Mooney Aircraft, Inc.

Kerrville, Texas

MOONEY MODEL TWENTY C
ACTUAL WEIGHT & BALANCE DATA

F.A.A. Identification No. _____
Serial No. _____

Date_____

1. WEIGHT LIMITS:

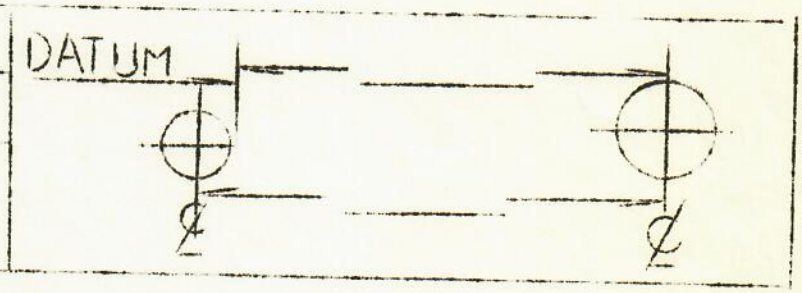
Maximum weight is 2575 pounds.
It is the responsibility of the airplane owner and of the pilot to insure that the airplant is properly loaded. The empty weight, empty weight C.G., and useful load are noted below for this airplane as delivered from the factory. If the airplane or equipment have been altered, refer to the latest Approved Repair and Alteration Form (ACA-337) for this information.

2. C.G. LIMITS:
C.G. Envelope: 2100 lbs. at 42" (15.0% MAC) to 2575 lbs. at 46.5" (22.6% MAC) to 2575 lbs. at 49.0" (26.8% MAC). Straight line variation between respective limits. All with landing gear extended.

3. EMPTY WEIGHT & WEIGHT C.G. LOCATION:

Actual weight empty, as weighed. (Includes residual oil and unusuable fuel: 3.38 lbs. at 48.4" Main.)

Item	Weight
Right Main Wheel	
Left Main Wheel	
Nose Wheel	
Weight Empty as Weighed	



Horizontal Datum is Centerline of Nose Gear Support Bolts (Sta. 0) and is 33.0" forward of Wing L.E. at Wing Sta. 59.25 (inboard edge of stall strip). MAC is 59.2". L.E. of MAC is 33.1" aft Datum. Leveling means: Door sill (parallel to thrust line). Spirit level is used to level.

Computations:

C.G. Forward of Main Wheels = _____ x _____/ _____ = _____";

C.G. aft Datum = _____ - _____ = _____";

C.G. % MAC = (_____ - 33.1)/59.2 = _____/ 59.2 = _____%MAC

The Empty Weight C.G. location is with the landing gear extended and with both front seats in the forward location. (40.0"). Each seat weighs 17.0 pounds. Maximum seat travel is 7.5" in 6 equal adjustments. Moment change per seat in aft position, (47.5") is 128 in.lbs.

F.A.A. Identification No._____ Date_____

4. EQUIPMENT LIST:

The following equipment was installed in this airplane as delivered from the factory and is included in the Empty Weight:

Check Items Installed

	No.		Wt.	Arm
	4.	Hartzell Constant Speed Propeller		
( )	(a)	Hartzell HC-C2YK Hub with 1/7666-2 Blades	53.75	(-30.16)
( )	(b)	Hartzell Spinner Assembly 835-20	3.25	(-29.18)
( )	(c)	Hartzell Governor D-1-4	4.5	(+3.6)
	5.	McCauley Constant Speed Propeller		
( )	(a)	McCauley 2D34C53-A Hub W/74E-0 Blade	49.25	(-30.31)
( )	(b)	McCauley D-2808 Dome, D-3148 Bulkhead & Fillet Assembly	3.25	(-29.18)
( )	(c)	Woodward 210345 Propeller Governor	3.0	(+4.0)
	101.	Fuel Pumps		
(x)	(a)	One Engine-Driven Pump, AC Type AH	1.5	(+1.2)
(x)	(b)	One Electric Pump, Bendix 476087	1.8	(+19.0)
(x)	102.	Oil Radiator		
	(b)	Harrison 8526250	2.0	(-18.0)
(x)	103.	Carburetor Air Filter, Air-Maze 13219	1.0	(-17.0)
(x)	104.	Starter		
	(c)	Delco-Remy 1109689	17.8	(-18.0)
(x)	201.	Two Main Wheel-Brake Assemblies, 6.00-6		
	(c)	Cleveland Model DHB-3 Wheel Assembly No. 40-24 Brake Assembly No. 35-5	19.1	(64.5)
(x)	202.(a)	Two Main Wheel 6-Ply Rating Tires, 6.00-6 Type III, with Regular Tubes	17.0	(+64.5)
(x)	205.	One Nose Wheel, 5.00-5, Type III		
	(b)	Cleveland Model 40-33	4	(-2.0)
(x)	206.(a)	One Nose Wheel 4-Ply Rating Tire, 5.00-5 Type III, with Regular Tube	7	(-2.0)
(x)	301.	Electric Generator		
	(c)	50 AMP, Delco-Remy 1101915	16.6	(-19.5)
(x)	302.(c)	Auto-Lite Battery R-35	28.0	(+2.5)
(x)	303.	Voltage Regulator		
	(c)	50 AMP, Delco-Remy 1119224	2.0	(+7.0)
(x)	401.	FAA Approved Airplane Flight Manual dated 10-20-61 for M20C or 10-15-62 for M20D		
(x)	601.	Stall Warning Indicator, Safe-Flight Model 164R	1.0	(+28.0)
	602.	Vacuum System		
( )	(a)	In Accordance With Mooney Dwg. 610012 (8614)	6.0	(+2.0)
	603.	Instruments		
( )	(a)	Horizon Gyro	4.5	(+19.0)
( )	(b)	Directional Gyro	4.0	(+20.0)
( )	(c)	Clock	.4	(+23.8)
( )	(d)	Outside Air Temperature Gauge	.2	(+33.0)
( )	(e)	Rate of Climb Indicator	1.5	(+22.3)

