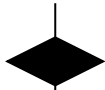
 <b>DC 9/80</b> OPERATIONS MANUAL	Abnormal - Emergency Procedures Chapter 04 - 1/49	<b>II</b>	
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POWER PLANT	ENGINE FIRE OR DAMAGE	ENG FAIL/INFLT ENG SHUTDOWN	ABORTED START	TWO ENGINE FLAMEOUT	▶
	ONE ENGINE OUT OPERATION		OIL PRESS HIGH / OIL QTY INCR		▶
	OIL PRESS LOW	OIL TEMP HI	OIL QTY LOW	INFLT ENG RESTART	▶
APU & FIRE PROT	APU FIRE	APU WINDMILL START	APU NO ROTATION / NO START		▶
	FIRE DETECTOR LOOP AND ONE LOOP				▶
PNEU & AIR COND & PRESS	TAIL COMPT TEMP HIGH	TRANSFER LOCKOUT LT ON AND STANDBY ON			▶
	CABIN ALTITUDE WARNING OR RAPID DECOMPRESSION		EMER DESCENT	AIR COND SYS PRESS DROPS TO ZERO PSI	▶
	FLOW	CABIN DIFF PRESS UNCONTROLLABLE, OFF SCHEDULE OR OSCILLATES			▶
ANTI ICE	AIRFL ICE PRESS ABNML	L/R ICE PROT TEMP HIGH	L/R ICE PROT TEMP LOW		▶
	PITOT / STALL HEAT OFF		L/R ICE FOD ALERT		▶
HYD	L/R HYD TEMP HIGH	HYD SYS LEAK OR LOSS	L/R HYD PRESS LOW		▶
FLT CONTR	STALL IND FAILURE	RUDDER CONTROL MAN	JAMMED STABILIZER		▶
LDG GEAR	RED GEAR LT ON WITH LEVER DOWN		GEAR LTS THREE GREEN BRAKE OVERHEAT		▶
	ANTI-SKID		GEAR DOOR OPEN IN FLT		▶
FLT INSTR	PFD/ND DISPLAY FAILURE	SYMBOL GENERATOR UNIT FAILURE	FMS FAILURE		▶
ELEC & AUTO FLT	LOSS OF BOTH GENS		APU GEN OFF		▶
	L/R GEN OFF	L/R CSD OIL PRESS LOW	AC EMER BUS OFF		▶
	DC EMER BUS OFF		DC BUS OFF		▶
	L/R ELEC SYS FAILURE / AC CROSSTIE LOCKOUT			ABN CSD OIL OUTLET TEMP	▶
				AP TRIM	▶

**ENGINE FIRE OR DAMAGE/SEPARATION SUSPECTED**

AUTOTHROTTLE / THRUST LEVER (Affected Engine).....DISENGAGE/IDLE	1
--	---

Fire Warnings/Engine Indicators.....CK	1/2
--	-----



**Still on or severe eng damage/separation suspected**

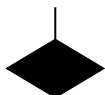
FUEL SHUTOFF LEVER (Affected Engine).....OFF	1
--	---

ENGINE FIRE SHUTOFF HANDLE.....PULLED <div style="text-align: right;">AGENT DSCH (1 OR 2) / ON</div>	2
--	---

Pull the handle and turn it to the extinguisher you want to use and verify the AGENT LOW light is on.

CLOCK.....STARTED	2
-------------------	---

FIRE WARNING.....CK	1/2
---------------------	-----



**Still on after 30 sec.**

ENGINE FIRE SHUTOFF HANDLE. ....PULLED AGENT LOW Lt.....AGENT DSCH <div style="text-align: right;">(Other Bottle)/ON</div>	2
--	---

**Off**

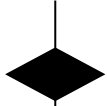
Apply emergency procedure INFLIGHT ENGINE SHUTDOWN

**Off and severe eng damage/separation not suspected**  
 Continue engine operation at Captain's discretion



<b>ABORTED START</b>
----------------------

FUEL Shutoff Lever Position 1



**OFF**

ENG START Sw.....RELEASED 1

ENG IGN SEL.....OFF 1

Before attempting another start, wait until N<sub>2</sub> RPM indicates zero.

**ON**

FUEL Shutoff Lever.....OFF 1

ENG Start Sw 1



**Released (ENG START Switch OFF)**

N<sub>2</sub> RPM.....CK ZERO 1

ENG START Sw.....HOLD FOR 20 SEC, THEN OFF 1

ENG IGN SEL.....OFF 1

Before attempting a new start wait until N<sub>2</sub> RPM indicates zero.

**Still ON**



ENG START Sw.....HOLD FOR 20 SEC, THEN OFF 1

ENG IGN SEL.....OFF 1

Before attempting another start, wait until N<sub>2</sub> RPM indicates zero.

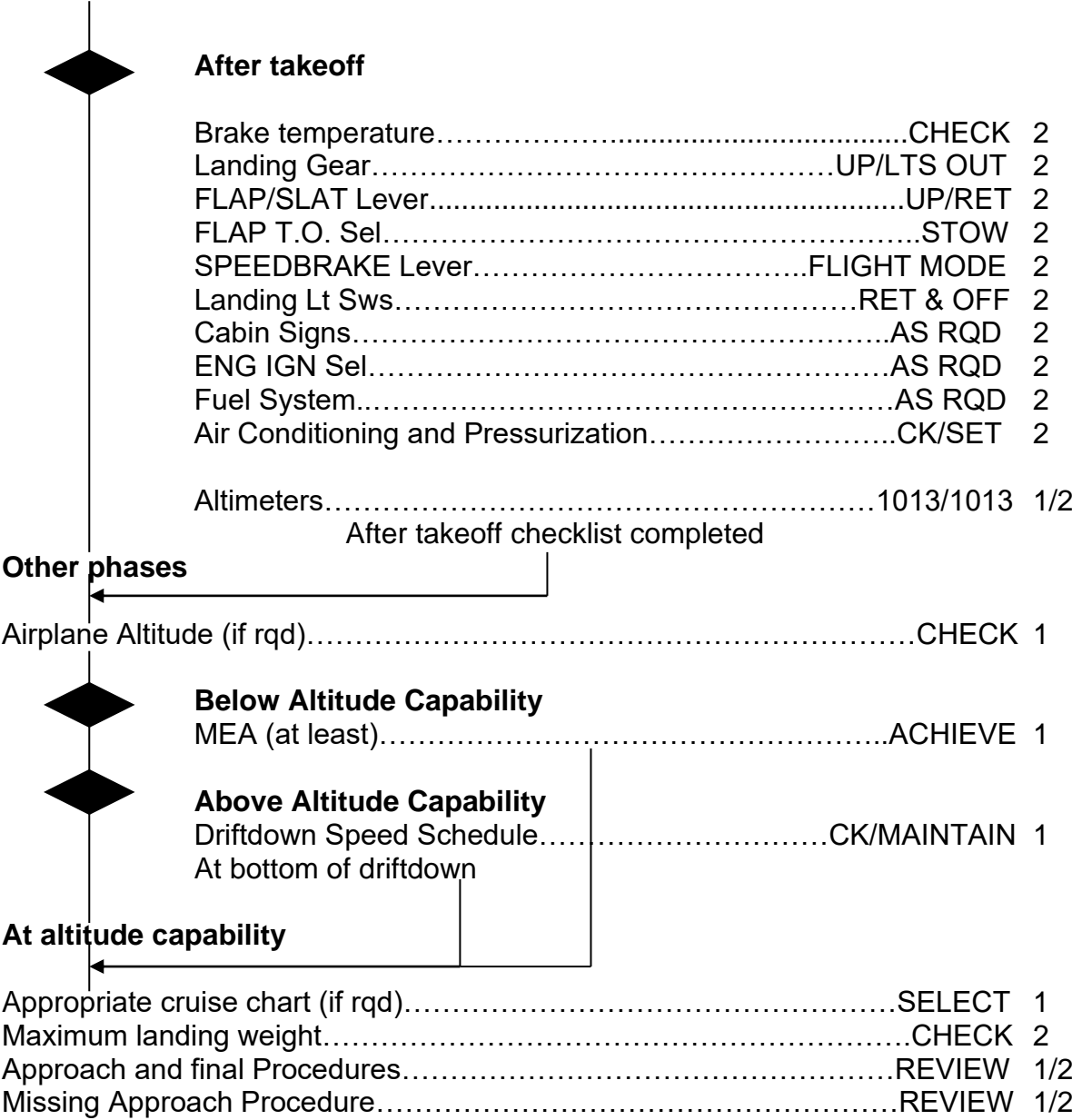
***CAUTION:** In case of tailpipe fire or torching, engage starter at any N<sub>2</sub> RPM below 20% RPM and keep it engaged until fire goes out then call maintenance.*


## TWO ENGINE FLAMEOUT

EMER PWR Sw.....	ON	1
ENG IGN Sel.....	OVRD	2
CABIN PRESS Control Lever.....	MANUAL (DOWN)	2
THNDRTSTRM LT Sw (if rqd).....	ON	2
Airspeed.....	MINIMUM MANEUVERING (NOT LESS THAN 170 KIAS)	1
Thrust Levers.....	IDLE	1
ENG Anti-Ice Sws.....	ON	2
BATT sw.....	CK ON/LOCKED	2
START PUMP Sw.....	ON	2
FUEL TANK PUMPS Sws.....	ALL ON	2
GEN Sws.....	OFF	2
ENG HYD PUMP Sws.....	OFF	2
FUEL Shutoff Levers.....	ON	1
FUEL X-FEED Lever.....	OFF	2
Engine(s) Restarted		1/2
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  <p><b>Neither APU</b></p> <p><b>ATTEMPT WINDMILL START</b></p> <p>NOTE: Attempt APU start regardless of altitude and airspeed</p> </div> <div> <p>2</p> </div> </div>		
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  <p><b>Starts</b> L&amp;R APU BUS Sws.....</p> </div> <div> <p>ON</p> <p>2</p> </div> </div>		
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p><b>Does not start</b></p> <p>Continue engine start attempts.</p> <p>When one or both engine are started:</p> </div> <div> <p>←</p> </div> </div>		
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p><b>One or both</b></p> </div> <div> <p>←</p> </div> </div>		
Electrical system.....	AS RQD	2
ENG HYD PUMP Sws.....	AS RQD	2
CABIN PRESS Control Lever.....	AUTO (UP)	2
START PUMP Sw.....	OFF	2
ENG Anti-Ice Sws.....	AS RQD	2

<b>ONE ENGINE OUT OPERATION</b>
---------------------------------

Appropriate configuration and speed (if rqd).....	ACHIEVE	1
MEA.....	CHECK	1/2
Altitude capability (if rqd).....	DETERMINE	2
ATC.....	ADVISE	2
Transponder.....	AS RQD OR A 7700	2
Phase of flight		1/2



