F.A.A. APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

MOONEY M20D
(With Retractable Gear)

MOONEY AIRCRAFT, INC.
Louis Schreiner Field
Kerrville, Texas

Serial No.__________
Registration No.__________

APPROVED
Chief, Engineering & Mfg. Branch
Federal Aviation Agency
Southwest Region

DATE OF APPROVAL May 16, 1963
Ref. Drv. 7330 (75000)

Hinges from wings, with travel board at wing sta. 147.75.

2. Approach or Landing position - 32 deg. Tolerances - 0.7 deg.

Ailerons, Ref. Drv. 7247 (71000)

Packed from aileron chord with allileron in the static position with travel board at wing sta. 147.75.

Climb travel, both ailerons, 3 deg. Tolerance - 12. Up travel, either aileron, not very firm from 12 deg. to 0 deg. with no additional tolerances. Static position from 0 deg. to 2 deg. down.

Aileron Travel, Ref. Drv. 7244 & 4120 (72000 & 72000)

Travel from Fin chord with travel board centered on rivet line at Fin Sta. 135.

Left travel, 23 deg. Right travel, 23 deg. Tolerance - 12. For travel, with either rudder in neutral position, the control unit 7033 at zero static travel, rudder and no-slip settings are 0.00 in all pitch.

Trim Tab, Ref. Drv. 7230 & 4120 (72000 & 72000)


Hinges, Ref. Drv. 4120 & 7247 (71000 & 72000)

Packed from stabilizer chord with travel board centered on rivet line at Stabilizer Sta. 14.0 and with Stabilizer at 0 deg. Thrust Line.


Tail Plane, Ref. Drv. 7244, 4120, 7232 (72000, 41000, 72000) (72044)

Tail Plane at -35 deg. Negative setting - Thrust line, allowing movement to 7033 at the more severe travel position.

Allowable Span Limiter:


*These allowables are for aircraft in service (accounting for wear). For manufacturing tolerances, see detail drawings.

Mooney Aircraft Inc.
Kerrville, Texas

Mooney Aircraft Services, Inc. service and facility.

Material

Holes - 003 - 001
Angles - 001 - 001

Rel. Shape, Finish & Burr...
OPERATING LIMITATIONS

Power Plant Limitations - no change

Airspeed Limitations

Never Exceed Speed 189 MPH C.A.S.
Maximum Structural Cruising Speed 150 MPH C.A.S.
Maximum Maneuvering Speed 132 MPH C.A.S.
Maximum Gear Operating Speed 120 MPH C.A.S.
Maximum Gear Extended Speed 120 MPH C.A.S.
Maximum Flap Operating Speed 100 MPH C.A.S.

Instrument Dial Markings

Airspeed

Radial Red Line - 189 MPH
(Never Exceed Speed which is the Maximum Safe Airspeed)
Yellow Arc - 150 to 189 MPH
(Denotes Range of Speeds in Which Operations Should Be Conducted with Caution and Only in Smooth Air)
Green Arc - 70 to 150 MPH
(Denotes Normal Operating Speed Range)
White Arc - 63 to 100 MPH
(Denotes Speed Range in Which Flaps May be Safely Lowered)

Tachometer - no change
Cylinder Head Temperature - no change
Oil Pressure - no change
Turn and Bank Voltmeter - no change
Vacuum Warning Lights in Artificial Horizon - no change
Fuel Pressure - no change
Oil Temperature - no change
Flight Load Factors - no change
Cross-Weight and Center of Gravity Limitations

Maximum Weight - no change

Center of Gravity - all values in basic manual are correct for Gear Down configuration

Datum - no change

Warning: See Weight and Balance Section for Loading Schedule.

Note: The front seat positions can adversely affect C.G. limitations at most rearward loading. Allowable baggage weight dictated by seat positions.

Placards

(1) This Airplane Must Be Operated As A Normal Category Airplane In Compliance With The Approved Airplane Flight Manual. All Aerobatics, Maneuvers, Including Spins, Are Prohibited.
(2) Maximum Speed, Landing Gear Extended - 120 MPH
(3) Maximum Speed for Operation of Landing Gear - 120 MPH
(4) On Storm Window Do Not Open Above 150 MPH
(5) Load In accordance With Loading Schedule
(6) Maximum Baggage Limit - 120 Pounds
(7) Cowl Flap - Full To Open Do Not Open Above 150 MPH
(8) In Case Of Engine Fire Turn Cabin Heater OFF
(9) Pull To Retract Flaps
(10) Retract Flaps After Landing

General - no change

OPERATING PROCEDURES

Pre-Flight - no change

Starting

Check to Assure Gear is LOCKED
Fasten Seat Belts
Fuel Valve ON (Right or Left Main)
Master Switch ON
Mixture Rich
Auxiliary Fuel Pump ON for Pressure Build Up, then OFF
Brakes Set
Clear Prop Visually & Verbally
Pump Throttle to Prime
Engage Starter - Return Magneto Switch to Both After Start
Check Oil Pressure, After Engine Starts
Open Cowl Flaps
Take-Off

Check Controls for Freedom and Proper Operation
Check Fuel Quantity and Pressure Gauges
Check Instruments
Set Trim to Take-Off Position
Check Cowl Flaps
Set Win. Flaps to 15°
Turn ON Auxiliary Fuel Pump
Check Rpm at 1500 RPM
Check Carb. Heat-Return to OFF
Check Governor and Prop Operation at 2200 RPM
Governor Control Full Forward
Secure Window and Door
Apply Full Throttle

After Take-Off

Gear UP
Initial Climb-out at 95 MPH (Minimum Speed for Cooling and Speed for Best H/C at Sea level with Gear Up and Flaps in Take-off Position)
Turn OFF Auxiliary Fuel Pump
Normal Cruise 2400 RPM and 24" Manifold Pressure
Close Cowl Flaps When Cruise Speed is Attained

Cruise — no change

Before Landing

Fuel Selector to Tank with Most Fuel
Turn ON Auxiliary Fuel Pump
Mixture Rich
Carb. Heat ON (When Needed)
Reduce Speed to 120 MPH
Gear DOWN and LOCKED
Governor Control Full Forward
Apply Flaps at 100 MPH
Trim As Necessary

After Landing — no change

Stopping — no change

Manually Starting the Engine

In the event it becomes necessary to prop start the engine due to low battery, the following procedure is to be followed:

Airplanes Serial No. 101-160:

(1) Turn off the "starter disconnect switch." This switch is located behind the instrument panel on the upper center part of the firewall. It disconnects the starter so that when the magneto switch is turned to the start position, only the starter-vibrator operates.
(2) As the engine is "propped," hold the magneto switch in the "start" position. This operates the starter vibrator and furnishes retarded spark to the engine.

(3) When the engine starts, release the switch to the "both" position and place the "starter disconnect switch" to the "on" position.

Airplanes Serial No. 161 and on:

(1) As the engine is "propped," hold the magneto switch in the "start" position, but do not push the magneto switch. This operates the starter vibrator and furnishes retarded spark to the engine.

(2) When the engine starts, release the switch to the "both" position.