



## Section 3

# Emergency Procedures

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## **3.0 Introduction**

### **3.0a General**

This section contains the checklists and procedures coping with emergencies that may occur. These checklists must be followed in various emergencies to ensure maximum safety for the crew and/or aircraft.

For checklists and procedures associated with optional systems or equipment refer to the applicable Supplements as listed in Section 9.

Thorough knowledge of these procedures will enable the aircrew to better cope with an emergency. The steps should be performed in the listed sequence. However, the procedures do not restrict the aircrew from taking any additional action necessary to deal with the emergency.

### **3.0b General Behavior in Emergency Situations**

As soon as one of the crew members becomes aware that an emergency situation exists, he must immediately alert the other crew member of the situation. In any emergency situation, contact should be established with a ground station as soon as possible after completing the initial corrective action. Include position, altitude, heading, speed, nature of the emergency and pilot's intentions in the first transmission. Thereafter the ground station should be kept informed of the progress of the flight and of any changes or developments in the emergency. Three basic rules apply to most emergencies and should be observed by each aircrew member:

- ▶ Maintain aircraft control
- ▶ Analyze the situation and take proper action



- Land as soon as possible/as soon as practical

The meaning of "as soon as possible" and "as soon as practical" as used in this section is as follows:

Land AS SOON AS POSSIBLE (ASAP):

Emergency conditions are urgent and require an immediate landing at the nearest suitable airfield, considering also other factors, such as weather conditions and aircraft mass.

Land AS SOON AS PRACTICAL:

Emergency conditions are less urgent and in the aircrews judgment the flight may be safely continued to an airfield where more adequate facilities are available.

**⚠ WARNING**

**Make only one attempt to restore an automatically disconnected power source or to reset or replace an automatically disconnected CPD (circuit protection device) that affects flight operations or safety. Each successive attempt to restore an automatically disconnected power source, or the resetting of an automatically disconnected CPD can result in progressively worse effects.**



### 3.1 Airspeeds for Emergency Operation

Stall speed	63 KIAS (116 km/h)
Engine failure after take-off	90 KIAS (167 km/h)
Best recommended gliding speed (glide angle 1/8):	
Normal & Acro III Category 950 kg (2095 lbs)	100 KIAS (185 km/h)
Acro II Category 900 kg (1984 lbs)	97 KIAS (180 km/h)
Acro I Category 820 kg (1808 lbs)	93 KIAS (172 km/h)
Precautionary landing with engine power	90 KIAS (167 km/h)
Landing without engine power	90 KIAS (167 km/h)

### 3.2 Operational Checklist

#### 3.2a Engine Failure during Take-off Roll

Item	Condition
Throttle	IDLE
Brakes	APPLY
Mixture	IDLE CUT OFF
Ignition switch	OFF
Battery switches	OFF
Alternator switch	OFF



### 3.2b Engine Failure immediately after Take-off

Stall speed: 63 KIAS (116 km/h)

Item	Condition
Airspeed	90 KIAS (167 km/h)
Mixture	IDLE CUT OFF
Fuel shutoff valve	OFF (Pull & Turn)
Ignition switch	OFF
Battery switches	OFF
Alternator switch	OFF
Forced landing	PERFORM as practical

### 3.2c Engine Failure during Flight (Restart Process)

Item	Condition
Airspeed	90 KIAS (167 km/h)
Fuel shutoff valve	FULLEST TANK
Mixture	RICH
Boost pump	ON
Ignition switch	BOTH (or START if propeller has stopped)



### 3.2d Loss of Oil Pressure

Item	Condition
Positive "g"	APPLY
<i>If oil pressure is not regained then:</i>	
Airspeed	90 KIAS (167 km/h)
Throttle	REDUCE AS REQUIRED
Engine oil temperature	OBSERVE INDICATION
Land	ASAP be prepared for power off landing

#### NOTE

If oil pressure drops to 0 psi (kPa) the propeller pitch changes automatically to coarse (high) pitch with a corresponding decrease in RPM.

### 3.2e High Oil Temperature

Item	Condition
Throttle	REDUCE
Mixture	ENRICH; if practical
Airspeed	INCREASE, if practical
Land	ASAP be prepared for power off landing

### 3.2f Alternator Failure

An alternator failure does not mean an immediate danger.



The aircraft has sufficient battery capacity installed for more than one hour, if smoke pump is not operated. However a landing on appropriate airfield is recommended.

An alternator failure is indicated by a yellow ALTERNATOR annunciation on the right side next to the PFD indication of the EFIS.

