

WINONA, MS 38967

922.33
82319.43

SERIAL#: 24-1003

REVISÉD WEIGHT & BALANCE

ITEM	WEIGHT	ARM	MOMENT
AIRCRAFT EMPTY WEIGHT	1,617.67	45.29	62,319.43
REMOVED			
KY197	-3.20	21.00	-67.20
KNS80	-6.00	21.00	-126.00
KR87	-3.20	21.00	-67.20
NORTHSTAR GPS	-4.00	21.00	-84.00
GPS ANTENNA	-0.50	40.00	-20.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
TOTAL FROM REMOVALS:	-16.90		-364.40
INSTALLED			
GTN650	6.80	21.00	142.80
GA35	0.50	40.00	20.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00
TOTAL FROM INSTALLS	7.30		162.80

NEW EMPTY WEIGHT:	1,808.07
NEW EMPTY WEIGHT CG:	45.42
NEW USEFUL LOAD:	931.93
NEW MOMENT:	82,117.83

AUTHORIZING SIGNATURE:
 CERTIFICATE NO: HVDR337X
 TYPE: REPAIR STATION

THIS SUPPLEMENT SUPERCEDES PREVIOUS WEIGHT AND BALANCE

PILOT'S LOADING GUIDE

LOADING CALCULATION PROCEDURE

Proper loading of the aircraft is essential! for maximum flight performance and safety. This section will assist you in determining whether the aircraft loading schedule is within the approved weight and center-of-gravity limits.

To figure an actual loading problem for your aircraft, proceed as follows:

Step 1. Refer to the latest entry on page 6-5 for the current empty weight and moment.

NOTE: Since the engine oil is normally kept at the full level, use the oil weight and moment figures shown in the sample problems as constants in calculating all loading problems.

Step 2. Note the pilot's weight and the position his seat will occupy in flight. Find this weight on the left scale of the Loading Computation Graph (page 6-7) and cross the graph horizontally to the point representing the pilot's seat position between the FWD and AFT position lines on the graph for #1 and #2 seats. When this point is located, drop down to the bottom scale to find the value of the moment/1000 due to the pilot's weight and seat position,

Repeat the procedure for the copilot and enter these weights and moment/1000 values in the proper subcolumns in the Problem Form on page 6-7.

Step 3. Proceed as in Step 2 to account for the passengers in seats 3 and 4. Enter the weight and value of moment/1000 in the proper columns.

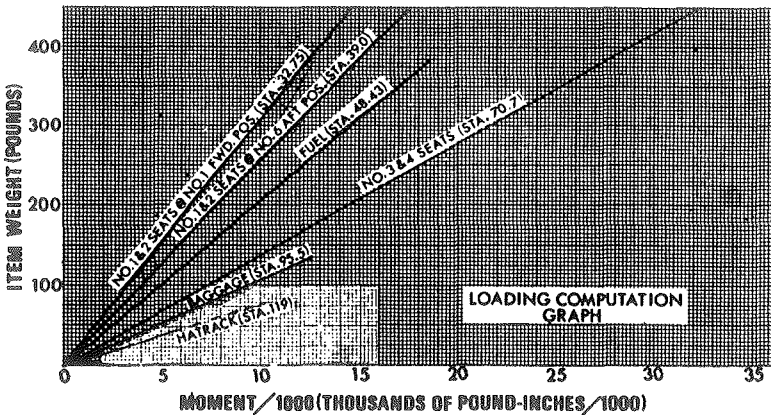
Step 4. Again proceed as in Step 2 to account for the amount of fuel carried, and enter the weight and moment/1000 values in the proper columns.

