

THIS DOCUMENT MUST BE KEPT IN AIRPLANE AT ALL TIMES  
MOONEY AIRCRAFT, INC. Wichita, Kansas

CAA Approved, Based on CAR 3 – Normal Category

CAA Identification No. \_\_\_\_\_ Airplane Serial No. \_\_\_\_\_ Engine Serial No. \_\_\_\_\_

Manufactured \_\_\_\_\_ Type Certificate No. 803

MODEL M-18C AIRPLANE FLIGHT MANUAL (Unofficial Copy)

1. LIMITATIONS: The following limitations are to be observed in the operation of this airplane:

A. ENGINE: Continental A-65-8 and A-65-12. Engine Limits: For all operations, 2300 RPM, 65 HP.

B. FUEL: 80 Minimum Octane Aviation Gasoline, (Usable 9.6 gallons). One fuselage tank. Fuel remaining in tank when gauge reads zero cannot be used safely in flight (in red band).

C. PROPELLER: Flottorp 65A60 to 65A64. Static RPM at full throttle: Not more than 2030; not less than 1800. No additional tolerance permitted.

D. POWER PLANT INSTRUMENTS:

(a) Oil Temperature; Green Arc (Normal Op. Range) 120° to 200° F., Red line (Max) 220°

(b) Oil Pressure; Green Arc (Normal Op. Range) 30 to 35 psi., Red line (Max) 40 psi., Red line (Min. Idling) 10 psi.

(c) Tachometer; Green Arc 2000-2300 RPM (Normal Op. Range), Red line at 2300 RPM. DO NOT EXCEED.

E. AIRSPEED LIMITS: (True Indicated Airspeed)

	<u>MARKING</u>	<u>NORMAL CAT.</u>
NEVER EXCEED	RED LINE	143 MPH
CAUTION RANGE	YELLOW ARC	114 - 143 MPH
NORMAL OP. RANGE	GREEN ARC	50½ - 114 MPH
FLAP OP. RANGE	WHITE ARC	45 - 85 MPH
MAX. STRUCTURAL CRUISING SPEED		114 MPH
MAX. GEAR EXTENDED SPEED		109 MPH
MAX. GEAR OPERATING SPEED		109 MPH
MAX. HATCH OPEN SPEED		109 MPH
MANEUVERING SPEED		107 MPH
<u>FLIGHT LOAD FACTORS:</u>		
MAX. POSITIVE LOAD FACTOR (FLAPS UP)		3.8 G
MAX. NEGATIVE LOAD FACTOR	No Inverted Maneuvers Approved	
MAX. WEIGHT		850 Lbs.

DATUM: Front face of vertical tubes above nose gear mounting. (25.19 in. fwd. of wing Leading Edge outboard of fillet). MAC is 43.9" (25.3").

CG FLIGHT ENVELOPE (GEAR EXTENDED): 850 Lbs. at 31.1" (13.0% of MAC) to 850 Lbs. at 34.4" (20.7% MAC)

NOTE: It is the responsibility of the airplane owner and the pilot to insure that the airplane is properly loaded.

F. MANEUVERS: No acrobatic maneuvers are approved for Normal Category Operations.

NOTE: Maneuvers involving approach to stalling speed or full application of elevator, rudder or ailerons should be confined to speeds below maneuvering speed.

G. WING FLAP SETTINGS: Take-off, 0° (Up); Landing 16½° Down.

H. PLACARDS:

1. On Instrument Panel

"This airplane must be operated as a NORMAL CATEGORY airplane in compliance with the Approved Flight Manual. No acrobatic maneuvers (including spins) are approved for NORMAL CATEGORY operations."

2. Under Gear Warning Device

"WARNING – Gear up when signal is in motion or light flashing" (Light added only to airplane equipped for night flying).

3. Under Hatch Latch

"Do not open hatch above 109 MPH."

4. On Baggage Compartment

"Max. Baggage 75 Lbs. (Std. Airplane). Max Baggage 40 Lbs. (With Battery) 40 Lbs. in wing (Fwd. compartment), 35 Lbs. in Aft compartment (Std. Airplane)."

"No Baggage with Battery and Auxiliary fuel Tank"

"With Aux fuel tank installed, use Aft compartment only for Baggage"

2. PROCEDURES:

Normal Operating Procedures

Best flight characteristics and trim are obtained with the "COARSE TRIM" control in NOSE UP at forward loadings and NOSE DOWN at rearward loadings.

