

3.2 WARNINGS AND CAUTIONS

Emergency situations will be indicated either by a **red warning light** on the WARNING PANEL coming on together with a gong signal or a **caution indication** on the upper edge of the CDS display and a **yellow master caution light** on the instrument panel.

A **red warning light** on the WARNING PANEL coming together with a gong signal or dedicated audio signal indicates an emergency condition requiring immediate action.

A **yellow caution** on the CDS and a **yellow master caution light** on the instrument panel indicates a malfunction or failure condition which do not require immediate crew action but the possible need for future corrective action.

The cautions, indicated at the caution panel on the upper edge of the CDS display, are divided into three sections, SYSTEM I, MISC and SYSTEM II. SYSTEM I indicates the operating conditions of the left power plant or the system 1 of a redundant system. SYSTEM II provides the same features for the right power plant or the system 2 of a redundant system. MISC indicates the operating conditions of the non-redundant systems.

The yellow master caution light in the pilot's field of view leads the pilot's attention to the indication(s) on the CDS display whenever a caution has been activated there.

Each caution (CDS-indication and master caution light) must be acknowledged by the pilot (copilot) by pushing the CDS/AUDIO RES button on the cyclic stick grip. Acknowledged cautions are indicated in sequence of priority. In case of lack of space on the screen, further confirmed cautions will be stored on additional pages, which will be indicated by the illuminated PAGE sign. They can be called up via the CAUTION PAGE key. Any new unconfirmed caution deletes the previous caution and is bordered by two flashing lines to draw the pilot's attention to the new caution.

It is always possible that a warning light or caution advice will come on unnecessarily. Whenever possible, check the light or indication against its associated instrument to verify that an emergency condition has actually occurred.

Following is an alphabetical listing of the warning light indications (WARNING PANEL) and caution indications (CDS) with the relevant conditions, any further indications and the emergency procedures.

3.2.1 Warning light indications

WARNING LIGHT INDICATIONS

**BAT
DISCH**

Conditions/Indications

Battery is the only electrical power source.

- Warning GONG will be activated

NOTE Normal during engine start

Procedure

- | | |
|------------------------------------|--|
| 1. DC VOLTS, GEN AMPS and BAT AMPS | – Check |
| 2. Electrical consumption | – Reduce as much as possible to save battery power |
| 3. LAND AS SOON AS PRACTICABLE | |

WARNING LIGHT INDICATIONS

BAT TEMP

Conditions/Indications

Battery overtemperature (above 70 °C)

- Warning GONG will be activated

Procedure**● ON GROUND**

- | | |
|----------------|-------------|
| 1. BAT MSTR sw | – OFF |
| 2. Engines | – Shut down |

CAUTION BATTERY MUST BE INSPECTED OR REPLACED PRIOR TO NEXT FLIGHT.**● IN FLIGHT**– Single pilot operation:

- | | |
|---------------------------------|-----------|
| 1. BAT MSTR sw | – OFF |
| 2. LAND AS SOON AS POSSIBLE | |
| 3. Engine shutdown | – Perform |
| 4. Visual inspection of battery | – Perform |

If visual inspection reveals **no** indication of battery overheating:

- | | |
|-----------------------|-----------|
| 5. Start-up procedure | – Perform |
| 6. BAT MSTR sw | – OFF |

NOTE Continue flight in VMC only. On CAD the BAT DISCON caution will appear.

- | |
|--------------------------------|
| 7. LAND AS SOON AS PRACTICABLE |
|--------------------------------|

– Dual pilot operation:

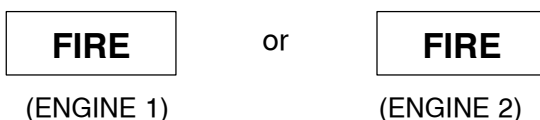
- | | |
|---------------------------------|-------------------------|
| 1. BAT MSTR sw | – OFF |
| 2. LAND AS SOON AS POSSIBLE | |
| 3. Pilot remaining on seat | – “Hands on” |
| 4. Engines | – Leave running in IDLE |
| 5. Visual inspection of battery | – Perform |

NOTE Continue flight (VMC) only if visual inspection reveals **no** indication of battery overheating. Leave battery OFF or disconnect battery.
 On CAD the BAT DISCON caution will appear.

