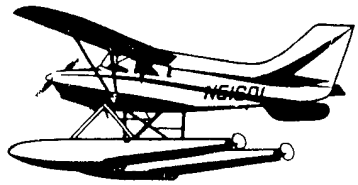
Maule Aircraft Corporation
SPENCE AIR BASE -:- MOULTRIE, GEORGIA 31768 -:- PHONE 912/985-2045



F A A A P P R O V E D

A I R P L A N E F L I G H T M A N U A L

for

MAULE M-5-200

Airplane Serial No._____

Registration No._____

THIS DOCUMENT MUST BE KEPT IN THE AIRPLANE AT ALL TIMES.

FAA APPROVED: Thomas E. Stuckey

Acting Chief, Atlanta Aircraft Certification Office, FAA, Central Region

DATE: OCT 2 9 1982

MAULE AIRCRAFT CORPORATION

AIRPLANE FLIGHT MANUAL

MAULE M-5-200

LOG OF REVISIONS

REV.	TO PAGES	DESCRIPTION	APPROVAL AND DATE
A	5	Added 2.1.B.18a and revised 2.1.B.5 to include draining the Main Fuel Tank sumps.	R D Dample Acting Manager, Atlanta Aircraft Certification Office, FAA, Central Region Date: May 1, 1984
B	Wt. & Bal. Pg 4 7	Corrected Rear Seat Passenger Station from 48.8 to 56 Inches. Added "Parking Brake...OFF to 2.2.D. BEFORE TAKEOFF and E. BEFORE LANDING.	by Paul Sconyers Manager, Atlanta Aircraft Certification Office, FAA Date: 6-10-94

LOG OF SUPPLEMENTS

SUPP. NO.	NO. OF PAGES	DESCRIPTION	APPROVAL DATE
-	2	Operation of aircraft when **M-5 Wing Assemblies** 2110X**-30** (with Main Fuel Tanks P/N 2167X) are installed - Maule **Modification Kit No. 15**.	10/08/96
-	5	Installation of **Apollo MX20 Multi-Function Display** - Maule Drawing **7265A**.	08/15/02
-	8	Installation of **GARMIN GNC-420** (GPS/COMM) **System** - Maule Drawing **7251A**.	06/30/03
-	9	Installation of **GARMIN GNS-530** (GPS/NAV/COMM) **System** - Maule Drawing **7253A**.	06/30/03
-	4	Installation of **GARMIN GTX-330 Mode S Transponder Traffic Information System** (TIS) - Maule Drawing **7255A**.	06/30/03
-	3	Operation of aircraft when a **5th** passenger **Seat** is installed in rear cabin - Maule **Modification Kit No. 8**.	09/02/97
-	4	Installation of **Aqua 2200 Floats @2300# -** - STC SA00758CH.	09/18/97
-	3	Operation of aircraft when Micro AeroDynamics **Vortex Generator System** is installed per Maule Drawing **9177A**.	12/16/05

