

SECTION 3 – EMERGENCY PROCEDURES

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1. INTRODUCTION

Section 3 includes checklists and detailed procedures for coping with various types of emergency conditions that could arise after a system failure.

Before operating the aircraft, the pilot should become thoroughly familiar with this manual and, in particular, with this Section. Further on a continued and appropriate training and self study should be done.

Two types of emergency procedures are hereby given.

- a. “BOLD FACES” which must be known by heart by the pilot and executed, in the correct and complete sequence, immediately after the failure is detected and confirmed.

These procedures characters are boxed and highlighted:

1.1. ENGINE FAILURE DURING TAKEOFF RUN

BEFORE ROTATION: ABORT TAKE OFF

- | | | |
|----|-----------------------|------------------------------------|
| 1. | Throttle Lever | <i>BOTH IDLE</i> |
| 2. | Rudder | <i>Keep heading control</i> |
| 3. | - - | |
| 4. | - - | |

- b. “other procedures” which should be well theoretically known and mastered, but that can be executed entering and following step by step the AFM current section appropriate checklist.

Additionally operating the aircraft, the pilot should become thoroughly familiar with the Garmin G950 Pilot’s Guide for Tecnam P2006T (P/N 190-01146-XX) – last issue - and, in particular, with the present AFM Section.



CAUTION

Garmin G950 Pilot’s Guide for Tecnam P2006T (P/N 190-01146-XX) – last issue - must be carried onboard the airplane at all times.



Garmin G950 has a very high degree of functional integrity. However, the pilot must recognize that providing monitoring and/or self-test capability for all conceivable system failures is not practical. Although unlikely, it may be possible for erroneous operation to occur without a fault indication shown by the G950. It is thus the responsibility of the pilot to detect such an occurrence by means of crosschecking with all redundant or correlated information available in the cockpit.

In any case, as a failure or abnormal behaviour is detected pilots should act as follows:

- 1. Keep self-control and maintain aircraft flight attitude and parameters*
- 2. Analyse the situation identifying, if required, the area for a possible emergency landing*
- 3. Apply the pertinent procedure*
- 4. Inform the Air Traffic Control as applicable*

NOTE

For the safe conduct of later flights, any anomaly and/or failure must be communicated to the National Authorities in charge, in order to put the aircraft in a fully operational and safe condition.

NOTE

In this Chapter, following definitions apply:

Land as soon as possible: land without delay at the nearest suitable area at which a safe approach and landing is assured.

Land as soon as practical: land at the nearest approved landing area where suitable repairs can be made.

2. AIRPLANE ALERTS

Annunciation Window, located to the right of the Altimeter and Vertical Speed Indicator, supplies 16 alerts for warnings and cautions along with safe operating annunciations. The colours are as follows:

<u>GREEN:</u>	to indicate that pertinent device is turned ON
<u>AMBER:</u>	to indicate no-hazard situations which have to be considered and which require a proper crew action
<u>RED:</u>	to indicate emergency conditions

Warning alert text is shown in red in the Annunciation Window and is accompanied by a continuous chime and a flashing WARNING Softkey annunciation. Selecting the WARNING Softkey acknowledges the presence of the warning alert and stops the aural chime.

Caution alert text is shown in yellow in the Annunciation Window and is accompanied by a single chime and a flashing CAUTION Softkey annunciation. Selecting the CAUTION Softkey acknowledges the presence of the caution alert. Caution voice alerts repeat three times or until acknowledged by selecting the CAUTION Softkey.

All aircraft annunciations can be displayed simultaneously in the Annunciation Window. A white horizontal line separates annunciations that are acknowledged from annunciations that are not yet acknowledged. Higher priority annunciations are displayed towards the top of the window.

In order to give a short description about the airplane alerts, text messages are displayed on the Alerts Window: pressing the ALERTS Softkey displays the Alerts Window, pressing the ALERTS Softkey a second time removes the Alerts Window from the display. When the Alerts Window is displayed, the FMS knob can be used to scroll through the alert message list.

2.1 SINGLE ALTERNATOR FAILURE / OVERVOLTAGE

Annunciation window	Alert window
L ALT FAIL	Lh Alternator
OR	
R ALT FAIL	Rh Alternator

1. FIELD LH (or RH) OFF
2. FIELD LH (or RH) ON

If the LH (or RH) ALT caution stays displayed

3. FIELD LH (or RH) OFF
4. Avionic LH OFF
5. ADF OFF

NOTE

Switching OFF avionic LH and ADF will permit to shed non-essential electrical power.

The battery and a single generator are able to supply the electrical power necessary for flight, but redundancy is lost.

If conditions permit:

NOTE

Switching CROSS BUS OFF will further reduce alternator load; the decision mainly depends on weather conditions.

6. CROSS BUS LH (or RH) OFF

Equipment will be lost accordingly to the following table:

LH Gen Bus	LH Avionic Bus	RH Avionic Bus	RH Gen Bus
Pitot Heat	DME	ADF	NAV Lights
Landing Light	Transponder	COM 2	Rudder Trim
Taxi Light	A/P	NAV 2	Stall Warning
	A/P Pitch Trim	MFD	
		AHRS/ADC*	

* AHRS /ADC are fed from battery bus if Mod 2006/135 is embodied

7. Land as soon as practicable

2.2 BOTH ALTERNATORS FAILURE

Annunciation window	Alert window
L ALT FAIL R ALT FAIL	Lh Alternator
	Rh Alternator

In event of both L and R ALT FAIL caution alerts displayed:

1. FIELD LH and RH *BOTH OFF*
2. FIELD LH and RH *BOTH ON*

If the LH (or RH) ALT caution stays displayed

1. Verify good ammeter indications on restored alternator
2. Refer to Single alternator failure / overvoltage drill (Para 2.1)

If both LH and RH ALT cautions stay displayed

3. FIELD LH and RH *BOTH OFF*
4. CROSS BUS LH and RH *BOTH OFF*

If engine starting battery modification is applied

5. EMERG BATT switch *ON*
6. Land as soon as possible.

If engine starting battery modification is not applied

5. Land as soon as possible.

Equipment will be lost accordingly to the following table:

LH Gen Bus	LH Avionic Bus	RH Avionic Bus	RH Gen Bus
Pitot Heat	DME	ADF	NAV Lights
Landing Light	Transponder	COM 2	Rudder Trim
Taxi Light	A/P	NAV 2	Stall Warning
	A/P Pitch Trim	MFD	
		AHRS/ADC*	

AHRS /ADC are fed from battery bus if Mod 2006/135 is embodied

NOTE

The battery can supply electrical power for at least 30 minutes.