- | |
|--------------------------------|
| 6. LAND AS SOON AS PRACTICABLE |
|--------------------------------|

CAUTION BATTERY MUST BE INSPECTED OR REPLACED PRIOR TO NEXT FLIGHT.

WARNING LIGHT INDICATIONS



Conditions/Indications

Overtemperature in engine compartment

- Warning BELL will be activated

Procedure

● ON GROUND

- | | |
|---------------------------|--|
| 1. Respective EMER OFF sw | – Open switch guard, press and release |
|---------------------------|--|

NOTE Respective engine will be automatically cut off, “**ACTIVE**” will illuminate on the EMER OFF SW panel and F VALVE CL will illuminate on the CDS.

- | | |
|--------------------------|-------------|
| 2. Both FUEL PRIME PUMPS | – Check OFF |
|--------------------------|-------------|

- | | |
|-------------------------------------|-----------|
| 3. Double engine emergency shutdown | – Perform |
|-------------------------------------|-----------|

● IN FLIGHT

- | | |
|-------------------------|-------------|
| 1. OEI flight condition | – Establish |
|-------------------------|-------------|

- | | |
|---------------------------|--|
| 2. Respective EMER OFF sw | – Open switch guard, press and release |
|---------------------------|--|

NOTE Respective engine will be automatically cut off, “**ACTIVE**” will illuminate on the EMER OFF SW panel and F VALVE CL will illuminate on the CDS.

- | | |
|--------------------|------------|
| 3. Affected engine | – Identify |
|--------------------|------------|

- | | |
|-------------------------------------|-----------|
| 4. Single engine emergency shutdown | – Perform |
|-------------------------------------|-----------|

If FIRE WARNING light is off:

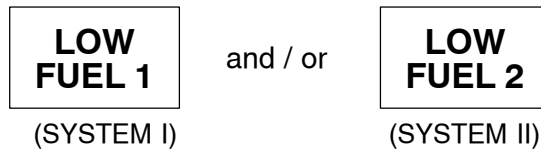
- | |
|-----------------------------|
| 5. LAND AS SOON AS POSSIBLE |
|-----------------------------|

If FIRE WARNING light remains on:

- | |
|---------------------|
| 5. LAND IMMEDIATELY |
|---------------------|

NOTE For safety reasons alert and evacuate the passengers as soon as possible.

WARNING LIGHT INDICATIONS



Conditions/Indications

- Respective supply tank fuel quantity below threshold value
- Respective LOW indication light (red) on CDS FUEL display may come on
- Warning GONG will be activated

Procedure

1. Fuel quantity indication – Check

If positive fuel indication in the main tank:

2. Both fuel pump XFER sw (F + A) – Check ON
3. Both fuel pump XFER circuit breaker (F + A) – Check in

If LOW FUEL warning light remains on:

4. Air Condition (if installed) – Switch OFF
5. Bleed Air – Switch OFF (If OAT > 5°C)

6. LAND WITHIN 8 MINUTES

WARNING THE “LOW FUEL” WARNING OVERRULES THE FUEL QUANTITY INDICATION.

WARNING LIGHT INDICATIONS

ROTOR RPM

Conditions/Indications

N_{R0} LOW

- N_{R0} **95%** or less - steady light
- Audio signal - intermittent low tone (800 Hz)

N_{R0} HIGH

- N_{R0} **106%** or above - flashing light and warning GONG
- Audio signal at **112%** or above - flashing light and continuous high tone (2400 Hz)

Procedure

● N_{R0} LOW / N_{R0} HIGH

1. Rotor RPM indicator	– Check
2. Collective lever	– Adjust as necessary to maintain N _{R0} within normal range

NOTE If in addition to the above indications N_{R0} is below both N₂ suspect N_{R0} indication system failure. In this case maintain torque above 10% to keep N₂ and Rotor RPM matched.

WARNING LIGHT INDICATIONS

XMSN OIL P

Conditions/Indications

XMSN oil pressure is below minimum

- Both XMSN OIL P cautions on CDS are on
- Warning GONG will be activated

Procedure

LAND AS SOON AS POSSIBLE

NOTE ● Reduce power as much as possible.

- If immediate safe landing is impossible, reduce power to a minimum for the continuation of the flight (Vy in level flight) to a safe landing site. Main gearbox dryrun capabilities have been demonstrated in a bench test (AEO condition) over more than 25 minutes.