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### DESCENT

MEA.....	CHECK	1/2
WINDSHIELD ANTI FOG Sw.....	AS RQD	1
ENG HYD PUMP Sw (Operative eng).....	HI	2
AUX HYD PUMP and TRANS HYD PUMP.....	ON	2
Altimeters.....	SET	1/2
Pressurization.....	SET 3000 FT AGL	2

Descent checklist completed

### APPROACH

Cabin Signs.....	ON	2
AIR COND SUPPLY Sw (Operative eng).....	OFF	2
RAM AIR Sw.....	ON	2
Altimeters.....	SET	1/2
Radio altimeters.....	FT	1/2
Audio Marker.....	ON	1/2
Landing Data.....	REVIEW	1/2
V Bugs.....	/ / /	1/2
Approach Briefing.....	PERFORM	1

Approach checklist completed

### FINAL

Altimeters.....	QNH/QNH & X-CK	1/2
Fuel Sys.....	SET	2
TRC.....	GA	1/2
Landing Gear/Lts.....	DOWN/3 GREEN	2
FLAP/SLAT Lever.....	28/EXT	2
SPEED BRAKE Lever.....	ARM	1
ENG IGN Sel.....	BOTH	2
Annunciator Panel.....	CHECK	1/2
Rudder Trim (At 100 ft AGL).....	NEUTRAL	1

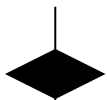
Final checklist completed

<b>OIL PRESS HIGH / QTY INCREASING</b>
--

*CAUTION: Takeoff (when below  $V_1$ ) should be aborted if oil pressure exceeds 60 psi and oil quantity is increasing.*

Oil Pressure, Quantity & Eng Parameters

1/2



**Press in normal range, qty increasing and other Parameters normal**

Continue normal operation monitoring eng parameters (END).



**Press above 55 psi (display flashing), qty increasing and/or other abnormal indications**

Apply Emer Proc ENGINE FAILURE/INFLIGHT ENGINE SHUTDOWN (END).

**Press above 55 psi (display flashing), qty & other parameters normal**

Autothrottle.....	DISENGAGE	1
Related Thrust Lever.....	RETARD	1

OIL PRESS indication

1/2



**Normal range**

Continue at reduced thrust setting to maintain oil pressure  
Below 55 psi.

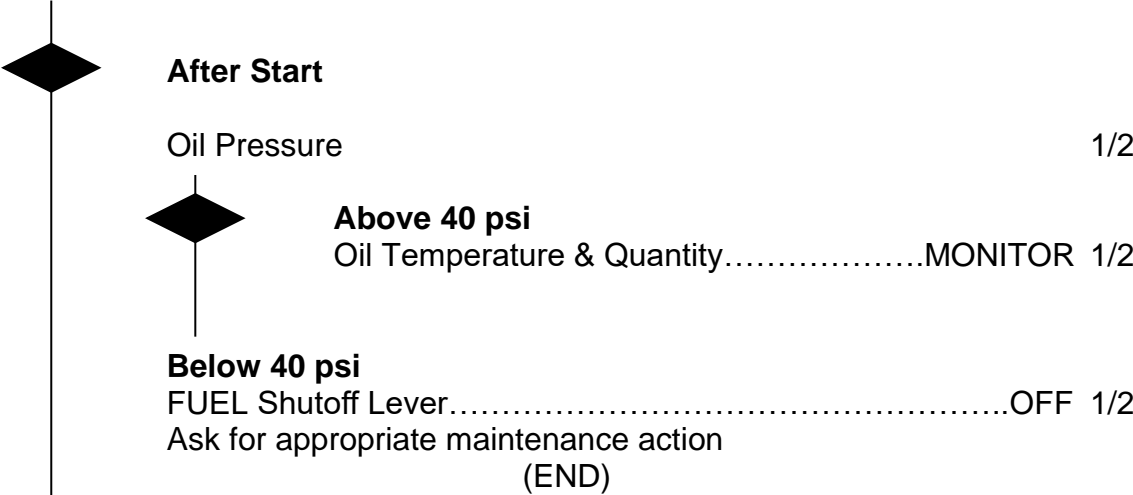
**Above 55 psi (display flashing)**

Apply Emer Proc ENGINE FAILURE/INFLIGHT ENGINE SHUTDOWN (END).



# LOW OIL PRESSURE AND/OR L/R OIL PRESS LOW ANNUN

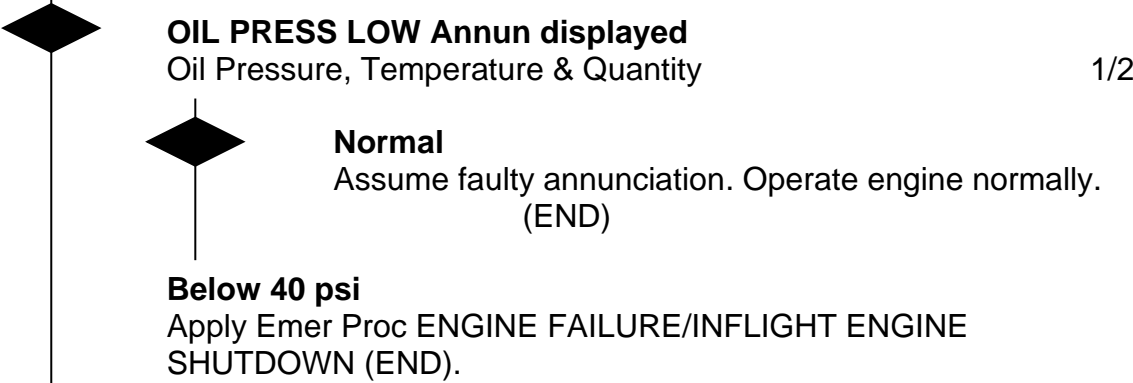
Phase of flight 1/2



## Other Phases

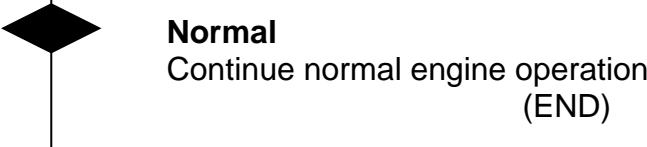
Autothrottle.....DISENGAGE 1  
 Related Thrust Lever.....RETARD 1

OIL PRESS Annun/Oil Parameters 1/2



## Oil pressure below 35 psi, OIL PRESS LOW Annun not displayed

Oil Temperature & Quantity 1/2



**Abnormal**  
 Apply Emer Proc ENGINE FAILURE/INFLIGHT ENGINE SHUTDOWN

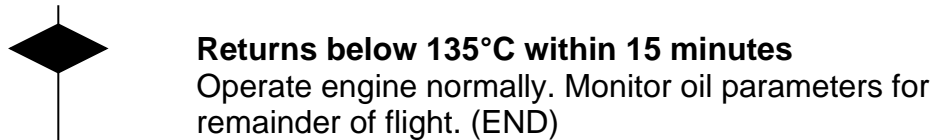
<b>OIL TEMPERATURE HIGH</b>
-----------------------------

*NOTE: Oil temperature may increase after a thrust reduction*

Oil Temperature 1/2



Oil Temperature 1/2



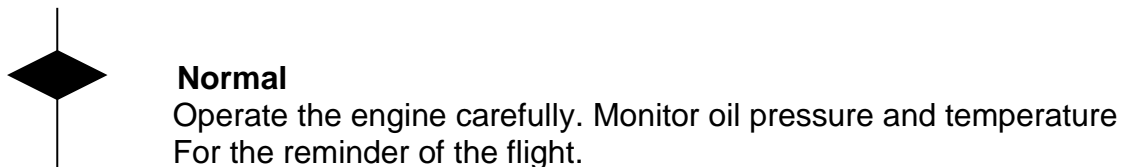
**Remains above 135°C after 15 minutes**

**Exceeds 135°C at stabilized thrust or exceeds 165°C at any time**

Apply Emer Proc ENGINE FAILURE/INFLIGHT ENGINE SHUTDOWN

<b>OIL QUANTITY LOW OR DECREASING</b>
---------------------------------------

Oil Pressure 1/2



**Low or fluctuating**

Autothrottle.....DISENGAGE 1

Related Thrust Lever.....RETARD 1

Operate engine at minimum thrust required to sustain flight.

If loss of oil pressure is experienced, apply Emer Proc ENGINE FAILURE/  
 INFLIGHT ENGINE SHUTDOWN

<b>INFLIGHT ENGINE RESTART</b>
--------------------------------

IAS & Altitude.....	CK INFLIGHT RELIGHT ENVELOPE	2
Thrust Lever.....	IDLE	2
FUEL Shutoff Lever.....	OFF	2
ENG FIRE Shutoff Handle.....	FULLY IN	2
Related ENG Anti-Ice Sw.....	ON	2
Related FIUEL TANK PUMPS Sws.....	BOTH ON	2
INLET FUEL PRESS LO Annun.....	OFF	2
OIL PRESS Indicator/Readout.....	INDICATING	1/2
ENG IGN Sel.....	OVRD	2
FUEL Shutoff Lever.....	ON	1
Clock.....	START	2
RPM & EGT		1/2



**No rise within 20 secs**  
 Abort start.  
*CAUTION: If start is not successful with initial EGT above 100°C,  
 Allow EGT to cool below 100°C before attempting a second start.  
 If start is still unsuccessful, apply Emer Proc ENGINE FAILURE/  
 INFLIGHT ENGINE SHUTDOWN*