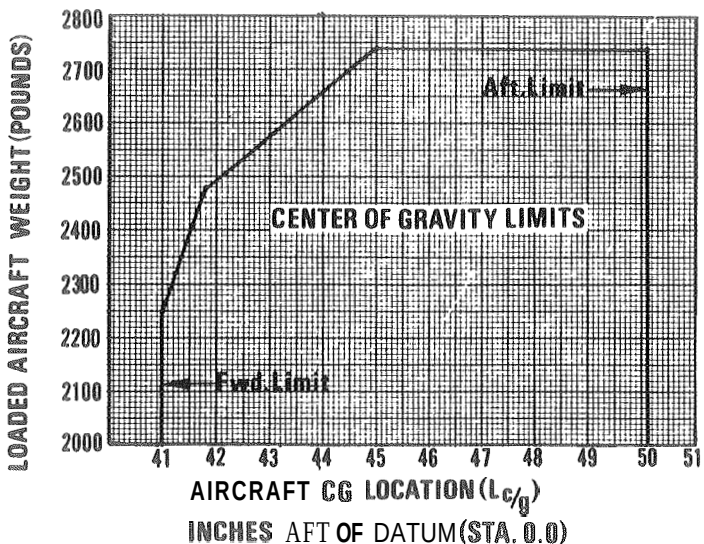
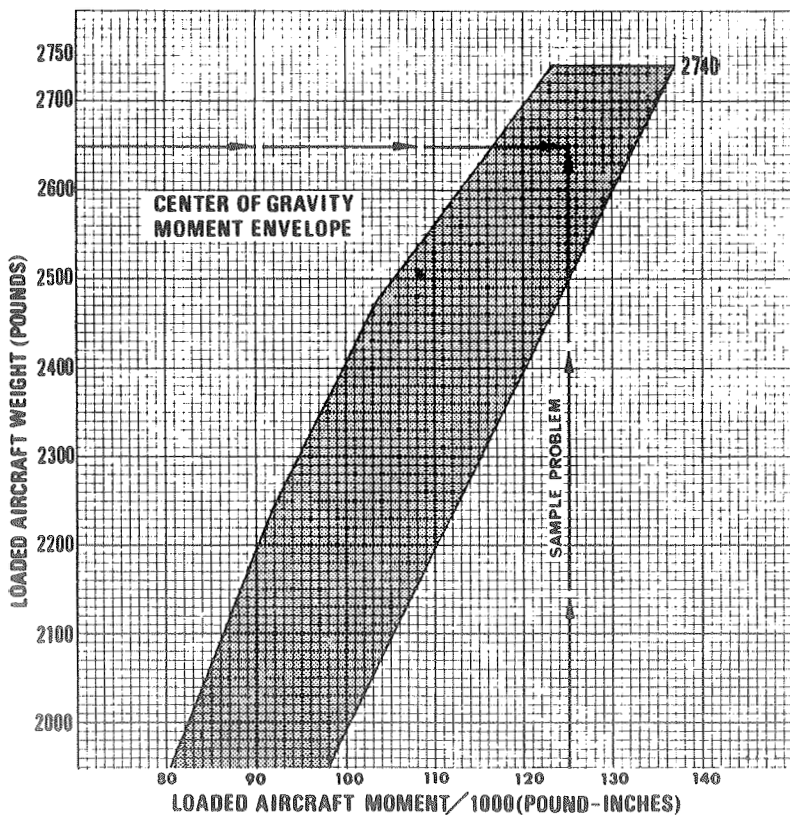
PROBLEM FORM

FAA REGISTRATION NO _____

M20J SERIAL NO _____

STEP	ITEM	SAMPLE PROBLEM			YOUR PROBLEM		
		WEIGHT (Kg) Lbs	MOMENT (Kg-cm /1000) lb-in /1000		WEIGHT (Kg) Lbs	MOMENT (Kg-cm /1000) lb-in /1000	
1.	A/C Basic Empty Wt.(W) (from page 6-5) (Includes Full Oil) 8 Qts.(7.6 Li) @1.875lbs /Qt.(.80 Kg/Li)(Sta. -11.5)(-29.2 cm) (Oil sump assumed FULL for all flights)	(775.7) 1710	(86.72) 75.26				
2.	Pilot Seat (#1)(2nd pos.) *	(77.1) 170	(6.9) 6.0				
	Co-Pilot Seat (#2)(fwd. pos.) *	(77.1) 170	(6.7) 5.8				
3.	Left Rear Seat (#3) or Cargo Area	(77.1) 170	13.8 12.0				
	Right Rear Seat (#4) or Cargo Area						
4.	Fuel (Max. Usable - 64.0 Gal/384 Lbs) (242.4Li/174.2Kg) @ Sta 48.43(123cm)	(141.5) 312	(17.4) 15.1				
	Baggage (Max. 120 Lbs(54.4 cm)@Sta.101.5 (257.8 cm)	(49.9) 110	(12.1) 10.5				
5.	Hat Rack (Max. 10 Lbs(4.54 Kg)@Sta. 95.5 (242.6 cm)	(1.4) 3	(.41) .36				
	Loaded A/C Weight	(1218) 2645					
6.	Total Moment		(145.9) 124.7				
7.	Refer to Center of Gravity Moment Envelope, to determine whether your A/C loading is acceptable. CAUTION-DO NOT LAND A/C WHEN OVER 3200 LBS EXCEPT IN AN EMERGENCY SITUATION.						
* Obtain the moment/1000 value for such seat position [FWD, MID or AFT] from loading computation graph.							





- Wep 5. Once more proceed as in Step 2 to account for the baggage to be carried and enter the figures in the proper columns.
- Step 6. Total the weight columns. This total must be 2740 pounds or less. Total the Moment/1000 column. Do not forget to subtract negative numbers,
- Step 7. Refer to the Center-of-Gravity Moment Envelope (page 6-8). Locate the loaded weight of your airplane on the left scale of the graph and trace a line horizontally to the right. Locate the total moment/1000 value for your airplane on the bottom scale of the graph and trace a line vertically above this point until the horizontal line for weight is intersected. If the point of intersection is within the shaded area, your aircraft loading *is* acceptable. If the point of intersection falls outside the shaded area, you must rearrange the load before takeoff.

EQUIPMENT LIST

The following Equipment List is a listing of all items approved at the time of publication for the Mooney M20.

Only those items having an X in the "Mark If Installed" column and dated were installed at Mooney.

If additional equipment is to be installed it must be done in accordance with the reference drawing or a separate FAA approval.

NOTE

Positive arms are distances aft of the airplane datum. Negative arms are distances forward of the airplane datum.

Asterisks (*) after the item weight and arm indicate complete assembly installations. Some major components of the assembly are listed and indented on the lines following. The summation of the major components will not necessarily equal the complete assembly installation.