

26. Emergency Crossover Circuit Breaker

If either alternator fails this switch will allow cross feed of electrical power to the other buss.

27 & 28. Overvoltage Reset

If a BUSS VOLTS annunciator illuminates steady, PUSH illuminated overvoltage reset switch. If this fails to reset alternator circuit, land as soon as practical. Repair prior to next flight.

29. Circuit Breaker Panel

See detail explanation elsewhere in this Section.

30 & 31. Co-pilots Headset Jacks.

32. Power Lever

Pushing the power lever forward increases engine power. Pulling the lever aft decreases engine power. Propeller and Mixture are controlled automatically.

33 & 34. Pilots Headset Jacks

35. Mike Jack

Plug the hand held microphone into this plug and place in mike holder located on storage compartment door on front of lower console.

36. Flap Switch

The flap switch, on the console, operates the electrically-actuated wide span wing flaps. Holding the springloaded switch in the FLAPS DOWN position lowers the flaps to the desired angle of deflection. Simply releasing downward pressure on the switch allows it to return to the OFF position stopping the flaps at any desired intermediate position during extension. When FLAPS UP position is selected, flaps will retract to full up position unless the switch is returned to the neutral position for a desired intermediate setting.

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~ CAUTION ~
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Pushing the switch to the UP position retracts the flaps completely.

37. Glareshield Light Dimmer Switch

Momentary rocker Switch; double throw with center position OFF. Push and hold switch until the Glareshield Lights are at the intensity desired. Upper portion to intensify; lower portion to dim. The NAV switch must be ON.

38. Panel Light Dimmer Switch

Momentary rocker Switch; double throw with center position OFF. Push and hold switch until the Panel Lights are at the intensity desired. Upper portion to intensify; lower portion to dim. The NAV switch must be ON.

39. Alternate Static Source Valve

Pulling the alternate static source valve to the full aft position changes the source of static air for the altimeter, airspeed and vertical speed indicator from the outside of the aircraft to the cabin interior. Airspeed and altimeter readings are affected slightly when alternate static source is used (See Section V).

SECTION VII
AIRPLANE AND SYSTEMS DESCRIPTION

MOONEY
M20L

Elevator System

Elevator construction is essentially the same as that of the ailerons. Both elevators attach to stabilizer at four hinge points. Push-pull tubes and bellcranks link the elevators to the control yoke. Counterweights balance the elevators.

Rudder System

The rudder attaches to the aft vertical fin spar at four hinge points. Push-pull tubes and bellcranks link the rudder to the rudder pedals.

Trim System

To provide pitch trim control, the entire empennage pivots around its main hinge points. The system consists of a manually operated actuator that operates a series of torque tubes and universal joints connected to a jack screw on the aft tailcone bulkhead. A trim control wheel, located between the pilot and co-pilot seats, allows the pilot to set stabilizer angle. Trim position is indicated by an electrical gauge located in the center of the instrument panel. This indicates stabilizer position relative to the aircraft thrust line.

Wing Flaps

The wing flaps are electrically operated and interconnected through push-pull tubes and bellcranks. Total flap area is 17.98 square feet.

Nominal travel is 0 to 33 degrees and limit switches prevent travel above or below these limits. The flap position is controlled by a switch located on the lower control console. The electric flap position indicator which shows full up, takeoff (10 degrees) and full down positions is located in the center of the instrument panel. A rheostat controls the flap position indicator. Generally, aircraft trim requirements will change with use of the flaps. Lowering of the flaps will cause a nose down pitching condition which can be easily corrected by application of nose up trim. Conversely, retraction of the flaps from a trimmed flight condition will cause a nose up pitching condition.

Use of the flaps should always be within the operational limits established in Section II. The flaps are very effective in lowering landing speed and can be used to slow the aircraft to approach speeds.

INSTRUMENT PANEL

The instrument panel is designed to provide functional grouping of all flight, radio, engine instruments, switches and controls required to operate various systems. All flight instruments are grouped on the shock-mounted panel directly in front of the pilot. The radio console and annunciator panel are to the right of the instrument panel. Power plant instruments are grouped on the center instrument panel.

BEFORE LANDING PROCEDURES

Seats, Seat Belts, Shoulder Harness	ADJUST AND SECURE
Internal/External lights	AS DESIRED
Landing gear	DOWN below 129 KIAS (Check Gear Down light ON-Check visual indicator)
Main/Boost & Emergency Fuel Pumps	ON
Enrichment Switch	OFF
Fuel Selector	FULLEST TANK
Wing flaps	AS DESIRED (full down below 110 KIAS)
Trim	AS DESIRED

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To minimize control wheel forces during maneuvering, timely nose-up trimming is recommended to counteract the nose down pitching moment as power is reduced and/or the flaps are extended.

Parking Brake	VERIFY OFF
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GO AROUND (BALKED LANDING)

Power Lever	(2343 RPM) (VERIFY FUEL ENRICH ANNUNCIATOR is ILLUMINATED)
Wing Flaps	TAKEOFF POSITION (10°) (After POSITIVE climb established)
Trim	AS DESIRED

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To minimize the control wheel forces during maneuvering, timely nose-down trimming is recommended to counteract the nose up pitching moment as power is increased and /or the flaps are retracted.

Airspeed	75 KIAS
Landing Gear	UP
Wing Flaps	UP
Airspeed	90 KIAS

LANDING

Before Landing Checklist	COMPLETED
Wing Flaps	FULL DOWN or PARTIAL
Landing Gear	DOWN and LOCKED
Approach Airspeed	75 KIAS (Full Flaps) (80 KIAS with Partial Flaps)
Touchdown	MAIN WHEELS FIRST
Landing Roll	LOWER nose wheel gently
Brakes	MINIMUM required