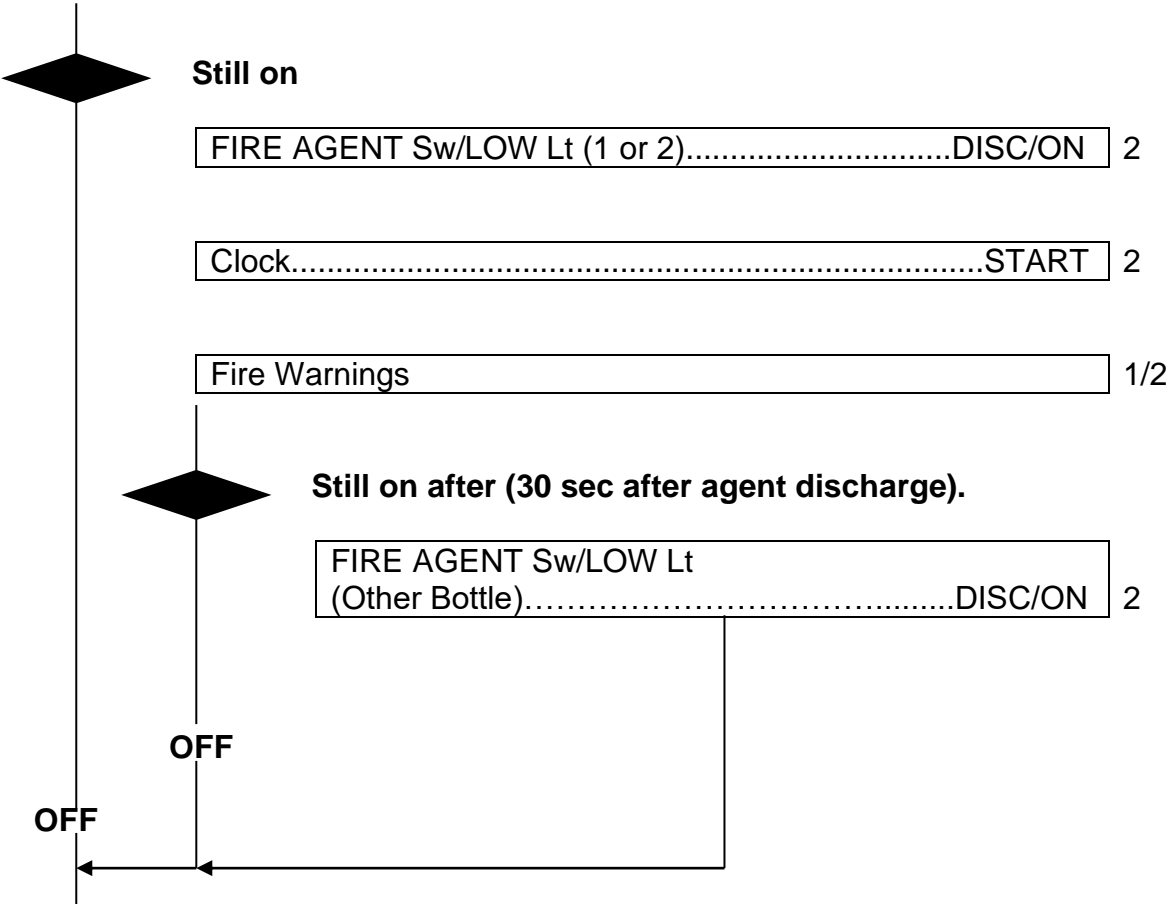
<b>Rise within 20 secs</b>		
Engine Parameters.....	STABILIZED	2
ENG IGN Sel.....	AS RQD	2
Observe ignition duty cycle.		
GEN Sw.....	RESET/ON	2
Fuel Management.....	AS RQD	2
ENG Anti-ice Sw.....	AS RQD	2
HYD PUMP Sws.....	AS RQD	2
Pneumatic & Air Conditioning Systems.....	AS RQD	2

**APU FIRE**

APU FIRE CONT Switch.....OFF & AGENT ARM 2

*NOTE: If APU does not shutdown, pull APU CONTROL C/B  
(Ovhd Pnl B 21)*

Fire Warnings 1/2



APU MASTER Sw.....OFF 2  
APU DOORS Sw.....AUTO 2

<b>FIRE DETECTOR LOOP ANN AND ONLY ONE LOOP LT WITHOUT FIRE WARNINGS</b>
--

Affected ENG / APU

LOOPS Selector Sw.....SET TO LOOP NOT LIGHTED 2

Observe that LOOP light goes off.

Selected LOOPS TEST Button.....PUSH 2

Test Indications (Fire Warnings) 1/2



**Satisfactory (fire warn norm)**

Release LOOPS test button.

No further action required. Continue flight with loops selector switch in the selected operative position (END).


**Unsatisfactory (fire warn not norm)**

Affected ENG / APU

LOOPS Selector Sw.....SET TO OPPOSITE POSITION 2

If fire warning is now received, apply Emer. Proc.

ENG FIRE or APU FIRE as appropriate

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<b>APU WINDMILL START</b>
---------------------------

BATT Sw.....	ON/LOCK	2
APU FIRE CONT Sw.....	NORM	2
APU AIR Sw.....	OFF	2
APU MASTER Sw.....	OFF	2
APU DOORS Sw.....	AUTO	2
START PUMP Sw.....	ON	2
APU MASTER Sw.....	START/RUN	2
APU RPM & EGT Indicators.....	MONITOR	1/2
APU OIL PRESS LOW Annun		
(At or prior to 95% RPM).....	CK OFF	2
Verify APU stabilize in normal operating range, then:		
APU GEN VOLT & FREQ.....	CHECK	1/2
APU L/R BUS Sws.....	AS RQD	1/2
R FUEL TANK PUMPS Sws.....	BOTH ON	2
After AC powered fuel tank pressure available:		
START PUMP Sw.....	OFF	2

**APU NO ROTATION OR NO START**

Meter Sel.....BATT VOLT 2  
APU MASTER Sw.....START 2  
Battery Voltage.....CHECK 2

Check battery voltage after applying APU starter load

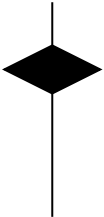


**Below 22 V**

APU MASTER Sw.....OFF 2  
Do not attempt another start.  
Battery is discharged. Call maintenance.  
(END)

**22 V or above**

APU MASTER Sw.....OFF 2  
APU CONTROL C/B (Ovhd Pnl B 21).....IN 2  
GEAR HDL REL Button.....CHECK 1/2

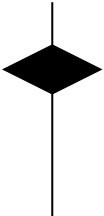


**Retracted**

Call maintenance.  
(END)

**Extended**

APU MASTER Sw.....RUN 2  
APU Doors



**Open**

Attempt another start.  
(END)

**Closed**

APU DOORS Sw.....NON RAM 24 SEC THEN OFF 2  
Attempt another start.  
(END)

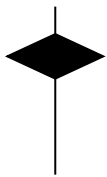
**TAIL COMPT TEMP HIGH LT ON**

PNEU X-FEED VALVE Levers.....	CLOSED	2
-------------------------------	--------	---

L&R AIR FOIL Ice Protect Sws.....	OFF	2
-----------------------------------	-----	---

L&R AIR COND Supply Sws.....	HP BLD OFF	2
------------------------------	------------	---

Phase of Flight



**Final Approach (5 minutes from touchdown)**  
 Continue approach using minimum thrust settings.  
 (END)

**Takeoff, climb, cruise, descent or  
 Initial approach**

AIR COND SHUTOFF Sw.....	OFF	2
ENG SYNC Sel.....	OFF	2
Autothrottle.....	DISENGAGE	1
L Eng Thrust Lever.....	IDLE	1
Clock.....	START	2
TAIL COMPT TEMP HIGH LT		1/2



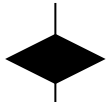
**Off (within 2 min)**

L AIR COND SUPPLY Sw.....	OFF	2
L Eng Thrust Lever.....	RESTORE THRUST	1
TAIL COMPT TEMP HIGH LT		1/2



**Off**

AIR COND SHUTOFF Sw.....	AUTO	2
R AIR COND SUPPLY Sw.....	AUTO	2
TAIL COMPT TEMP HIGH Lt		1/2



**Off** \_\_\_\_\_

**On**

R AIR COND SUPPLY Sw.....	HP BLD OFF	2
L AIR COND SUPPLY Sw.....	AUTO	2

If necessary:

L PNEU X-FEED VALVE Lever.....	OPEN	2
AIR FOIL Ice Protect Sw.....	ON	2

(END)

**On**





R AIR COND SUPPLY Sw.....AUTO 2

If necessary:

R PNEU X-FEED VALVE Lever.....OPEN 2

AIR FOIL Ice Protect Sw.....ON 2

If TAIL COMPT TEMP HIGH light comes on again:

AIR FOIL Ice Protect Sw.....OFF 2

Avoid icing conditions.

**On (after 2 min)**

L Eng Thrust Lever.....RESTORE THRUST 1

R Eng Thrust Lever.....IDLE 1

Clock.....START 2

TAIL COMPT TEMP HIGH LT 1/2



**Off (within 2 min)**

R AIR COND SUPPLY Sw.....OFF 2

R Eng Thrust Lever.....RESTORE THRUST 1

TAIL COMPT TEMP HIGH LT 1/2



**Off**

AIR COND SHUTOFF Sw.....AUTO 2

**On**

L Eng Thrust Lever.....AS RQD TO KEEP LT OFF 1

L AIR COND SUPPLY Sw.....AUTO 2

If necessary:

L PNEU X-FEED VALVE Lever.....OPEN 2

AIR FOIL Ice Protect Sw.....ON 2

(END)

**On (after 2 min)**

R Eng Thrust Lever.....RESTORE THRUST 1

AIR COND SHUTOFF Sw.....AUTO 2

Avoid icing areas and land at nearest suitable airport.

If unable to avoid icing areas with airfoil anti-ice off, add 5 kts to all maneuvering speeds and land with 28/EXT configuration using target speed not less than  $V_{TH} + 5$  kts.

## TRANSFER LOCKOUT LIGHTS ON AND STBY ON LIGHTS ON

*CAUTION: Do not push to reset the TRANSFER LOCKOUT and STDBY ON lights if both are on*

Stby System Operation

1/2



**Satisfactory**

Continue normal operation monitoring system for the remainder of the flight.

(END)

**Unsatisfactory**

System Selector Sw.....STBY then PRIMARY 2  
 STBY ON Lt 1/2



**On**

No further action required  
 Only one pressurization system is operational, stand by system not available

**Off**

TRANSFER LOCKOUT LIGHT.....PUSH AND CHECK 1/2  
 Press the light to reset the light warning



**Off**

Continue normal operation  
 (END)

**On**

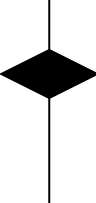
No further action required.  
 Only one pressurization system is operational, stand by system not available

## RAPID DECOMPRESSION

A rapid decompression may be detected by:

- Sudden explosion
- Condensation of the moisture in the air
- High noise
- Dust and debris flying around
- Rapid increase of cabin altitude
- Decrease of cabin differential pressure

When cabin altitude reaches approximately 10000 ft the warning horn will sound followed by the vocal warning “cabin altitude” and the CABIN ALT and MASTER WARNING lights will come on.