2.3 BOTH ALTERNATORS OVERVOLTAGE

Annunciation window	Alert window
L BUS VOLT HIGH	Lh overvoltage
R BUS VOLT HIGH	Rh overvoltage

In event of both L and R BUS VOLT HIGH warning alerts displayed:

1. FIELD LH and RH *BOTH OFF*
2. FIELD LH and RH *BOTH ON (one at a time)*

If the LH (or RH) BUS VOLT HIGH warning is still displayed

3. Verify good ammeter indications on restored alternator
4. Refer to Single alternator failure / overvoltage drill (Para 2.1)

If both LH and RH BUS VOLT HIGH warning are still displayed

3. CROSS BUS LH and RH *BOTH OFF*
4. FIELD LH and RH *BOTH OFF*
5. FIELD LH and RH *BOTH ON (one at a time)*

If LH (or RH) BUS VOLT HIGH warning is still displayed

6. Verify good ammeter indications on restored alternator
7. Switch CROSS BUS on the restored alternator side
8. Refer to Single alternator failure / overvoltage drill (Para 2.1)

If both LH and RH BUS VOLT HIGH warning are still displayed

6. FIELD LH and RH *BOTH OFF*

If engine starting battery modification is applied

7. EMERG BATT switch *ON*
8. Land as soon as possible.

If engine starting battery modification is not applied

7. Land as soon as possible

Equipment will be lost accordingly to the following table:

LH Gen Bus	LH Avionic Bus	RH Avionic Bus	RH Gen Bus
Pitot Heat	DME	ADF	NAV Lights
Landing Light	Transponder	COM 2	Rudder Trim
Taxi Light	A/P	NAV 2	Stall Warning
	A/P Pitch Trim	MFD	
		AHRS/ADC*	

AHRS /ADC are fed from battery bus if Mod 2006/135 is embodied

NOTE

The battery can supply electrical power for at least 30 minutes.

2.4 FAILED DOOR CLOSURE

Annunciation window	Alert window
PILOT DR OPEN	Main door open

OR

REAR DR OPEN	Rear door open
---------------------	----------------

In case of door opening / unlocking, related PILOT or REAR DR OPEN alert is displayed.
In this case, apply following procedure:

ON THE GROUND

1. Passengers and crew seat belts *Fasten and tighten*
2. Affected door *Verify correctly closed*

If door is open

3. Relevant engine *Shut down*
4. Affected door *Close and check*

If door is closed

3. Locking device *Check*

If down in unlocked position

4. Abort mission.

IN FLIGHT

1. Passengers and crew seat belts *Fasten and tighten*
2. Affected door and locked device *Verify correctly closed*

If door is open or locking device is unlocked

3. Land as soon as possible

2.5 PITOT HEATING SYSTEM FAILURE

Annunciation window	Alert window
PITOT HEAT ON	Pitot heat
PITOT HEAT	Pitot heat

When the Pitot Heating system is activated, the green PITOT HEAT advisory light is turned ON.

If the amber PITOT HEAT caution light turns OFF, then the Pitot Heating system is functioning properly. Anytime the amber PITOT HEAT caution light is ON at the same time the green PITOT HEAT light is ON, then the Pitot Heating system is not functioning properly.

- Pitot heat switch *OFF*
- Verify Pitot Heating circuit breaker is IN
- Pitot heat switch *ON*
- Check PITOT HEAT caution light:

If the amber light stays ON, assume a failure in the pitot heating system.
Avoid visible moisture and OATs below 10 deg C.

2.6 COOLANT LIQUID LOW LEVEL

Annunciation window	Alert window
L COOLANT LOW	Lh Low Coolant
OR	
R COOLANT LOW	Rh Low Coolant

When the engine coolant liquid level goes under the lower limit, the related L or R COOLANT LOW warning alert is displayed. Low coolant level condition may lead to high CHT/CT. When the warning is displayed, apply following procedure:

1. Check affected engine CHT/CT

If CHT is above 135°C or CT is above 120°C

2. Affected engine *Reduce power setting to reduce CHT/CT up to the minimum practical*
3. **Land as soon as practical**

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

4. Affected engine *SECURE (securing procedure on Para. 4)*
5. **Land as soon as possible** applying *one engine inoperative landing procedure*. See Para. 6.6

2.7 GEAR PUMP FAILURE

Annunciation window	Alert window
GEAR PUMP ON	Gear powered

The GEAR PUMP ON caution light turns ON when the landing gear hydraulic pump is electrically supplied.

After the landing gear retraction, if the red TRANS light turns OFF and the GEAR PUMP ON caution stays turned ON, this could indicate a gear pump relay failure to ON.

If TRANS light is OFF

1. Continue the mission monitoring the caution light.

If TRANS light is ON

2. Landing gear is not locked in UP position

NOTE

The electrical gear pump, continuously supplied, causes a current absorption which does not affect the mission unless this failure is coupled with the overall electrical failure. In this case, the residual battery endurance may be consistently lower than 30 minutes.

2.8 ENGINE FIRE

Annunciation window	Alert window
LH ENGINE FIRE	Left engine fire detected

OR

RH ENGINE FIRE	Right engine fire detected
-----------------------	----------------------------

In event of engine fire, the LH or RH ENGINE FIRE warning alert is displayed.
Refer to following procedures:

FIRE ON THE GROUND:	see Para. 8.1
FIRE DURING TAKEOFF RUN:	see Para. 8.2
FIRE IN FLIGHT:	see Para. 8.3


2.9 LOSS OF INFORMATION DISPLAYED

When a LRU or a LRU function fails, a large red 'X' is typically displayed on the display field associated with the failed data.

NOTE


In most of cases, the red "X" annunciation is accompanied by a message advisory alert issuing a flashing ADVISORY Softkey annunciation which, once selected, acknowledges the presence of the message advisory alert and displays the alert text message in the Alerts Window. Refer to G950 Pilot's Guide for Tecnam P2006T (P/N 190-01146-00), last issue, Appendix A, Message Advisories list.

2.10 LOSS OF AIRSPEED INFORMATION

	<p>AIRSPEED FAIL (RED X ON DISPLAY FIELD)</p>
	<p>Display system is not receiving airspeed input from the Air Data Computer.</p>


INSTRUCTION: revert to standby analogical airspeed indicator

2.10 LOSS OF ATTITUDE INFORMATION

	<p>ATTITUDE FAIL (RED X ON DISPLAY FIELD)</p>
	<p>Display system is not receiving attitude information from the AHRS.</p>


INSTRUCTION: revert to standby analogical attitude indicator

2.11 LOSS OF ALTITUDE INFORMATION

	<p>ALTITUDE FAIL (RED X ON DISPLAY FIELD)</p>
	<p>Display system is not receiving altitude input from the Air Data Computer.</p>


INSTRUCTION: revert to standby analogical altitude indicator

2.12 LOSS OF VERTICAL SPEED INFORMATION

	VERT SPEED FAIL (RED X ON DISPLAY FIELD)
	<p>Display system is not receiving vertical speed input from the Air Data Computer.</p>

INSTRUCTION: determine vertical speed on the basis of altitude information

2.13 LOSS OF HEADING INFORMATION

	HDG (RED X ON DISPLAY FIELD)
	<p>Display system is not receiving valid heading input from AHRS.</p>

INSTRUCTION: revert to magnetic compass

2.14 DISPLAY FAILURE

In the event of a display failure, the G950 System automatically switches to reversionary (backup) mode. In reversionary mode, all important flight information is presented on the remaining display in the same format as in normal operating mode. The change to backup paths is completely automated for all LRUs and no pilot action is required.

if the system fails to detect a display problem

1. DISPLAY BACKUP button

PUSH



If a display fails, the related Integrated Avionics Unit (IAU) is cut off and can no longer communicate with the remaining display: consequently the NAV and COM functions provided to the failed display by the Integrated Avionics Unit are flagged as invalid on the remaining display.

