

PREFLIGHT INSPECTION**CABIN**

Certificates/Documents IN AIRCRAFT
 Airworthiness Certificate
 Registration
 Radio Operators/Station License (**International Flights Only**)
 Operating Limitations / Airplane Flight Manual
 Weight & Balance (current)
 Parking Brake SET
 Control Wheel Lock..... REMOVE
 Ignition Switch OFF
 Master Switch ON
 Fuel Quantity Indicators CHECK QUANTITY
 Anti-collision / Strobe Lights..... CHECK OPERATION
 Flaps DOWN FOR INSPECTION
 **For Night Operation: Lights CHECK
 Master Switch OFF
 Fuel Selector BOTH
 Baggage Door CHECK SECURE

TAIL SECTION

Tail Tie-Down / Rudder Gust Lock..... REMOVE
 Elevator & Rudder CHECK FREEDOM & SECURE
 Nav. Lights UNBROKEN (WHITE)

RIGHT WING

Flap Tracks & Actuator Rod..... CHECK
 Aileron CHECK FREEDOM & SECURE
 Nav. Light UNBROKEN (**GREEN**)
 Fuel Quantity CHECK VISUALLY
 Fuel Filler Cap SECURE
 Wing Tie-down REMOVE
 Fuel Tank Sump Quick-Drain Valve DRAIN
 Main Wheel Tire..... CHECK WEAR & INFLATION (29 psi)

NOSE

Windshield CHECK CLEAN
 Wheel Chocks REMOVE
 Engine Oil Dipstick..... CHECK (6-8 qt.)
 Engine Fuel Strainer..... DRAIN 4 SECONDS
 Nose Wheel CHECK WEAR & INFLATION (31 psi)
 Shock Strut CHECK PROPER INFLATION (45 psi)
 Approx. 3.25 inches showing
 Air Inlets..... CHECK FREE OF FOREIGN MATTER
 Landing Light CHECK
 Air Filter..... CHECK
 Propeller & Spinner CHECK
 Tow Bar REMOVE
 Static Port..... CHECK

LEFT WING

Main Wheel Tire CHECK WEAR & INFLATION (29 psi)
 Fuel Tank Sump Quick-Drain Valve DRAIN
 Wing Tie-down REMOVE
 Fuel Quantity CHECK VISUALLY
 Fuel Filler Cap SECURE
 Pitot Tube / Cover..... CHECK / REMOVE
 Fuel Tank Vent Opening CHECK
 Stall Warning Vent..... CHECK
 Nav. Light UNBROKEN (**RED**)
 Aileron CHECK FREEDOM & SECURE
 Flap Tracks & Actuator Rod..... CHECK

BEFORE STARTING ENGINE

Chocks REMOVE
 Preflight Inspection COMPLETE
 Passenger Briefing COMPLETE
 Seats, Seat Belts, Harness ADJUST & LOCK
 Brakes TEST & SET
 Circuit Breakers CHECK IN
 Radios & Electrical Equipment..... OFF
 Fuel Selector..... BOTH
 Tow Bar..... REMOVE

STARTING ENGINE

Mixture RICH
 Carburetor Heat COLD
 Prime (2-6 strokes) AS REQUIRED
 Primer..... IN & LOCKED
 Throttle OPEN 1/8 inch
 Master Switch ON
 Anti-collision / Strobe Lights..... CHECK OPERATION
 Propeller Area CLEAR
 Ignition Switch START
 Oil Pressure CHECK
 Engine Warm-up..... THROTTLE 800-1200 RPM
 Fuel Pump OFF
 Mixture LEAN FOR TAXI

BEFORE TAXI

Lights & Strobes AS REQUIRED
 Radios ON-SET
 Transponder STANDBY
 Flaps UP
 Seats, Belts, Harnesses CHECK SECURE
 Brakes TEST

BEFORE TAKEOFF

Parking Brake SET
 Seats, Belts, Harnesses CHECK SECURE
 Cabin Doors & Windows..... CLOSED & LOCKED
 Flight Controls FREE & CORRECT
 Fuel Selector BOTH
 Elevator Trim SET for takeoff
 Fuel Quantity CHECK
 Mixture RICH
 Throttle 1700 RPM
 Magnetos CHECK
 (125 max drop / 50 max diff.)
 Carburetor Heat CHECK
 Suction Gage CHECK (4.6 to 5.4)
 Engine Instruments & Ammeter CHECK
 Throttle CHECK IDLE LIMITS (650 RPM)
 If holding for Takeoff IDLE at 1200 RPM
 Throttle Friction Lock ADJUST
 Flight Instruments CHECK & SET
 Radios SET
 Transponder ALTITUDE
 Wing Flaps SET for takeoff
 Lights AS DESIRED
 Brakes RELEASE

*** (Note time of departure for fuel purposes.)

TAKE OFF**NORMAL TAKEOFF**

Wing Flaps 0 Degrees
 Carburetor Heat COLD
 Throttle..... FULL OPEN
 Elevator Control LIFT NOSE WHEEL (60 MPH)
 Climb Speed 75- 85 MPH

ENROUTE CLIMB

Airspeed 80-90 MPH
 Throttle FULL OPEN
 Mixture RICH (until 3000 feet)

CRUISE

Power 2200 – 2700 RPM
 Elevator ADJUST
 Mixture LEAN for max rpm

DESCENT

Fuel Selector..... BOTH
 Mixture RICH
 Power AS DESIRED
 Carburetor Heat AS REQUIRED

BEFORE LANDING

Seats, Belts, HarnessesSECURE
 Fuel Selector.....BOTH
 MixtureRICH
 Carburetor HeatAPPLY FULL HEAT
 Wing Flaps.....AS DESIRED
 Airspeed.....70-80 MPH(flaps up), 65-75 MPH(flaps down)

BALKED LANDING (Go-Around)

Power.....FULL THROTTLE
 Carburetor Heat.....COLD
 Wing Flaps.....RETRACT to 20°
 Upon reaching an airspeed of approximately 65 MPH, retract flaps slowly.