Oxygen Masks.....	ON/100%	1/2
Crew Communications.....	ESTABLISHED	1/2
Cabin Air Outflow Valve.....	MANUALLY CLOSED & LOCKED	2
PNEU X-FEED VALVE Levers.....	CLOSED	2
Air Cond Systems.....	CKD NORMAL OPERATION	1/2
Pax Oxy Masks (if rqd).....	MANUALLY DEPLOYED	2
Cabin Pressure.....	CHECK	1/2
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  </div> <div> <p><b>Under control</b></p> <p>Cabin Air Outflow Valve.....AS RQD 2</p> <p style="text-align: center;">(END)</p> </div> </div>		
<p><b>Out of control</b></p>		
Emergency Descent (if rqd).....	STARTED	1/2

## EMERGENCY DESCENT

Autopilot.....AS DESIRED	1
--------------------------	---

Speedbrakes..... EXTENDED	1
---------------------------	---

ATS/Thrust Levers.....AS DESIRED/IDLE	1
---------------------------------------	---

Airspeed.....MACH .80 - .82 or 320 to 340 kias	1
--	---

ATC.....ADVISED	1
-----------------	---

Cabin Signs.....ON 2

Transponder.....AS RQD OR A 7700 2

Level Flight (Minimum Safe Altitude or 10000 ft,  
 whichever is higher).....ESTABLISH 1

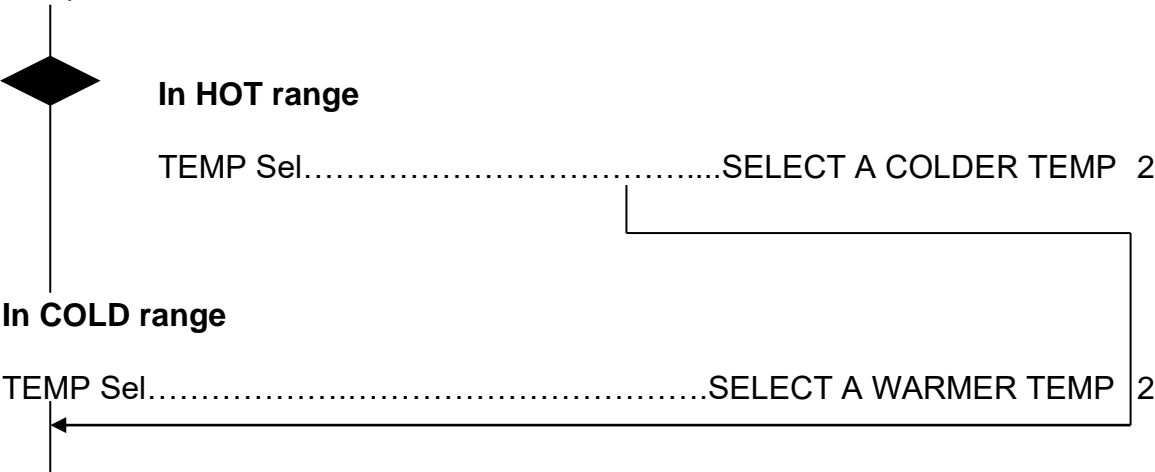
*CAUTION: in any case reach 10000ft within 15 minutes after activation of the oxygen system..*

Speedbrakes.....RETRACT 1

Autopilot/ATS.....AS DESIRED 1/2

**AIR CONDITIONING SYSTEM SUPPLY PRESSURE DROPS TO ZERO PSI**

Affected System:  
AIR COND SUPPLY Sw.....OFF 2  
Temp Control Valve Indicator.....1/2



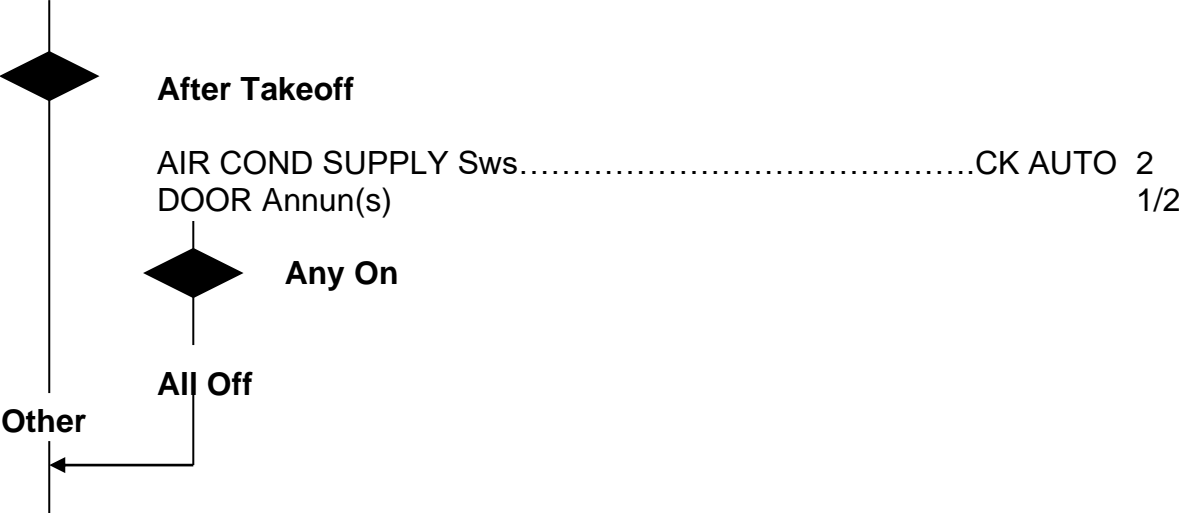
After a short period:  
AIR COND SUPPLY Sw.....AUTO 2  
Supply Pressure



**Remains at zero**  
Pack is inoperative. Do not allow cabin altitude to go above 10000 ft.

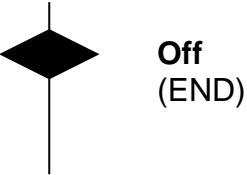
**FLOW LT ON**

Phase of Flight 1/2



Thrust Levers (if at low thrust).....ADJUST 1

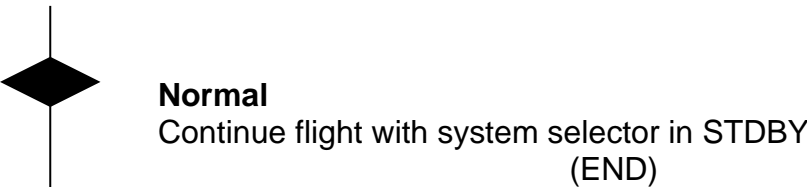
Flow Lt 1/2



**On and cabin continues to climb**  
Descent to an altitude where normal pressurization can be maintained.

**CABIN DIFFERENTIAL PRESSURE UNCONTROLLABLE, OFF SCHEDULE OR OSCILLATES**

System Selector Sw.....STDBY 2  
Pressurization Condition 1/2



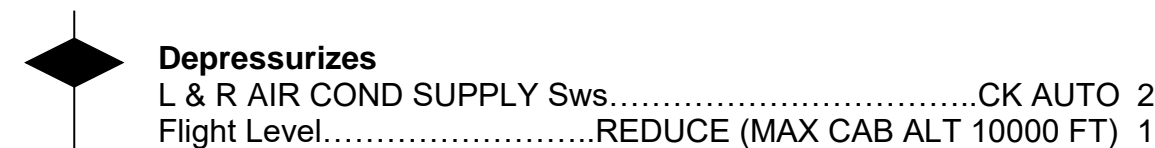
**Uncontrollable**

CABIN PRESS Control Lever.....MANUAL 2  
CABIN PRESS Control Wheel.....OPERATE 2

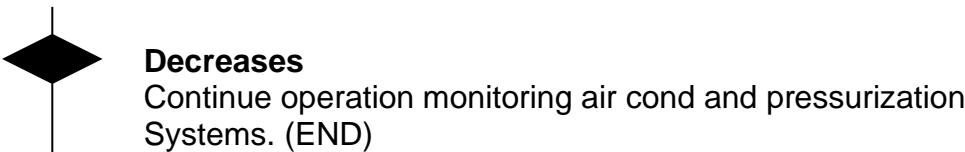


**Control Wheel & Indicator jammed**

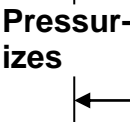
Cabin Pressurization 1/2



During descent:  
Differential Pressure 1/2



**Doesn't decrease**



RADIO RACK Sw.....VENTURI 2  
L & R AIR COND SUPPLY Sws.....HP BLD OFF 2  
Autothrottle.....DISENGAGE 1  
Either One or Both Thrust Lever.....ADJUST 1



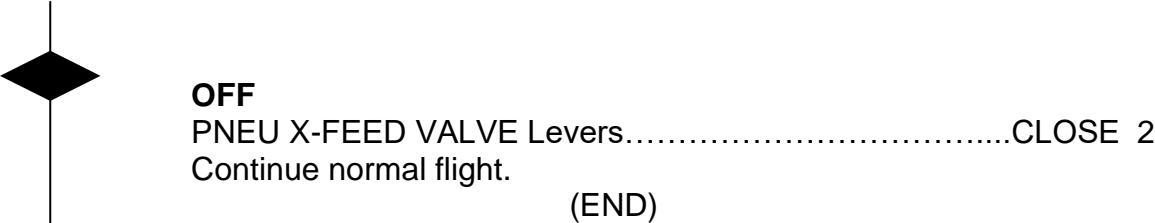


AIRFL ICE PRES ABNML ANNUN

Phase of Flight 1/2

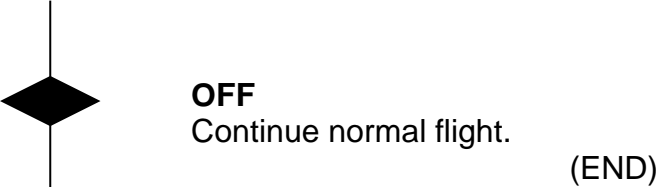


**Flight**  
AIR FOIL Ice Protect Sw Position 1/2



**ON**  
PNEU X-FEED VALVE Levers.....CK OPEN 2  
PNEU PRESS Indicator.....ABOVE 22 PSI 2

AIR ICE PRESS ABNML Annun



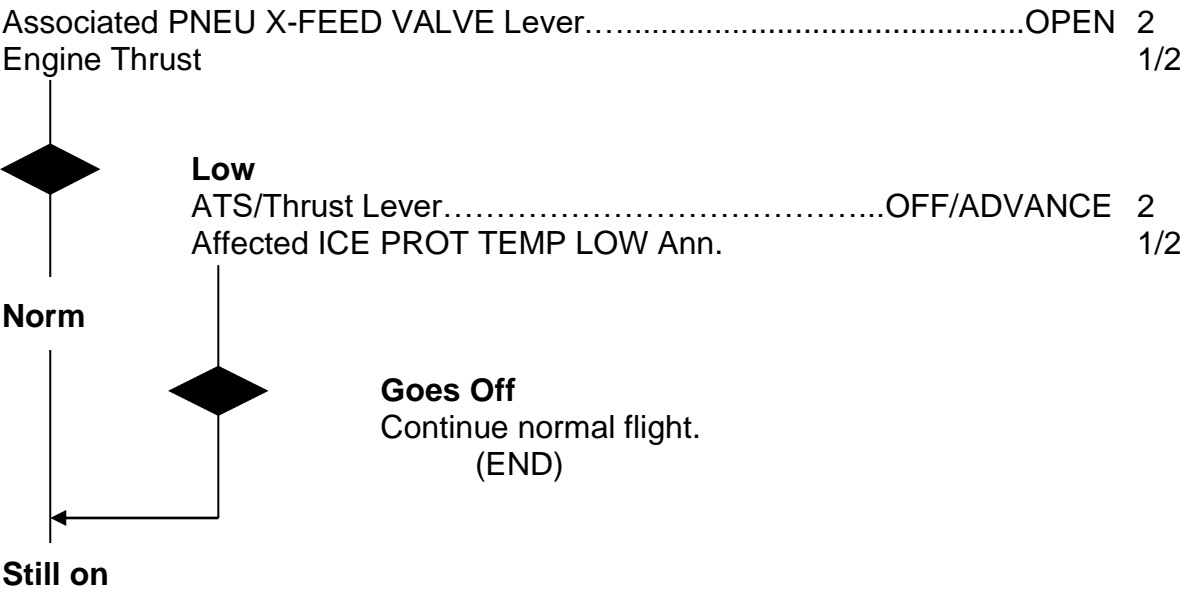
**ON**  
AIR FOIL Ice Protect Sw.....OFF 2  
PNEU X-FEED VALVE Levers.....CLOSE 2  
Avoid icing areas

If unable to avoid icing areas with airfoil anti-ice off, add 5 kts to all maneuvering speeds and land with 28/EXT configuration using target speed not less than V<sub>TH</sub> + 5 kts.

