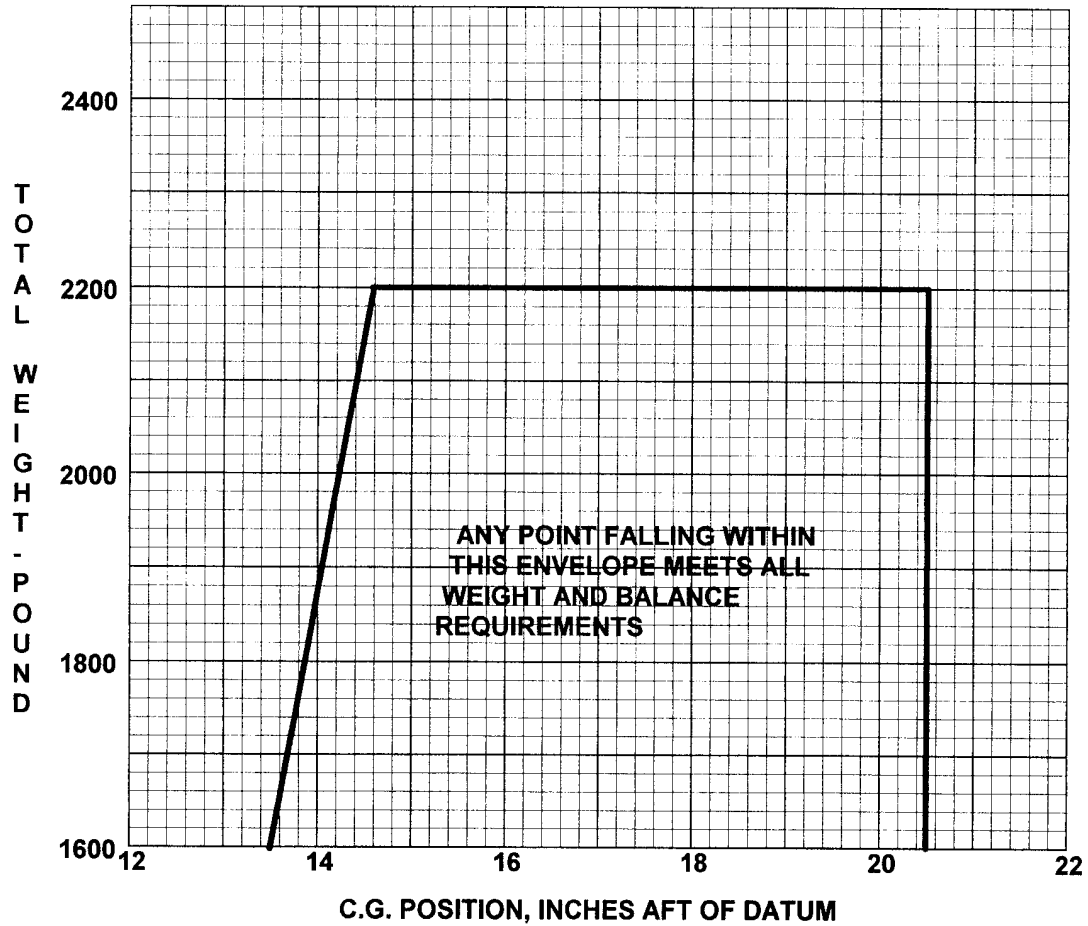
An airplane with an empty weight of 1665 lbs. and an empty weight C.G. of 15.3 inches is loaded with a pilot, front seat passenger and fuel.

Item	Weight, lbs.	Arm, Ins.	Moment, In.lbs.
Empty Weight (including engine oil)	1665	15.3	25,475
Pilot and Front Passenger	340		6,800
Fuel - 32 gal. in Mains	<u>192</u>		<u>4,608</u>
	2197	16.8	36,883

*Moments can be read directly from the loading graph in the basic Flight Manual.

By locating the point corresponding to 2197 lb. aircraft weight and C.G. location of 16.8 inches on Center of Gravity Envelope graph, you can see that this point falls within the envelope, signifying the loading is acceptable.

WEIGHT AND BALANCE ENVELOPE



MX-7-160C ON AQUA 2200 FLOATS