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## 2 Electric Power System Malfunction

### 2.1 ALTERNATOR FAILURE LIGHT ON



**NOTE**

*Alternator light may illuminate for a faulty alternator or when voltage is above 16V; in this case the over-voltage sensor automatically shuts down the alternator.*

If **ALT OUT** caution is **ON**:

- |                       |                         |
|-----------------------|-------------------------|
| 1. Verify failure     |                         |
| 2. Circuit breaker(s) | Check                   |
| 3. Generator switch:  | OFF 1 sec. then back ON |

*If **ALT OUT** caution persists **ON**:*

- |   |     |
|---|-----|
| 4. Generator switch:                          | OFF |
| 5. Reduce electrical load as much as possible |     |
| 6. Land as soon as practical.                 |     |

**NOTE**

*The battery can supply electrical power for at least 25 minutes.*

## 2.2 G3X FAILURES

### 2.2.1. LH OR RH DISPLAY FAILURE

In case of LH or RH display failure, navigation and engine data will be automatically available in the remaining display (split mode).



INSTRUCTION: revert to the remaining display.

### 2.2.2. LOSS OF ENGINE PARAMETERS ON G3X

INSTRUCTION: refer to engine parameters warning lights (OP LOW and FP LOW) and CHT/CT backup indicator.

### 2.3 Pitot Heating System Failure

When the Pitot Heat system (if installed) is activated, the green **PITOT HEAT ON** safe operating annunciation is **ON**;



If the amber **PITOT HEAT** is turned ON, but the caution remains **ON**, the Pitot Heat system is not functioning properly.



In this case, apply following procedure:

1. Pitot Heat switch *OFF*
2. Check Pitot Heat circuit breaker *IN*
3. Pitot Heat switch *ON*
4. Check PITOT HEAT caution light:  
If the amber light stays ON, assume PITOT HEAT malfunction.  
Avoid visible moisture conditions.

### 3. AIRPLANE EVACUATION

With the engine secured and propeller stopped (if practical):

1. **Parking brake:** *LOCK*
2. **Seat belts:** *unstrap completely*
3. **Headphones:** *REMOVE*
4. **Door:** *OPEN*
5. *Escape away from flames/ hot engine compartment/ spilling fuel tanks / Hot brakes.*

### 4. ENGINE SECURING

Following procedure is applicable to shut-down the engine in flight:

1. **Throttle Lever** *IDLE*
2. **Ignition key** *OFF*
3. **Fuel Selector** *OFF*
4. **Electrical fuel pump** *OFF*
5. **Generator switch** *OFF*

## 5. ENGINE FAILURE

### 5.1. ENGINE FAILURE DURING TAKE-OFF RUN

- |                     |                                |
|---------------------|--------------------------------|
| 1. <b>Throttle:</b> | <b>IDLE (keep fully out)</b>   |
| 2. <b>Rudder:</b>   | <b>Keep heading</b>            |
| 3. <b>Brakes:</b>   | <b>control apply as needed</b> |

When safely stopped

- |                                  |     |
|----------------------------------|-----|
| 4. Ignition key:                 | OFF |
| 5. Fuel selector valve:          | OFF |
| 6. Electric fuel pump:           | OFF |
| 7. Alternator & Master switches: | OFF |

### 5.2. ENGINE FAILURE IMMEDIATELY AFTER TAKE-OFF

- |   |                             |
|---|-----------------------------|
| 1. <b>Speed:</b>                                | <b>keep minimum 58 kias</b> |
| 2. <b>Find a suitable place to land safely.</b> |                             |



*The immediate landing should be planned straight ahead with only small changes in directions not exceeding 45° to the left or 45° to the right.*

- |                  |                  |
|------------------|------------------|
| 3. <b>Flaps:</b> | <b>as needed</b> |
|------------------|------------------|



*Stall speed increases with bank angle and longitudinal load factor. Acoustic stall warning will in any case provides a correct anticipated cue of incipient stall.*

