

ENGINE FAILURES

ENGINE FAILURE TAKE-OFF RUN

Throttle..... IDLE
 Brakes APPLY
 Mixture IDLE CUT-OFF
 Magneto selector OFF
 Main switch..... OFF
 Fuel selector..... OFF

ENGINE FAILURE IMMEDIATELY AFTER TAKE-OFF

Airspeed..... 70-76 KIAS
 Mixture FULL RICH
 Fuel selector SWITCH TANKS
 Fuel pump..... ON

If engine does not start:

Mixture IDLE CUT-OFF
 Fuel selector..... OFF
 Fuel pump..... OFF
 Landing gear leverAS REQUIRED
 Land STRAIGHT AHEAD
 Ignition OFF
 Main switch..... OFF

ENGINE FAILURE IN FLIGHT

Airspeed..... 92 KIAS
 Mixture FULL RICH
 Fuel gauges CHECK
 Fuel selector SWITCH TANKS
 Ignition switch..... BOTH
 Fuel pump..... ON
 Alternate air FULLY PULLED

If the engine does not start:

Mixture IDLE CUT-OFF
 Throttle..... 1/2 OPEN
 StarterENGAGE (if prop stopped)
 When the engine runs
 (windmilling):
 Mixture SLOWLY ENRICH
 UNTIL RE-START

If power is restored:

Alternate air AS REQUIRED
 Fuel pump..... OFF
 If power is not restored, proceed with emergency landing without engine power.

ENGINE VIBRATION

Engine vibration is generally due to defective spark plugs or too rich a mixture.
 Mixture..... RESET
 If vibration persists:
 RPM SET FOR MINIMUM
 VIBRATION RANGE
 Land as soon as possible.

FORCED LANDINGS

NOTE: It is recommended that the wheels be up if landing on an unprepared surface.

EMERGENCY LANDING WITHOUT ENGINE POWER

Glide speed..... 92 KIAS
 Propeller..... FULL BACK
 Radio TRANSMIT MAYDAY on 121.5 MHz or on the appropriate frequency giving location and intentions

Seats..... ADJUSTED
 Seat belts & harnesses.. SECURE
 Landing gear leverAS REQUIRED
 Mixture IDLE CUT-OFF
 Fuel selector..... OFF
 Magneto selector OFF
 Flaps..... AS REQUIRED

When the landing is secured:

Flaps..... LANDING
 Approach speed..... 70-76 KIAS
 Main switch..... OFF
 Doors..... UNLATCH & WEDGE

PRECAUTIONARY LANDING WITH ENGINE POWER

Flaps..... LANDING
 Approach speed..... 70-76 KIAS
 Radio ADVISE ATC OF INTENTIONS

Seats..... ADJUSTED
 Seat belts & harnesses.. SECURE
 Field FLY OVER selected field
 Landing gear leverAS REQUIRED
 Main switch..... OFF
 Doors..... UNLATCH & WEDGE

Touch-down..... FLARE OUT
 and keep nose high

DITCHING

RadioMAYDAY on 121.5 MHz or on the appropriate frequency giving location and intentions

Landing gear lever UP
 Flaps..... LANDING
 Seats..... ADJUSTED
 Seat belts & harnesses.. SECURE
 Airspeed..... 70-76 KIAS
 Flight path..... Parallel to swells

Before touch-down:

Main switch..... OFF
 Mixture IDLE CUT-OFF
 Fuel selector..... OFF
 Magneto selector OFF
 Doors..... UNLATCH & WEDGE

Touch-down..... FLARE OUT
 and keep nose high

LANDING GEAR MALFUNCTIONS

LANDING GEAR FAILS TO RETRACT

THE THREE GREEN LIGHTS REMAIN ON

Landing gear lever CHECK UP
 LDG GEAR CB.. CHECK CLOSED
 Emergency landing gear control CHECK PUSHED

If landing gear fails to retract:

Landing gear lever DOWN
 Landing gear lights CHECK
 GREEN ON
 Continue flight with landing gear down, up to destination or toward an appropriate alternate airfield.
 Maximum airspeed 139 KIAS

THE RED LIGHT REMAINS ON (WITH OR WITHOUT GREEN LIGHT ON)

LDG GEAR CB OPEN
 Landing gear lever DOWN
 LDG GEAR CB CLOSE
 Landing gear lights CHECK
 GREEN ON / RED OFF
 Continue flight with landing gear down, up to destination or toward an appropriate alternate airfield.
 Maximum airspeed 139 KIAS

A GREEN LIGHT REMAINS ON, RED LIGHT OFF

Flaps TAKEOFF
 Best airspeed..... 85 KIAS
 Maximum airspeed..... 97 KIAS
 LDG GEAR CB OPEN
 Landing gear lever DOWN
 Emergency landing gear control PULL
 Landing gear lights GREEN
 Continue flight with landing gear down, up to destination or toward an appropriate alternate airfield.
 Maximum airspeed 139 KIAS

As a precaution, proceed as described in procedure LANDING WITH A LANDING GEAR NOT LOCKED.

