

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 (Not airborne)

- ▶ **if sufficient runway** (according PIPER General Procedures)
 - THROTTLE CLOSE immediately
 - BRAKES APPLY as required
 - AIRCRAFT STOP straight ahead
- ▶ **if insufficient runway** (according PIPER General Procedures)
 - THROTTLE CLOSE immediately
 - BRAKES APPLY as required
 - MIXTURE IDLE CUT-OFF
 - FUEL SELECTOR OFF
 - MASTER SWITCH OFF
 - MAGNETOS OFF
- Maintain directional control and manoeuver to avoid obstacles

ENGINE POWER LOSS DURING TAKEOFF (If airborne)

- ▶ **if sufficient runway** (according PIPER General Procedures)
 - AIRSPEED MAINTAIN above stall
 - DIRECTIONAL CONTROL MAINTAIN
 - AIRCRAFT LAND straight ahead
- ▶ **if area is rough or it is necessary to clear obstacles**
 - GEAR SELECTOR SWITCH UP
 - AIRSPEED MAINTAIN above stall
 - THROTTLE CLOSE
 - MIXTURE IDLE CUT-OFF
 - FUEL SELECTOR OFF
 - MASTER SWITCH OFF
 - MAGNETOS OFF
 - FLAPS As situation requires
 - DIRECTIONAL CONTROLS MAINTAIN
- Make only shallow turns to avoid obstacles

ENGINE POWER LOSS DURING TAKEOFF (If airborne)

- ▶ **if sufficient altitude to attempt restart (RESTART MAY TAKE UP TO 10")**
 - SAFE AIRSPEED Maintain
 - FUEL SELECTOR SWITCH to other tank containing fuel
 - ELECTRIC FUEL PUMP ON
 - MIXTURE RICH
 - ALTERNATE AIR OPEN
- If power is not regained proceed with **POWER OFF LANDING**

ENGINE POWER LOSS IN FLIGHT

- ▶ **if at low altitude** MAINTAIN AIRSPEED 83 KIAS Minimum
- ▶ **if altitude permits (If time permits MAGNETO OFF then ON one at a time)**
 - FUEL SELECTOR SWITCH to other tank containing fuel
 - ELECTRIC FUEL PUMP ON
 - MIXTURE RICH
 - ALTERNATE AIR OPEN
 - ENGINE GAUGES Check for indication of cause
- If no fuel flow indicated check fuel selector is on a tank containing fuel
- ▶ **when power is restored**
 - ALTERNATE AIR CLOSED
 - ELECTRIC FUEL PUMP OFF
 - MIXTURE ADJUST as necessary
- ▶ **if power cannot be restored** PREPARE for **POWER OFF LANDING**

POWER OFF LANDING

- TRIM to 83 KIAS / LOCATE suitable airfield / ESTABLISH spiral pattern.
- 1000ft above airfield at downwind position for normal landing approach.
- When field can easily be reached EXTEND FULL FLAPS for shortest landing.
- Touchdown should normally be made at lowest possible airspeed with full flaps.
- ▶ **when committed to landing**
 - LANDING GEAR SELECTOR DOWN
 - FLAPS AS DESIRED
 - THROTTLE CLOSE
 - MIXTURE IDLE CUT-OFF
 - MAGNETOS OFF
 - BATTERY MASTER SWITCH OFF
 - ALTERNATOR SWITCH OFF
 - FUEL SELECTOR OFF
 - SEAT BELTS AND HARNESSSES Tight

WITH BATTERY OFF: No GEAR RETRACTION / No GEAR & FLAPS position lights

EMERGENCY PROCEDURES PIPER PA32R/301 SARATOGA (AFM 02.02.1981)

FIRE IN FLIGHT

- SOURCE OF FIRE CHECK

▶ ELECTRICAL FIRE (smoke in cabin)

- BATTERY MASTER SWITCH OFF
- ALTERNATOR SWITCH OFF
- VENTS OPEN
- CABIN HEAT OFF
- Land as soon as practicable (ASAP)

▶ ENGINE FIRE

- FUEL SELECTOR OFF
- THROTTLE CLOSE
- MIXTURE IDLE CUT-OFF
- ELECTRIC FUEL PUMP OFF
- HEATER AND DEFROSTER OFF
- Proceed with **POWER OFF LANDING**

Note: The possibility of an engine fire in flight is extremely remote. The procedure given is general and Pilot judgement should be the determining factor for action in such an emergency

LOSS OF OIL PRESSURE (Check OIL TEMPERATURE)

- Land as soon as possible (ASAP) and investigate cause
- Prepare for **POWER OFF LANDING**

LOSS OF FUEL FLOW (SEE CAUTION below)

- ELECTRIC FUEL PUMP ON
- FUEL SELECTOR Check on tank containing usable fuel

ENGINE DRIVEN PUMP FAILURE

- THROTTLE RETARD
- ELECTRIC FUEL PUMP ON
- THROTTLE RESET as required

CAUTION

If normal engine operation and fuel flow is not immediately re-established, the **ELECTRIC FUEL PUMP** should be turned OFF. The lack of a fuel flow indication while the electric fuel pump is on indicate a leak in the fuel system or fuel exhaustion. If fuel system leak is verified, switch **FUEL SELECTOR OFF**

