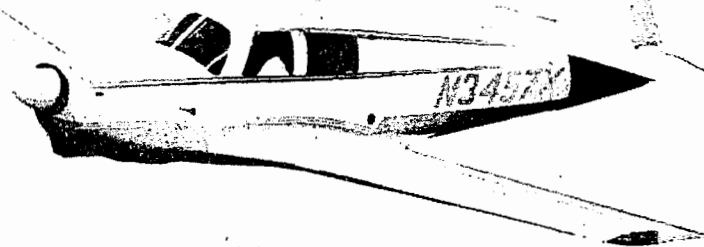


N 9667M

OPERATE THIS AIRCRAFT ONLY — ① after reading
owners manual ② with owners manual on board
③ after you are fully qualified & understand all of
the aircraft operating characteristics & limitations

MARK 21

MODEL M20C



1967

OWNERS

MANUAL

MOONEY AIRCRAFT, INC.



LANDING GEAR

Manual System

The landing gear is unique in that it is manually retracted by the pilot by means of a lever in the cabin. The system is operated by direct mechanical linkage and has proven to be one of the most reliable and maintenance-free retraction systems available. An electrically powered landing gear retraction system is also available at extra cost and is described in the following section.

The manual system is aided by bungee type springs in the fuselage and assist springs in the wing, which balance the weight of the gear. Rubber discs are used for shock absorption in the welded steel tube gear structure. Grease fittings are provided at certain important lubrication points on the landing gear.

The position of the gear is indicated by lights on the panel which will warn of an unlocked condition. These lights may be dimmed by rotating the lens housing to prevent glare at night. Press the lens housing in to test the bulbs. The red indicator light will come on if the handle on the retraction lever is not sufficiently engaged in the down and locked position, thereby indicating an unsafe-to-land condition. The green light indicates that the handle is properly engaged in the down position, and the gear is in the landing configuration. A thumb operated latch is provided on the down socket to prevent unlocking of the gear when it is down unless it is deliberately released.

To retract the gear, depress the safety latch button and slide the gear handle from the down-lock socket. Move the handle rapidly to the floor between the seats. Slide the gear handle into the up-lock socket, and the operation is complete. The more rapid the movement of the handle, the easier it is to retract the gear. The gear retracts easiest at low airspeeds.

To lower the gear, slide the gear handle from the up-lock socket and move the handle forward to the instrument panel. Slide the gear handle into the down-lock socket and check the gear warning light for a gear-down indication (a green light).

WINDOWS

The plexiglas windows should be kept clean and waxed. Remove dirt or mud with your hand while flushing with water. Do not rub the windows with a cloth or chamois while cleaning. After cleaning, rinse and dry with a moist chamois. Remove oil or grease with a cloth soaked in kerosene. Do not use solvents other than kerosene on plexiglas. After cleaning, polishing wax may be applied and rubbed lightly with a soft dry cloth. Do not use a power buffer as the heat generated by it may soften the surface of the windows.

LANDING GEAR

The landing gear retraction system should be rigged only by a mechanic familiar with the gear rigging procedures of the aircraft. The landing gear should be kept free of mud or ice to prevent interference when retracted. If you notice an unusual force when operating the manual retraction system, return the lever to the down and locked position and have the gear checked after landing. The gear warning horn may be checked in flight by retarding the throttle with the gear up. The horn should sound at about ten inches Hg manifold pressure.

All three tires should be maintained at 30 psi.

VACUUM OPERATED STEP

The operation of the step may be checked easily on the ground by starting the engine and maintaining sufficient engine speed to turn off the "Low Vacuum" light while an observer checks the step retraction. The step should retract slowly and smoothly into the fuselage. If there is evidence of binding as the step retracts, the support blocks should be examined for alignment.

REQUIRED DATA

The following items must be carried with the aircraft at all times:

1. Aircraft Airworthiness Certificate (displayed).

FIGURE 4

STALL SPEED VS. BANK ANGLE

GROSS WEIGHT 2575 LBS.; I.A.S. MPH; POWER OFF

FLAP SETTING	0° BANK	20° BANK	40° BANK	60° BANK
0° (Flaps Up)	67	69	78	96
15° (Take Off)	64	67	76	94
33° (Landing)	57	61	69	90

FIGURE 5

SPEED FOR MAXIMUM ^{LIFT} _{DRAG} (MAX. RANGE & GLIDE)

The speed at which the M20C is most efficient (i.e. the Ratio of Lift to Drag is at a Maximum) is 105 MPH INDICATED AIRSPEED, Gear Up & Flaps Up. Flying at this airspeed will give maximum range or minimum glide angle, under zero wind conditions.