MAULE AIRCRAFT CORPORATION

FAA APPROVED
DATE: 29 OCT 1982

AIRPLANE FLIGHT MANUAL

MAULE M-5-200

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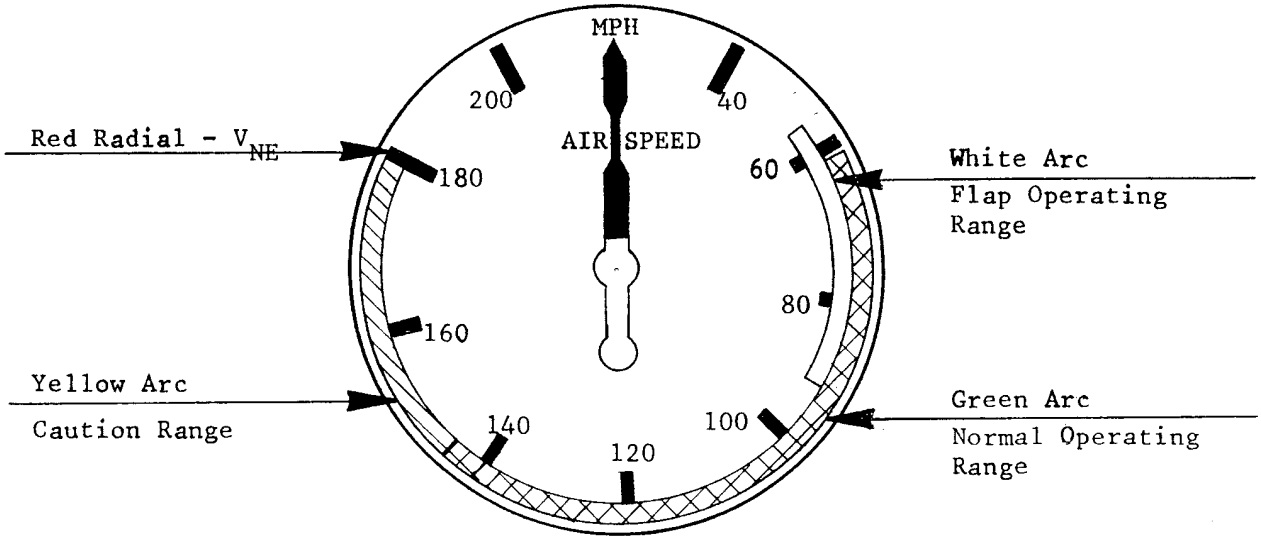
ITEM

SECTION I

OPERATING LIMITATIONS

1.1 AIRSPEED LIMITS: All airspeeds are calibrated airspeeds.

A. AIRSPEED INDICATOR MARKINGS:



B. EXPLANATION OF AIRSPEED INDICATOR MARKINGS:

Red Radial Line - Never Exceed Speed (V_{NE}), 180 mph (156K): Maximum safe airspeed in smooth air.

Yellow Arc - Caution Range, 145-180 mph (126-156K): Operation in this speed range should be conducted only in smooth air, and control movements should not be large or abrupt.

Green Arc - Normal Operating Range, 61-145 mph (53 -126K): Extends from flaps up, power off stall speed at 2500 lbs. (V_{S1}) to design cruise speed (V_C).

White Arc - Flap Operating Range 55-94 mph (48-82K): Extends from full flap, power off minimum stall speed at 2500 lbs. (V_{SO}) to the maximum flaps extended speed (V_{FE}).

C. DESIGN MANEUVERING SPEED: The maximum safe airspeed at which full aerodynamic controls can be applied (V_A) is 125 MPH (109K). This airspeed is not marked on the airspeed indicator.

1.2 POWER PLANT LIMITATIONS:

Engine:	Lycoming IO-360-J1A6D.
Engine Limits:	200 hp @2700 rpm, Full Throttle Continuous.
Propeller:	Hartzell HC-E2YR-1BF/F8467-7R.
Fuel:	100/100LL Minimum Grade Aviation Gasoline.

Engine Instrument Markings:

Cylinder Head Temperature:	Green Arc - Normal Operating Range, 200°F - 435°F. Red Radial - Operating Limit, 500°F.
Oil Temperature:	Green Arc - Normal Operating Range, 140°F - 245°F. Red Radial - Operating Limit, 245°F.
Oil Pressure:	Green Arc - Normal Operating Range, 60 to 90 psi. Yellow Arc - Caution Range, 25 to 60 psi and 90 to 100 psi. Red Radial - Minimum Operating Pressure 25 psi. Red Radial - Maximum Operating Pressure 100 psi.
Manifold Pressure:	Green Arc - Normal Operating Range, 14.5 - 29 ins. of Mercury.
Fuel Flow:	Red Radial - Maximum, 8.9 psi or 26.9 GPH.
Tachometer:	Green Arc - Normal Operating Rage, 2250-2600 RPM Red Radial - Maximum RPM, 2700 RPM.
//////////// ///CAUTION/// ////////////	DO NOT EXCEED 24 INCHES M.P. BELOW 2350 RPM. THIS IS A PROPELLER VIBRATORY STRESS LIMITATION.

1.3 MAXIMUM WEIGHT: 2500 pounds.

1.4 CENTER OF GRAVITY LIMITS: +16.7 to +20.5 inches @2500#
+13.2 to +20.5 inches @1700# or less

Straight Line Variation between points given.
Datum: Wing Leading Edge.

