BEFORE STARTING ENGINE

Preflight Inspection – Complete
Seats, Seat Belts and Shoulder Harness – Adjusted, locked
Radios, Autopilot, Electrical Equipment – OFF
Parking Brake – SET
Controls – Check for proper operation

STARTING ENGINE

Master/Alternator Switch – ON
Mixture – FULL RICH
Carburetor Heat – OFF
Fuel Selector Valve – Set to fullest tank
Prime – As required
Flaps – UP
Auxiliary Fuel Pump – ON (Check pressure 0.6 – 8 PSI)
Propeller – CLEAR
Ignition Switch – ON LEFT
Throttle – Open approximately 1/4 inch
Starter Button – Press, release when engine starts
Ignition Switch – ON BOTH
Oil Pressure – Check, if no pressure within 30 seconds, shut down engine
Engine – Warm up at 1000 to 1200 RPM
Auxiliary Fuel Pump – OFF

BEFORE TAKEOFF

Parking Brake – SET
Throttle – Set for 1800 RPM
Engine Instruments – In green arc
Ammeter – Charging
Vacuum Gage – 4.6 to 5.4 in. Hg.
Magnetos – Check, 175 RPM maximum drop, not over 50 RPM difference between left and right magnetos
Carburetor Heat – ON, check for RPM drop, then set to OFF
Throttle – Set 1000 RPM
Radios – ON, checked, transponder – STANDBY
Engine – Idles smoothly
Engine is ready for takeoff when it will take throttle without hesitating or faltering and oil temperature is in green arc.
Trim Tab – SET
Flaps – Checked for operation, set UP
Mixture – FULL RICH (or as required by field elevation)
Throttle Friction Lock – ADJUSTED
Auxiliary Fuel Pump – ON, check for pressure change, then set to OFF
Flight Instruments – SET (clock, directional gyro, altimeter, radios)
Lights – ON, as required
Parking Brake – OFF

TAKEOFF

Normal Takeoff

Flaps – UP
Carburetor Heat – OFF
Auxiliary Fuel Pump – ON
Throttle – FULL OPEN
Elevator Control – Raise nosewheel at 50 KIAS (58 MPH) to 55 KIAS (62 MPH)
Turn Transponder to ON after takeoff

Obstacle Clearance Takeoff

Flaps – UP
Carburetor Heat – OFF
Auxiliary Fuel Pump – ON
Throttle – FULL OPEN
Elevator – Apply light back pressure at 50 KIAS (58 MPH), lift nosewheel at 55 KIAS (62 MPH)
Climb Speed – 65 KIAS (75 MPH)

CLIMB

Normal Climb Speed – 90 KIAS (104 MPH) at full throttle
Beat Rate of Climb Speed – 90 KIAS (104 MPH) at sea level, full throttle
Best Angle of Climb Speed – 70 KIAS (81 MPH) at sea level, full throttle

CRUISE

Auxiliary Fuel Pump – OFF
Power – SET at 2200 to 2700 RPM
Trim Tab – SET as required
Mixture – SET as required. Full rich when operating at more than 75% power. If in doubt of percentage of power being used, use full rich mixture for operation below 5000 Ft.

DESCENT

Power – As required for descent
Mixture – As required by altitude
Carburetor Heat – As required by weather conditions
Trim Tab – SET as required

BEFORE LANDING

Seats, Seat Belts and Shoulder Harness – Adjust and lock
Fuel Selector – On fullest tank
Mixture – FULL RICH
Auxiliary Fuel Pump – ON

FLIGHT CONTROLS

The control surfaces are operated by a combination of torque tubes and conventional cable systems. The elevator anti-servo trim tabs are located on the elevator trailing edges and are actuated manually by the trim wheel located on the center console. Ground adjustable tabs on the rudder and ailerons provide a simple method of adjusting directional and lateral trim.

FLAPS

Electrically operated flaps provide a full range of settings by means of a spring loaded, three position switch. The flap actuator switch is held down until the flap position indicator shows the desired flap angle; when released, it returns to neutral, and flap travel stops.

CAUTION

ABRUPTLY RELEASING THE SWITCH MAY CAUSE IT TO SNAP THROUGH THE NEUTRAL DETENT, INTO THE RETRACT POSITION.

INSTRUMENT PANEL

The instrument panel (Figure 7-1) employs a unique "eyebrow" design which shields the windshield from panel reflections during night flights. The eyebrow also houses the instrument panel lights which are controlled by a switch rheostat (OFF and INTENSITY) located just above the throttle. Other panel switches are the rocker type.

CONSOLE

The center console serves as a front seat divider and provides a storage clip for the microphone. It also houses the microphone jack, the flap switch, flap position indicator, trim wheel, trim position indicator, ash tray, cigarette lighter, fuel selector valve, and fuel gauges.