L/R ICE PROT TEMP HIGH ANNUN

AIR FOIL Ice Protect Sw.....OFF 2  
PNEU X-FEED VALVE Levers.....CLOSE 2

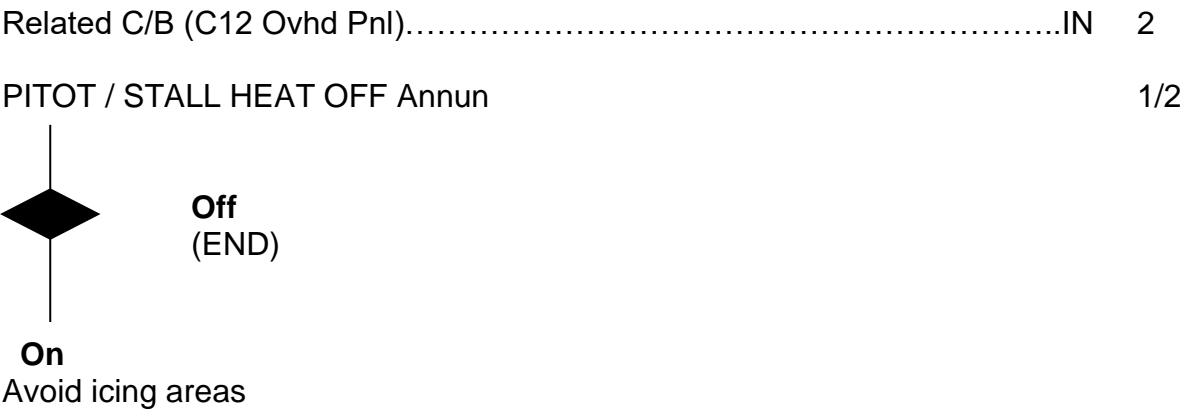
**L/R ICE PROT TEMP LOW ANNUN**



AIR FOIL Ice Protect Sw.....  
 PNEU X-FEED VALVE Lever.....

OFF 2  
 CLOSE 2


**PITOT / STALL HEAT OFF ANNUN**



**ICE FOD ALERT**

Wing Upper Surface.....

ASK FOR HAND FEEL INSPECTION 2


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Ask ground personnel de-icing treatment for wings and flight controls.

<b>LOW HYD PRESS AND/OR L/R HYD PRESS LOW ANNUN</b>
---

TRANS HYD PUMP Sw.....OFF 2


Affected HYD PRESS & FLUID QTY Indications 1/2


**Press low & qty low or abnormally high**  
  
*CAUTION: Do not operate transfer pump or both systems may lose hydraulic pressure.*  
  
 Apply Abn Proc HYDRAULIC SYSTEM LEAK OR LOSS  
 (END)


**Press & qty normal**  
  
 TRANSFER HYD PUMP Sw.....AS RQD 2  
 (END)

**Press low & qty normal**

Associated ENG HYD PUMP Sw.....HI 2  
 Affected HYD PRESS indication 1/2


**Press normal**  
  
 Leave hyd pump at HI  
 TRANSFER HYD PUMP Sw.....AS RQD 2  
 (END)

**Press low**

Use AUX or TRANS HYD PUMPS for approach and landing as required.

**L/R HYD TEMP HIGH ANNUN**

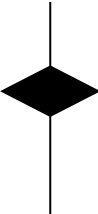
TRANS HYD PUMP Sw.....OFF 2  
 Affected ENG HYD PUMP Sw.....OFF 2  
 AUX HYD PUMP Sw (R Sys Affected only).....OFF 2

Repressurize affected system for approach and landing

**HYDRAULIC SYSTEM LEAK OR LOSS**

TRANS HYD PUMP Sw.....OFF 2

Affected System



**Right**

AUX HYD PUMP Sw.....OFF 2

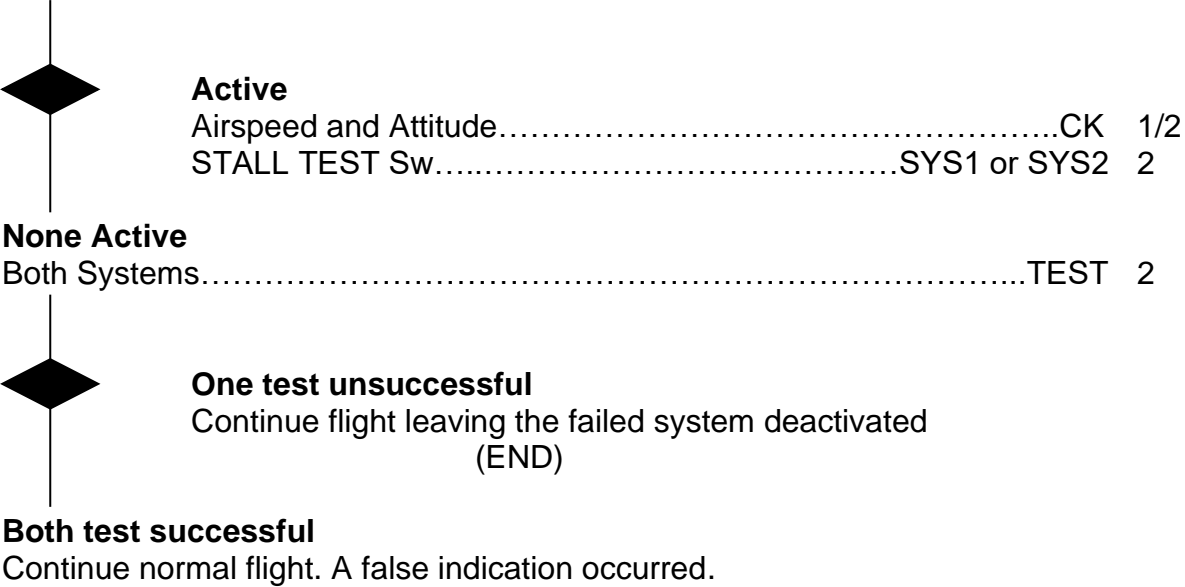
R ENG HYD PUMP Sw.....OFF 2

**Left**

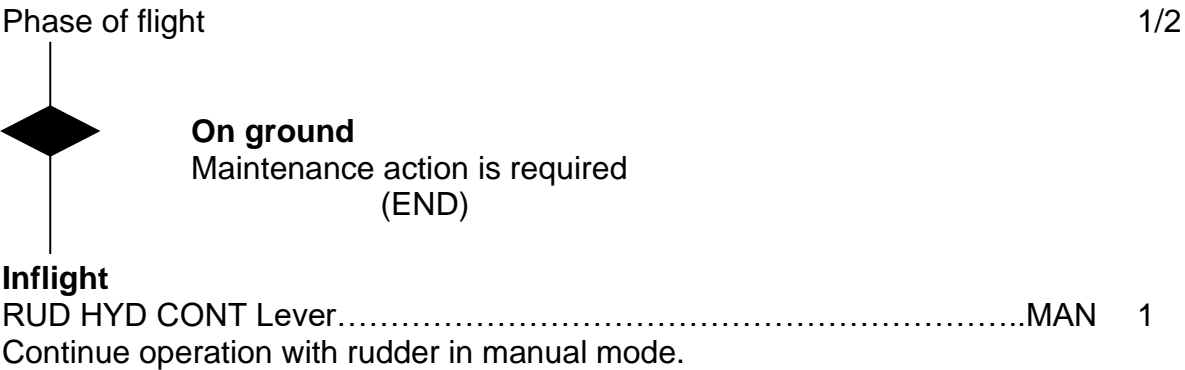
L ENG HYD PUMP Sw.....OFF 2

<b>STALL IND FAILURE ANNUN IN FLIGHT</b>
--

All Other Stall Warning Indications



<b>RUDDER CONTROL MAN ANNUN</b>
---------------------------------

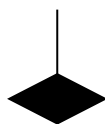


**APPROACH AND GO-AROUND**

Due to VMCA, approach, final and go-around speed should not be less than 135 KIAS.

## JAMMED STABILIZER

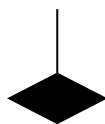
STABILIZER TRIM Sw.....NORM 2  
 Autopilot.....DISENGAGE 1  
 Primary Trim Sys.....OPERATE 1  
 LONG TRIM indicator 1/2


**Moves**

Continue normal operation.  
(END)

**Doesn't move**

ALT LONG TRIM Levers.....OPERATE 1  
 LONG TRIM indicator 1/2

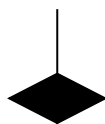

**Moves**

Autopilot.....AS RQD 1  
 Continue flight using the alternate long trim levers for stabilizer operation.  
(END)

**Doesn't move**

Consider the stabilizer to be jammed

FLAPS/TRIM Condition 1/2


**28 or 40 and airplane trimmed**


Land with selected flap.  
(END)

**Any other setting or airplane not trimmed**


Land with flap 15 and use a target speed not less than VMAN of flap 15, increased by the speed increment obtained from the table below.