////////// It is the responsibility of the pilot to insure that the airplane
///NOTE/// is properly loaded. Refer to the Weight and Balance Data for bag-
////////// gage/cargo loading recommendations and loading graphs.

1.5 MANEUVERS: Only Normal Category Maneuvers, including Stalls, Lazy Eights, Chandelles and steep turns, involving bank angles not greater than 60°, are approved in this airplane.

////////////// ///CAUTION//// ////////////// AEROBATICS AND INTENTIONAL SPINS PROHIBITED.

1.6 FLIGHT LOAD FACTORS: Flaps Fully Retracted. 3.8g Positive to 1.5g Negative.
Flaps Extended: 1.9g Positive to 0g Negative.

1.7 USABLE FUEL: MAIN TANKS - 20.0 Gal. ea.
OPTIONAL AUXILIARY TANKS - 11.5 Gal. ea.

1.71 UNUSABLE FUEL: 1.5 Gallons per main tank.

////////////// ///CAUTION/// ////////////// FUEL REMAINING IN TANK WHEN INDICATOR READS EMPTY CANNOT BE USED SAFELY IN FLIGHT.

1.8 DOOR-OFF OPERATION:

This aircraft may be operated with the rear passenger door or rear passenger and baggage doors off. When doing so, oberve the following additional limitations.

1. Maximum airspeed - 125 mph.
2. Maximum bank angle - 30°.
3. Maximum yaw angle - 10°.
4. No smoking permitted.
5. Limit flight to VFR conditions.

1.9 PLACARDS:

The following placards are in the cockpit in clear view of the pilot.

"THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE AIRPLANE FLIGHT MANUAL AND IN THE FORM OF PLACARDS AND MARKINGS."

"NO AEROBATIC MANEUVERS, INCLUDING SPINS, APPROVED."

"ROUGH AIR OR MANEUVERING SPEED: 125 MPH (109K)"

"SEE LOADING INSTRUCTIONS, IN WEIGHT AND BALANCE SECTION OF AIRPLANE FLIGHT MANUAL."

"THIS AIRPLANE APPROVED FOR DAY OR NIGHT IFR NON-ICING FLIGHT WHEN EQUIPPED IN ACCORDANCE WITH FAR 91 or FAR 135."

"DO NOT TURN OFF ALTERNATOR IN FLIGHT EXCEPT IN CASE OF EMERGENCY."

"FUEL REMAINING IN TANK WHEN INDICATOR READS ZERO CANNOT BE USED SAFELY IN FLIGHT."

1.9 PLACARDS: (CON'T)

"FOR CONTINUOUS OPERATION DO NOT EXCEED 24 INCHES OF MANIFOLD PRESSURE BELOW 2350 RPM."

The following placard is located at the main fuel tank selector valve.

FUEL SELECTOR VALVE

LEFT: 20 GAL

OFF BOTH

RIGHT: 20 GAL

The following placard is located on the instrument panel at the auxiliary tank transfer switches:

FUEL TRANSFER PUMPS

PUSH FOR AUX. QUANT. LEFT PUSH FOR AUX. QUANT. RIGHT

FUEL CAPACITY: MAIN TANKS 20 GAL. USABLE EACH, AUX. TANKS 11.5 GAL. USABLE EACH.

SECTION II

NORMAL OPERATING PROCEDURES

2.1 PREFLIGHT INSPECTION:

A. INTERIOR:

1. BAT. Switch.....ON
2. Fuel gauges.....CHECK INDICATIONS
3. All Electrical Switches.....OFF
4. BAT. Switch.....OFF
5. Flaps.....FULL DOWN

B. EXTERIOR: Begin at the left front door, proceed around the left wing to the nose area, then around the right wing and back to the fuselage, then around the tail section.