Item	Condition
<i>If yellow ALTERNATOR indication is displayed:</i>	
Digital voltage indication	CROSS CHECK
<i>If indication is above 13 V, alternator is in function:</i>	
Flight	CONTINUE
<i>if it is not:</i>	
rpm	CHECK min. 2500 rpm
ALTERNATOR switch	OFF AND ON
ALTERNATOR circuit breaker	PULL AND RESET
Low voltage monitor	CHECK INDICATION
<i>If yellow ALTERNATOR indication is off:</i>	
Flight	CONTINUE
<i>If yellow ALTERNATOR indication is displayed again:</i>	
SMOKE ARM switch	CHECK OFF
Land	AS SOON AS PRACTICAL within 1 hour

### 3.2g EFIS Failure

The failure of the EFIS may have different causes:

- Loss of electrical power (Avionic Bus or Main Bus)
- Defective screen





In case of electrical power loss the EFIS can be recovered by activating the backup battery.

The EFIS is installed for situational awareness only and the primary source for flight data is the mechanical instrumentation. Loss of flight instrumentation in the EFIS is therefore not an emergency. The aircraft may be flown without further limitations.

Although all engine and system indications are lost, this failure does not cause any harm. The engine cannot be operated outside its limitations.

However: Fuel needs to be checked by time-check.

Landing on appropriate airfield is recommended.

Item	Condition
<i>If EFIS is black:</i>	
BACKUP BATTERY switch	ON
<i>If screen recovers:</i>	
Land	AS SOON AS PRACTICAL backup battery will ensure screen indication for 30 minutes.
<i>if it does not recover:</i>	
Fuel quantity	CHECK by time-check
Land	AS SOON AS PRACTICAL on appropriate airfield. Consider possible loss of COM and XPDR.

### 3.2h Loss of Navigation Functionality of GPS or Navigation Radio

The EFIS is installed for situational awareness only and the primary source for flight data is the mechanical



instrumentation. Loss of flight instrumentation in the EFIS is therefore not an emergency.

The aircraft may be flown without further limitations.

**3.2i Failure or Error of Manifold Pressure Indication**

Follow RPM/fuel-flow setting as per Performance Chart in Section 5 of this POH.

**3.2j Failure or Error of One or Several CHT Indications**

CHT indication is not essential for flight. The aircraft may be flown without further limitations.

**3.2k Failure or Error of Oil Pressure Indication**

Oil temperature may be used as backup.

With stable oil and cylinder head temperature and without oil leak a sensor failure is likely.

Continue flight and land on appropriate airfield to determine the reason for the oil pressure indication loss.

**3.2l Failure or Error of Oil Temperature Indication**

Oil pressure may be used as backup: With stable oil pressure and cylinder head temperature and without oil leak a sensor failure is likely.

Continue flight and land on appropriate airfield to determine the reason for the oil temperature indication loss.



### **3.2m Failure or Error of Fuel Quantity Indication**

Fuel needs to be checked by time-check.

Landing on appropriate airfield recommended.

### **3.2n Failure or Error of Fuel Pressure Indication**

Fuel flow may be used as backup; manifold pressure and RPM indications can be used as an emergency backup to control power.

With stable fuel flow and without fuel leak a sensor failure is likely.

Landing on appropriate airfield recommended.

## **3.3 Forced Landings**

### **3.3a Emergency Landing without Engine Power**

Item	Condition
Seat belts, shoulder harnesses	SECURE
Airspeed	90 KIAS (167 km/h)
Mixture	IDLE CUT OFF
Fuel shutoff valve	OFF (Pull & Turn)
Ignition switch	OFF
Battery switches	OFF
Alternator switch	OFF
Touchdown	SLIGHTLY TAIL LOW
Brakes	OPTIMUM BRAKING



### 3.3b Precautionary Landing with Engine Power

Item	Condition
Seat belts, shoulder harnesses	SECURE
Airspeed	90 KIAS (167 km/h)
Selected field	FLY OVER, noting terrain and obstructions, then reaching a safe altitude and airspeed
Battery switches	OFF
Alternator switch	OFF
Touchdown	SLIGHTLY TAIL LOW
Ignition switch	OFF
Mixture	IDLE CUT OFF
Fuel shutoff valve	OFF (Pull & Turn)
Brakes	APPLY HEAVILY

### 3.3c Overweight Landing

An overweight landing can be necessary if started with a take-off weight of more than 900 kg (1984 lbs) and the need of an immediate landing.

Item	Condition
Seat belts, shoulder harnesses	SECURE
Airspeed	90 KIAS (167 km/h)
Touchdown	AS SMOOTH AS POSSIBLE
Brakes	AS NEEDED
Hard Landing Check	PERFORM as per Maintenance Manual