3. ENGINE SECURING

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

- | | |
|--------------------------------|------------------------|
| 1. Throttle Lever | <i>IDLE</i> |
| 2. Ignition | <i>BOTH OFF</i> |
| 3. Propeller Lever | <i>FEATHER</i> |
| 4. Fuel Selector | <i>OFF</i> |
| 5. Electrical fuel pump | <i>OFF</i> |

After securing engine(s), after analysing situation, refer immediately to following procedures:

ENGINE FAILURE IN FLIGHT:	see Para. 6.5
SINGLE GENERATOR FAILURE:	see Para. 2.1
or BOTH GENERATOR FAILURE:	see Para. 2.2
INFLIGHT ENGINE RESTART:	see Para. 6.2
ONE ENGINE INOPERATIVE LANDING:	see Para. 6.6
or LANDING WITHOUT ENGINE POWER:	see Para. 10.1

4. POWERPLANT EMERGENCIES

4.1 PROPELLER OVERSPEEDING

The aircraft is fitted with propeller/governor set by MT-Propeller such a way that the maximum propeller rpm exceedance is prevented. In case of propeller overspeeding in flight, apply following procedure:

- | | |
|--------------------|---|
| 1. Throttle Lever | <i>REDUCE power to minimum practical</i> |
| 2. Propeller Lever | <i>REDUCE as practical (<u>not in feathering</u>)</i> |
| 3. RPM indicator | <i>CHECK</i> |

If it is not possible to decrease propeller rpm, apply *engine securing procedure* (see Para. 3) and **land as soon as possible** applying *one engine inoperative landing procedure* (See Para. 6.6).



Maximum propeller rpm exceedance may cause the engine components damage. Propeller and engine shall be inspected in accordance with related Operators Manuals.

4.2 CHT LIMIT EXCEEDANCE

If CHT/CT exceeds its limit, apply following procedure:

1. Check affected engine CHT/CT

If CHT is above 135°C or CT is above 120°C

2. Affected engine *Reduce power setting to reduce CHT/CT up to the minimum practical*
3. **Land as soon as practical**

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

4. Affected engine *SECURE (securing procedure on Para. 3)*
5. **Land as soon as possible** applying one engine inoperative landing procedure. See Para. 6.6

4.3 OIL TEMPERATURE LIMIT EXCEEDANCE

If oil temperature exceeds maximum limit (130°C):

1. OIL PRESS *CHECK*

If oil pressure is within limits

2. Affected engine *Reduce power setting to minimum applicable*
3. Affected engine *Keep propeller speed higher than 2000 RPM*

If oil pressure does not decrease

4. Airspeed *INCREASE*

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.

5. **Land as soon as practical** keeping the affected engine to the minimum necessary power
6. Monitor OIL PRESS and CHT/CT

if engine roughness / vibrations or erratic behaviour is detected:

7. Affected engine *SECURE (engine securing procedure on Para. 3)*
8. **Land as soon as possible** applying *one engine inoperative landing procedure*. See Para. 6.6



Excessive oil pressure drop leads to a high pitch propeller configuration with consequent propeller feathering and engine stopping.

4.4 OIL PRESSURE LIMITS EXCEEDANCE

If oil pressure exceeds its lower or upper limit (0.8 – 7 bar), apply following procedure:



Excessive oil pressure drop leads to a high pitch propeller configuration with consequent propeller feathering and engine stopping.

NOTE

An excessive oil pressure value can be counteracted by decreasing propeller rpm.

1. OIL PRESS *CHECK*

If oil pressure exceeds upper limit (7 bar)

2. Throttle Lever *first REDUCE affected engine power by 10%*
3. Propeller Lever *Keep low rpm*
4. OIL PRESS *CHECK (verify if came back within the limits)*
5. **Land as soon as practical**

If oil pressure is under the lower limit (0.8 bar)

2. **Land as soon as practical**

If oil pressure is continuously decreasing

3. **Affected engine** *SECURE (see engine securing procedure on Para. 3)*
4. **Land as soon as possible** applying one engine inoperative landing procedure.
See Para. 6.6

4.5 LOW FUEL PRESSURE

If fuel pressure decreases below the lower limit (2.2 psi), apply following procedure:

- | | |
|---------------------|----------------|
| 1. Fuel press | <i>CHECK</i> |
| 2. Fuel quantity | <i>CHECK</i> |
| 3. Fuel consumption | <i>MONITOR</i> |

If a fuel leakage is deemed likely

5. **Land as soon as possible.**

If a fuel leakage can be excluded:

- | | |
|---|-----------|
| 4. Electrical fuel pump | <i>ON</i> |
| 5. Feed the affected engine by means of opposite side fuel tank | |

If pressure does not come back within the limits

6. **Land as soon as practical**

5. OTHER EMERGENCIES

5.1 EMERGENCY DESCENT


CAUTION

Descent with airspeed at VLE, idle power and gear down will provide high descent rates and pitch attitudes up to -15 °.

Anticipate altitude capture and return to level flight during emergency descent in order to assure a safe and smooth recovery from maneuver.

- | | |
|-----------------|----------------------|
| 1. Power levers | <i>IDLE</i> |
| 2. Flaps | <i>UP</i> |
| 3. IAS | <i>below VLO/VLE</i> |
| 4. Landing gear | <i>DOWN</i> |
| 5. Airspeed | <i>Up to VLE</i> |

5.2 TOTAL ELECTRICAL FAILURE

In case of electrical system overall failure, apply following procedure:

- | | |
|--------------------|------------------------|
| 1. Emergency light | <i>ON if necessary</i> |
| 2. MASTER SWITCH | <i>OFF</i> |
| 3. FIELD LH and RH | <i>BOTH OFF</i> |
| 4. MASTER SWITCH | <i>ON</i> |
| 5. FIELD LH and RH | <i>BOTH ON</i> |

If failure persists

- | | |
|--|--|
| 9. EMERG BATT switch | <i>ON (if engine starting battery installed)</i> |
| 10. Land as soon as possible applying <i>emergency landing gear extension</i> procedure (see Para. 7.1) | |


WARNING

An electrical system overall failure prevents flaps operation: landing distance without flaps increases of about 25%.