1. Fuel drains behind step.....DRAIN (2)
2. Left Flap.....CHECK HINGES & CONTROL ATTACHMENT
3. Aileron.....CHECK HINGES & CONTROL ATTACHMENT
4. Wing Top.....CHECK FOR WRINKLES AS INDICATION OF INTERNAL DAMAGE
5. Wing Main & Aux Fuel Tank Drains.....DRAIN (2)
6. Wing tip and nav. light.....CHECK FOR DAMAGE
7. Auxiliary fuel tank.....VISUALLY CHECK QUANITY
8. Landing light.....CHECK FOR DAMAGE
9. Wing tiedown.....REMOVE
10. Stall warning switch.....CHECK FOR FREEDOM OF MOVEMENT
11. Main Fuel Tank.....VISUALLY CHECK QUANTITY
12. Left Landing Gear.....CHECK TIRE INFLATION AND BRAKE LINE SECURITY
13. Bottom left side of cowl.....DRAIN GASCOLATOR (1)
14. Top Cowl; Oil access door.....CHECK OIL QUANTITY: 5 qts. MIN. 8 qts. MAX.
15. Propeller.....CHECK LEADING EDGE FOR DAMAGE
16. Air inlets.....CHECK FOR FOREIGN OBJECTS, INSPECT VISIBLE CONNECTIONS AND COMPONENTS
17. Right Landing Gear.....CHECK TIRE INFLATION AND BRAKE LINE SECURITY
18. Right wing and controls.....INSPECT SAME AS LEFT WING
18a. Wing Main & Aux Fuel Tank Drains.....DRAIN (2)
19. Right fuselage side and top.....INSPECT FOR WRINKLES AS INDICATION OF INTERNAL DAMAGE
20. Right Stabilizer.....CHECK ATTACHMENT POINTS AND STRUT
21. Right Elevator.....CHECK HINGE POINTS
22. Rudder.....CHECK HINGE POINTS, CONTROL ATTACHMENTS AND NAV. LIGHT
23. Tailwheel.....CHECK INFLATION, ATTACHMENTS, REMOVE TIEDOWNS

24. Left Elevator.....CHECK TAB CONTROLS AND ALL HINGE POINTS
25. Left Stabilizer.....CHECK ATTACHMENT AND STRUT
26. Left fuselage side and bottom.....CHECK FOR WRINKLES AS INDICATION OF INTERNAL DAMAGE

2.2 OPERATING CHECK LISTS:

A. BEFORE STARTING:

1. Seat Belts and Shoulder Harnesses.....FASTENED
2. Flaps.....RETRACTED
3. Circuit Breakers.....CHECK

B. STARTING:

1. Parking or toe brakes.....ON
2. Fuel Selector Valve.....ON, FULLEST TANK
3. Throttle.....OPEN ONE FOURTH INCH
4. Propeller Control.....FULL INCREASE RPM
5. Mixture Control.....FULL RICH
6. Anti-Collision light.....ON
7. BAT and ALT Switch.....ON
8. Boost pump.....ON, AS REQUIRED TO PRIME, THEN OFF

NOTE: FOR A HOT START DO NOT PRIME

9. Mixture Control.....FULL LEAN
10. Starter switch.....TWIST FULL RIGHT TO ENGAGE

////////////// IN EVENT OF ENGINE FIRE, CONTINUE CRANKING.
///CAUTION/// IF ENGINE FAILS TO START AFTER SEVERAL REVOLUTIONS
////////////// PULL MIXTURE FULL LEAN, SECURE IGNITION, BAT AND ALT SWITCHES, TURN FUEL VALVE OFF, AND EXIT AIRCRAFT.

11. When engine starts, Mixture Control...FULL RICH
12. After starting.....CHECK OIL PRESSURE

////////////// IF OIL PRESSURE DOES NOT EXCEED 25 psi
///CAUTION/// WITHIN 30 SECONDS, SHUT DOWN ENGINE.
//////////////

13. Alternator.....CHECK CHARGING
14. Radios and other electrical switches..AS REQUIRED
15. Parking brakes.....OFF

2.2 OPERATING CHECK LISTS: (CON'T)

C. ENGINE CHECK:

1. Parking Brake.....ON, IF DESIRED
2. Engine Instruments.....CHECK IN GREEN ARCS
3. Throttle.....INCREASE TO 2000 RPM
4. Magnetos.....SWITCH TO RIGHT, LEFT, BOTH CHECKING RPM DROPS

///////////// ///CAUTION/// ///////////// A RPM DROP OF MORE THAN 175 RPM OR A DIFFERENCE BETWEEN LEFT AND RIGHT OF MORE THAN 50 RPM IS UNACCEPTABLE.

