

NORMAL PROCEDURES

BEFORE STARTING ENGINE

- Pre-flight – COMPLETE
- Passengers – SAFETY
- Seatbelts – SECURED
- Fuel – FULLEST TANK
- Avionics – OFF
- Electrical Equipment – OFF
- Circuit breakers – CHECK IN
- Brakes – TEST / SET

STARTING ENGINE

- Mixture – RICH
- Carb heat – COLD / OFF
- Prime – AS REQUIRED
- Master Switch – ON
- Fuel Pump – ON
- Beacon Light – ON
- Throttle – OPEN 1/8"
- Prop Area – CLEAR
- Ignition – START
- Oil Pressure – CHECK
- Throttle – 1000 rpm
- Fuel Pump – OFF
- Radio – ON/SET for Taxi
- Weather – RECORD & SET
- Transponder – ON /ALT
- Wing Flaps – UP
- Mixture – LEAN 1 INCH
- READY TO TAXI

TAXI

- Comms – ANNOUNCE TAXI
- Brakes – TEST
- Controls – ADJUST for winds

BEFORE TAKE OFF

- Brakes – ON
- Doors – CLOSED/LATCHED
- Flight controls - FREE/CORRECT
- Flight instruments
 - Instruments – Correct and working
 - Heading – SET
 - NAV/GPS – SET
 - COMMS/XPDR – SET
- Fuel – FULLEST TANK
- Mixture – RICH
- Trim – SET FOR TAKEOFF
- Throttle – 2000 rpm
 - Mags – Max 175 DROP / 50 DIFF
 - Carb heat – CHECK
 - Engine instr. – CHECK
 - Ammeter – CHECK
 - Suction – CHECK
 - Idle – CHECK W/ CARB HEAT ON
- Throttle – SET 1000 RPM
- Throttle friction lock – ADJUST
- Transponder & ADS-B – ALT & ON

NORMAL TAKEOFF

- Departure – BRIEFED
- Time – RECORD
- Trim – SET FOR TAKEOFF
- Lights – AS REQUIRED
- Wing flaps – SET 0°
- Mixture – RICH
- Carb heat – COLD
- Fuel Pump – ON
- Throttle – FULL OPEN
- Elevator – ROTATE 55 ⇒ 60mph
- Climb Speed – 85 mph

ENROUTE CLIMB (1,000 ft)

- Airspeed – SET Cruise Climb Speed
- Fuel Pump – OFF
- Comms – ANNOUNCE Depart & SWITCH freq A/R
- Navigation – SET

CRUISE

- Power – 2200⇒2500 rpm
- Elevator – TRIM SET
- Mixture – LEAN A/R

APPROACH

- Weather – RECORD & SET
- Mixture – RICH A/R
- Lights – ON A/R
- Radio – SET
- Approach – LOAD and ACTIVATE
- Fuel – FULLEST TANK

BEFORE LANDING

- Seats, seatbelts, harnesses – ON
- Mixture – RICH
- Landing Light – ON
- Fuel Pump – ON

LANDING

- Carburetor Heat – A/R
- Airspeed – 85 mph Flaps 0
76 mph Flaps 40
- Touchdown – 55-65 mph MAINS FIRST
- Landing roll – GENTLY LOWER NOSE
- Braking – MINIMUM REQ'D

AFTER LANDING

- Transponder – Stays on ALT
- Wing Flaps – RETRACT
- Carb heat – COLD A/R
- Lights – STROBES/LANDING OFF
- Fuel Pump – OFF
- Trim – RESET
- Mixture – LEAN for Taxi

SECURING AIRCRAFT

- Brakes – ON
- Transponder & ADS-B/NAV – OFF
- Comms – OFF
- Lights – OFF
- Throttle – 1000 rpm
- Mixture – IDLE/CUTOFF
- Ignition – OFF/KEYS OUT
- Master Switch – OFF
- Control lock – INSTALL
- Hobbs and Tack – RECORD
- Covers / Tie-Downs – INSTALL

SHORT FIELD TAKEOFF

- Mixture – RICH
- Wing flaps – 25°
- Brakes – HOLD
- Throttle – FULL OPEN
- Brakes – RELEASE
- Rotate 55 - 60 mph
- Climb Speed – 74 mph V_x Obstacle
- Flaps – SLOWLY RETRACT
- Climb Speed – 85 mph V_y

SOFT FIELD TAKEOFF

- Mixture – RICH
- Wing flaps – 25°
- Brakes – MINIMAL
- Elevator – AFT for weight off Nose
- Throttle – SLOWLY APPLY
- Rotate – LOWEST airspeed
- ACCELERATE IGE to 85 mph
- Flaps – SLOWLY RETRACT while climbing at 85 mph V_y

