Factual Report – Attachment 21

Airbus AS-350 VEMD Checklist

OPERATIONAL FACTORS

ERA18MA099

RC c

The paragraph **1 - CRUISE FLIGHT,** is modified as follows:

1 CRUISE FLIGHT

AUTOROTATION PROCEDURE OVER LAND

1. Collective pitch ..... **REDUCE** to maintain NR in normal operating range.

2. IAS ..... **SET to 65 Kt (120 km/h).**

- <u>If relighting impossible or after loss of tail rotor thrust:</u>

3. FFCL ..... **OFF detent**

Time, height and circumstances permitting:

- Fuel shutoff cock ..... **OFF**
- [**FUEL P**] (both) ..... **OFF**
- [**EMER SW**] ..... **OFF**

4. Maneuver the aircraft into the wind on final approach.

- <u>At height ≅ 70 ft (21 m):</u>

5. Cyclic stick ..... FLARE.

- <u>At 20/25 ft (6/8 m) and at constant attitude</u>

6. Collective pitch ..... GRADUALLY INCREASE to reduce the rate of descent and forward speed.
7. Cyclic ..... FORWARD to adopt a slightly nose-up landing attitude (< 10°).
8. Pedals ..... ADJUST to cancel any sideslip tendency.
9. Collective pitch ..... INCREASE to cushion touch-down.

- <u>After touch-down</u>

10. Cyclic, collective, pedals ..... ADJUST to control ground run.

- <u>Once the aircraft has stopped</u>

11. Collective pitch ..... FULL LOW PITCH.
12. Rotor brake ..... APPLY below 170 rpm.

CAUTION

THIS PAGE MUST NOT BE REMOVED FROM THE MANUAL UNTIL EMBODIMENT OF MODIFICATION 07.4280.

SECTION 3.2

ENGINE FLAME-OUT

1 CRUISE FLIGHT

AUTOROTATION PROCEDURE OVER LAND

1. Collective pitch ..... REDUCE.
to maintain NR in normal operating range.
2. IAS..... SET to 65 Kt (120 km/h).

- <u>If relighting impossible or after loss of tail rotor thrust:</u>

3. FFCL..... OFF detent.
Time, height and circumstances permitting:
- Fuel shutoff cock **..... OFF.**
- **[FUEL PUMP] (**both) **..... OFF.**
- **[BATT]..... EMER SHED.**

4. Maneuver the aircraft into the wind on final approach.

- <u>At height ≅ 70 ft (21 m):</u>

5. Cyclic stick ..... FLARE.

- <u>At 20/25 ft (6/8 m) and at constant attitude</u>

6. Collective pitch..... GRADUALLY INCREASE to reduce the rate of descent and forward speed.
7. Cyclic ..... FORWARD to adopt a slightly nose-up landing attitude (< 10°).
8. Pedals..... ADJUST to cancel any sideslip tendency.
9. Collective pitch..... INCREASE to cushion touch-down.

- <u>After touch-down</u>

10. Cyclic, collective, pedals..... ADJUST to control ground run.

- <u>Once the aircraft has stopped</u>

11. Collective pitch..... FULL LOW PITCH.
12. Rotor brake ..... APPLY below 170 rpm.

AUTOROTATION PROCEDURE OVER WATER

Apply same procedure as over land, except items 10, 11 and 12, but maneuver to head the aircraft equally between the wind and wave direction on final approach. Ditch with minimum forward speed (IAS < 30 kt (56 km/h)) and rate of descent. Then apply following check list for items 10, 11, 12.

- After touch-down

10. Collective pitch..... MAINTAIN.
11. Doors jettison handles ..... PULL-UP.
12. Rotor brake ..... APPLY.

Abandon aircraft once the rotor has stopped.

2 HOVER IGE

1. **Collective** ..... **MAINTAIN.**
2. **Pedals** ..... **CONTROL YAW.**
3. **Collective** ..... **INCREASE** as needed to cushion touch-down.

3 HOVER OGE

WARNING

SAFE AUTOROTATIVE LANDING CANNOT BE ENSURED IN CASE OF A FAILURE IN HOGE BELOW THE TOP POINT OF THE HV DIAGRAM (REFER TO SECTION 5.1) OR IN CONFINED AREA.

