

THIS DOCUMENT MUST BE KEPT IN AIRPLANE AT ALL TIMES
MOONEY AIRCRAFT INC., KERRVILLE, TEXAS

CAA approved, Based on CAR 3 - Normal Category

CAA Identification No. _____ Airplane Serial No. _____ Engine Serial No. _____

MODEL M-18C

AIRPLANE FLIGHT MANUAL

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°F.
 - (b) Oil Pressure; Green Arc (Normal Op. Range) 30 to 35psi., Red line (Max) 40psi., red line (Minimum Idling) 10psi.
 - (c) Tachometer; Green Arc 2000-2300 RPM (normal Op. Range), Red line at 2300 RPM. DO NOT EXCEED
 - E. AIRSPEED LIMITS: (True Indicated Airspeed)

	MARKING	TIAS
NEVER EXCEED	RED LINE	143 MPH
CAUTION RANGE	YELLOW ARC	114 to 143 MPH
NORMAL OPERATING RANGE	GREEN ARC	50½ to 143 MPH
FLAP OPERATING RANGE	WHITE ARC	45 to 85 MPH
MAXIMUM STRUCTURAL CRUISING SPEED		114 MPH
MAXIMUM GEAR EXTENDED SPEED		109 MPH
MAXIMUM GEAR OPERATING SPEED		109 MPH
MAXIMUM HATCH OPEN SPEED		109 MPH
MANEUVERING SPEED		107 MPH
FLIGHT LOAD FACTORS:		
MAXIMUM POSITIVE LOAD FACTOR (FLAPS UP)		3.8 G
MAXIMUM NEGATIVE LOAD FACTOR		No inverted maneuvers approved
MAXIMUM 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% 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 Elevators, rudder, or ailerons should be confined to speeds below maneuvering speed.

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

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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 airplanes 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).

2. PROCEDURES:

Normal Operating Procedures

a. Best flight characteristics and trim are obtained with the "COARSE TRIM" control in "NOSE UP" at forward loading 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 on level paved runways. In using the following data, allowance for actual conditions must be made.

ITEM	ALTITUDE	OUTSIDE AIR TEMPERATURE				
		0°F	25°F	50°F	75°F	100°F
<u>Take-Off Distance (in feet)</u> Distance required to take-off and climb 50 ft. Full Throttle, 68 MPH TIAS climb speed. Flaps 0°	Sea Level	945	1035	1115	1205	1295
	2000 ft.	1120	1220	1315	1420	1525
	4000 ft.	1345	1470	1595	1720	1860
	6000 ft.	1620	1775	1930	2090	2275
<u>Landing Distance (in feet)</u> Distance req'd to land over a 50 ft. obstacle and stop. Flaps 16½° down. Approach at 58½ MPH TIAS.	Sea Level	1115	1156	1200	1242	1285
	2000 ft.	1173	1218	1265	1310	1349
	4000 ft.	1237	1285	1332	1377	1420
	6000 ft.	1306	1353	1400	1451	1493
<u>Normal Rate of Climb (ft. min).</u> Gear and Flaps up. 74 TIAS at Seal Level. Speed decreases 1 MPH per 1400 ft. Standard Altitude.	Sea Level	1048	1022	1000	970	942
	2000 ft.	943	917	892	865	837
	4000 ft.	838	813	783	758	732
	6000 ft.	734	705	675	653	628
<u>Balked Landing Climb (ft. min)</u> Gear down, Flaps up. 68 MPH TIAS at S.L. Speed decrease 1 MPH per 1400 ft. Standard Altitude.	Sea Level	895	870	848	823	795
	2000 ft.	793	768	743	718	692
	4000 ft.	693	665	640	614	588
	6000 ft.	593	564	537	512	487
<u>Stalling Speeds MPH TIAS</u>	Angle of Bank	0°	20°	40°	50°	60°
	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 supercede 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 \longrightarrow ON

Approved By Wm. H. Weeks
Chief, Aircraft Division

CAA Approved
Date, 6-6-50
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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.

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Date 6-6-50
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Approved by Wm. H. Weeks
Chief, Aircraft Division

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 supercede the corresponding items in the original C.A.A. Approved Flight Manual.

B. FUEL 80 Minimum Octane Aviation Gasoline (usable 11.4 Gal. One fuselage tank. Fuel remaining in tank when gauge reads zero cannot be used safely in flight (red Bar

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.

CAA Approved
Date 4-17-53
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Approved by C. W. Van Rossum
Chief, Aircraft Engineering Br

mooney aircraft, Inc.

Model M-18C

AIRPLANE FLIGHT MANUAL SUPPLEMENT(4)

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 in conjunction with 15.5 gallon main tank.

LIMITATIONS: The following limitations supercede 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 guage reads zero cannot be used safely in flight (in red band).

H. PLACARDS:

4. On baggage Compartment

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

"No Baggage with Battery and Auxiliary Fuel Tank"

"With auxiliary 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

"Transfer Fuel in Level Flight Only
Do Not Pump until 6 Gals. have been Used"

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

OFF ←----- ON

Approved By _____
Chief, Aircraft Engineering Bra

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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 fuel tank Dwg 1211 (13.5 gal) is installed in place of Tank called for on Page 1.

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

B. FUEL: 80 Minimum octane aviation gasoline (Usuable 13.5 gal)
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. Usuable"
"On Off"

Gauge Placard Drawing No. 1232.

CAA Approved

Date 4-11-1955

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Approved by

C. Van Rosenberg
Chief, Aircraft Engineering Branch

MOONEY AIRCRAFT INC.

MODEL M-18C-55

AIRPLANE FLIGHT MANUAL SUPPLEMENT (6)

This document must be attached to the CAA Approved Airplane 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 supercede the corresponding items in the original CAA Approved Flight Manual.

B. FUEL: 80 Minimum Octane Aviation Galoline, (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"

"Transfer Fuel In Level Flight Only
Do Not pump until 6 Gallons have been Used".

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

OFF ←----- ON

CAA Approved

Date 4-11-1955

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Approved by

C. W. Van Kester
Chief, Aircraft Engineering Br.