CAUTION

A fully charged battery can supply electrical power for at least 30 minutes.

5.3 STATIC PORTS FAILURE

In case of static ports failure, the alternate static port in the cabin (shown below) must be activated.



- | | |
|--------------------------------|-------------------------------|
| 1. Cabin ventilation | <i>OFF (hot and cold air)</i> |
| 2. ALTERNATE STATIC PORT VALVE | <i>OPEN</i> |
| 3. Continue the mission | |

5.4 UNINTENTIONAL FLIGHT INTO ICING CONDITIONS

1. Carburettor heat *BOTH ON*
2. Pitot heat *ON*
3. Fly as soon as practical toward a zone clear of visible moisture, precipitation and with higher temperature, changing altitude and/or direction.
4. Control surfaces *Move continuously to avoid locking*
5. Propellers rpm *INCREASE to prevent ice build-up on the blades*

**WARNING**

In event of ice build-up in correspondence of wing leading edges, stall speed increases.

**WARNING**

Ice build-up on wing, tail fin or flight control surfaces unexpected sudden roll and/or pitch tendencies can be experienced and may lead to unusual attitude and loss of aircraft control.

**WARNING**

Do not use Autopilot when icing formation is suspected or detected.

5.5 CARBURETTOR ICING

DURING TAKEOFF

The carburettor icing in “full throttle” mode is unlikely.

Take off in known or suspected icing formation is forbidden; in order to dispose of full engine take off power, take-off must be performed with carburettor heating OFF.

IN FLIGHT

Carburettor icing is considered probable when external air temperature is below 15° C and visible air moisture (clouds, mist, haze or fog) or atmospheric precipitation are present.

Generally, an OAT-to-dew point temperature spread lower than 10°C and OAT less than 15°C with visibility lower than 5 km is a positive indication of likely icing formation condition.

Should an inadvertent flight into known or forecast icing condition happen carburettor heating should be selected “ON” as soon as possible: the greater the advance carburettors are warmed the better the chances not to form ice and avoid engine power loss or reduction.

Keep Carb Heating “ON” until engine power is restored and area of possible icing condition is exited.



CAUTION

Carburettor Heating selected to “ON” will cause engine RPM reduction of about 100 RPM causing a sensible available engine power decrease.

5.6 FLAPS CONTROL FAILURE**DURING TAKEOFF****CAUTION**

Flap UP take off, requires a T/O distance (50 ft height obstacle distance) increased by about 20%.

1. Airspeed *Keep below 93 KIAS*
2. **Land as soon as practical**

DURING APPROACH/LANDING**CAUTION**

If the flaps control fails, consider the higher stall speed (see Section 5, Para. 6, "Stall Speed") and an increased landing distance of about 25%.

1. Airspeed *Keep over 75 KIAS*
2. **Land as soon as practical** on a runway of appropriate length

6 ONE ENGINE INOPERATIVE PROCEDURES

**CAUTION**

The ineffectiveness of one engine results in asymmetric traction which tends to yaw and bank the aircraft towards the inoperative engine. In this condition it is essential to maintain the direction of flight compensating the lower traction and counteracting the yawing effects by mean of rudder pedals. To improve directional control, it is advisable to bank the aircraft of about 5° to the side of the operating engine.

In addition, reduced available overall power and extended control surfaces will lead to a performances drop: a quick pitch attitude reduction will allow to keep a minimum safety airspeed.

The higher is the airspeed the better will be lateral and directional control efficiency: never allow airspeed to drop below V_{MCA} .

**CAUTION**

Best residual climb performances in OEI (One Engine Inoperative) condition have been recorded in Flap Up configuration and at V_{YSE} , which is marked as a Blue Line on the Airspeed indicator (calculated for maximum Take Off Weight and Sea, Level ISA condition) For actual condition V_{YSE} refer to Section 5 Para. 13, “One engine rate of climb”.

V_{XSE} is actually very close to V_{YSE} in any condition, thus best climb performance will also be associated with best climb angle (gradient) performance. Refer to Section 5 Para. 14, One-Engine Rate of Climb at V_{XSE} , for relevant data.

6.1 CHARACTERISTIC AIRSPEEDS WITH ONE ENGINE INOPERATIVE

In case of one engine inoperative condition (OEI), pilot shall take into account the airspeeds shown below:

Conditions	Speed (KIAS)	
Minimum aircraft control speed with one engine inoperative and flaps set to T.O. (V_{MC})	62	
Best rate-of-climb speed OEI (V_{YSE})	MTOW 1180 kg	MTOW 1230 kg
	80	84
Best gradient speed OEI (V_{XSE})	79	83

NOTE

Reference is made to MTOW, 1180 kg and 1230 kg, at Sea Level and ISA condition (if Supplement G10- Increased MTOW @1230 KG - is applicable).

6.2 INFLIGHT ENGINE RESTART

After:



WARNING

- *mechanical engine seizure;*
- *fire;*
- *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>CHECK (Crossfeed if required)</i> |
| 5. FIELD | <i>OFF</i> |
| 6. Ignition | <i>BOTH ON</i> |
| 7. Operating engine Throttle Lever | <i>SET as practical</i> |
| 8. Stopped engine Throttle Lever | <i>IDLE</i> |
| 9. Stopped engine Propeller Lever | <i>FULL FORWARD</i> |
| 10. Start push-button | <i>PUSH</i> |
| 11. Propeller Lever | <i>SET at desired rpm</i> |
| 12. FIELD | <i>ON (check for positive ammeter)</i> |
| 13. Engine throttle levers | <i>SET as required</i> |

If engine restart is unsuccessful

- | | |
|-------------------------------------|---|
| 14. EMERG BATT switch | <i>ON (if starting battery installed)</i> |
| 15. Repeat engine restart procedure | |



CAUTION

After engine restart, if practical, moderate propeller rpm and throttle increase to allow OIL and CHT/CT temperatures for stabilizing in the green arcs.

NOTE

If the fuel quantity in the tank which feeds the stopped engine is low, select the opposite side fuel tank by means of the fuel selector.

If engine restart is still unsuccessful:

- | | |
|--|---|
| 16. Affected engine | <i>SECURE (see engine securing procedure Para. 3)</i> |
| 17. Land as soon as possible applying one engine inoperative landing procedure. See Para. 6.6 | |

6.3 ENGINE FAILURE DURING TAKEOFF RUN

BEFORE ROTATION: ABORT TAKE OFF

- | | |
|--------------------------|------------------------------------|
| 1. Throttle Lever | <i>BOTH IDLE</i> |
| 2. Rudder | <i>Keep heading control</i> |
| 3. Brakes | <i>As required</i> |

When safely stopped:

- | | |
|---------------------------------------|------------------------|
| 4. Failed Engine Ignition | <i>BOTH OFF</i> |
| 5. Failed Engine Field | <i>OFF</i> |
| 6. Failed Engine Electrical fuel pump | <i>OFF</i> |

IF THE DECISION IS TAKEN TO CONTINUE THE TAKEOFF:



A take-off abort should always be preferred if a safe stop can be performed on ground.