- |  |                                  |
|--|----------------------------------|
| 4. <b>Throttle:</b>                        | <b>IDLE (fully out and hold)</b> |
| 5. <b>Ignition key:</b>                    | <b>OFF</b>                       |
| 6. <b>Fuel selector valve:</b>             | <b>OFF</b>                       |
| 7. <b>Electric fuel pump:</b>              | <b>OFF</b>                       |
| 8. <b>Alternator&amp; Master switches:</b> | <b>OFF</b>                       |



*A single engine aircraft take off should always be preceded by a thorough take off emergency pilot self-briefing. Decision to try an engine emergency restart right after take-off should be taken only if environmental situation requires it: pilot shall never ignore the priority of attentively follow an immediate emergency landing.*

*After possible mechanical engine seizure, fire or a major propeller damage, engine restart attempt is not recommended.*

### 5.3 ENGINE FAILURES DURING FLIGHT

#### 5.3.1 Low Fuel Pressure



If the fuel pressure indicator falls below 2.2 psi / **FP LOW** warning is ON:

1. Electric fuel pump: *ON*
2. Fuel selector valve: *select opposite fuel tank if NOT empty*
3. Fuel quantity indicators: *Check both*

If fuel pressure does not build up:

4. **Land as soon as possible** applying forced landing procedure (See Para. 8)

#### 5.3.2 Low Oil Pressure



If oil pressure is below 12 psi / **OP LOW** warning is ON:

1. Throttle Lever: *REDUCE to minimum practical*
2. **Land as soon as practical**

If oil pressure does not increase and **OP LOW** persists ON:

3. **Land as soon as possible** applying forced landing procedure (See Para. 8)

#### 5.3.3 High Oil Temperature

If **OP LOW** warning is ON, see para. 5.3.2 “Low Oil Pressure”.

If oil pressure is within limits:

1. Throttle Lever: *REDUCE to minimum practical*

If oil temperature does not decrease

2. Airspeed INCREASE if practical

**NOTE**

*If oil temperature does not come back within limits, the thermostatic valve regulating the oil flow to the heat exchangers could be damaged, or an oil leakage can be present in the oil supply line..*

3. **Land as soon as practical**

If engine roughness, vibrations, erratic behaviour, or high CHT/CT is detected:

4. **Land as soon as possible** applying forced landing procedure (See Para. 8)

### 5.3.4 CHT/CT limit exceedance

If CHT is above 135°C or CT is above 120°C, apply following procedure:

If **OP LOW** warning is **ON**, see para. 5.3.2 “Low Oil Pressure”.

If oil pressure is within limits:

1. Throttle Lever: *REDUCE Minimum practical*
2. **Land as soon as practical**

**NOTE**

*If CHT/CT does not come back within limits, the thermostatic valve regulating the water flow to the cylinder heads, could be damaged or a coolant leakage can be present in the coolant supply line.*

If CHT/CT continues to rise and engine shows roughness or power loss:

2. **Land as soon as possible** applying forced landing procedure (See Para. 8)

## 6. IN-FLIGHT ENGINE RESTART



*After a mechanical engine seizure, fire or a major propeller damage engine restart is not recommended.*

- |                            |                             |
|----------------------------|-----------------------------|
| 1. Carburettor heat        | <i>ON if required</i>       |
| 2. Electrical fuel pump    | <i>ON</i>                   |
| 3. Fuel quantity indicator | <i>CHECK</i>                |
| 4. Fuel Selector           | <i>select opposite tank</i> |
| 5. Ignition key            | <i>BOTH</i>                 |
| 6. Ignition key            | <i>START</i>                |
| 7. Throttle lever          | <i>SET as required</i>      |

**In case of unsuccessful engine restart:**

1. Engine *SECURE (see engine securing procedure on Para 4)*
2. **Land as soon as possible** applying forced landing procedure (See Para. 8)

## 7. SMOKE AND FIRE

### 7.1. ENGINE FIRE ON THE GROUND

- |                                  |                              |
|----------------------------------|------------------------------|
| 1. Fuel Selector:                | <b>OFF</b>                   |
| 2. Electrical fuel pump:         | <b>OFF</b>                   |
| 3. Ignition key:                 | <b>OFF</b>                   |
| 4. Throttle lever:               | <b>OFF</b>                   |
| 5. Cabin Heat:                   | <b>OFF</b>                   |
| 6. Alternator & Master Switches: | <b>OFF</b>                   |
| 7. Parking Brake:                | <b>LOCK</b>                  |
| 8. Aircraft Evacuation:          | <b>carry out immediately</b> |