1. **Collective pitch** ..... **FULL LOW PITCH.**

- When NR stops decreasing

2. **Cyclic** ..... **FORWARD** to gain airspeed according to available height.
3. Autorotation procedure ..... APPLY.

RC c

The paragraph **4 - IN FLIGHT RELIGHTING** is superseded by the following:

4 IN FLIGHT RELIGHTING

According to available height and cause of flame-out:

1. [**FUEL P**] (both) ..... **ON.**
2. **Ng** ..... **WAIT** Ng< 30% before carrying out a normal engine starting.

At least 1000 ft are necessary to complete relighting procedure after flame-out.

CAUTION

THIS PAGE MUST NOT BE REMOVED FROM THE MANUAL UNTIL EMBODIMENT OF MODIFICATION 07.4280.

4 IN FLIGHT RELIGHTING

According to available height and cause of flame-out:

1. [**FUEL PUMP**] (both) ..... **ON.**
2. **Ng** ..... **WAIT** Ng< 30% before carrying out a normal engine starting.

At least 1000 ft are necessary to complete relighting procedure after flame-out.

SECTION 4.2

PREFLIGHT CHECK

- Make sure that all flightworthiness-required corrective maintenance operations have been performed.
- These preflight checks can be done without opening any cowlings unless the helicopter had been parked for more than 2 days or in case of any visible leak or doubt.
- Check that the aircraft area is clean and unobstructed.
- Remove all picketing items if applicable
- Carry out the following checks:

1 EXTERIOR CHECK

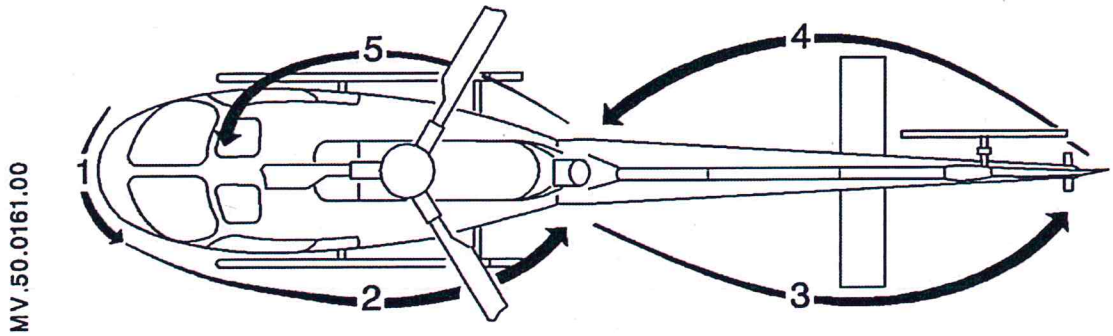

Figure 1: Sequence of checks

Station 1

- Transparent panels .....Condition - Cleanliness.
- Windshield wiper (if installed).....Condition.
- MGB – Engine oil cooler air inlet.....Check no obstruction or foreign objects.
- Side slip indicator.....Condition.
- Pitot tube.....Cover removed - Condition.
- Landing lights.....Condition.

Station 2

WARNING

ICE OR SNOW ACCUMULATIONS THAT REMAIN IN OR AROUND THE ENGINE AIR INTAKE MAY BE INGESTED AND CAN CAUSE A SUDDEN IN-FLIGHT ENGINE FAILURE.

- Front door ..... Condition, jettison system check.
- Rear door ..... Condition, closed or open locked (sliding door).
- Left cargo door ..... Open.
- Loads and objects carried ..... Secured.
- Left cargo door ..... Closed, locked.
- Fuel tank filler cap ..... Closed, locked.
- Fuel tank ..... Drained (before the first flight, if OAT ≥ 0°C), absence of leakage at the drain.
- MGB cowl ..... MGB oil level - Cowl locked.
- All lower fairing panels ..... Locked.
- Landing gear and foot step ..... Attachment - Visual check.
- Static ports ..... Clear, covers removed.
- OAT sensors, antennas ..... Condition.
- Main rotor head and blades ..... Visual inspection, no impact.
- Engine cowl ..... Locked.
- Rear cargo door ..... Open.
- Loads and objects carried ..... Secured.
- ELT ..... Check ARMED.
- Rear cargo door ..... Closed, locked.
- Oil drain ..... No oil under scupper.

