

**ENGINE FIRE DURING START**

- STARTER ..... CRANK ENGINE
- MIXTURE ..... IDLE CUT-OFF
- THROTTLE ..... OPEN
- ELECTRIC FUEL PUMP ..... OFF
- FUEL SELECTOR ..... OFF

abandon aircraft if fire continues

**ENGINE POWER LOSS DURING TAKEOFF**

▶ **if sufficient runway** ..... Land straight ahead

▶ **if insufficient runway**

- SAFE AIRSPEED ..... Maintain
- FLY to avoid obstructions ..... Only shallow turn
- FLAPS ..... as situation requires

▶ **if sufficient altitude to attempt restart**

- SAFE AIRSPEED ..... Maintain
- FUEL SELECTOR ..... SWITCH to tank containing fuel
- ELECTRIC FUEL PUMP ..... Check ON
- MIXTURE ..... Check RICH
- CARBURETOR HEATER ..... ON
- PRIMER ..... Locked

if power is not regained proceed with **POWER OFF LANDING**

**ENGINE POWER LOSS IN FLIGHT**

- FUEL SELECTOR ..... SWITCH to tank containing fuel
- ELECTRIC FUEL PUMP ..... ON
- MIXTURE ..... RICH
- CARBURETOR HEAT ..... ON
- ENGINE GAUGES ..... Check for indication of cause
- PRIMER ..... Check LOCKED

if no fuel pressure indicated check tank selector position to be sure it is on a tank containing fuel

▶ **when power is restored**

- CARBURETOR HEAT ..... OFF
- ELECTRIC FUEL PUMP ..... OFF

▶ **if power is not restored prepare for POWER OFF LANDING**

Trim for 73 KIAS

**POWER OFF LANDING**

Locate suitable airfield.

Establish spiral pattern.

1000ft above airfield at downwind position for normal landing approach.

When field can easily be reached slow to 63 KIAS for shortest landing.

Touchdown should normally be made at lowest possible airspeed with full flaps.

▶ **when committed to landing**

- IGNITION ..... OFF
- MASTER SWITCH ..... OFF
- FUEL SELECTOR ..... OFF
- MIXTURE ..... IDLE CUT-OFF
- SEAT BELTS AND HARNESSSES ..... Tight

**FIRE IN FLIGHT**

Source of fire ..... check

▶ **ELECTRICAL FIRE (smoke in cabin)**

- MASTER SWITCH ..... OFF
- VENTS ..... OPEN
- CABIN HEAT ..... OFF

Land as soon as practical (**ASAP**)

▶ **ENGINE FIRE**

- FUEL SELECTOR ..... OFF
- THROTTLE ..... CLOSED
- MIXTURE ..... IDLE CUT-OFF
- ELECTRIC FUEL PUMP ..... Check OFF
- HEATER ..... OFF
- DEFROSTER ..... OFF

proceed with **POWER OFF LANDING** procedure

**LOSS OF OIL PRESSURE**

Land as soon as possible (**ASAP**) and investigate cause

Prepare for **POWER OFF LANDING**

**LOSS OF FUEL PRESSURE**

- ELECTRIC FUEL PUMP ..... ON
- FUEL SELECTOR ..... Check on full tank

**HIGH OIL TEMPERATURE**

Land at nearest airport and investigate the problem

Prepare for **POWER OFF LANDING**

**ELECTRICAL FAILURES**

▶ **ALT annunciator light illuminated**

- AMMETER ..... Check to verify inop. Alt.
    - ▶ **if AMMETER shows zero**
      - ALT SWITCH ..... OFF  
reduce electrical loads to minimum
      - ALT CIRCUIT BREAKER ..... check and RESET as required
      - ALT SWITCH ..... ON
    - ▶ **if power not restored**
      - ALT SWITCH ..... OFF
- If alternator output cannot be restored, reduce electrical loads and land as soon as practical (**ASAP**).  
The battery is the only remaining source of electrical power

▶ **ELECTRICAL OVERLOAD (Alternator over 20 amps above known electrical load)**

- ALT SWITCH ..... ON
- BATT SWITCH ..... OFF
  - ▶ **if alternator loads are reduced**
    - ELECTRICAL LOAD ..... Reduce to minimum

Land as soon as practical (**ASAP**)

**NOTE:** Due to increased system voltage and radio frequency noise, operation with ALT switch ON and BATT switch OFF should be made only when required by an electrical system failure.

▶ **if alternator loads are not reduced**

- ALT SWITCH ..... OFF
- BATT SWITCH ..... as required

Land as soon as possible (**ASAP**)

Anticipate **COMPLETE ELECTRICAL FAILURE**

**SPIN RECOVERY**

- THROTTLE ..... IDLE
- AILERONS ..... NEUTRAL
- RUDDER ..... FULL OPPOSITE to direction of rotation
- CONTROL WHEEL ..... FULL FORWARD
- RUDDER ..... NEUTRAL (when rotation stops)
- CONTROL WHEEL ..... as required to smoothly regain level flight attitude

**OPEN DOOR**

If both upper and lower latches are open, the door will trail slightly open and airspeeds will be reduced slightly

To close the door in flight: **SLOW AIRPLANE to 89 KIAS**

- CABIN VENTS ..... CLOSE
- STORM WINDOW ..... OPEN

▶ **if upper latch is open**

- UPPER LATCH ..... LATCH

▶ **if side latch is open**

**PULL ON ARM REST** while moving latch handle to latched position

▶ **if both latches are open**

**LATCH** side latch then **LATCH** top latch

**ENGINE ROUGHNESS**

- CARBURETOR HEAT ..... ON
    - ▶ **if roughness continues after one minute**
      - CARBURETOR HEAT ..... OFF
      - MIXTURE ..... ADJUST for max smoothness
      - ELECTRIC FUEL PUMP ..... ON
      - FUEL SELECTOR ..... SWITCH tanks
      - ENGINE GAUGES ..... Check
      - MAGNETO SWITCH ..... L then R then BOTH
- if operation is satisfactory on either one, continue on that magneto at reduced power and full RICH mixture to first airport (**ASAP**)  
Prepare for **POWER OFF LANDING**

**CARBURETOR ICING**

- CARBURETOR HEAT ..... ON
- MIXTURE ..... ADJUST for max smoothness

▶ **if roughness persists**

Prepare for a precautionary landing at pilot's discretion

**NOTE:** Partial carburetor heat may be worse than no heat at all, since it may melt part of the ice which will refreeze in the intake system. Therefore when using carburetor heat always use **FULL HEAT**; and when ice is removed, return the control to the **FULL COLD** position