"COARSE TRIM SELECTOR"

The "COARSE TRIM" selector is installed in order to extend the trim range by providing an increased range of NOSE DOWN trim. The normal position of the selector is NOSE UP, but the use of the NOSE DOWN setting will improve trim settings when the airplane is loaded tail heavy (in excess of 40 lbs. of baggage). CHANGE TRIM SELECTOR SLOWLY AT SPEEDS IN EXCESS OF 107 MPH TIAS

3. PERFORMANCE

The following performance figures were obtained during Civil Aeronautics Administration type tests and may be realized under conditions indicated with the airplane and engine in good condition and with average piloting technique. All performance is given for 850 lbs. weight, with no wind and on level paved runways.

In using the following data, allowance for actual conditions must be made.

ITEM	ALTITUDE	OUTSIDE AIR TEMPERATURES				
		0°F	25°F	50°F	75°F	100°F
<u>Take-off Distance (in feet)</u>	Sea Level	945	1035	1115	1205	1295
Distance required to take-off and climb 50 ft.	2000 ft	1120	1220	1315	1420	1525
Full throttle, 68 MPH TIAS climb speed.	4000 ft	1345	1470	1595	1720	1860
Flaps 0°	6000 ft	1620	1775	1930	2030	2275
<u>Landing Distance (in feet)</u>	Sea Level	1115	1156	1200	1242	1285
Distance required to land over 50 ft. obstacle and stop. Flaps 16½° down.	2000 ft	1173	1218	1265	1310	1345
	4000 ft	1237	1285	1332	1377	1420
Approach at 58½ MPH TIAS	6000 ft	1306	1353	1400	1451	1485
<u>Normal Rate of Climb (ft/min).</u>	Sea Level	1048	1022	1000	970	942
Gear and Flaps up. 74 TIAS at Sea Level.	2000 ft	943	917	892	865	837
Speed decrease 1 MPH per 1700 ft.	4000 ft	838	813	783	758	731
Standard Altitude.	6000 ft	734	705	675	653	628
<u>Balked Landing Climb (ft/min).</u>	Sea Level	895	870	843	823	795
Gear down, Flaps up. 68 MPH TIAS at S.L.	2000 ft	793	768	743	718	692
Speed decrease 1 MPH per 1400 ft.	4000 ft	693	665	640	614	588
Standard Altitude.	6000 ft	593	564	537	512	487
<u>Stalling Speeds MPH TIAS.</u>	Angle of Bank	0°	20°	40°	50°	60°
Power off	Gear & Flaps Up	50½	52	58	63	71½
	Gear & Flaps down 16½°	45	46½	51½	56	64

Mooney Aircraft, Inc.

Model M-18C

AIRPLANE FLIGHT MANUAL SUPPLEMENT (1)

This document must be attached to the CAA Approved Airplane Flight Manual for the M-18C when auxiliary fuel tank is installed in wing Baggage Compartment.

LIMITATIONS: The following limitations supersede the corresponding items in the original CAA Approved Flight Manual.

B. FUEL: 80 minimum octane Aviation Gasoline, (total Usable 15.6 Gallons). One fuselage tank (Usable 9.6 Gallons) and one auxiliary tank (Usable 6.0 Gallons). Fuel remaining in main fuselage tank when gauge reads zero cannot be used safely in flight (in red band).

H. PLACARDS:

4. On Baggage compartment

"Max. Baggage 75 Lbs. (Std. Airplane). Max. Baggage 40 Lbs. (with Battery)."

"40 Lbs. in wing (Fwd Compartment), 35 Lbs. in aft Compartment (Std. Airplane)."

"No Baggage with Battery and Auxiliary fuel Tank"

"With Aux Fuel Tank installed use Aft Compartment only for baggage".

5. Adjacent to Auxiliary Fuel Tank Valve

"Aux. Fuel Tank Valve-Open to Pump"

"CAUTION"

"Do not Pump when Main Tank is full"

Transfer Fuel in Level Flight only"

"6 Gal. Usable"

"OFF ON"

Mooney Aircraft, Inc.

Model M-18C

AIRPLANE FLIGHT MANUAL SUPPLEMENT (2)

This document must be attached to the CAA Approved Flight Manual for the M-18C when wind driven generator is installed.

PERFORMANCE

Performance Reduction with Wind Driven Generator

The following figures are the maximum performance reductions from approved Airplane Flight Manual Charts when a wind driven generator is installed:

1. Normal Climb is reduced 170 Ft./Min.
2. Balked Landing Climb is reduced 132 Ft./Min.
3. Take off Distance is increased 95 Ft. at sea level and 185 Ft. at 6000 Ft. altitude.

Mooney Aircraft, Inc.

