

BEFORE STARTING ENGINE

Preflight Inspection..... COMPLETE
 Seats, Belts, Shoulder Harnesses ADJUST and
 LOCK
 Fuel Shutoff Valve..... ON
 Radios, Electrical Equipment OFF
 Brakes TEST and SET
 Circuit Breakers CHECK IN

STARTING ENGINE

Mixture RICH
 Carburetor Heat..... COLD
 Prime..... AS REQUIRED
 (up to 3 strokes)
 Throttle OPEN 1/2 INCH
 Propeller Area..... CLEAR
 Master Switch..... ON
 Ignition Switch START
 Throttle ADJUST for
 1000 RPM or less
 Oil Pressure CHECK

TAXIING

Parking Brake..... RELEASE
 Brakes TEST
 Instruments CHECK
 Taxi lights..... ON

RUN UP

Brakes APPLY
 Engine Instruments..... ALL GREEN
 Throttle 1700 RPM
 Magnetos (Drop max 125RPM) . LEFT
 Magnetos (Rising) BOTH
 Magnetos (Drop max 125RPM) . RIGHT
 Magnetos (Rising) BOTH

MAX DIFFERENCE BETWEEN 50RPM

Carb Heat (Drop)..... ON
 Throttle (Stable, max 5sec)..... IDLE
 Carb Heat (Rising) OFF
 Throttle FULL PWR
 Throttle 1000 RMP

TAKEOFF
NORMAL TAKEOFF

Wing Flaps..... 0°- 10°
 Carburetor Heat..... COLD
 Throttle FULL OPEN
 Elevator Control LIFT NOSE
 WHEEL at 50 KIAS
 Climb Speed 65-75 KIAS

SHORT FIELD TAKEOFF

Wing Flaps..... 10°
 Carburetor Heat COLD
 Brakes APPLY
 Throttle FULL OPEN
 Brakes RELEASE
 Elevator Control SLIGHTLY TAIL
 LOW
 Climb Speed 54 KIAS
 Wing Flaps RETRACT

LANDING
NORMAL LANDING

Airspeed 60-70 KIAS
 (flaps UP)
 Wing Flaps AS DESIRED
 (< 85 KIAS)
 Airspeed 55-65 KIAS
 (flaps DOWN)
 Touchdown MAIN WHEELS
 FIRST
 Landing Roll..... LOWER NOSE
 WHEEL
 Braking MINIMUM
 REQUIRED

SHORT FIELD LANDING

Airspeed 60-70 KIAS
 (flaps UP)
 Wing Flaps..... 30°(<85 KIAS)
 Airspeed MAINTAIN
 54 KIAS
 Power REDUCE to
 idle
 Touchdown..... MAIN
 WHEELS FIRST
 Brakes APPLY
 HEAVILY
 Wing Flaps RETRACT

BALKED LANDING

Throttle FULL OPEN.
 Carburetor Heat COLD.
 Wing Flaps..... RETRACT to
 20°
 Airspeed 55 KIAS.
 Wing Flaps RETRACT

AFTER LANDING

XPDR..... 7000, STBY
 Flaps UP
 Carb Heat OFF
 Landing & Strobe Lights OFF
 Pitot Heat OFF

SHUTDOWN

Radios & Electronic Eqp OFF
 Avionic Master OFF
 Mixture..... OFF
 Exterior Lights OFF
 Landing & Strobe Lights OFF
 Ignition OFF
 Master & Alternator..... OFF
 Doors UNLOCKED

SECURE

Control Lock SET
 Wheel Chocks..... AS NEEDED
 Pitot Cover..... SET
 Aircraft Secured CHECKED

ENGINE FAILURES**ENGINE FAILURE DURING TAKEOFF RUN**

Throttle IDLE
 Brakes APPLY
 Wing Flaps RETRACT
 Mixture IDLE CUT-OFF
 Ignition Switch OFF
 Master Switch OFF

ENGINE FAILURE IMMEDIATELY AFTER**TAKEOFF**

Airspeed 60 KIAS.
 Mixture IDLE CUT-OFF
 Fuel Shutoff Valve OFF
 Ignition Switch OFF
 Wing Flaps AS REQUIRED
 Master Switch OFF

ENGINE FAILURE DURING FLIGHT

Airspeed 60 KIAS
 Carburetor Heat ON
 Primer IN and
 LOCKED
 Fuel Shutoff Valve ON
 Mixture RICH
 Ignition Switch BOTH

FORCED LANDINGS**EMERGENCY LANDING WITHOUT ENGINE POWER**

Airspeed 65 KIAS
 (flaps up)
 60 KIAS
 (flaps DOWN).
 Mixture IDLE CUT-OFF
 Fuel Shutoff Valve OFF
 Ignition Switch OFF
 Wing Flaps AS REQUIRED
 Master Switch OFF
 Doors UNLATCH
 Touchdown SLIGHTLY
 TAIL LOW
 Brakes APPLY
 HEAVILY.

PRECAUTIONARY LANDING WITH ENGINE POWER

Airspeed 60 KIAS
 Wing Flaps 20°
 Selected Field FLY OVER,
 Radio and Electrical Switches OFF
 Wing Flaps 30°
 Airspeed 55 KIAS
 Master Switch OFF
 Doors UNLATCH
 Touchdown SLIGHTLY
 TAIL LOW
 Ignition Switch OFF
 Brakes..... APPLY
 HEAVILY

ENGINE FIRE IN FLIGHT

Mixture IDLE CUT-OFF
 Fuel Shutoff Valve..... OFF
 Master Switch OFF
 Cabin Heat and Air..... OFF
 Airspeed 85 KIAS
 Forced Landing EXECUTE

ELECTRICAL FIRE IN FLIGHT

Master Switch OFF
 All Other Switches
 (except ignition switch) OFF
 Vents/Cabin Air/Heat CLOSED
 Fire Extinguisher ACTIVATE

If fire appears out and electrical power is necessary for continuance of flight

Master Switch ON
 Circuit Breakers CHECK
 Radio/Electrical Switches ON
 Vents/ Cabin Air/ Heat..... OPEN

CABIN FIRE

Master Switch OFF.
 Vents/Cabin Air/Heat CLOSED
 Fire Extinguisher ACTIVATE
 Land the airplane as soon as possible to inspect for damage

ICING

1. Turn pitot heat switch ON (if installed).
2. Turn back or change altitude to obtain an outside air temperature that is less conducive to icing.
3. Pull cabin heat control full out to obtain maximum defroster air temperature. For greater air flow at reduced temperatures, adjust the cabin air control as required.
4. Open the throttle to increase engine speed and minimize ice buildup on propeller blades.
5. Watch for signs of carburetor air filter ice and apply carburetor heat as required. An unexpected loss in engine speed could be caused by carburetor ice or air intake filter ice. Lean the mixture for maximum RPM, if carburetor heat is used continuously.
6. Plan a landing at the nearest airport. With an extremely rapid ice build-up, select a suitable "off airport" landing site.
7. With an ice accumulation of 1/ 4 inch or more on the wing leading edges, be prepared for significantly higher stall speed.
8. Leave wing flaps retracted. With a severe ice build-up on the horizontal tail, the change in wing wake airflow direction caused by wing flap extension could result in a loss of elevator effectiveness.
9. Open left window and, if practical, scrape ice from a portion of the windshield for visibility in the landing approach.
10. Perform a landing approach using a forward slip, if necessary, for improved visibility.
11. Approach at 65 to 75 KIAS depending upon the amount of ice accumulation.
12. Perform a landing in level attitude.