MOONEY AIRCRAFT, INC. Kerrville, Texas

MOONEY M20C & M20D
ACTUAL WEIGHT & BALANCE DATA

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4. EQUIPMENT LIST (Con't.)

	No.		Wt.	Arm
( )		(f) Electric Turn & Bank Indicator	1.9	(+21.4)
( )	604.	Cigarette Lighter	.2	(+21.0)
( )	605.	Rotating Beacon, Grimes, In Accordance With Mooney Dwg. 950018 (8234)	2.0	(+163.0)
( )	606.	Dual Controls	3.5	(+14.0)
( )	607.			
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5. EMPTY WEIGHT AFTER INSTALLATION OF OPTIONAL EQUIPMENT:

Item	Weight	Arm	Moment
Weight Empty as Weighed			

Computed Empty Weight & C.G.

*Added after Production Weight & Balance
**Rebuilt Instruments
***Removed after Production Weight & Balance

Revised 11-9-62

MOONEY MODEL TWENTY C
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F.A.A. Identification No. _____ Date_____

6. WEIGHT & BALANCE LOADING COMPUTATIONS

A. Most Forward at any Weight

Item	Weight	Arm	Moment
Weight Empty			
Oil (2 Gals.)	15	7.4	-111
Front Seats moved aft _____" each	--	--	
Pilot (_____Position of Seat)	170		
Pilot or Passenger (_____Position of Seat)	170		
Fuel (15.0 Gals. Minimum in Tanks)	90	48.4	4356
Weight & C.G.			

Maximum Allowable Weight at _____" = 2100 + 106 (_____ - 42.0 = _____lbs.

B. Most Forward Loading with Full Tank

Item	Weight	Arm	Moment
Weight Empty			
Oil (2 Gals.)	15	7.4	-111
Front Seats moved aft _____" each	--	--	
Pilot (_____Position of Seat)	170		
Pilot or Passenger (_____Position of Seat)	170		
Fuel (48.0 Gals. Maximum in Tanks)	288	48.4	13,939
Weight & C.G.			

Maximum Allowable Weight at _____" = 2100 + 106 (_____ - 42.0) = _____lbs.

C. Most Forward Loading at Gross Weight

Item	Weight	Arm	Moment
Weight Empty			
Oil (2 Gals.)	15	7.4	-111
Front Seats moved aft _____" each	--	--	
Pilot (_____Position of Seat)	170		
Pilot or Passenger (_____Position of Seat)	170		
Fuel (_____Maximum)		48.4	
Rear Passengers (2)	340	70.7	24,038
Baggage		93.0	
Weight & C.G.			

Allowable Weight & C.G. 2575 lbs. at 46.5

D. Most Rearward Loading at Gross or any Weight

Item	Weight	Arm	Moment
Weight Empty			
Oil (2 Gals.)	15	7.4	-111
Front Seats moved aft _____" each	--	--	
Pilot (_____Position of Seat)	170		
Pilot or Passenger (_____Position of Seat)	170		
Fuel (_____Gals.)		48.4	
Rear Passengers (2)	340	70.7	24,038
Baggage (Maximum)		93.0	
Weight & C.G.			

Allowable Weight & C.G. 2575 lbs. at 49.0"

NOTE: These computations cover the various combinations of allowable loading in the Loading Schedule on Page 5.