Model M-18C

AIRPLANE FLIGHT MANUAL SUPPLEMENT (3)

This document must be attached to the CAA Approved Flight Manual for the M-18C when alternate main Fuel Tank Dwg 1156 (15.5 Gals.) is installed in place of Tank called for on page 1.

LIMITATIONS: The following limitations supersede the corresponding items in the original CAA Approved Flight Manual.

B. FUEL            80 Minimum Octane Aviation Gasoline (usable 11.4 Gallons). One fuselage tank. Fuel remaining in tank when Gauge read zero cannot be used safely in flight (Red Band)

C. PLACARDS:

Near fuel filler cap

"Fuel"

"80 Oct. Min."

"15.5 Gal. Total"

By Fuel Valve

"Fuel Valve"

"11.4 Gal. Usable"

"On    Off"

Gauge Placard Dwg No. 1165 which shows 4.14 Gal. unusable at zero.

Mooney Aircraft, Inc.

Model M-18C

AIRPLANE FLIGHT MANUAL SUPPLEMENT (4)

This document must be attached to the CAA Approved Flight Manual for the M-18C when auxiliary fuel tank is installed in wing Baggage Compartment, in conjunction with 15.5 Gal. Main Tank.

LIMITATIONS: The following limitations supersede the corresponding items in the original CAA Approved Flight Manual.

B. FUEL           80 minimum octane Aviation Gasoline (total usable 17.4 Gallons). One fuselage tank (Usable 11.4 Gallons) and one auxiliary tank (Usable 6.0 Gallons).  
Fuel remaining in main fuselage tank when gauge reads zero cannot be used safely in flight (in red band).

H. PLACARDS:

4. On Baggage compartment

"Max. Baggage 75 lbs. (Std. Airplane). Max. Baggage 40 lbs. (with battery)."

"No Baggage with Battery and Auxiliary fuel Tank"

"With Aux Fuel Tank installed use Aft Compartment only for baggage".

5. Adjacent to Auxiliary Fuel Tank Valve

"Aux. Fuel Tank Valve"

"CAUTION"

"Open valve to pump"

"Check fuel quantity before takeoff"

"No gauge provided"

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"Transfer Fuel in Level Flight Only"

"Do not Pump until 6 Gals. have been used"

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"Bubbles appear in Gauge Glass when  
Aux. is empty while Pumping"

"6 Gal. Usable"

"OFF   ON"

Mooney Aircraft, Inc.

Model M-18C-55

AIRPLANE FLIGHT MANUAL SUPPLEMENT (5)

This document must be attached to the CAA Approved Flight Manual for the M-18C-55 when alternate main Fuel Tank Dwg 1211 (13.5 gal.) is installed in place of Tank called for on page 1.

LIMITATIONS: The following limitations supersede the corresponding items in the original CAA Approved Flight Manual.

B. FUEL: 80 Minimum Octane Aviation Gasoline (usable 13.5 gallons). One fuselage tank.

C. PLACARDS:

Near fuel filler cap

"Fuel"

"80 Oct. Min."

"13.5 Gal. Total"

By Fuel Valve

"Fuel Valve"

"13.5 Gal. Usable"

"On Off"

Gauge Placard Dwg No. 1232.

Mooney Aircraft, Inc.

Model M-18C-55

AIRPLANE FLIGHT MANUAL SUPPLEMENT (6)

This document must be attached to the CAA Approved Flight Manual for the M-18C-55 when auxiliary fuel tank is installed in wing Baggage Compartment, in conjunction with 13.5 Gallon Main Tank.

LIMITATIONS: The following limitations supersede the corresponding items in the original CAA Approved Flight Manual.

B. FUEL: 80 minimum octane Aviation Gasoline (total usable 19.5 Gallons). One fuselage tank (Usable 13.5 Gallons) and one auxiliary tank (Usable 6.0 Gallons).

H. PLACARDS:

4. On Baggage compartment

"Max. Baggage 75 lbs. (Std. Airplane). Maximum Baggage 40 lbs. (with Battery)."

"No Baggage with Battery and Auxiliary fuel Tank"

"With Aux Fuel Tank installed use AFT Compartment only for baggage".

5. Adjacent to Auxiliary Fuel Tank Valve

"Aux. Fuel Tank Valve"

"CAUTION"

"Open valve to pump"

"Check fuel quantity before takeoff"

"No gauge provided".

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"Transfer Fuel in Level Flight Only"

"Do not Pump until 6 Gals. have been used"

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"Bubbles appear in Gauge Glass when  
Aux. is empty while Pumping"

"6 Gallons Usable"

"OFF ON"