Station 3

- Heat shield on tail rotor drive ..... Condition, attachment.
- Tail boom, antennas ..... Condition - Fairing fasteners locked.
- Stabilizer, fin, external lights ..... General condition.
- Tail rotor guard (if fitted) ..... Condition, attachment.
- TGB fairing ..... Secured, fasteners locked.
- TGB oil level ..... Checked.
- Tail skid ..... Condition, attachment.

Station 4

- Tail rotor head ..... Condition, laminated bearing. Checked for separation, cracks, etc.
- Tail rotor blades ..... Visual inspection, no impact.
- Stabilizer, fin, external lights..... General condition.
- Tail boom, antennas..... Condition - Fairing fasteners locked.
- Heat shield on tail rotor drive..... Condition, attachment.

Station 5

- Oil drain..... No oil under scupper.
- EPU door ..... Closed or EPU connected.
- Engine air intake ..... Clean - No foreign objects or accumulations of ice or snow in or around the engine air intake and no stagnant water at the drain hole.
- Engine cowl..... Locked.
- Exhaust cover ..... Removed.
- Right cargo door..... Open.
- Loads and objects carried ..... Secured.
- Right cargo door..... Locked.
- Main rotor head and blades ..... Visual inspection, no impact.
- MGB cowl..... No foreign objects on transmission deck. Cowl locked.
- Hydraulic oil level ..... Check reservoir level.
- Engine oil level..... Check reservoir level.
- Landing gear and foot step ..... Attachment – Visual check.
- All lower fairing panels ..... Locked.
- Door ..... Condition, jettison system check.
- External mirror (if fitted)..... Set to avoid dazzling (night flight).

2 INTERIOR CHECK

- Cabin.....Clean.
- Fire extinguisher.....Secured - Checked.
- Fuses or breakers .....All set.
- Loads and objects carried .....Stowed and secured.
- Front door jettison systems .....Check - Plastic guard condition.

3 TURN AROUND CHECK

- Overall aspect .....Condition, cleanliness.
- Engine / MGB / TGB .....Oil level.
- Main and tail rotor blades .....Visual inspection, no impact.
- Loads .....Secured.
- All cowlings .....Locked.
- Doors .....Closed or sliding door open-locked.

NOTE

If the aircraft is to be parked for some time between flights, temporary picketing is recommended by fitting blanks, covers and blade socks (in winds above 40 kt (74 km/h)).
In this case, perform a complete pre-flight check.

SECTION 4.3

START UP

1 ENGINE PRESTART CHECK

- Seats and Control pedals.....ADJUST and LOCK.
- Seat belts.....FASTEN.

NOTE

Copilot seat belts shall be fastened in all cases.

1. Rotor brake .....RELEASE, fully forward.
2. FFCL .....OFF detent.
3. Fuel shut-off lever .....FORWARD check lockwired.
4. Hydraulic pressure switch .....ON.
5. **[BATT] [GENE]** .....ON.
6. Instrument lighting system .....OFF/ DAY/NIGHT (as required if night flight intended).

7. ICS.....ON.
8. **[COM1/NAV1]**.....ON.
9. Electrical mirror (if fitted).....SET to avoid dazzling (if night flight intended).
10. **[ACCU TST]** .....PRESS for 2 sec.
11. **[W/LT TST]** .....PERFORM.

12. CWP lights .....CHECK:
    - With battery power.....:

    - With EPU power .....Same lights as above + 

13. VEMD.....CHECK:
    . 3-data page : no message,
    . Vehicle page : no message,
    . Battery voltage > 22 V,
    .  (Bleed valve open).
14. Pedals.....CHECK free travel, then neutral.
15. Cyclic pitch.....CENTER, friction adjusted.
16. Collective pitch.....LOCK, friction adjusted.
17. Heating, demisting, air conditioning (if fitted).....OFF.

2 ENGINE STARTING

1. **[FUEL P] or [FUEL PUMP]*** (both) .....ON.
2. **[A/COL Lt] or [A/COL]***.....ON.
   - After 30 sec.
3. Starting pushbutton.....PRESS.
4. FFCL.....FORWARD around 1/3 of its travel when Ng reaches 10%.
5. Engine parameters.....CHECK:
   . Ng increases,
   . t4 remains below its limits,
   . Rotor is turning at Ng ≥ 25%,
   . Engine oil pressure increases.
6. Starting pushbutton.....RELEASE at 40% < Ng < 45%.
7. FFCL.....Adjust to 67% ≤ Ng ≤ 70%.