3.2.2 Caution light indications

CAUTION LIGHT INDICATIONS

**MASTER
CAUTION**

Conditions/Indications

Caution indication on CDS on

Procedure

1. Caution indication on CDS
 - Check and perform corresponding emergency procedure(s)
2. RESET pb (on cyclic stick)
 - Push to reset

3.2.3 CDS caution indications

CAUTION INDICATIONS

BAT DISCON

(MISC)

Conditions/Indications

Battery is off-line (normal during EPU start or the BAT MSTR switch is in OFF position).

Procedure

1. BAT MSTR sw – Reset then ON

If caution indication remains on:

2. LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS

BUSTIE OPN

(SYSTEM I)

and / or

BUSTIE OPN

(SYSTEM II)

Conditions/Indications

Electrical systems are separated

- High load bus disconnected
- In some cases the generator(s) may be disconnected and GEN DISCON may not appear

CAUTION IF BUSTIE OPN APPEARS AS A RESULT OF AN ELECTRICAL FAILURE, RESETTING THE BUS TIE COULD LEAD TO ADDITIONAL DAMAGE AND ELECTRICAL FIRE. THEREFORE, A RESET SHOULD ONLY BE PERFORMED IF THE BUS TIE WAS DELIBERATELY OPENED.

Procedure

1. GEN AMPS – Verify normal value(s)

If GEN AMPS shows normal value:

2. LAND AS SOON AS PRACTICABLE

NOTE Automatic reconfiguration of the BUS connection.
For the respective engine the starting with open BUS TIE is not possible.

If one GEN AMPS value shows XXX:

2. Failed system – GEN sw OFF
3. LAND AS SOON AS PRACTICABLE

NOTE For the failed system (electrical/generator) the essential bus will be supplied by the remaining generator through the battery bus.
The SHED BUS can not be activated.

If both GEN AMPS values show XXX:

2. Double GEN DISCON procedure – Perform

NOTE Observe that both generators are disconnected from the power distribution system. When consumers are reduced, the remaining flight time on battery is at least 30 minutes depending on battery type and load condition.

CAUTION INDICATIONS**CDS PWR**

(MISC)

Conditions/Indications

A single power loss on CDS is detected. CDS works normal on the redundant electrical system.

Procedure

LAND AS SOON AS PRACTICABLE

NOTE Be prepared for CDS failure.

CAUTION INDICATIONS**DOORS**

(OPTIONAL)

(MISC)

Conditions/Indications

Anyone of the following doors is not properly locked.

- Cockpit doors
- Cabin sliding doors
- Cabin clamshell doors

Procedure

- | | |
|-------------|-----------------|
| 1. Airspeed | – Reduce |
| 2. Doors | – Check latched |

If caution indication remains on:

3. LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**ENG CHIP**

(SYSTEM I)

or

ENG CHIP

(SYSTEM II)

Conditions/Indications

Metal particles detected in engine oil.

Procedure● **ON GROUND**

- | | |
|--|-------------------|
| 1. Affected engine | – Identify |
| 2. Single engine emergency shutdown | – Perform |

● **IN FLIGHT**

- | | |
|--------------------------------|--------------------|
| 1. OEI flight condition | – Establish |
| 2. Affected engine | – Identify |

1. Alternative:

- | | |
|--|------------------|
| 3. Single engine emergency shutdown | – Perform |
|--|------------------|

2. Alternative:

- | | |
|---------------------------|---------------|
| 3. ENG main switch | – IDLE |
|---------------------------|---------------|

CAUTION THE SECOND ALTERNATIVE ENABLES THE CREW TO USE THE AFFECTED ENGINE FOR LANDING IF NECESSARY. BE PREPARED FOR ENGINE FAILURE. MONITOR N1, TOT, TORQUE, OIL PRESSURE AND TEMPERATURE OF AFFECTED ENGINE CLOSELY. IF THE PARAMETERS FLUCTUATE OR THEIR LIMITS ARE EXCEEDED PERFORM SINGLE ENGINE EMERGENCY SHUTDOWN IMMEDIATELY.

4. LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**ENG CHP CT**

(SYSTEM I)

or

ENG CHP CT

(SYSTEM II)

Conditions/Indications

Continuity check of cables and connectors to the detector failed. A further indication of ENG CHIP caution must be assumed impossible.