A suggested "GO-NO-GO" criteria is: abort take-off until LG is still down and locked.

Once airborne accelerate to Blue Line Speed (V_{YSE}) before commanding LG retraction.

Take-off planning should take into account that high density altitude and aircraft mass may result in OEI negative climb rate.

V_{YSE} with flap up shall be flown in order to achieve best possible rate of climb after landing gear retraction and engine feathering.

- | | |
|---|---|
| 1. Operating engine Throttle Lever | <i>FULL POWER</i> |
| 2. Operating engine Propeller Lever | <i>FULL FORWARD</i> |
| 3. Heading | <i>Keep control using rudder and ailerons</i> |
| 4. Attitude | <i>Reduce as appropriate to keep airspeed over 62 KIAS</i> |
| 5. <u>Inoperative engine</u> Propeller Lever | <i>FEATHER</i> |
| 6. Landing gear control lever | <i>UP</i> |
| 7. Airspeed | <i>V_{XSE}/V_{YSE} as required</i> |
| 8. Flaps | <i>0°</i> |

At safe altitude

- | | | |
|-----|---------------------------------------|--|
| 9. | <u>Inoperative engine</u> | <i>Confirm and SECURE</i> |
| 10. | Operative engine Electrical fuel pump | <i>Check ON</i> |
| 11. | Operating engine | <i>Check engine instruments</i> |
| 12. | Operating engine Fuel Selector | <i>Check correct feeding (crossfeed if needed)</i> |

If engine restart is recommended:

13. Apply INFLIGHT ENGINE RESTART procedure *see Para 6.2*

If engine restart is unsuccessful or it is not recommended:

13. **Land as soon as possible**
14. One engine inoperative landing procedure. *see Para. 6.6*

**WARNING***Following:*

- *mechanical engine seizure;*
 - *fire;*
 - *major propeller damage*
- engine restart is not recommended.*

6.4 ENGINE FAILURE DURING CLIMB

- | | |
|--|--|
| 1. Autopilot | OFF |
| 2. Heading | <i>Keep control using rudder and ailerons</i> |
| 3. Attitude | <i>Reduce as appropriate to keep airspeed over 62 KIAS</i> |
| | |
| 4. Operating engine Throttle Lever | <i>FULL THROTTLE</i> |
| 5. Operating engine Propeller Lever | <i>FULL FORWARD</i> |
| 6. Operative engine Electrical fuel pump | <i>Check ON</i> |
| 7. <u>Inoperative engine</u> Propeller Lever | <i>FEATHER</i> |
| 8. <u>Inoperative engine</u> | Confirm and <i>SECURE</i> |

If engine restart is possible:

9. Apply INFLIGHT ENGINE RESTART procedure *see Para 6.2*

If engine restart is unsuccessful or it is not recommended:

9. **Land as soon as possible**
10. One engine inoperative landing procedure. *see Para. 6.6*



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



Continuation of flight to a safe landing runway must be planned taking into account maximum operating ceiling in OEI condition. Refer to Section 5 Para 1, "One-engine rate of climb".

6.5 ENGINE FAILURE IN FLIGHT

- | | |
|--------------|--|
| 1. Autopilot | OFF |
| 2. Heading | <i>Keep control using rudder and ailerons</i> |
| 3. Attitude | <i>Adjust as appropriate to keep airspeed over 62 KIAS</i> |
-
- | | |
|--|--|
| 4. Operating engine | <i>Monitor engine instruments</i> |
| 5. Operative engine Electrical fuel pump | <i>Check ON</i> |
| 6. Operating engine Fuel Selector | <i>Check correct feeding
(crossfeed if needed)</i> |

If engine restart is possible:

7. Apply INFLIGHT ENGINE RESTART procedure *see Para 6.2*

If engine restart is unsuccessful or it is not recommended:

8. Land as soon as possible
9. One engine inoperative landing procedure. *see Para. 6.6*



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



Continuation of flight to a safe landing runway must be planned taking into account maximum operating ceiling in OEI condition. Refer to Section 5 Para 12. Rate of climb with One Engine Inoperative.

6.6 ONE ENGINE INOPERATIVE LANDING



Thoroughly evaluate residual Single Engine Go-Around capabilities and expected climb gradient should a Missed Approach / bailed landing be executed.

Refer to Section 5, Para. Single engine go around/Bailed landing/climb and Para. 13 and 14- One-engine Rate of Climb at V_{YSE} and V_{XSE}



Autopilot must be kept OFF

- | | |
|--|--|
| 1. Seat belts | <i>Tightly fastened</i> |
| 2. Landing lights | <i>As required</i> |
| 3. Operating engine Fuel Selector | <i>Check correct feeding/crossfeed if needed</i> |
| 4. <u>Inoperative engine</u> Propeller Lever | CHECK FEATHER |
| 5. <u>Inoperative engine</u> | CHECK SECURED |
| 6. Operative engine Electrical fuel pump | ON |

When on final leg:

- | | |
|----------------------|--|
| 7. Flap | <i>T/O</i> |
| 8. Landing gear | <i>Select DOWN and check three green lights on</i> |
| 9. Approach Airspeed | V_{YSE} |
| 10. Touchdown speed | 70 KIAS |

7 LANDING GEAR SYSTEM FAILURES

7.1 EMERGENCY LANDING GEAR EXTENSION

NOTE

Landing gear extension failure is identified by means of the green lights not illuminated: relevant gear leg may not be fully extended and/or locked.

Light bulb operating status can be verified by pressing the LDG push-to-test button. Additionally, the red light TRANS indicates that one or more legs are moving and the PUMP ON amber light on the annunciator panel indicates the hydraulic gear pump is operating.

- | | |
|---|------------------------------------|
| 1. Airspeed | <i>below applicable VLO/VLE</i> |
| 2. Landing gear control lever | <i>DOWN</i> |
| 3. Emergency gear extension access door | <i>REMOVE</i> |
| 4. RH control lever | <i>ROTATE 90° counterclockwise</i> |
| 5. Wait at least 20 seconds | |

NOTE

Main Landing Gear legs green lights may be turned on, thus indicating effective main gear legs blocked in down position by mere effect of gravity force.

- | | |
|-------------------------------------|-------------------------------------|
| 6. LH control lever | <i>ROTATE 180° counterclockwise</i> |
| 7. Land as soon as practical | |



NOTE

The emergency landing gear extension operation takes about 20- sec.

7.2 COMPLETE GEAR UP OR NOSE GEAR UP LANDING



CAUTION

The following procedure applies if Nose Landing Gear is not extended and locked even after emergency extension procedure.



WARNING

A Nose Landing Gear up leg not down and locked might lead to a hazardous situation, especially on uneven runways.