NOTE 1

Keep the starting pushbutton pressed throughout the starting sequence.

Open the fuel flow control as the same time the start pushbutton is pressed when OAT < 0°C.

NOTE 2

If the starting procedure has to be aborted, return the fuel flow control to OFF position, switch off the fuel pumps and the generator.

NOTE 3

In strong wind apply little cyclic into wind.

NOTE 4

At Ng > 60 % the VEMD upper screen automatically switches to FLI display.

(*) Post MOD 07-4280

8. CWP.....CHECK:

ENG P MGB P HYDR

9. **[PITOT]**.....ON:

PITOT

- If EPU is used :

10. EPU.....DISCONNECT, make sure EPU door is closed and locked.

11. CWP .....CHECK:

GENE BATT

3 RUN-UP CHECK

1. All necessary systems.....ON – TEST. (Avionics, lights, etc.)
2. Hydraulic checks .....:

CAUTION

If not locked, the collective pitch lever will come up when the accumulators are depleted or when the hydraulic cut-off switch on the collective is set to OFF.

- Accumulator checks:
  - **Collective pitch .....CHECK correctly locked.**
  - **[ACCU TST]** .....ON.
  - CWP .....CHECK HYDR flashes.
  - Collective / cyclic controls.....HANDS ON.
  - Move the cyclic control 2 or 3 times on each axes (+/- 10% of travel) and check for accumulator hydraulic assistance on pitch and roll (no control loads). Check that forces are felt on the pedals.
  - **[ACCU TST]**.....RESET to OFF position.
  - CWP .....CHECK HYDR.

- Hydraulic pressure isolation check:
  - Collective pitch.....CHECK correctly locked.
  - Hydraulic cutoff switch.....SET to OFF.
  - CWP.....CHECK HYDR.
  - Check that loads are immediately felt and that cyclic can be moved in pitch and roll with normal feedback loads. Yaw pedals loads should stay low (yaw load compensator effect).
  - Hydraulic cutoff switch.....SET to ON.
  - CWP.....CHECK HYDR in 3 to 4 sec.

    Maintenance action must be performed prior to flight if this time is reduced to 1 sec. (at least one of the accumulators is faulty).

- When minimum engine oil temperature is reached (Refer to SECTION 2.4 § 4):

3. FFCL.....FLIGHT detent, maintaining a constant rate of rotor acceleration.

NOTE

Do not allow NR value to remain steady between 300 and 320 rpm during engine acceleration.

- When NR ≥ 340 rpm:

4. **[HORN]**.....ON, HORN.
   CHECK audio warning:
   . ON for NR ≤ 360 rpm and
   . OFF for NR > 360 rpm.
5. NR indication.....CHECK in lower normal operating range.
6. **[FIRE/TST]**.....PERFORM, check ENG FIRE + gong sounds.
7. Parameters check..... No warning light illuminated,
   . Electrical system voltage and current,
   . Engine oil pressure.

4 CRANKING

The cranking procedure can be performed after an aborted start or for check or maintenance purposes.

Proceed as follows:

- **Check:**

1. FFCL ..... OFF.
2. Emergency fuel shut-off lever ..... FORWARD.
3. Ng ..... CHECK ≤ 10 %.
4. [**FUEL PUMP**] (both)..... ON.
5. [**CRANK**] ..... PRESS IN for 15 sec. max.
6. [**CRANK**]..... RELEASE.
7. [**FUEL PUMP**] (both)..... OFF.

SECTION 4.4

TAKEOFF

1 BEFORE TAKEOFF CHECK

1. Doors .....CLOSED or sliding doors OPEN LOCKED.
2. Cyclic and collective frictions .....AS REQUIRED.
3. Landing light.....AS REQUIRED.
4. Temperatures and pressures.....NORMAL RANGE.
5. CWP.....All lights OFF.
6. Collective pitch.....UNLOCK.

NOTE

Adjust collective and cyclic frictions so that friction loads are felt by the pilot when moving the flight controls.

2 TAKEOFF CHECK AND PROCEDURE

- Gradually increase collective pitch to hover at 5 ft (1.5 m). Check engine and mechanical parameters, no warning light.
- Increase airspeed with HIGE power until IAS = 40 kt (74 km/h), then begin to climb so as to clear 40 ft (12 m) at IAS = 50 kt (93 km/h).

