



EMERGENCY PROCEDURES

Items marked with an asterisk (*) are memory items.

ENGINE FIRE DURING START

- * 1. Mixture IDLE CUTOFF
- * 2. Fuel shutoff valve handle OFF
- * 3. Throttle FULL FWD
- * 4. Continue cranking to clear engine, attempting a start.

If no start:

- * 5. Ignition OFF
- * 6. Battery OFF
- * 7. ABANDON AIRCRAFT

ENGINE FIRE AFTER START ON GROUND

- * 1. Mixture IDLE CUTOFF
- * 2. Fuel shutoff valve handle OFF
- * 3. Throttle FULL FWD
- * 4. Ignition OFF
- * 5. Battery OFF
- * 6. ABANDON AIRCRAFT

ABORTED TAKEOFF

- * 1. Throttle CLOSED
- * 2. Brakes APPLY

If unable to stop on runway:

- * 3. Canopy OPEN
- * 4. Mixture IDLE CUTOFF
- * 5. Fuel shutoff valve handle OFF
- * 6. Ignition OFF
- * 7. Battery OFF
- * 8. ABANDON AIRCRAFT after it stops



EMERGENCY LANDING PATTERN

TO BE USED FOR:

- ENGINE FAILURE OR MALFUNCTION
- PRECAUTIONARY
EMERGENCY LANDING
- SIMULATED ENGINE
FAILURE

1 DESCENT

- A/S - 90 KIAS
- Gear - UP
- Flaps - UP
- Canopy - CLOSED
(open prior to
high key)
- Prop - HIGH PITCH ++

2 HIGH KEY (1,500 FEET AGL)

- 90 KIAS over intended point of landing. Turn to Low Key.
- Gear – DOWN, prepared surfaces. Transition to 85 KIAS.
- Gear – UP, unprepared surfaces or water. Maintain 90 KIAS.

3 LOW KEY (1,000 FEET AGL)

- 85 KIAS (gear down), 90 KIAS (gear up), wingtip distance
abeam intended point of landing.

4 90-DEGREE (500-600 FEET AGL)

- Complete Landing Checklist.
- Flaps – AS DESIRED. Adjust to 75 KIAS with flaps down.

5 FINAL

- 800 feet straightaway.
- 200 feet AGL
- Canopy – OPEN
- ++ Only for actual engine failure.

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LOW ALTITUDE ENGINE FAILURE

If engine fails at or below 1000 feet AGL:

- * 1. Assume safe gliding attitude. 75 KIAS FLAPS DOWN
80 KIAS FLAPS UP
- * 2. Select best available landing area and turn to intercept the emergency landing pattern at the maximum altitude practicable.
- * 3. Gear AS DESIRED
- * 4. Flaps AS DESIRED
- * 5. Fuel shutoff valve handle OFF
- * 6. Battery OFF
- * 7. Canopy OPEN
- * 8. Harness LOCKED

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HIGH ALTITUDE / PARTIAL ENGINE FAILURE

- * 1. Assume safe gliding attitude. Best glide is 90 KIAS
- * 2. Select best available landing area and turn to intercept the emergency landing pattern at the maximum altitude practicable. If power is available, climb to an altitude from which the aircraft can glide to a high key position.
- * 3. Gear AS DESIRED
(aircraft clean will extend glide)
- * 4. Fuel boost pump ON
- * 5. Fuel shutoff valve handle ON
- * 6. Mixture FULL RICH
- * 7. Propeller FULL INCREASE
- * 8. Throttle FULL FWD
- * 9. Ignition ON, BOTH

If engine still not running:

- *10. Mixture IDLE CUTOFF
- *11. Fuel shutoff valve handle OFF
- *12. Propeller AS REQD
- *13. Ignition OFF
- *14. Gear AS REQ'D
- *15. Flaps AS DESIRED
- *16. Transmit appropriate radio call.
- *17. Battery OFF
- *18. Generator OFF
- *19. Canopy OPEN
- *20. Harness LOCKED