WARNING

If landing gear position is not known, perform a tower fly-by at safe speed and altitude to have confirmation about its situation.

If possible coordinate fire brigade intervention along runway and report number of persons on board and remaining fuel type and quantity.

If a complete Landing Gear up or a Nose Landing Gear up position is reported:

Preparation

1. Reduce fuel load if time and conditions permit
2. Crew and passengers safety belts *Tightly fastened*
3. Landing gear control lever *UP*
4. Green lights and TRANS light *CHECK OFF*
5. Flap setting *plan approach with Flap Land*

Before ground contact:

6. LH and RH Fuel Selector *BOTH OFF*
7. LH and RH Electrical fuel pump *BOTH OFF*
8. Ignitions *ALL OFF*

On touch down:

9. Landing attitude *slight nose-up and wings levelled,*
10. Touchdown speed *as low as 50 KIAS with flap*
11. Aircraft nose *gently lower as speed bleeds off*

After aircraft stops:

12. FIELD LH and RH *BOTH OFF*
13. MASTER SWITCH *OFF*



CAUTION

Master switch to OFF impairs radio communication and outside aircraft lighting.

14. Aircraft Evacuation

carry out if necessary

Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

7.3 PARTIAL MAIN LG EXTENSION



CAUTION

The following procedure applies if one or both Main Landing Gear legs are not completely extended and locked even after emergency extension procedure.



WARNING

A partial gear landing (RH and/or LH leg not down and locked) might turn into a hazardous situation, especially on uneven runways.

If possible try to obtain a symmetric gear extension (e.g. by trying further landing gear retraction) in order to avoid swerving after touchdown. A gear up landing is generally considered safer.



WARNING

If landing gear position is not known, perform a tower fly-by at safe speed and altitude to have confirmation about its situation.

If possible coordinate fire brigade intervention along runway and report number of persons on board and remaining fuel type and quantity.

Preparation

- | | |
|---|-------------------------------------|
| 1. Reduce fuel load if time and conditions permit | |
| 2. Crew and passengers safety belts | <i>Tightly fastened</i> |
| 3. Landing gear control lever | <i>UP</i> |
| 4. Green lights and TRANS light | <i>CHECK OFF</i> |
| 5. Flap setting | <i>plan approach with Flap Land</i> |

If partially extended landing gear is confirmed:

Before ground contact:

- | | |
|-----------------------------------|-----------------|
| 6. LH and RH Fuel Selector | <i>BOTH OFF</i> |
| 7. LH and RH Electrical fuel pump | <i>BOTH OFF</i> |
| 8. Ignitions | <i>ALL OFF</i> |

On touch down:

- | | |
|---------------------------|--|
| 9. Align for approach | <i>on the runway centreline</i> |
| 10. Touchdown speed | <i>as low as 50 KIAS</i> |
| 11. Touchdown | <i>on the extended gear only</i> |
| 12. Heading and direction | <i>maintain applying appropriate aileron and rudder/steering control</i> |
| 13. Retracted leg | <i>keep off the ground as long as possible</i> |

After aircraft stops:

- | | |
|---------------------|-----------------|
| 14. FIELD LH and RH | <i>BOTH OFF</i> |
| 15. MASTER SWITCH | <i>OFF</i> |



Master switch to OFF impairs radio communication and outside aircraft lighting.

- | | |
|-------------------------|-------------------------------|
| 16. Aircraft Evacuation | <i>carry out if necessary</i> |
|-------------------------|-------------------------------|



Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

7.4 FAILED RETRACTION

- | | | |
|----|----------------------------|--------------------------------------|
| 1. | Airspeed | <i>Keep below applicable VLO/VLE</i> |
| 2. | Landing gear control lever | <i>DOWN</i> |



A Landing Gear lever recycle (further retraction attempt) may result in a final partial Landing Gear Extension, which may then compromise safe landing aircraft capability.

- | | | |
|----|---------------------|--------------|
| 3. | Landing Gear lights | <i>Check</i> |
|----|---------------------|--------------|

If a safe landing configuration is obtained (3 greens)

- | | | |
|----|---------------|--|
| 4. | Land normally | |
|----|---------------|--|

If a safe landing gear configuration is not obtained:

- | | | |
|----|----------------------------------|------------------------------|
| 4. | Emergency LG extension procedure | <i>Apply (See Para. 7.1)</i> |
| 5. | Land as soon as practical | |

7.5 UNINTENTIONAL LANDING GEAR EXTENSION



An unwanted landing gear extension, with at least one leg moving downward, may be caused by hydraulic fluid loss and it is signaled by

- significant aerodynamic noise increase;
- light and counteractable nose down pitch moment;
- red TRANS light turned on.

- | | | |
|----|----------------------------|--------------------------------------|
| 1. | Airspeed | <i>Keep below applicable VLO/VLE</i> |
| 2. | Landing gear control lever | <i>DOWN</i> |
| 3. | Landing Gear lights | <i>Check</i> |

If a safe landing configuration is obtained (3 greens)

- | | | |
|----|---------------|--|
| 4. | Land normally | |
|----|---------------|--|

If a safe landing gear configuration is not obtained:

- | | | |
|----|----------------------------------|------------------------------|
| 4. | Emergency LG extension procedure | <i>Apply (See Para. 7.1)</i> |
| 5. | Land as soon as practical | |

8 SMOKE AND FIRE OCCURRENCE

8.1 ENGINE FIRE ON THE GROUND

- | | |
|---------------------------|------------------------------|
| 1. Fuel Selectors | <i>BOTH OFF</i> |
| 2. Ignitions | <i>ALL OFF</i> |
| 3. Electrical fuel pumps | <i>BOTH OFF</i> |
| 4. Cabin heat and defrost | <i>OFF</i> |
| 5. MASTER SWITCH | <i>OFF</i> |
| 6. Parking Brake | <i>ENGAGED</i> |
| 7. Aircraft Evacuation | carry out immediately |



Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

8.2 ENGINE FIRE DURING TAKEOFF RUN

BEFORE ROTATION: ABORT TAKE OFF

- | | |
|-------------------|-----------------------------|
| 1. Throttle Lever | BOTH IDLE |
| 2. Rudder | <i>Keep heading control</i> |
| 3. Brakes | <i>As required</i> |

With aircraft under control

- | | |
|---------------------------|------------------------------|
| 4. Fuel Selector | BOTH OFF |
| 5. Ignitions | ALL OFF |
| 6. Electrical fuel pump | BOTH OFF |
| 7. Cabin heat and defrost | OFF |
| 8. MASTER SWITCH | OFF |
| 9. Parking Brake | ENGAGED |
| 10. Aircraft Evacuation | <i>carry out immediately</i> |


WARNING

Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

IF THE DECISION IS TAKEN TO CONTINUE THE TAKEOFF:


WARNING

A take-off abort should always be preferred if a safe stop can be performed on ground.