SHORT FIELD LANDING

- Before Landing – COMPLETE
- Wing Flaps – 40°
- Airspeed – 76 mph
- Throttle – IDLE at obstacle clear and landing assured
- Touchdown – MAINS FIRST
- Braking – MAXIMUM Required
- Flaps – RETRACT

SOFT FIELD LANDING

- Before Landing – COMPLETE
- Normal Approach Configuration
- During Flare – NOSE HIGH
- Throttle – A/R for elevator effectiveness
- Landing roll – GENTLY LOWER NOSE
- Maintain aft stick
- Braking – MINIMUM or NONE

BALKED LANDING (GO-AROUND)

- Throttle – Full "Open"
- Carburetor Heat – Cold
- Wing Flaps – Retract to 20°
- Upon 65 mph and positive rate of climb
- Retract flaps SLOWLY

EMERGENCY PROCEDURES

ENGINE FAILURE AFTER TAKEOFF

- Airspeed – 83 mph Vg
- Mixture – RICH
- Fuel Selector – SWITCH TANKS
- Fuel Pump – ON
- Carb Heat – ON

ENGINE FAILURE DURING FLIGHT

- Airspeed – 83 mph Vg HORIZON
- SELECT FIELD
- Mixture – RICH
- Fuel Selector – SWITCH TANKS
- Fuel Pump – ON
- Carb Heat – ON
- Primer – IN & LOCKED
- Ignition – BOTH/START
- Engine Gauges – CHECK

If Engine Starts:

- Fuel Pump – AS REQUIRED
 - Mixture – AS REQUIRED
 - Carb Heat – ADJUST IF ICE SUSPECTED
- LAND AS SOON AS POSSIBLE

EMERGENCY LANDING W/O POWER

- Airspeed – 83 mph (FLAPS UP)
 - SELECT FIELD
 - MAYDAY 121.5 or LAST APPCH
- Squawk 7700

When Landing Assured:

- Ignition – OFF
- Mixture – OFF
- Fuel Selector – OFF
- Seat Belts & Cargo – SECURE
- Door – UNLATCH
- Flaps – AS REQUIRED
- Touchdown – TAIL LOW & LOWEST SPEED
- Brakes – APPLY HEAVILY

ENGINE FIRE ON GROUND

- CONTINUE CRANKING
 - Throttle – OPEN
 - Mixture – IDLE CUTOFF
 - Fuel Pump – OFF
 - Fuel Selector – OFF
 - Ignition – OFF
- EVACUATE

If Engine Starts:

- Throttle – 1800 rpm for 2 min
 - Mixture – IDLE CUTOFF
 - Fuel Pump – OFF
 - Fuel Selector – OFF
 - Ignition – OFF
- SHUTDOWN AND INSPECT

ENGINE ROUGHNESS

- Carb Heat – ON
- Mixture – ADJUST for SMOOTH
- Fuel Pump – ON & VERIFY PRESSURE
- Fuel Selector – SWITCH
- Primer – CONFIRM IN / LOCKED
- Magnetos – CHECK L / R / BOTH

If roughness persists, prepare for precautionary landing

ENGINE FIRE IN FLIGHT

- Mixture – IDLE/CUTOFF
- Fuel Selector – OFF
- Fuel Pump – OFF
- Master Switch – OFF
- Ignition – OFF
- Throttle – CLOSED
- Cabin heat/air – OFF
- Airspeed – 100 mph EMERGENCY DESCENT
- Fire extinguisher – ACTIVATE
- Forced landing – EXECUTE

ELECTRICAL FIRE IN FLIGHT

- Master Switch – OFF
 - All other switches (except ignition) OFF
 - Vents – OPEN
 - Cabin Air/Heat – OFF
 - Fire extinguisher – ACTIVATE
- LAND AS SOON AS POSSIBLE

LOSS OF FUEL PRESSURE

- Fuel Pump – ON
 - Fuel Selector – SWITCH TANKS, then SET TO FULLEST
 - Mixture – RICH
- LAND AS SOON AS PRACTICAL

ALTERNATOR FAILURE

- Load Meter – CHECK
- Alternator – OFF
- Electrical Load – REDUCE
- Circuit Breakers – CHECK / RESET
- Alternator – ON

If Alternator Not Restored:

- Alternator – OFF
 - Electrical Load – REDUCE
- LAND AS SOON AS PRACTICAL

PERFORMANCE

Ground Roll.....800 ft
Takeoff Over 50 ft.....1700 ft

Landing Roll.....535 ft

Vso.....55 mph
Vs.....64 mph
Vx.....74 mph
Vy.....85 mph
Vfe.....115 mph
Va.....129 mph
Vno.....140 mph
Vne.....171 mph
Vg.....83 mph