		C.G. (% MAC)					
		-0.8	0	5	10	15	20
STABILIZER ANGLE	2° AND	40	40	32	24	17	8
	1° AND	35	34	27	19	12	4
	0	30	29	22	15	8	0
	1° ANU	25	24	18	11	4	0
	2° ANU	21	20	14	7	1	0
	3° ANU	17	16	10	4	0	0
	4° ANU	14	13	7	1	0	0
	5° ANU	10	9	4	0	0	0
	6° ANU	7	6	1	0	0	0
	7° ANU	4	3	0	0	0	0
	8° ANU	2	0	0	0	0	0



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GND PROX WARN Sw.....OVRD 2

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## RED LANDING GEAR LIGHT WITH LEVER DOWN

TRANSPONDER.....AS RQD OR 7700 2

FUEL QUANTITY (If applicable).....REDUCE 1

CABIN SIGN.....ON 2

Cabin Attendants/Passengers.....WARN 1/2

L & R AIR COND SUPPLY Sws.....OFF 2

RADIO RACK Sw.....FAN 2

FLAP/SLAT Lever.....28/EXT 2

At 500 Feet AGL:  
 BRACE FOR IMPACT.....COMMAND 1

### RECOMMENDATION FOR LANDING WITH PARTIALLY EXTENDED MAIN LANDING GEAR.


If there is choice of airports within fuel range, consideration should be given to an airport with fire fighting and rescue facilities and favourable weather conditions. It is better to land on the longest runway and into wind.

#### LANDING TECHNIQUE

Consider touching down on the side of the runway corresponding to extended main landing gear.

- Gear lever Down
- **Do not arm spoilers** to prevent abrupt decrease of lift on the unsupported wing at touchdown
- Touchdown on the extended main gear and hold the nose gear off the runway as long as possible

While elevator control is still effective, lower the nose gear gently to the runway and hold wings level with ailerons as long as possible.

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**GEAR DOOR OPEN LT ON INFLIGHT**  
**GEAR LTS THREE GREEN**

NOTE

This procedure assumes hydraulic pressure is normal and landing gear is down.  
 If the GEAR DOOR OPEN light is on with landing gear lever up and the LEFT/RIGHT RED GEAR light(s) are not illuminated, a faulty indication has occurred.

Gear door position may be verified by a control tower observation.  
 If gear door(s) is open.

Emergency Landing Gear Lever<sup>1</sup>.....PULL FULL UP 2  
 Holding Latch.....CHECK FULLY ENGAGED 2

NOTE

Gear doors will remain open and GEAR DOOR OPEN light will be on.  
 Nosewheel steering to left will be restricted.

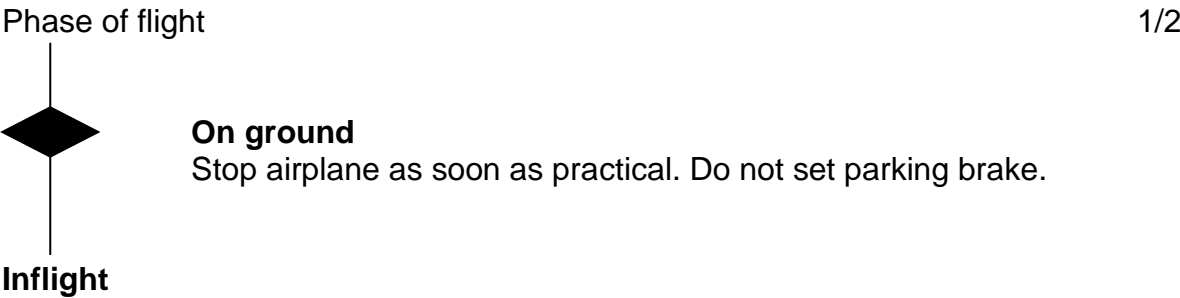
CAUTION


Stop airplane straight ahead on runway and establish communication with maintenance personnel. Maintenance personnel must close and latch main gear doors manually.  
 Landing gear pins must be installed prior to taxi or tow.

<sup>1</sup>In the simulator the emergency landing gear extension is performed using the keystroke assigned to this event for the SIM  
 (by default CTRL+G)

**BRAKE OVERHEAT LT ON**

NOTE: OVHT light comes on when any one brake temperature exceeds 400°C and goes off when brakes cool to 360°C

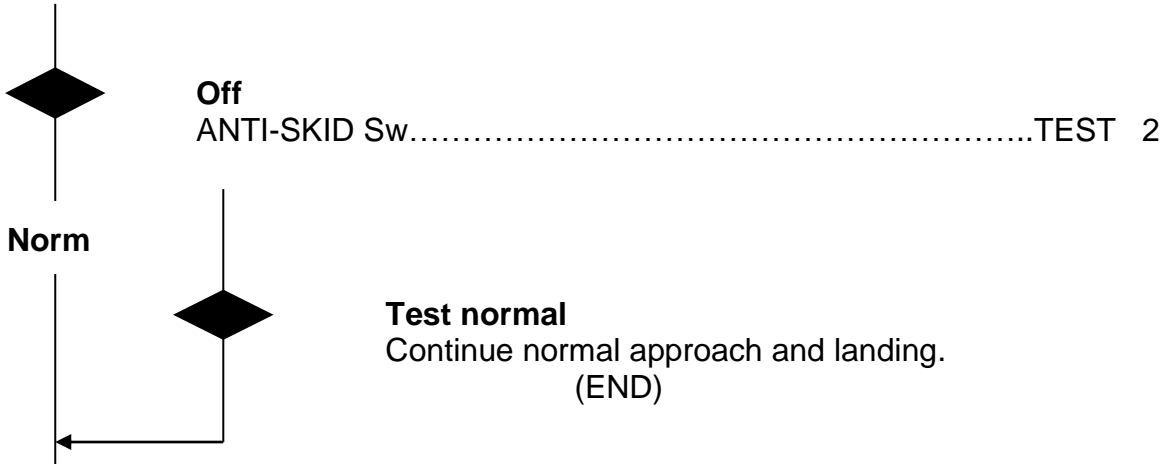


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Flight condition permitting, extend landing gear (Max 300 KIAS/.70 Mach) until brake OVHT light goes off.

## ANTI-SKID ANNUN

ANTI-SKID Sw.....CHECK ARM 2  
 ANTI-SKID Annunciations 1/2




Landing performance.....CHECK 1/2  
 Refer to appropriate performance table to determine landing distance with anti-skid inoperative. Make a normal landing.  
 Brakes.....APPLY SMOOTHLY AND GRADUALLY PF

**CAUTION**  
 Do not initiate manual braking until nosewheel is on the runway  
 and ground spoilers have fully deployed

ESTIMATED LANDING DISTANCE (UNFACTORED) FOR 40/EXT AND ANTI-SKID INOPERATIVE										
WEIGHT (1000 Kg)		36	40	44	48	52	56	60	64	68
SL STD =15°C	DRY	1126	1202	1278	1353	1427	1500	1573	1645	1716
	WET	1291	1379	1466	1552	1637	1722	1805	1888	1970
2000 FT STD =11°C	DRY	1166	1246	1326	1405	1484	1562	1639	1715	1791
	WET	1337	1430	1522	1613	1703	1792	1881	1969	2056
4000 FT STD = 7°C	DRY	1214	1298	1381	1464	1546	1628	1709	1790	1870
	WET	1393	1489	1585	1680	1775	1869	1962	2055	2147
6000 FT STD =3°C	DRY	1260	1348	1436	1523	1610	1697	1784	1870	1957
	WET	1445	1547	1648	1748	1848	1948	2048	2147	2247
8000 FT STD =-1°C	DRY	1311	1405	1498	1591	1683	1775	1866	1957	2048
	WET	1505	1612	1719	1826	1932	2038	2143	2247	2351

*Note: Standard day, no wind, zero slope, two engines at forward idle, thrust until stopped (included air run distances)*

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## PFD/ND DISPLAY FAILURE

BRT KNOB (Failed Display).....COMPACT PM

Turn corresponding brightness knob, on Control and Dimming Panel, fully counter-clockwise past the detent, selecting compact mode on the operational PFD or ND display.

*NOTE: If the ND is the operational display, weather radar brightness controls horizon sphere colour brightness.*

## SYMBOL GENERATOR UNIT FAILURE

EFIS Switching Selector.....AS RQD PM

Position EFIS Switching Selector BOTH ON 1 or 2 as required

## FMS FAILURE

FMS Switching Selector.....AS RQD PM

Position FMS Switching Selector BOTH ON 1 or 2 as required

**LOSS OF BOTH GENERATORS**

This emergency condition is indicated by:

- Amber MASTER CAUTION and red MASTER WARNING lights on
- AC EMER BUS OFF and DC EMER BUS OFF red lights on
- L and R AC BUS OFF, L and R GEN OFF, DC BUS OFF annuns displayed

*CAUTION: A generator must be reset only once for a given fault.*

EMER PWR Sw.....ON 1

*CAUTION: AHRS1 requires 45 seconds to realign in normal mode*

THNDRSTRM Lt Sw (if rqd).....ON 2

BATT Sw.....CK ON/LOCKED 2

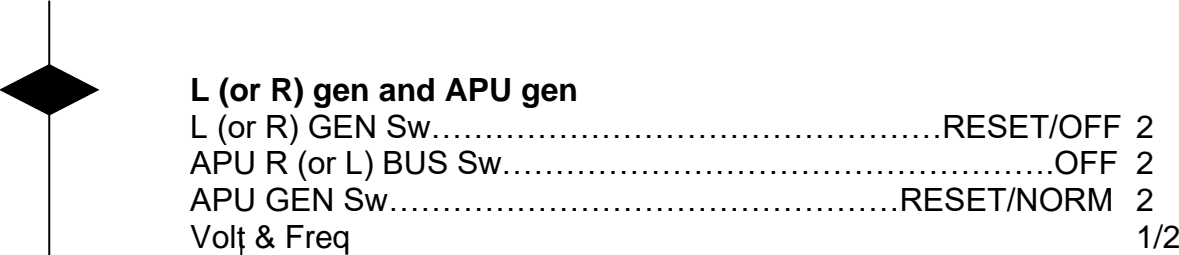
GALLEY Sw.....OFF 2

CABIN PRESS CONTROL Lever.....MANUAL (DOWN) 2

CKPT/CABIN TEMP Selectors.....MANUAL 2

AC BUS X TIE Sw.....OPEN 2

Failed Gen's 1/2





**Abnormal for both gen's**

Land at nearest suitable airport. Refer to CAUTION  
At the end of this procedure. (END)

**Normal for one or both gen's**

L and R GEN Sw.....ON 2

**Both eng gen's**

L & R Gen Sws.....RESET/OFF		2
Volt & Freq		1/2
 	<b>Normal for both gen's</b> L & R GEN Sws.....ON	2
	<b>Normal for one gen only</b> Gen Sw (Operating gen).....ON APU (If available).....START/ONE AT TIME BUSES ON	2 2
<b>Abnormal for both gen's</b> APU (If available) .....WINDMILL START/ONE AT TIME BUSES ON		2
AC X TIE Sw.....AUTO		2
CABIN PRESS CONTROL Lever.....AUTO		2
CKPT/CABIN TEMP Selectors.....AUTO		2
EMER PWR Sw.....OFF		1
GALLEY Sw.....ON		2
With one gen only, prior to landing:		
L (or R) AIR COND SUPPLY Sw.....OFF		2

*CAUTION: If no generator is restored, descent below 14000 ft as soon as practicable.*

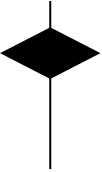


<b>APU GEN OFF</b>
--------------------

APU BUS Sws.....OFF 2  
 Meter Sel.....APU 2  
 APU GEN Sw.....RESET/NORM 2

*CAUTION: A generator must be reset only once for a given fault.*

AC Volt/Freq 1/2



**Not within allowable limits**

Generator capability lost. (END)

**Within allowable limits**

*NOTE: If APU generator is only power source, move galley sw to OFF before energizing generator buses.*

APU BUS Sws (One at a time).....ON 2  
 AC Volt/Freq & APU GEN OFF Annun 1/2



**Volt/Freq zero or annun displayed**

Generator capability lost.