5. Propeller Control.....RETARD FULLY UNTIL RPM DROP IS NOTED. RETURN TO FULL INCREASE RPM. REPEAT. SET FULL INCREASE RPM
6. ENGINE ALTERNATE AIR control.....PUSH OFF
7. Vacuum Gauge.....CHECK IN GREEN
8. Throttle.....RETARD TO IDLE

D. BEFORE TAKEOFF:

1. Fuel Selector.....ON FULLEST TANK
2. Flaps.....AS DESIRED FOR T.O.
3. Trim Controls.....SET FOR TAKEOFF
4. Flight Controls.....CHECK FOR FREEDOM AND PROPER TRAVEL
5. Mixture Control.....FULL RICH
6. Propeller Control.....FULL INCREASE RPM
7. ENGINE ALTERNATE AIR control.....PUSH OFF
8. Engine instruments.....RECHECK IN NORMAL RANGE
9. Radios.....AS DESIRED
10. Altimeter.....SET
11. Attitude Indicator.....CHECK ERECT
12. Directional Indicator.....SET
13. Seatbelts and Shoulder Harnesses.....RECHECK FASTENED
14. Doors.....CLOSED AND LATCHED
15. Parking Brake.....OFF

E. BEFORE LANDING:

1. Seat Belts and Shoulder Harnesses.....FASTENED
2. Fuel Selector Valve.....ON FULLEST TANK
3. Mixture Control.....FULL RICH
4. Propeller Control.....FULL INCREASE RPM
5. Flaps.....AS REQUIRED
6. ENGINE ALTERNATE AIR control.....PUSH OFF
7. Parking Brake.....OFF

2.2 OPERATING CHECK LISTS: (CON'T)

F. ENGINE SHUT - DOWN:

1. Parking Brake.....ON IF DESIRED
2. Radios.....OFF
3. All other electrical switches.....AS DESIRED
4. Flaps.....AS DESIRED
5. Mixture Control.....FULL LEAN
6. Magneto Switch.....OFF
7. Anti-collision light.....OFF
8. BAT and ALT switch.....OFF
9. Parking brake.....OFF (as desired)

2.3 NORMAL FLIGHT OPERATIONS:

A. RECOMMENDED FLAP SETTINGS:

Normal Takeoff - 20° (First Notch). No-flap (0°) takeoff permissible.

Normal Climb - 0°

Best Angle Climb - 20°

Landing - 40° (0° or 20° permissible)

B. CLIMBING:

Best Rate of Climb - 90 mph CAS, no flaps.

Best Angle of Climb - 75 mph CAS, 20° flaps.

////////////
///CAUTION///
////////////

CLIMB BELOW 90 MPH ONLY AS NECESSARY AND CHECK CYLINDER HEAD TEMPERATURE FREQUENTLY WHEN DOING SO.

C. RUDDER TRIM:

Right trim only is available. It is most useful during take-off and climb, to reduce the right rudder pressure necessary. Use at pilot's discretion.

D. STALLS:

Stalls are preceded by mild rudder buffet which can be felt through the rudder pedals. The red stall warning light on the instrument panel will illuminate at 5 to 10 mph above the stall speed. Loss of altitude prior to recovery from a stall may be as much as 200 feet.

////////////
///CAUTION///
////////////

THE STALL WARNING LIGHT IS INOPERATIVE WHEN THE BAT SWITCH IS OFF.

2.3 NORMAL FLIGHT OPERATIONS: (CONT"D)

E. CROSSWIND LANDINGS AND TAKEOFFS:

Maximum demonstrated 90° crosswind component is 14 mph.

