

7 Emergency Procedures

- **CAUTION:** If the FADEC has been operated by the battery only, a temporary decrease of the rotational speed is possible by switching on the Alternator. In any case leave the Alternator switched on.

- ◆ **Note:** The following steps must be taken in the event of power loss or engine failure!

7.1 Power Loss

In the event of power loss, move the load selector fully forward (takeoff power position) and select a fuel tank with sufficient fuel level.

7.2 FADEC Operation

The FADEC system consists of two identical and independent FADEC-halves, which continually monitor each others status.

In normal operation, the manual Force B switch should be switched to the "A" position. This means that FADEC A (Engine Control Unit A) is actively controlling the engine, and FADEC B is in stand-by mode. If the FADEC system detects a problem with channel A, the FADEC A light begins to flash and the system automatically switches over to FADEC B. If the FADEC system detects a problem with channel B, the FADEC B light begins to flash, and the system automatically switches to whichever channel is the healthiest.

If the Force B switch is in the "B" position, only FADEC B will be allowed to actively control the engine. In this position, the FADEC system cannot switch automatically between channel A and B. This position is necessary only if the FADEC system does not switch automatically to the healthiest channel in the event of abnormal engine behavior.

- ▲ **WARNING:** It is strongly recommended to always operate with the Force B switch in the "A" position, as this will allow the FADEC system to choose automatically the healthiest channel.

7.3 Engine System Malfunction

- ◆ Note: The FADEC consists of two components that are independent of each other: FADEC A and FADEC B. In case of malfunctions in the active FADEC, it automatically switches to the other.

7.3.1 One FADEC light flashing

1. Press FADEC-Testbutton at least 2 seconds (refer to Chapter 4, Section 4.4.3, Page 6 of this Manual)
2. FADEC Lamp extinguished (temporary failure):
 - a) Continue flight normally
 - b) Inform service center after landing. The lights will illuminate after the ignition has been switched off and on.
3. FADEC Lamp steady illuminated (steady failure or high category failure):
 - a) Observe the other FADEC lamp
 - b) Fly to the next airfield or landing strip
 - c) Select an airspeed according to the appropriate POH
 - d) Inform service center after landing

7.3.2 Both FADEC lights flashing

- ◆ **Note:** The Load Display may not correspond to the current value.
1. Press FADEC-Testbutton at least 2 seconds (refer to Chapter 4, Section 4.4.3, Page 6 of this Manual)
 2. FADEC Lamps extinguished (temporary failure):
 - a) Continue flight normally
 - b) Inform service center after landing. The lights will illuminate after the ignition has been switched off and on.
 3. FADEC Lamps steady illuminated (steady failure or high category failure):
 - a) Check the available engine power
 - b) Expect engine failure
 - c) Flight can be continued, however the pilot should
 - select an airspeed according to the appropriate POH
 - fly to the next airfield or landing strip
 - be prepared for an emergency landing
 - d) Inform service center after landing

7.3.3 Abnormal engine behavior

If abnormal engine behavior should occur during flight and the FADEC does not automatically switch over to FADEC B, it is possible to switch over to FADEC B manually using the "Force B" switch. However, this switch position prevents the auto-monitoring between the two FADEC halves.

- ▲ **WARNING:** It is strongly recommended to always operate with the Force B switch in the automatic position, as this will allow the FADEC system to choose automatically the healthiest FADEC.

Before attempting to restart the engine when on the ground, check the plug and socket connections according to Chapter 6, Annex 7, Page 15 of this Manual and carry out the "Pre-Flight Check" as described in Chapter 6, Section 6.1, Page 2 of this Manual.

7.4 Restart after Engine Failure

Whilst gliding to a suitable landing strip, try to determine the reason for the engine malfunction. If time permits and a restart of the engine is possible, proceed as follows:

1. Air speed according to the Pilot's Operating Handbook
2. Glide below 13000 ft
3. Fuel selector to a tank with sufficient fuel quantity
4. Electric fuel pump (if installed) - "**ON**"
5. Load Selector - "**IDLE**"
6. Engine Master "**OFF**", then "**ON**" (if the propeller does not turn, then additionally Starter "**ON**")*
7. Check the engine power: Load Selector 100%, engine parameters, check altitude and airspeed

* The propeller will normally continue to turn as long as the airspeed is above 65 KIAS. Should the propeller stop an airspeed of 65 KIAS or more, the reason for this should be found out before attempting a restart. It is obvious that the engine or propeller is jammed, do not use the Starter.

◆ **Note:** If the Engine Master ("IGN" resp.) is in position OFF, the Load Display shows 0% even if the propeller is turning.

7.5 Fire in the Engine Compartment

1. Fuel shut-off valve - "**CLOSED**"
2. Engine master switch - "**OFF**"
3. Electric fuel pump (if installed) - "**OFF**"

▲ **WARNING:** If this action does not extinguish the fire, a safety or emergency landing must be initiated. Related data in the Pilot's Operating Handbook must be taken into account.

7.6 Air in the Fuel System (During Flight)

1. Move the fuel tank selector to a tank with sufficient fuel
2. Electric fuel pump (if installed) - "**ON**"
3. Engage the starter

▲ **WARNING:** If there is air in the fuel system, the engine stalls within a few seconds. It takes about 15 seconds before the engine restarts.

▲ **WARNING:** The high-pressure pump has to be inspected before the next flight.

7.7 Oil Pressure too Low (During Flight)

1. Load selector - "**FULL LOAD**"
2. Monitor the oil pressure:
 - a) If the oil pressure rises into the green, continue flight with a power setting which keeps the oil pressure in the green, if possible.
 - b) If the oil pressure remains too low, expect engine failure and prepare for an emergency landing.

◆ **Note:** If the engine fails due to low oil pressure, the propeller will also stop turning. The glide ratio of an aircraft with a stopped propeller is higher than with windmilling, so that the range for an emergency landing increases. Related data in the Pilot's Operating Handbook must be taken into account.