EMERGENCY PROCEDURES PIPER PA32R/301 SARATOGA (AFM 02.02.1981)

HIGH OIL TEMPERATURE

- Land at nearest airport and investigate the problem
- Prepare for **POWER OFF LANDING**

ELECTRICAL FAILURES

▶ ALT annunciator light illuminated

- ALTERNATOR AMMETER Verify approximately ZERO output
- BATTERY AMMETER Verify battery supplying acft power (negative reading)

▶ if indications verify loss of ALTERNATOR output

- ALT SWITCH OFF
- reduce electrical loads to minimum
- ALT CIRCUIT BREAKER check and RESET as required
- ALT SWITCH ON

▶ if ALTERNATOR output not restored

- ALT SWITCH OFF

If alternator output cannot be restored, reduce electrical loads and land as soon as practical. The battery is the only remaining source of electrical power. Low Bus Voltage annunciator light will illuminate as battery power is depleted.

NOTE: If the BATTERY is depleted the LANDING GEAR must be lowered using the EMERGENCY EXTENSION PROCEDURE. The GEAR position lights and FLAPS will be inoperative.

EMERGENCY PROCEDURES PIPER PA32R/301 SARATOGA (AFM 02.02.1981)

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

▶ If electrical overload condition is present and abnormally high BATTERY charge load persists (longer than 5 minutes)

- ALT SWITCH ON
- BATT SWITCH OFF
- Land as soon as practical

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 electrical overload condition is present and BATTERY charge load is normal

- ALT SWITCH OFF
- Electrical Load REDUCE to minimum
- BATT SWITCH as required

Land as soon as possible / Anticipate **COMPLETE ELECTRICAL FAILURE**

Low Bus Voltage annunciator light will illuminate if prolonged battery power usage is required.

NOTE: If the BATTERY is depleted the LANDING GEAR must be lowered using the EMERGENCY EXTENSION PROCEDURE. The GEAR position lights and FLAPS will be inoperative.

PROPELLER OVERSPEED

- THROTTLE RETARD
- OIL PRESSURE CHECK
- PROP CONTROL FULL DECREASE RPM
then SET if any control available
- AIRSPEED REDUCE
- THROTTLE AS REQUIRED to maintain below 2700RPM

SPIN RECOVERY

- RUDDER FULL OPPOSITE to direction of rotation
- CONTROL WHEEL FULL FORWARD
while neutralizing ailerons
- THROTTLE IDLE
- RUDDER NEUTRAL (when rotation stops)
- CONTROL WHEEL As required to smoothly regain level flight attitude

EMERGENCY PROCEDURES PIPER PA32R/301 SARATOGA (AFM 02.02.1981)

EMERGENCY LANDING GEAR EXTENSION (see below for TRAINING EMER. EXT.)

- BATTERY MASTER SWITCH Check ON
- ALT SWITCH Check ON
- CIRCUIT BREAKERS Check
- Day / Night dim. switch (in daytime) DAY
- GEAR INDICATOR BULBS Check by depressing ANNUNC. TEST

▶ If landing gear still does not check down and locked

- AIRSPEED REDUCE below 90 KIAS
- LANDING GEAR SELECTOR GEAR DOWN POSITION

▶ If landing gear still does not check down and locked

- LANDING GEAR PUMP CB PULL
- EMERGENCY GEAR KNOB PULL while fish tailing airplane

(under normal conditions will take approx. 10" to be down and locked)

If all electrical power has been lost, the landing gear must be extended using the above procedure. The gear position indicator lights will not illuminate

TRAINING EMERGENCY LANDING GEAR EXTENSION

- Prior to the PROCEDURE above:** PULL LANDING GEAR PUMP CB
- After completion of the PROCEDURE:** PUSH (reset) LANDING GEAR PUMP CB

OPEN DOOR

If the door latch is open, the door will trail slightly open and airspeeds will be reduced slightly

- To close the door in flight: SLOW AIRPLANE to 90 KIAS
- CABIN VENTS CLOSE
- STORM WINDOW OPEN

▶ if DOOR LATCH is open

PULL ON ARM REST while moving latch handle to latched position

ENGINE ROUGHNESS

- 1) MIXTURE ADJUST
- 2) ALTERNATE AIR OPEN
ELECTRIC FUEL PUMP ON
FUEL SELECTOR SWITCH TO OTHER TANK (Contamination?)
- 3) ENGINE GAUGES CHECK for abnormal reading
PROCEED accordingly
- 4) MAGNETOS (one at a time) OFF then ON

if operation satisfactory on either magneto proceed on that magneto at reduced power with FULL RICH MIXTURE - LAND at first airport available

If roughness persists prepare for a precautionary landing at pilot's discretion