LANDING GEAR FAILS TO EXTEND

(ONE OR SEVERAL GREEN GEAR DOWN LIGHTS FAIL TO ILLUMINATE)
 Main switch..... ON
 Landing gear lever DOWN
 LDG GEAR CB.. CHECK CLOSED

Landing gear lights.. ILLUMINATE
 DURING TEST
 Flaps TAKE-OFF
 Maximum airspeed..... 97 KIAS
 The landing gear should extend and lock normally. If this does not happen:
 Landing gear lever UP
 LDG GEAR CB OPEN
 Landing gear lever DOWN
 Emergency landing gear control PULLED
 Gear down (green) lights ON
 Gear in transit (red) light OFF

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

ONE OR SEVERAL LANDING GEAR (GREEN) LIGHTS FAIL TO ILLUMINATE DURING TEST CARRIED OUT IN THE PREVIOUS PROCEDURE

Yaw/slip airplane to help lock gear down
 Gear in transit (red) light OFF
 Gear in transit (red) light ILLUMINATES DURING TEST
 The affected indicator green light bulb should be burnt out:
 Landing gear position..... CHECK DOWN POSITION WITH THE TOWER
 Precautionary landing

LANDING WITH A LANDING GEAR NOT LOCKED

Landing gear position..... CHECK POSITION WITH THE TOWER
 LANDING GEAR APPEARS DOWN AND LOCKED
 LDG GEAR CB CLOSED
 Landing gear lever DOWN
 Emergency landing gear control PUSHED
 Precautionary landing . EXECUTE

LANDING GEAR UP OR PARTIALLY EXTENDED

Nose gear not locked
 - In final, cut-off the engine
 Main switch..... OFF
 Mixture..... IDLE CUT-OFF
 Fuel selector OFF
 Magneto selector..... OFF
 - Landing:
 Flaps LANDING
 Airspeed 65-70 KIAS
 Seats..... ADJUSTED

Seat belts & harnesses.. SECURE
 - After touch-down of main landing gears:
 Keep nose high without braking.
 Brake smoothly as soon as nose wheel contacts ground.

Main gear not locked

NOTE:
 In case only one main gear extends, minimum airplane damage will result if a gear-up landing is made.

- Retract the landing gear:
 Emergency landing gear control PUSHED
 LDG GEAR CB CLOSED
 Landing gear lever UP

- Landing on grass if possible :
 Flaps LANDING
 Airspeed 65-70 KIAS
 Seats ADJUSTED
 Seat belts & harnesses.. SECURE
 - Before touch-down:
 Main switch OFF
 Mixture..... IDLE CUT-OFF
 Fuel selector OFF
 Magneto selector OFF

ELECTRICAL FAILURES

ELECTRICAL EQUIPMENT FAILURE

Check the circuit breakers panel. If the circuit breaker is open, close it once only. If it trips again, do not try to close the circuit breaker, the equipment has failed.

ALTERNATOR FAILURE SIMPLIFIED PROCEDURE

Voltmeter:
 - 26 < v < 29 ...CONTINUE FLYING
 - < 26:
 ALTr FLD Switch-breaker OFF then ON
 If ALTr warning light remains ON:
 ALTr FLD switch-breaker..... OFF
 Air conditioning OFF
 Electrical load SHED
 Gear DOWN below 129 KIAS

FULL PROCEDURE

ALTr FLD switch-breaker..... OFF
 ALTr PCB..... PULL
 ALTr FLD CB..... CHECK
 ALTr FLD switch-breaker..... ON
 ALTr PCB..... CLOSE
 If ALTr warning light is still illuminated:
 ALTr FLD switch-breaker..... OFF
 ALTr PCB..... PULL

Bus 2 PCB PULL
 Bus 3 PCB PULL
 ALTr FLD switch-breaker..... ON
 ALTr PCB..... CLOSE
 Bus 2 PCB CLOSE
 Bus 3 PCB CLOSE
 If closing of "Bus 2" or "Bus 3" PCB makes ALTr PCB or "ALTr FLD SB open, pull faulty Bus PCB and close AL Tr FLD SB.
 If unsuccessful, extend gear and land as soon as possible.

BATTERY FAILURE

Tripping of Main switch SB or BAT PCB.
 Main switch ON
 BAT PCB..... CLOSE
 If failure, set power >= 2500 RPM
 If Voltmeter >26V, land as soon as possible. If Voltmeter < 26V:
 Bus 2 PCB PULL
 Bus 3 PCB PULL
 ALTr PCB..... CHECK CLOSED
 ALTr FLD switch-breaker..... OFF then ON
 If Voltmeter >26V, turn electrical items ON one at a time.
 If voltmeter <26V, land as soon as possible.

TOTAL ELECTRICAL FAILURE

All electrical equipment inoperative. Tripping of some CB
 Main switch OFF
 ALTr FLD switch-breaker..... OFF
 BAT PCB..... OPEN
 ALTr FLD PCB..... OPEN
 Bus 2 PCB OPEN
 Bus 3 PCB OPEN
 Main switch ON
 BAT PCB..... CLOSE
 (1) If success,
 ALTr FLD CB CHECK
 ALTr FLD switch-breaker..... ON
 ALTr PCB..... CLOSE
 (2) If success:
 Bus 2 PCB CLOSE
 Bus 3 PCB CLOSE
 (2) If failure, proceed with ALTERNATOR FAILURE
 (1) If failure,
 ALTr FLD CB CHECK
 ALTr FLD switch-breaker..... ON
 ALTr PCB..... CLOSE
 (3) If success, proceed with BATTERY FAILURE
 (3) If failure, TOTAL ELECTRICAL FAILURE
 Gear..... EXTEND
 Land as soon as possible