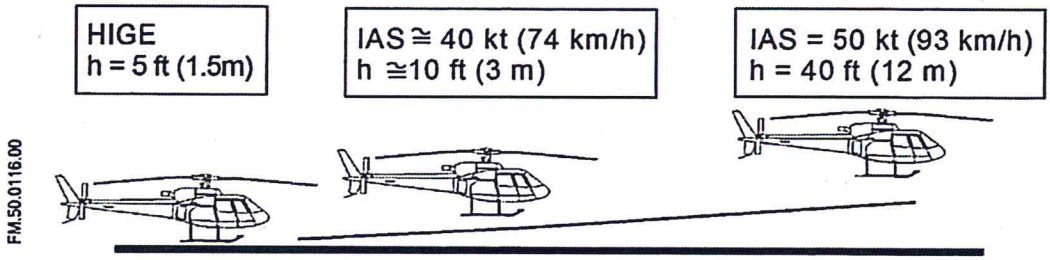

Figure 1: Takeoff procedure

CAUTION

For safe operation, takeoff path should avoid HV diagram (refer to section 5).

SECTION 4.5

CLIMB - CRUISE - APPROACH - LANDING

1 CLIMB

Above 100 ft (30 m), for maximum climb performance, select Maximum Continuous Power and optimum climbing speed (Vy):

IAS kt = 55 kt at 0 Hp - (1 kt / 1000 ft).

IAS km/h = 102 km/h at 0 Hp - (2 km/h per 300 m).

2 CRUISE

Fast cruise is obtained by the first limitation reached corresponding to the beginning of the FLI amber area:

Corresponding mechanical or engine limits (Tq, Ng, t4) are indicated by an underlined numerical value.

Economic cruise: refer to SECTION 5.2 "Additional performance data" (Not approved).

Reduce indicated airspeed in turbulence.

3 APPROACH

- Begin approach at 65 kt (120 km/h).
- At approximately 100 ft (30 m), reduce airspeed down to HIGE at 5 ft (1.5 m).

  - Approach check:

    1. Landing light .....AS REQUIRED.
    2. All parameters.....CHECK.

4 LANDING

- In hover, gradually reduce collective pitch until touchdown, then fully reduce collective pitch.

SECTION 4.6

ENGINE AND ROTOR SHUTDOWN

1 ENGINE AND ROTOR SHUTDOWN

1. Cyclic stick .....NEUTRAL.
2. Collective pitch.....LOCK.
3. FFCL.....Set to 67% ≤ Ng ≤ 70%.
4. Engine cool down.....WAIT for 30 sec.
5. **[PITOT], [HORN],** landing light.....OFF.
6. FFCL.....OFF detent.
7. **[FUEL PUMP]** (both) .....OFF.
8. **[GENE]** .....OFF.

At NR ≤ 140 rpm normal NR
≤ 170 rpm maximum NR (in strong wind operations).

9. Rotor brake .....APPLY.

- When rotor is stopped:

10. **[ACCU TST]** .....PRESS for 2 sec., re-centralize pedals if necessary.
11. **[A/COL]** .....OFF.

- **BEFORE LEAVING HELICOPTER**

12. VEMD.....CHECK for Flight Report page data:
    - Operating time (counted from Ng > 60 % after start, to Ng < 50 %),
    - Ng and Nf cycles: check written in white characters and above 0.
    - Advisory messages: FAILURE DETECTED or OVERLIMIT DETECTED.
13. **[BATT]**.....OFF.
14. Pitot, static ports, air intake and exhaust covers, blade socks as required.

SECTION 3.7

CAUTION AND WARNING PANEL

1 ENGINE ALARMS

WARNING PANEL	CORRECTIVE ACTIONS
 Fire in engine bay.	- **At Start-up:** **1. Emergency fuel shut-off handle..... AFT.** **2. FFCL..... OFF position.** **3. [FUEL PUMP] (both)..... OFF.** 4. **[CRANK]**..... PRESS (10 sec.). 5. **[BATT]** ..... OFF. 6. Rotor brake ..... APPLY (≤ 170 rpm). 7. Evacuate aircraft and fight fire from outside. - **Hover, Takeoff, Final:** **LAND IMMEDIATELY** Carry out a no hover powered landing. Once on ground, apply same procedure as above. - **In Flight:** **LAND IMMEDIATELY** **1. Collective pitch ..... REDUCE.** **2. IAS..... SET to Vy.** **3. Autorotation procedure..... APPLY.** **4. Emergency fuel shut-off handle..... AFT.** **5. [FUEL PUMP] (both)..... OFF.** **6. FFCL..... OFF position.** - **After Landing:** 7. **[BATT]** ..... OFF. 8. Rotor brake ..... APPLY (≤ 170 rpm). 9. Evacuate aircraft and fight fire from outside.

