

ENGINE FAILURE AFTER TAKEOFF

MAINTAIN AIRCRAFT CONTROL

AIRSPPEED	GLIDE SPEED - ESTABLISH
MIXTURE	FULL LEAN / IDLE CUTOFF
FUEL SELECTOR VALVE	OFF
MAGNETOS	OFF
WING FLAPS	AS REQUIRED (40 RECOMMENDED)
MASTER SWITCH	OFF

POWER LOSS INFLIGHT - RESTART ATTEMPT

MAINTAIN AIRCRAFT CONTROL

GLIDE SPEED	80 IAS
CARB HEAT	ON
FUEL QUANTITY	CHECK
FUEL SELECTOR VALVE	SELECT PROPER POSITION
MIXTURE	FULL RICH
PRIMER	VERIFY FULL IN & LOCKED
MASTER SWITCH	VERIFY ON
MAGNETOS	CHECK BOTH

If propeller is not windmilling:

MAG SWITCH	START
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If Altitude and Time permits:

FUEL PRIMER	RE-PRIME, THEN CHK ✓ LOCKED
MAG SWITCH	START

If Restart is Unsuccessful:

WIND DIRECTION	DETERMINE IF ABLE
LANDING SITE	SELECT

**If RESTART IS UNSUCCESSFUL: Go to
EMERGENCY LANDING WITHOUT ENGINE POWER**



**EMERGENCY LANDING WITHOUT ENGINE POWER
-- OR --
UNSUCCESSFUL RESTART**

**WARNING: DO NOT ATTEMPT TO RESTART
AN ENGINE THAT WAS ON FIRE**

MAINTAIN AIRCRAFT CONTROL

AIRSPPEED	GLIDE SPEED - ESTABLISH
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*All Pilots and Passengers should
Protect Their Body From Impact
With Any Available Resource*

IF TIME PERMITS:

ONCE COMMITTED TO LAND

ALL SWITCHES **EXCEPT** MASTER & AVIONICS OFF

If time permits:

MIXTURE	FULL LEAN / IDLE CUTOFF
FUEL SELECTOR VALVE	OFF
IGNITION SWITCH	OFF
WING FLAPS	AS REQUIRED (40 RECOMMENDED)

Select FLAPS FULL when landing is imminent/assured

ATC, CTAF, 121.5, UNICOM	DECLARE EMERGENCY
TRANSPONDER	SQUAWK 7700
SEATBELTS & HARNESS	ON & SECURE

WHEN LANDING IS IMMINENT

MASTER & AVIONICS SWITCHES	OFF
DOOR	UNLATCH PRIOR TO TOUCHDOWN
TOUCHDOWN	SLIGHTLY TAIL LOW IF POSSIBLE
BRAKES	APPLY HEAVILY if needed

HE WHO FAILS TO PLAN, PLANS TO FAIL

PASSENGER "SAFETY PLUS" BRIEFING GUIDE

- S** Seats, Seatbelts, Doors & Latches
- A** Aircraft Controls, Transfer and Communication
- F** Fire Extinguisher, No Smoking
- E** Emergency: In the unlikely event of: Evacuation and Exits
- T** Traffic using the clock position
- Y** Your Questions
- P** Personal Items Stowed, PED devices
- L** Limited Communication Periods
- U** Uncomfortable
- S** Sickness, Sick Sacks, Nausea

CREW BRIEFING GUIDE

- 1 Flight Lesson/ Flight Plan strategy
- 2 Transfer of aircraft control: **"I (You) have the flight controls"**
- 3 Communication: Internal & External
- 4 Confirming/Verifying ATC instructions & Critical Traffic
5. Observe windsock
6. Brief necessary crosswind flight control inputs
7. Minimum altitude of 500' prior to turning
8. Expected Departure from airfield strategy
9. Review ENGINE FAILURE strategy for critical FLT PHASES
10. Review ENGINE FAILURE memory items

**ROUGH ENGINE OPERATION
OR
LOSS OF POWER FROM CARBUREATOR ICING**

THROTTLE	FULL FORWARD
CARB HEAT KNOB	FULL OUT
AFTER ENGINE RUNS SMOOTHLY	CARB HEAT OFF
ACCOMPLISH THE FOLLOWING IF ENGINE STARTS TO RUN ROUGH AGAIN	
CARB HEAT KNOB	FULL OUT
CARB HEAT KNOB	ADJUST TO MINIMUM NEEDED
MIXTURE	LEAN FOR SMOOTHEST OPERATION

OIL - PRESSURE LOSS or HIGH TEMPERATURE

IF TOTAL OIL PRESSURE LOSS **LAND IMMEDIATELY**
Reduce power & execute forced landing prior to engine failure

IF OIL PRESSURE IS LOW
LAND AT NEAREST SUITABLE AIRFIELD
Inspect engine for cause of low oil pressure

IF OIL TEMPERATURE IS HIGH
LAND AT NEAREST SUITABLE AIRFIELD
Inspect engine for cause of high oil temperature

PRECAUTIONARY LANDING WITH ENGINE POWER

Refer to Pilot Operating Handbook if time permits

LANDING SITE	DETERMINE
AIRSPPEED / FLAPS	70 MPH / FLAPS 20
LANDING AREA	DRAG OVER TO ASSESS CONDITION
CLEAR OF OBSTACLES	FLAPS RETRACT
ONCE ESTABLISHED ON DOWNWIND	
ALL SWITCHES OFF EXCEPT IGNITION & MASTER	
FINAL APPROACH	FLAPS 40 / 70 MPH
CABIN DOOR	UNLATCH
BEFORE TOUCHDOWN	
IGNITION SWITCH	OFF
MASTER SWITCH	OFF
LAND IN A SLIGHTLY TAIL LOW ATTITUDE	