### 7.2. ENGINE FIRE DURING TAKEOFF

#### BEFORE ROTATION: ABORT TAKE OFF

- |                    |                                  |
|--------------------|----------------------------------|
| 1. Throttle lever: | <b>IDLE (fully out and hold)</b> |
| 2. Rudder:         | <b>Keep heading control</b>      |
| 3. Brakes:         | <b>As required</b>               |

#### With aircraft under control

- |                                  |                              |
|----------------------------------|------------------------------|
| 1. Fuel Selector:                | <b>OFF</b>                   |
| 2. Electrical fuel pump:         | <b>OFF</b>                   |
| 3. Ignition key:                 | <b>OFF</b>                   |
| 5. Cabin heat:                   | <b>OFF</b>                   |
| 6. Alternator & Master Switches: | <b>OFF</b>                   |
| 7. Parking Brake:                | <b>LOCK</b>                  |
| 8. Aircraft Evacuation:          | <b>carry out immediately</b> |

### 7.3. ENGINE FIRE IN-FLIGHT

- |                          |  |
|--------------------------|--|
| 1. Cabin heat:           | <b>OFF</b>                                 |
| 2. Fuel Selector valve:  | <b>OFF</b>                                 |
| 3. Electrical fuel pump: | <b>OFF</b>                                 |
| 4. Throttle lever:       | <b>FULL FORWARD until the engine stops</b> |
| 5. Ignition key:         | <b>OFF</b>                                 |
| 6. Cabin vents:          | <b>OPEN</b>                                |

### 7.3. ENGINE FIRE IN-FLIGHT

- |  |             |
|--|-------------|
| 1. Cabin heating:  | <b>OFF</b>  |
| 2. Cabin vents:  | <b>OPEN</b> |
| 3. <b>Try to choke the fire. Direct the fire extinguisher towards flame base</b> |             |

#### If smoke persists:

- |  |            |
|--|------------|
| 4. Alternator & Master switches:                             | <b>OFF</b> |
| 5. <b>Land as soon as possible</b> and evacuate the aircraft |            |



**CAUTION**

*If the MASTER SWITCH is set to OFF, consider that flaps extension and pitch trim operation is prevented.*



### 7.5. ELECTRICAL SMOKE/FIRE IN CABIN ON THE GROUND

- |                         |                              |
|-------------------------|------------------------------|
| 1. Generator switch:    | <b>OFF</b>                   |
| 2. Throttle Lever:      | <b>IDLE</b>                  |
| 3. Ignition key:        | <b>ALL OFF</b>               |
| 4. Fuel Selector Valve: | <b>OFF</b>                   |
| 5. Master Switch:       | <b>OFF</b>                   |
| 6. Aircraft Evacuation: | <b>carry out immediately</b> |

## 8. LANDING EMERGENCIES

### 8.1 FORCED LANDING WITHOUT ENGINE POWER

- |  |                |
|--|----------------|
| 1. Flaps:  | <b>UP</b>      |
| 2. Airspeed:   | <b>71 KIAS</b> |
| 3. Find a suitable place to land safely, plan to approach it upwind. |                |
| 4. Fuel selector valve:  | <b>OFF</b>     |
| 5. Electric fuel pump:   | <b>OFF</b>     |
| 6. Ignition key:   | <b>OFF</b>     |
| 7. Safety belts:   | <b>Tighten</b> |

*When certain to land*

- |                                    |                     |
|------------------------------------|---------------------|
| 8. Flaps:                          | <b>as necessary</b> |
| 9. Alternator and Master switches: | <b>OFF</b>          |

**NOTE**

*Glide ratio is 12.8, therefore in zero wind conditions for every 1000 ft above Ground Level it is possible to cover ca. 2 NM.*

