

EMERGENCY PROCEDURES

June 2015

Table of Contents

C 172

| | |
|--|-----|
| NON CRITICAL ACTION PROCEDURES | E-2 |
| GROUND OPERATION EMERGENCIES | E-2 |
| Emergency Engine Shutdown on the Ground | E-2 |
| Engine Fire During Start | E-2 |
| TAKEOFF EMERGENCIES | E-2 |
| Abort | E-2 |
| IN-FLIGHT EMERGENCIES | E-3 |
| Engine Failure Immediately After T/O | E-3 |
| Engine Failure In Flt - Forced Landing | E-3 |
| Engine Fire During Flight | E-4 |
| Emergency Descent | E-4 |
| Electrical Fire/High Ammeter | E-4 |
| Negative Ammeter Reading | E-4 |
| Smoke and Fume Elimination | E-5 |
| Oil System Malfunction | E-4 |
| Structural Damage or Controllability Check | E-5 |
| Recall | E-6 |
| Lost Procedures | E-6 |
| Radio Failure | E-7 |
| Diversion | E-8 |
| LANDING EMERGENCIES | E-9 |
| Landing with flat tire | E-9 |
| LIGHT SIGNALS | |

E-1

NON CRITICAL ACTION

1. Maintain aircraft control.
2. Analyze the situation and take proper action.
3. Land as soon as conditions permit

GROUND OPERATION EMERGENCIES

Emergency Engine Shutdown on the Ground

1. FUEL SELECTOR ----- OFF
2. MIXTURE ----- IDLE CUTOFF
3. IGNITION ----- OFF
4. MASTER SWITCH ----- OFF

Engine Fire during Start

If Engine starts

1. POWER ----- 1700 RPM
2. ENGINE ----- SHUTDOWN

If Engine fails to start

1. CRANKING ----- CONTINUE
 2. MIXTURE ----- IDLE CUT-OFF
 3. THROTTLE ----- FULL OPEN
 4. ENGINE ----- SHUTDOWN
- FUEL SELECTOR ----- OFF
 - IGNITION SWITCH --- OFF
 - MASTER SWITCH ----- OFF

TAKEOFF EMERGENCIES

ABORT

1. THROTTLE ----- IDLE
2. BRAKES ----- AS REQUIRED

E-2

IN-FLIGHT EMERGENCIES

Engine Failure Immediately After Takeoff

1. BEST GLIDE ----- ESTABLISH
2. FUEL SELECTOR ----- OFF
3. MIXTURE ----- IDLE CUTOFF
4. IGNITION ----- OFF
5. FLAPS ----- AS REQUIRED
6. MASTER SWITCH ----- OFF

ENGINE FAILURE IN FLIGHT - Forced Landing

1. A/S TRIM FOR BEST GLIDE
2. SELECT FORCED LANDING AREA
3. **ENGINE RESTART PROCEDURE (Big L)**
 - FUEL SELECTOR - BOTH
 - MIXTURE - RICH
 - THROTTLE - FULL OPEN
 - CARB HEAT - ON
 - IGNITION - BOTH
 - MASTER - ON
 - PRIMER - IN & LOCKED
 - **If engine fails to start** -----
 - MAYDAY CALL
 - CURRENT FREQ OR 121.5, TRANSPONDER 7700
 - SELECT TOUCH DOWN POINT
 - FLAPS AS REQUIRED (FULL DOWN)
 - DOORS - UNLATCH
4. **If restart fails - Secure engine (Big L)**

 - Clear engine every 30 seconds
 - 500 feet AGL minimum
 - Execute the "GO-AROUND PROCEDURE"

E-3

Engine Fire During Flight

1. FUEL SELECTOR ----- OFF
2. MIXTURE----- IDLE CUTOFF
3. THROTTLE ----- IDLE
4. IGNITION ----- OFF
5. FLAPS ----- AS REQUIRED
6. MAY DAY CALL -----121.5 / TRANSPONDER 7700
7. MASTER SWITCH ----- OFF
8. HEAT/AIR VENTS----- CLOSED
9. OVERHEAD VENTS ----- OPEN
10. A/S ----- 100K
 - If fire is not extinguished, increase A/S so that an incombustible fuel /air mixture will result

EMERGENCY DESCENT

1. Declare an emergency; Current freq., 121.5, transponder 7700
2. Carb heat - ON, Throttle - IDLE
3. Flaps - FULL DOWN (remain in the white arc)
4. Speed - TOP OF WHITE ARC (for training V_{fo} -10)
5. Bank angle - 30 to 45
6. Select forced landing area
7. Touchdown in the landing area with minimum airspeed
 - Engine power is available for maneuvering

Electrical Fire / High Ammeter

1. MASTER SWITCH ----- OFF

Negative Ammeter Reading

1. ELECTRICAL LOAD ----- REDUCE
 - Radios & Lights -- Off
 - Alternator reset -- Alternator switch Off then ON
 - If negative amps continue -- Alternator -- Off

E-4

Smoke and Fume Elimination

1. CABIN HEAT / AIR KNOBS ----- IN
2. UPPER AIR VENTS ----- OPEN
3. PILOTS WINDOW ----- AS REQUIRED

Oil System Malfunction

1. THROTTLE ----- AS REQUIRED
2. MIXTURE ----- RICH

Structural Damage or Controllability Check

** CAUTION **

Do not reset flaps if significant structural damage is located in the wings.