A suggested "GO-NO-GO" criteria is: abort take-off until LG is still down and locked.

Once airborne accelerate to Blue Line Speed (V_{YSE}) before commanding LG retraction.

Take-off planning should take into account that high density altitude and aircraft mass may result in OEI negative climb rate.

V_{YSE} with flap up shall be flown in order to achieve best possible rate of climb after landing gear retraction and engine feathering.

- | | |
|--|--|
| 1. Operating engine Throttle Lever | FULL POWER |
| 2. Operating engine Propeller Lever | FULL FORWARD |
| 3. Heading | <i>Keep control using rudder and ailerons</i> |
| 4. Attitude | <i>Reduce as appropriate to keep airspeed over 62 KIAS</i> |
| 5. <u>Fire affected engine</u> Propeller Lever | FEATHER |
| 6. Landing gear control lever | UP |
| 7. Airspeed | V_{XSE}/V_{YSE} <i>as required</i> |
| 8. Flaps | 0° |

At safe altitude

- | | | |
|-----|--|-----------------------------|
| 9. | Cabin heat and defrost | <i>BOTH OFF</i> |
| 10. | <u>Fire affected engine</u> Fuel Selector | <i>Confirm and OFF</i> |
| 11. | <u>Fire affected engine</u> Ignitions | <i>Confirm and BOTH OFF</i> |
| 12. | <u>Fire affected engine</u> Electrical fuel pump | <i>Confirm and OFF</i> |
| 13. | <u>Fire affected engine</u> FIELD | <i>OFF</i> |
| 14. | Land as soon as possible applying <i>one engine inoperative landing</i> procedure.
See Para. 6.6 | |

8.3 ENGINE FIRE IN FLIGHT

- | | |
|--|---|
| 1. Cabin heat and defrost | <i>BOTH OFF</i> |
| 2. Autopilot | <i>OFF</i> |
| 3. <u>Fire affected engine</u> Fuel Selector | <i>Confirm and OFF</i> |
| 4. <u>Fire affected engine</u> Ignition | <i>Confirm and BOTH OFF</i> |
| 5. <u>Fire affected engine</u> Throttle Lever | <i>Confirm and FULL FORWARD</i> |
| 6. <u>Fire affected engine</u> Propeller Lever | <i>Confirm and FEATHER</i> |
| 7. <u>Fire affected engine</u> Electrical fuel pump | <i>OFF</i> |
| 8. Heading | <i>Keep control using rudder and ailerons</i> |
| 9. Attitude | <i>Adjust as appropriate to keep airspeed over 62 KIAS</i> |
| 10. <u>Fire affected engine</u> Field | <i>OFF</i> |
| 11. Cabin ventilation | <i>OPEN</i> |
| 12. Land as soon as possible applying one engine inoperative landing procedure.
See Para. 6.6 | |

8.4 ELECTRICAL SMOKE IN CABIN ON THE GROUND

- | | |
|---------------------------|-------------------------------------|
| 1. MASTER SWITCH | <i>OFF</i> |
| 2. Cabin heat and defrost | <i>OFF</i> |
| 3. Throttle Lever | <i>BOTH IDLE</i> |
| 4. Ignitions | <i>ALL OFF</i> |
| 5. Fuel Selector | <i>BOTH OFF</i> |
| 6. Parking Brake | <i>ENGAGED</i> |
| 7. Aircraft Evacuation | <i>carry out immediately</i> |



WARNING

Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

8.5 ELECTRICAL SMOKE IN CABIN DURING FLIGHT

- | | |
|--|-------------|
| 1. Cabin ventilation | <i>OPEN</i> |
| 2. Emergency light | <i>ON</i> |
| 3. Standby attitude indicator switch | <i>ON</i> |
| 4. Gain VMC conditions as soon as possible | |

In case of cockpit fire:

- | | |
|----------------------|----------------------------------|
| 5. Fire extinguisher | <i>use toward base of flames</i> |
|----------------------|----------------------------------|



CAUTION

A tripped circuit breaker should not be reset.

If smoke persists, shed electrical supply in order to isolate faulty source by:

- | | |
|------------------------|-----------------|
| 6. FIELD LH and RH | <i>OFF</i> |
| 7. AVIONICS LH and RH | <i>OFF</i> |
| 8. CROSS BUS LH and RH | <i>BOTH OFF</i> |



CAUTION

A fully charged battery can supply electrical power for at least 30 minutes.

If faulty source is found:

9. It may be possible to restore non faulty power sources (one at a time)

If smoke persists:



WARNING

Before total electrical system shutdown consider gaining VMC condition, at night set personal emergency light on.

Only emergency light and emergency ADI will be electrically powered.

All radio COM and NAV, Landing Gear lever (normal mode) and indication lights, electrical trims and flaps will be unserviceable.

- | | |
|------------------------------|------------|
| 10. MASTER SWITCH | <i>OFF</i> |
| 11. Land as soon as possible | |

When on ground:

12. Aircraft Evacuation

carry out as necessary

Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

9 UNINTENTIONAL SPIN RECOVERY



WARNING

Spin behaviour has not been demonstrated since certification process does not required it for this aircraft category.

Intentional spin is forbidden.

Stall with one engine inoperative is forbidden.

Should an unintentional spin occur, the classic recovery manoeuvre is deemed as being the best action to undertake:

- | | |
|----------------------------------|--|
| 1. Both engines throttles | <i>idle</i> |
| 2. Flight Controls | <i>centralize</i> |
| 3. Rudder | <i>fully against rotation until it stops</i> |

10 LANDING EMERGENCIES

10.1 LANDING WITHOUT ENGINE POWER



CAUTION

In case of double engine failure both propellers should be feathered to achieve maximum efficiency. Best glide speed is attained with flap UP and equals V_Y for current aircraft mass and air density altitude. Refer to Section 5, Para. "Enroute Rate of Climb".

Normal landing gear extension requires MASTER switch ON, an efficient battery and takes around 20 seconds.

LG selection should be appropriately anticipated when sure on final.

Flap can be set to T/O or LAND when sure on final to reduce landing ground roll on short field.

Touchdown speed can be as low as 50 kt with flap down.

1. Airspeed

MTOW 1180kg	MTOW 1230 kg
$V_Y = 83 \text{ KIAS}$	$V_Y = 84 \text{ KIAS}$

2. Flaps

UP

3. Emergency landing field

Select



WARNING

Emergency landing strip should be chosen considering surface condition, length and obstacles. Wind can be guessed by smoke plumes direction and tree tops or grass bending. Select touchdown direction according to the furrows of a plowed field, not across.

4. Safety belts

FASTEN and tighten

5. Flaps

Set when landing is assured

6. Landing gear control lever

DOWN when landing is assured



CAUTION

To reduce landing gear extension time, evaluate use of emergency control system which requires about 12 sec.