WARNING PANEL	CORRECTIVE ACTIONS
ENG P Engine oil pressure < 1.3 bar.	**Oil pressure.....CHECK gauge.** LOW OR NIL → **LAND IMMEDIATELY** . Autorotation procedure ... APPLY. . Shut down engine, time permitting. NORMAL → **LAND AS SOON AS PRACTICABLE**
ENG CHIP Metal particles in engine oil circuit.	**Collective pitch .....REDUCE power** LAND AS SOON AS POSSIBLE Low power approach and landing Be prepared in case of a loss of engine power. **NOTE** **Takeoff is prohibited until specified checks in TURBOMECA Maintenance Manual have been completed.**

2 TRANSMISSION ALARMS

WARNING PANEL	CORRECTIVE ACTIONS
MGB P Main Gear Box low oil pressure < 1 bar (14.5 psi)	**Collective ..... REDUCE power** **LAND AS SOON AS POSSIBLE** **If a safe landing is not possible, continue flight to the nearest appropriate landing site, reduce power to fly at minimum power speed (Vy).** **NOTE** **At low power (Vy) a maximum of 55 min. of simulated flight time has been demonstrated during bench tests**
MGB TEMP Main Gear Box oil overheating (> 115°C)	**IAS ..... SET TO Vy** **CWP ..... MONITOR** MGB TEMP → **LAND AS SOON AS PRACTICABLE** MGB TEMP → **LAND AS SOON AS POSSIBLE**
MGB CHIP Metal particles in MGB oil circuit	**Collective ..... REDUCE power** MGB P **and** MGB TEMP **..... MONITOR** **LAND AS SOON AS POSSIBLE**
TGB CHIP Metal particles in TGB oil circuit	**Avoid prolonged hovering** **CONTINUE FLIGHT**

3 HYDRAULIC ALARMS

WARNING PANEL	CORRECTIVE ACTIONS
HYDR Hydraulic pressure < 30 bar.	**Keep aircraft at a more or less level attitude.** **Avoid abrupt maneuvers.** CAUTION Do not use [ACCU TST] pushbutton as this will depressurize the yaw load compensator resulting in heavy pedals control loads. Do not attempt to carry out hover flight or any low speed maneuver. The intensity and direction of the control feedback force will change rapidly. This will result in poor aircraft control and possible loss of control. **NOTE** **Pressure in accumulators allows enough time to secure the flight and to establish the hydraulic failure safety speed.** - <u>In hover</u>: **1. Land normally** 2. Collective pitch.....LOCK. 3. FFCL.....Set to 67% ≤ Ng ≤ 70%. 4. Shut down procedure.....APPLY. - <u>In flight</u>: Smoothly, **1. Collective pitch/ Cyclic stick.....SET IAS within 40 to 60 kt (74 to 111 Km/h).** (hydraulic failure safety speed). 2. Collective HYD switch.....OFF. Pilot has to exert forces: - on collective increase or decrease around no force feedback point, - on forward and left cyclic. LAND AS SOON AS POSSIBLE **NOTE** **Speed may be increased as necessary but control loads will increase with speed.**

WARNING PANEL	CORRECTIVE ACTIONS
HYDR (Cont'd) Hydraulic pressure < 30 bar.	- Approach and landing: over a clear and flat area, • Perform a flat approach into wind, • Make a no-hover slow running landing around 10 kt (19 km/h), • **Do not hover or taxi without hydraulic pressure.** - After landing: • Collective pitch .....LOCK. • FFCL .....Set to 67% ≤ Ng ≤ 70%. • Shutdown procedure .....Apply.