Procedure

LAND AS SOON AS PRACTICABLE.

CAUTION INDICATIONS

ENG FAIL

or

ENG FAIL

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

Respective N₁-RPM below the threshold value.

Procedure

1. OEI flight condition	– Establish
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2. Affected engine	– Identify
---------------------------	-------------------

3. Single engine emergency shutdown	– Perform
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4. LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS

ENG IDLE

or

ENG IDLE

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

The respective engine is running at IDLE speed.

Procedure

None

CAUTION INDICATIONS

ENG MANUAL

(SYSTEM I)

or

ENG MANUAL

(SYSTEM II)

Conditions/Indications

Engine MANUAL mode has been selected by setting ENG MODE SEL sw from NORM to MAN.

NOTE If ENG MANUAL comes together with TWIST GRIP, refer to TWIST GRIP caution indication.

Following functions of the respective engine are inoperative:

- automatic acceleration, deceleration during power (collective) changes
- NORM start is impossible

Procedure

WARNING OPERATE THE TWIST GRIP WITH GREAT CARE AND AVOID QUICK TWIST GRIP ROTATIONS.

HOLD MIN. 10% TORQUE ON THE NORMAL ENGINE TO MAINTAIN AUTOMATIC CONTROL OF N_{RO} .

The ENG MANUAL mode may be used for training of the FADEC FAIL procedure.

After training is completed return to NORM mode.

- | | |
|--|--|
| Respective ENG MODE SEL switch | – NORM |
| Respective TWIST GRIP | – Turn gradually to NEUTRAL position |
| ENGMANUALcaution | – Check off |
| TWISTGRIPcaution | – Check off |
| Wait 10 sec. before any power variation. | |
| Correct operation in NORM mode | – Verify by small collective movements |

CAUTION INDICATIONS**ENG O FILT**

or

ENG O FILT

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

Engine oil filter contaminated.

NOTE During starting the engines it is possible for the caution light to come on for up to two minutes.

Procedure

1. Engine oil pressure and engine oil temperature – Monitor
2. LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**ENG OF CT**

or

ENG OF CT

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

Continuity check of cables and connectors to the detector failed. A further indication of ENG O FILT caution must be assumed impossible.

Procedure

LAND AS SOON AS PRACTICABLE.

CAUTION INDICATIONS**ENG OIL P**

(SYSTEM I)

or

ENG OIL P

(SYSTEM II)

Conditions/Indications

Affected engine oil pressure below minimum.

Procedure

1. Engine oil pressure indicator – Check
- If indication out of limit:

2. OEI flight condition	– Establish
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3. Affected engine	– Identify
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4. Single engine emergency shutdown	– Perform
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5. LAND AS SOON AS PRACTICABLE

- If indication in the limits:

2. LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**EPU DOOR**

(MISC)

Conditions/Indications

External power receptable access door is open.

Procedure**● ON GROUND**

After EPU starts:

- | | |
|-----------------|---------|
| EPU access door | – Close |
|-----------------|---------|

● IN FLIGHT

LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**EXT PWR**

(MISC)

Conditions/Indications

External power is applied to the electrical distribution system.

NOTE EXT PWR caution indication going OFF **does not** indicate that the EPU cable is disconnected.

Procedure

After EPU starts:

- | | |
|--------------------|-------------------------------|
| 1. EPU cable | – Disconnect |
| 2. EPU access door | – Close |
| | Check EPU door indication OFF |

CAUTION INDICATIONS**FADEC FAIL**

or

FADEC FAIL

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

Fuel metering valve is blocked.

Following functions of the respective engine are inoperative:

- automatic acceleration, deceleration during power (collective) changes
- analog torque and TOT indication
- NORM start is impossible

Procedure**1. Collective lever**

- Adjust as necessary to maintain N_{RO} within normal range

If CDS torque indication is available:

2. Affected engine

- Identify by small collective changes

3. Respective TWIST GRIP

- Adjust torque manually to 20-30% according to weight and ambient conditions (TWIST GRIP caution comes on)

If CDS torque indication is not available:

2. Collective lever

- Adjust slowly to attain 20-30% torque on normal engine. Simultaneously adjust TWIST GRIP of affected engine so that N_1 values of both engines remain matched

3. Collective lever

- Readjust as necessary without changing TWIST GRIP position

WARNING OPERATE THE TWIST GRIP WITH GREAT CARE AND AVOID QUICK TWIST GRIP ROTATIONS.