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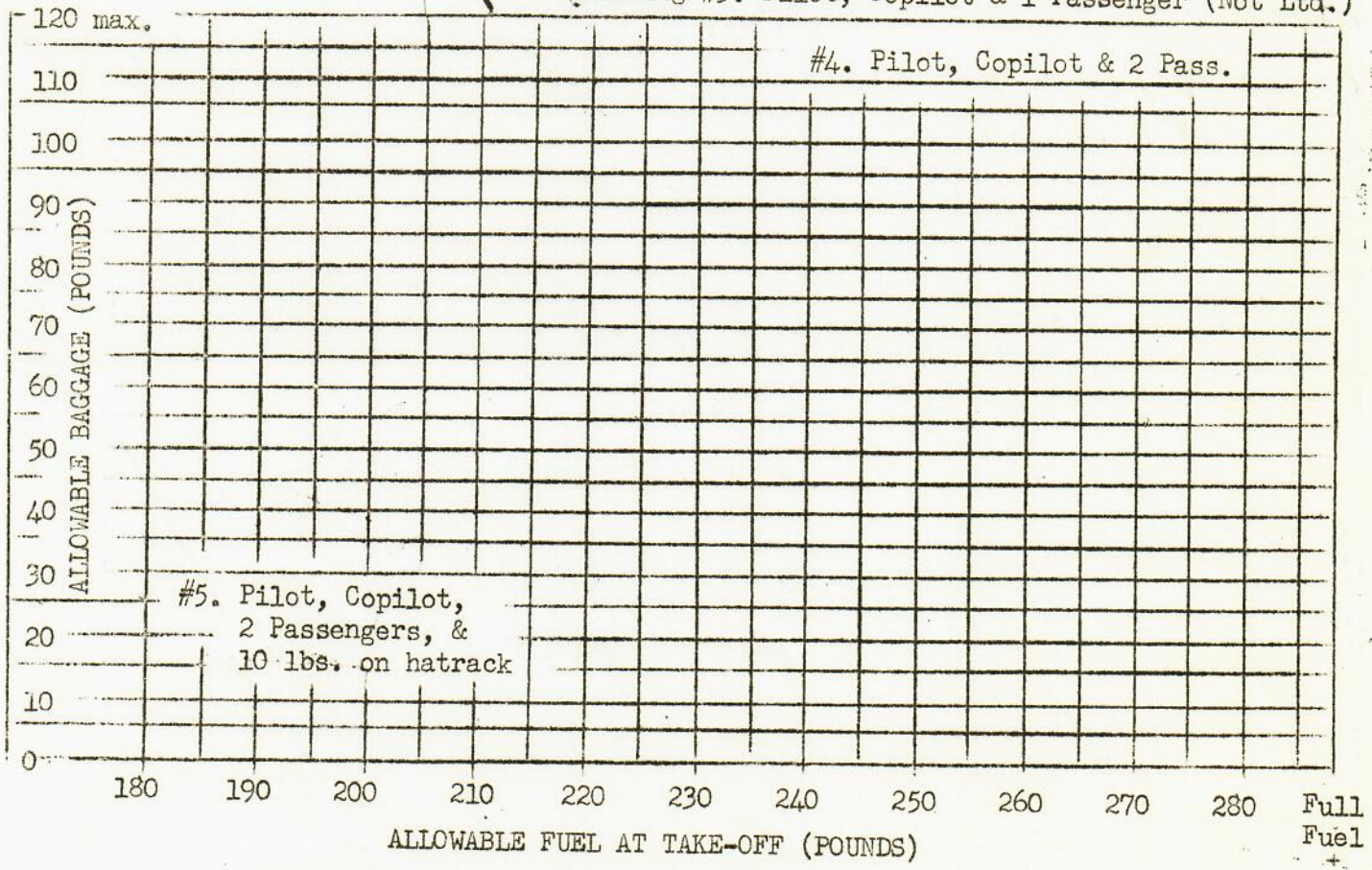
7. USEFUL LOAD:
Maximum Useful Load is 2575 - _____ = _____ lbs.
Useful Load Items are:

Item	Weight	Arm
Oil, 2 Gallons	15	-7.4
Pilots, (2) each	170	36.5 to 44.0
Fuel, 48 Gallons Maximum	288	48.4
Rear Passengers, (2) each	170	70.7
Baggage Maximum	120	93.0
Hatrack Maximum	10	114

8. LOADING SCHEDULES:
The following loading schedules are based on the computations from Page 4 and are furnished to enable the pilot to insure that the airplane is properly loaded before flight. All loading combinations shown are within the Approved Loading Envelope. See Section 6D, Weight and Balance Loading Computations, for most aft front seat positions with loadings #4 and #5 at maximum baggage. No other loadings are permissible unless substantiated by additional computations. A 10 pound hatrack load may be included with Loading #1, #2, or #3.



Loading #4: take-off fuel with ____# baggage = 1880 - _____ - empty wt. = _____lbs. (max)
baggage with full fuel = 1592 - empty wt. = _____ lbs. (max)
Loading #5: take-off fuel with ____# baggage* = 1870 - _____ - empty wt. = _____lbs. (max)
baggage with full fuel = 1582 - empty wt. = _____lbs.
*Note: Max. baggage for loading #5 is 15 lbs. less than max. baggage for loading #4.