ENGINE FIRE IN FLIGHT

- * 1. Mixture IDLE CUTOFF
- * 2. Fuel shutoff valve handle OFF
- * 3. Throttle CLOSED
- * 4. Ignition OFF
- * 5. Battery OFF
- * 6. Generator OFF
- 7. Do not attempt restart
- 8. Execute emergency landing

WING FIRE IN FLIGHT

A fire in the wing could be caused by fuel leakage and / or defective electrical wiring. Perform the following procedure:

- * 1. Battery and generator switches OFF
- * 2. Attempt to extinguish the fire by slipping aircraft away from fire.
- * 3. If fire does not extinguish or is obviously fed by fuel LAND ASAP

FUSELAGE FIRE IN FLIGHT

- * 1. Airspeed REDUCE
- * 2. Canopy CLOSED
- * 3. Cockpit air handles FULL OUT (air shut off)
- * 4. Battery and generator switches OFF
- * 5. If fire persists LAND ASAP

ELIMINATION OF SMOKE

- * 1. Airspeed REDUCE (to minimize spreading of possible fire)
- * 2. Canopy OPEN
- * 3. Cockpit air handles FULL OUT (air shut off)
- 4. Determine source of smoke and execute appropriate emergency procedures.

CARBON MONOXIDE FUMES

If carbon monoxide contamination is suspected:

- * 1. Canopy OPEN
- * 2. Cockpit air handles FULL OUT (air shut off)

FUEL LEAK / FUEL FUMES

Check fuel system for secondary indications and proceed as follows:

- * 1. Maintain present airspeed
- * 2. Land as soon as practical
- * 3. Canopy OPEN
- * 4. Cockpit air handles FULL OUT (air shut off)
- * 5. Battery and generator switches OFF
- * 6. Utilize landing gear emergency extension system.
- * 7. Accomplish landing, clear runway, secure engine, and ABANDON AIRCRAFT.



ELECTRICAL FIRE IN FLIGHT

- * 1. Battery OFF
- * 2. Generator OFF
- 3. All circuit breakers PULL
- 4. All radio / electrical equipment OFF

If fire persists:

- 5. Make emergency landing

To isolate faulty circuit:

- 6. Generator circuit breaker IN
- 7. Generator ON
(if faulty) (OFF)
- 8. Battery ON
- 9. Check each necessary circuit one at a time by pushing IN circuit breaker and turning ON radio / electrical equipment it services.
- 10. Secure unnecessary radio / electrical equipment to conserve battery if generator is secured.

PROPELLER FAILURE

- * 1. Adjust throttle to maintain safe flight while minimizing overspeed.
- * 2. Climb to put load on propeller.
- * 3. Manipulate propeller control in an attempt to restore governing.
- * 4. Land as soon as practicable.



COCKPIT CIRCUIT BREAKERS

FORWARD COCKPIT ONLY

AFT RIGHT HAND CONSOLE



DC POWER (GENERATOR) FAILURE

- 1. Generator OFF
(if warning light is on or voltage exceeds 30 volts)
- 2. Nonessential electrical equipment . . . OFF
(to conserve battery)

If complete electrical system failure:

- 3. Generator OFF
- 4. Battery OFF

AC POWER (INVERTER) FAILURE

- 1. Inverter switch SPARE
(if inverter out light is on)

LOST PLANE

- 1. Confess
- 2. Communicate
- 3. Climb
- 4. Conserve
- 5. Comply with enroute procedures
- 6. Know any peculiar local area procedures

DAMAGED AIRCRAFT AIRBORNE

- 1. If aircraft is controllable, climb to at least 5000 feet.
- 2. Communicate – state difficulty, request visual inspection.
- 3. Check flight characteristics:
 - a. Gear and flaps down 85 KIAS
 - b. Gear down, flaps up 90 KIAS
- 4. Fly wide approach, maintaining 10 knots above minimums obtained during flight tests.