HOLD MIN. 10% TORQUE ON THE NORMAL ENGINE TO MAINTAIN AUTOMATIC CONTROL OF VARIABLE N_{RO} IN ACCORDANCE WITH FIG. 7-18.

NOTE If the flight situation requires maximum engine power, the torque setting of the affected engine may be increased. However, rotor speed and engine parameters shall be observed closely.

CAUTION DO NOT MOVE TWIST GRIP OF NORMAL ENGINE.

4. LAND AS SOON AS PRACTICABLE

After landing:

5. Respective TWIST GRIP

– Reduce, before lowering the collective lever to full down position (to keep N_2/N_{RO} within limits)

CAUTION THERE IS NO N_R GOVERNING FOLLOWING FADEC FAILURES OF BOTH ENGINES. N_R AND POWER MUST BE CONTROLLED BY THE PILOT USING A COMBINATION OF COLLECTIVE AND TWIST GRIPS.

CAUTION INDICATIONS

FADEC MINR

or

FADEC MINR

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

FADEC minor indicates a change or loss of a number of governing functions.

CAUTION AVOID USING MAXIMUM POWER AND PERFORM POWER VARIATION SLOWLY.
 IN CASE OF ENGINE MAIN SWITCH FAILURE, FOR SHUTDOWN, USE THE RESPECTIVE TWIST GRIP.

Procedure

1. Engine parameter
 - Monitor (compare with normal engine)
2. LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**F PUMP AFT**

and

F PUMP FWD

(MISC)

(MISC)

Conditions/Indications

Failure of fuel transfer pumps, or dry run.

Procedure

1. Fuel quantity indication of main tank/supply tanks (CAD) – Check
2. FUEL PUMP XFER-A and –F sw – Check ON
3. FUEL PUMP XFER-A and –F cb – Check in
4. LAND AS SOON AS PRACTICABLE

NOTE • Remaining flight time is approx. 30 min with max endurance speed (approximately V_y) or approx. 20 min with max range speed.

- Be prepared for LOW FUEL warning.

CAUTION INDICATIONS**F PUMP AFT**

(MISC)

Conditions/Indications

Failure of aft fuel transfer pump, or dry run.

Procedure

1. Fuel level in the main tank – Check

If main tank fuel quantity is sufficient to keep both fuel pumps wet:

2. FUEL PUMP XFER-A sw – Check ON
3. XFER-A PUMP circuit breaker – Check in

If F PUMP AFT indication remains on:

4. FUEL PUMP XFER-A sw – OFF

If main tank fuel quantity is low:

2. FUEL PUMP XFER-A sw OFF

NOTE • Each fuel transfer pump is capable of feeding more fuel than both engines will consume.

- In hover flight conditions the unusable fuel can be up to 71 kg. The quantity of unusable fuel can be reduced to 7.5 kg when flying with 80 KIAS or more.

CAUTION INDICATIONS**F PUMP FWD**

(MISC)

Conditions/Indications

Failure of forward fuel transfer pump, or dry run.

Procedure

1. Fuel level in the main tank – Check

If main tank fuel quantity is sufficient to keep both fuel pumps wet:

2. FUEL PUMP XFER-F sw – Check ON
3. XFER-F PUMP circuit breaker – Check in

If F PUMP FWD indication remains on:

4. FUEL PUMP XFER-F sw – OFF

If main tank fuel quantity is low:

2. FUEL PUMP XFER-F sw OFF

NOTE • Each fuel transfer pump is capable of feeding more fuel than both engines will consume.

- In forward flight conditions the unusable fuel can be up to 59 kg. The quantity of unusable fuel can be reduced to 3.6 kg when flying with 80 KIAS or less.

CAUTION INDICATIONS**F QTY DEGR**

(MISC)

Conditions/Indications

Failure of one main tank sensor.

CAUTION THE DEGRADED FUEL QUANTITY INDICATION REPRESENTS THE MINIMUM FUEL LEVEL WITHIN PITCH ATTITUDE RANGES OF -3° TO $+6^{\circ}$.

Procedure

Set pitch attitude between 0° and $\pm 1^{\circ}$ before reading fuel quantity, then calculate remaining flight endurance in accordance with that “degraded” fuel quantity indication.