LANDING

NORMAL LANDING

Airspeed70-80 MPH (flaps up)
 Wing Flaps.....AS DESIRED (below 100 MPH)
 Airspeed65-75 MPH (flaps down)
 TouchdownMAINS FIRST
 Landing RollLOWER NOSE WHEEL GENTLY
 BrakingMINIMUM REQUIRED

AFTER LANDING

Wing FlapsUP
 Carburetor HeatCOLD
 TransponderSTANDBY
 LightsAS REQUIRED

*** (Note time of landing to compare against the Hobbs.)

SHUTDOWN

Parking BrakeSET
 Radios & Electrical Equipment & LightsOFF
 Throttle1000 RPM
 MixtureIDLE CUT-OFF
 Ignition SwitchOFF
 MasterOFF
 Control LockINSTALL
 Hobbs & TachRECORD
 AircraftSECURE

USEFUL INFORMATION

Aircraft V-Speeds:

Vr:	(Rotation Speed)	60 MPH
Vx:	(Best angle of climb)	68 MPH
Vy:	(Best rate of climb)	91 MPH
Va:	(Maneuvering Speed)	112 MPH
Vfe:	(Max flap extended speed)	100 MPH
Vno:	(Max structural cruising speed)	145 MPH
Vne:	(Never exceed speed)	182 MPH
Vs1:	(Stall Speed (clean))	57 MPH
Vso:	(Stall Speed (dirty))	49 MPH
Glide:	(clean)	80 MPH

Note: All Speeds are for Gross Weight (2300 lbs) aircraft.

Weight & Balance:

Max Gross Weight:	2300.00 lbs.
Basic Empty Weight:	1430.6 lbs.
Useful Load:	869.6 lbs.
Payload:	641.6 lbs.
Moment:	55535.892
Center of Gravity:	38.82 in.

Standard Fuel Loading:

42 Gallon Capacity	252 lbs
38 Gallons Usable	228 lbs
4 Gallons Unusable Fuel	24 lbs

EMERGENCY PROCEDURES

ENGINE FIRE DURING START (results from over priming)

Starter.....CONTINUE TO CRANK ENGINE
 Throttle1700 RPM (if engine starts)
 If engine start is unsuccessful, continue cranking for 2 or 3 minutes with throttle full open.
 MixtureIDLE CUT-OFF
 Fuel Selector.....OFF
 Aircraft..... ABANDON IF FIRE CONTINUES

Smother flames with fire extinguisher, seat cushion, blanket, or loose dirt. If practical, remove carburetor air filter if it's ablaze.

Make a thorough inspection of fire damage, and repair or replace damaged components before conducting flight.

ENGINE POWER LOSS DURING TAKE-OFF (Instructor Technique)

If sufficient runway remains for a normal landing land straight ahead.
 If insufficient runway remains, maintain a safe airspeed and make only shallow turns to avoid obstructions.
 If you have gained sufficient altitude to attempt a restart, proceed with next checklist.

ENGINE FAILURE DURING FLIGHT (restart) (Instructor Technique)

Airspeed**80 MPH**
 Fuel SelectorSWITCH TANKS*
 MixtureRICH
 Carburetor Heat.....ON
 Engine Gauges.....CHECK FOR CAUSE
 PrimerIN & LOCKED
 Ignition Switch "L" then "R" back to BOTH
 Transponder**7700**
 Radio**121.5 MAYDAY****

* If engine failure was caused by fuel exhaustion, power will not be regained after tanks are switched until empty fuel lines are filled, which may require up to ten seconds.

** When calling on 121.5 say your last known position number of people on board, how much fuel, and what kind of emergency. It is recorded and they will be able to find you and take care of you faster.

EMERGENCY LANDING WITHOUT ENGINE POWER

Airspeed**80 MPH**
 MixtureCUT—OFF
 Fuel Selector.....OFF
 Ignition SwitchOFF
 Seat belt and harness.....TIGHT
 Flaps.....AS REQUIRED WITHIN GLIDING DIST OF FIELD
 (Full Flaps Down).....**65-75 MPH**
 Master SwitchOFF
 Cabin Doors.....UNLACH PRIOR TO FINAL APPROACH
 TouchdownSLIGHTLY TAIL LOW(min. speed)
 Apply heavy braking while holding full up elevator.

ELECTRICAL FIRE (smoke in cabin)

Master Switch.....OFF
 All Electrical Switches (except ignition).....OFF
 Vents / Windows.....OPEN TO VENT SMOKE
 Cabin Heat.....OFF
 Land as soon as Practical

ENGINE FIRE IN FLIGHT

MixtureCUT—OFF
 Fuel Selector.....OFF
 Master SwitchOFF
 Glide Establish.....**120 MPH**
 Cabin Heat.....OFF / CLOSED

If fire is not extinguished, increase glide speed in an attempt to find an airspeed that will provide incombustible mixture.

Magneto SwitchOFF

Proceed with **EMERGENCY LANDING w/o POWER** procedure.