Before touch down

- | | |
|-------------------------|------------------------|
| 7. Fuel Selector | <i>BOTH OFF</i> |
| 8. Electrical fuel pump | <i>BOTH OFF</i> |
| 9. Ignitions | <i>ALL OFF</i> |
| 10. MASTER SWITCH | <i>OFF</i> |

When stopped

- | | |
|-------------------------|-------------------------------|
| 11. Aircraft Evacuation | <i>carry out if necessary</i> |
|-------------------------|-------------------------------|



Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

10.2 LANDING WITH NOSE LANDING GEAR TIRE DEFLATED



If possible, as a nose landing gear flat tire condition is known, coordinate fire brigade intervention along runway and report number of persons on board and remaining fuel type and quantity.

If Nose Landing Gear flat tire is confirmed:

Preparation

- | | |
|-------------------------------------|--|
| 1. Crew and passengers safety belts | <i>Tightly fastened</i> |
| 2. If time permits | <i>Burn fuel to lower landing weight</i> |
| 3. Flap setting | <i>plan approach with Flap Land</i> |

Before ground contact:

- | | |
|-------------------------|-----------------|
| 4. Fuel Selector | <i>BOTH OFF</i> |
| 5. Electrical fuel pump | <i>BOTH OFF</i> |
| 6. Ignitions | <i>ALL OFF</i> |

On touch down:

- | | |
|---------------------|---|
| 7. Landing attitude | <i>slight nose-up and wings levelled,</i> |
| 8. Touchdown speed | <i>as low as 50 KIAS with flap</i> |
| 9. Aircraft nose | <i>gently lower as speed bleeds off</i> |

After aircraft stops:

- | | |
|---------------------|-----------------|
| 10. FIELD LH and RH | <i>BOTH OFF</i> |
| 11. MASTER SWITCH | <i>OFF</i> |



Master switch to OFF impairs radio communication and outside aircraft lighting.

- | | |
|-------------------------|-------------------------------|
| 12. Aircraft Evacuation | <i>carry out if necessary</i> |
|-------------------------|-------------------------------|



Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

10.3 LANDING WITH A KNOWN MAIN LANDING GEAR TIRE DEFLATED



An asymmetrical landing gear tire condition (RH and/or LH tires deflated) might turn into a hazardous situation, especially on uneven runways.



If possible, as a landing gear tires condition is known, coordinate fire brigade intervention along runway and report number of persons on board and remaining fuel type and quantity.

If a main Landing Gear flat tire is confirmed:

Preparation

- | | |
|-------------------------------------|-------------------------------------|
| 1. Crew and passengers safety belts | <i>Tightly fastened</i> |
| 2. Flap setting | <i>plan approach with Flap Land</i> |

Before ground contact:

- | | |
|-----------------------------------|-----------------|
| 3. Ignitions | <i>ALL OFF</i> |
| 4. LH and RH Fuel Selector | <i>BOTH OFF</i> |
| 5. LH and RH Electrical fuel pump | <i>BOTH OFF</i> |

On touch down:

- | | |
|--------------------------|--|
| 6. Align for approach | <i>on the runway centreline</i> |
| 7. Touchdown speed | <i>as low as 50 KIAS</i> |
| 8. Touchdown | <i>on the good tire gear only</i> |
| 9. Heading and direction | <i>maintain applying appropriate aileron and rudder/steering control</i> |
| 10. Flattened tire | <i>keep off the ground as long as possible</i> |

After aircraft stops (or if runway departure is imminent):

- | | |
|---------------------|-----------------|
| 11. FIELD LH and RH | <i>BOTH OFF</i> |
| 12. MASTER SWITCH | <i>OFF</i> |



Master switch to OFF impairs radio communication and outside aircraft lighting.

- | | |
|-------------------------|-------------------------------|
| 13. Aircraft Evacuation | <i>carry out if necessary</i> |
|-------------------------|-------------------------------|



Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

10.4 LANDING WITHOUT BRAKES



If possible, select an airport with suitable runway length.

Otherwise, evaluate the possibility to perform a gear up landing (refer to procedure reported on Para. 7.2). In the latter case consider the increasing hazard of an uneven pavement.

1. Safety belts

FASTEN

After touch down if runway is deemed insufficient to decelerate:

2. Fuel Selector
3. Electrical fuel pumps
4. Ignitions
5. FIELD LH and RH
6. MASTER SWITCH

BOTH OFF

BOTH OFF

ALL OFF

BOTH OFF

OFF



Master switch to OFF impairs radio communication and outside aircraft lighting.

Before end of runway or if runway departure is imminent:

7. Landing gear control lever

UP

After aircraft stops:

8. Aircraft Evacuation

carry out if necessary



Consider use of ditching emergency exit to escape in case pilot or passenger doors are blocked, watch for engine hot parts, fuel, hydraulic fluid or oil spills. Leave aircraft in upwind direction.

11 AIRCRAFT EVACUATION



WARNING

Leave the aircraft when engines are fully stopped. Watch for engine hot parts and fuel, hydraulic fluid or oil spills when using fuselage doors. If fuselage doors are unserviceable escape through the ditching emergency exit

In case of engine fire escape from opposite or upwind aircraft side.

Verify (if not yet performed):

- | | |
|--|------------------------|
| 1. Fuel Selectors | <i>BOTH OFF</i> |
| 2. Ignitions | <i>ALL OFF</i> |
| 3. Electrical fuel pumps | <i>BOTH OFF</i> |
| 4. MASTER SWITCH | <i>OFF</i> |
| 5. Parking Brake | <i>ENGAGED</i> |
| 6. Leave the aircraft using emergency exits | |

12 DITCHING



WARNING

Contact with water shall happen with aircraft longitudinal axis and direction of motion parallel to the wave at the minimum possible speed. Keep the nose up as long as possible.

Once in the water, the aircraft shall be evacuated through the ditching emergency exit, if available put life vest on and set dinghy out first. Inflate them only outside the aircraft.

If available, try to approach any existing ship in the vicinity in order to be rapidly located and rescued right after ditching.

- | | |
|-----------------|-----------------------------|
| 1. Landing gear | <i>UP</i> |
| 2. Safety belts | <i>Tighten and fastened</i> |
| 3. Flaps | <i>FULL</i> |

Before water impact

- | | |
|-------------------------|-----------------|
| 4. Fuel Selector | <i>BOTH OFF</i> |
| 5. Electrical fuel pump | <i>BOTH OFF</i> |
| 6. Ignitions | <i>ALL OFF</i> |
| 7. MASTER SWITCH | <i>OFF</i> |
| 8. FIELD LH and RH | <i>BOTH OFF</i> |
| 9. Impact speed | <i>50 KIAS</i> |

Aircraft evacuation

- | | |
|---------------------------|-------------------------|
| 10. Emergency exit handle | <i>rotate clockwise</i> |
| 11. Latch door | <i>push outward</i> |
| 12. Life vests | <i>don</i> |
| 13. Evacuate the aircraft | |