NOTE In this attitude for endurance calculations conservative fuel quantity is displayed.

CAUTION INDICATIONS
F QTY FAIL
 (MISC)
Conditions/Indications

Failure of the fuel quantity indication system.

CAUTION THE FUEL QUANTITY INDICATION SYSTEM HAS FAILED. **DO NOT** CALCULATE FLIGHT ENDURANCE ACCORDING THE FUEL QUANTITY INDICATION.
 FUEL QUANTITY INFORMATION ONLY BY **LOW FUEL** WARNING LIGHT ON THE WARNING PANEL AND BY GONG.

Procedure

LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS
FUEL FILT
 (SYSTEM I)

and / or

FUEL FILT
 (SYSTEM II)
Conditions/Indications

Engine fuel filter(s) contaminated.

Procedure

One caution indication:

LAND AS SOON AS PRACTICABLE

NOTE Be prepared for single engine failure.

Both caution indications:

LAND AS SOON AS POSSIBLE

CAUTION BE PREPARED FOR DOUBLE ENGINE FAILURE.

CAUTION INDICATIONS
F FLT CT
 (SYSTEM I)

or

F FLT CT
 (SYSTEM II)
Conditions/Indications

Continuity check of cables and connectors to the detector failed. A further indication of FUEL FILT caution must be assumed impossible.

Procedure

LAND AS SOON AS PRACTICABLE.

CAUTION INDICATIONS**FUEL PRESS**

or

FUEL PRESS

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

Engine fuel pump pressure low.

NOTE Caution FUEL PRESS may stay on when Prime Pump I/II selected on and engine is not running.

Procedure

1. FUEL PRIME PUMP sw (affected engine) – ON; PRIME PUMP caution indication will come on.
2. LAND AS SOON AS PRACTICABLE

NOTE Be prepared for single engine failure. ■

CAUTION INDICATIONS**FUEL VALVE**

or

FUEL VALVE

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

Fuel valve is in a position other than commanded.

NOTE A FUEL VALVE caution indication coming on for a short time while valve is in transition from open to closed position, or vice versa, indicates normal operation.

Procedure

LAND AS SOON AS PRACTICABLE

NOTE Be prepared for single engine failure. ■

CAUTION INDICATIONS**F VALVE CL**

or

F VALVE CL

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

Fuel valve is in closed position.

The respective ACTIVE light on the EMER OFF SW panel (left/right side of the warning panel) will illuminate.

NOTE The F VALVE CL caution indication will come on after pressing and releasing the respective EMER OFF switch marked "FIRE".

Procedure

None

NOTE Before starting the engines, check that respective EMER OFF pushbutton marked "FIRE" is depressed and the ACTIVE light is off.

CAUTION INDICATIONS**GEN DISCON**

or

GEN DISCON

(SYSTEM I)

(SYSTEM II)

Conditions/Indications

Respective generator has failed or is disconnected from the power distribution system

- High load bus disconnected

CAUTION IF GEN DISCON APPEARS AS A RESULT OF AN ELECTRICAL FAILURE, RESETTING THE GENERATOR COULD LEAD TO ADDITIONAL DAMAGE AND ELECTRICAL FIRE. THEREFORE, A GENERATOR RESET SHOULD ONLY BE PERFORMED IF THE GENERATOR WAS DELIBERATELY SWITCHED OFF.

Procedure

1. Affected GEN sw – OFF
2. DC VOLTS, GEN AMPS and BAT AMPS – Check

If battery is discharged:

3. Electrical consumers – Reduce as much as possible

NOTE One generator alone will provide sufficient power for normal services.

4. LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**GEN DISCON**

(SYSTEM I)

and

GEN DISCON

(SYSTEM II)

Conditions/Indications

Both generators have failed or are disconnected from the power distribution system.

- Only ESS BUS I + II are available

CAUTION IF GEN DISCON APPEARS AS A RESULT OF AN ELECTRICAL FAILURE, RESETTNG THE GENERATOR COULD LEAD TO ADDITIONAL DAMAGE AND ELECTRICAL FIRE. THEREFORE, A GENERATOR RESET SHOULD ONLY BE PERFORMED IF THE GENERATOR WAS DELIBERATELY SWITCHED OFF.