1. Climb to at least 1500' above the terrain (if practical) at controllable airspeed.
2. Simulate a landing approach and determine the airspeed at which the aircraft becomes difficult to control (minimum controllable airspeed).
3. Plan to fly a straight-in approach. Fly the normal approach airspeed for your flap setting, or 10 KIAS above the minimum controllable airspeed, whichever is higher. For asymmetrical flaps, use your minimum flap setting for approach airspeed. Plan to touch down at no less than minimum controllable airspeed. Do not begin to reduce final approach airspeed until the aircraft is very close to the runway.

Recall

1. Eagle initiates with a blanket radio transmission that is not acknowledged.
2. Individual aircraft are then contacted separately to minimize confusion and congestion.
3. Do not leave area until instructed by Eagle.
4. Do not call Eagle for recovery. Eagle will sequence aircraft recoveries.
5. PREPARE FOR POSSIBLE DIVERSION
SEE PAGE E-8

Lost Procedures; (Climb, Communicate, Confess & Comply 4C's)

1. Attempt to climb to an altitude that provides the best visibility.
2. Choose a power setting that will give you an economical fuel burn and lean for endurance. The bottom of the green arc (RPM) works well. Verify fuel remaining.
3. Look for prominent landmarks. Remember, airports often are located along major roads.
4. Tune in a local VOR. Navigational aids can be found on the Sectional Charts located in the aircraft.
5. Attempt to contact air Traffic Control. Possible Flight Service Station frequencies are: 122.0, 122.1, 122.2, 122.6 or 123.6.
6. If all else fails: Set emergency code 7700 in your transponder, call "MAYDAY" 3 times on guard frequency, 121.5, giving your call sign and stating you are lost.
7. If unable to get reoriented, land before your fuel is completely exhausted. Select a good field and fly a low approach over it to determine whether it is suitable for landing. If suitable, determine the wind direction and land.
8. Notify the Aero Club by calling collect. If a farmhouse or other dwelling is not within sight, stay with the aircraft.

RADIO FAILURE

1. Determine if an actual radio failure exists.
 - a. Make sure the auto selector on the audio control panel is in the PHONE position. The transmitter selector is on the correct radio and on the correct frequency.
 - b. If communication is not established go to the intercom fail safe mode. Turn the intercom volume control knob full CCW to click into fail-safe mode.

* The fail-safe mode will only work in the left seat.

CONTROLLED AIRFIELDS

1. If unable to determine the landing runway prior to enter in the airport traffic area, fly at least 2000' above the depicted airport elevation and observe wind indicators or other aircraft. Once the landing runway been determined enter the pattern.
 - a. Acknowledge tower light signals by rocking your wings.
 - b. If no light signal is received and no traffic conflicts exist, land. Refer to standard light signals chart for definition of light signals.

2. ACADEMY AIRFIELD

- a. Enter the pattern for the eastern runway displaying your landing light.
- b. Observe tower for a steady green light on base and final. If no light is observed and no visible conflict exists with other traffic or runway restriction, land.

3. UNCONTROLLED AIRFIELDS

- a. Remain 500' above the published pattern altitude while attempting to determine the landing runway.
- b. If unable to use traffic to determine the landing runway, use wind indicators.
- c. Once the landing runway has been determined, join the traffic pattern and land.

4. WHILE HOLDING NUMBER ONE OR TAXIING

- a. Turn the aircraft towards the tower and flash the landing light and watch for a light signal.

E-7

Diversions from BLACK FOREST VOR, (BRK)

1. Determine fuel remaining.
2. Select an alternate field.
3. Turn to approximate heading.
4. Change altitude if necessary.
5. Notify ATC of your intentions.

Centennial
322° / 22 min
fuel 3.0

Limon
054° / 27 min
fuel 3.6

Black Forest VOR
BRK 112.5

Meadow lake
077° / 2 min
fuel .3

Butts
190° / 9 min
fuel 1.2

Colorado Springs
185° / 8 min
fuel 1.1

Bullseye
115° / 10 min
fuel 1.3

calculations based on:

Power 2500 RPM

TAS 110 KIAS

Fuel burn 8.0

Altitude 8000'-10,000' MSL

Pueblo
158° / 22 min
fuel 3.0

E-8

LANDING EMERGENCIES

Landing with a Flat Tire

1. Main Gear: Land on the side of the runway corresponding to the good tire.
2. Nose Gear: Land in the center of the runway, hold nose wheel off the ground as long as possible.
3. Stop the aircraft on the runway. Shut down the aircraft and call maintenance.

LIGHT SIGNALS

| COLOR & TYPE OF SIGNAL | ON THE GROUND | IN FLIGHT |
|-------------------------|-------------------------------------|---|
| Steady Green | Cleared for takeoff | Cleared to land |
| Flashing Green | Cleared to taxi | Return for landing (to be followed by a steady green) |
| Steady Red | Stop | Give way to other aircraft and continue circling |
| Flashing Red | Taxi clear of runway in use | Airport unsafe – Do not land |
| Flashing White | Return to starting point on airport | ----- |
| Alternating Red & Green | Warning – Exercise extreme caution! | Warning – Exercise extreme caution! |

To acknowledge tower signals: Day: Rock wings
Night: Blink Landing Lights