### 8.2 POWER-ON FORCED LANDING

- |  |                |
|--|----------------|
| 1. Airspeed:   | <b>UP</b>      |
| 2. Flaps:  | <b>71 KIAS</b> |
| 3. Locate the most suitable terrain for emergency landing, plan to approach it upwind. |                |
| 4. Safety belts:   | <b>Tighten</b> |

*When certain to land, right before touchdown:*

- |                                    |                     |
|------------------------------------|---------------------|
| 5. Flaps:                          | <b>as necessary</b> |
| 6. Fuel selector valve:            | <b>OFF</b>          |
| 7. Electric fuel pump:             | <b>OFF</b>          |
| 8. Ignition key:                   | <b>OFF</b>          |
| 9. Alternator and Master switches: | <b>OFF</b>          |

### 8.3 LANDING WITH A FLAT NOSE TIRE

- |   |                 |
|---|-----------------|
| 1. Pre-landing checklist:   | <b>Complete</b> |
| 2. Flaps:   | <b>Land</b>     |
| 3. Land and maintain aircraft NOSE HIGH attitude as long as possible. |                 |

*As aircraft stops:*

- |                         |                              |
|-------------------------|------------------------------|
| 4. Engine securing:     | <b>Perform (see Para. 4)</b> |
| 5. Airplane evacuation: | <b>Perform (see Para. 3)</b> |

## 8.4 LANDING WITH A FLAT MAIN TIRE

If it's suspected a main tire defect or it's reported to be defective:

1. Pre-landing checklist: *Complete*
2. Flaps: *Land*
3. Land the aeroplane on the side of runway opposite to the defective tire to compensate the change in direction which is to be expected during final rolling
4. Touchdown with the GOOD TIRE FIRST and hold aircraft with the flat tire off the ground as long as possible by mean of aileron and rudder control.

*As aircraft stops:*

5. Engine securing: *Perform (see Para. 4)*
6. Airplane evacuation: *Perform (see Para. 3)*

## 9. RECOVERY FROM UNINTENTIONAL SPIN

If unintentional spin occurs, the following recovery procedure should be used:

1. Throttle: *IDLE (full out position and hold)*
2. Rudder: *full, in the opposite direction of the spin*
3. Stick: *centralize and hold neutral*

*As the spin stops:*

4. Rudder: *SET NEUTRAL*
5. Aeroplane attitude: *smoothly recover averting speeds in excess of  $V_{NE}$*
6. Throttle: *Readjust to restore engine power.*



**WARNING**

*Keep full rudder against rotation until spin has stopped. One complete turn and recovery takes about 500 feet.*

## 10. OTHER EMERGENCIES

### 10.1 UNINTENTIONAL FLIGHT INTO ICING CONDITIONS



**WARNING**

*Airbox carburettor heater is designed to help prevent carburettor ice, less effectively functions as a de-icing system.*

**NOTE**

*See TECNAM SIL-2017-02 for further information about Carburettor Heating operation.*



**WARNING**

*In case of ice formation on wing leading edge, stall speed could highly increase and stall may become asymmetric. In case of stabilator ice accretion it may lose its efficiency, leading to aircraft pitch up response and loss of control.*

1. Carburettor heating: *ON*
2. Immediately fly away from icing conditions (changing altitude and direction of flight, out and below of clouds, visible moisture, precipitations)
3. Controls surfaces: *continue to move to keep free from ice build up*
4. Throttle speed: *increase RPM*
5. Cabin heat: *ON*

## 10.2 TRIM SYSTEM FAILURE

### Trim Jamming

Should trim control be inoperative, act as follows:

1. Breaker: *CHECK IN*
2. LH/RH Trim switch: *CHECK* for correct position

If jamming persists

1. Trim cut-out switch: *CHECK ON*
2. Speed: *adjust to control aircraft without excessive stick force*
3. **Land aircraft as soon as possible.**

### Trim Runaway

In event of trim runaway, act as follows:

1. Trim cut-out switch: *OFF*
2. Speed: *adjust to control aircraft without excessive stick force*
3. *Land aircraft as soon as possible.*

## 10.3 FLAPS FAILURE

### Trim Jamming

In event of flaps-up landing, account for:

- Approach speed: *64 KIAS*  
Landing length: *35% increased*

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