Procedure

1. Both GEN sw – OFF

NOTE The battery will supply the ESS BUS I and II.

2. Electrical consumers – Reduce (as much as possible)
3. SHED BUS sw – EMER ON if necessary
4. DC VOLTS and BAT AMPS – Check
 - below 62 Amps during landing
 - below 51 Amps during cruise
5. Land within 30 minutes

NOTE Flight time depends on battery type and load condition.

CAUTION INDICATIONS

GEN OVHT

(SYSTEM I)

or

GEN OVHT

(SYSTEM II)

Conditions/Indications

Temperature of generator high.

Procedure

- | | |
|-------------------------------|--------------|
| 1. Affected GEN switch | – OFF |
|-------------------------------|--------------|

If GEN OVHT caution indication remains on for more than 1 minute:

- | | |
|--------------------------------|--------------------|
| 2. OEI flight condition | – Establish |
|--------------------------------|--------------------|

- | | |
|---------------------------|-------------------|
| 3. Affected engine | – Identify |
|---------------------------|-------------------|

- | | |
|--|------------------|
| 4. Single engine emergency shutdown | – Perform |
|--|------------------|

- 5. LAND AS SOON AS PRACTICABLE**

CAUTION INDICATIONS

HYD PRESS

(SYSTEM I)

or

HYD PRESS

(SYSTEM II)

Conditions/Indications

Pressure loss in the respective system, the other system retains power.

WARNING • DO NOT OPERATE HYD TEST SWITCH IN FLIGHT.

- EXTENDED FLIGHT WITH FAILED HYDRAULIC SYSTEM SHOULD BE AVOIDED. ADDITIONAL LOSS OF THE SECOND HYDRAULIC SYSTEM WOULD RENDER THE HELICOPTER UNCONTROLLABLE.

CAUTION IN CASE OF HYD PRESS (SYSTEM II) FAILURE, YAW SERVO BOOST WILL BE LOST. PEDAL FORCES WILL INCREASE BUT YAW CONTROLABILITY IS UNAFFECTED. IN HOVER FLIGHT, INCREASE OF FORCES ON LEFT PEDAL WILL BE SIGNIFICANT.

Procedure

LAND AS SOON AS PRACTICABLE

EFFECTIVITY Helicopter with S/N 121 and subsequent

CAUTION INDICATIONS

**OV.TEMP
CDS**

Conditions/Indications

Normal operating temperature of CDS exceeded

Procedure

- | | |
|--------------------------------|---------------|
| 1. Pull for Heating/Defog knob | – Push |
| 2. Pull for Air knob | – Pull |
| 3. VENT SYST rheostat | – turn to MAX |

EFFECTIVITY All

CAUTION INDICATIONS

PRIME PUMP
(SYSTEM I)

and / or

PRIME PUMP
(SYSTEM II)

Conditions/Indications

Prime pump(s) switched ON.

Procedure

None (normal operation during starting engines)

NOTE Prime pumps must be OFF during normal flight operations.

CAUTION INDICATIONS**SHED EMER**

(MISC)

Conditions/Indications

- SHED BUS switch is switched to EMER because of double generator failure.

NOTE See also emergency procedure for double **GEN DISCON** failure.

- SHED BUS switch is switched to EMER inadvertently.

Procedure

In case of double generator failure :

1. Electrical consumers – Reduce as much as possible
2. LAND AS SOON AS PRACTICABLE

In case of inadvertent switch to EMER :

1. SHED BUS switch – Set to NORM

CAUTION INDICATIONS**STARTER**

or

STARTER

(SYSTEM I)

(SYSTEM II)

● **ON GROUND****Conditions/Indications**

If STARTER caution indication remains on after reaching IDLE speed a relay blockade is evident.

NOTE The indication is normal during engine starting or ventilation and needs no corrective action.

Procedure

- | | |
|-------------------------------------|------------|
| 1. Affected engine | – Identify |
| 2. Double engine emergency shutdown | – Perform |

● **IN FLIGHT****Procedure**

- | | |
|---------------------------|--------------------------------|
| 1. Affected GEN sw | – OFF |
| 2. STARTER caution | – Check off |
| 3. Electrical load | – Check |
| 4. Electrical consumption | – Reduce (as much as possible) |

If STARTER caution is still on:

- | | |
|-------------|--------|
| 5. START cb | – Pull |
|-------------|--------|

NOTE The engine shutdown solenoid valve is disabled.