APU BUS Sws.....OFF 2  
 (END)

**Volt/Freq normal and annun out**

Continue normal operation.

L/R GEN OFF ANNUN

This emergency condition is indicated by:

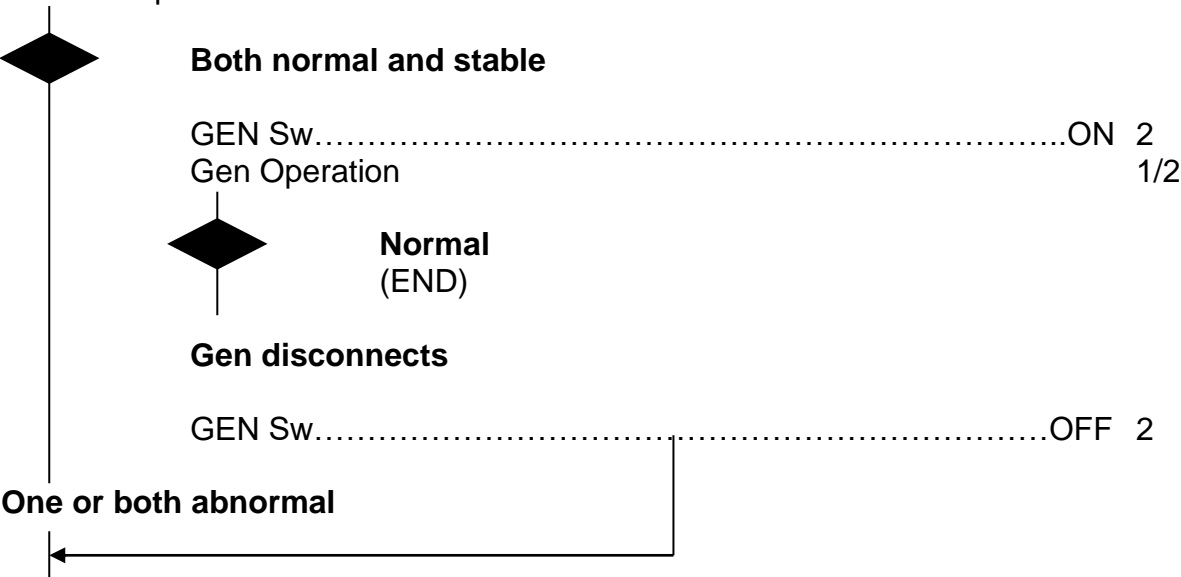
- Amber MASTER CAUTION light on
- L (or R) GEN OFF annun displayed

*NOTE: if CSD OIL PRESS LOW annun is also on, apply Abn Proc CSD OIL PRESS LOW ANNUN*

GEN Sw (Affected gen).....RESET/OFF 2

*CAUTION: A generator must be reset only once for a given fault*

Meter Sel.....AFFECTED GEN POSITION 2  
Volt & Freq 1/2



APU.....START/AFFECTED APU BUS SW ON 2

*NOTE: It may be necessary to move the APU gen sw to RESET.*

AC Load.....MONITOR 1/2

With one gen only, prior to landing:

L (or R) AIR COND SUPPLY Sw.....OFF 2

<b>L/R CSD OIL PRESS LOW ANNUN</b>
------------------------------------

Outlet Temp & Freq (Affected gen) 1/2



**Both normal**

Continue generator operation. Periodically monitor indications.  
 (END)

**One or both abnormal**

GEN Sw (Affected gen).....OFF 2  
 Meter Sel.....AFFECTED GEN POSITION 2

*CAUTION: Next switch action is irrevocable. Make certain switch selected is for malfunctioning CSD.*

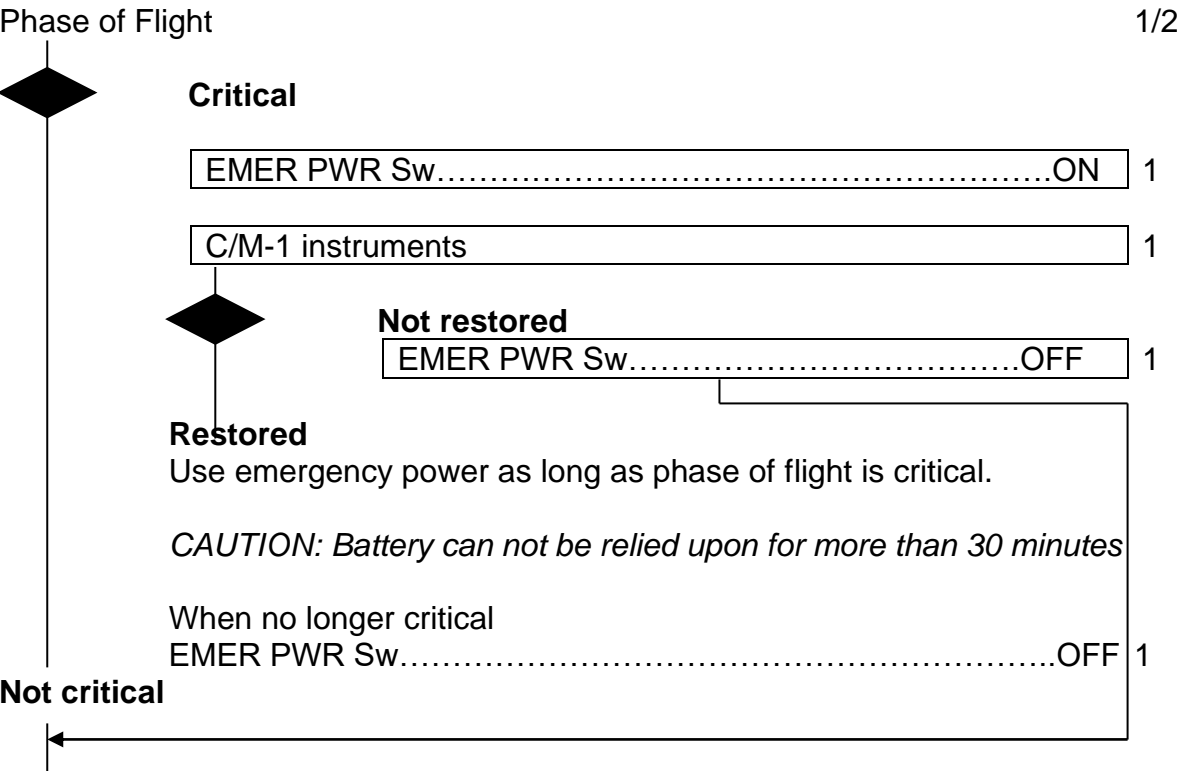
Associated CSD Sw (hold at least 3 seconds).....DISC 2  
 APU.....START/AFFECTED APU BUS SW ON 2

*NOTE: It may be necessary to move the APU gen sw to RESET.*

With one gen only, prior to landing:  
 Remaining APU BUS Sw.....ON 2  
 L (or R) AIR COND SUPPLY Sw.....OFF 2

**AC EMER BUS OFF LT ON**

*NOTE: The AC EMER BUS OFF light may illuminate due to a tripped circuit breaker. Resetting (one time only) the C/B (C7 Ovhd Pnl) may restore normal indication.*



At Captain's discretion and taking into account the battery capacity:  
 EMER PWR Sw.....ON 1


*NOTE: Battery charger will not operate while EMER PWR Sw is ON.*

**DC EMER BUS OFF LT ON**

*NOTE: The DC EMER BUS OFF light may illuminate due to a tripped circuit breaker. Resetting (one time only) the C/B (B12 Ovhd Pnl) may restore normal indication.*

Continue flight with emergency DC bus inoperative, or at Captain's discretion and taking into account the battery capacity:  
 EMER PWR Sw.....ON 1

*NOTE: Battery charger will not operate while EMER PWR Sw is ON.*

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<b>DC BUS OFF ANNUN</b>
-------------------------

DC BUS X-TIE Sw.....CLOSE 2

<b>L/R ELECTRICAL SYS FAILURE (AC CROSSTIE LOCKOUT ANNUN)</b>
---

FUEL TANKS PUMP Sws.....ALL ON 2  
 DC BUS X-TIE Sw.....CLOSE 2

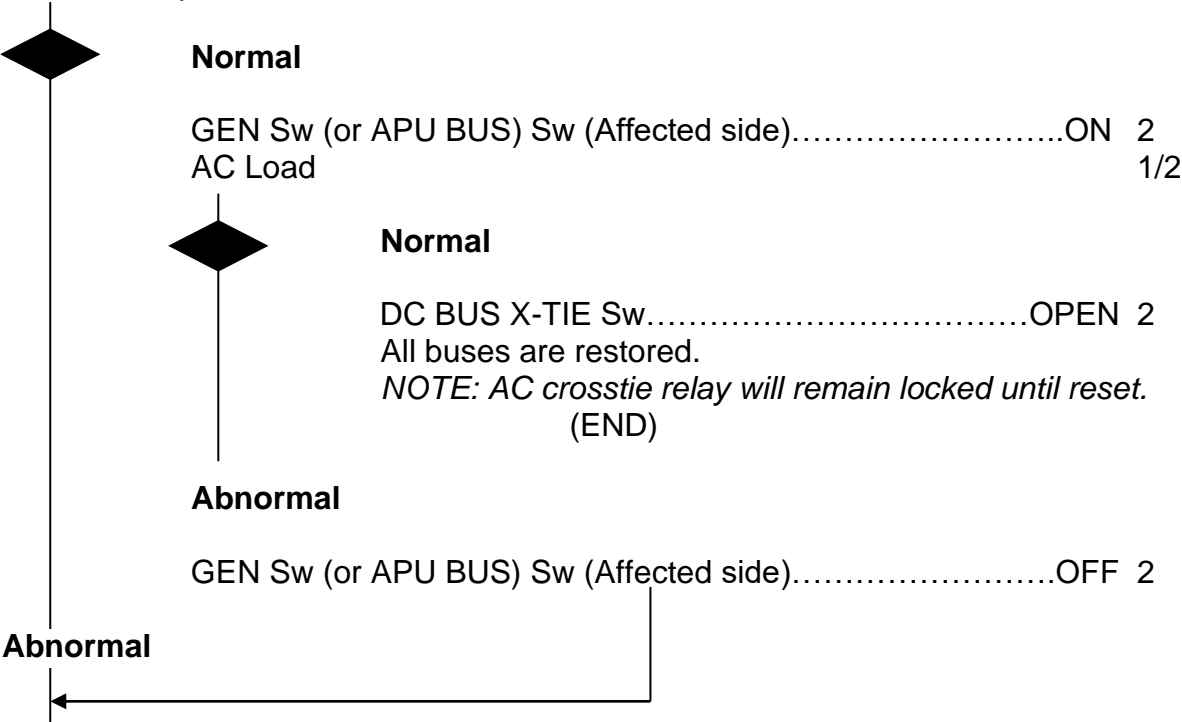
DC BUS OFF annun should go off, monitor DC LOAD meters.