4 ELECTRICAL ALARMS

WARNING PANEL	CORRECTIVE ACTIONS
BATT TEMP Battery temperature above maximum.	1.[BATT] ..... OFF. 2.U bus voltage ..... CHECK. NORMAL ABOVE U max 1. [BATT] ..... ON. 2. [GENE] ..... OFF. 3. Unnecessary equipment ..... OFF. **LAND AS SOON AS PRACTICABLE**
BATT Battery off line.	[BATT] ..... CHECK ON. YES NO [BATT] ..... ON. Ubus voltage ..... CHECK. BATT **LAND AS SOON AS PRACTICABLE** **CONTINUE FLIGHT**
INV * AC power supply failure	Inverter* AC system: [INV] ..... CHECK ON YES NO Loss of all AC consumers [INV] ..... ON **NOTE** INV **AFCS* disengages automatically,** Controls ..... HANDS ON. **CONTINUE FLIGHT** **CONTINUE FLIGHT**

(*) If installed

WARNING PANEL	CORRECTIVE ACTIONS
GENE DC generator off line.	**1. U bus voltage .....CHECK.** **2. [GENE].....CHECK ON.** YES → "GENE RESET" Circuit breaker.....Check not popped out (30α panel). **[GENE]**.....RST, **[GENE]**.....ON, Case A: GENE → Unnecessary equipment ..... OFF. → U bus on VEMD ..... MONITOR. → **LAND AS SOON AS PRACTICABLE** NO → **[GENE]**..... ON. → Case B: GENE → **CONTINUE FLIGHT** **WARNING** IF THE BATTERY FAILS, THE VEMD WILL GO OUT AND NR/Nf INDICATION IS LOST. APPLY THE PROCEDURE FOR FAILURE OF BOTH SCREENS (SECTION 3.5 § 1 VEMD SCREEN FAILURES). AVOID AUTOROTATION, PERFORM A SHALLOW APPROACH WITH A CAUTIOUS LANDING.

5 FUEL ALARMS

<table>
<tr><th>WARNING PANEL</th><th>CORRECTIVE ACTIONS</th></tr>
<tr><td>FUEL

Fuel quantity
< 48 kg (106 lb)</td><td>LAND AS SOON AS POSSIBLE

NOTE
18 min. of flight time remains at MCP

WARNING

AVOID LARGE ATTITUDE CHANGES AS THIS COULD LEAD TO AN ENGINE FLAME-OUT</td></tr>
<tr><td>FUEL
P

Low fuel pressure
(< 0.2 bar)
on either or both
pumps.</td><td>1. [FUEL PUMP] (both) .....CHECK ON

YES → 2. Fuel pressure..... CHECK.
Zero → Both pumps faulty. → CONTINUE FLIGHT at Hp < 5000 ft (1524 m).
Normal → One pump faulty. → CONTINUE FLIGHT

NO → [FUEL PUMP] (both) ..... ON.
FUEL P → CONTINUE FLIGHT</td></tr>
</table>

WARNING PANEL	CORRECTIVE ACTIONS
FUEL FILT Fuel filter pre-clogged	**WARNING** **FUEL FILTER BY-PASS OPENING LEADS TO CONTAMINATION OF THE FUEL LINES AND THE GOVERNOR, WHICH MAY INDUCE Ng OSCILLATIONS, LIMITED POWER OR POSSIBLY FLAME-OUT.** **Collective pitch .....REDUCE POWER.** FUEL FILT → Establish flight at reduced power. → **LAND AS SOON AS PRACTICABLE** FUEL FILT → **LAND AS SOON AS POSSIBLE** VEMD .....MONITOR Ng If Ng oscillations occur: → **LAND IMMEDIATELY** → Autorotation procedure .....APPLY.

6 MISCELLANEOUS ALARMS

WARNING PANEL	CORRECTIVE ACTIONS
PITOT Pitot heating not operative	[PITOT].....CHECK ON YES → Monitor airspeed indicator NO → [PITOT]..... ON **CONTINUE FLIGHT**
HORN Aural warning not operative	[HORN].....CHECK ON YES → Aural warning failure NO → [HORN]..... ON **CONTINUE FLIGHT**
DOOR One or both cargo hold doors unlocked	**Airspeed .....REDUCE to 70 kt (130 km/h)** **LAND AS SOON AS PRACTICABLE** Descent and approach at low rate of descent.
INST LIGHT One or both instrument lighting circuits not operative	**CONTINUE FLIGHT** **NOTE** **The forward reading lights can be used as additional instrument panel lighting.**