EMERGENCY LANDING GEAR EXTENSION

- 1. Landing gear circuit breaker PULL OUT
- 2. Landing gear handle DOWN
- 3. Clutch knob UNLOCK
- 4. Push clutch knob DOWN to engage crank.
- 5. Crank gear DOWN
(crank until handle will not move any further)
- 6. Check gear indicators DOWN AND
LOCKED

DITCHING

- 1. Plan to touch down before all fuel is exhausted to have power for controlled approach.
- 2. Make radio distress call.
- 3. Squawk 7700
- 4. Radio cords DISCONNECT
- 5. Harness LOCK
- 6. Canopy OPEN
- 7. Landing gear UP
- 8. Flaps DOWN
- 9. Battery OFF
- 10. Make normal approach with power, if possible. Approach stall attitude at a speed under which full control of aircraft can be maintained. Plan landing direction as follows:
 - Calm sea – Into wind
 - Moderate swells – Parallel to swells
 - High swells (25 knots of wind or more) – Into wind, attempting to land on upwind side of swell.
- 11. Release safety belt ONLY after aircraft has come to a full stop.
- 12. ABANDON AIRCRAFT

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LANDING GEAR EMERGENCIES

If the gear cannot be lowered successfully, proceed with the following emergency procedures for the appropriate gear malfunction.



If an unsafe gear indication existed and the gear have been successfully lowered, do not attempt to raise the gear.

Raising the gear after a malfunction could cause further damage.

GEAR UP LANDING

1. Make normal approach FULL FLAPS
2. Canopy OPEN
3. Harness LOCKED

After touchdown:

4. Mixture IDLE CUTOFF
5. Fuel shutoff valve handle OFF
6. Battery OFF
7. ABANDON AIRCRAFT as soon as it stops.

NOSE GEAR MALFUNCTION

1. Reduce airspeed: lower gear and flaps.
2. Assume slow flight 70 KIAS
3. Make gentle pitching oscillations (use centrifugal force to swing nose gear into down position).
4. When landing, lower nosewheel to runway gently.
5. Use forward stick to keep nosewheel firmly on runway. Avoid wheel barrowing.

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NOSE GEAR RETRACTED

1. Make a normal approach
2. Canopy OPEN
3. After touching main wheels down, hold nose up as long as possible with full nose down elevator trim and full backstick.

Before nose settles onto ground:

4. Mixture IDLE CUTOFF
5. Fuel shutoff valve handle OFF
6. Battery OFF
7. ABANDON AIRCRAFT as soon as it stops.

ONE MAIN GEAR RETRACTED

1. Have gear position checked visually by another pilot or by the tower on a flyby, if possible.
2. If verified that one gear is not fully extended and an attempt to retract it is unsuccessful, execute normal approach with full flaps and power on to reduce landing speed, carrying the wing slightly lower on the down and locked side.
3. Canopy OPEN (Blow)
4. Touch down smoothly on the down and locked gear. Hold opposite wing up with aileron as long as possible after nosewheel touches down.
5. When wingtip strikes the ground, apply maximum opposite brake pressure.
6. As soon as aircraft stops:
Mixture IDLE CUTOFF
Fuel shutoff valve handle OFF
Battery OFF
7. ABANDON AIRCRAFT



FLAT TIRE

1. Touch down well over opposite side of runway to allow room for a swerve and hold directional control with opposite brake.
2. Avoid hard applications of brake.
3. After landing with a flat tire, perform the Secure Checklist when the aircraft comes to a complete stop and have the aircraft towed clear of the landing area.
4. Do not taxi in with a flat tire.

BRAKE FAILURE

If no brake pressure was evident during landing pattern brake check, land aircraft as short as possible using full flaps to shorten landing roll. After touchdown, secure the engine. When the aircraft comes to a complete stop, complete the remaining items on the Secure Checklist and have the aircraft towed clear of the landing area.

HARD LANDINGS

If on the runway:

1. Runway permitting, execute a full stop.
2. Do not attempt to taxi the aircraft.

If airborne:

3. Have landing gear checked visually by another pilot or by tower on a flyby, if possible.
4. If the check reveals no visible damage, execute a normal full flap landing and proceed as in steps 1 and 2.
4. If visual damage is confirmed, execute appropriate emergency procedure.



EMERGENCY DESCENT

1. Throttle IDLE
2. Propeller FULL INCREASE
3. Landing gear DOWN
4. Flaps DOWN
5. Airspeed 110 KIAS