ENGINE FIRE DURING START

IGNITION SWITCH	START and CONTINUE CRANKING
IF ENGINE STARTS	
POWER	SET TO 1800 RPM
Allow engine to run for 3 to 5 minutes	
ENGINE	SHUT DOWN & INSPECT FOR DAMAGE
IF ENGINE FAILS TO START	
THROTTLE	FULL OPEN
MIXTURE	IDLE CUTOFF
CRANKING	CONTINUE
WING FUEL SELECTOR	OFF
MASTER SWITCH	OFF
MAG / IGNITION SWITCH	OFF
AIRPLANE	EVACUATE
FIRE EXTINGUISHER	SUPPRESS FIRE IF PRACTICAL
ENGINE	INSPECT FOR DAMAGE

ENGINE FIRE INFLIGHT

MIXTURE	IDLE CUTOFF
WING FUEL SHUTOFF VALVE	OFF
MASTER SWITCH	OFF
AIRSPEED	120 MPH
VENTS, CABIN AIR, HEAT	CLOSED / OFF

SELECT FIELD SUITABLE FOR FORCED LAND

Increase glide speed to find an airspeed that will not provide a combustible mixture ratio to engine

FORCED LANDING ACCOMPLISH, GO TO EMERGENCY LANDING WITHOUT ENGINE POWER

EMERGENCY LANDING WITHOUT ENGINE POWER OR UNSUCCESSFUL RESTART

WARNING: DO NOT ATTEMPT TO RESTART AN ENGINE THAT WAS ON FIRE

MAINTAIN AIRCRAFT CONTROL

AIRSPEED **GLIDE SPEED - ESTABLISH**

All Pilots and Passengers should Protect Their Body From Impact With Any Available Resource

IF TIME PERMITS:**ONCE COMMITTED TO LAND**

ALL SWITCHES **EXCEPT** MASTER & AVIONICS OFF
If time permits:

MIXTURE	FULL LEAN / IDLE CUTOFF
FUEL SELECTOR VALVE	OFF
IGNITION SWITCH	OFF
WING FLAPS	AS REQUIRED (40 RECOMMENDED)

Select FLAPS FULL when landing is imminent/assured

ATC, CTAF, 121.5, UNICOM	DECLARE EMERGENCY
TRANSPONDER	SQUAWK 7700
SEATBELTS & HARNESS	ON & SECURE

WHEN LANDING IS IMMINENT

MASTER & AVIONICS SWITCHES	OFF
DOOR	UNLATCH PRIOR TO TOUCHDOWN
TOUCHDOWN	SLIGHTLY TAIL LOW IF POSSIBLE
BRAKES	APPLY HEAVILY if needed

**CABIN FIRE**

VENTS, CABIN AIR, HEAT	CLOSED
FIRE EXTINGUISHER	USE AS PRACTICAL
Only accomplish the following if the cabin fire is completely ascertained as extinguished	
VENTS, CABIN AIR, HEAT	OPEN IF EXTINGUISHED
LAND AT NEAREST SUITABLE AIRPORT & CHECK FOR DAMAGE	

WING FIRE

NAVIGATION LIGHTS	OFF
PITOT HEAT	OFF
STROBE LIGHTS	OFF
LANDING LIGHT	OFF

Perform SIDESLIP FLIGHT to keep flames away from Fuel Tank and Cabin

LAND AS SOON AS POSSIBLE

Avoid FLAP usage if possible

FLAPS:	AS REQUIRED FOR APPROACH AND LANDING
ALTERNATOR	OFF
NON-ESSENTIAL RADIOS & ELECTRICAL EQUIPMENT:	OFF
FLIGHT	TERMINATE AS SOON AS PRACTICAL

ELECTRICAL FIRE INFLIGHT**MAINTAIN AIRCRAFT CONTROL**

MASTER SWITCH	OFF
VENTS, CABIN AIR, HEAT	CLOSED
AVIONICS MASTER SWITCH	OFF
FIRE EXTINGUISHER	USE AS PRACTICAL

CAUTION: Mag/Ignition Switch must remain on in next step

MAGNETOS	KEEP ON
ALL OTHER SWITCHES EXCEPT IGNITION	OFF

After fire is extinguished, ventilate the cabin

ONLY after confirming that fire has been extinguished

IF FIRE IS EXTINGUISHED	VENTILATE CABIN
MASTER SWITCH	ON

CAUTION: Circuit Breakers should only be reset one at a time

CAUTION: Do not reset faulty Circuit Breaker

CIRCUIT BREAKERS	CHECK FOR FAULTY CIRCUIT
AVIONICS MASTER SWITCH	ON

CAUTION: In the next step, turn on Circuit Breakers one at a time with a delay to help identify any short circuits

Only reset a faulty circuit breaker if is extremely critical to successfully landing the airplane

RADIO / ELECTRICAL SWITCHES	ON
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CAUTION: Only turn on switches one at a time to help in identifying faulty equipment

AIRPORT	PROCEED TO NEAREST SUITABLE
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HE WHO FAILS TO PLAN, PLANS TO FAIL**TOWER LIGHT SIGNALS FOR RADIO FAILURE**

ON GROUND	↓↓↓↓↓	IN-FLIGHT
Cleared for Takeoff	STEADY GREEN	Cleared to Land
Cleared to Taxi	FLASHING GREEN	Return for Landing
STOP	STEADY RED	Yield: Continue to Circle
Taxi Clear of Land Area	FLASHING RED	Apt Unsafe-Do Not Land
Return to Starting Point	FLASHING WHITE	N/A
Use Extreme Caution	RED & GREEN	Use Extreme Caution