F. FUEL SYSTEM MANAGEMENT:

Fuel is fed to the engine from the main (inboard) tanks, and is controlled by the selector valve on the left kick panel. Auxiliary (outboard) tanks feed their respective main tanks via transfer pumps, which are controlled by switches on the instrument panel. These transfer pumps transfer fuel at a rate of 0.4 gallons per minute, or approximately one half hour for a full auxiliary tank. Since overfilling a main tank from an auxiliary tank will force excess fuel overboard, it is recommended that the transfer pumps not be activated until their respective main tanks are slightly more than one quarter full. If the tank being transferred to is feeding the engine, however, transfer can be initiated when the main tank is down to approximately one-half. Confirm fuel tranfer by illumination of the transfer pump switch and an increase in the respective main tank fuel gage.

G. NOISE LEVEL:

The noise levels obtained during certification per FAR 36 were 73.6 dBA at 2500 lb. gross weight, 2600 RPM at full throttle. No determination has been made by the Federal Aviation Administration that the noise level of this airplane is or should be acceptable or unacceptable for operation at, into, or out of any airport.

H. ANTI-COLLISION LIGHT:

////////////// ///CAUTION//// //////////////

ANTI-COLLISION LIGHT MAY CAUSE ADVERSE EFFECT ON PILOT WHEN FLYING IN VISIBLE MOISTURE OVERCAST OR HAZE. IT IS RECOMMENDED THAT IT BE TURNED OFF UNDER THESE CONDITIONS.

SECTION III

EMERGENCY PROCEDURES:

3.1 RECOVERY FROM INADVERTENT SPINS:

Intentional spins are prohibited. If the aircraft inadvertently enters a spin, simultaneously apply full rudder opposite to the direction of rotation and full nose down elevator with ailerons neutral. When the rotation stops, neutralize the rudder and elevator, reduce power to idle and ease back on the control wheel as required to smoothly regain level flight. Wing flaps should be retracted to avoid exceeding the maximum flap speeds during recovery.

3.2 ALTERNATOR FAILURE:

Alternator output should be monitored by reference to the ammeter located on the right side of the engine instrument cluster. Should the ammeter indicate a minus deflection when engine RPM is above 900, reset the ALT switch ON and observe whether the ammeter is indicating a positive charge. If the charge is still negative, reduce the electrical load as much as possible, land as soon as is practical and investigate the electrical system malfunction before further flight. The electrical system is protected from overvoltage by an over-voltage relay. Should the relay trip the alternator off, it will be indicated by illumination of the white OVERVOLTAGE RELAY "RESET" switch light located on the left instrument panel sub-panel. To reset the relay, momentarily push the "RESET" switch light. If the system will not reset or the relay repeatedly trips, reduce electrical load as much as possible, land as soon as practicable and investigate the electrical system malfunction before further flight.

3.3 EMERGENCY CHECK LISTS:

A. ////////////////////
////ENGINE FAILURE////
////////////////////

1. Mixture control.....FULL RICH

////////////// /////NOTE///// ////////////// AT ALTITUDES OVER 8000 FT. A LEANER MIXTURE MAY BE REQUIRED.

2. ENGINE ALTERNATE AIR control.....PULL ON
3. Fuel Selector valve.....SWITCH TANKS
4. Boost pump.....ON
5. Airspeed.....MAINTAIN 80 MPH MINIMUM
6. Propeller control.....FULL INCREASE RPM

////////////// /////NOTE///// ////////////// PROPELLER WILL NOT WINDMILL BELOW 70 MPH.

SECTION III

EMERGENCY PROCEDURES:

3.3 EMERGENCY CHECK LISTS: (CON'T)

B. ////////////////////
////FORCED LANDING////
////////////////////

1. Propeller control.....FULL DECREASE FOR MAXIMUM GLIDE DISTANCE.
2. Airspeed.....MAINTAIN 80 MPH
3. Flaps.....UP FOR BEST GLIDE.
AS NECESSARY FOR LANDING.
4. Seat Belts and Shoulder Harnesses.....TIGHTEN
5. Loose Objects.....STOW
6. Fuel Selector Valve.....OFF
7. BAT, ALT, and Magneto Switches.....OFF JUST PRIOR TO LANDING

C. ////////////////////
/////ENGINE FIRE////
////////////////////

1. Fuel selector valve.....OFF
2. Throttle.....FULL OPEN
3. Magneto Switch.....OFF
4. Cabin vent and heat controls.....CLOSED
5. Window vents.....CLOSED
6. LAND AS SOON AS POSSIBLE.