APU BUS Sw (Affected side).....OFF 2

Meter Sel.....AFFECTED GEN POSITION 2

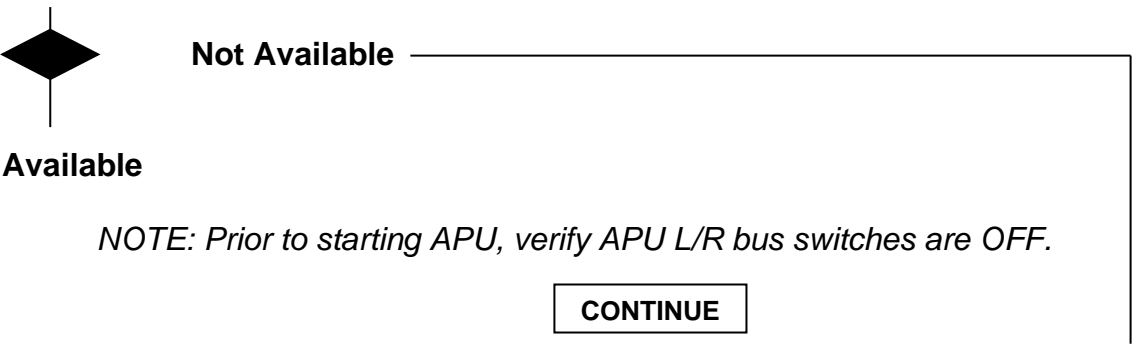
GEN Sw (or APU BUS) Sw (Affected side).....RESET/OFF (OR NORM) 2

AC Volt/Freq 1/2



*CAUTION: Gen cannot be used, do not attempt additional reset.*

APU Gen Availability 1/2

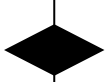


CONTINUE

APU.....START/AFFECTED APU BUS SW ON 2

*NOTE: It may be necessary to move the APU gen sw to RESET.*

AC Volt/Freq/AC Load 1/2



**Normal**

DC x-tie BUS Sw.....,OPEN 2  
All buses are restored.  
*NOTE: AC crosstie relay will remain locked until reset.*  
(END)

**Abnormal**

APU BUS Sw (Affected side).....OFF 2

APU GEN Sw (If rqd).....RESET/NORM 2

APU BUS Sw (Operating sys).....ON 2

F/D, A/P, ATS.....OFF 1

Center Tank Fuel Quantity 1/2



**Zero fuel remaining**

CTR FUEL TANK PUMPS Sws.....OFF 2

**Fuel remaining**

CTR FUEL TANK PUMPS Sws.....ON 2

L & R FUEL TANK PUMPS Sws (One at a time).....OFF 2

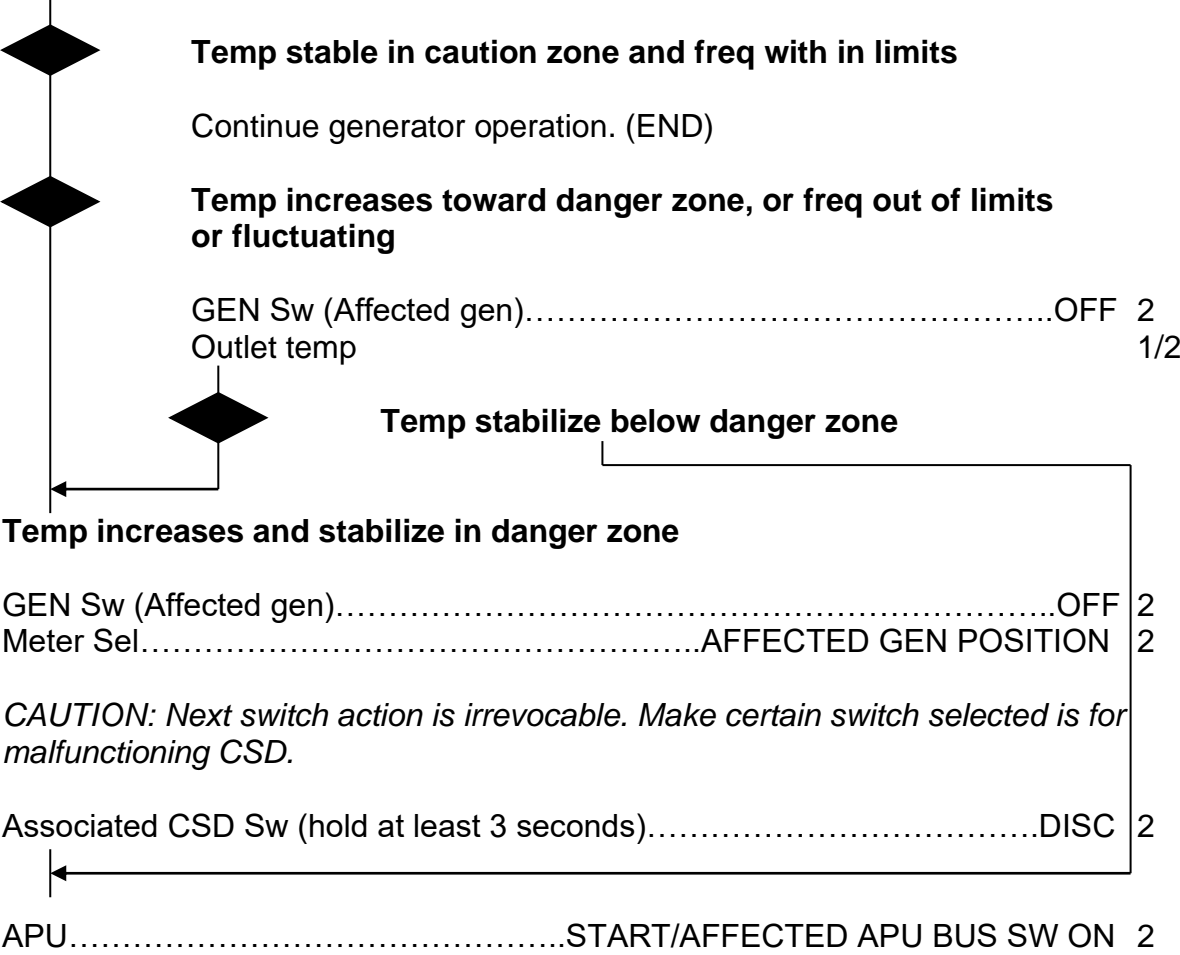
When remaining center tank fuel is approx 225 kgs:

L & R FUEL TANK PUMPS Sws.....ON 2

Continue flight with affected systems inoperative.

<b>ABNORMAL CSD OIL OUTLET TEMPERATURE</b>
--

Outlet Temp & Freq (Affected gen) 1/2

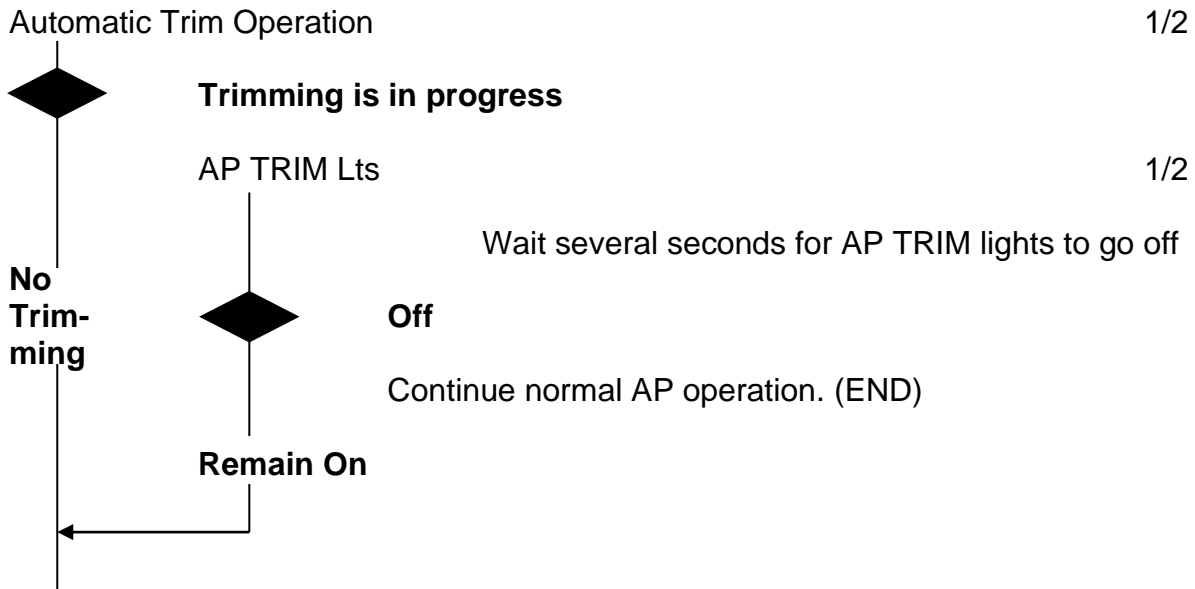


*NOTE: It may be necessary to move the APU gen sw to RESET.*

With one gen only, prior to landing:  
 Remaining APU BUS Sw.....ON 2  
 L (or R) AIR COND SUPPLY Sw.....OFF 2



<b>AP TRIM LTS ON</b>
-----------------------



*CAUTION: A sudden pitch change can be expected as the autopilot elevator input are removed*

Long Trim Wheel Sws.....OPERATE 1  
 Operate switches in desired direction to trim the airplane.

Autopilot (Other Channel).....ENGAGE 1  
 Move DFGS selector to the other position and re-engage autopilot.