

3.11 ENGINE POWER LOSS IN FLIGHT

Complete engine power loss is usually caused by fuel flow interruption and power will be restored shortly after fuel flow is restored. If power loss occurs at a low altitude, the first step is to prepare for an emergency landing (refer to paragraph 3.13). An airspeed of at least 92 KIAS should be maintained.

If altitude permits, switch the fuel selector to another tank containing fuel and turn the electric fuel pump "ON." Move the mixture control to "RICH" and the alternate air to "OPEN." Check the engine gauges for an indication of the cause of the power loss. If no fuel pressure is indicated, check the tank selector position to be sure it is on a tank containing fuel.

When power is restored move the alternate air to the "CLOSED" position and turn "OFF" the electric fuel pump.

If the preceding steps do not restore power, prepare for an emergency landing.

If time permits, turn the ignition switch to "L" then to "R" then back to "BOTH." Move the throttle and mixture control levers to different settings. This may restore power if the problem is too rich or too lean a mixture or if there is a partial fuel system restriction. Try other fuel tanks. Water in the fuel could take some time to be used up, and allowing the engine to windmill may restore power. If power loss is due to water, fuel pressure indications will be normal.

If engine failure was caused by fuel exhaustion, power will not be restored after switching fuel tanks until the empty fuel lines are filled. This may require up to ten seconds.

If power is not regained, proceed with the Power Off Landing procedure (refer to the emergency check list and paragraph 3.13).

3.3 EMERGENCY PROCEDURES CHECK LIST

ENGINE FIRE DURING START

Starter crank engine
Mixture idle cut-off
Throttle open
Electric fuel pump OFF
Fuel selector OFF
Abandon if fire continues

ENGINE POWER LOSS DURING TAKEOFF

If sufficient runway remains for a normal landing, leave gear down and land straight ahead.

If area ahead is rough, or if it is necessary to clear obstructions:

Gear selector switch UP
Emergency gear lever (aircraft equipped with backup gear extender) ... latched in OVERRIDE ENGAGED position

If sufficient altitude has been gained to attempt a restart:

Maintain safe airspeed

Fuel selector switch to tank containing fuel

Electric fuel pump check ON

Mixture check RICH

Alternate air OPEN

Emergency gear lever as required

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

Alternate air OPEN

Engine gauges check for indication of cause of power loss

If no fuel flow is indicated, check tank selector position to be sure it is on a tank containing fuel.

When power is restored:

Alternate air CLOSED

Electric fuel pump OFF

If power is not restored, prepare for power off landing.

POWER OFF LANDING

On aircraft equipped with backup gear extender, lock emergency gear lever in OVERRIDE ENGAGED position before airspeed drops to 106 KIAS to prevent landing gear from inadvertently free falling.

Trim for 92 KIAS.

Locate suitable field.

Establish spiral pattern. 1000 ft above field at downwind position for normal landing approach. When field can easily be reached slow to 75 KIAS for shortest landing.

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

GEAR DOWN LANDING

For gear down landing, proceed as follows when committed to landing:

Landing Gear Selector DOWN

Ignition OFF

Master switch OFF

Fuel selector OFF

Mixture idle cut-off

Seat belt and harness tight

GEAR UP LANDING

For gear up landing, proceed as follows when committed to landing:

Ignition OFF

Master switch OFF

Fuel selector OFF

Mixture idle cut-off

Seat belt and harness tight

2.25 PLACARDS

In full view of the pilot:

"THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND MANUALS. NO ACROBATIC MANEUVERS INCLUDING SPINS, APPROVED."

THIS AIRCRAFT APPROVED FOR V.F.R., I.F.R., DAY AND NIGHT NON-ICING FLIGHT WHEN EQUIPPED IN ACCORDANCE WITH FAR 91 OR FAR 135.

In full view of the pilot, the following takeoff and landing check lists will be installed:

TAKEOFF CHECK LIST

Fuel on Proper Tank
Electric Fuel Pump - On
Engine Gauges - Checked
Alternate Air - Closed
Seat Backs Erect

Mixture - Set
Propeller - Set
Fasten Belts/Harness

Flaps - Set
Trim Tab - Set
Controls - Free
Doors - Latched
Air Conditioner - Off

LANDING CHECK LIST

Fuel on Proper Tank
Seat Backs Erect
Fasten Belts/Harness

Electric Fuel Pump - On
Mixture - Rich
Propeller - Set

Gear Down (129 KIAS Max.)
Flaps - Set (WHITE ARC)
Air Conditioner - Off

The "AIR CONDITIONER OFF" item in the above takeoff and landing check lists is mandatory for air conditioned aircraft only.

On the instrument panel in full view of the pilot:

MANEUVERING SPEED
132 KIAS AT 3600
LBS. (SEE P.O.H.)

On the instrument panel in full view of the pilot:

"DEMONSTRATED CROSSWIND COMPONENT 17 KTS"

BEFORE TAKEOFF

Master switch ON
Flight instruments check
Fuel selector proper tank
Electric fuel pump ON
Engine gauges check
Alternate air CLOSED
Seat backs erect
Mixture set
Prop set
Belts/harness fastened
Empty seats seat belts
snugly fastened
Flaps set
Trim tab set
Controls free
Doors latched
Air conditioner OFF
Parking brake release

TAKEOFF

NORMAL

Flaps retracted
Trim slightly aft of neutral
Accelerate to 75 to 85 KIAS
Control wheel back pressure to
rotate to climb attitude

SHORT OR SOFT FIELD, OBSTACLE CLEARANCE

Flaps second notch
Trim slightly aft of neutral
Throttle full power prior to brake release
Accelerate to 66 to 70 KIAS (depending on weight).
Control wheel back pressure to rotate
to climb attitude
After breaking ground, accelerate to 68 to 74 KIAS
(depending on weight).
Gear (Override Engaged) (aircraft equipped with the
backup gear extender) UP
Accelerate to climb speed.
Flaps retract slowly

CLIMB

Best rate (3600 lb) (gear up) $\checkmark$
(flaps up) 92 KIAS
Best rate (3600 lb) (gear down)
(flaps up) 87 KIAS
Best angle (3600 lb) (gear up) $\checkmark$
(flaps up) 87 KIAS
Best angle (3600 lb) (gear down)
(flaps up) 68 KIAS
En route 104 KIAS
Electric fuel pump OFF at
desired altitude

CRUISING

Reference performance charts, Avco-Lycoming
Operator's Manual and power setting table.
Normal max power 75%
Power set per power table
Mixture adjust

APPROACH AND LANDING

Fuel selector proper tank
Seat backs erect
Belts/harness fasten
Electric fuel pump ON
Mixture set
Propeller set
Gear down - 129 KIAS max. $\checkmark$
Flaps set - 109 KIAS max.
Air conditioner OFF

NORMAL TECHNIQUE

Flaps as required
Trim 95 KIAS
Throttle as required

SHORT FIELD TECHNIQUE

Flaps third notch
Trim 75 KIAS
Throttle as required