After landing

- | | |
|---|---|
| 6. Shutdown affected engine with twist grip | – Perform; to avoid engine over-temperature |
|---|---|

CAUTION INDICATIONS**TRGB CHIP**

(MISC)

Conditions/Indications

Metal particles detected in the tailrotor gearbox.

Procedure

LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**TRGB CHP CT**

(MISC)

Conditions/Indications

Continuity check of cables and connectors to the detector failed. A further indication of TRGB CHIP caution must be assumed impossible.

Procedure

LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS

TWIST GRIP

(SYSTEM I)

or

TWIST GRIP

(SYSTEM II)

Conditions/Indications

Respective engine TWIST GRIP is **not** in the NEUTRAL position.

NOTE Respective engine has automatically switched over to MANUAL mode and the ENG MANUAL caution indication comes on.

Procedure

EFFECTIVITY Before ASB EC135-76A-002

- | | |
|-----------------------------------|--|
| 1. Respective ENG MODE SEL switch | – NORM to MANUAL then NORM |
| 2. ENG MANUAL caution | – Check off |
| 3. Respective engine TWIST GRIP | – NEUTRAL position |
| 4. Correct operation in NORM mode | – Verify by small collective movements |

If the TWIST GRIP caution indication remains on:

5. LAND AS SOON AS PRACTICABLE

EFFECTIVITY After ASB EC135-76A-002

If the residual TRQ on engine in MANUAL mode > 10%:

- | | |
|---------------------------------|--------------------|
| 1. Respective engine TWIST GRIP | – NEUTRAL position |
|---------------------------------|--------------------|

If the TWIST GRIP caution indication remains on:

2. LAND AS SOON AS PRACTICABLE

If the residual TRQ on engine in MANUAL mode < 10%:

- | | |
|-----------------------------------|--|
| 1. Respective ENG MODE SEL switch | – MANUAL then NORM |
| 2. ENG MANUAL caution | – Check off |
| 3. Respective engine TWIST GRIP | – NEUTRAL position |
| 4. Correct operation in NORM mode | – Verify by small collective movements |

If the TWIST GRIP caution indication remains on:

5. LAND AS SOON AS PRACTICABLE

EFFECTIVITY All

CAUTION INDICATIONS**XMSN CHIP**

(MISC)

Conditions/Indications

Metal particles detected in the main transmission.

Procedure

1. XMSN oil pressure – Check in normal range
2. LAND AS SOON AS PRACTICABLE

NOTE Reduce power as much as possible.

CAUTION INDICATIONS**XMSN CHP CT**

(MISC)

Conditions/Indications

Continuity check of cables and connectors to the detector failed. A further indication of XMSN CHIP caution must be assumed impossible.

Procedure

LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**XMSN OIL P**

(SYSTEM I)

or

XMSN OIL P

(SYSTEM II)

Conditions/Indications

XMSN oil pressure in respective pump system is below minimum.

Procedure

1. XMSN oil pressure indicator – Check in normal range
2. LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**XMSN OIL T**

(MISC)

Conditions/Indications

Transmission oil temperature above maximum.

Procedure

- | | |
|--|----------------|
| 1. XMSN oil temperature indicator and
XMSN oil pressure indicator | – Check |
|--|----------------|

If indications are within limits:

2. LAND AS SOON AS PRACTICABLE

If indications are out of limits:

- | | |
|-----------------|-------------------------------------|
| 2. Power | – Reduce as much as possible |
|-----------------|-------------------------------------|

If oil temperature indication remains out of limits:

- | |
|------------------------------------|
| 3. LAND AS SOON AS POSSIBLE |
|------------------------------------|

CAUTION INDICATIONS**XMSN OT CT**

(MISC)

Conditions/Indications

Continuity check of cables and connectors to the detector failed. A further indication of XMSN OIL T caution must be assumed impossible.

Procedure

LAND AS SOON AS PRACTICABLE

CAUTION INDICATIONS**YAW SAS**

(OPTIONAL)

(MISC)

Conditions/Indications

- Yaw SAS inoperative

Procedure

1. SAS DCPL pushbutton
2. P&R // YRST switch

- Press
- Reset YAW SAS and check proper function

If still inoperative:

3. SAS DCPL pushbutton

- Press